

**LOCAL AGENCY OBLIGATION PLAN  
INSTRUCTIONS FOR AB1012 – YEAR 9**

(Please do not alter, modify or change the template provided)

1. **District** – Enter the Appropriate Caltrans District Number.
2. **MPO/RTPA** – Enter the name of the responsible Metropolitan Planning Organization or Regional Transportation Planning Agency.
3. **Local Agency** – Enter the name of the local agency responsible for the project.
4. **Project Number** – Enter the project number in the following format:  
STP1234(567)
  - May be completed by the Caltrans District Local Assistance Engineer.
  - If project number is not known, please provide the project FTIP or PPNO number.
5. **Project Location** – Provide the location of the project.
6. **Project Scope/Description** – Provide a brief project description and project scope.
7. **Planned Date of Obligation** – Enter date of obligation; enter as MM/DD/YY.
8. **RSTP \$** – Enter the RSTP dollars being obligated for each project (for this transaction only).
9. **CMAQ \$** – Enter the CMAQ dollars being obligated for each project (for this transaction only).
10. **HBP \$** – Enter the HBP dollars being obligated for each project (for this transaction only).
11. **HSIP \$** - Enter the HSIP dollars being obligated for each project (for this transaction only).
12. **HRRR \$** - Enter the HRRR dollars being obligated for each project (for this transaction only).
13. **SRTS \$** - Enter the SRTS dollars being obligated for each project (for this transaction only).
14. **Federal STIP \$** – Enter the total STIP dollars being obligated for each project (for this transaction only). Do not include projects with state only funding.
15. **Federal \$ This Obligation** – Auto fill column.
16. **Remarks** – Enter comments or additional information; provide a contact, with a Name and Phone number, for questions.

## CONCRETE FOR LAP (OFF-SYSTEM).

(REV 12-20-11) (FA 2-27-12)

### SECTION 344 CONCRETE FOR LAP (OFF-SYSTEM)

#### 344-1 Description.

**344-1 General:** Construct concrete based on the type of work as described in the Contract and the concrete work categories as defined below.

**344-1.2 Work Categories:** Construction will fall into one of the following concrete work categories:

**344-1.2.1 Concrete Work Category 1:** Includes the construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in-place elements.

**344-1.2.2 Concrete Work Category 2:** Includes the construction of precast concrete including concrete barriers, traffic railing barriers, parapets, sound barriers, inlets, manholes, junction boxes, pipe culverts, storm sewers, box culverts, prestressed concrete poles, concrete bases for light poles, highway sign foundations, retaining wall systems, traffic separators or other structural precast elements.

**344-1.2.3 Concrete Work Category 3:** Includes the work associated with the placement and/or construction of structural cast-in-place concrete meeting the requirements of this section.

#### 344-2 Materials.

**344-2.1 General:** Use concrete composed of a mixture of Portland cement, aggregates, and water, with or without chemical or mineral admixtures that meet the following requirements:

**344-2.1.1 Portland Cement:** Portland cements meeting the requirements of AASHTO M-85 or ASTM C-150 is required. Different brands of cement, cement of the same brand from different facilities or different types of cement shall be stored separately and shall not be mixed.

**344-2.1.2 Coarse and Fine Aggregates:** Aggregates shall meet ASTM C 33. Source approval by the FDOT is not required.

**344-2.1.3 Water:** Water shall meet the requirements of ASTM C 1602.

**344-2.1.4 Chemical Admixtures:** Chemical admixtures shall be listed on the FDOT Qualified Products List. Admixtures may be added at the dosage rates recommended by the manufacturer.

**344-2.1.5 Pozzolans and Slag:** Pozzolans and Slag shall meet the requirements of Table 344-1. Fly ash shall not include the residue resulting from the burning of municipal garbage or any other refuse with coal, or the burning of industrial or municipal garbage in incinerators.

Table 344-1		
Type or Class	Test Method	Exceptions
Class C Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Class F Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Petroleum Coke Class F	ASTM C 618	Not to be used with Types IP or IS cements.

Bark Ash Class F	ASTM C 618	Not to be used with Types IP or IS cements.
Silica Fume	ASTM C 1240	
Metakaolin	ASTM C 618	
Slag	ASTM C 989	Use only ground granulated blast-furnace slag grade 100 or 120.
Ultra Fine Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.

### 344-3 Production, Mixing and Delivery of Concrete.

#### 344-3.1 Concrete Production Requirements:

**344-3.1.1 Category 1:** Use a concrete production facility that is certified by the National Ready Mixed Concrete Association (NRMCA) or listed on the FDOT list of non-structural concrete producers. Concrete production facilities listed on the FDOT Producers with Accepted QC Programs list for structural concrete may also be used for Category 1.

**344-3.1.2 Category 2:** Use a prestressed and or precast facility listed on the FDOT Producers with Accepted QC Programs for precast or prestressed concrete.

**344-3.1.3 Category 3:** Use a structural concrete facility listed on the FDOT Producers with Accepted QC Programs for structural concrete.

**344-3.2 Classes of Concrete:** Meet the requirements of Table 344-2.

Table 344-2						
Class	Minimum Strength (28 day) (psi)	Target Slump (inches)	Target Range (inches)	Air Content Range (%)	Minimum Total Cementitious Materials Content (lb/yd <sup>3</sup> )	Maximum Water to Cementitious Material Ratio (lb/lb)
Category 1						
Class NS	2,500	N/A	N/A	N/A	N/A	N/A
Category 3						
I	3,000	3	± 1.5	1.0 to 6.0	470	0.53
I (Pavement)	3,000	2	± 1.5	1.0 to 6.0	470	0.50
II	3,400	3	± 1.5	1.0 to 6.0	470	0.53
II (Bridge Deck)	4,500	3	± 1.5	1.0 to 6.0	611	0.44
III	5,000	3	± 1.5	1.0 to 6.0	611	0.44
III (Seal)	3,000	8	± 1.5	1.0 to 6.0	611	0.53
IV	5,500	3	± 1.5	1.0 to 6.0	658	0.41
IV (Drilled Shaft)	4,000	8.5	± 1.5	0.0 to 6.0	658	0.41
V (Special)	6,000	3	± 1.5	1.0 to 6.0	752	0.37
V	6,500	3	± 1.5	1.0 to 6.0	752	0.37
VI	8,500	3	± 1.5	1.0 to 6.0	752	0.37

**344-3.3 Contractors Quality Control:** For Categories 1 and 2, assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times.

For Category 3, furnish a Quality Control (QC) plan to identify to the Engineer how quality will be ensured at the project site. During random inspections, the Engineer will use this document to verify that the construction of the project is in agreement with the QC plan.

**344-3.4 Concrete Mix Design:** Before producing any Category 1 or Category 2, submit the proposed mix designs to the Engineer on a form provided by the Engineer. For Category 3, submit to the Engineer for approval, FDOT approved mix designs. Do not use concrete mix designs without prior approval of the Engineer.

Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments on an Engineer approved concrete delivery ticket.

**344-3.5 Delivery:** For Category 3, the maximum allowable transit time of concrete is 90 minutes.

Furnish a delivery ticket on a form approved by the Engineer with each batch of concrete before unloading at the placement site. Record material quantities incorporated into the mix on the delivery ticket. Ensure that the Batchers responsible for producing the concrete signs the delivery ticket certifying that the batch was produced and delivered in accordance with these requirements. Sign the delivery ticket certifying that the concrete was placed in accordance with these requirements.

**344-3.6 Placing Concrete:**

**344-3.6.1 Concreting in Cold Weather:** Do not mix or place concrete when the air temperature at placement is below 45°F.

During the curing period, if NOAA predicts the ambient temperature to fall below 35°F for 12 hours or more or to fall below 30°F for more than 4 hours, enclose the structure in such a way that the air temperature within the enclosure can be kept above 50°F for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi.

Assume all risks connected with the placing and curing of concrete. Although the Engineer may give permission to place concrete, the Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the Agency.

**344-3.6.2 Concreting in Hot Weather:** For Category 3, hot weather concreting is defined as the production, placing and curing of concrete when the concrete temperature at placing exceeds 86°F but is less than 100°F.

Unless the specified hot weather concreting measures are in effect, reject concrete exceeding 86°F at the time of placement. Regardless of special measures taken, reject concrete exceeding 100°F. Predict the concrete temperatures at placement time and implement hot weather measures to avoid production shutdown.

**344-3.7 Mixers:** For Category 3 concrete, do not place concrete from a truck mixer that does not have a current FDOT mixer identification card.

**344-3.8 Small Quantities of Concrete:** With approval of the Engineer, small quantities of concrete, less than 3 cubic yards placed in one day and less than 0.5 cubic yards placed in a single placement may be accepted using a pre-bagged mixture. The Engineer may verify that the pre-bagged mixture is prepared in accordance with the manufacturer's recommendations and will meet the requirements of this Specification.

**344-3.9 Sampling and Testing:**

**344-3.9.1 Category 1:** The Engineer may sample and test the concrete to verify its quality. The minimum 28 day compressive strength requirement for this concrete is 2,500 psi.

**344-3.9.2: Category 2:** No sampling and testing is required for category 2.



**344-3.9.3 Category 3:** The Engineer will randomly select a sample from each 200 cubic yards or one day's production to determine plastic properties and to make three 4 x 8 inch cylinders for testing by the Engineer at 28 days to ensure that the design compressive strength has been met for the class of concrete as specified in Table 344-2.

**344-3.10 Records:** Ensure the following records are available for review for at least 3 years after final acceptance of the project:

1. Approved concrete mix designs.
2. Materials source (delivery tickets, certifications, certified mill test reports).
3. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
4. A copy of the documentation certifying the admixture weighing/measuring devices.

#### **344-4 Acceptance of the Work.**

**344-4.1 Category 1 Work:** Category 1 work will be accepted based on certification by the batcher and contractor on the delivery ticket.

**344-4.2 Category 2 Work:** Certify that the precast elements were produced by a production facility on the FDOT's list of Producers with Accepted QC Programs for precast or prestressed concrete. In addition, the producer's logo shall be stamped on the element. The producer shall not use the Florida Department of Transportation QC stamp on elements used on this project. Provide a statement of certification from the manufacturer of the precast element that the element meets the requirements of this Specification.

**344-4.3 Category 3 Work:** Category 3 concrete will be accepted based on the Engineer's test results for plastic properties and compressive strength requirements for the class of concrete as defined in Table 344-2. In addition, a Delivery Ticket as described in 344-3.5 will be required for acceptance of the material at the project site.

**344-4.4 Small Quantities of Concrete:** Category 3 concrete meeting the definition of 344-3.8 will be accepted in accordance with 344-4.3 based on test results for plastic properties and compressive strength.

#### **344-5 Method of Measurement.**

The quantities to be paid for will be the items shown in the plans, completed and accepted.

#### **344-6 Basis of Payment.**

Prices and payments will be full compensation for all work and materials specified in this Section.

**EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM).**  
**(REV 1-23-12) (FA 2-27-12)**

**SECTION 120**  
**EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM)**

**120-1 Description.**

**120-1.1 General:** Perform earthwork and related operations based on the type of work specified in the Contract and the Earthwork Categories as defined below. Meet the applicable requirements for materials, equipment and construction as specified.

Earthwork and related operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.

**120-1.2 Earthwork Categories:** Performance of Earthwork Operations will fall into one of the following Earthwork Categories:

**120-1.2.1 Earthwork Category 1:** Includes the earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities.

**120-1.2.2 Earthwork Category 2:** Includes the earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement.

**120-1.2.3 Earthwork Category 3:** Includes the earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement.

**120-2 Classes of Excavation.**

**120-2.1 Excavation of Unsuitable Material:** Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.

**120-2.2 Lateral Ditch Excavation:** Lateral ditch excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way. Dress lateral ditches to the grade and cross-section shown in the plans.

**120-2.3 Channel Excavation:** Channel excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the plans.

**120-2.4 Excavation for Structures and Pipe:** Excavation for structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

### **120-3 Excavation Requirements.**

**120-3.1 Excavation and Replacement of Unsuitable Materials:** Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of plus or minus 0.2 foot in depth and plus or minus 6 inches (each side) in width.

**120-3.2 Lateral Ditch Excavation:** Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the plans.

**120-3.3 Channel Excavation:** Excavate and dispose of all materials from the limits of the channel as shown in the plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

#### **120-3.4 Excavation for Structures and Pipe.**

**120-3.4.1 Requirements for all Excavation:** Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.

#### **120-3.4.2 Earth Excavation:**

**120-3.4.2.1 Foundation Material other than the Rock:** When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

**120-3.4.2.2 Foundation Piles:** Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

**120-3.4.2.3 Removal of Obstructions:** Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

**120-3.4.3 Rock Excavation:** Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

**120-3.4.4 Pipe Trench Excavation:** Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 120-8.3.2.2 to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the

bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

#### **120-4 Disposal of Surplus and Unsuitable Material.**

**120-4.1 Ownership of Excavated Materials:** Dispose of surplus and excavated materials as shown in the plans or, if the plans do not indicate the method of disposal, take ownership of the materials and dispose of them outside the right-of-way.

**120-4.2 Disposal of Muck on Side Slopes:** As an exception to the provisions of 120-4.1, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.

**120-4.3 Disposal of Paving Materials:** Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

**120-4.4 Disposal Areas:** Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

Provide areas for disposal of removed paving materials out of sight of the project and at least 300 feet from the nearest roadway right-of-way line of any road. If the materials are buried, disregard the 300 foot limitation.

#### **120-5 Materials for Embankment.**

**120-5.1 General Requirements for Embankment Materials:** Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.

Construct the embankment using maximum particle sizes as follows:

In top 12 inches: 3 1/2 inches (in any dimension).

12 to 24 inches: 6 inches (in any dimension).

In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-7.2.

When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.

**120-5.2 Use of Materials Excavated From the Roadway and Appurtenances:** Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

**120-5.3 Authorization for Use of Borrow:** Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until so ordered by the Engineer, and then only use material from approved borrow pits.

**120-5.3.1 Haul Routes for Borrow Pits:** Provide and maintain, at no expense to the Agency, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

**120-5.3.2 Borrow Material for Shoulder Build-up:** When so indicated in the plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

**120-5.4 Materials Used at Pipes, Culverts, etc.:** Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

## **120-6 Embankment Construction.**

**120-6.1 General:** Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

### **120-6.2 Dry Fill Method:**

**120-6.2.1 General:** Construct embankments to meet compaction requirements in 120-7 and in accordance with the acceptance program requirements in 120-9. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

**120-6.2.1.1 For A-3 and A-2-4 Materials with up to 15% fines:**  
Construct the embankment in successive layers with lifts up to a maximum compacted thickness

of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

**120-6.2.1.2 For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines:** Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

**120-6.2.1.3 Equipment and Methods:** Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with 120-7.2.4.

**120-6.2.2 Placing in Unstable Areas:** Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions of 120-7.2.4 and 120-7.2.6.

**120-6.2.3 Placing on Steep Slopes:** When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.

**120-6.2.4 Placing Outside Standard Minimum Slope:** Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

### **120-6.3 Hydraulic Method:**

**120-6.3.1 Method of Placing:** When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is re-handled, or moved and placed in its final position by any other method, as specified in 120-7.2. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

**120-6.3.2 Excess Material:** Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.

**120-6.3.3 Protection of Openings in Embankment:** Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before

the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

### **120-7 Compaction Requirements.**

**120-7.1 Moisture Content:** Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

#### **120-7.2 Compaction of Embankments:**

**120-7.2.1 Earthwork Category 1 and 2 Density Requirements:** The Engineer will accept a minimum density of 95% of the maximum density as determined by AASHTO T-99 Method C for all earthwork items requiring densities.

**120-7.2.2 Earthwork Category 3 Density Requirements:** The Engineer will accept a minimum of 100% of the maximum density as determined by AASHTO T-99 Method C for all densities required under category 3.

Except for embankments constructed by the hydraulic method as specified in 120-6.3, and for the material placed outside the standard minimum slope as specified in 120-6.2.4, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to the required density stated above. Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

**120-7.2.3 Compaction Over Unstable Foundations:** Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided in 120-6.2.2), compact the top 6 inches (compacted thickness) of such layer to the density as specified in 120-9.5.

**120-7.2.4 Compaction Where Plastic Material Has Been Removed:** Where unsuitable material is removed and the remaining surface is of the A-4, A-5, A-6, or A-7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

**120-7.2.5 Compaction of Material To Be Used In Base, Pavement, or Stabilized Areas:** Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.

**120-7.2.6 Compaction of Grassed Shoulder Areas:** For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.

**120-7.2.7 Compaction of Grassed Embankment Areas:** For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.

**120-7.3 Compaction of Subgrade:** If the plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in 120-9.5. For undisturbed soils, do

not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.

Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.

Maintain the required density until the base or pavement is placed on the subgrade.

## **120-8 Backfilling Around Structures and Pipe.**

### **120-8.1 Requirements for all Structures:**

**120-8.1.1 General:** Backfill around structures and pipe in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

**120-8.1.2 Equipment and Methods:** Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps, wellpoints and header pipe and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, perforated pipe drains, sumps and siphons.

**120-8.1.3 Backfill Materials:** Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.

Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.

**120-8.1.4 Use of A-7 Material:** In the backfilling of trenches, A-7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A-7 material.

**120-8.1.5 Time of Placing Backfill:** Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28-day compressive strength occurs.

**120-8.1.6 Placement and Compaction:** When the backfill material is deposited in water, compact per 120-8.2.5 and 120-8.3.4. Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. The Engineer may approve placing material in thicker lifts of no more than 12 inches compacted thickness above the soil envelope if a test section demonstrates the required density can be achieved. Approval will be based on five passing density tests over the test section consisting of a lift of backfill from structure to structure. The Engineer will identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. The Engineer reserves the right to terminate the Contractor's use of thick lift construction and have him revert to the 6 inch compacted lifts whenever it is determined that satisfactory results are not being obtained.

### **120-8.2 Additional Requirements for Structures Other than Pipe:**



**120-8.2.1 Density:** Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before the Engineer verifies layer and density requirements. Meet the requirements of the density Acceptance Criteria.

**120-8.2.2 Box Culverts:** For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.

**120-8.2.3 Other Limited Areas:** Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in<sup>2</sup>. Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

**120-8.2.4 Culverts and Piers:** Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.

**120-8.2.5 Compaction Under Wet Conditions:** Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A-3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.

**120-8.3 Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:**

**120-8.3.1 General:** Trenches for pipe may have up to four zones that must be backfilled.

**Lowest Zone:** The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.

**Bedding Zone:** The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.

**Cover Zone:** The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.

**Top Zone:** The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.

**120-8.3.2 Material:**

**120-8.3.2.1 Lowest Zone:** Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.

**120-8.3.2.2 Soil Envelope:** In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A-1, A-2, or A-3. Material classified as A-4 may be used if the pipe is concrete pipe.

**120-8.3.2.3 Top Zone:** Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.

**120-8.3.3 Compaction:**

**120-8.3.3.1 Lowest Zone:** Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.

**120-8.3.3.2 Bedding Zone:** If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.

If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).

**120-8.3.3.3 Cover Zone:** Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.

**120-8.3.3.4 Top Zone:** Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.

**120-8.3.4 Backfill Under Wet Conditions:** Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.

Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A-3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that its moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.

## **120-9 Acceptance Program.**

**120-9.1 Density over 105%:** When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, the Engineer will perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, the Engineer will test an additional sample for acceptance in accordance with AASHTO T 99, Method C.

**120-9.2 Maximum Density Determination:** The Engineer will determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in 120-9.3.

**120-9.3 Density Testing Requirements:** Compliance with the requirements of 120-9.5 will be determined in accordance FM 1-T 238. The in-place moisture content will be determined for each density in accordance with FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven).

**120-9.4 Soil Classification:** The Engineer will perform soil classification tests in accordance with AASHTO T-88, and classify soils in accordance with AASHTO M-145 (Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway

Construction Purposes) in order to determine compliance with embankment utilization requirements.

**120-9.5 Acceptance Criteria:** The Engineer will accept a minimum density in accordance with 120-7.2 with the following exceptions:

- 1) embankment constructed by the hydraulic method as specified in 120-6.3;
- 2) material placed outside the standard minimum slope as specified in 120-6.2.4;
- 3) other areas specifically excluded herein.

**120-9.6 Frequency:** The Engineer will conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

## **120-10 Maintenance and Protection of Work.**

While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.

Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the plans, until final acceptance of the project.

## **120-11 Construction.**

**120-11.1 Construction Tolerances:** Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
3. Shape the bottom of ditches so that the ditch impounds no water.
4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the plans.

**120-11.2 Operations Adjacent to Pavement:** Carefully dress areas adjacent to pavement areas to avoid damage to such pavement. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

## **120-12 Method of Measurement.**

**120-12.1 Excavation:** Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the plans or authorized by the Engineer.

**120-12.2 Embankment:** Measurement will be made on a loose volume basis, as measured in trucks or other hauling equipment at the point of dumping on the road. Payment will not be made for embankment beyond the limits shown in the plans or authorized by the Engineer.

## **120-13 Basis of Payment.**

**120-13.1 General:** Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

**120-13.2 Excavation:** The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation. No payment will be made for the excavation of any materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

**120-13.3 Embankment:** The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment. No payment will be made for materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials placed outside the lines and grades given by the Engineer.

# **HOT MIX ASPHALT FOR LAP (OFF-SYSTEM).** **(REV 11-17-11) (FA 2-27-12)**

## **SECTION 334** **HOT MIX ASPHALT FOR LAP (OFF-SYSTEM)**

### **334-1 Description.**

**334-1.1 General:** Construct a Hot Mix Asphalt (HMA) pavement based on the type of work specified in the Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use a HMA mix that meets the requirements of this specification

**334-1.2 Asphalt Work Mix Categories:** Construction of Hot Mix Asphalt Pavement will fall into one of the following work categories:

**334-1.2.1 Asphalt Work Category 1:** Includes the construction of bike paths and miscellaneous asphalt.

**334-1.2.2 Asphalt Work Category 2:** Includes the construction of new HMA turn lanes, paved shoulders and other non-mainline pavement locations.

**334-1.2.3 Asphalt Work Category 3:** Includes the construction of new mainline HMA pavement lanes, milling and resurfacing.

**334-1.3 Mix Types:** Use the appropriate HMA mix as shown in Table 334-1.

Table 334-1 HMA Mix Types			
Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5 <sup>(1)</sup>	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 <sup>(1)</sup> Friction Mixes: Types FC-9.5 or FC-12.5 <sup>(1)</sup>	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

(1) Equivalent mixes may be approved as determined by the Engineer. For example, Marshall S-III mixture type is equivalent to Superpave SP-9.5, Marshall S-I is equivalent to Superpave SP-12.5, and Marshall FC-3 is equivalent to Superpave FC-9.5.

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Department's Standard Specifications for Road and Bridge Construction.

**334-1.4 Gradation Classification:** HMA mixes are classified as either coarse or fine, depending on the overall gradation of the mixture. Coarse and fine mixes are defined in 334-3.2.2. Use only fine mixes.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5 .....	9.5 mm
Type SP-12.5, FC-12.5 .....	12.5 mm

**334-1.5 Thickness:** The total pavement thickness of the HMA pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

$$\text{Spread rate (lbs/yd}^2\text{)} = t \times G_{\text{mm}} \times 43.3$$

where:  $t$  = Thickness (in.) (Plan thickness or individual layer thickness)  
 $G_{\text{mm}}$  = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

**334-1.5.1 Layer Thicknesses:** Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for HMA mixtures are as follows:

Type SP-9.5, FC-9.5 .....	3/4 – 1-1/2 inches
Type SP-12.5, FC-12.5 .....	1 1/2 – 2-1/2 inches

**334-1.5.2 Additional Requirements:** The following requirements also apply to HMA mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

**334-1.6 Weight of Mixture:** The weight of the mixture shall be determined as provided in 320-3.2 of the Florida Department of Transportation (FDOT) specifications.

## **334-2 Materials.**

**334-2.1 Superpave Asphalt Binder:** Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Qualified Products List (QPL). If the Contract calls for an alternative binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

**334-2.2 Aggregate:** Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

### **334-2.3 Reclaimed Asphalt Pavement (RAP) Material:**

**334-2.3.1 General requirements:** RAP may be used as a component of the asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

1. Limit the amount of RAP material used in the mix to a maximum of 50% by weight of total aggregate.
2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
3. Provide RAP material having a minimum average asphalt content of 4.0% by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.
4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

**334-2.3.2 Material Characterization:** Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity ( $G_{sb}$ ) of the RAP material based on a representative sampling of the material.

**334-2.3.3 Asphalt Binder for Mixes with RAP:** Select the appropriate asphalt binder grade based on Table 334-2. Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
< 20	PG 67-22
20 – 29	PG 64-22
≥ 30	Recycling Agent

### **334-3 Composition of Mixture.**

**334-3.1 General:** Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

#### **334-3.2 Mix Design:**

**334-3.2.1 General:** Design the asphalt mixture in accordance with AASHTO R 35-09, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of

any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. As an exception to these requirements, use a currently approved FDOT Mix Design.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

**334-3.2.2 Mixture Gradation Requirements:** Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M 323-07, Table 3. Aggregates from various sources may be combined.

**334-3.2.2.1 Mixture Gradation Classification:** Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-07, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-07, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.

**334-3.2.3 Gyratory Compaction:** Compact the design mixture in accordance with AASHTO T312-09. Use the number of gyrations as defined in AASHTO R35-09, Table 1.

**334-3.2.4 Design Criteria:** Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-07, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-07, Table 6.

**334-3.2.5 Moisture Susceptibility:** Test 4 inch specimens in accordance with FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT's Qualified Products List or hydrated lime in order to meet these criteria.

In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

**334-3.2.6 Additional Information:** In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations ( $N_{\text{design}}$ ).
2. The source and description of the materials to be used.
3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source (if required).
4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
6. The bulk specific gravity ( $G_{\text{sb}}$ ) value for each individual aggregate and RAP component.
7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.



8. A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.

9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.

10. The name of the mix designer.

11. The ignition oven calibration factor.

### **334-4 Process Control.**

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

### **334-5 General Construction Requirements.**

**334-5.1 Weather Limitations:** Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

#### **334-5.2 Limitations of Laying Operations:**

**334-5.2.1 General:** Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.

**334-5.2.2 Air Temperature:** Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F for layers greater than 1 inch (100 lb per square yard) in thickness and at least 45°F for layers 1 inch (100 lb per square yard) or less in thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb per square yard or less is 50°F.

**334-5.3 Mix Temperature:** Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30°F from the target temperature as shown on the mix design. Reject all loads outside of this range.

**334-5.4 Transportation of the Mixture:** Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.

#### **334-5.5 Preparation of Surfaces Prior to Paving:**

**334-5.5.1 Cleaning:** Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

**334-5.5.2 Patching and Leveling Courses:** As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

**334-5.5.3 Application over Surface Treatment:** Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

**334-5.5.4 Tack Coat:** Use a rate of application as defined in Table 334-3. Control the rate of application to be within plus or minus 0.01 gal. per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific

field conditions. Determine the rate of application as needed to control the operation. When using RA-550, multiply the target rate of application by 0.6.

Table 334-3 Tack Coat Application Rates		
Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd <sup>2</sup> )
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.02 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.05
	Milled Surface	0.07

### 334-5.6 Paving:

**334-5.6.1 Alignment of Edges:** With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

**334-5.6.2 Rain and Surface Conditions:** Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-5.3, the Contractor may then place the mixture caught in transit.

**334-5.6.3 Checking Depth of Layer:** Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

**334-5.6.4 Hand Spreading:** In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

**334-5.6.5 Spreading and Finishing:** Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

**334-5.6.6 Thickness Control:** Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by  $\pm 50$  lbs per sy for layers  $\geq 2.5$  inches or exceeds the target spread rate by  $\pm 25$  lbs per sy for layers  $< 2.5$  inches, address the

unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

**334-5.7 Leveling Courses:**

**334-5.7.1 Patching Depressions:** Before spreading any leveling course, fill all depressions in the existing surface as shown in the plans.

**334-5.7.2 Spreading Leveling Courses:** Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

**334-5.7.3 Rate of Application:** When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

**334-5.8 Compaction:** For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

**334-5.9 Joints.**

**334-5.9.1 Transverse Joints:** Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

**334-5.9.2 Longitudinal Joints:** For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

**334-5.10 Surface Requirements:** Construct a smooth pavement with good surface texture and the proper cross slope.

**334-5.10.1 Texture of the Finished Surface of Paving Layers:** Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

**334-5.10.2 Cross Slope:** Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

**334-5.10.3 Pavement Smoothness:** Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509.

**334-5.10.3.1 Straightedge Testing:**

**334-5.10.3.1.1 Acceptance Testing:** Using a rolling straightedge, test the final (top) layer of the pavement. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.

**334-5.10.3.1.2 Final (Top) Pavement Layer:** At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

**334-5.10.3.1.3 Straightedge Exceptions:** Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, bicycle/shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

**334-5.10.4 Correcting Unacceptable Pavement:** Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane, at no additional cost.

**334-6 Acceptance of the Mixture.**

**334-6.1 General:** The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.

2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3

3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

**334-6.2 Certification by the Contractor:** On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

**334-6.3 Certification and Process Control Testing by the Contractor:** On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing.

The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material. .

**334-6.3.1 Process Control Sampling and Testing Requirements:** Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation ( $P_{.8}$  and  $P_{.200}$ ) and asphalt binder content ( $P_b$ ). Measure the roadway density with 6 inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day.

Determine the asphalt binder content of the mixture in accordance with FM 5-563. Determine the gradation of the recovered aggregate in accordance with FM 1-T 030. Determine the roadway density in accordance with FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity ( $G_{mm}$ ) from the approved mix design. If the Contractor or Engineer suspects that the mix design  $G_{mm}$  is no longer representative of the asphalt mixture being produced, then a new  $G_{mm}$  value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-4.

Table 334-4 Process Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target $\pm 0.55$
Passing No. 8 Sieve (percent)	Target $\pm 6.00$
Passing No. 200 Sieve (percent)	Target $\pm 2.00$
Roadway Density (daily average)	Minimum 91.5% of $G_{mm}$
Roadway Density (any single core)	Minimum 88.0 % of $G_{mm}$

**334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer:** On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation ( $P_{.8}$  and  $P_{.200}$ ) and asphalt binder content ( $P_b$ ). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

**334-6.4.1 Acceptance Testing Exceptions:** When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or

shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, bike/shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lb per square yard. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

**334-7 Method of Measurement.**

For the work specified under this Section, the quantity to be paid for will be the weight of the mixture, in tons.

The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified in 334-5.5.4. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix.

**334-8 Basis of Payment.**

**334-8.1 General:** Price and payment will be full compensation for all the work specified under this Section.

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LOCAL AGENCY \_\_\_\_\_

The noted Local Agency hereby agrees to comply with the following requirements when developing all projects on and off the Federal-aid Highway System:

1. The *Local Agency Program (LAP) Manual* and all policies and guidelines promulgated by the State of Florida Department of Transportation (Department) which accomplish the policies and objectives set forth in Title 23, U.S.C., Highways and the Regulations issued pursuant thereto.
2. The overall approval authorities and conditions will be as follows:

- a. The project design will be reviewed and approved by the following State of Florida registered Professional Engineer (s).

\_\_\_\_\_  
Position Title (s) Only

- b. The hearing's findings (if required) will be reviewed and approved by the following official(s).

\_\_\_\_\_  
Position Title(s) Only

- c. The contract plans, specifications, and estimate of cost will be reviewed and approved by the following State of Florida registered Professional Engineer (s).

\_\_\_\_\_  
Position Title (s) Only

- d. Agreements will be signed by the following responsible local official(s).

(1) Railroad \_\_\_\_\_  
Position Title (s) Only

(2) Utility \_\_\_\_\_  
Position Title (s) Only

(3) Consultant \_\_\_\_\_  
Position Title (s) Only

(4) Technical Services \_\_\_\_\_  
Position Title (s) Only

- e. The award of contract will be signed by the following responsible official.

\_\_\_\_\_  
Position Title (s) Only

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**LOCAL AGENCY CERTIFICATION QUALIFICATION AGREEMENT**

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- f. The following person or persons will be the Disadvantage Business Enterprise (DBE) Liaison Officer, Title VI Officer, Equal Employment Opportunity(EEO)/Affirmative Action Officer, and Americans with Disabilities Act (ADA) Coordinator.  
One person may serve in all four positions or a separate person in each position.

Name	Position Title	Contact Information
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Name	Position Title	Contact Information
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Name	Position Title	Contact Information
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Name	Position Title	Contact Information
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- g. All projects will be designed and constructed in accordance with the requirements of the *LAP Manual*.
- h. The Contract Administration will be supervised by the following State of Florida registered Professional Engineer.

Position Title Only
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- i. Construction Administration and Material Sampling and Testing will be accomplished in accordance with the requirements of the *LAP Manual*.
3. The Local Agency agrees that it has the means to provide adequate expertise and will have support staff available to perform the functions being subdelegated. The support staff may include consultant or State services.
4. The Local Agency agrees to submit the names of the approving authorities noted in Section 2 above with each project prospectus.
5. All projects under Local Agency Certification shall be available for review by the Federal Highway Administration (FHWA) and the Department at any time. All project documents shall be retained and available for inspection during the plan development and construction stages and for a three-year period following acceptance of the project by FHWA.
6. The Department's District LAP Administrator's approval of the Local Agency Certification may be rescinded at any time upon request by the Local Agency or if in the Department's District LAP Administrator's opinion, it is necessary to do so. The rescission may be applied to all or part of the functional areas or projects approved in the Local Agency Certification.
7. The Local Agency must receive a Recertification of Qualification after a period of three years of inactivity or at the discretion of the Department's District LAP Administrator. Failure to receive a Recertification of Qualification and/or unsatisfactory performance by the Local Agency will result in a Decertification of Qualification.

\_\_\_\_\_  
Mayor or Chairman or Designee

\_\_\_\_\_  
Date



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**LOCAL AGENCY CERTIFICATION QUALIFICATION AGREEMENT**

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The Local Agency is certified in the following functional areas: ☐ Planning ☐ Environmental Documentation  
☐ Design ☐ Consultant Selection ☐ Bid and Award Project ☐ Construction Administration  
☐ Right of Way Documentation

Approved By:

\_\_\_\_\_  
District Secretary or Designee

\_\_\_\_\_  
Date

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**FEDERAL REQUIREMENTS LAP CHECKLIST FOR ADMINISTRATIVE OPERATIONS**

525-010-43  
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Local Agency: \_\_\_\_\_ County: \_\_\_\_\_ Municipality: \_\_\_\_\_

Requirement	Reference	NHS/ SHS <input type="checkbox"/>	Non- NHS/ SHS <input type="checkbox"/>	Non- NHS/ Non- SHS <input type="checkbox"/>	Non- Federal- Aid Highway/ Non-SHS <input type="checkbox"/>	Local Agency Responsibility	District Monitoring Responsibilities	Reference	Local Agency Initial	(FDOT) District Initial
1a. Advertising for Bids	23 CFR 635.112(d) (e)(f)(g)(h), 49 CFR 18.36	Yes	Yes	Yes	Yes	<p>The Local Agency shall advertise authorized projects a minimum of 3 weeks and make available approved plans and specifications to bidders during the advertising period.</p> <p>Approval shall be obtained by the Local Agency prior to issuing any addenda which contains a major change to the approved plans or specifications during the advertising period.</p> <p>The Local Agency shall develop a process specifically for Design Build projects that includes the solicitation for proposals including the submission, modification, revision and withdrawal of proposals.</p>	Review Local Agency procedures, guidelines, policies, etc.			
2a. Bid Opening and Tabulation	23 CFR 635.113(a)	Yes	Yes	Yes	Yes	<p>The Local Agency shall publicly open and announce either item by item or by total amount all bids received in accordance with the terms of the advertisement. Any bid received and not read aloud, shall have the name of the bidder and the reason for not reading the bid aloud publicly announced at the letting.</p> <p>The Local Agency shall forward Tabulations of bids certified by a responsible official to FDOT. The tabulation shall show: (1) Bid item details for at least the low three acceptable bids and (2) The total amounts of all other acceptable bids.</p> <p>The Local Agency shall develop a process specifically for Design Build projects that includes the handling of proposals and information.</p>	Review Local Agency procedures, guidelines, policies, etc.			

Requirement	Reference	NHS/ SHS <input type="checkbox"/>	Non- NHS/ SHS <input type="checkbox"/>	Non- NHS/ Non- SHS <input type="checkbox"/>	Non- Federal- Aid Highway/ Non-SHS <input type="checkbox"/>	Local Agency Responsibility	District Monitoring Responsibilities	Reference	Local Agency Initial	(FDOT) District Initial
3a. Bid Analysis and Award of Contract	23 CFR 635.114	Yes	Yes	Yes	Yes	<p>The Local Agency shall examine the unit bid prices of the apparent low bid for reasonable conformance with the engineer's estimate. A written process should be in place for documenting the analysis of bids, determining unbalanced and non-responsive bids, identification of non-responsive bidders and the Local Agency's award/reject recommendation.</p> <p>The Local Agency shall award contracts solely on the basis of the lowest responsive bid submitted by a bidder meeting the criteria of responsibility with the prior approval of FDOT.</p> <p>The Local Agency shall develop a process specifically for Design Build projects that includes the review and evaluation of proposals and the method of announcing the successful proposal.</p>	Review Local Agency procedures, guidelines, policies, etc.			
4a. Contract time	23 CFR 635.121	Yes	No	No	No	Provide procedures to be used. May use section 1.2.7 of FDOT CPAM as guide.	Review Local Agency procedures, guidelines, policies, etc.			
5a. Engineer's Estimate	23 CFR 630B	Yes	No	No	No	If the project is on the NHS the Local Agency must follow FDOT's method of estimating.	Review documents to make sure a valid estimate was done for NHS projects.			
6a. Project Supervision and Staffing	23 CFR 635.105	Yes	Yes	Yes	Yes	Outline procedures to ensure compliance with plans and specifications. Must have a full time employee in responsible charge of the project (name and title)	Review Local Agency procedures, guidelines, policies, etc.			

Requirement	Reference	NHS/ SHS <input type="checkbox"/>	Non- NHS/ SHS <input type="checkbox"/>	Non- NHS/ Non- SHS <input type="checkbox"/>	Non- Federal- Aid Highway/ Non-SHS <input type="checkbox"/>	Local Agency Responsibility	District Monitoring Responsibilities	Reference	Local Agency Initial	(FDOT) District Initial
7a. Warranty clauses	23 CFR 635.413	Yes	No	No	No	Provide FDOT with procedures to be used and include FDOT approved procedures in bid documents.	Review Local Agency procedures, guidelines, policies, etc.			

Local Agency: I hereby certify that the above mentioned Administration Operations contain the provisions set forth in this checklist.

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Signature

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Position Title

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Name (Printed)

---

Date

District LAP Administrator/Designee: I hereby certify that the above mentioned Administration Operations contain the provisions set forth in this checklist.

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Signature

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Position Title

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Name (Printed)

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Date

Central Office Statewide LAP Administrator: I hereby certify that the checklist is complete as indicated.

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Signature

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Position Title

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Name (Printed)

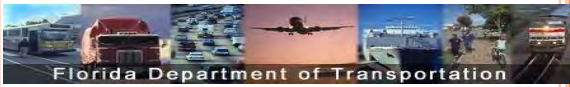
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Date



**LOCAL AGENCY PROGRAM  
INFORMATION TOOL (LAPIT)**


1



**PRESENTATION OVERVIEW**

- What is LAPIT
  - Internet-based Application
  - Collaborative Oversight and Monitoring
- How Did LAPIT Come About
  - Transparency and Accountability
  - Federal Highway Administration (FHWA) Reviews
- How can LAPIT Streamline the Process
  - Centralized Documentation
  - Common Playground
  - Reduces Document Mailings

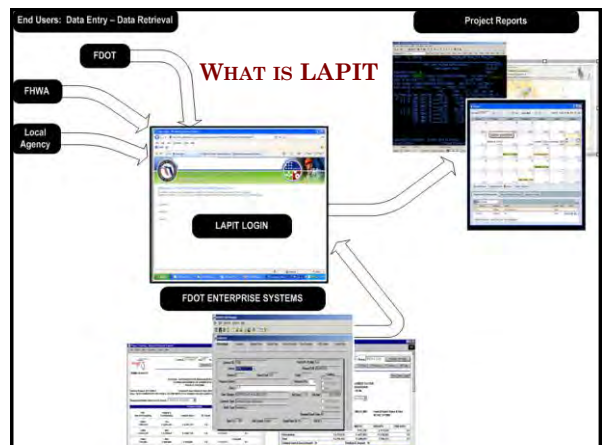
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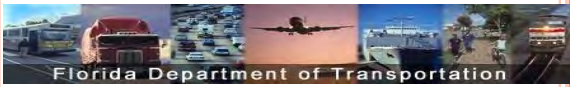


**PRESENTATION OVERVIEW**

- What is Expected of My Agency
  - Contract Data-Project Documents-Contacts
- What Are the Key Elements of LAPIT
  - Agreement/Project Data
  - Local Agency Contract Data
  - Contact Database

3





**How Did LAPIT Come About**

- In 2005-2006: LAP Highest Risk in Programs
  - No Systematic Sub-recipient Compliance
  - Growing Program with Limited Oversight
  - Limited Staff and Training
- Economic Stimulus Act and New Environment
  - Increased Demand for Transparency and Accountability
  - More Documentation
  - More Audits


5



**How Can LAPIT Streamline the Process**

- Centralized Project Information
  - Project / Contract Data
  - Financial Status
  - Access to Documents
- Production vs. Administration
  - Internet-based and Focused Audits
  - Financial Snapshot
  - Agreement/Invoicing Status
  - Limits Document Mailings

6



**What is Expected of My Agency**

- Open Flow of Information
  - Submitting Documents
  - Creating Contracts
  - Keeping Contacts Updated

7



**Method for Addressing Issue: LAPIT**

- Functionality
  - Centralized Playground for all partners
  - Collaborative monitoring/SCAT
  - Project Financial Status Reporting
  - Performance Monitoring/Measurement
  - Transparency and Accountability
  - Streamlined Process

8



Florida Department of Transportation

**LAPIT: CURRENT STATUS**

<https://www3.dot.state.fl.us/LocalAgencyProgram/Account.aspx/LogOn>

9



## **Local Agency Program (LAP) Specifications Guidelines Design- Build On-System Projects (10-20-10)**

### **Specifications to be included from the Standard Specifications for Road and Bridge Construction for any Local Agency Program Design-Build On-System project:**

Certain parts of FDOT Standard Specifications Division I closely related to Division II and Division III specifications must be included in any Local Agency Program Design-Build On-System project. As a result, the following language is **REQUIRED** to be included directly into the contracting LAP Agency specifications on all Design-Build On-System LAP Projects.

**NOTE:** The numbering of the articles and subarticles below is the same used in the FDOT Division I specifications for consistency with cross references from FDOT Divisions II and III specifications.

### **Section 1 – Definitions and Terms**

#### ***Adjusted Score-Design/Build.***

*A Design/Build Contract on which the Contract award is based on the lowest adjusted score.*

#### ***Bid Proposal.***

*Bid Proposal means a separate technical proposal and a sealed price proposal submitted by each Design-Build Firm.*

#### ***Contract Documents.***

*The term “Contract Documents” includes: Advertisement, Request for Proposal (RFP), the Design and Construction Criteria Package, the Technical and Price Proposal, Certification as to Publication and Notice of Advertisement for Proposal, Appointment of Agent by Nonresident Contractors, Noncollusion Affidavit, Warranty Concerning Solicitation of the Contract by Others, Resolution of Award of Contract, Executed Form of Contract, Performance Bond and Payment Bond, Design Liability Insurance, Specifications, plans (including revisions thereto issued during construction), Addenda, written statements or transcripts or minutes of oral representation by Design-Build Firm made at oral presentations, or other information mailed or otherwise transmitted to the prospective bidders prior to the receipt of bids, work orders, and supplemental agreements, all of which are to be treated as one instrument whether or not set forth at length in the form of Contract.*

*Note: As used in Sections 2 and 3 only, Contract Documents do not include work orders, and supplemental agreements. As used in Section 2 only, Contract Documents do not include Resolution of Award of Contract, Executed Form of Contract, and Performance and Payment Bond.*

**Contractor.**

*The individual, firm, joint venture, or company contracting with the Department to perform the work. The word “Contractor” is also deemed to include a Design-Build Firm contracting with the Department for performance of work, including all engineering services and furnishing of materials.*

**Contractor’s Engineer of Record.**

*A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing of components of the permanent structure as part of a redesign, or for repair designs and details of the permanent work. The Contractor’s Engineer of Record may also serve as the Specialty Engineer.*

*The Contractor’s Engineer of Record must be an employee of a pre-qualified firm. The firm shall be pre-qualified in accordance with the Rules of the Department of Transportation, Chapter 14-75. Any Corporation or Partnership offering engineering services must hold a Certificate of Authorization from the Florida Department of Business and Professional Regulation.*

*As an alternate to being an employee of a pre-qualified firm, the Contractor’s Engineer of Record may be a pre-qualified Specialty Engineer. For items of the permanent work declared by the State Construction Office to be “major” or “structural”, the work performed by a pre-qualified Specialty Engineer must be checked by another pre-qualified Specialty Engineer. An individual Engineer may become pre-qualified in the work groups listed in the Rules of the Department of Transportation, Chapter 14-75, if the requirements for the Professional Engineer are met for the individual work groups. Pre-qualified Specialty Engineers are listed on the State Construction Website. Pre-qualified Specialty Engineers will not be authorized to perform redesigns of items fully detailed in the plans.*

**Design and Construction Criteria Package (DCC).**

*Criteria for Contractor Prepared Design, Project Concept Report, Scope of Work and Service, and all other documents attached thereto; and which, together set forth the criteria for work to be provided to complete this Contract.*

**Design-Build (D-B).**

*Design-Build means combining the project’s design and construction phases, and in some cases construction engineering and inspection, into a single Contract.*

**Design-Build Firm.**

*Design-Build Firm means any company, firm, partnership, corporation, association, joint venture, or other legal entity permitted by law to practice engineering, architecture, and construction contracting, as appropriate, in the State of Florida.*

**Engineer of Record (EOR).**

*The Professional Engineer or Engineering Firm registered in the State of Florida that develops the criteria and concept the project, performs the analysis, and is responsible for the preparation of the Contract Documents. The Engineer of Record shall be a part of the Design Build Firm.*

***Low Bid Design Build.***

*A Design/Build Contract on which the Contract award is based on the lowest responsive bid.*

***Proposal.***

***Technical Proposal:*** *The bidder's submittal in response to the technical requirements set forth in the Department's Request for Proposal.*

***Price Proposal:*** *The bidder's submittal, on the prescribed form, in response to the price requirements set forth in the Department's Request for Proposal.*

***Request for Proposal. (RFP)***

*The package to be provided to the short-listed design-build firms in the adjusted score design-build method and to those design-build firms requesting a RFP in the low bid design-build method. The RFP defines all functions and responsibilities by the firm.*

***Specialty Engineer.***

*A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing preparation of components, systems, or installation methods and equipment for specific temporary portions of the project work or for special items of the permanent works not fully detailed in the plans and required to be furnished by the Contractor such as but not limited to pot bearing designs, non-standard expansion joints, MSE wall designs and other specialty items. The Specialty Engineer may also provide designs and details for items of the permanent work declared by the State Construction Office to be "minor" or "non-structural". The Specialty Engineer may be an employee or officer of the Contractor or a fabricator, an employee or officer of an entity providing components to a fabricator, or an independent consultant.*

*For items of work not specifically covered by the Rules of the Department of Transportation, a Specialty Engineer is qualified if he has the following qualifications:*

- (1) Registration as a Professional Engineer in the State of Florida.*
- (2) The education and experience necessary to perform the submitted design as required by the Florida Department of Business and Professional Regulation.*

*In a Design-Build Contract, requests for acceptance for non-complying work, repair procedures, shop drawing review, or review of activities directly affecting public safety must be prepared by a firm independent from both the Specialty Engineer and EOR if Specialty and EOR are same entity. If the Specialty Engineer and EOR are separate entities, either party may initiate the action; the other shall check and certify the work as being complete and correct prior to submittal to the Engineer. If the Specialty Engineer and EOR are the same entity, the Specialty Engineer/EOR will initiate the action of the independent firm contracted to prepare these requests and the Specialty Engineer/EOR will check and certify the work of the independent firm as being complete and correct prior to submittal to the Engineer.*

***Section 5 – Control of the Work***

### **5-11 Final Acceptance.**

*When, upon completion of the final construction inspection of the entire project, the Engineer determines that the Contractor has satisfactorily completed the work, the Engineer will give the Contractor written notice of final acceptance.*

## **Section 6 – Control of Materials**

### **6-1 Acceptance Criteria.**

**6-1.1 General:** *Acceptance of materials is based on the following criteria. All requirements may not apply to all materials. Use only materials in the work that meet the requirements of these Specifications. The Engineer may inspect and test any material, at points of production, distribution and use.*

**6-1.2 Sampling and Testing:** *Use the Department's current sample identification and tracking system to provide related information and attach the information to each sample. Restore immediately any site from which material has been removed for sampling purposes to the pre-sampled condition with materials and construction methods used in the initial construction, at no additional cost to the Department.*

*Ensure when a material is delivered to the location as described in the Contract Documents, there is enough material delivered to take samples, at no expense to the Department.*

**6-1.2.1 Pretest by Manufacturers:** *Submit certified manufacturer's test results to the Engineer for qualification and use on Department projects. Testing will be as specified in the Contract Documents. The Department may require that manufacturers submit samples of materials for independent verification purposes.*

**6-1.2.2 Point of Production Test:** *Test the material during production as specified in the Contract Documents.*

**6-1.2.3 Point of Distribution Test:** *Test the material at Distribution facilities as specified in the Contract Documents.*

**6-1.2.4 Point of Use Test:** *Test the material immediately following placement as specified in the Specifications. After delivery to the project, the Department may require the retesting of materials that have been tested and accepted at the source of supply, or may require the testing of materials that are to be accepted by Producer Certification. The Department may reject all materials that, when retested, do not meet the requirements of these Specifications.*

### **6-1.3 Certification:**

**6-1.3.1 Producer Certification:** *Provide complete certifications for materials as required. Furnish to the Engineer for approval, Producer Certifications for all products listed on the Qualified Products List and when required by the applicable material Specification(s). Do not incorporate any manufactured products or materials into the project without approval from the Engineer. Materials will not be considered for payment when not accompanied by Producer Certification. Producers may obtain sample certification forms through the Department's website. Ensure that the certification is provided on the producer's letterhead and is signed by a legally responsible person from the producer and notarized.*

**6-1.3.1.1 Qualified Products List:** *The Product Evaluation Section in the State Specifications and Estimates Office publishes and maintains a Qualified Products List. This list provides assurance to Contractors, consultants, designers, and*

*Department personnel that specific products and materials are approved for use on Department facilities. The Department will limit the Contractor's use of products and materials that require pre-approval to items listed on the Qualified Products List effective at the time of placement.*

*Manufacturers seeking evaluation in accordance with Departmental procedures of an item must submit a Product Evaluation Application, available on the Department's website [www2.dot.state.fl.us/specificationsestimates/productevaluation/qpl/submittalprocess.aspx](http://www2.dot.state.fl.us/specificationsestimates/productevaluation/qpl/submittalprocess.aspx), with supporting documentation as defined and detailed by the applicable Specifications and Standards. This may include certified test reports from an independent test laboratory, certification that the material meets all applicable specifications, signed and sealed drawings and calculations, quality control plans, samples, infrared scans, or other technical data.*

*Manufacturers successfully completing the Department's evaluation are eligible for inclusion on the Qualified Products List. The Department will consider any marked variations from original test values for a material or any evidence of inadequate field performance of a material as sufficient evidence that the properties of the material have changed, and the Department will remove the material from the Qualified Products List.*

**6-1.3.1.2 Approved Products List:** *The State Traffic Operations Office maintains the Approved Products List of Traffic Control Signal Devices. Traffic Monitoring Site Equipment and Materials are also included on the Approved Products List. This list provides assurance to Maintaining Agencies, Contractors, consultants, designers, and Department personnel that the specific items listed are approved for use on Department facilities. The Department will limit the Contractor's procurement and use of Traffic Control Signal Devices, and Traffic Monitoring Site equipment and materials to only those items listed on the Approved Products List that is effective at the time of procurement, except as provided in Section 603.*

*The approval process is described in detail on the State Traffic Operation website, [www.dot.state.fl.us/trafficoperations/terl/apl2.htm](http://www.dot.state.fl.us/trafficoperations/terl/apl2.htm). Manufacturers seeking evaluation of a specific device must submit an application which can be obtained from the State Traffic Operations Office.*

**6-1.3.2 Contractor Installation Certification:** *Provide installation certifications as required by the Contract Documents.*

**6-1.3.3 Lump Sum Project General Requirements:** *Material is accepted by material sampling and testing requirements for the following work activities: Earthwork and Related Operations, Base Courses, Hot Bituminous Mixtures, Portland Cement Concrete, and Reinforcing Steel as stated in 9-11.1. Fabricated metal acceptance will be in accordance with 9-11.2. All other material acceptance will be in accordance with 6-1.*

**6-1.3.4 Certification on Qualified Products List (QPL) Products:** *Submit to the Engineer a notarized manufacturer's certification on each QPL product that will be incorporated in the project. Submit the certification prior to utilization of the material on the project. Each certification will have the manufacturer letterhead, product name, batch number, FPID, Contract Number, category, county, title of certification person and test results in each product listed in the Department Specification. This letter will also*

*provide the following statement: “This product meets the material specifications as provided in the Contract Documents.” Ensure that the date of the manufacturer’s certification is current to the shelf life of the product. This letter will be delivered to the jobsite prior to placement or utilization. Retain test results for a minimum of three years.*

**6-1.3.5 Certification on all Other Materials Not Specified:** *Submit to the Engineer a notarized manufacturer’s certification on each product that will be incorporated in the project. Submit the certification prior to utilization on the project. Each certification will have the manufacturer letterhead, identification and type of material, FPID, Contract Number, county, test results of the material and notarized signature from the manufacturer. This letter will also provide the following statement: “This product meets the material specifications as provided in the Contract Documents.” Ensure that the date of the manufacturer’s certification is current to the shelf life of the product. Retain test results for a minimum of three years.*

## **6-2 Applicable Documented Authorities other than Specifications.**

**6-2.1 General:** *Details on individual materials are identified in various material specific Sections of the Specifications that may refer to other documented authorities for requirements. When specified, meet the requirements as defined in such references.*

**6-2.2 Test Methods:** *Methods of sampling and testing materials are in accordance with the Florida Methods (FM). If a Florida Method does not exist for a particular test, perform the testing in accordance with the method specified in the Specification. When test methods or other standards are referenced in the Specifications without identification of the specific time of issuance, use the most current issuance, including interims or addendums thereto, at the time of bid opening.*

**6-2.3 Construction Aggregates:** *Aggregates used on Department projects must be in accordance with Rule 14-103, FAC.*

## **6-3 Storage of Materials and Samples.**

**6-3.1 Method of Storage:** *Store materials in such a manner as to preserve their quality and fitness for the work, to facilitate prompt inspection, and to minimize noise impacts on sensitive receivers. More detailed specifications concerning the storage of specific materials are prescribed under the applicable Specifications. The Department may reject improperly stored materials.*

**6-3.2 Use of Right-of-Way for Storage:** *If the Engineer allows, the Contractor may use a portion of the right-of-way for storage purposes and for placing the Contractor’s plant and equipment. Use only the portion of the right-of-way that is outside the clear zone, which is the portion not required for public vehicular or pedestrian travel. When used, restore the right-of-way to pre-construction condition at no additional cost to the Department or as specified in the Contract Documents. Provide any additional space required at no expense to the Department.*

**6-3.3 Responsibility for Stored Materials:** *Accept responsibility for the protection of stored materials. The Department is not liable for any loss of materials, by theft or otherwise, or for any damage to the stored materials.*

**6-3.4 Storage Facilities For Samples:** *Provide facilities for storage of samples as described in the Contract Documents and warranted by the test methods and Specifications.*

#### **6-4 Defective Materials.**

*Materials not meeting the requirements of these Specifications will be considered defective. The Engineer will reject all such materials, whether in place or not. Remove all rejected material immediately from the site of the work and from storage areas, at no expense to the Department.*

*Do not use material that has been rejected and the defects corrected, until the Engineer has approved the material's use. Upon failure to comply promptly with any order of the Engineer made under the provisions of this Article, the Engineer has the authority to have the defective material removed and replaced by other forces and deduct the cost of removal and replacement from any moneys due or to become due the Contractor.*

*As an exception to the above, within 30 calendar days of the termination of the LOT or rejection of the material, the Contractor may submit a proposed scope of work to the Engineer for an engineering or independent laboratory (as approved by the Engineer) analysis to determine the disposition of the material. A Specialty Engineer, who is an independent consultant, or the Contractor's Engineer of Record as stated within each individual Section shall perform any such analysis. Upon the Engineer's approval of the scope of work submitted by the Contractor, the engineering analysis must be completed and the report must be submitted to the Engineer within 45 calendar days, or other time frame as approved by the Engineer. The report must be signed and sealed by the Specialty Engineer. The Engineer will determine the final disposition of the material after review of the information submitted by the Contractor. No additional monetary compensation or time extension will be granted for the impact of any such analysis or review.*

#### **6-5 Products and Source of Supply.**

**6-5.3 Contaminated, Hazardous, and Dangerous Materials:** *Do not use any material that, after approval and/or placement, has in any way become unfit for use. Do not use materials containing any substance that has been determined to be hazardous by the State of Florida Department of Environmental Protection or the U.S. Department of Environmental Protection. Provide workplaces free from serious recognized hazards and to comply with occupational safety and health standards, as determined by the U.S. Department of Labor Occupational Safety and Health Administration.*

### **Section 7 – Legal Requirements and Responsibilities to the Public**

**7-1.3 Introduction or Release of Prohibited Aquatic Plants, Plant Pests, or Noxious Weeds:** *Do not introduce or release prohibited aquatic plants, plant pests, or noxious weeds into the project limits as a result of clearing and grubbing, earthwork, grassing and mulching, sodding, landscaping, or other such activities. Immediately notify the Engineer upon discovery of all prohibited aquatic plants, plant pests, or noxious weeds within the project limits. Do not move prohibited aquatic plants, plant pests, or noxious weeds within the project limits or to locations outside of the project limits without the Engineer's permission. Maintain all borrow material brought onto the project site free of prohibited aquatic plants, plant pests, noxious weeds, and their*

*reproductive parts. Refer to Rule 16C-52 and Rule 5B-57, of the Florida Administrative Code for the definition of prohibited aquatic plants, plant pests, and noxious weeds.*

*Furnish the Engineer, prior to incorporation into the project, with a certification from the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, stating that the sod, hay, straw, and mulch materials are free of noxious weeds, including Tropical Soda Apple.*

**7-1.7 Insecticides and Herbicides.** *Use products found on the following website, [www.flpesticide.us/](http://www.flpesticide.us/), approved by the Florida Department of Agriculture for the State of Florida. The use of restricted products is prohibited. Do not use any products in the sulfonyleurea family of chemicals. Herbicide application by broadcast spraying is not allowed.*

*Procure any necessary licenses, pay all charges and fees, and give all notices necessary for lawful performance of the work.*

*Ensure that all employees applying insecticides and herbicides possess a current Florida Department of Agriculture Commercial Applicator license with the categories of licensure in Right-of-Way Pest Control and Aquatic Pest Control. Provide a copy of current certificates upon request, to the Engineer.*

*Ensure that employees who work with herbicides comply with all applicable Federal, State, and local regulations.*

*Comply with all regulations and permits issued by any regulatory agency within whose jurisdiction work is being performed. Post all permit placards in a protected, conspicuous location at the work site.*

*Acquire any permits required for work performed on the rights-of-way within the jurisdiction of National Forests in Florida. Contact the Local National Forest Ranger District, or the United States Department of Agriculture (USDA) office for the proper permits and subsequent approval.*

*Acquire all permits required for aquatic plant control as outlined in Chapter 62C-20, Florida Administrative Code, Rules of the Florida Department of Environmental Protection. Contact the Regional Field Office of Bureau of Invasive Plant Management of the Florida Department of Environmental Protection for proper permits and subsequent approval. If application of synthetic organo-auxin herbicides is necessary, meet the requirements of Chapter 5E-2, Florida Administrative Code.*

**7-7.2 Overloaded Equipment.** *Do not operate on any road or street any hauling unit or equipment loaded in excess of (1) the maximum weights specified in the Florida Uniform Traffic Control Law, or (2) lower weights legally established for any section of road or bridge by the Department or local authorities. The governmental unit having jurisdiction over a particular road or bridge may provide exceptions by special permit under the provisions of 7.0. This restriction applies to all roads and bridges inside and outside the Contract limits as long as these roads and bridges are open for public use. The Contractor may overload roads and bridges which are to be demolished after they are permanently closed to the public. The Contractor is responsible for all loss or damages resulting from equipment operated on a structure permanently closed to the public.*



**7-7.5 Contractor's Equipment on Bridge Structures.** *The Specialty Engineer shall analyze the effect of imposed loads on bridge structures, within the limits of a construction contract, resulting from the following operations:*

*(1) Overloaded Equipment as defined 7.0:*

*(a) Operating on or crossing over completed bridge structures.*

*(b) Operating on or crossing over partially completed bridge structures.*

*(2) Equipment within legal load limits:*

*(a) Operating on or crossing over partially completed bridge structures.*

*(3) Construction cranes:*

*(a) Operating on completed bridge structures.*

*(b) Operating on partially completed bridge structures.*

*Any pipe culvert(s) or box culvert(s) qualifying as a bridge under 1-3 is excluded from the requirements above.*

*A completed bridge structure is a bridge structure in which all elemental components comprising the load carrying assembly have been completed, assembled, and connected in their final position. The components to be considered shall also include any related members transferring load to any bridge structure.*

*The Specialty Engineer shall determine the effect that equipment loads have on the bridge structure and develop the procedures for using the loaded equipment without exceeding the structure's design load capacity.*

*Submit to the Department for approval eight copies of design calculations, layout drawings, and erection drawings showing how the equipment is to be used so that the bridge structure will not be overstressed. The Specialty Engineer shall sign and seal one set of the eight copies of the drawings and the cover sheet of one of the eight copies of the calculations for the Department's Record Set.*

### **Specifications to be redefined :**

The terms “Department” and “Engineer” MUST be redefined by the contracting LAP Agency within the context of its own administrative contract language. This language differs from the REQUIRED language above in that it cannot be directly incorporated from FDOT language. It is, however, ESSENTIAL that these terms be redefined and addressed.

Below are the definitions currently in the Standard Specifications for Road and Bridge Construction.

***Department:*** *State of Florida Department of Transportation.*

***Engineer:*** *The Director, Office of Construction, acting directly or through duly authorized representatives; such representatives acting within the scope of the duties and authority assigned to them.*

*Note: In order to avoid cumbersome and confusing repetition of expressions in these Specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where “acceptable, accepted, approval, approved, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined, directed, disapproved, established, given, indicated, insufficient, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable, or unsatisfactory,” it shall be understood as if the expression were followed by the words “by the Engineer,” “to the Engineer,” or “of the Engineer.”*

**Check references in Divisions II and III of the Standard Specifications for Road and Bridge Construction:**

Whenever FDOT Specifications for Division II and Division III are used with non-FDOT specifications, there will be numerous cross references to sections, articles and subarticles that must be modified to provide a consistent specifications package for the project. These modifications are the responsibility of the Local Agency.

## **Kansas Federal Fund Exchange Program For Local Agencies**



Ronald J. Seitz, P.E.  
Chief, Bureau of Local Projects

## **Background**

Local Needs



**Kansas has 120,000 miles of roads & 20,500 bridges  
under local jurisdiction.**



## **Bridge Needs**

- 4,409 Bridges rated as Structurally Deficient or Functionally Obsolete.
- Replacement rate is about 40 bridges per year with Federal Aid.
- Will take over 100 years to replace all bridges that are deficient today at this rate.
- Replacement costs are increasing.
- More bridges become deficient every year.



### **Local Road & Bridge Needs**

- Survey of County Engineers & Road Supervisors
- Compare current budget to needs
- 3 ½ to 4 times current dollars needed to maintain system at acceptable level.



### **Local Concerns with Traditional Federal-Aid Program**

- Need easier access to the dollars.
- Projects too expensive
- Need flexibility in how the funds can be used
  - Maintenance work
  - Work done by county forces
- Greater local control over standards, project oversight, etc.
- Fewer "Bureaucratic" strings



### **Kansas Solution:**

### **Federal Fund Exchange Program**



Kansas is not the first state to implement a federal fund exchange program.

- California
- Oregon
- Others
- Enabling Federal Legislation: TEA-21 (1998)



### **What is the Federal Fund Exchange?**

This is a voluntary program in which a Local Public Agency can trade its federal obligation authority with KDOT or another local agency in exchange for state (or local) funds. State funds are paid on a reimbursement basis as the LPA incurs costs.



### **What Are the Benefits of the Fund Exchange?**

Eliminates costly and time-consuming requirements of federal-aid projects.

- Reduced environmental documentation
- Plans development to meet local needs
- Inspection to meet local needs
- Avoid many restrictive federal provisions
  - Buy America
  - Davis-Bacon
  - DBE
  - Pipe Policy



### **What Are the Benefits of the Fund Exchange?**

More flexibility in selection of projects

- Projects can be on non-federal aid routes
- Bridges don't have to meet eligibility requirements
- Much wider range of scopes allowed



### **What Kind of Projects Are Acceptable?**

- Road construction, reconstruction, rehabilitation
- Pavement preservation (overlay, mill/overlay, chip/seal, pvt. patching, crack sealing)
- Purchase of aggregate used exclusively on roads
- Safety improvement (signing, pvt. marking, roadside obstacles, intersection, etc.)



### What Kind of Projects Are Acceptable?

- Bridge construction/replacement
- Bridge rehabilitation, repair
- Bridge removal
- Low-water crossing



### What Kind of Projects Are Acceptable?

- Erosion protection in ditches or around drainage structures.
- Const. of sidewalks, ADA ramps, pedestrian signals.
- Construction of trails.
- Curb & Gutter repair or replacement.
- Storm sewer repairs.

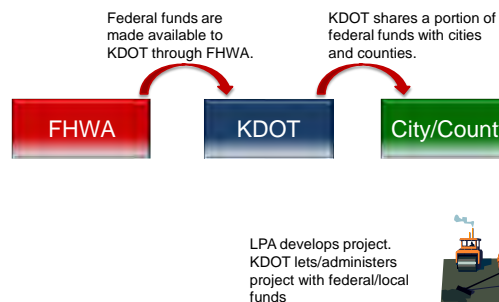


### Allowable Use of State Funds

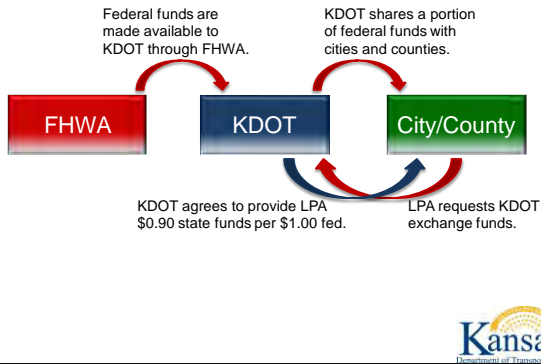
- All phases of project are eligible.
- LPA determines procedures, criteria and standards.
  - *Must meet applicable laws, regulations, accepted engineering practices.*
- LPA may “bank” funds for up to 3 years.



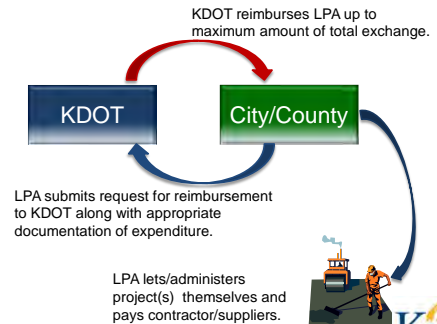
### Current Fed.-Aid Process



## How the Fund Exchange Works



## How the Fund Exchange Works



**KANSAS**  
KANSAS DEPARTMENT OF TRANSPORTATION  
BUREAU OF LOCAL PROJECTS  
REQUEST TO EXCHANGE FEDERAL FUNDS

County: \_\_\_\_\_  
Federal Funds in the Exchange: \$ \_\_\_\_\_

The Bureau of Transportation is hereby requested to make available to the following local public agency (LPA) the federal funds in the exchange for the following project(s):

We understand that the amount of state funds provided by the Bureau will be calculated as an exchange rate of \$0.90 per \$1.00 of federal funds. We further understand that the state funds will be used for the exchange project(s) in accordance with the program guidelines and will be paid to the LPA in accordance with the program guidelines.

Project Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_  
Zip: \_\_\_\_\_  
Date: \_\_\_\_\_

*(The LPA understands that the LPA is not to be held liable for the exchange rate.)*

**REQUEST TO EXCHANGE FEDERAL FUNDS**

Project Location: \_\_\_\_\_  
Scope of Work: \_\_\_\_\_  
Estimated Costs: \_\_\_\_\_  
(Only show those costs for which you will request reimbursement)

Design: \$ \_\_\_\_\_  
Right of Way: \$ \_\_\_\_\_  
Utility Adjustments: \$ \_\_\_\_\_  
Construction: \$ \_\_\_\_\_  
Inspection: \$ \_\_\_\_\_  
Total Estimated Costs: \$ \_\_\_\_\_

Project Location: \_\_\_\_\_  
Scope of Work: \_\_\_\_\_  
Estimated Costs: \_\_\_\_\_  
(Only show those costs for which you will request reimbursement)

Design: \$ \_\_\_\_\_  
Right of Way: \$ \_\_\_\_\_  
Utility Adjustments: \$ \_\_\_\_\_  
Construction: \$ \_\_\_\_\_  
Inspection: \$ \_\_\_\_\_  
Total Estimated Costs: \$ \_\_\_\_\_

**Kansas**  
Department of Transportation

**THE PARTIES AGREE:**

1. The **County** (hereinafter referred to as the "County") and the **City** (hereinafter referred to as the "City") have entered into this Agreement for the purpose of exchanging federal funds for the purpose of the **Project** (hereinafter referred to as the "Project").

2. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

3. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

4. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

5. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

6. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

7. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").


8. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

9. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

10. The **County** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project") and the **City** shall be responsible for the payment of the **Project** (hereinafter referred to as the "Project").

**Kansas**  
Department of Transportation





**KANSAS**  
DEPARTMENT OF TRANSPORTATION

**KANSAS DEPARTMENT OF TRANSPORTATION**  
**Federal Fund Exchange**  
**Request for Reimbursement**

City/County: \_\_\_\_\_

Date of Request: \_\_\_\_\_

Description of Work and Location: \_\_\_\_\_

Project Name: \_\_\_\_\_

Work began date: \_\_\_\_\_

Work completed date: \_\_\_\_\_

The undersigned officer of the city/county states that (1) the following items, quantities and services of work have been accepted and incorporated into the Project and (2) that same have been accepted and paid by the City/County. Therefore reimbursement is hereby requested to be paid in accordance with Federal Fund Exchange Agreement No. \_\_\_\_\_.

Firm/Supplier	Invoice No.	Description of Services/Materials	Amount
<b>Total amount requested</b>			<b>0</b>

Please attach copies of all invoices.

Firm Name: \_\_\_\_\_

Signature: \_\_\_\_\_

CITY OR COUNTY OFFICIAL
TITLE



**Kansas**  
Department of Transportation

### Fed. Funds Available for Exchange

- Federal STP and BR funds allocated to counties and small urbans.
- **Minus** Federal-Aid Local Bridge Program.
  - Approx. \$8 million annually.
- **Minus** Local Bridge Inspection Compliance Effort.
  - Approx. \$5 million annually.
  - Through 2014.
- Total Approx. \$34 million in FFY 2011

## Implementation

- Fall 2010 – Federal Fiscal Year 2011.
- All counties
- Cities over 5,000 not in metro area.
- Implementation Issues
  - Federal funding uncertainty.
  - Current fund balances – counties.
  - Fund distribution to cities.
  - Ongoing project commitments.

## Sources of Pushback on Program

- Engineering Consultants
- Contractors
- Internal KDOT

### FFY10 STP/BR vs. FFY11 Fund Exchange

	FFY10 Fed Aid	FFY11 Fund Exchange
<b>Counties</b>		
Total Dollars	\$25.1 million	\$24.8 million
Miles of Road	15.4	195.2
No. of Bridges	14	15
Dollars Banked	\$0	\$15.3 million
<b>Cities</b>		
Total Dollars	\$0.2 million	\$9.6 million
Blocks of Street	0	91.5
No. of Bridges	1	0
Dollars Banked	\$0	\$7.0 million

### FFY2011 Results - Counties

Federal Dollars Available: \$24.8 million  
Dollars Requested \$13.02 million

#### PROPOSED WORK

Road Improvement 195 miles  
     Overlay 27 miles  
     Seal 125 miles  
     Gravel 31 miles  
     Subgrade Modification 6 miles  
     Patching 15 miles  
 Bridges 15 (Includes 5 using FFE to pay local share of FA off-system bridge project)  
 Bridge Inspection 3  
 Other Drainage Structure 1  
 Sign Upgrade 2  
 Dollars "Banked" \$15.3 million



#### Federal Fund Exchange

##### **Elk County**

County Road

Aggregate Surface  
Installed by County Forces

*Work not eligible for  
federal funding.*



#### Federal Fund Exchange

##### **Geary County**

Chip and Seal

*"Maintenance" type  
improvement – not  
eligible for federal aid.*



### **Federal Fund Exchange**

#### **Saline County**

Bridge Replacement

Formerly federal-aid project.

*Project let to contract sooner.  
County had greater control over how project was constructed.*



### **More Information**

<http://www.ksdot.org/burLocalProj/default.asp>



**Questions?**



**MAINE DEPARTMENT OF TRANSPORTATION  
LOCAL PROJECT ADMINISTRATOR EVALUATION FORM**

- Evaluate the Local Project Administrator's performance in each of the following areas:

**Rating:** Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

**Rating:** Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

### 3.) COMMUNICATION AND COOPERATION:

- a.) Did the Local Project Administrator (LPA) communicate effectively with the MaineDOT Project Manager, in order to keep the project on budget and schedule? Yes ☐ No ☐ N/A ☐
- b.) Did the LPA consult with the MaineDOT Project Manager when issues affecting the scope, schedule or budget arose? Yes ☐ No ☐ N/A ☐
- c.) Was the LPA cooperative and responsive to feedback? Yes ☐ No ☐ N/A ☐

**Comments:** (required for answers of “no” or a rating of “poor”): \_\_\_\_\_

**Rating:** Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

### 4.) PROJECT DESIGN:

- a.) Did the Local Project Administrator (LPA) follow MaineDOT’s consultant-selection procedures when hiring consultants for design and/or other project engineering work? Yes ☐ No ☐ N/A ☐
- b.) Did the LPA seek the proper authorizations from the MaineDOT Project Manager before performing work, procuring services or signing contracts? Yes ☐ No ☐ N/A ☐
- c.) Were the project plans, specifications and estimates developed in accordance with MaineDOT’s standards and procedures? Yes ☐ No ☐ N/A ☐
- d.) Were the plans and specifications adequate enough to minimize change orders and misinterpretation in the field? Yes ☐ No ☐ N/A ☐

**Comments** (required for answers or “no” or a rating of “poor”): \_\_\_\_\_

**Rating:** Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

### 5. CONSTRUCTION:

- a.) Did the Local Project Administrator (LPA) follow MaineDOT’s standards and procedures for procuring construction contracts? Yes ☐ No ☐ N/A ☐
- b.) Did the LPA provide sufficient oversight to ensure that the project was completed in accordance with the plans, specifications and provisions of the construction contract? Yes ☐ No ☐ N/A ☐
- c.) Did the progress reports from the LPA provide MaineDOT staff with sufficient knowledge to follow the progress of the work? Yes ☐ No ☐ N/A ☐
- d.) Did the LPA provide proper certification that the project was constructed, quantities were measured and documented, and materials tested? Yes ☐ No ☐ N/A ☐
- e.) Did the materials testing process meet MaineDOT specifications? Yes ☐ No ☐ N/A ☐

**Comments:** (required for answers of “no” or a rating of “poor”): \_\_\_\_\_

**Rating:** Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

**6.) INVOICES:**

a.) Were invoices accurate, timely and submitted with supporting documents?

Yes ☐ No ☐ N/A ☐

b.) Did invoices provide sufficient detail to support the requests for payment?

Yes ☐ No ☐ N/A ☐

c.) Did the costs billed to MaineDOT correspond to the work accomplished as described in the progress reports?

Yes ☐ No ☐ N/A ☐

**Comments:** (required for answers of "no" or "poor"): \_\_\_\_\_

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**Rating:**      Excellent ☐ (3 pts.)      Good ☐ (2 pts.)      Fair ☐ (1 pt.)      Poor ☐ (0 pts.)      N/A ☐

**7. ADDITIONAL COMMENTS & RECOMMENDATIONS:**

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**Overall rating:** Excellent ☐      Good ☐      Fair ☐      Poor ☐      N/A ☐

Signature of Rater (CA): \_\_\_\_\_ Date: \_\_\_\_\_

**8. LOCAL PROJECT ADMINISTRATOR COMMENTS:**

Agree ☐

Disagree ☐

**Comments:** \_\_\_\_\_

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Signature of Local Project Administrator: \_\_\_\_\_ Date: \_\_\_\_\_

**cc: Local Projects Coordinator, Project File**

# **Michigan Department of Transportation**

## **Local Agency Programs**

### **Instructions to Local Agencies**

**for**

### **Preparing Federal Aid Projects**

**to Bid**

**through MDOT**

**May, 2007**

## **Introduction**

In order to obtain federal funding for your project, there are a number of requirements that you should meet to assure Federal participation in your project. The Michigan Department of Transportation (MDOT) has been delegated by the Federal Highway Administration (FHWA) to oversee the process. These requirements are contained in the Code of Federal Regulations, Title 23. You should follow these guidelines to help insure that your project will not be jeopardized in receiving those funds.

The Code of Federal Regulations is available from the MDOT Local Agency Program website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click on one of the Local Agency program units listed on the left side of the site (i.e. Urban Road Program, Rural Road Program, Bridge Program, Enhancement Projects, Safety / HRRR Program), then click on the “Design” link in the “Requirements” section near the bottom of the webpage, then click on the link “Code of Federal Regulations “ in the Federal Codes section of the webpage.

## **Overview**

Bidding a project through the Federal Aid process requires good planning and an understanding of the total process. If this process is new to you, be aware that the MDOT Local Agency Program (LAP) staff is willing to help guide you through it. At any time during the process we will be glad to answer your questions and help you understand the many complexities that come with Federal Aid projects.

Most projects require a minimum of six months from the time that MDOT LAP receives your completed initial submittal to the award of a construction contract. Actual completion time depends greatly on the amount of time the local agency and its consulting engineer take to prepare acceptable submittal packages, including submitting the required permits and approvals, obtaining rights of way and easements, and responding to MDOT’s review comments.

The MDOT LAP Unit has developed a website, located at [www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap). This website includes extensive information regarding the federal aid process that is described in this document, as well as other Local Agency Program information. MDOT LAP also sponsors a LISTSERV on this site. You can register for the Listserv on the LAP website to receive email notices of changes to the program, call for projects notices, and other relevant information.



## **Project Letting Schedule/Project Planning Guide**

Each year MDOT LAP publishes a Fiscal Year (FY) Project Planning Schedule. The schedule contains milestone dates that should be met in order for your project to be included in one of the monthly MDOT bid lettings. You can download the current schedule from the MDOT LAP web site by clicking on the Project Letting Schedule link, located near the top of the opening page of the website.

All Federal Aid projects, except projects using enhancement funds, should be bid through the MDOT bid letting system. Enhancement funded projects may either be bid using the MDOT letting process, or bid separately by the Local Agency. This option, with its advantages and disadvantages, and its affect on the project schedule, will be discussed with the Enhancement Engineer prior to scheduling the grade inspection plan review meeting (GI).

## **MDOT Local Agency Program Unit Summary**

MDOT Local Agency Programs Staff are divided into three broad areas of oversight. These areas, and contact information for the manager of each group, includes:

Urban Group – responsible for projects using STP Urban Funds, Safety funds, Small Urban Funds, High Risk Rural Roads (HRRR), and High Priority Projects (HPP).

Chris Youngs, Urban Program Manager (517) 335-2220  
Email: [youngsch@michigan.gov](mailto:youngsch@michigan.gov)

Rural Group – oversees projects using STP Rural Funds, Enhancement funds, High Priority Projects (HPP), the Safe Routes to Schools program, and the Federal Forest Highways program

Bruce Kadzban, Rural Program Manager (517) 335-2229  
Email: [kadzbanb@michigan.gov](mailto:kadzbanb@michigan.gov)

Bridge Group - handles Local Bridge Funds and High Priority Projects (HPP).

Mark Harrison, Bridge Program Manager (517) 373-2346  
Email: [harrisonm@michigan.gov](mailto:harrisonm@michigan.gov)

Depending on the project funding, you will primarily be working with one of these three groups. Each group has several staff engineers. One will be assigned to your project and will work with you through the award of the construction contract. Depending on staff workload, MDOT reserves the right to assign projects to prequalified consultants, who will assist the MDOT staff engineers in completing the project reviews and in conducting the grade inspection (GI) meeting.

## The Process

### 1. The Program Application

You should complete the applicable program application and forward it to MDOT Local Agency Programs. This should only be done after your project has been approved by your Metropolitan Planning Organization (MPO) or Rural Task Force (RTF), and you have been informed that the project is included in the Transportation Improvement Plan (TIP) for the appropriate year. MDOT will assign a job number to the project and begin the tracking process. The program application should be submitted before you request a GI meeting.

You can access the current program application forms from the MDOT Local Agency Program website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click on one of the Local Agency program units listed on the left side of the site, then click on the “Forms” link, then click on the link to the appropriate program application form listed.

Complete all pages of the program application. The electronic form is a pdf fillable form that requires at least Adobe Acrobat Reader version 6.0 to access. You may either complete the form electronically and print it, or you may print a copy of the blank form and type or hand write the required information into the appropriate fields. If the information requested on the pages is not pertinent to your project, write “Not Applicable” on the top of the page. You must include all the pages of the program application in your submittal to MDOT.

Please note that bridge projects also require a TS&L (Type, Size & Location) review prior to the GI.

All property acquisition, regardless of whether such acquisition is to be permanent or only temporary during construction, should be acquired according to applicable Federal guidelines. Examples of such acquisitions include but are not limited to temporary grading permits, temporary construction permits, permanent easements, permanent right of way, and fee-title acquisition. Such acquisitions should be detailed in the program application. Additional guidance information regarding the acquisition procedures is available on the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click on the link, “Real Estate Acquisition Guide for Local Agencies”.

All property acquisition certifications will be reviewed by MDOT’s Real Estate staff prior to bidding. During their review, Real Estate staff may contact you for additional information. You may contact the MDOT Real Estate office at 517-373-4135, or by fax at 517-373-2209.

Projects proposing work that involve a railroad may require extra time to coordinate review, obtain permits, or any other items deemed necessary for the project. You should summarize these tasks in the program application.

## 2. Plan Preparation and Design Guidelines

For all MDOT bid projects, it is important that plans be similarly prepared for bidding consistency. Since most cities, villages, and counties have their own design standards, it becomes a challenge to be able to meet their needs while satisfying the MDOT bidding requirements. Guidelines for preparing construction plans for a Local Agency projects are as follows:

### **a. Title Sheet**

Plan sets for all projects should include a Title Sheet, which contains the following information:

#### **Title Block:** (Top Center)

“Local Agency name”

In Cooperation with

Michigan Department of Transportation And The Federal Highway Administration (if the project uses Federal funds)

Project Title

Control Section:

Job No:

Fed Project No: \*

Fed Item No: \*

\*required if the project uses Federal funds

If the federal numbers are not available at the time of Mylar submission, adequate space should be provided on the plans for the MDOT staff engineer to hand write the federal numbers on the plan’s cover sheet.

**Project Location Map** with North Arrow & POB/POE Stationing (Center) (A larger scale detail will be necessary if road names are unreadable.)

**Traffic Data:** (typically located on the top right)

Present (state the year) ADT and percent Commercial

Future (20 yr - state the year) ADT and percent Commercial

Posted Speed

Design Speed

**Project Description & Signature Block:** (typically located in bottom right) Description contains approximate project length and major items of work. The signature block contains the signature and seal of the design professional, and signature of approval for the Local Agency.

**Standard Plan/Special Detail List:** (typically located in mid left of the Title Sheet, or on the Plan Note Sheet)

## 2. Plan Preparation and Design Guidelines (continued...)

**Sheet Index:** (typically located in top left)

**Design According to:** (typically located in bottom left)

AASHTO or Michigan Department of Transportation, Local Agency programs  
Guidelines for Geometrics for Resurfacing, Restoration, and Rehabilitation (3R)  
2003 MDOT Standard Specifications for Construction  
2005 Manual of Uniform Traffic Control Devices (MUTCD)

**Work Zone Detail List:** Located in the same area in the plans as the Standard Plan list.

### **b. Sheet Order**

For most projects, the plan sheet order after the Title sheet is as follows:

Typical Cross-section Sheet(s), showing existing and proposed sections, including the applicable HMA Application Table  
General Note Sheet(s)  
Legend Sheet Alignment Sheet(s)  
Removal Sheet(s)  
Plan/Profile Construction Sheets from POB to POE at appropriate scale.  
Maintaining Traffic and applicable construction staging sheet(s)  
Soil Boring/ Pavement Coring Sheet(s)  
Signal Plan Sheet(s)  
Permanent Signing Plan Sheet(s)  
Pavement Marking Sheet(s)  
Standard Special Details Sheet(s) Bridge Plans Sheet(s)  
Quantity Sheet(s) for pay items (if desired)

### **c. Preparation Considerations**

Final Plan sheet size should be 24" \* 36".  
Stationing should be clearly marked  
Utilities should be clearly marked  
Gas lines and underground utilities should be boxed and noted

“Caution: Hazardous and/or Flammable Material”

Fiber Optics should be noted as “Caution: Critical Utility”  
Existing and proposed ROW should be clearly marked and dimensioned.  
Items of work called for should exactly match the pay items listed, or be labeled as  
“Paid for as \_\_\_\_\_”  
POB & POE clearly marked. Show no work beyond POB or POE except for construction signs.  
Shading, colors, and photographs result in reproduction errors, and should not be used.

## 2. Plan Preparation and Design Guidelines (continued...)

Fonts and scale should be readable when the plans are reduced to half size.

Listing pay items and estimated quantities on each plan sheet is recommended, but is not required. If the quantities are not listed on each sheet, they should be listed on quantity sheets at the end of the plan set.

Appropriate plan notes.

Proposed horizontal and vertical curve data, clearly labeled and dimensioned

Street names clearly marked.

HMA mix designs should match MDOT LAP HMA Selection Criteria, which are available on the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click the link to one of the Local Agency Program units listed on the left side of the webpage, then click on the link, “Design” located below the heading “Requirements”, then click on the link, “HMA (Hot Mix Asphalt) Selection Guidelines”. Alternative HMA mixes will be considered if they are requested in writing by the Local Agency to the LAP staff engineer. The written request should include the desired alternative HMA mix, and the reason for the request.

Log plans in the proposal should include a title sheet that contains the same information as a plan cover sheet, a written project log, note page, standard plan/special details/work zone details lists, typical cross sections, miscellaneous detail page, and plan pages. Please note that all of the listed pages may not be applicable to the project, and may not be necessary.

### **d. Engineer’s Estimate Preparation Considerations**

Mobilization should be included, and should not exceed 10 % of the total estimated construction cost.

Use MDOT Pay Item Codes only

Unique Special Provisions should use “7000” pay codes numbers.

Special Provisions should follow the approved MDOT format. See the MDOT website at: [www.michigan.gov/documents/MDOT\\_C&T\\_SpecialProvision\\_Preparation&Approval\\_72250\\_7.pdf](http://www.michigan.gov/documents/MDOT_C&T_SpecialProvision_Preparation&Approval_72250_7.pdf)

Pay Items in the cost estimate and pay items on the plans should EXACTLY match the pay item description in the Special Provision.

Separate participating items from non-participating items, and bridge pay items from road pay items as follows:

- Category 1 - participating road pay items

- Category 2 - participating bridge pay items

- Category 3 - non-participating road pay items

- Category 4 - non-participating bridge pay items

Round estimated quantities to whole numbers. Do not use decimal quantities except for Lump Sum (LS) pay items that are split between job numbers, and “Clearing”, which is measured and paid by the acre.

## **2. Plan Preparation and Design Guidelines (continued...)**

Separate estimated quantities by job numbers. If a bid package includes more than one project, and each project has a separate job number. The limits of each job number should be clearly indicated on the plans. Safety projects combined with other projects should have separate job numbers unless previously written permission is received from MDOT.

The final engineer's estimate should be in current MERL format. The current version of the MERL software package is available from the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)) click the link to one of the Local Agency Program units listed on the left side of the webpage, click on the "Design" link, then click the link, "Michigan Engineers' Resource Library (MERL)" found near the end of the webpage in the section headed "Cost Estimate".

The local agency should provide a hard copy and an electronic file copy of the estimate to the MDOT LAP staff engineer. The electronic file should be in ".csv", ".merlcontract" or ".merleestimate" format. Please note that ".merlcontract" or ".merleestimate" formats are preferred, and should be from a current MERL program format. It is recommended that MERL users check for updates every day that the MERL program is used.

### **e. Guidelines for Creating and Using Modified /Special Pay Items**

A standard pay item should be modified when either the description of the work or the material requirements are changed from what is listed for that pay item in the 2003 MDOT Standard Specifications for Construction. Unique pay items used by a local agency should be defined in a unique special provision that is prepared by the local agency or its consultant, according to the following requirements.

It is desirable that all work included in a "Modified" pay item are able to be performed by the same subcontractor. Example: traffic signal work should not be included with earth work items.

The language in a special provision should not include text similar to "this work includes, but is not limited to...". The plans and specifications need to clearly identify all of the work that a contractor is bidding on.

When using a "Machine Grading" or "Roadway Grading" pay item, the estimated quantity of earthwork associated with the pay item should be provided to the contractor on the plans or in the special provision if a special provision is required for the item.

## **2. Plan Preparation and Design Guidelines (continued...)**

If the “Machine Grading, Modified” or “Roadway Grading, Modified” pay item is used, a special provision is always required. The scope of the work should be clearly identified in the special provision and on the plans. For example, if work such as tree removal is included in the “Machine Grading, Modified” item, the estimated quantity of tree removal and the appropriate size of the trees being removed should be listed or shown on the plans and/or in the special provision. The individual plan sheets should show the trees being removed, and should call out the item to be removed with a note stating that this work is included in the item “Machine Grading, Modified”. Since the individual pay items included in the “Machine Grading, Modified” or “Roadway Grading, Modified” pay items (or other 7000 number items) should be known in order to develop the special provision and the plans, separate pay items should be used for this work rather than including these items in “Modified” pay item.

If the quantity of a work item is unknown, it should not be included in a Modified pay item. An individual pay item should be included in the contract with an estimated quantity associated with the item. The plans should have these types of items listed in an area titled “Miscellaneous Items”, with a note stating that the Miscellaneous Items are to be used as directed by the Engineer.

Items of work involving significant amounts of work by the contractor should not be made “incidental” to the project, or to other contract items. Items of work that have a standard pay item should be used in lieu of incidental items. Requests by local agencies to have items of work be incidental to the project will be reviewed on a case by case basis by the MDOT Staff Engineer, and may not be allowed on a project.

## **3. The TS&L and/or the Pre-GI Meeting**

For Bridge Projects, a TS & L (Type, Size and Location) submittal may be necessary for approval by the staff engineer prior to a GI being scheduled.

For projects that are very complex or which involve several local agencies, a pre-GI may be useful to expedite a project. Talk to the staff engineer assigned to your project, to determine if the pre-GI meeting would benefit your project.

## 4. The Plan Review or Grade Inspection Submittal (GI)

After your plans, special provisions, and construction cost estimate are approximately 80% complete, and you have submitted the completed program application, you may forward your package to the LAP staff engineer and request a Grade Inspection (GI) meeting. Your submittal should include:

- Completed Program Application
- Plans
- Progress Clause
- Maintaining Traffic Special Provision
- HMA Application Estimate (if applicable)
- Engineer's construction cost estimate by pay item
- Unique Special Provisions
- Notices to Bidders
- Coordination Clause (if applicable)
- Notice to Bidders - Utility Coordination Clause
- MDOT Standard Plans & Special Details. The list of current standard plans and special details can be downloaded from the MDOT website. On the right side of the MDOT LAP web page ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click on the link, "Supplemental Specifications / Special Provisions."
- Local Agency's special details (if applicable)
- Log Plans (if applicable)
- Design exception requests
- Soil boring information
- Pavement design calculation worksheets
- Permit applications required for the project
- Notice of Application for clearance from the State Historical Preservation Office, if applicable. The application requirements are available from the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)) click the link to one of the Local Agency Program units listed on the left side of the webpage, click on the "Permits" link in the "Requirements" section of the webpage, then refer to the various links in the "SHPO" section).

If the submittal does not include all of the above items, the staff engineer reserves the right to consider the submittal as incomplete, and to not schedule the GI meeting. In this case, the engineer will notify the contact person listed in the program application of the package's deficiencies, and no further review will be completed until the staff engineer receives an acceptable package.



#### **4. The Plan Review or Grade Inspection Submittal (GI) (continued...)**

Plans should be designed using MDOT 2003 Standard Specifications for Construction. Also the design should be in accordance with the AASHTO Design or 3R Guidelines, as outlined in the Michigan Department of Transportation's publication, "A Local Agency Programs Parameters for Geometrics". This document is available from the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click the link to one of the Local Agency Program units listed on the left side of the webpage, then click on the "Design" link in the "Requirements" section of the webpage, then click on the link, "Guidelines for Geometrics (4R, 3R, PM)", in the Design Guidance section of the webpage.

Design Exceptions should be submitted to the MDOT LAP staff engineer for approval. A Local Agency Design Exception form is available online from the webpage listed above, in the "Design Exception" section of the webpage.

#### **5. The Plan Review or Grade Inspection (GI) Meeting**

After an acceptable GI submittal has been received and reviewed by the staff engineer, the staff engineer will contact the Local Agency to schedule the GI meeting. This meeting is normally held within 30 days after the staff engineer receives the acceptable plan package. The Local Agency will then contact the designated project engineer and/or the design consulting engineer. The Local Agency should also invite representatives from all affected utilities (or provide minutes of a previously held utility coordination meeting), and representatives of other affected departments or local agencies to the meeting. The MDOT staff engineer will also invite the MDOT TSC Delivery Engineer, who will be responsible for the project once construction begins. If the project is on a National Highway System (NHS) route, the staff engineer will also invite the Federal Highway Administration (FHWA) district engineer to the meeting.

If the project requires a significant amount of utility involvement, the Local Agency should conduct a separate utility coordination meeting to discuss the utility coordination efforts required, including the project schedule, required relocation dates, and any necessary coordination during construction.

The person designated on the program application as the Project Engineer, as well as the Project Supervisor, if one is named in the program application **SHOULD** attend the GI meeting.

The staff engineer will visit the site and review the plans, either prior to, or after the GI meeting, depending on preference and/or time available.

The Local Agency representative should bring to the meeting copies of all permit applications, as well as applicable information regarding the environmental certifications required from the various regulatory agencies.

### **Typical GI Meeting Agenda**

The agenda for the GI meeting typically includes:

- Introductions and sign in
- Overview of project, and projected start and completion dates of construction
- Funding
- Utility concerns (Utility representatives may be dismissed after this segment of the meeting. The Local Agency is responsible for ensuring that the required utility coordination items are completed.)
- Program application review, including the certifications for environmental, rights of way, and construction administration.
- Required permits.
- Review of plans
- Review of the construction cost estimate
- Review of special provisions and progress clause,
- Review of any other remaining issues.

The GI meeting time length is generally between one and four hours, but may take longer, depending on the complexity of the project.

### **Federal Participating Pay Items**

A determination of which items are eligible for federal funding participation will be made at the GI meeting. The cost estimate included with the final package submittal will then separate the participating items from the non-participating in the engineer's estimate. Items which are usually non-participating include:

- sanitary sewer construction
- water main construction
- sidewalk construction
- landscaping and irrigation
- construction engineering services
- Construction Pay Items including but not limited to Contractor Staking, Field Offices, HMA and Concrete Quality Initiative

Any of the above listed items may be determined to be participating depending on individual project circumstances, and upon approval of the local Metropolitan Planning Organization (MPO), the federal aid committee within the MPO, or the Rural Task Force (RTF).

Payment for sidewalk construction and road construction items associated with parking lanes may be participating if the applicable AASHTO guidelines and the requirements are met. The guidelines can be found at

[http://www.michigan.gov/documents/mdot\\_federal\\_Guidelines\\_99105\\_7.pdf](http://www.michigan.gov/documents/mdot_federal_Guidelines_99105_7.pdf)

## **Force Account Work**

If the Local Agency desires to complete any force account (FA) work using federal funds, the Staff Engineer will determine at the GI whether or not this work is participating. MDOT guidelines for eligibility for Force Account work include:

FA work should be completed by the Local Agency's own forces. Contracted or sub-let work is allowed, however the subcontracted portion of the FA work is not eligible for federal participation, and the value of the subcontracted FA work cannot exceed 10 percent of the FA authorization.

Maximum value of FA work is generally \$100,000, and the Local Agency should demonstrate that it can complete the FA work for a cost at least six percent less than the maximum. The maximum value of the FA authorization, then, will not exceed \$94,000. FA work with a proposed value exceeding \$94,000.00 requires legislative review and approval by the State of Michigan House-Senate Fiscal Review Committee before the FA work can be authorized.

The Local Agency should demonstrate that the proposed FA work is in the public's best interest. Typically this justification can be made by:

estimating the construction cost of the project if the project were to be competitively bid then comparing this estimate to the Local Agency's estimate of the costs of its time and material for this work or demonstrating that the time and material estimate is at least six percent less than the estimated cost to bid the project,

or

bidding the work with the low bid exceeding the engineer's estimate by a minimum of ten percent. In this case the Local Agency could then reject the bids and request FA authorization. The Local Agency must be able to demonstrate that it can complete the project at a cost at least six percent less than the engineer's estimate.

The FA authorization is still subject to House-Senate review if the value of the FA authorization exceeds \$100,000.

Information regarding the force account process is available at the MDOT LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click the link to one of the Local Agency Program units listed on the left side of the webpage, then click on the "Force Account" link in the "Requirements" section of the webpage.

## **6. Final Package Submittal**

The Final submittal package should include:

Plans, 100% complete, with the plan sheets consecutively numbered.

Engineer's construction cost estimate in MERL format, both hard copy and electronic.

The electronic copy can be either on a disk or attached to an email.

Clean, one sided copies of all special provisions and all other proposal items, including permits. Fax copies are not allowed.

8.5" x 11" Title Sheet if Log Plans or Special Details are included in the proposal.

The title sheet should be signed and sealed by the engineer and the Local Agency.

Certification from the Michigan State Historic Preservation Office (SHPO) that the project will have no adverse impact on items having historic significance.

All Right of Way (ROW) should be obtained by the Local Agency before the final project package is submitted.

### **Federal Funding Obligation**

After the final package is received, the MDOT staff engineer will request federal obligation of funds. Once obtained, the Federal Project and Item Numbers will be assigned. The staff engineer will forward these numbers to the Local Agency. The Local Agency will add this information to the plan sheets. For this reason, mylars or reproducible plans are forwarded to the staff engineer separately from the final submittal package, so that the Local Agency can include the Federal numbers prior to bidding.

### **Agreement**

Upon obligation, MDOT will prepare the cost sharing agreement between the Local Agency and MDOT. The Agreement will then be sent to the Local Agency for signatures. The agreement outlines the project limits, estimated costs, the participating costs, and funding sources. The Local Agency should sign the agreement and return it to MDOT for signature. The agreement will be executed by both parties before the construction contract is authorized. For STP Rural funded projects, the Federal percentage funding ratio is determined by the final estimated construction cost estimate. The participation ratio for enhancement funded projects is determined at the time that MDOT issues the funding commitment to the local agency.

## **6. Final Package Submittal (continued...)**

### **Draft Proposal Package**

For all projects that are locally let, except enhancement funded projects, the MDOT LAP staff engineer will prepare the draft proposal package and forward it to the Local Agency for review. The Local Agency and its engineer should review the draft and forward their final comments, along with any corrections to the plans, the final engineer's construction cost estimate, and special provisions, to the MDOT staff engineer. Once this has occurred, the Local Agency and its engineer are considered to have reviewed the draft package, and they both should send a letter or an email to the staff engineer, authorizing the project to be included in the MDOT bid letting. The staff engineer will then include all the changes requested by the Local Agency or its engineer in the bid package, and process the package for the appropriate bid letting. This process will be outlined in a cover letter accompanying the draft package.

**At this stage, projects for which the local agency or its engineer request major revisions to the package may delay the letting date of the project.**

For locally let enhancement funded projects, the staff engineer will review the submittal and review process requirements for the project at the GI meeting.

### **American with Disabilities Act (ADA)**

Each Local Agency is responsible for making sure that its project meets current ADA standards, as well as the current FHWA requirements for ADA compliance. Local agencies should certify to the MDOT staff engineer that the project meets current ADA requirements, before a project will be advertised for a bid letting.

## **7. The Letting**

### **Locally Let Projects**

MDOT has prepared additional guidance for the enhancement funded construction projects that it allows a local agency to advertise, let, award, and administer separately from the MDOT letting process. These guidelines are titled:

**The Michigan Department of Transportation  
General Instructions  
For Local Agencies in Advertising, Awarding, and Administering Federally Funded  
Transportation Enhancement Projects**

Please see the link to the guidelines, which are shown on the MDOT website listed below:

[http://www.michigan.gov/documents/mdot\\_instruct\\_77538\\_7.pdf](http://www.michigan.gov/documents/mdot_instruct_77538_7.pdf)

For all projects that are locally let, it shall be noted that the Local Agency pays the Contractor for the entire amount of work completed during construction. The Local Agency then shall request reimbursement only of the amount of funds that the Local Agency has paid out to the Contractor. MDOT will then reimburse the local agency the requested funds, (adjusted to reflect the percentage of the funds that are eligible for participation, at the percentage rate described in the project's cost sharing agreement). Remember this is a Reimbursement Program.

### **MDOT Let Projects**

#### **Contractor Inquiries**

After the project has been advertised for letting, the LAP staff engineer becomes the sole contact person for any contractor inquiries. Should the Local Agency or its engineer get inquiries from any bidders or suppliers during the advertising period, they should direct all such inquiries to the staff engineer. The staff engineer will consult with the Local Agency if necessary, to answer the inquiry and/or process an addendum. Any inquiries made within the time periods described in the proposal package are generally considered to be too late to process for an addendum, and therefore may or may not be addressed by MDOT.

#### **Letting Results**

After the bid opening, you may obtain the letting results from the MDOT website, at the Contractors Services webpage at <http://www.mdot.state.mi.us/bids/>

Be aware that apparent low bidders may or may not be the confirmed low bidder. All results should be considered preliminary until confirmed by MDOT.

## **7. The Letting (continued...)**

Should the confirmed low bidder be below the engineer's construction cost estimate, or less than ten percent over the engineer's estimate, the Local Agency is committed to accepting the bid and proceeding with construction. If the low bid exceeds the engineer's estimate by more than ten percent, the Local Agency has the option to either accept or reject the bids. Should the Local Agency decide to accept the low bid, it will need to justify in writing to the staff engineer why the estimate was not correct and/or why the bids were excessive. This should be done before a low bid can be accepted. This will be done on an item by item basis. If the Local Agency decides to reject all bids, the Agency should notify the staff engineer in writing of its decision. In this case, the Local Agency should revise the plans, specifications, or estimate and resubmit the package to the staff engineer who will repackage the documents and schedule the project for a future bid letting.

The Local Agency is not permitted to negotiate with any bidders prior to award of the construction contract.

### **Preconstruction Meeting**

After the low bidder has been confirmed, but prior to award, the Local Agency should conduct a project preconstruction meeting. The Local Agency invites representatives of the contractor, the MDOT TSC delivery engineer, utilities, and all other persons or groups associated with the project construction. Do not invite the LAP staff engineer.

At the meeting, the contractor should submit its progress schedule to the Local Agency and the MDOT TSC representative for review and approval. Recognize that, until there is an official MDOT award, the contractor may NOT perform any work on the project.

### **Award of Contract**

Once the contractor has submitted the fully executed contract, performance and lien bonds and other required documents, the contractor will be notified by MDOT Construction Contracts Section of the Award. MDOT will issue the Local Agency the Notice to Proceed. Since the project is now the responsibility of the MDOT TSC, the Local Agency should direct all project related questions TSC Delivery Engineer.

## **8. Force Account Work Reimbursement**

### **Authorization**

Should your project have force account work or construction engineering services eligible for Federal reimbursement, the work should not begin until authorized by the staff engineer. Work done prior to the effective date of the authorization is not eligible for reimbursement. The staff engineer will send the authorization from the web based e802P system.

### **e802P Online Reimbursement Program**

The Local Agency will request fund reimbursement using the MDOT e802 p system. Register for this program at the LAP website ([www.michigan.gov/mdotlap](http://www.michigan.gov/mdotlap)), click the link to one of the Local Agency Program units listed on the left side of the webpage, then click on the “Forms” link in the “Requirements” section of the webpage, then click on the link, 0319 - Application to Submit Electronic Billings (E802P) in the “Forms” section of the webpage. Download the form, complete it, and forward it to your staff engineer. Reimbursement requests should be made at the following website:

<http://mdotwas1.mdod.state.mi.us/login/userLogin.do>

Supporting documentation should be submitted online for each request, or mailed separately to your staff engineer. Please keep in mind that each request will be reimbursed at the percent of the Project’s Federal funding, and the entire eligible cost should be submitted, not the amount the Local Agency anticipates being reimbursed for after the funding percentage is applied.

Each request should be consecutively numbered and the final request should be so marked.

Requests that are received significantly after the finalization and completion of a project may not be reimbursed.

## **9. Project Completion.**

After the construction of a project is completed, the MDOT TSC representative responsible for construction of the project will complete the final project review for the constructed portion of the project. The Force Account portion will remain open for generally three months afterwards to allow final billings to be completed.

Before MDOT Administration and Finance requests a final audit of the project, its representative will send a letter to the Local Agency stating that the project will be closed for final auditing within the following six months. The Local Agency should submit any outstanding requests for reimbursement within that period.





STATE AID FOR LOCAL TRANSPORTATION

Feb 2010

Environmental Documentation for Federal Projects with Minor Impacts Page 1 of 2

**SP(s)**\_\_\_\_\_ **MN Proj. No(s).**: \_\_\_\_\_

**Project Location:** (see attached project location map) \_\_\_\_\_

**Project Purpose and Need:** \_\_\_\_\_

**Project Type:** check all that apply<sup>1</sup>

- ☐ Pavement Markings<sup>2</sup>
- ☐ Rumble Stripes
- ☐ Rumble Strips
- ☐ Signing Installation<sup>2</sup>
- ☐ Guardrail Installation
- ☐ Shoulder paving (No widening)
- ☐ Lighting
- ☐ Engineering Studies
- ☐ SRTS Education/Enforcement

**Project Manager**

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address2: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

<sup>1</sup> Any other type of work will require a project memo

<sup>2</sup> Project will be designed in accordance with the MMUTCD

**Estimated project costs**

Federal amount \$ \_\_\_\_\_  
Federal amount other \$ \_\_\_\_\_ (Enter Funding Type Here)  
Other funds \$ \_\_\_\_\_ (Enter Funding Type Here)  
Total Project cost \$ \_\_\_\_\_

Project is listed in the Select STIP Year State Transportation Improvement Program in year Year as Sequence number \_\_\_\_\_.

Desired date to begin work: Month/Year.

**Method of Execution of work.**

- ☐ County/City will let construction work for competitive bids.
- ☐ County/City will purchase materials under a competitive process and install with their own forces (**NO** federal reimbursement for installation costs).
- ☐ County/City will hire a consultant to perform an engineering study.

**Environmental Impacts:** Check appropriate boxes

**Section 106 (Cultural Resources)**

- ☐ No Historic Properties are affected (see attached letter)  
(No Adverse Effect or Adverse Effect will require a project memo)

**Endangered Species**

- ☐ Project is in a county which has no federal threatened and endangered species
- ☐ Project will have no impact on federal threatened or endangered species (see attached letter)



## STATE AID FOR LOCAL TRANSPORTATION

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Environmental Documentation for Federal Projects with Minor Impacts Page 2 of 2

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### ***Federal Action Determination Statement***

Based on the environmental study in accordance with 23 CFR 771.117, it is determined that the proposed improvement is a Class II Action (categorical exclusion) anticipated to have no foreseeable change on the quality of the human environment.

### ***Recommended:***

\_\_\_\_\_  
County Engineer

\_\_\_\_\_  
Date

### ***Reviewed and Recommended***

\_\_\_\_\_  
District State Aid Engineer

\_\_\_\_\_  
Date

### ***Approved***

\_\_\_\_\_  
Director, State Aid for Local Transportation

\_\_\_\_\_  
Date

**Minnesota Department of Transportation****Office of Environmental Services**

Mail Stop 620  
395 John Ireland Boulevard

Office Tel: (651) 366-3633

Fax: (651) 366-3603

June 26, 2008

Mark Vizecky  
Traffic Safety Support Engineer  
Mn/DOT - State Aid Division  
395 John Ireland Blvd, MS 500  
St. Paul, MN 55155  
Phone: 651.366.3839

RE: HSIP Projects, Statewide Program

Dear Mr. Vizecky,

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the Programmatic Agreement (PA) between the FHWA and the Minnesota State Historic Preservation Office (SHPO) (June 2005).

Mn/DOT's State Aid Office is administering funds from the Highway Safety Improvement Program (HSIP) to the majority of Minnesota counties (see attached list). The purpose of the HSIP is to reduce traffic fatalities and serious injuries on public roads. The proposed project consists of installation of safety features on existing roadways through the State. Safety items include pavement markings, rumble stripes, signing installation, guardrail installation, shoulder paving (no widening), lighting and engineering studies. All work will occur on the existing roadbed or within the existing road trench; therefore it is unlikely that the proposed safety measures will impact any historic properties.

We have determined that there will be **no historic properties affected** by the project as currently proposed. As there are no historic properties within the project APE, the section 106 review of this project is now complete and no SHPO comment period and response are required under the terms of the new PA. If the project scope changes, please provide our office with the revised information and we will conduct an additional review.

Sincerely,

A handwritten signature in black ink that reads 'Kristen Zschomler'.

Kristen Zschomler, RPA  
Historian/Archaeologist  
Cultural Resources Unit (CRU)

encs.

cc: Dr. Scott Anfinson, State Archaeologist  
Joe Hudak, Mn/DOT CRU  
Mn/DOT CO/CRU Project File



## Minnesota Department of Transportation

### Transportation Building

395 John Ireland Boulevard  
Saint Paul, Minnesota 55155-1899

June 10, 2008

Mark Vizecky  
Minnesota Department of Transportation  
Transportation Building, MS 500  
395 John Ireland Boulevard  
Saint Paul, MN 55155

RE: No Effect Determination (Federal Threatened and Endangered Species)  
2009-2010 Highway Safety Improvement Program  
Various Locations

Dear Mr. Vizecky:

In response to your request, projects developed under the 2009-2010 Highway Safety Improvement Program have been reviewed for potential effects to federally-listed species (threatened, endangered, proposed and candidate species) and listed critical habitat. Due to the large volume of projects and the minor and similar nature of the activities, the Federal Highway Administration has made the decision to address these actions collectively under Section 7.

Section 7 of the Endangered Species Act of 1973, as amended, requires each Federal agency to review any action that it funds, authorizes or carries out to determine whether it may affect threatened, endangered, proposed species or listed critical habitat. Federal agencies (or their designated representatives) must consult with the U.S. Fish and Wildlife (Service) if any such effects may occur as a result of their actions. Consultation with the Service is not necessary if the proposed action will not directly or indirectly affect federally-listed species or listed critical habitat. If a federal agency finds that an action will have no effect on listed species or critical habitat, it should maintain a written record of that finding that includes the supporting rationale.

The purpose of the Highway Safety Improvement Program is to reduce traffic fatalities and serious injuries on public roads. The type of activities associated with this program include but are not limited to; intersection lighting, roadway striping, new or additional signage, guardrail installation and other similar safety measures. These improvements are planned for numerous locations in several Minnesota Counties.

Many of the proposed projects will occur in counties that contain federally-listed species and/or listed critical habitat. However, according to the descriptions provided, much of the work will take place on the roadway surface and any disturbances occurring outside of the shoulder point of intersection will be negligible. Therefore, because of the minor nature of the proposed actions, no effects to federally-listed species or listed critical habitat are anticipated.

**This precludes further action under Section 7 of the Act. However, if information becomes available indicating that federally-listed species may be affected, please contact this office and consultation with the Service will be initiated if necessary.**

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Alcott'.

Jason Alcott  
Natural Resource Specialist, Program Coordinator

cc: FHWA- Cheryl Martin  
file

## **Overview of State Historic Preservation (SHPO) Programmatic Agreement for the Small Cities Development Program – Administered by DEED**

### **What is the SHPO Programmatic Agreement?**

All projects receiving federal funding are required by federal law to complete historical review. The Minnesota State Historic Preservation Office (SHPO) insures reviews are completed properly. The SHPO Programmatic Agreement provides for an exemption from consultation with SHPO for some types of activities on certain properties. This exemption can expedite completion of activities.

### **Should I complete the SHPO Programmatic Agreement?**

If you answer **yes** to any of the following questions, we **do not** recommend using the SHPO Programmatic Agreement.

1. Our project does **not** include Owner Occupied Housing Rehab, Rental Rehabilitation, or Commercial Rehabilitation activities.
2. All of the buildings we will rehabilitate are over 50 years old
3. All of the buildings we will rehabilitate are on the National Register of Historical Places
4. I prefer to submit the SHPO Review and Comment form for every building we intend to rehabilitate.

### **How do I complete the SHPO Programmatic Agreement?**

The SHPO Programmatic Agreement requires some advance planning and a little work, however if you are planning to rehabilitate buildings that are less than 50 years old, it will be well worth your efforts and make property specific environmental simpler and quicker. The Programmatic Agreement requires some time due to some required notices, comment periods and executing of the agreement with SHPO.

We recommend you read the Instructions for the Programmatic Agreement immediately to schedule and plan for proper completion.

**Instructions for**  
**PROGRAMMATIC AGREEMENT**  
**BETWEEN**  
**(NAME OF GRANTEE) AND**  
**THE MINNESOTA STATE HISTORIC PRESERVATION OFFICE**  
**REGARDING ADMINISTRATION OF**  
**(NAME PROGRAM)**  
**FUNDED BY THE**  
**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
**AND ADMINISTERED BY**  
**MINNESOTA DEPARTMENT OF TRADE AND ECONOMIC DEVELOPMENT**

In April 2009, a draft Programmatic Agreement was prepared by DEED and MnSHPO to address the Section 106 of the National Historic Preservation Act<sup>1</sup> for owner-occupied residential rehabilitation, rental residential rehabilitation, and commercial rehabilitation projects funded under the Small Cities Development Program. The agreement outlines a process for review of rehabilitation projects, and provides for an exemption from consultation for certain types of properties.

The process includes the identification of properties (individual properties and districts) that are listed in or eligible for the National Register of Historic Places, and incorporation of the Secretary of the Interior's Standards for the Treatment of Historic Properties into projects involving historic properties.

Prior to executing the Programmatic Agreement with MNSHPO, Grantees must allow proper public notification and participation by the public, the Advisory Council on Historic Preservation (ACHP), and other interested parties. GRANTEES must include MnSHPO on its general project notifications as part of the Request for Release of Funds process.

Note: SCDP-funded activities other than owner-occupied residential rehabilitation, rental residential rehabilitation, and commercial rehabilitation, must be submitted to MnSHPO for consultation following the standard Section 106 process outlined in 36 CFR 800.

***Step 1 First Public Notice/Hearing*** - Include information regarding the potential MnSHPO Programmatic Agreement in the already required Notice of Public Hearing on Application for Small Cities Development Program (SCDP). A sample is available as Attachment #25 at

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<sup>1</sup> Section 106 of the National Historic Preservation Act, and the accompanying regulations at 36 CFR 800, require that historic properties be taken into account in projects carried out with federal assistance. Under Section 104(g) of the Housing and Community Development Act of 1974, the grantees of certain funds from the U.S. Department of Housing and Urban Development assume federal agency responsibilities in carrying out these provisions.

[http://www.positivelyminnesota.com/Government/Financial\\_Assistance/Community\\_Development\\_Funding/Small\\_Cities\\_Development\\_Program\\_4.aspx](http://www.positivelyminnesota.com/Government/Financial_Assistance/Community_Development_Funding/Small_Cities_Development_Program_4.aspx). Receive and respond to public comments regarding Programmatic Agreement.

**Step 2 Second Public Notice** – Grantees should include information regarding the potential MnSHPO Programmatic Agreement in the required Notice of Intent to Request Release of Funds (Attachment 14) or Combined Notice (Attachment 16).

Grantees should either publish or post (or both), and mail the notices to parties required as part of environmental review.

**Step 3 Notifying Tribes of Agreement** – When doing the required mailing of notices (NOIRROF or Combined Notice), include a letter to all federally recognized Tribes notifying them of the Programmatic Agreement. As per the agreement, that letter must also include notification that ground disturbance will not be allowed under the agreement and in the event of unauthorized ground disturbance Tribes will be notified and the situation will be handled pursuant to the Section 106 regulations.

**Step 3 Draft Programmatic Agreement** – Customize Programmatic Agreement template for your project. Areas that need customization are in **RED**. Do not change other areas of the agreement without discussion with MnSHPO.

1. Fill in the *NAME OF GRANTEE* (city or county) and *NAME OF PROGRAM* (Example: Bemidji Comprehensive or Marshall Housing) in title.
2. In the first WHEREAS, fill in name of grantee, name of program and contract number (provided on grant agreement, Example: CDAP-09-XXXX-O-FY10)
3. In the seventh WHEREAS, fill in information as noted.
4. In the 11th WHEREAS, provide dates, locations and outcomes of two public hearings. If applicable, add additional information about how other public participation was incorporated to satisfy 36CRF800.3(e).
5. Under **STIPULATIONS, I. APPLICABILITY**, insert the grant number (Example: CDAP-09-XXXX-O-FY10).
6. On signature page, insert GRANTEE name (example: City of Bemidji) and have authorized person sign and date for the GRANTEE.
7. If applicable, insert concurring party(ies) name(s) (Example: Bemidji Historic Preservation Council) and have authorized person(s) sign and date.

**Step 4 Submit Programmatic Agreement to ACHP and MnSHPO** - Following the required 7-10 day local comment period (7 for publishing and 10 for posting), Grantees should immediately submit the proposed Programmatic Agreement with cover letter and additional documentation required as specified in C.F.R. 800.11(e). This documentation should include

1. Target area for rehab activities the Agreement will be applied to
2. What steps were taken to identify historic properties
3. Copies of comments about the Programmatic Agreement received from the public, Indian Tribes, and consulting parties

A sample template for the cover letter is available as Attachment #26 at ([http://www.positivelyminnesota.com/Government/Financial\\_Assistance/Community\\_Development\\_Funding/Small\\_Cities\\_Development\\_Program\\_4.aspx](http://www.positivelyminnesota.com/Government/Financial_Assistance/Community_Development_Funding/Small_Cities_Development_Program_4.aspx)). The letter, draft agreement and other documentation should be mailed to:

**Advisory Council on Historic Preservation**

Attn: Martha Catlin, Program Analyst  
1100 Pennsylvania Avenue NW, Suite 803  
Washington, D.C. 20004

**And**

**Minnesota Historical Society**

State Historic Preservation Office  
Attn: Mary Ann Heidemann  
345 Kellogg Blvd. West  
St. Paul, MN 55102-1906

ACHP requires a 15 day comment period that begins when they **receive** the agreement. This comment period can run concurrently with the 15-18 day comment period required by DEED (and HUD) for the Notice of Intent to Release Funds or Combined Notice.

***Step 5 Execution of Programmatic Agreement*** – Following the 15 day comment period (allow a few extra days since it is 15 days from when ACHP **receives** the agreement) and resolution of comments (if any) from ACHP and or MnSHPO. Submit two original signed copies to MnSHPO at:

**Minnesota Historical Society**

State Historic Preservation Office  
Attn: Mary Ann Heidemann  
345 Kellogg Blvd. West  
St. Paul, MN 55102-1906

MnSHPO will then sign both copies and return one for your records. Work on properties covered by the Programmatic Agreement should not be started until you received the fully executed Programmatic Agreement back from MnSHPO.



**PROGRAMMATIC AGREEMENT  
BETWEEN  
(NAME OF GRANTEE) AND  
THE MINNESOTA STATE HISTORIC PRESERVATION OFFICE  
REGARDING ADMINISTRATION OF  
(NAME PROGRAM)  
FUNDED BY THE  
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
AND ADMINISTERED BY  
MINNESOTA DEPARTMENT OF TRADE AND ECONOMIC DEVELOPMENT**

WHEREAS, the U.S. Department of Housing and Urban Development (HUD) is providing grant funding through the Minnesota Department of Employment and Economic Development's (DEED) Small Cities Development Program (SCDP) to the (name of grantee) (GRANTEE) for its (name of program and contract # CDAP-09-XXXX-0-FY10) (PROGRAM); and

WHEREAS, due to the GRANTEE's acceptance of federal environmental review responsibility, in accordance with section 104(g) of the Housing and Community Development Act of 1974 [42 U.S.C. 5304(g)], and HUD's Environmental Review Procedures as set forth in 24 CFR part 58, the GRANTEE assumes federal agency responsibility for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended [16 U.S.C. 470 *et seq*] (Section 106); and

WHEREAS, the GRANTEE has determined that the administration of (name of program activity(s) such as owner occupied housing rehabilitation, rental housing rehabilitation and/or commercial rehabilitation) activity(s) under its PROGRAM may have an effect on properties included in or eligible for inclusion in the National Register of Historic Places (NRHP) and has consulted with the Minnesota State Historic Preservation Office (MnSHPO) pursuant to 36 CFR part 800.14(b) of the regulations implementing section 106 of the National Historic Preservation Act (16 U.S.C. 470f), and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)); and

WHEREAS, pursuant to 36 C.F.R. 800.14(b)(3) and 36 C.F.R. 800.6(a)(1)(i)(C), prior to beginning consultation to resolve adverse effects, the GRANTEE notified the Advisory Council on Historic Preservation (ACHP) of its intention to prepare a programmatic agreement under 36 C.F.R. 800.14(b)(3) by providing the documentation specified in 36 C.F.R. 800.11(e), and the ACHP declined the invitation to participate; and

WHEREAS, the GRANTEE has consulted in accordance with 36 C.F.R. 800.6(b)(1), "Resolution without the Council;" and,

WHEREAS, in accordance with 36 C.F.R. 800.6(b)(1)(iv), the GRANTEE will submit this Agreement, along with the documentation specified in 36 C.F.R. 800.11(f), to the

ACHP prior to approving the undertaking in order to meet the requirements of section 106 and 36 C.F.R. 800.6(b)(1);

WHEREAS, (name any other parties consulted during the development of the agreement; if the city has a heritage preservation ordinance, include the local preservation commission in the consultation) has/have participated in the consultation and has/have been invited to concur in this AGREEMENT; and

WHERE AS, this agreement is applicable only to commercial rehabilitation and residential rehabilitation projects that do not include ground disturbance. If a project involving ground disturbance is considered for funding under the PROGRAM, GRANTEE will consult with MnSHPO and federally recognized Indian tribes.

WHEREAS, federally recognized Indian tribes were notified of the AGREEMENT, that ground disturbance was not allowed under the AGREEMENT and in the event of unauthorized ground disturbance Tribes will be notified and the situation will be handled pursuant to the Section 106 regulations.

WHEREAS, this AGREEMENT is a condition of the DEED Grant Agreement.

WHEREAS, GRANTEE has provided for public participation in accordance with 36CFR800.3(e) through (specify public hearings, meetings, and other public input);

NOW, THEREFORE, GRANTEE and the MnSHPO agree that the PROGRAM shall be administered in accordance with the following stipulations to satisfy GRANTEE's Section 106 responsibilities for all individual undertakings of the PROGRAM.

## STIPULATIONS

The GRANTEE shall ensure that the following measures are carried out:

### I. APPLICABILITY

This AGREEMENT shall apply to all eligible PROGRAM activities funded under (reference grant # CDAP-09-XXXX-0-FY10). Activities covered by the AGREEMENT are limited to owner-occupied rehabilitation, rental rehabilitation, and commercial rehabilitation. Any other SCDP-funded activities must be reviewed by the GRANTEE under the provisions of 36CFR800.

### II. INITIAL PROJECT CONSULTATION

A. GRANTEE will provide MnSHPO a general description of the funded PROGRAM, including map information on any target areas identified in the grant terms.

B. MnSHPO will provide GRANTEE a summary of information on NRHP listed and/or previously determined eligible properties in the PROGRAM area.

### III. IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES

A. Properties listed on or previously determined eligible for listing in the NRHP. Properties that are listed in the NRHP (as an individual listing or within the boundaries of a listed historic district), and properties that have previously been determined eligible to the NRHP by the MnSHPO (as an individual property or within the boundaries of a historic district) require no further evaluation. For these properties, GRANTEE will submit a Scope of Work form (SOW) for the proposed project in accordance with Stipulation IV of this AGREEMENT. (See Attachment B to this AGREEMENT for SOW.)

B. Properties constructed within the last 50 years. Properties that were constructed less than 50 years ago require no further evaluation. The review will conclude that *no historic properties are affected* by the project, and no further consultation is required. Documentation on the age of the property will be retained in the project file.

C. All other properties will be evaluated by GRANTEE to determine if they meet the criteria of the NRHP. This evaluation will be completed by a staff member or consultant who meets the Secretary of the Interior's Professional Qualifications Standards for Historian or Architectural Historian. The report of the evaluation will be submitted to the MnSHPO for a 30 day review period. If GRANTEE and MnSHPO concur that a property does not meet NRHP criteria, the review will conclude that *no historic properties are affected* by the project, and no further consultation is required. If GRANTEE and MnSHPO concur that a property does meet the criteria, GRANTEE will submit a SOW for the proposed project in accordance with Stipulation IV of this AGREEMENT. If GRANTEE and MnSHPO do not agree about the eligibility of a property, the question will be resolved in accordance with 36CFR800.4(c)(2).

D. As an alternative method of evaluation to that described under III.C., above, GRANTEE may elect to submit data about the properties to MnSHPO, and the MnSHPO will assess the eligibility. (See Attachment A to this AGREEMENT for submittal form.) GRANTEE acknowledges that such evaluations provided by MnSHPO may include one or more requests for additional information about the property, and, in some cases, GRANTEE may need to retain a qualified historic preservation consultant to complete the evaluation after initial review by MnSHPO. If GRANTEE and MnSHPO concur that a property does not meet

NRHP criteria, the review will conclude that *no historic properties are affected* by the project, and no further consultation is required. If GRANTEE and MnSHPO concur that a property does meet the criteria, GRANTEE will submit a SOW for the proposed project in accordance with Stipulation IV of this AGREEMENT. If GRANTEE and MnSHPO do not agree about the eligibility of a property, the question will be resolved in accordance with 36CFR800.4(c)(2).

#### **IV. TREATMENT OF HISTORIC PROPERTIES**

A. For rehabilitation projects on historic properties, as determined under Stipulation III, above, GRANTEE will submit a Scope of Work form (SOW), describing all components of the proposed project, to the MnSHPO for a 30 day review. (See Attachment B to this AGREEMENT for SOW.)

1. Rehabilitation of historic properties will be planned in accordance with the Secretary of the Interior's Standards for Rehabilitation (REHAB STANDARDS). The SOW will describe the existing conditions (with accompanying photographs) and planned work (with specifications and/or plans) for each project component.
2. GRANTEE staff or consultant administering the PROGRAM will become familiar with the REHAB STANDARDS through publications and on-line training available from the National Park Service's Technical Preservation Services. MnSHPO will assist with training for PROGRAM staff and property owners at the request of GRANTEE.
3. Information on a historic property's original appearance provides an essential basis for planning rehabilitation work. GRANTEE will seek to locate early photographs of the historic properties being rehabilitated, and will submit copies of those photographs to MnSHPO with the SOWs.
4. GRANTEE may consult with MnSHPO during the planning phase of a rehabilitation project to develop solutions to rehabilitation issues that will meet the REHAB STANDARDS.

B. When the MnSHPO determines that a project meets the REHAB STANDARDS, it will be considered to have *no adverse effect* on historic properties, and no further consultation is required. Documentation on the determination will be retained in project files.

C. Any project that does not meet the REHAB STANDARDS (after consultation between GRANTEE and MnSHPO to seek ways to implement the project in accordance with the REHAB STANDARDS) will be resolved in accordance with the process to resolve adverse effects in 36CFR800.6.

## **V. ARCHAEOLOGICAL RESOURCES**

This agreement is applicable only to commercial rehabilitation and residential rehabilitation projects. Most of these projects do not include ground disturbance. If a project involving ground disturbance is considered for funding under the PROGRAM, GRANTEE will consult with MnSHPO and federally recognized Indian tribes. Identification and evaluation of historic properties and resolution of any effects will be addressed under the provisions of 36CFR800.

## **VI. UNANTICIPATED DISCOVERIES**

If unauthorized ground disturbance occurs and there is an unanticipated discovery, MnSHPO and federally recognized Indian tribes will be notified immediately and resolution of any effects will be addressed under the provisions of 36CFR800.

## **VII. MONITORING AND REVIEW DOCUMENTATION**

- A. GRANTEE is required to allow Minnesota Department of Employment and Economic Development (DEED) to monitor the PROGRAM for compliance with Section 106 and other requirements one or more times during the grant period. DEED may also review GRANTEE files for up to 6 years following close out of the grant.
- B. As per the DEED Grant Agreement, the GRANTEE shall create program policies and make them available to the public upon request.
- C. Should previously undocumented historic properties be identified within the project's area of potential effect, the identified properties shall be evaluated according to the process outlined in 36 CFR 800.5
- D. Should a property affect a National Historic Landmark, the provisions of 36 CFR Part 800.10 will apply.

## **VIII. DISPUTE RESOLUTION**

- A. Should the MnSHPO object within thirty days to any plans or other information submitted pursuant to this agreement, GRANTEE will consult with MnSHPO to resolve the objection. If the objection cannot be resolved pursuant to 36CFR800.7(b), GRANTEE shall forward all documentation relevant to the dispute to the ACHP. Within forty five days following receipt of adequate documentation, the ACHP will either:

1. Provide GRANTEE with recommendations, which GRANTEE will take into account in reaching a final decision regarding the dispute (36CFR800.7(b)); or

2. Notify GRANTEE that it will comment pursuant to 36CFR800.7(c), and proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by GRANTEE in accordance with 36CFR800.7(c)(4) with reference to the subject of the dispute.

B. The ACHP's responses to such a request will be taken into account by GRANTEE in accordance with 36CFR800.7(c) with reference only to the subject of the dispute; GRANTEE's responsibility to carry out all actions under this AGREEMENT that are not the subject of the dispute will remain unchanged.

## **IX. TERM OF AGREEMENT**

This AGREEMENT shall take effect on the date it is signed by all parties and shall continue in full force and effect until the end of the PROGRAM grant period as determined by DEED. The PROGRAM grant period is typically 30 months from the date DEED awards funds, however DEED retains the option to extend grant periods when it deems it is appropriate.

## **X. AMENDMENT**

Any party to this AGREEMENT may request that it be amended, whereupon the parties will consult to consider such an amendment. The amendment shall be effective on the date a copy is signed by all of the signatories and is filed with the ACHP.

## **XI. TERMINATION**

Any party to this AGREEMENT may terminate it by providing thirty days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, GRANTEE will comply with 36CFR800.3 through 800.6 with regard to individual undertakings covered by this AGREEMENT.

Execution and implementation of this AGREEMENT evidences that GRANTEE has afforded the ACHP a reasonable opportunity to comment on the PROGRAM and that GRANTEE has taken into account the effects of the PROGRAM on historic properties.

(name of GRANTEE)

By: \_\_\_\_\_ Date: \_\_\_\_\_

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

By: \_\_\_\_\_ Date: \_\_\_\_\_

Concur:

(name[s] of any concurring parties)

By: \_\_\_\_\_ Date: \_\_\_\_\_

## Programmatic Categorical Exclusion Agreement with FHWA

### Programmatic Categorical Exclusion Agreement Between the Federal Highway Administration and the Minnesota Department of Transportation

The Federal Highway Administration, Minnesota Division, hereinafter FHWA, and the Minnesota Department of Transportation, hereinafter Mn/DOT, have developed this programmatic agreement to describe the policy and procedures for environmental processing of certain "Categorical Exclusion" (CE) actions as defined in section 23 CFR 771.117 which are normally found to have no significant social, economic, and environmental effects. Mn/DOT will act in place of the FHWA in determining that federal environmental requirements are met on the types of categorical exclusion actions identified in this agreement.

The FHWA hereby concurs in advance, on a programmatic basis, with Mn/DOT's determination that those types of actions satisfying conditions and criteria in [Attachment "B"](#) will not result in significant environmental impacts, either individually or cumulatively, and are therefore categorical exclusions and satisfy the requirements of Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". These actions will not require individual documentation submitted to the FHWA. Examples of these actions are in 23 CFR Part 771.117(c) and [Attachment "A"](#).

**PROCESS** - Where Mn/DOT determines the action may be processed as described in this Agreement, the determination shall be appropriately documented. "Documentation" as referred to in this agreement is the appropriate engineering and environmental documentation required for a federally funded highway project.

Mn/DOT shall notify the FHWA that CE concurrence for the project was programmatically approved in accordance with this Agreement at the time authorization to proceed using Federal funds is requested.

Documentation will be retained and accessible to authorized representatives of the FHWA and Mn/DOT for a minimum of 3 years following submittal of the final project voucher. Electronic files meeting Federal and State requirements may eventually replace "hard copy".

**AGREEMENT REVISIONS** - This Agreement may be modified by mutual consent at any time. Attachments may be revised by mutual consent of the Division Administrator of the FHWA and the Commissioner of the Minnesota Department of Transportation or designate.

**AGREEMENT TERMINATION** - This Agreement may be terminated in writing by FHWA or Mn/DOT at any time.

#### APPROVAL OF AGREEMENT

The undersigned have reviewed this Agreement and determined that it complies with the laws, regulations, and policies applicable to the FHWA and Mn/DOT.

Accordingly, it is hereby approved and becomes effective on the last date noted below.



**Programmatic Categorical Exclusion Agreement with FHWA**

HPDP / Scoping / Project Reports

Minnesota Department of Transportation

2/9/98

Date

\_\_\_\_\_  
 James N. Denn  
 Commissioner  
 Minnesota Department of Transportation

2/18/98

Date

\_\_\_\_\_  
 Alan R. Steger  
 Division Administrator  
 Federal Highway Administration

**ATTACHMENT "A"**

In addition to the actions covered under 23 CFR 771.117(c), the following actions that meet the criteria and conditions in [Attachment "B"](#) shall be processed by Mn/DOT under this programmatic categorical exclusion approval agreement:

1. Pavement resurfacing, restoration, or rehabilitation.
- \*2. Junkyard screening.
- \*3. Erosion and water pollution control work.
4. Acquisition and/or preservation of minor amounts of abandoned railroad right of way.
5. Architectural planning, research, and site investigations.
6. Anti-skid treatments.
7. Curb/gutter repairs or construction.
8. Repair or construction of sidewalks, ramps, or handrails as required by the Americans with Disabilities Act.
9. Mechanical, electrical, lighting or traffic signal work.
- \*10. Traffic detours.
11. Surfacing existing unpaved roadway or bikeways.
12. Impact attenuator and glare screen installation.
13. Retaining wall restoration, fencing, guardrail installation or replacement, intermittent resurfacing, restoration or replacement of drainage structures.
14. Shoulder resurfacing, restoration, or rehabilitation.
15. Installation of turn lanes at roadway intersections.
16. Change of driveway/access configuration.
17. Upgrading safety features.
18. Traffic demand management activities (such as ramp metering and high occupancy vehicle ramp bypasses).
19. Improvements to existing waysides and scenic overlooks.
20. Disposal of excess right of way.
- \*21. Bridge rehabilitation, deck replacement or painting.
- \*22. Bridge replacement on existing alignment with minor impacts associated with placement of fill material.
- \*23. Railroad crossing work outside of existing right of way.
- \*24. Reconstruction and/or widening of roadway on existing alignment with **NO** additional through lanes, continuous turn lanes, or auxiliary lanes

\* ACTION WITH HIGHER POTENTIAL FOR ENVIRONMENTAL IMPACTS

**Programmatic Categorical Exclusion Agreement with FHWA**

HPDP / Scoping / Project Reports

Minnesota Department of Transportation

**ATTACHMENT "B"**

SECTION 4(f) or 6(f): The action does not use Section 4(f) property; **OR** the Negative Declaration/4(f) statement by the FHWA dated May 23, 1977 for bikeway/walkways applies to the action.

HISTORIC / ARCHAEOLOGICAL: The provisions of the National Historic Preservation Act have been satisfied by no involvement as per the "Programmatic Agreement between FHWA, Mn/DOT, the Advisory Council on Historic Preservation and the Minnesota State Historic Preservation Officer regarding implementation of the Federal Aid Highway Program in Minnesota"; **OR** the action does not occur within any areas of effect on properties eligible for, or listed on, the National Register of Historic Places as concurred by the Minnesota State Historic Preservation Officer's opinion.

THREATENED OR ENDANGERED SPECIES: The action does not affect species or critical habitat protected by the Endangered Species Act; **OR** does not adversely affect species or critical habitat as per written correspondence with the United States Fish and Wildlife Service.

RIGHT OF WAY: The action requires no or minor amounts of new right of way or temporary easement, minor access change, no relocations, and has low risk of hazardous materials involvement.

FARMLAND: The action will not involve the acquisition of farmland; **OR** form AD-1006 of the Farmland Protection Policy Act has been completed and provided to the Natural Resources Conservation Service.

SECTION 404: The action does not involve placement of fill into Waters of the United States (33 CFR 328); **OR** a NATIONWIDE 404 Permit applies.

FLOODPLAINS: The action does not encroach into a floodplain; **OR** the impact is not significant (Executive Order 11988; Federal Aid Policy Guide section 650.105.q).

WETLANDS: The action does not impact or encroach into wetlands; **OR** documentation is available demonstrating compliance with the requirements of Executive Order 11990 and USDOT Order 5660.1A.7.g.

NOISE: The action is not a type I action in accordance with Section 772 of the Federal Aid Policy Guide and will not significantly impact noise levels.

AIR: The action will not significantly impact air quality.

PUBLIC CONTROVERSY: The action is not controversial

MISSOURI DEPARTMENT OF TRANSPORTATION  
**Local Public Agency (LPA) Final PS&E Checklist**

Project Name:						Date Received:			
Project Sponsor:						XXXXXXXXXXXXXXXXXX:			
Federal Project #:						XXXXXXXXXXXXXXXXXX:			
Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Plans & Proposal	Professional Engineer Signature	EPG 136.9.11	Title Sheet, all plan sheets and proposal MUST be signed by PE.		MoDOT - DR - review for required items.				
Plans & Proposal	Proprietary Items	EPG 136.9.9.3 23 CFR 635.411	Generally, on federal aid projects, the use of trade names in plans and specifications is not allowed except as outlined in EPG 136.9.9.3.		MoDOT - DR - review for required items.				
Proposal	Contractor Requirements	EPG 136.10.8 23 CFR 635.116	The bid proposal must stipulate that the prime contractor on a project must perform with its own organization, contract work amounting to not less than 30% of the total original contract price.		MoDOT - DR - review for required items.				
Proposal	Contractor Requirements	EPG 136.10.8 MoDOT Spec 102.2	Bid Proposal must stipulate that the prime contractor must have a fully responsive contractor questionnaire on file with the Missouri Highways and Transportation Commission (MHTC) at least seven (7) days prior to the bid opening date if this project involves roadway or bridge work. The following sentence could be inserted into the contract that would allow contractors not on the listing to submit a bid for the project. "Sec 102.2 of the Missouri Standard Specifications for Highway Construction will be waived for this project." This statement should only be used on proposed improvements that do not contain roadway or bridge construction (i.e., landscaping, sidewalks, bicycle path, etc.). If this waiver is not inserted in the contract and the bidder is not on MoDOT's listing, the bidder cannot be awarded the project.		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Proposal	Subcontracting	EPG 136.10.8 23 CFR 635.116	The bid proposal must stipulate that second-tier subcontracting will not be permitted on the project.		MoDOT - DR - review for required items.				
Proposal	Suspension and Debarment	CFR 635.112 49 CFR 29 EPG 136.10.11	Bid Proposal must state contractors who are currently suspended, debarred or voluntarily excluded under 2 CFR part 180, or otherwise determined to be ineligible shall be prohibited from participating in the Federal-Aid Highway Program.		MoDOT - DR - review for required items.				
Proposal	OSHA Training	RsMO 292.675	OSHA Training Requirements are stated in proposal.		MoDOT - DR - review for required items.				
Proposal	Bid Bond(Guarantee)	EPG 136.10.14	Bid Proposal must include Bid Bond		MoDOT - DR - review for required items.				
Proposal	Bid Award	EPG 136.10.11 23 CFR 635.114(a)	Bid Proposal must state the the bid will be awarded to the "lowest, responsive, responsible bidder".		MoDOT - DR - review for required items.				
Proposal	Bidding Requirements	23 CFR 635.112(h)	Bid Proposal must clearly identify requirements which the bidder must assure in order to make the bid responsive.		MoDOT - DR - review for required items.				
Proposal	E-Verify	RsMO 285.530	Bid Proposal must note requirements regarding Federal Work Authorization Program and list Federal website for E-Verify. Supporting documentation must include Affidavit for compliance.		MoDOT - DR - review for required items.				
Proposal	Addenda	EPG 136.10.12 23 CFR 635.112	Bid Proposal must include instructions on acknowledgement of addenda.		MoDOT - DR - review for required items.				
Proposal	FHWA Form 1273	EPG 136.10 23 CFR 633	Bid Proposal must include FHWA 1273 Contract Provisions		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Proposal	Civil Rights	EPG 136.10.8 23 CFR 635.112(d)	Bid Proposal must include Title VI Civil Rights Assurances		MoDOT - DR - review for required items.				
Proposal	Anti-Collusion	EPG 136.10.14 23 CFR 635.112(f)	Bid Proposal must include anti-collusion statement and form.		MoDOT - DR - review for required items.				
Proposal	DBE Forms	EPG 136.14.3.1	Bid Proposal must include current version of DBE Forms.		MoDOT - DR - review for required items.				
Proposal	DBE Provisions	EPG 136.10.3 EPG 136.14.3.1 49 CFR 26	Bid Proposal must include the DBE provisions.		MoDOT - DR - review for required items.				
Proposal	Affirmative Action - Subcontractor Certification	EPG Figure 136.10.4	Bid Proposal must include the affirmative action form.		MoDOT - DR - review for required items.				
Proposal	On the Job Training (OJT)	23 CFR 230 EPG 136.10.4	Bid Proposal must include the OJT Training Special Provision (TSP) only when a goal has been established.		MoDOT - DR - review for required items.				
Proposal	Liquidated Damages	EPG 136.10.7 CFR 635.127	Bid Proposal must include liquidated damages rate table.		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Proposal	Prevailing Minimum Wage (Davis-Bacon)	EPG 136.10.2 USC 113 23	Bid Proposal must include Federal Davis-Bacon prevailing wage rate determinations on all federal contracts except when the project is located off the federal-aid highway system. Local projects that are located on roadways classified as local roads or rural minor collectors are exempt from the Federal Wage Rate requirement. However, other federal-aid provisions still apply.		MoDOT - DR - review for required items.				
Proposal	Federal/State Wage Rates	EPG 136.10.2	When state and federal wage rates are both required the higher of the two for each job classification should be used.		MoDOT - DR - review for required items.				
Proposal	State Wage Rates	EPG 136.10.2	The local agency must request an Annual State Wage Determination for each contract from the Industrial Commission, Missouri Department of Labor and Industrial Relations (DOLIR), Box 449, Jefferson City, Missouri 65102 or by calling (573) 751-3403.		MoDOT - DR - review for required items.				
Proposal	Buy America	MoDOT Spec 106.9 23 CFR 635.110	Bid Proposal must include Buy America provisions.		MoDOT - DR - review for required items.				
Proposal	Right to Inspect Work	EPG 136.9.10	The project Job Special Provisions or drawings shall stipulate that MoDOT and FHWA may make inspections of the work and that the contractor shall grant them access to all parts of the work.		MoDOT - DR - review for required items.				
Proposal	Inspection	EPG 136.11.9	Bid Proposal must state that all technicians who perform, or are required by the FHWA to witness, such sampling and testing shall be deemed as qualified by virtue of successfully completing the requirements of EPG 106.18 Technician Certification Program, for that specific technical area.		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Proposal	Section 404 Permits	EPG 136.4.5.5	404 COE Permit/401 Water Quality (if applicable)** <i>This should be included in the proposal.</i>		MoDOT - DR - review for required items.				
Proposal	Bid Form	EPG 136.9.7	The bid proposal will also need to include an itemized listing of all pay items included in the project, quantities of each individual pay item and blanks for the contractor to submit a unit price (and extension) for each pay item. (No Lump Sum Contracts)		MoDOT - DR - review for required items.				
Proposal	Alternate Bidding	?	?		MoDOT - DR - review for required items.				
Proposal	Lobby Certification	MoDOT Spec 102.18.4 31 USC 1352	Submit Certification in Bid Documents		MoDOT - DR - review for required items.				
Proposal	Retainage	RsMO 34.057 MoDOT Spec 109.9	Retainage of contractor payment is not to be automatically applied to projects as a matter of course. However, the PS&E should clearly state that in accordance with the Missouri Prompt Pay Act (34.057 RsMO), the owner may withhold payment for any of the reasons outlined in RsMO 34.057, or as determined by the engineer.		MoDOT - DR - review for required items.				
Proposal	Period of Performance	MoDOT Spec 108 EPG 136.1.2	Proposal must include language indicating the allowed construction timeframe.		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Supporting documentation to proposal	Section 106 Clearance	EPG 136.4.5.12	Section 106 - SHPO Clearance, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	USF&W/T&E	EPG 136.4.5.13	United States Fish & Wildlife (USF&W) Threatened & Endangered Species (T&E) Clearance, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	MDC Heritage Review		Missouri Department of Conservation (MDC) Heritage Review, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	100-year floodplain and regulatory floodway	EPG 136.4.5.3 44 CFR Parts 59-78	Flood Plain Development Permit, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	Farmland Protection Policy Act	EPG 136.4.5.2	Farmland Conversion Impact Rating Form, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	NEPA Classification	EPG 136.4.1.1	Include NEPA classification documentation		MoDOT - DR - review for required items.				
Supporting documentation to proposal	??	?	Approval letter from Drainage District, if applicable. (SE district bridge replacement only)		MoDOT - DR - review for required items.				
Supporting documentation to proposal	Railroad	EPG 136.9.4	Approval letter from Railroad, if applicable.		MoDOT - DR - review for required items.				
Supporting documentation to proposal	Right of Way	EPG 136.10.9	Final Right of Way Certification		MoDOT - DR - review for required items.				
Supporting documentation to proposal	Utility	EPG 136.9.5	Utility Relocation - Status Letter from Applicable Agencies, if applicable.		MoDOT - DR - review for required items.				
Plans	Plan Requirements	EPG 136.9.11	Title Sheet MUST have: Federal Project #, location map and local official(s) signatures.		MoDOT - DR - review for required items.				



Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Plans	Traffic Control	EPG 136.9.3 MUTCD	The local agency shall develop and implement a Transportation Management Plan (TMP) in sustained consultation with all stakeholders for each project. The TMP shall conform to the guidelines set forth in Chapter 6 of the Manual on Uniform Traffic Control Devices (MUTCD).		MoDOT - DR - review for required items.				
Job Special Provisions	ADA	EPG 136.8.1	ADA Compliance Special Provision must be included for projects with pedestrian facilities. The language can be found at: <a href="http://www.modot.mo.gov/business/standards_and_specs/LPAStandardJobSpecialProvisions.htm">http://www.modot.mo.gov/business/standards_and_specs/LPAStandardJobSpecialProvisions.htm</a>		MoDOT - DR - review for required items.				
Specifications	Spec Requirements	EPG 136.9	When referencing Missouri Standard Specifications for Highway Construction - Current Edition, MUST be specific on the edition date.		MoDOT - DR - review for required items.				
Specifications	Spec Requirements	EPG 136.9	The specification used shall be referenced on both the drawings and the specifications package as the basic standard for materials and construction - except as modified or superseded by job special provisions or other specifications included in the specifications package.		MoDOT - DR - review for required items.				

Item	Topic	Reference	LPA Responsibility	LPA Initial	MoDOT Central Office Staff Responsibility	MoDOT CO Initial	MoDOT District Staff Responsibility	MoDOT District Initial	Location within submittal (i.e. page number)
Estimate	Engineer's Estimate	EPG 136.9.7	An engineer's estimate, showing estimated quantities; unit prices and extended totals shall be submitted to MoDOT with the detailed plans. Subtotals shall be shown for roadway items, bridge, signing/stripping/signals, landscaping/streetscaping, utilities (reimbursable with federal participation) and bicycle/pedestrian facilities . The engineer's estimate should be treated as a confidential document. Any knowledge of the estimate may cause unbalanced bids or provide a contractor who has knowledge of the engineer's estimate an advantage.		MoDOT - DR - review for required items.				

**Programmatic Agreement  
between  
The Federal Highway Administration-Nebraska Division  
and  
The Nebraska Department of Roads  
for  
Pavement Marking Activities**

The Federal Highway Administration-Nebraska Division (FHWA) and the Nebraska Department of Roads (NDOR), have developed this Programmatic Agreement (PA) to outline the policy and procedure for environmentally approving certain federally-funded actions that involve the installation of pavement markings where no land acquisition or road closures exceeding 24 hours will occur.

**WHEREAS**, the Division Administrator, FHWA, is the "Agency Official" responsible for compliance with the National Environmental Policy Act (NEPA) and implementing regulations (23 CFR 771);

**WHEREAS**, NDOR and FHWA have jointly been invited to concur in this PA;

**WHEREAS**, NDOR, as the statewide recipient of the federal-aid program, is responsible for compliance with all federal laws and regulations pursuant to 23 CFR 1.36;

**WHEREAS**, this PA is consistent with the Statewide Long Range Plan, the Statewide Transportation Improvement Program (STIP), and applicable Metropolitan or Rural Planning Organizations' Transportation Improvement Programs (TIP's) and Long Range Transportation Plans, and is exempt from regional air quality conformity determinations (40 CFR parts 51 and 93);

**WHEREAS**, the FHWA has delegated approval authority of certain Categorical Exclusion (CE) activities to NDOR, as described in the *Programmatic Agreement for the Review and Approval of the NEPA Categorically Excluded Transportation Projects* (PCE Agreement) between FHWA and NDOR, dated 12/17/08;

**WHEREAS**, Part B of the PCE Agreement allows for exceptions to the PCE Agreement by FHWA;

**WHEREAS**, this PA will cover action types that would be classified as a PCE under the PCE Agreement and will create an exception to the requirement to complete a NEPA Determination Form for actions covered by this PA;

**WHEREAS**, FHWA will monitor the use of this PA and retains the authority to revoke approval authority upon discovery of misapplication of the PA or non-compliance with any federal law or regulation or the stipulations of this PA;

**NOW THEREFORE**, the FHWA and NDOR agree that activities addressed by this PA, which are not part of a larger undertaking, shall be administered in accordance with the following in order to satisfy FHWA's NEPA responsibilities.

Based on past experiences with similar actions, the FHWA has determined that pavement marking activities do not involve significant environmental impacts. Pavement marking activities include:

- Staging and/or stockpiling pavement marking equipment and/or materials,
- The preparation of the roadway surface for the placement of the new pavement marking material,
- Installing the pavement marking material,
- Traffic control necessary for the installation of the pavement markings.

Based on the nature of pavement marking activities, FHWA does not anticipate negative impacts to natural, cultural, historic, recreational resources from these activities; these activities do not negatively impact air, noise, water quality, or travel patterns, and do not present any negative cumulative impacts. FHWA has determined that these types of activities do not affect listed species, there is no potential to affect historic properties from these actions, and there is no potential to impact waters of the U.S. Furthermore, experience has demonstrated that these types of activities do not generate controversy on environmental grounds, nor do they impact Section 4(f) protected properties.

Therefore, FHWA has determined that project-specific NEPA documents and technical studies shall not be generated for this class of action in Nebraska, unless the stipulations below are not met.

### Stipulation 1

NDOR agrees to review individual projects environmentally approved by this programmatic agreement to ensure unusual circumstances as outlined by 23 CFR 771.117(b) do not exist. If an unusual circumstance is identified, NDOR shall coordinate with FHWA for guidance and shall create a project-specific NEPA document, in compliance with the PCE Agreement.

### Stipulation 2

This agreement does not apply to actions or activities on roadways or properties identified as eligible in the *Nebraska Historic Highway Survey* (2002), National Register eligible or listed bridges identified in the bridge database, or activities that will add striping to brick streets.

### Stipulation 3

NDOR agrees to include the following commitments in the project-specific Green Sheets and/or the project agreement documents for actions approved under this agreement:

To avoid impacts to the community:

- Any closures to the roadway will be for short duration (less than 24 hours) with an alternate access route adequately signed. Emergency services shall be given adequate notice of any closures.
- Access must be maintained at all times to any and all public parks, recreation areas and wildlife refuges.

To avoid unanticipated impacts:

- The contractor shall not stage, store waste or stockpile materials and equipment in undisturbed locations, or in known/potential wetlands and/or known/potential streams that exhibit a clear "bed and bank" channel. Potential wetland areas consist of any area that is known to pond water, swampy areas or areas supporting known wetland vegetation (e.g. Cattails, bulrush, Canary reed grass, smartweed, or areas where there is a distinct difference in vegetation (at lower elevations) from the surrounding upland areas.)

To avoid Hazardous Material concerns:

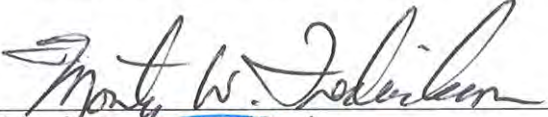
- Any items that may contain hazardous materials, must be properly handled and disposed of as outlined in the standard specifications.

### Stipulation 4

NDOR shall document that the individual projects approved under this PA were reviewed to determine if each of the stipulations outlined above could be met and that the required commitments were included in the project agreement documents and/or project green sheet. This documentation shall be added to each of the project records.

### Administrative Conditions

1. This agreement becomes effective on the date of signature, below.
2. Applicability - If it is unclear what work associated with pavement marking activities applies to this PA, NDOR shall coordinate with FHWA to determine the appropriateness of utilizing this PA.
3. Monitoring - FHWA shall complete a process review of the use of this PA. Within the first year of execution, NDOR shall provide a listing of actions approved under this agreement 6 months after the signing of this PA. For subsequent years, a listing of actions approved under this agreement shall be provided to FHWA from NDOR by December 31<sup>st</sup> of each year.
4. Termination - Any party may terminate this PA by providing 30 days written notice to the other party. In the event of termination, these classes of action shall be required to have an individual NEPA document generated to demonstrate environmental approval, unless this PA is terminated due to an update to the PA or the incorporation of these activities into a different agreement document.

  
Nebraska Department of Roads  
Date 6-23-10

  
Federal Highway Administration  
Date 6-23-10



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

**Refer to NMFS No.:**

**2007/07790**

February 25, 2008

Mr. Lawrence Evans  
U.S. Army Corps of Engineers, Portland District  
P.O. Box 2946  
Portland, Oregon 97208-2946

Mr. Robert Willis  
U.S. Army Corps of Engineers, Portland District  
ATTN: Mr. Kim Larson  
P.O. Box 2946  
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7 Formal and Informal Programmatic Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revisions to Standard Local Operating Procedures for Endangered Species to Administer Stream Restoration and Fish Passage Improvement Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES IV Restoration).

Dear Mr. Evans and Mr. Willis:

The enclosed document contains a formal and informal programmatic opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7(a)(2) of the Endangered Species Act (ESA) on the effects of implementing a proposed revision to the standard local operating procedures used by the U.S. Army Corps of Engineers, Portland District (Corps), to authorize or carry out stream restoration activities and fish passage improvement actions in Oregon (SLOPES IV Restoration).<sup>1</sup> This action is in accordance with the Corps' regulatory and civil works authorities under section 10 of the Rivers and Harbors Act of 1899, section 404 of the Clean Water Act of 1972, and sections 1135, 206, and 536 of the Water Resources Development Acts of 1986, 1996, and 2000, respectively. Actions covered in this Opinion are modified from those analyzed in the biological opinion issued on November, 2004, as summarized in the consultation history section of the Opinion.

In this Opinion, NMFS concludes that the proposed action is not likely to adversely affect southern green sturgeon (*Acipenser medirostris*); critical habitat has not yet been proposed for this species. Moreover, the proposed action is not likely to jeopardize the continued existence of the Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), Upper Willamette River (UWR) spring-run Chinook salmon, Upper Columbia River (UCR) spring-run Chinook salmon, Snake River (SR) spring/summer run Chinook salmon, SR fall-run Chinook salmon, Columbia

<sup>1</sup> This document replaces the Opinion dated February 22, 2007, which was found to contain pagination errors.



River chum salmon (*O. keta*), LCR coho salmon (*O. kisutch*), Oregon Coast coho salmon, Southern Oregon/Northern California coho salmon, SR sockeye salmon (*O. nerka*), LCR steelhead (*O. mykiss*), UWR steelhead, Middle Columbia River steelhead, UCR steelhead, or Snake River Basin steelhead, and is not likely to result in the destruction or adverse modification of critical habitat designated for each of the above listed species, with the exception of LCR coho salmon, for which critical habitat has not yet been proposed.

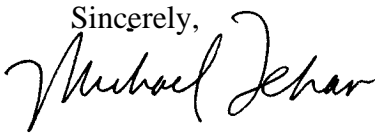
As required by section 7 of the ESA, this Opinion includes reasonable and prudent measures with terms and conditions that are necessary to minimize the impact of incidental take associated with this action. The action agency and applicant, if any, must comply with these terms and conditions for exemption from the prohibition against taking in section 7(o) to apply.

This document also presents the results of our consultation on the proposal's effect on essential fish habitats (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and includes four conservation recommendations to avoid, minimize, or otherwise offset likely adverse effects to EFH. Section 305(b)(4)(B) of the MSA requires Federal agencies to provide a detailed written response to NMFS within 30 days after receiving these recommendations.

If the response is inconsistent with the recommendations, the action agency must explain why the recommendations will not be followed, including the justification for any disagreements over the effects of the action and the recommendations. In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we request that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

If you have any questions regarding this consultation, please contact Marc Liverman at 503-231-2336 or Ben Meyer at 503-230-5425, of my staff in the Oregon State Habitat Office.

Sincerely,

  
for D. Robert Lohn  
Regional Administrator

cc: Federal Highways Administration  
Natural Resources Conservation Service  
U.S. Environmental Protection Agency  
U.S. Fish and Wildlife Service  
Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Department of Parks and Recreation  
Oregon Department of State Lands  
Oregon Department of Transportation  
Oregon Watershed Enhancement Board

# Endangered Species Act - Section 7 Formal and Informal Programmatic Opinion

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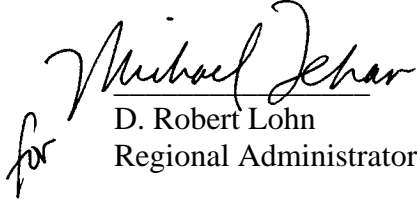
## Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Revisions to Standard Local Operating Procedures for Endangered Species to Administer Stream  
Restoration and Fish Passage Improvement Activities Authorized or Carried Out by the  
U.S. Army Corps of Engineers in the Oregon (SLOPES IV Restoration)

Agency: U.S. Army Corps of Engineers,  
Portland District, Operations and Regulatory Branches

Consultation  
Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: February 25, 2008

Issued by:   
for D. Robert Lohn  
Regional Administrator

Refer to: 2007/07790



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## INTRODUCTION

This document contains a formal and informal programmatic opinion (Opinion) and incidental take statement prepared in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531, *et seq.*), and implementing regulations at 50 CFR 402. The National Marine Fisheries Service (NMFS) also completed an essential fish habitat (EFH) consultation, prepared in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801, *et seq.*) and implementing regulations at 50 CFR 600. The docket file for this consultation is available at the Oregon State Habitat Office in Portland, Oregon.

### Background and Consultation History

The U.S. Army Corps of Engineers, Portland District (Corps), propose to revise the “Standard Local Operating Procedures for Endangered Species” (SLOPES). “SLOPES” refers to the process and criteria that the Corps uses to guide the administration of activities regulated under section 10 of the Rivers and Harbors Act of 1899 (RHA) and section 404 of the Clean Water Act of 1972 (CWA), or carried out by the Corps as part of civil works programs authorized by sections 1135, 206, and 536 of the Water Resources Development Acts of 1986, 1996, and 2000, respectively (WRDA), in areas occupied by ESA-listed salmon and steelhead or their designated critical habitats.

Section 10 of the RHA requires authorization from the Secretary of the Army for the creation of any structure, excavation, or fill within the limits defined for navigable waters of the United States, if the structure or work will affect the course, location, or condition of the waterbody. The law applies to any dredging or disposal of dredged material, excavation, filling, channelization, or any other modification of a navigable water of the United States, and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom, breakwater, jetty, groin, bank stabilization, mooring structures (such as pilings), aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent or semi-permanent obstacle or obstruction.

Section 404 of the CWA requires authorization from the Secretary of the Army, acting through the Corps, for the discharge of dredged or fill material into all waters of the United States, including adjacent wetlands. Discharges of fill material generally include, without limitation, any placement of fill that is necessary for construction of any type of structure, development, property protection, reclamation, or other work involving the discharge of fill or dredged material. A Corps permit is required whether the work is permanent or temporary. Examples of temporary discharges included dewatering of dredged material before final disposal, and temporary fills for access roadways, cofferdams, storage, and work areas.

Section 1135 of WRDA authorizes the Corps to modify the structure or operation of a Corps project to restore or improve environmental quality and ecosystem functions impaired by that project, provided that the modification does not conflict with the authorized project purposes.

Section 206 of WRDA expands this authority to cover construction of projects for the restoration and protection of aquatic ecosystems unrelated to an existing Corps facility. Section 536 of WRDA authorizes studies and ecosystem restoration actions in the Lower Columbia River and Tillamook Bay. The Corps has environmental restoration programs in place, in Oregon, that are authorized by these authorities and are intended to restore habitat for ESA-listed salmon and steelhead.

Nearly all anadromous fish-bearing streams within the Corps' jurisdiction are occupied by ESA-listed salmon and steelhead and designated as EFH for Chinook salmon and coho salmon. Individual ESA and EFH consultation for permits within these streams results in a substantial workload for both the Corps and NMFS, often with little additional benefit to the species. Many of these activities are minor and repetitive in nature, and consultation on them has resulted in the imposition of similar conditions for regulatory approval.

Since March 21, 2001, the Portland District has used SLOPES, as described in a series of programmatic biological opinions,<sup>1</sup> to guide its review of individual permit requests under section 10 of the RHA and section 404 of the CWA, including requests for authorization of activities under the Corp's nationwide permit 27 (NWP-27 "Aquatic Habitat Restoration, Establishment, and Enhancement"). "Habitat restoration activity" is defined by NMFS to mean an activity that has the sole objective of restoring natural aquatic or riparian conditions or processes (50 CFR 222.102). In 2003, the use of SLOPES was expanded to include the Portland District's restoration actions under WRDA. The Corps uses SLOPES to evaluate applications for stream and wetland restoration actions that are within the range of ESA-listed salmon and steelhead. Applications for actions that the Corps finds to be within the range of effects considered in the most recent SLOPES biological opinion are issued a permit with corresponding conditions; applications that are not found to be within this range of effects are submitted to NMFS for additional, site-specific ESA and EFH consultation.

Under SLOPES, the Corps is required to provide an annual monitoring report. The report is intended to be a summary of action data and a description of program participation, the quality of supporting analyses, monitoring information, compensatory mitigation provided by applicants, and recommendations to improve the effectiveness of the program. Between 2001 and 2006, the

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<sup>1</sup> Programmatic Biological Opinion – 15 Categories of Activities Requiring Department of the Army Permits. (refer to: OSB2001-0016) (March 21, 2001); Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species (SLOPES) for Certain Activities Requiring Department of Army Permits in Oregon and the North Shore of the Columbia River (refer to OHB2001-0016-PEC) (June 14, 2002); Letter from D. Robert Lohn, NOAA Fisheries, to Lawrence Evans and Thomas Mueller, U.S. Army Corps of Engineers (August 14, 2002) (Amending Terms and Conditions for SLOPES, issued June 14, 2002); Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species (SLOPES II) for Certain Regulatory and Operations Activities Carried Out by the Department of Army Permits in Oregon and the North Shore of the Columbia River (refer to: 2003/00850) (July 8, 2003); Programmatic Biological Opinion and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revised Standard Local Operating Procedures for Endangered Species (SLOPES III) to Administer Certain Activities Authorized or Carried Out by the Department of the Army in the State of Oregon and on the North Shore of the Columbia River (refer to: 2004/01043) (November 30, 2004).

Corps used SLOPES to issue 106 permits for stream and wetland restoration, mostly in the Willamette/Lower Columbia and coastal areas (Table 1).

**Table 1.** Number of stream and wetland restoration permits issued by the Corps using SLOPES, by geographic area and year (n=118).<sup>2</sup>

Geographic Area	2001 N=0	2002 n=8	2003 n=23	2004 n=41	2005 n=18	2006 n=28
Willamette/Lower Columbia n=53	0	6	12	17	11	13
Interior Columbia n=7	0	1	0	6	1	2
Oregon Coast n=21	0	1	6	6	2	7
Southern Oregon/Northern California Coasts n=25	0	0	5	12	4	6

By design, SLOPES provides a focus for discussion between NMFS, the Corps, and applicants regarding ways to reduce or remove the adverse effects of regulated actions on ESA-listed salmon and steelhead, designated critical habitat, and EFH. The delivery of technical assistance for administration of individual actions under SLOPES, interagency training in the use of SLOPES, the SLOPES annual review process, and many individual consultations which are beyond the range of actions authorized by SLOPES, have all been informed by previous SLOPES opinions, and thus helped to ensure that SLOPES will continue to be adaptive, accountable, and credible as a conservation and regulatory tool. Over the years, the Federal Highway Administration, Natural Resources Conservation Service, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Department of Transportation, Oregon Division of State Lands, Oregon Marine Board, Oregon Watershed Enhancement Board, Oregon Public Ports Association, the City of Portland, various port authorities, and others with a substantial and recurrent stake in the Corps' regulatory program have each made major contributions to the development of SLOPES.<sup>3</sup>

In some cases, requests by those action agencies for a separate programmatic consultation have been collected into SLOPES. This was possible because the Corps consented to act as the lead agency for consultation, and the SLOPES Opinion already encompassed analyses of effects of those actions and corresponding measures to minimize take, or could be easily expanded to do so

<sup>2</sup> In January, 2006, NMFS announced that the Oregon Coast coho salmon did not warrant listing under the ESA (71 FR 3033; Jan. 19, 2006). Nonetheless, much of this area is still designated as EFH for coho and Chinook salmon. Thus, pursuant to EFH conservation recommendations from NMFS, the Corps continues to apply SLOPES-type conditions to permits for actions within this area that otherwise meet requirements of the SLOPES opinion. On October 9, 2007, the Oregon District Court issued an order in the case of Trout Unlimited, *et al.* v. Lohn, No. CV-06-1493-ST (D. Or. July 13, 2007) that reversed NMFS' decision and restored the status of OC coho salmon as proposed for listing as threatened.

<sup>3</sup> See *e.g.*, Letter from Lawrence C. Evans, U.S. Army Corps of Engineers, to Michael Crouse, NMFS, (December 26, 2002) (requesting programmatic consultation for maintenance and restoration activities conducted by port authorities and commercial/industrial organizations); NMFS (2003).

(e.g., activities related to geological drilling and surveying; maintenance of boat docks, commercial marinas, ports, and roads; regulatory streamlining; stream and wetland restoration). This helped to ensure that SLOPES is based on the highest quality scientific information and strong, collaborative partnerships, and will continue to yield the highest degree of conservation effectiveness and regulatory efficiency.

In this way, NMFS and the Corps have examined the shared characteristics of many regulatory actions with similar effects and identified those types of actions for which short-term environmental effects are likely to be low intensity, repetitive, and predictable, and for which long-term effects are likely to contribute to the recovery of listed species. These individual actions also have similar requirements for regulatory approval and, beyond confirmation that each action meets applicable constraints on design and the use of conservation practices, would not reward additional analysis or deliberation with further conservation benefits. NMFS and the Corps have used this information in SLOPES to set clear expectations and achieve consistent outcomes that, with other important regulatory initiatives, have significantly reduced conflict over listed species and regulatory actions, thus improving public relations and creating new opportunities for further advances in listed species conservation.

The broad scope of the Corps' regulatory program, the rapid pace at which interested parties have gained and shared practical experience using SLOPES, and the need to assure adequate oversight in light of evolving ESA policies often require the Corps to adjust the actions authorized by SLOPES. Moreover, many requests by the Corps and various applicants for assistance regarding the use of SLOPES for actions related to stream and wetland restoration, streambank stabilization, transportation, and over and in-water structures, led NMFS to conclude that SLOPES can be better managed if these categories are addressed in separate opinions. This will allow these consultation documents to be more focused on specific consultation needs, rather than dependent on reissuance of the entire opinion in its present form.

Accordingly, on December 5, 2007, the Corps requested reinitiation of SLOPES for actions related to stream and wetland restoration to reflect the ongoing process of SLOPES management, and new information regarding the status of listed species and critical habitats. Future SLOPES opinions will address actions related to roads and bridges, over and in-water structures, bank stabilization, and miscellaneous waterway alterations that, until now, have been combined in a single opinion.

### **Proposed Action**

For this consultation, the proposed action is a revision of SLOPES that the Corps uses to guide the permitting of stream restoration and fish passage activities regulated under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act, including NWP27, or that are carried out by the Corps as part of civil works programs authorized by sections 206, 536, and 1135 of the Water Resources Development Act. Use of the revised SLOPES will ensure that the Corp's regulatory oversight of these habitat restoration actions will continue to meet requirements of the ESA and MSA with procedures that are simpler to use, more efficient, and more accountable for all parties.

The Corps is proposing to use SLOPES IV Restoration to authorize nine categories of action related to stream restoration and fish passage, specifically:

1. **Boulder Placement** to increase habitat diversity and complexity, improve flow heterogeneity, provide substrate for aquatic vertebrates, moderate flow disturbances, and provide refuge for fish during high flows by placing large boulders in stream beds where similar natural rock has been removed.
2. **Fish Passage Restoration** to improve fish passage by installing or improving step weirs, fish ladders, or lamprey ramps at an existing facility, or replacing or improving culverts.
3. **Spawning Gravel Restoration** to improve spawning substrate by compensating for an identified loss of a natural gravel supply.
4. **Large Wood Restoration** to increase coarse sediment storage, habitat diversity and complexity, retain gravel for spawning habitat, improve flow heterogeneity, provide long-term nutrient storage and substrate for aquatic macroinvertebrates, moderate flow disturbances, increase retention of leaf litter, and provide refuge for fish during high flows by placing large wood in areas where natural wood accumulations have been removed.
5. **Off- and Side-Channel Habitat Restoration** to reconnect stream channels with floodplains, increase habitat diversity and complexity, improve flow heterogeneity, provide long-term nutrient storage and substrate for aquatic macroinvertebrates, moderate flow disturbances, increase retention of leaf litter, and provide refuge for fish during high flows by restoring or modifying hydrologic and other essential habitat features of historical river floodplain swales, abandoned side channels, and floodplain channels.
6. **Piling Removal** to improve water quality by eliminating chronic sources of toxic contamination.
7. **Set-back Existing Berms, Dikes, and Levees** to reconnect stream channels with floodplains, increase habitat diversity and complexity, moderate flow disturbances, and provide refuge for fish during high flows by increasing the distance that existing berms, dikes or levees are set back from active streams or wetlands.
8. **Streambank Restoration** to restore eroding streambanks by (a) bank shaping and installation of coir logs or other soil reinforcements as necessary to support riparian vegetation; (b) planting or installing large wood, trees, shrubs, and herbaceous cover as necessary to restore ecological function in riparian and floodplain habitats; or (c) a combination of the above methods.
9. **Water Control Structure Removal** to reconnect stream corridors, reestablish wetlands, improve fish passage, and restore more natural channel and flow conditions, by removing earthen embankments, subsurface drainage features, spillway systems, tide gates,

outfalls, pipes, instream flow redirection structures (*e.g.*, drop structure, gabion, groin), or similar devices used to control, discharge, or maintain water levels.

## **Proposed Design Criteria**

The Corps proposed to apply the following design criteria, in relevant part, to every action authorized under this opinion. Measures described under “Administration” apply to the Corps as it manages the SLOPES IV Restoration program. Measures described under “General Construction” apply, in relevant part, to each action that involves a construction component. Measures described under “Types of Action” apply, in relevant part, to each of the actions as described. The Corps will ensure that all other measures apply to each party that is given authorization for, or carries out, an action under SLOPES IV Restoration.

### **Administration**

1. Species presence. The Corps will confirm that each action authorized or carried out under this Opinion is within the present or historic range of an ESA-listed salmon or steelhead (fish), or designated critical habitat.
2. Corps review. The Corps will individually review and approve each action to ensure that all adverse effects to fish and their designated critical habitats are within the range of effects considered in this Opinion.
3. NMFS review. The Corps will ensure that each action that involves (a) diversion of surface water using gravity or by pumping at a rate that exceeds 3 cubic feet per second (cfs); (b) a step weir, fish ladder, or culvert replacement for fish passage restoration; (c) off- and side-channel habitat restoration; (d) set-back of an existing berm, dike or levee; or (e) removal of a water control structure, will also be individually reviewed and approved by NMFS as consistent with this Opinion before that action is authorized. Actions to place boulders, large wood, spawning gravel, or restore streambanks, or to remove pilings, do not require NMFS prior review and approval.
4. Electronic notification. The Corps will initiate NMFS’ review by submitting the SLOPES IV programmatic implementation form (Appendix A) to NMFS with sufficient detail about the action design and construction to ensure the proposed action is consistent with all provisions of this Opinion. For off- and side-channel habitat restoration actions, set-back of an existing berm, dike or levee; or removal of a water control structure; the notification must include the results of a site assessment for contaminants to identify the type, quantity, and extent of any potential contamination. NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified. The Corps will use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this form when the online system becomes available. Until CIRS is available, submit forms to NMFS by email at this address:  
[SLOPES.NWR@noaa.gov](mailto:SLOPES.NWR@noaa.gov).

5. Site assessment for contaminants. Any action involving off- and side-channel habitat restoration or set-back of an existing berm, dike or levee must include the results of a site assessment with the following elements to identify the type, quantity, and extent of any potential contamination: (a) A review of readily available records, such as former site use, building plans, records of any prior contamination events; (b) a site visit to observe the areas used for various industrial processes and the condition of the property; (c) interviews with knowledgeable people, such as site owners, operators, and occupants; neighbors; local government officials; and (d) a report that includes an assessment of the likelihood that contaminants are present at the site.
6. Action completion: regulatory actions. The Corps will require each applicant to submit an action completion report (Appendix B) to NMFS within 60-days of completing all work below ordinary high water (OHW) with the following information: (a) The Corps contact person and the Corps permit number; (b) the action name; (c) the type of activity; (d) the location of the action site by latitude and longitude (including degrees, minutes, and seconds), and 6th field hydrologic unit code (HUC); (e) start and end dates for the completion of in-water work; (f) photos of habitat conditions before, during, and after action completion; (g) any dates work ceased due to high flows; (h) evidence of compliance with fish screen criteria, as defined below, for any pump used; (i) a summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort; (j) the number, type, and diameter of any pilings removed or broken during removal; (k) a description of any riparian area cleared within 150 feet of OHW; (l) the linear feet of bank alteration; (m) a description of site restoration; and (n) a completed fish salvage reporting form from Appendix C for any action that requires fish salvage. The Corps will use CIRS to submit this report when the online system becomes available. Until CIRS is available, the Corps will submit reports to NMFS by email at this address: SLOPES.NWR@noaa.gov.
7. Action completion: civil works actions. The Corps will submit an action completion report (Appendix B) to NMFS within 60-days of completing all work below ordinary high water (OHW) with the following information: (a) The Corps contact person; (b) the action name; (c) the type of activity; (d) the location of the action site by latitude and longitude (including degrees, minutes, and seconds), and 6th field HUC; (e) start and end dates for the completion of in-water work; (f) photos of habitat conditions before, during, and after action completion; (g) any dates work ceased due to high flows; (h) evidence of compliance with fish screen criteria, as defined below, for any pump used; (i) a summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort; (j) the number, type, and diameter of any pilings removed or broken during removal; (k) a description of any riparian area cleared within 150 feet of OHW; (l) the linear feet of bank alteration; (m) a description of site restoration; and (n) a completed fish salvage reporting form from Appendix C for any action that requires fish salvage. The Corps will use CIRS to submit this report when the online system becomes available. Until CIRS is available, the Corps will submit reports to NMFS by email at this address: SLOPES.NWR@noaa.gov.

8. Permit conditions. The Corps will include each applicable design criterion as an enforceable condition of every permit issued under this Opinion.
9. WRDA action specifications. The Corps will include each applicable design criterion as a final action specification of every WRDA civil works action carried out under this Opinion.
10. Site access. The Corps will retain the right of reasonable access to the site of actions authorized using this Opinion to monitor the use and effectiveness permit conditions.
11. Salvage notice. The Corps will include the following notice as part of each permit issued using this Opinion and, for actions completed by the Corps, provide the notice in writing to the action supervisor.

If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify NMFS' Office of Law Enforcement at 503-231-6240 or 206-526-6133. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by the Office of Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

12. Annual program report. The Corps' Regulatory and Civil Works Branches will each submit a monitoring report to NMFS by February 15 each year that describes the Corps' efforts to carry out this Opinion. The report will include an assessment of overall program activity, a map showing the location and type of each action authorized and carried out under this Opinion, and any other data or analyses the Corps deems necessary or helpful to assess habitat trends as a result of actions authorized under this Opinion. The Corps will use CIRS to submit this report when the online system becomes available. Until CIRS is available, the Corps will submit reports to NMFS by email at this address: SLOPES.NWR@noaa.gov.
13. Annual coordination meeting. The Corps' Regulatory and Civil Works Branches will each attend an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this Opinion, or make the program more efficient or more accountable.
14. Reinitiation. If the Corps chooses to continue programmatic coverage under this Opinion, it will reinitiate consultation within 5 years of the date of issuance.



### **General Construction**

15. Flagging sensitive areas. The action area will be flagged to identify sensitive resource areas, such as areas below ordinary high water and wetlands.
16. Temporary erosion controls. Temporary erosion controls will be in place before any significant alteration of the action site is allowed.
17. Temporary access roads. Temporary access roads will not be built on steep slopes, where grade, soil, or other features suggest a likelihood of excessive erosion or failure; will use existing ways whenever possible; and will minimize soil disturbance and compaction within 150 feet of a stream, waterbody, or wetland. All temporary access roads will be obliterated when the action is completed, the soil will be stabilized and the site will be revegetated. Temporary roads in wet or flooded areas will be restored by the end of the applicable in-water work period.
18. Fish passage. Fish passage must be provided for any adult or juvenile fish present in the action area during construction, unless passage did not exist before construction. After construction, adult and juvenile passage that meets NMFS fish passage criteria must be provided for the life of the action (NMFS 2008, or most recent version).
19. In-water work period. All work within the wetted channel will be completed during periods of time listed in the Oregon Guidelines for Timing of In-water Work to Protect Fish and Wildlife Resources (ODFW 2000, or the most recent version), except that the winter work window is not approved for actions in the Willamette River below Willamette Falls. The timing guidelines are available from the Oregon Department of Fish and Wildlife, Wildlife Division, Salem, Oregon. Hydraulic and topographic measurements as part of a restoration action, and large wood restoration, may be completed at any time, provided that the affected area is not occupied by adult fish congregating for spawning or an area where redds are occupied by eggs or pre-emergent alevins.
20. Work area isolation. A work area within the wetted channel will be completely isolated from the active stream whenever a fish is reasonably certain to be present, or if the work area is 300 feet or less upstream from spawning habitats, except for boulder and large wood restoration actions. When work area isolation is required, a work area isolation plan will be prepared and carried out, commensurate with the scope of the action, that includes the following information: (a) The name, phone number, an address of the person responsible for accomplishing each component of the plan; (b) an estimate of stream flows likely to occur during isolation; (c) a plan view of all isolation elements and fish release areas; (d) a list of equipment and materials necessary to complete the plan, including a fish screen that meets NMFS fish screen criteria (NMFS 1996) for any pump used to dewater the isolation area; (e) and the sequence and schedule of dewatering and rewatering activities.

21. Capture and release. Any fish that may be trapped within the isolated work area will be captured and released using a trap, seine, electrofishing, or other methods as prudent to minimize the risk of injury, then released at a safe release site. Capture and release will be supervised by a fishery biologist experienced with work area isolation and competent to ensure the safe handling of all fish.
22. Electrofishing. If electrofishing will be used to capture fish for salvage, NMFS' electrofishing guidelines will be followed (NMFS 2000). Those guidelines are available from the NMFS Northwest Region, Protected Resources Division, Portland, Oregon.
23. Construction water. Surface water may be diverted to meet construction needs only if developed sources are unavailable or inadequate, and diversions will not exceed 10% of the available flow rate.
24. Fish screens. NMFS must review and approve fish screens for surface water that is diverted by gravity or by pumping at a rate that exceeds 3 cfs. All other diversions must have a fish screen that meets the following specifications: (a) An automated cleaning device with a minimum effective surface area of 2.5 square feet per cfs, and a nominal maximum approach velocity of 0.4 feet per second (fps), or no automated cleaning device, a minimum effective surface area of 1 square foot per cfs, and a nominal maximum approach rate of 0.2 fps; and (b) a round or square screen mesh that is no larger than 2.38 mm (0.094") in the narrow dimension, or any other shape that is no larger than 1.75 mm (0.069") in the narrow dimension. Each fish screen must be installed, operated, and maintained according to NMFS' fish screen criteria (NMFS 2008, or most recent version).
25. Erosion and pollution control plan. A erosion and pollution control plan will be prepared and carried out, commensurate with the scope of the action, that includes the following information: (a) The name, phone number, an address of the person responsible for accomplishing the plan; (b) best management practices to confine vegetation and soil disturbance to the minimum area, and minimum length of time, as necessary to complete the action, and otherwise prevent or minimize erosion associated with the action; (c) best management practices to confine, remove, and dispose of construction waste, including every type of debris, discharge water, concrete, cement, grout, washout facility, welding slag, petroleum product, or other hazardous materials generated, used, or stored on-site; (d) procedures to contain and control a spill of any hazardous material generated, used or stored on-site, including notification of proper authorities; and (e) steps to cease work under high flows, except for efforts to avoid or minimize resource damage.
26. Choice of equipment. Heavy equipment will be limited to that with the least adverse effects on the environment (*e.g.*, minimally-sized, rubber-tired).
27. Vehicle staging and use. All vehicles and other heavy equipment will (a) be stored, fueled, and maintained in a vehicle staging area placed 150 feet or more from any stream, waterbody or wetland; (b) inspected daily for fluid leaks before leaving the vehicle

staging area for operation within 50 feet of any stream, waterbody or wetland; (c) steam cleaned before operation below ordinary high water, and often as necessary during operation to remain grease free.

28. Stationary power equipment. Generators, cranes, and any other stationary equipment operated within 150 feet of any stream, waterbody or wetland, will be maintained as necessary to prevent leaks and spills from entering the water.
29. Work from top of bank. To the extent feasible, heavy equipment will work from the top of the bank, unless work from another location would result in less habitat disturbance.
30. Site restoration. Any large wood, native vegetation, topsoil, and native channel material displaced by construction will be stockpiled for use during site restoration. When construction is finished, all streambanks, soils, and vegetation will be cleaned up and restored as necessary to renew ecosystem processes that form and maintain productive fish habitats. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

### **Types of Actions**

#### **Boulder Placement<sup>4</sup>**

31. Site selection. Boulder placement will be limited to stream reaches with the following features: (a) an intact, well-vegetated riparian area, including trees and shrubs where those species would naturally occur, or that are part of riparian area restoration action; and (b) a stream bed that consists predominantly of coarse gravel or larger sediments.
32. Installation. Boulders will be installed as follows: (a) The cross-sectional area of boulders may not exceed 25% of the cross-sectional area of the low flow channel, or be installed to shift the stream flow to a single flow pattern in the middle or to the side of the stream; (b) boulders will be machine-placed (no end dumping allowed); and (c) permanent anchoring, including rebar or cabling, may not be used.

#### **Fish Passage Restoration**

33. Step weir, fish ladder, and culvert replacement approval. The Corps will not issue a permit to install or improve a step weir or fish ladder, or to replace or improve a culvert, until the action has been reviewed and approved by NMFS for consistency with NMFS fish passage criteria (NMFS 2008, or most recent version). Fish passage actions that would not require prior approval must still complete a post-action report.

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<sup>4</sup> For additional information on design and methods for boulder placement, see “boulder clusters” in WDFW *et al.* (2004).

### **Large Wood Restoration<sup>5</sup>**

34. Large wood condition. Stabilizing or key pieces of large wood that will be relied on to provide streambank stability or redirect flows must be intact, hard, and undecayed to partly decaying, and should have untrimmed root wads to provide functional refugia habitat for fish. Use of decayed or fragmented wood found lying on the ground or partially sunken in the ground is not acceptable.

### **Off- and Side-Channel Habitat Restoration<sup>6</sup>**

35. Off- and side-channel habitat approval. The Corps will not issue a permit for off- or side-channel habitat restoration until the action has been reviewed and approved by NMFS.

### **Piling Removal**

36. Pile removal. The following steps will be used to minimize creosote release, sediment disturbance, and total suspended solids: (a) Install a floating surface boom to capture floating surface debris; (b) keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions; (c) dislodge the piling with a vibratory hammer, whenever feasible--never intentionally break a pile by twisting or bending; (d) slowly lift the pile from the sediment and through the water column; (e) place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment (a containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment, and return flow may be directed back to the waterway); (f) fill the holes left by each piling with clean, native sediments; and (g) dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.
37. Broken piles. (a) If a pile breaks above the surface of uncontaminated sediment, or less than 2 feet below the surface, make every attempt short of excavation to remove it entirely. If the pile cannot be removed without excavation, saw the stump off at least 3 feet below the surface of the sediment. (b) If a pile breaks above contaminated sediment, saw the stump off at the sediment line; if a pile breaks within contaminated sediment, make no further effort to remove it and cover the hole with a cap of clean substrate appropriate for the site. (c) If dredging is likely in the area of piling removal, use a global positioning device (GPS) to note the location of all broken piles for future use in site debris characterization.

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<sup>5</sup> For additional information on selection of large wood for restoration actions, see stream slope and width dimensions and minimum large wood piece diameters described in Figure 1 in ODF and ODFW (1995, or the most recent version), and for anchoring and placement, see WDFW and Inter-Fluve (2006).

<sup>6</sup> For additional information on methods and design considerations for off- and side-channel habitat restoration, see "side channel/off-channel habitat restoration" in WDFW *et al.* (2004).

### **Set-back Existing Berm, Dike, and Levee<sup>7</sup>**

38. Set-back existing berm, dike, and levee approval. The Corps will not issue a permit for set-back of existing berms, dikes or levees until the action has been reviewed and approved by NMFS.

### **Spawning Gravel Restoration<sup>8</sup>**

39. Gravel placement. Gravel augmentation is limited to areas where the natural supply has been eliminated or significantly reduced through anthropogenic means.
40. Gravel source. Gravel to be placed in streams must be obtained from an upland source outside of the channel and riparian area (gravel from any instream source is prohibited), sized such that 50% of the gradation becomes mobile at the dominant discharge event, rounded and uncrushed (less than 25% fractured face), and washed before instream placement.

### **Streambank Restoration<sup>9</sup>**

41. Streambank shaping. Without changing the location of the bank toe, restore damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent woody vegetation.
42. Soil reinforcement. Complete all soil reinforcement earthwork and excavation in the dry. Use soil layers or lifts that are strengthened with biodegradable fabrics and penetrable by plant roots.
43. Large Wood. Include large wood in each streambank restoration action to the maximum extent feasible. Large wood must be intact, hard, and undecayed to partly decaying, and should have untrimmed root wads to provide functional refugia habitat for fish. Use of decayed or fragmented wood found lying on the ground or partially sunken in the ground is not acceptable. Wood that is already within the stream or suspended over the stream may be repositioned to allow for greater interaction with the stream.
44. Use of Rock in Streambank Restoration. Rock may not be used for streambank restoration, except as ballast to stabilize large wood.

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<sup>7</sup> For additional information on methods and design considerations for levee removal and modification, see “levee removal and modification” in WDFW *et al.* (2004).

<sup>8</sup> For additional information on gravel restoration methods and design, see “salmonid spawning gravel cleaning and placement” in WDFW *et al.* (2004).

<sup>9</sup> For additional information on methods and design for bank shaping; installation of coir logs and soil reinforcements; anchoring and placement of large wood; woody plantings; and herbaceous cover, see WDFW and Inter-Fluve (2006), and “riparian restoration and management” in WDFW *et al.* (2004).

45. Planting or installing vegetation. Use a diverse assemblage of species native to the action area or region, including trees, shrubs, and herbaceous species. Do not use noxious or invasive species.
46. Fertilizer. Do not apply surface fertilizer within 50 feet of any stream channel.
47. Fencing. Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

### **Water Control Structure Removal**

48. The Corps will not issue a permit for removal of any water control structure (including an earthen embankment, subsurface drainage feature, spillway system, tide gate, and an instream flow redirection structure, such as a drop structure, gabion, groin) that is used to control, discharge, or maintain water levels, until the action has been reviewed and approved by NMFS.

The NMFS relied on the foregoing description of the proposed action, including all proposed design criteria, to complete this consultation. However, unforeseen occurrences or changed circumstances encountered while carrying out the proposed action may require a significant change in the proposed design, construction methods, or other on-the-ground practices. These changes may, in turn, result in effects of the action which exceed the amount or extent of taking specified in the incidental take statement or otherwise affect listed species or designated critical habitat in ways not previously considered. Therefore, the action agency or other cooperating party must keep NMFS informed of any such changes to ensure that conclusions drawn during consultation remain valid.

### **Action Area**

“Action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For this consultation, the overall action area consists of the combined action areas for each action to be authorized or carried out under this Opinion within the range of ESA-listed salmon or steelhead, designated critical habitat, or designated EFH in Oregon. This includes all upland, riparian and aquatic areas affected by site preparation, construction, and site restoration design criteria at each action site. Individual action areas also include riparian areas, banks, and the stream channel in area extending no more than 300 feet upstream and 300 feet downstream from the action footprint, where aquatic habitat conditions will be temporarily degraded until site restoration is complete. All actions authorized by this Opinion will occur within the jurisdiction of the Portland District in Oregon.

The Corps concluded that the proposed action was “likely to adversely affect” Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), Upper Willamette River spring-run (UWR) Chinook salmon, Upper Columbia River (UCR) spring-run Chinook salmon, Snake River (SR) spring/summer run Chinook salmon, SR fall-run Chinook salmon, Columbia River

(CR) chum salmon (*O. keta*), LCR coho salmon (*O. kisutch*), Oregon Coast (OC) coho salmon, Southern Oregon/Northern California (SONCC) coho salmon, SR sockeye salmon (*O. nerka*), LCR steelhead (*O. mykiss*), UWR steelhead, Middle Columbia River (MCR) steelhead, UCR steelhead, Snake River Basin (SRB) steelhead, and southern green sturgeon (Table 2).

**Table 2.** Federal Register notices for final rules that list threatened and endangered species, designate critical habitats, or apply protective regulations to listed species considered in this consultation. Listing status: ‘T’ means listed as threatened under the ESA; ‘E’ means listed as endangered; ‘P’ means proposed for listing or designation.

Species	Listing Status	Critical Habitat	Protective Regulations
<b>Chinook salmon (<i>Oncorhynchus tshawytscha</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River spring-run	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River spring-run	E 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	ESA section 9 applies
Snake River spring/summer run	T 6/28/05; 70 FR 37160	10/25/99; 64 FR 57399	6/28/05; 70 FR 37160
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
<b>Chum salmon (<i>O. keta</i>)</b>			
Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Coho salmon (<i>O. kisutch</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	Not applicable	6/28/05; 70 FR 37160
Oregon Coast	T 2/11/08; 73 FR 7816	2/11/08; 73 FR 7816	2/11/08; 73 FR 7816
Southern Oregon / Northern California Coasts	T 6/28/05; 70 FR 37160	5/5/99; 64 FR 24049	6/28/05; 70 FR 37160
<b>Sockeye salmon (<i>O. nerka</i>)</b>			
Snake River	E 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	ESA section 9 applies
<b>Steelhead (<i>O. mykiss</i>)</b>			
Lower Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Middle Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River	E 1/05/06; 71 FR 834*	9/02/05; 70 FR 52630	ESA section 9 applies
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Green sturgeon (<i>Acipenser medirostris</i>)</b>			
Southern	T 4/07/06; 71 FR 17757	Not applicable	Not applicable

\* UCR steelhead was initially listed as an endangered species (6/18/97; 62 FR 43937), status upgraded to threatened (1/5/06; 71 FR 834), then reinstated as endangered status per a decision in U.S. District Court on June 13, 2007 (Trout Unlimited *et al.* v. Lohn, No. CV06-0483-JCC).

The Opinion also addresses effects to critical habitat designated for LCR Chinook salmon, UWR spring-run Chinook salmon, UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, CR chum salmon, OC coho salmon, SONCC coho salmon, SR sockeye salmon, LCR steelhead, UWR steelhead, MCR steelhead, UCR steelhead and SRB steelhead. Critical habitat has not been proposed or designated for LCR coho salmon, or for southern green sturgeon.

The overall action area is also designated as EFH for Pacific Coast groundfish (PFMC 2005), coastal pelagic species (PFMC 1998), and Pacific Coast salmon (PFMC 1999), or is in an area where environmental effects of the proposed action may adversely affect designated EFH for those species.

## **ENDANGERED SPECIES ACT**

Section 7(a)(2) of the ESA requires Federal agencies to consult with NMFS to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species, or adversely modify or destroy their designated critical habitat. The biological opinion (Opinion) that follows records the results of the interagency consultation for this proposed action. An incidental take statement (ITS) is provided after the Opinion that specifies the impact of any taking of threatened or endangered species that will be incidental to the proposed action, reasonable and prudent measures that NMFS considers necessary and appropriate to minimize such impact, and nondiscretionary terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency and applicant (if any) to carry out the reasonable and prudent measures.

### **Biological Opinion**

To complete the jeopardy analysis presented in this Opinion, NMFS reviews the status of each listed species of Pacific salmon and steelhead<sup>10</sup> considered in this consultation, the environmental baseline in the action area, the effects of the action, and cumulative effects (50 CFR 402.14(g)). From this analysis, NMFS determines whether effects of the action were likely, in view of existing risks, to appreciably reduce the likelihood of both the survival and recovery of the affected listed species.

For the critical habitat adverse modification analysis, NMFS considers the status of the entire designated area of the critical habitat considered in this consultation, the environmental baseline in the action area, the likely effects of the action on the function and conservation role of the affected critical habitat, and cumulative effects. NMFS uses this assessment to determine whether, with implementation of the proposed action, critical habitat would remain functional, or retain the current ability for the primary constituent elements (PCEs) to become functionally established, to serve the intended conservation role for the species.<sup>11</sup>

### **Status of the Species and Critical Habitats**

The summaries that follow describe the status of ESA-listed salmon and steelhead, and their designated critical habitats, that occur within the geographic area of the Corps' regulatory jurisdiction, and that are likely to be adversely affected by a permit the Corps may issue under this Opinion within the next 5 years for a stream restoration or fish passage improvement action. A summary that describes the status of ESA-listed southern green sturgeon is also included.

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<sup>10</sup> An "evolutionarily significant unit" (ESU) of Pacific salmon (Waples 1991), a "distinct population segment" (DPS) of steelhead (71 FR 834; January 5, 2006), and a DPS of sturgeon are all "species" as defined in Section 3 of the ESA.

<sup>11</sup> Memorandum from William T. Hogarth to Regional Administrators, Office of Protected Resources, NMFS (November 7, 2005) (Application of the "Destruction or Adverse Modification" Standard Under Section 7(a)(2) of the Endangered Species Act).



Information presented in these summaries is based on information presented in a large body of scientific publications and reports, and is the basis for the analyses we present in the Effects of the Action section of this Opinion. More detailed information on the status and trends of these listed resources, and their biology and ecology, can be found in the listing regulations and critical habitat designations published in the Federal Register (Table 2) and in many publications available from the NMFS Northwest Region, Protected Resources Division, Portland, Oregon.

The status of species and critical habitat sections below are organized by recovery domains to better integrate recovery planning information that NMFS is developing on the conservation status of the species and critical habitats considered in this consultation. Recovery domains are the geographically-based areas that NMFS is using to prepare multi-species recovery plans. Southern green sturgeon are under the jurisdiction of NMFS' Southwest Region which has not yet convened a recovery team for this species.

The four recovery domains relevant to this consultation and the ESA-listed salmon and steelhead species that reproduce in each domain are shown in Table 3. For this consultation, populations that reproduce in Oregon are also identified as one indication of the importance of the action area to the recovery of these species. However, all populations spawning within the Columbia Basin use the Columbia River mainstem and estuary to complete part of their life history.

**Table 3.** Recovery planning domains identified by NMFS and their ESA-listed salmon and steelhead species.

Recovery Domain	Species
Willamette-Lower Columbia	LCR Chinook salmon
	UWR Chinook salmon
	CR chum salmon
	LCR coho salmon
	LCR steelhead
	UWR steelhead
Interior Columbia	UCR spring-run Chinook salmon
	SR spring/summer Chinook salmon
	SR fall-run Chinook salmon
	SR sockeye salmon
	UCR steelhead
	MCR steelhead
	SRB steelhead
Oregon Coast	OC coho salmon
Southern Oregon Northern California Coasts	SONCC coho salmon

For each recovery domain, a technical review team (TRT) appointed by NMFS has developed, or is developing, criteria necessary to identify independent salmon populations within each species, recommend viability criteria for that species, and analyze factors that limit species survival. The definition of a population used by each TRT is set forth in the “viable salmonid population” (VSP) document prepared by NMFS for use in conservation assessments of Pacific salmon and steelhead (McElhany *et al.* 2000). The boundaries of each population are defined using a

combination of genetic information, geography, life-history traits, morphological traits, and population dynamics that indicate the extent of reproductive isolation among spawning groups.

Understanding population size and spatial extent is critical for the viability analyses, and a necessary step in recovery planning and conservation assessments for any species. If a species consists of multiple populations, the overall viability of that species is a function of the VSP attributes of its constituent populations. Until a viability analysis of a species is completed, the VSP guidelines recommend that all populations should be managed to retain the potential to achieve viable status to ensure a rapid start along the road to recovery, and that no significant parts of the species are lost before the full recovery plan is implemented (McElhany *et al.* 2000).

The status of critical habitat was based primarily on a watershed-level analysis of conservation value that focused on the presence of listed ESA-listed salmon and steelhead and the biological and physical features (*i.e.*, the PCEs) that are essential to their conservation. This analysis for the 2005 designations was completed by Critical Habitat Analytical Review Teams (CHARTs) that focused on large geographical areas corresponding approximately to recovery domains (NOAA Fisheries 2005). Each watershed was ranked using a conservation value attributed to the quantity of stream habitat with PCEs, the present condition of those PCEs, the likelihood of achieving PCE potential (either naturally or through active restoration), support for rare or important genetic or life history characteristics, support for abundant populations, and support for spawning and rearing populations. In some cases, our understanding of these interim conservation values has been further refined by the work of TRTs and other recovery planning efforts that have better explained the habitat attributes, ecological interactions, and population characteristics important to each species.

**Status of the Species.** Natural variations in freshwater and marine environments have substantial effects on the abundance of salmon and steelhead populations. Of the various natural phenomena that affect most populations of salmon and steelhead, changes in ocean productivity are generally considered the most important. Salmon and steelhead are exposed to high rates of natural predation, particularly during freshwater rearing and migration stages. Ocean predation probably contributes to significant natural mortality, although the levels of predation are largely unknown. In general, salmon and steelhead are eaten by pelagic fishes, birds, and marine mammals.

Over the past few decades, the size and distribution of the salmon and steelhead populations considered in this Opinion, like the other salmon and steelhead that NMFS has listed, generally have declined because of natural phenomena and human activity, including the operation of hydropower systems, over-harvest, hatcheries, and habitat degradation. Enlarged populations of terns, seals, and sea lions in the Pacific Northwest have reduced the survival of some Pacific salmon and steelhead populations. It is likely that climate change will play an increasingly important role in determining the abundance of salmon and steelhead by exacerbating long-term problems related to temperature, stream flow, habitat access, predation, and marine productivity (CIG 2004, Scheuerell and Williams 2005, Zabel *et al.* 2006, ISAB 2007).

***Willamette and Lower Columbia (WLC) Recovery Domain.*** Species in the WLC Recovery Domain include LCR Chinook, UWR Chinook, CR chum, LCR coho, LCR steelhead, and UWR steelhead. The WLC-TRT identified 107 demographically independent populations of those species (Table 4), including 47 populations that spawn within Oregon. These populations were further aggregated into strata, groupings above the population level that are connected by some degree of migration, based on ecological subregions. All 107 populations use parts of the mainstem of the Columbia River and the Columbia River estuary that flow through Oregon for migration, rearing, and smoltification.

The WLC-TRT recommended viability criteria that follow the VSP framework and described biological or physical performance conditions that, when met, indicate a population or species has a 5% or less risk of extinction over a 100 year period (McElhany *et al.* 2006, see also, NRC 1995). McElhany *et al.* (2007) applied those criteria to populations in Oregon and found that the combined extinction risk is very high for LCR Chinook, UWR Chinook salmon, CR chum salmon, LCR coho salmon, and moderate for LCR steelhead and UWR steelhead, although the status of those species with populations in Washington is still under assessment.

**Table 4.** Demographically-independent populations in the WLC Recovery Domain and spawning populations in Oregon.

Species	Populations In WLC	Spawning Populations In Oregon
LCR Chinook salmon	32	12
UWR Chinook salmon	7	7
CR chum salmon	17	8
LCR coho salmon	24	9
LCR steelhead	23	6
UWR steelhead	4	5

***LCR Chinook salmon.*** This species includes all naturally-spawned populations of Chinook salmon in the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River; the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River; and progeny of seventeen artificial propagation programs. The WLC-TRT identified 32 historical populations of LCR Chinook salmon – seven in the coastal subregion, six in the Columbia Gorge, and nine in the western Cascades. Twelve of those populations occur within the action area (Table 5) and only Sandy River late fall Chinook is considered “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR Chinook salmon include altered channel morphology, loss of habitat diversity, excessive sediment, high water temperature, reduced access to spawning/rearing habitat, and harvest impacts (NMFS 2006).

***UWR Chinook salmon.*** The species includes all naturally spawned populations of spring-run Chinook salmon in the Clackamas River and in the Willamette River, and its tributaries, above Willamette Falls, Oregon, and progeny of seven artificial propagation

programs. All seven historical populations of UWR Chinook salmon identified by the WLC-TRT occur within the action area and are contained within a single ecological subregion, the western Cascade Range (Table 6); only the Clackamas population is characterized as “viable” (McElhany *et al.* 2007). The major factors limiting recovery of UWR Chinook salmon identified by NMFS include lost/degraded floodplain connectivity and lowland stream habitat, degraded water quality, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).

**Table 5.** LCR Chinook salmon populations spawning in Oregon. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years, “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Coast Range	Fall	Young Bay	Very High
		Big Creek	Very High
		Clatskanie	Relatively High
		Scappoose	Very High
Columbia Gorge	Spring	Hood	Very High
	Early fall (“tule”)	Upper Gorge	Very High
	Fall	Hood	Very High
		Lower Gorge	Very High
West Cascade Range	Spring	Sandy	Moderate
	Early fall (“tule”)	Clackamas	Very High
		Sandy	Very High
	Late fall (“bright”)	Sandy	Low

**Table 6.** UWR Chinook salmon populations. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
West Cascade Range	Spring	Clackamas	Low
		Mollala	Relatively High
		North Santiam	Very high
		South Santiam	Very high
		Calapooia	Very high
		McKenzie	Moderate
		Middle Fork Willamette	Very high

**CR chum salmon.** This species includes all naturally-spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon, and progeny of three artificial propagation programs. The WLC-TRT identified 17 historical populations of CR chum salmon and aggregated these into four strata (Myers *et al.* 2006). Unlike other species in the WLC Recovery Domain, CR chum salmon spawning aggregations were identified in the mainstem Columbia River. These aggregations generally were included in the population associated with the nearest river basin. Three strata and eight historical populations of CR chum salmon occur within the action area (Table 7); of these, none are “viable” (McElhany *et al.* 2007). The major factors limiting recovery of CR chum salmon include altered channel morphology, loss of habitat diversity, excessive sediment, reduced streamflow, harassment of spawners, and harvest impacts (NMFS 2006).

**Table 7.** CR chum salmon populations spawning in Oregon. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Coast Range	Fall	Young’s Bay	Very high
		Big Creek	Very high
		Clatskanie	Very high
		Scappoose	Very high
Columbia Gorge	Fall	Lower Gorge	Very high
		Upper Gorge	Very high
West Cascade Range	Fall	Clackamas	Very high
		Sandy	Very high

**LCR coho salmon.** This species includes all naturally-spawned populations of coho salmon in the Columbia River and its tributaries in Washington and Oregon, from the mouth of the Columbia up to and including the Big White Salmon and Hood Rivers; in the Willamette River to Willamette Falls, Oregon; and progeny of 25 artificial propagation programs. The WLC-TRT identified 24 historical populations of LCR coho salmon and divided these into two strata based on major run timing: early and late (Myers *et al.* 2006). Three strata and nine historical populations of LCR coho salmon occur within the action area (Table 8). Of these nine populations, Clackamas River is the only population characterized as “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR coho salmon include degraded floodplain connectivity and channel structure and complexity, loss of riparian areas and large wood recruitment, degraded stream substrate, loss of stream flow, reduced water quality, and impaired passage (NMFS 2007).

In general, late coho salmon spawn in smaller rivers or the lower reaches of larger rivers from mid-November to January, coincident with the onset of rain-induced freshets in the fall or early winter. Spawning typically takes place within a few days to a few weeks of freshwater entry. Late-run fish also tend to undertake oceanic migrations to the north of the Columbia River, extending as far as northern British Columbia and southeast Alaska. As a result, late coho salmon are known as “Type N” coho. Alternatively, early coho salmon spawn in the upper reaches of larger rivers in the lower Columbia River and in most rivers inland of the Cascade Crest. During their oceanic migration, early coho salmon tend to migrate to the south of the Columbia River and are known as “Type S” coho salmon. They may migrate as far south as the waters off northern California. While the ecological significance of run timing in coho salmon is fairly well understood, it is not clear how important ocean migratory pattern is to overall

diversity and the relative historical abundance of Type N and Type S life histories largely is unknown.

**Table 8.** LCR coho salmon populations spawning in Oregon. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Type		
Coast Range	N	Young’s Bay	Very High
		Big Creek	Very High
		Clatskanie River	Relatively High
		Scappoose River	Relatively High
Columbia Gorge	N and S	Lower Gorge	Very High
		Upper Gorge	NA
		Hood River	Very high
West Cascade Range	S	Clackamas River	Low
		Sandy River	Relatively High

**LCR steelhead.** The species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams and tributaries to the Columbia River between and including the Cowlitz and Wind Rivers, Washington; in the Willamette and Hood Rivers, Oregon; and progeny of ten artificial propagation programs; but excluding all steelhead from the upper Willamette River Basin above Willamette Falls, Oregon, and from the Little and Big White Salmon Rivers, Washington. The WLC-TRT identified 23 historical populations of LCR steelhead (Myers *et al.* 2006). Within these populations, the winter-run timing is more common in the west Cascade subregion, while farther east summer steelhead are found almost exclusively.

Summer steelhead return to freshwater long before spawning. Winter steelhead, in contrast, return from the ocean much closer to maturity and spawn within a few weeks. Summer steelhead spawning areas in the lower Columbia River are found above waterfalls and other features that create seasonal barriers to migration. Where no temporal barriers exist, the winter-run life history dominates. Three strata and six historical populations of LCR steelhead occur within the action area (Table 9). Of the populations in Oregon, only Clackamas is “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR steelhead include altered channel morphology, lost/degraded floodplain connectivity and lowland stream habitat, excessive sediment, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).

**Table 9.** LCR steelhead populations spawning in Oregon. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Population Spawning In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Columbia Gorge	Summer	Hood River	Very High
	Winter	Lower Gorge	Relatively High
		Upper Gorge	Moderate
		Hood River	Moderate
West Cascade Range	Winter	Clackamas	Low
		Sandy	Relatively High

**UWR steelhead.** This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River. The WLC-TRT identified four historical populations of UWR steelhead, all with winter run timing and all within Oregon (Myers *et al.* 2006). Only winter steelhead historically existed in this area, because flow conditions over Willamette Falls allowed only late winter steelhead to ascend the falls, until a fish ladder was constructed in the early 1900s and summer steelhead were introduced. Summer steelhead have become established in the McKenzie River where historically no steelhead existed, although these fish were not considered in the identification of historical populations. UWR steelhead currently are found in many tributaries that drain the west side of the upper Willamette River basin. Analysis of historical observations, hatchery records, and genetic analysis strongly suggested that many of these spawning aggregations are the result of recent introductions and do not represent a historical population. Nevertheless, the WLC-TRT recognized that these tributaries may provide juvenile rearing habitat or may be temporarily (for one or more generations) colonized during periods of high abundance.

One stratum and five historical populations of UWR steelhead occur within the action area (Table 10), although the west-side tributaries population was included only because it is important to the species as a whole, and not because it is independent. Of these five populations, none are “viable” (McElhany *et al.* 2007). The major factors limiting recovery of UWR steelhead include lost/degraded floodplain connectivity and lowland stream habitat, degraded water quality, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).



**Table 10.** UWR steelhead populations. Overall viability risk: “extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Population Spawning In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Type		
West Cascade Range	Winter	Molalla	Moderate
		North Santiam	Moderate
		South Santiam	Moderate
		Calapooia	Moderate
		West-side Tributaries	Moderate

***Interior Columbia (IC) Recovery Domain.*** Species in the IC Recovery Domain include UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, UCR steelhead, MCR steelhead, and SRB steelhead. The IC-TRT identified 82 demographically-independent populations of those species based on genetic, geographic (hydrographic), and habitat characteristics (Table 11). In some cases, the IC-TRT further aggregated populations into “major groupings” based on dispersal distance and rate, and drainage structure, primarily the location and distribution of large tributaries (IC-TRT 2003). Of the 82 populations identified, 24 have all or part of their spawning range in Oregon, and all 82 use the lower mainstem of the Snake River, the mainstem of the Columbia River, and the Columbia River estuary, or part thereof, in Oregon for migration, rearing, and smoltification.

**Table 11.** Demographically-independent populations in the IC Recovery Domain and spawning populations in Oregon.

Species	Populations In IC	Spawning Populations In Oregon
UCR spring-run Chinook salmon	3	0
SR spring/summer Chinook salmon	31	7
SR fall-run Chinook salmon	1	1
SR sockeye salmon	1	0
UCR steelhead	4	0
MCR steelhead	17	10
SRB steelhead	25	6

The IC-TRT also recommended viability criteria that follow the VSP framework (McElhany *et al.* 2006) and described biological or physical performance conditions that, when met, indicate a population or species has a 5% or less risk of extinction over a 100-year period (IC-TRT 2007, see also, NRC 1995). As of this writing, the IC-TRT has applied the viability criteria to 68

populations, although it has only completed a draft assessment for 55 populations (see IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). Of those assessments, the only population that the TRT found to be viable was the North Fork John Day population of MCR steelhead. The strength of this population is due to a combination of high abundance and productivity, and good spatial structure and diversity, although the genetic effects of the large number of out-of-species strays and of natural spawners that are hatchery strays are still significant long-term concerns.

***UCR spring-run Chinook salmon.*** This species includes all naturally-spawned populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington (excluding the Okanogan River), the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington, as well as progeny of six artificial propagation programs. The IC-TRT identified four independent populations of UCR spring-run Chinook salmon in the upriver tributaries of Wenatchee, Entiat, Methow, and Okanogan (extirpated), but no major groups due to the relatively small geographic area affected (IC-TRT 2003, McLure *et al.* 2005). Although none of these populations spawn in Oregon, they all use the Columbia River mainstem and estuary so all adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT considered that this species, as a whole, is at high risk of extinction because all extant populations are at high risk (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors limiting recovery of UWR spring-run Chinook salmon include altered channel morphology and flood plain, riparian degradation and loss of in-river large wood, reduced streamflow, impaired passage, hydropower system mortality, and harvest impacts (NMFS 2006).

***SR spring/summer run Chinook salmon.*** This species includes all naturally-spawned populations of spring/summer run Chinook salmon in the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River subbasins; and progeny of fifteen artificial propagation programs. The IC-TRT identified 31 historical populations of SR spring/summer run Chinook salmon, and aggregated these into major population groups (IC-TRT 2003, McLure *et al.* 2005). This species includes those fish that spawn in the Snake River drainage and its major tributaries, including the Grande Ronde River and the Salmon River, and that complete their adult, upstream migration past Bonneville Dam between March and July. Of the 31 historical populations of SR spring/summer run Chinook salmon identified by the IC-TRT, seven occur entirely or partly within Oregon (Table 12). Each of these populations are part of the Grande Ronde and Imnaha River major group, and all face a high risk of extinction (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon).

The major factors limiting recovery of SR spring/summer run Chinook salmon include altered channel morphology and flood plain, excessive sediment, degraded water quality, reduced streamflow, and hydropower system mortality (NMFS 2006).

**Table 12.** SR spring/summer run Chinook salmon populations in Oregon. Overall viability risk: “high” means greater than 25% risk of extinction in 100 years; “moderate” means 5 to 25% risk of extinction with 100 years; “low” means 1 to 5% risk of extinction in 100 years; and “very low” means less than 1% risk of extinction in 100 years.

Major Group	Spawning Populations In Oregon (Watershed)	Viability Assessment		
		Abundance Productivity Risk	Spatial Diversity Risk	Overall Viability Risk
Grande Ronde And Imnaha Rivers	Wenaha River	High	Moderate	High
	Wallowa-Lostine River	High	Moderate	High
	Minam River	High	Moderate	High
	Catherine Creek	High	Moderate	High
	Upper Grande Ronde	High	High	High
	Imnaha River mainstem	High	Moderate	High
	Big Sheep Creek	High	Moderate	High

***SR fall-run Chinook salmon.*** This species includes all naturally-spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River, and progeny of four artificial propagation programs. The IC-TRT identified three populations of this species, although only the lower mainstem population exists at present, and it spawns in the lower main stem of the Clearwater, Imnaha, Grande Ronde, Salmon and Tucannon Rivers (IC-TRT 2003, McLure *et al.* 2005). Unlike the other listed Chinook species in this recovery domain, most SR fall-run Chinook have a subyearling, ocean-type life history in which juveniles outmigrate the next summer, rather than rearing in freshwater for 13 to 14 months before outmigration. Adults return to the Snake River basin in September and October and spawn shortly thereafter. The lower mainstem population spawns in the Columbia River mainstem, in part adjacent to Oregon. All adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT has not completed a viability assessment of this species. The major factors limiting recovery of SR fall-run Chinook salmon include reduced spawning/rearing habitat, degraded water quality, hydropower system mortality, and harvest impacts (NMFS 2006).

***SR sockeye salmon.*** This species includes all anadromous and residual sockeye salmon from the Snake River basin, Idaho, and artificially-propagated sockeye salmon from the Redfish Lake captive propagation program. The IC-TRT identified historical sockeye production in at least five Stanley Basin lakes and in lake systems associated with Snake River tributaries currently cut off to anadromous access (*e.g.*, Wallowa and Payette Lakes), although current returns of SR sockeye are extremely low and limited to Redfish Lake (IC-TRT 2007). SR sockeye salmon do not spawn in Oregon, but all adult and juvenile individuals of this species must pass through part of the action area. The major factors limiting recovery of SR sockeye

salmon include altered channel morphology and flood plain, reduced streamflow, impaired passage, and hydropower system mortality (NMFS 2006).

***MCR steelhead.*** This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington, excluding steelhead from the Snake River basin; and progeny of seven artificial propagation programs. The IC-TRT identified 20 historical populations of MCR steelhead in major groups (IC-TRT 2003, Mc Lure *et al.* 2005). Ten populations of MCR steelhead occur in Oregon, divided among three major groups (Table 13). Of the 20 historical populations of MCR steelhead identified by the IC-TRT, only the North Fork John Day population currently meets viability criteria, and none of the major groups or the species are considered viable (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors limiting recovery of MCR steelhead include altered channel morphology and flood plain, excessive sediment, degraded water quality, reduced streamflow, impaired passage, and hydropower system mortality (NMFS 2006).

**Table 13.** MCR steelhead populations in Oregon. The Walla Walla population also occurs partly in Washington.

Major Group	Population (Watershed)
Cascade East Slope Tributaries	Fifteenmile Creek
	Deschutes Eastside Tributaries
	Deschutes Westside Tributaries
John Day River	Lower Mainstem John Day River
	North Fork John Day River
	Middle Fork John Day River
	South Fork John Day River
	Upper Mainstem John Day River
Walla Walla and Umatilla Rivers	Umatilla River
	Walla Walla River

***UCR steelhead.*** This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the U.S.-Canada border, and progeny of six artificial propagation programs. Four independent populations of UCR steelhead were identified by the IC-TRT in the same upriver tributaries as for the previous species (*i.e.*, Wenatchee, Entiat, Methow, and Okanogan) and, similarly, no major population groupings were identified due to the relatively small geographic area involved (IC-TRT 2003, McLure *et al.* 2005). None of these populations spawn in Oregon, although all adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT has not completed a viability assessment of this species, although all extant populations are considered to be at high risk of extinction (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors

limiting recovery of UCR steelhead include altered channel morphology and flood plain, riparian degradation and loss of in-river large wood, excessive sediment, degraded water quality, reduced streamflow, hydropower system mortality, harvest impacts, and hatchery impacts (NMFS 2006).

**SRB steelhead.** This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams in the Snake River Basin of southeast Washington, northeast Oregon, and Idaho, and progeny of six artificial propagation programs. These fish are genetically differentiated from other interior Columbia steelhead populations and spawn at higher altitudes (up to 6,500 feet) after longer migrations (more than 900 miles). The IC-TRT identified 24 populations in five major groups (IC-TRT 2003, Mc Lure *et al.* 2005). Of those, six populations divided among three major groups spawn in Oregon (Table 14). The IC-TRT has not completed a viability assessment of this species. The major factors limiting recovery of SRB steelhead include altered channel morphology and flood plain, excessive sediment, degraded water quality, reduced streamflow, hydropower system mortality, harvest impacts, and hatchery impacts (NMFS 2006).

**Table 14.** SRB steelhead populations in Oregon.

Major Group	Population (Watershed)
Grande Ronde	Lower Grande Ronde
	Joseph Creek
	Wallowa River
	Upper Grande Ronde
Imnaha River	Imnaha River
Hells Canyon Tributaries	Hells Canyon Tributaries

**Oregon Coast (OC) Salmon Recovery Domain.** The OC recovery domain includes one species, the OC coho salmon, and covers Oregon coastal streams south of the Columbia River and north of Cape Blanco. Streams and rivers in this area drain west into the Pacific Ocean, and vary in length from less than a mile to more than 210 miles in length. All, with the exception of the largest, the Umpqua River, drain from the crest of the Coast Range. The Umpqua transects the Coast Range and drains from the Cascade Mountains. The OC recovery domain covers cities along the coast and inland, including Tillamook, Lincoln City, Newport, Florence, Coos Bay and Roseburg, and has substantial amounts of private forest and agricultural lands. It also includes portions of the Siuslaw and Umpqua National Forests, lands managed by the U.S. Bureau of Land Management, and the Tillamook and Elliott State Forests.

**OC coho salmon.** This species includes all naturally-spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco, and progeny of five artificial propagation programs. The OC-TRT identified 56 historical populations, grouped into five major “biogeographic strata,” based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Table 15) (Lawson *et al.* 2007). The OC-TRT concluded that, if recent past conditions continue into the future, OC coho

salmon are moderately likely to persist over a 100-year period without artificial support, and have a low to moderate likelihood of being able to sustain their genetic legacy and long-term adaptive potential for the foreseeable future (Wainwright *et al.* 2007). The major factors limiting recovery of OC coho salmon include altered stream morphology, reduced habitat complexity, loss of overwintering habitat, excessive sediment, high water temperature, and variation in ocean conditions (NMFS 2006).

**Table 15.** OC coho salmon populations in Oregon. Population type “D” means dependent; “FI” means functionally independent; and “PI” means potentially independent.

Stratum	Population	Type	Stratum	Population	Type
North Coast	Necanicum	PI	Mid-Coast (cont.)	Alsea	FI
	Ecola	D		Big (Alsea)	D
	Arch Cape	D		Vingie	D
	Short Sands	D		Yachats	D
	Nehalem	FI		Cummins	D
	Spring	D		Bob	D
	Watseco	D		Tenmile	D
	Tillamook	FI		Rock	D
	Netarts	D		Big (Siuslaw)	D
	Rover	D		China	D
	Sand	D		Cape	D
	Nestucca	FI		Berry	D
	Neskowin	D		Sutton	D
Mid-Coast	Salmon	PI	Lakes	Siuslaw	FI
	Devils	D		Siltcoos	PI
	Siletz	FI		Tahkenitch	PI
	Schoolhouse	D		Tenmile	PI
	Fogarty	D	Umpqua	Lower Umpqua	FI
	Depoe	D		Middle Umpqua	FI
	Rocky	D		North Umpqua	FI
	Spencer	D		South Umpqua	FI
	Wade	D	Mid-South Coast	Threemile	D
	Coal	D		Coos	FI
	Moolack	D		Coquille	FI
	Big (Yaquina)	D		Johnson	D
	Yaquina	FI		Twomile	D
	Theil	D		Floras	PI
	Beaver	PI		Sixes	PI

***Southern Oregon and Northern California Coasts (SONCC) Recovery Domain.*** The SONCC recovery domain includes one ESA-listed species: the SONCC coho salmon. The SONCC recovery domain extends from Cape Blanco, Oregon, to Punta Gorda, California. This area includes many small-to-moderate-sized coastal basins, where high quality habitat occurs in the lower reaches of each basin, and three large basins (Rogue, Klamath and Eel) where high quality habitat is in the lower reaches, little habitat is provided by the middle reaches, and the largest amount of habitat is in the upper reaches of the subbasins.

**SONCC coho salmon.** This species includes all naturally-spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California; and progeny of three artificial propagation programs. The SONCC-TRT identified 50 populations that were historically present based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Williams *et al.* 2006). In some cases, the SONCC-TRT also identified groups of populations referred to as “diversity strata” largely based on the geographical arrangement of the populations and basin-scale environmental and ecological characteristics. Of those populations, 13 strata and 17 populations occur within the action area (Table 16). The SONCC-TRT has not yet developed viability criteria for use in setting recovery goals. The major factors limiting recovery of SONCC coho salmon include loss of channel complexity, loss of estuarine and floodplain habitat, loss of riparian habitat, loss of in-river wood, excessive sediment, degraded water quality, high water temperature, reduced streamflow, unscreened water diversions, and structures blocking fish passage (NMFS 2006).

**Table 16.** SONCC coho salmon populations in Oregon. Populations that also occur partly in California are marked with an asterisk. Population type “D” means dependent; “E” means ephemeral; “FI” means functionally independent; and “PI” means potentially independent.

Population		Population Type
River Basin	Subbasin	
Elk River		FI
Mill Creek		D
Hubbard Creek		E
Brush Creek		D
Mussel Creek		D
Euchre Creek		E
Rogue River *	Lower Rogue River	PI
	Illinois River*	FI
	Mid Rogue/Applegate*	FI
	Upper Rogue River	FI
Hunter Creek		D
Pistol River		D
Chetco River		FI
Winchuck River		PI
Smith River *		FI
Klamath River *	Middle Klamath River	PI
	Upper Klamath River	FI

**Southern green sturgeon.** The southern green sturgeon was recently listed as threatened under the ESA (Table 2). This species includes all naturally-spawned populations of green sturgeon that occur south of the Eel River in Humboldt County, California. The principal factor for the decline of southern green sturgeon is the reduction of its spawning area to a single known population limited to a small portion of the Sacramento River. Unless spawning, green sturgeon are broadly distributed in nearshore marine areas from Mexico to the Bering Sea and are commonly observed in bays, estuaries, and sometimes the deep riverine mainstem in lower

elevation reaches of non-natal rivers along the west coast of North America. The principal threat to southern green sturgeon is the reduction of available spawning habitats due to the construction of barriers along the Sacramento and Feather Rivers. Other threats are insufficient flow rates, increased water temperatures, water diversion, nonnative species, poaching, pesticide and heavy metal contamination, and local fishing. The viability of this species is still under assessment.

**Status of the Critical Habitats.** The NMFS designated critical habitat for all species considered in this opinion, except LCR coho salmon and southern green sturgeon, for which critical habitat has not been proposed or designated (Table 2). To assist in the designation of critical habitat in 2005, NMFS convened Critical Habitat Analytical Review Teams, or “CHARTs,” organized by major geographic areas that roughly correspond to salmon recovery planning domain (NOAA Fisheries 2005). Each CHART consisted of Federal biologists and habitat specialists from NMFS, the Fish and Wildlife Service, the Forest Service, and the Bureau of Land Management, with demonstrated expertise regarding salmon and steelhead habitat and related protective efforts within that domain.

Each CHART assessed biological information pertaining to areas under consideration for designation as critical habitat to identify the areas occupied by listed salmon and steelhead, determine whether those areas contained PCEs essential for the conservation of those species, and whether unoccupied areas existed within the historical range of the listed salmon and steelhead that may also be essential for conservation. The CHART then scored each habitat area based on the quantity and quality of the physical and biological features; rated each habitat area as having a “high,” “medium,” or “low” conservation value; and identified management actions that could affect habitat for salmon and steelhead. CHART reports are available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon.

The ESA gives the Secretary of Commerce discretion to exclude areas from designation if he determines that the benefits of exclusion outweigh the benefits of designation. Considering economic factors and information from CHARTs, NMFS partially or completely excluded the following types of areas from the 2005 critical habitat designations:

1. **Military areas.** All military areas were excluded because of the current national priority on military readiness, and in recognition of conservation activities covered by military integrated natural resource management plans.
2. **Tribal lands.** Native American lands were excluded because of the unique trust relationship between tribes and the federal government, the federal emphasis on respect for tribal sovereignty and self governance, and the importance of tribal participation in numerous activities aimed at conserving salmon.
3. **Areas With Habitat Conservation Plans.** Some lands covered by habitat conservation plans were excluded because NMFS had evidence that exclusion would benefit our relationship with the landowner, the protections secured through these plans outweigh the protections that are likely through critical habitat designation, and exclusion of these



lands may provide an incentive for other landowners to seek similar voluntary conservation plans.

4. Areas With Economic Impacts. Areas where the conservation benefit to the species would be relatively low compared to the economic impacts.

In designating these critical habitats, NMFS organized information at scale of the watershed or 5<sup>th</sup> field HUC because it corresponds to the spatial distribution and site fidelity of salmon and steelhead populations (WDF *et al.* 1992, McElhany *et al.* 2000). For earlier critical habitat designations for Snake River salmon and SONCC coho salmon, similar information was not available at the watershed scale, so NMFS used the scale of the subbasin or 4<sup>th</sup> field HUC to organize critical habitat information.

The NMFS reviews the status of designated critical habitat affected by the proposed action by examining the condition and trends of primary constituent elements (PCEs) throughout the designated area. PCEs consist of the physical and biological features identified as essential to the conservation of the listed species in the documents that designate critical habitat (Tables 17 and 18).

**Table 17.** PCEs of critical habitats designated for ESA-listed salmon and steelhead species considered in the Opinion (except SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, and SR sockeye salmon), and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site Type	Site Attribute	
Freshwater spawning	Substrate Water quality Water quantity	Adult spawning Embryo incubation Alevin development
Freshwater rearing	Floodplain connectivity Forage Natural cover Water quality Water quantity	Fry emergence Fry/parr growth and development
Freshwater migration	Free of artificial obstructions Natural cover Water quality Water quantity	Adult sexual maturation Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration
Estuarine areas	Forage Free of obstruction Natural cover Salinity Water quality Water quantity	Adult sexual maturation Adult “reverse smoltification” Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration Fry/parr smoltification Smolt growth and development Smolt seaward migration
Nearshore marine areas	Forage Free of obstruction Natural cover Water quantity Water quality	Adult sexual maturation Smolt/adult transition
Offshore marine areas	Forage Water quality	Adult growth and development

**Table 18.** PCEs of critical habitats designated for SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, SONCC coho salmon, and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site	Site Attribute	
Spawning and juvenile rearing areas	Access (sockeye) Cover/shelter Food (juvenile rearing) Riparian vegetation Space (Chinook and coho) Spawning gravel Water quality Water temperature (sockeye) Water quantity	Adult spawning Embryo incubation Alevin development Fry emergence Fry/parr growth and development Fry/parr smoltification Smolt growth and development
Juvenile migration corridors	Cover/shelter Food Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Fry/parr seaward migration Smolt growth and development Smolt seaward migration
Areas for growth and development to adulthood	Ocean areas – not identified	Adult growth and development Adult sexual maturation Fry/parr smoltification Smolt/adult transition
Adult migration corridors	Cover/shelter Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Adult sexual maturation Adult “reverse smoltification” Adult upstream migration Kelt (steelhead) seaward migration

***Willamette and Lower Columbia River Recovery Domain.*** Critical habitat was designated in the WLC Recovery Domain for UWR spring-run Chinook salmon, LCR Chinook salmon, LCR steelhead, UWR steelhead, and CR chum salmon. In addition to the Willamette and Columbia River mainstems, important tributaries on the Oregon side of the WLC include Youngs Bay, Big Creek, Clatskanie River, and Scappoose River in the Oregon Coast subbasin; Hood River in the Gorge; and the Sandy, Clackamas, Mollala, North and South Santiam, Calapooia, McKenzie, and Middle Fork Willamette Rivers in the West Cascades subbasin.

The Willamette River, once a highly braided river system, has been dramatically simplified through channelization, dredging, and other activities that have reduced rearing habitat by as much as 75%. In addition, the construction of 37 dams in the basin blocked access to more than 435 miles of stream and river spawning habitat. The dams alter the temperature regime of the Willamette River and its tributaries, affecting the timing and development of naturally-spawned eggs and fry. Agriculture, urbanization, and gravel mining on the valley floor and timber harvesting in the Cascade and Coast Ranges contribute to increased erosion and sediment loads throughout the basin.

The mainstem Willamette River has been channelized and stripped of large wood. Development began to encroach on the riparian forest beginning in the 1870s (Sedell and Froggatt 1984). Gregory *et al.* (2002a) calculated that the total mainstem Willamette River channel area decreased from 41,000 to 23,000 acres between 1895 and 1995. They noted that the lower reach, from the mouth of the river to Newberg (RM 50), is confined within a basaltic trench, and that due to this geomorphic constraint, less channel area has been lost than in upstream areas. The middle reach from Newberg to Albany (RM 50 to RM 120) incurred losses of 12% primary channel area, 16% side channels, 33% alcoves, and 9% islands. Even greater changes occurred in the upper reach, from Albany to Eugene (RM 187). There, approximately 40% of both channel length and channel area were lost, along with 21% of the primary channel, 41% of side channels, 74% of alcoves, and 80% of island areas.

The banks of the Willamette River have more than 96 miles of revetments; approximately half were constructed by the U.S. Army Corps of Engineers. Generally, the revetments were placed in the vicinity of roads or on the outside bank of river bends, so that while only 26% of the total length is revetted, 65% of the meander bends are revetted (Gregory *et al.* 2002c). The majority of dynamic sections have been armored, reducing adjustments in channel bed and sediment storage by the river, and thereby diminishing both the complexity and productivity of aquatic habitats (Gregory *et al.* 2002b).

Riparian forests have diminished considerably in the lower reaches of the Willamette River (Gregory *et al.* 2002d). Sedell and Froggatt (1984) noted that agriculture and cutting of streamside trees were major agents of change for riparian vegetation, along with snagging of large wood in the channel. The reduced shoreline, fewer and smaller snags, and reduced riparian forest comprise large functional losses to the river, reducing structural features, organic inputs from litter fall, entrained allochthonous materials, and flood flow filtering capacity. Extensive changes began before the major dams were built, with navigational and agricultural demands dominating the early use of the river. The once expansive forests of the Willamette River floodplain provided valuable nutrients and organic matter during flood pulses, food sources for macroinvertebrates, and slow-water refugia for fish during flood events. These forests also cooled river temperatures as the river flowed through its many channels.

Gregory *et al.* (2002d) described the changes in riparian vegetation in river reaches from the mouth to Newberg, from Newberg to Albany, and from Albany to Eugene. They noted that the riparian forests were formerly a mosaic of brush, marsh, and ash tree openings maintained by annual flood inundation. Below the City of Newberg, the most noticeable change was that

conifers were almost eliminated. Above Newberg, the formerly hardwood-dominated riparian forests along with mixed forest made up less than half of the riparian vegetation by 1990, while agriculture dominated. This conversion represents a loss of recruitment potential for large wood, which functions as a component of channel complexity, much as the morphology of the streambed does, to reduce velocity and provide habitat for macroinvertebrates that support the prey base for salmon and steelhead. Declining extent and quality of riparian forests have also reduced rearing and refugia habitat provided by large wood, shading by riparian vegetation which can cool water temperatures, and the availability of leaf litter and the macroinvertebrates that feed on it.

Hyporheic flow in the Willamette River has been examined through discharge measurements and was found to be significant in some areas, particularly those with gravel deposits (Fernald *et al.* 2001). The loss of channel complexity and meandering that fosters creations of gravel deposits decreases the potential for hyporheic flows, as does gravel mining. Hyporheic flow processes water and affects its quality on reemerging into the main channel, stabilizing variations in physical and chemical water characteristics. Hyporheic exchange was found to be significant in the National Water-Quality Assessment of the Willamette Basin (Wentz *et al.* 1998). In the transient storage zone, hyporheic flow is important for ecological functions, some aspects of water quality (such as temperature and dissolved oxygen), and some benthic invertebrate life stages. Alcove habitat, limited by channelization, combines low hydraulic stress and high food availability with the potential for hyporheic flows across the steep hydraulic gradients in the gravel separating them from the main channel (Fernald *et al.* 2001).

On the mainstem of the Columbia River, hydropower projects, including the Federal Columbia River Hydropower System (FCRPS), have significantly degraded salmon and steelhead habitats (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). The series of dams and reservoirs that make up the FCRPS block an estimated 12 million cubic yards of debris and sediment that would otherwise naturally flow down the Columbia and replenish shorelines along the Washington and Oregon coasts.

Industrial harbor and port development are also significant influences on the lower Willamette and lower Columbia Rivers (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Since 1878, 100 miles of river channel within the mainstem Columbia River, its estuary, and Oregon's Willamette River have been dredged as a navigation channel by the Army Corps of Engineers. Originally dredged to a 20-foot minimum depth, the Federal navigation channel of the Lower Columbia River is now maintained at a depth of 43 feet and a width of 600 feet. The lower Columbia River supports five ports on the Washington State side: Kalama, Longview, Skamania County, Woodland, and Vancouver. These ports primarily focus on the transport of timber and agricultural commodities. In addition to loss of riparian habitat, and disruption of benthic habitat due to dredging, high levels of several sediment chemicals, such as arsenic and polycyclic aromatic hydrocarbons (PAHs), have been identified in Lower Columbia River watersheds in the vicinity of the ports and associated industrial activities.

The most extensive urban development in the lower Columbia River subbasin occurs in the Portland/Vancouver area. Outside of this major urban area, the majority of residences and

businesses rely on septic systems. Common water quality issues with urban development and residential septic systems include higher water temperatures, lowered dissolved oxygen, increased fecal coliform bacteria, and increased chemicals associated with pesticides and urban runoff.

The Columbia River estuary has lost a significant amount of tidal marsh and tidal swamp habitat that are critical to juvenile salmon and steelhead, particularly small or ocean-type species (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Edges of marsh areas provide sheltered habitats for juvenile salmon and steelhead where food, in the form of amphipods or other small invertebrates which feed on marsh detritus, is plentiful, and larger predatory fish can be avoided. Historically, floodwaters of the Columbia River inundated the margins and floodplains along the estuary, allowing juvenile salmon and steelhead access to a wide expanse of low-velocity marshland and tidal channel habitats. In general, the riverbanks were gently sloping, with riparian and wetland vegetation at the higher elevations of the river floodplain becoming habitat for salmon and steelhead during flooding river discharges or flood tides. Sherwood *et al.* (1990) estimated that the Columbia River estuary lost 20,000 acres of tidal swamps, 10,000 acres of tidal marshes, and 3,000 acres of tidal flats between 1870 and 1970. This study further estimated an 80% reduction in emergent vegetation production and a 15% decline in benthic algal production.

Habitat and food-web changes within the estuary, and other factors affecting salmon population structure and life histories, have altered the estuary's capacity to support juvenile salmon (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Diking and filling activities that decrease the tidal prism and eliminate emergent and forested wetlands and floodplain habitats have likely reduced the estuary's salmon-rearing capacity. Moreover, water and sediment in the lower Columbia River and its tributaries have levels of toxic contaminants that are harmful to fish and wildlife (LCREP 2007). Contaminants of concern include dioxins and furans, heavy metals, polychlorinated biphenyls (PCBs) and organochlorine pesticides such as DDT. Simplification of the population structure and life-history diversity of salmon possibly is yet another important factor affecting juvenile salmon viability. Restoration of estuarine habitats, particularly diked emergent and forested wetlands, reduction of avian predation by terns, and flow manipulations to restore historical flow patterns might significantly enhance the estuary's productive capacity for salmon, although historical changes in population structure and salmon life histories may prevent salmon from making full use of the productive capacity of estuarine habitats, even in their presently altered state.

***Interior Columbia Recovery Domain.*** Critical habitat has been designated in the IC Recovery Domain, which includes the Snake River Basin, for SR spring/summer Chinook salmon, SR fall-run Chinook salmon, UCR spring-run Chinook salmon, SR sockeye salmon, MCR steelhead, UCR steelhead, and SRB steelhead. Major tributaries in the Oregon portion of the IC Recovery Domain include the Deschutes, John Day, Umatilla, Walla Walla, Grande Ronde, and Imnaha Rivers.

Habitat quality in tributary streams in the IC Recovery Domain varies from excellent in wilderness and roadless areas to poor in areas subject to heavy agricultural and urban

development (Wissmar *et al.* 1994, Carmichael 2006). Critical habitat throughout the IC recovery domain has been degraded by intense agriculture, alteration of stream morphology (*i.e.*, channel modifications and diking), riparian vegetation disturbance, wetland draining and conversion, livestock grazing, dredging, road construction and maintenance, timber harvest, mining, and urbanization. Reduced summer stream flows, impaired water quality, and reduction of habitat complexity are common problems for critical habitat in developed areas.

Migratory habitat quality in this area has been severely affected by the development and operation of the FCRPS dams and reservoirs in the mainstem Columbia River, Bureau of Reclamation tributary projects, and privately owned dams in the Snake and Upper Columbia River basins. For example, construction of Hells Canyon Dam eliminated access to several likely production areas in Oregon and Idaho including the Burnt, Powder, Weiser, Payette, Malheur, Owyhee, and Boise river basins (Good *et al.* 2005), and Grande Coulee and Chief Joseph Dams completely block anadromous fish passage on the upper mainstem Columbia River. Hydroelectric development modified natural flow regimes, resulting in higher water temperatures, changes in fish community structure leading to increased rates of piscivorous and avian predation on juvenile salmon and steelhead, and delayed migration for both adult and juveniles. Physical features of dams such as turbines also kill migrating fish. In-river survival is inversely related to the number of hydropower projects encountered by emigrating juveniles.

Similarly, development and operation of extensive irrigation systems and dams for water withdrawal and storage in tributaries have drastically altered hydrological cycles. A series of large regulating dams on the middle and upper Deschutes River affect flow and block access to upstream habitat, and have extirpated one or more populations from the Cascades Eastern Slope major population (IC-TRT 2003). Pelton Round Butte Dam blocked 32 miles of MCR steelhead habitat in the mainstem Deschutes below Big Falls and removed the historically-important tributaries of the Metolius River and Squaw Creek from production. Similarly, Condit Dam on the White Salmon River extirpated another population from the Cascades Eastern Slope major group. In the Umatilla subbasin, the Bureau of Reclamation developed the Umatilla Project beginning in 1906. The project blocked access to more than 108 miles of historically highly productive tributary habitat for MCR steelhead in upper McKay Creek with construction of the McKay Dam and Reservoir in 1927. A flood control and irrigation dam on Willow Creek was built near RM 5, completely blocking MCR steelhead access to productive habitat upstream in this subbasin. Construction of Lewiston Dam, completed in 1927, eliminated access for Snake River basin steelhead and salmon to a major portion of the Clearwater basin. Continued operation and maintenance of large water reclamation systems such as the Umatilla Basin and Yakima Projects have significantly reduced flows and degraded water quality and physical habitat in these rivers.

Many stream reaches designated as critical habitat in the IC Recovery Domain are over-allocated under state water law, with more allocated water rights than existing streamflow conditions can support. Irrigated agriculture is common throughout this region and withdrawal of water increases summer stream temperatures, blocks fish migration, strands fish, and alters sediment transport (Spence *et al.* 1996). Reduced tributary stream flow has been identified as a major

limiting factor for all listed salmon and steelhead species in this area except SR fall-run Chinook salmon (NMFS 2005).

Summer stream temperature is the primary water quality problem, with many stream reaches designated as critical habitat listed on the Clean Water Act's section 303(d) list for water temperature. Many areas that were historically suitable rearing and spawning habitat are now unsuitable due to high summer stream temperatures. Removal of riparian vegetation, alteration of natural stream morphology, and withdrawal of water for agricultural or municipal use all contribute to elevated stream temperatures. Contaminants such as insecticides and herbicides from agricultural runoff and heavy metals from mine waste are common in some areas of critical habitat.

***Oregon Coast (OC) Coho Salmon Recovery Domain.*** In this recovery domain, critical habitat has been designated for OC coho salmon. Many large and small rivers supporting significant populations of coho salmon flow through this domain, including the Nehalem, Nestucca, Siletz, Yaquina, Alsea, Siuslaw, Umpqua, Coos, and Coquille.

The historical disturbance regime in the central Oregon Coast Range was dominated by a mixture of high and low-severity fires, with a natural rotation of approximately 271 years. Old-growth forest coverage in the Oregon Coast Range varied from 25-75% during the past 3000 years, with a mean of 47%, and never fell below 5% (Wimberly *et al.* 2000). Currently the Coast Range has approximately 5% old-growth, almost all of it on Federal lands. The dominant disturbance now is timber harvesting on a cycle of 30-100 years, with fires suppressed.

The State of Oregon (2005) completed an assessment of habitat conditions in the range of OC coho in 2005. Oregon's assessment mapped how streams with high intrinsic potential (HIP) for coho salmon rearing are distributed by land ownership categories. Agricultural lands and private industrial forests have by far the highest percentage of land ownership in high HIP areas and along all coho stream miles. Federal lands have only about 20% of coho stream miles and 10% of HIP stream reaches. Because of this distribution, activities in lowland agricultural areas are particularly important to the conservation of Oregon coastal coho.

The coho assessment concluded that at the scale of the entire domain, pools are generally abundant, although slow-water and off-channel habitat (which are important refugia for coho during high winter flows) are limited in the majority of streams when compared to reference streams in minimally-disturbed areas. Amounts of large wood in streams are low in all four ODFW monitoring areas and land-use types relative to reference conditions. Amounts of fine sediment are high in three of the four monitoring areas, and were comparable to reference conditions only on public lands. Approximately 62-91% of tidal wetland acres (depending on estimation procedures) have been lost for functionally and potentially independent populations of coho.

As part of the coastal coho assessment, the Oregon Department of Environmental Quality (ODEQ) analyzed the status and trends of water quality in the range of OC coho using the Oregon water quality index, which is based on a combination of temperature, dissolved oxygen,



biological oxygen demand, pH, total solids, nitrogen, total phosphates, and bacteria. Using the index at the species scale, 42% of monitored sites had excellent to good water quality, and 29% show poor to very poor water quality. Within the four monitoring areas, the North Coast had the best overall conditions (6 sites in excellent or good condition out of 9 sites), and the Mid-South coast had the poorest conditions (no excellent condition sites, and only 2 out of 8 sites in good condition). For the 10-year period monitored between 1992 and 2002, no sites showed a declining trend in water quality. The area with the most improving trends was the North Coast, where 66% of the sites (six out of nine) had a significant improvement in index scores. The Umpqua River basin, with one out of 9 sites (11%) showing an improving trend, had the lowest number of improving sites.

***Southern Oregon and Northern California Coasts (SONCC) Coho Salmon Recovery Domains.*** Critical habitat in this recovery domain has been designated for SONCC coho salmon. Many large and small rivers supporting significant populations of coho salmon flow through the this area, including the Elk, Rogue, Chetco, Smith and Klamath. The following summary of critical habitat information in the Elk, Rogue, and Chetco Rivers is also applicable to habitat characteristics and limiting factors in other basins in this area.

The Elk River flows through Curry County, drains approximately 92 square miles (or 58,678 acres) (Maguire 2001). Major tributaries of the Elk River include the North Fork, South Fork, Blackberry Creek, Panther Creek, Butler Creek, and Bald Mountain Creek. The upper portion of the Elk River basin is characterized by steeply sloped forested areas with narrow valleys and tributary streams that have steep to very steep gradients. Grazing, rural residential development and other agricultural uses are the dominant land uses in the lower portion of the basin (Maguire 2001). Over half of the Elk River basin is in the Grassy Knob wilderness area. Historical logging, mining, and road building have degraded stream and riparian habitats in the Elk River basin. Limiting factors identified for salmon and steelhead production in this basin include sparse riparian cover, especially in the lower reaches, excessive fine sediment, high water temperatures, and noxious weed invasions (Maguire 2001).

The Rogue River drains approximately 5,160 square miles within Curry, Jackson and Josephine counties in southwest Oregon. The mainstem is about 200 miles long and traverses the coastal mountain range into the Cascades. The Rogue River estuary has been modified from its historical condition. Jetties were built by the U.S. Army Corps of Engineers in 1960, which stabilized and deepened the mouth of the river. A dike that extends from the south shore near Highway 101 to the south jetty was completed in 1973. This dike created a backwater for the large shallow area that existed here, which has been developed into a boat basin and marina, eliminating most of the tidal marsh.

The quantity of estuary habitat is naturally limited in the Rogue River. The Rogue River has a drainage area of 5,160 square miles, but the estuary at 1,880 acres is one of the smallest in Oregon. Between 1960 and 1972, approximately 13 acres of intertidal and 14 acres of subtidal land were filled in to build the boat basin dike, the marina, north shore riprap and the other north shore developments (Hicks 2005). Jetties constructed in 1960 to stabilize the mouth of the river

and prevent shoaling have altered the Rogue River, which historically formed a sill during summer months (Hicks 2005).

The Lower Rogue Watershed Council's watershed analysis (Hicks 2005) lists factors limiting fish production in tributaries to Lower Rogue River watershed. The list includes water temperatures, low stream flows, riparian forest conditions, fish passage and over-wintering habitat. Limiting factors identified for the Upper Rogue River Basin include fish passage barriers, high water temperatures, insufficient water quantity, lack of large wood, low habitat complexity, and excessive fine sediment (RBCC 2006).

The Chetco River is in the southwest corner of Oregon, almost entirely within Curry County, with a drainage of approximately 352 square miles. The Chetco River mainstem is about 56 miles long, and the upper 28 miles are within the Kalmiopsis Wilderness Area. Elevations in the watershed range from sea level to approximately 5,098 feet. The upper portion of the basin is characterized by steep, sloping forested areas with narrow valleys and tributary streams that have moderately steep to very steep gradient. The lowest 11 miles of the river are bordered by private land in rural/residential, forestry, and urban land uses.

The Chetco River estuary has been significantly modified from its historical condition. Jetties were erected by the U.S. Army Corps of Engineers in 1957, which stabilized and deepened the mouth of the river. These jetties have greatly altered the mouth of the Chetco River and how the estuary functions as habitat for salmon migrating to the ocean. A boat basin and marina were built in the late 1950s and eliminated most of the functional tidal marsh. The structures eliminated shallow water habitats and vegetation in favor of banks stabilized with riprap. Since then, nearly all remaining streambank in the estuary has been stabilized with riprap. The South Coast Watershed Council's watershed analysis (Maguire 2001) states the factors limiting fish production in the Chetco River appear to be high water temperature caused by lack of shade, especially in tributaries, high rates of sedimentation due to roads, poor over-wintering habitat due to a lack of large wood in tributaries and the mainstem, and poor quality estuary habitat (Maguire 2001).

### **Environmental Baseline for the Action Area**

Because the action area for this programmatic consultation includes the combined action areas of restoration actions for which an exact location within the Corps jurisdiction is not yet known, it was not possible to precisely define the current condition of fish or critical habitats in the action area, the factors responsible for that condition, or the conservation role of those specific areas. Therefore, to complete the jeopardy and destruction or adverse modification of critical habitat analyses in this consultation, NMFS made the following assumptions regarding the environmental baseline in each area that will eventually be chosen to support an action: (1) The purpose of the proposed action is to authorize or carry out stream restoration and fish passage improvements for the benefit of listed species; (2) each individual action area will be occupied by one or more listed species; (3) the biological requirements of individual fish in those areas are not being fully met because aquatic habitat functions, including functions related to habitat

factors limiting the recovery of the species in each area, are impaired; and (4) active restoration at each site is likely to improve the factors limiting recovery of salmon and steelhead in that area.

As described above in the Status of the Species and Critical Habitats section, factors that limit the recovery of salmon and steelhead vary with the overall condition of aquatic habitats on private, state, and Federal lands. Many stream habitats and riparian areas have been degraded by the effects of land and water use, including road construction, forestry, agriculture, mining, urbanization, and water development. Each of these economic activities has contributed to a myriad of interrelated factors for the decline of salmon and steelhead. Among the most important of these are changes in channel morphology, loss spawning substrates, loss of instream roughness, loss of estuarine rearing habitats, loss of wetlands, loss and degradation of riparian areas, water quality degradation (e.g., temperature, sediment, dissolved oxygen, contaminants), blocked passage, elimination of habitats, direct take, and loss of core refugia areas.

The environmental baseline also includes the anticipated impacts of all Federal actions in the action area that have already undergone formal consultation. For example, from 2001 through 2006, the Corps authorized 118 restoration actions in Oregon under the SLOPES consultation, and more than 800 other actions related to transportation features, over and in-water structures, and bank stabilization. The Corps, Bonneville Power Administration, and Bureau of Reclamation have also consulted on large water management actions, such as operation of the Federal Columbia River Power System, the Umatilla Basin Project, and the Deschutes Project. The U.S. Forest Service and U.S. Bureau of Land Management consult on Federal land management throughout Oregon, including restoration actions, timber harvest, livestock grazing, and special use permits. Each of these actions was designed to avoid or minimize effects on listed salmon, steelhead, and their habitats.

It is very likely that a few action areas for some of these previously consulted upon actions will overlap with action areas for restoration actions covered under this new iteration of the SLOPES consultation. Impacts to the environmental baseline from these previous actions vary from short-term adverse effects to long-term beneficial effects.

### **Effects of the Action**

Under the administrative portion of this action, the Corps will evaluate each individual action to ensure that the following conditions are true: (a) The requirements of this Opinion are only applied where ESA-listed salmon or steelhead, their designated critical habitats, or both, are present; (b) the anticipated range of effects is within the range considered in this Opinion; (c) the action is carried out consistent with the proposed design criteria; and (d) action and program level monitoring and reporting requirements are met. Although that process will not, by itself, affect a listed species or critical habitat, it determines which factors must be considered to analyze the effects of each individual action that will be authorized or completed under this Opinion.

Construction of each action will begin after the Corps' approval. The discussion of the direct physical and chemical effects of this part of the action on the environment will vary depending

on the type of restoration or fish passage action being performed, but will all be based on a common set of effects related to construction. Actions involving fish passage restoration, off- or side channel reconstruction, set-back of an existing berm, dike or levee, or removal of a water control structure are likely to have all of the following effects; actions that only involve placement of boulders, gravel or wood will only have a subset of those effects, or will express those effects to a lesser degree.

Construction will have direct physical and chemical effects on the environment that commonly begin with pre-construction activity, such as surveying, minor vegetation clearing, placement of stakes and flagging guides. This requires movement of personnel and sometimes machines over the action area. The next stage, site preparation, may require development of access roads, construction staging areas, and materials storage areas that affect more of the action area. If additional earthwork is necessary to clear, excavate, fill, or shape the site, more vegetation and topsoil may be removed, deeper soil layers exposed, and operations extended into the active channel. The final stage of construction is site restoration. This stage consists of any action necessary to undo disturbance caused by the action, may include replacement of large wood, native vegetation, topsoil, and native channel material displaced by construction, and otherwise restoring ecosystem processes that form and maintain productive fish habitats.

Vegetation, soil and channel disturbance caused by construction can disrupt the vegetative and fluvial processes at an action site that create and maintain habitat function, such as delivery of large wood, particulate organic matter, and shade to a riparian area and stream; development of root strength for slope and bank stability; and sediment filtering and nutrient absorption from runoff (Darnell 1976, Spence *et al.* 1996). Although the size of areas likely to be adversely affected by actions proposed to be authorized or carried out under this Opinion are small, and those effects are likely to be short-term (weeks or months), even small denuded areas will lose organic matter and dissolved minerals, such as nitrates and phosphates. The microclimate at each action site where vegetation is removed is likely to become drier and warmer, with a corresponding increase in wind speed, and soil and water temperature. Water tables and spring flow in the immediate area may be temporarily reduced. Loose soil will temporarily accumulate in the construction area. In dry weather, this soil can be dispersed as dust and, in wet weather, loose soil is transported to streams by erosion and runoff, particularly in steep areas. Erosion and runoff increase the supply of sediment to lowland drainage areas and eventually to aquatic habitats, where they increase total suspended solids and sedimentation.

During and after wet weather, increased runoff can suspend and transport more sediment to receiving waters. This increases total suspended solids and, in some cases, stream fertility. Increased runoff also increases the frequency and duration of high stream flows and wetland inundation in construction areas. Higher stream flows increase stream energy that can scour stream bottoms and transport greater sediment loads farther downstream that would otherwise occur. Sediments in the water column reduce light penetration, and can increase water temperature and modify water chemistry. Redeposited sediments can fill pools, reduce the width to depth ration of streams, and change the distribution of pools, riffles, and glides. Increased fine sediments in substrate also can reduce survival of eggs and fry, reducing spawning success of salmon and steelhead.

During dry weather, the physical effects of increased runoff appear as reduced ground water storage, lowered stream flows, and lowered wetland water levels. The combination of erosion and mineral loss can reduce soil quality and site fertility in upland and riparian areas. Concurrent in-water work can compact or dislodge channel sediments, thus increasing total suspended solids and allowing currents to transport sediment downstream where it is eventually redeposited. Continued operations when the construction site is inundated can significantly increase the likelihood of severe erosion and contamination.

Use of heavy equipment for vegetation removal and earthwork compacts soils, thus reducing soil permeability and infiltration. Use of heavy equipment also creates a risk that accidental spills of fuel, lubricants, hydraulic fluid, coolants, and other contaminants may occur. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain polycyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonid fish and other aquatic organisms at high levels of exposure and can cause sublethal adverse effects on aquatic organisms at lower concentrations (Heintz *et al.* 1999, 2000, Incardona *et al.* 2004, 2005, 2006). Discharge of construction water used for vehicle washing, concrete washout, pumping for work area isolation, and other purposes can carry sediments and a variety of contaminants to riparian areas and streams.

Some of these adverse effects will abate almost immediately, such as increased total suspended solids caused by boulder or large wood restoration. Others will be long-term conditions that may decline quickly but persist at some level for weeks, months, or years, until riparian and floodplain vegetation are fully reestablished. Failure to complete site restoration, or to prevent disturbance of newly restored areas by livestock or unauthorized persons will delay or prevent recovery of processes that form and maintain productive fish habitats.

The direct physical and chemical effects of post-construction site restoration to be included as parts of the proposed actions are essentially the reverse of the construction activities that go before it. Bare earth will be protected by various methods, including seeding, planting woody shrubs and trees, and mulching. This will immediately dissipate erosive energy associated with precipitation and increase soil infiltration. It also will accelerate vegetative succession necessary to restore the delivery of large wood to the riparian area and stream, root strength necessary for slope and bank stability, leaf and other particulate organic matter input, sediment filtering and nutrient absorption from runoff, and shade. Microclimate will become cooler and moister, and wind speed will decrease. Whether recovery occurs over weeks or years, the disturbance frequency, considered as the number of restoration actions per unit of time, at any given site is likely to be extremely low, as is the intensity of the disturbance as a function of the quantity and quality of overall habitat conditions present within an action area.

The indirect effects, or effectiveness, of fish restoration actions, in general, have not been well documented, in part because they often concentrate on instream habitat without addressing the processes that led to the loss of the habitat (see Fox 1992, Zedler 1996, Simenstad and Thom 1996, Cederholm *et al.* 1997, and Roper *et al.* 1997). Nonetheless, the careful, interagency process used by the Corps to develop the proposed action ensures that it is reasonably certain to lead to some degree of ecological recovery within each action area, including the establishment

or restoration of environmental conditions associated with functional habitat and high conservation value.

As described in the proposed action section, the indirect effects of placing boulders and large wood for restoration purposed in areas where these natural features have been reduced or removed are likely to include increased habitat diversity and complexity, greater flow heterogeneity, increased coarse sediment storage, gravel retention for spawning habitat, more long-term nutrient storage and more substrate for aquatic vertebrates, moderation of flow disturbances, and refugia for fish during high flow events (Negeshi and Richardson 2003, Roni *et al.* 2006a, 2006b, WDFW 2004, WDFW and Inter-Fluve 2006). The indirect effects of gravel placement are likely to compensate for an identified loss of the natural gravel supply, thus increasing the quantity and quality of spawning habitat (WDFW 2004).

Off- and side-channel habitat restoration to reconnect stream channels with historical river floodplain swales, abandoned side channels, and floodplain channels, setting back existing berms, dikes and levees, and water control structure removal are likely to have similar but significantly greater positive indirect effects on habitat diversity and complexity by affecting a larger habitat area (WDFW 2004).

Fish passage restoration using a step weir is likely to result in development of a backwater upstream of the weir, with reduced velocities and greater depths at a variety of flows, accelerated flow through the weir, and deposition of sediment immediately downstream of the weir (“tailouts”) (WDFW and Inter-Fluve 2006). Adding a fish ladder to an existing facility, or improving a culvert for fish passage, is likely to decrease stream gradient in at least a portion of the reach, which will reduce stream energy and may cause aggradation due to sedimentation and provide access to previously blocked habitat (WDFW and Inter-Fluve 2006). The indirect effects of piling removal are likely to include reduction of resting and areas for piscivorous birds, and of hiding habitat for aquatic predators such as smallmouth bass.

The time necessary for recovery of functional habitat attributes following disturbance will vary by attribute. Recovery mechanisms such as soil stability, sediment filtering and nutrient absorption, and vegetation succession may recover quickly (months to years) after completion of the proposed action. Recovery of functions related to large wood and microclimate may require decades or longer. Functions related to shading of the riparian area and stream, root strength for bank stabilization, and organic matter input may require intermediate lengths of time.

The rate and extent of functional recovery is also controlled in part by watershed context. Most proposed actions will occur in areas where productive habitat functions and recovery mechanisms were absent or degraded before construction took place. These sites are only likely to be functionally restored if the pre-construction environment retains the ecological potential to function properly, as evidenced by the residual productivity of riparian soils and channel conditions with balanced scour and fill processes. The prospect for ecological recovery will be further limited by ecological and social factors at the watershed and landscape scales, or site capacity. Thus, ecological recovery of an action site surrounded by intensive land use and severe upstream disturbance is likely to be less successful than the recovery of a site surrounded by

wildlands where the headwaters are protected. To some extent, the proposed actions will help to compensate for low residual ecological potential and accelerate recovery. However, they are unlikely to fully overcome severe site constraints imposed by low site capacity.

**Effects on Listed Species.** Just as completion of each action is likely to have a similar set of effects on the environment because they are all based on the same set of underlying construction actions, each salmon and steelhead species is likely to respond to those effects in a similar way because of underlying similarities in their biology. Some species will only show some of these effects, or will express those effects to a lesser or greater degree. Much less is known about the biology of southern green sturgeon than is known about salmon and steelhead. However, because the distribution of southern green sturgeon in Oregon is limited to nearshore marine areas, bays, estuaries, and the deep, low elevation, riverine mainstem of coastal rivers, it is likely that very few southern green sturgeon are likely to occur in close proximity to any of the proposed actions. The direct effects of the construction on these listed species will include interactions between fish and construction personnel and their supplies and equipment, but are primarily the result of physical and chemical changes in the environment caused by that construction. The effects of the proposed actions are also reasonably certain to result in some degree of ecological recovery within each action area.

In general, construction has direct adverse effects on individual fish when interactions occur between fish and construction personnel, when equipment is operated instream where it can injure fish mechanically or block habitat access, when construction waste or other pollutants enter the stream, and when fish are captured and removed from in-water work areas. The physical and chemical changes in the environment associated with construction, especially decreased water quality (*e.g.*, total suspended solids, temperature, dissolved oxygen), are likely to affect a larger area than direct interactions between fish and construction personnel. Design criteria related to in-water work timing, sensitive area protection, fish passage, erosion and pollution control, choice of equipment, in-water use of equipment, and work area isolation have been proposed to avoid or reduce these adverse effects. Those measures will ensure that actions are not completed at sites occupied by adult fish congregating for spawning or where redds are occupied by eggs or pre-emergent alevins, defer construction until the fewest number of fish are present, and otherwise ensure that the adverse environmental consequences of construction are avoided or minimized.

It is unlikely that individual adult or embryo salmon or steelhead will be adversely affected by the proposed action because all in-water construction activities are deferred until after spawning season has passed and fry emerge from gravel. Moreover, the degree of soil disturbance likely to occur under these actions is so small that significant sedimentation of spawning gravel is unlikely, although use of heavy equipment in-stream in spawning areas can disturb or compact gravel and other channel materials, thus making it harder for fish to excavate redds, and decreasing redd aeration (Cederholm *et al.* 1997). If, for some reason, an adult is migrating in an action area during any phase of construction, it is likely to be able to successfully avoid noise or other construction disturbances by moving laterally or stopping briefly during migration, although spawning itself would be delayed until construction was complete (Gregory 1988, Sigler 1988, Servizi and Martens 1991, Feist *et al.* 1996). To the extent that the proposed actions

are successful at improving flow conditions and reducing sedimentation and other pollutants that affect intergravel conditions, future spawning and embryo survival in the action area will be enhanced.

In-water construction activities are likely to occur when juvenile salmon and steelhead are present. Most direct, lethal effects of authorizing and carrying out the proposed actions are likely to be caused by the isolation of in-water work area, even though lethal and sublethal effects would be greater without isolation. Any individual fish present in the work isolation area will be captured and released. Fish that are transferred to holding tanks can experience trauma if care is not taken in the transfer process, and fish can experience stress and injury from overcrowding in traps, if the traps are not emptied on a regular basis. The primary contributing factors to stress and death from handling are differences in water temperatures between the river and wherever the fish are held, dissolved oxygen conditions, the amount of time that fish are held out of the water, and physical trauma. Stress on salmon and steelhead increases rapidly from handling if the water temperature exceeds 64°F, or if dissolved oxygen is below saturation. Debris buildup at traps can also kill or injure fish if the traps are not monitored and cleared on a regular basis. Design criteria related to the capture and release of fish during work area isolation will avoid most of these consequences, and ensure that most of the resulting stress is short-lived (NMFS 2002).

Rapid changes and extremes in environmental conditions caused by construction are likely to cause a physiological stress response that will change the behavior of salmon and steelhead (Moberg 2000, Shreck 2000). For example, reduced input of particulate organic matter to streams, the addition of fine sediment to channels, and mechanical disturbance of shallow-water habitats are likely to lead to under use of stream habitats, displacement from or avoidance of preferred rearing areas, or abandonment of preferred spawning grounds, which may increase losses to competition, disease, predation, or, for juvenile fish, reduce the ability to obtain food necessary for growth and maintenance (Newcombe and Jenson 1996, Sprague and Drury 1969, Moberg 2000).

The ultimate effect of these changes in behavior, and on the distribution and productivity of salmon and steelhead, will vary with life stage, the duration and severity of the stressor, the frequency of stressful situations, the number and temporal separation between exposures, and the number of contemporaneous stressors experienced (Newcombe and Jenson 1996, Shreck 2000). Restoration actions that affect stream channel widths are also likely to impair local movements of juvenile fish for hours or days, and downstream migration may be similarly impaired. Moreover, smaller fry are likely to be injured or killed due to in-water interactions with construction activities, including work area isolation, and due to the adverse consequences that displacement and impaired local movement will have on rearing activities, at each restoration site subject to those activities.

Fish may compensate for, and adapt to, some of these perturbing situations so that they continue to perform necessary physiological and behavioral functions, although in a diminished capacity. However, fish that are subject to prolonged, combined, or repeated stress by the effects of the action combined with poor environmental baseline conditions will likely suffer a metabolic cost



that will be sufficient to impair their rearing, migrating, feeding, and sheltering behaviors and thereby increase the likelihood of injury or death.

In addition to the general effects of construction on listed species described above, each type of action will also have the following effects on individual fish. Restoration of boulders, gravel, and large wood, as well as restoration of specific off-channel, floodplain and wetland habitats will all provide habitat conditions that are likely to increase the productivity of rearing salmon and steelhead (WDFW 2004, Roni *et al.* 2006a, 2006b). Fish passage restoration will increase the quantity of spawning and rearing habitat accessible to affected species. Removal of pilings is likely to decrease predation on juvenile salmon and steelhead by reducing resting areas for piscivorous birds and cover for aquatic predators, and reducing long-term exposure to toxics.

Population level responses to habitat alterations can be thought of as the integrated response of individual organisms to environmental change. Thus, instantaneous measures of population characteristics, such as population abundance, population spatial structure and population diversity, are the sum of individual characteristics within a particular area, while measures of population change, such as population growth rate, are measured as the productivity of individuals over the entire life cycle (McElhany *et al.* 2000).

As discussed above, very few individual fish are likely to be injured or killed by any individual action authorized or completed under this Opinion. This number of fish adversely affected by the proposed action will be far too small to have a meaningful effect on abundance, distribution, productivity, or genetic diversity of any affected population. This is also true for very small populations of endangered species (*i.e.*, UCR spring-run Chinook salmon, SR sockeye salmon, UCR steelhead) for which a combination of very low abundance, river-type ecology, and distribution within the action area that is limited to mainstem of the Columbia River and estuary make it unlikely that they will be injured or killed by the proposed action.

At the species level, direct biological effects are synonymous with those at the population level or, more likely, are the integrated demographic response of one or more subpopulations (McElhany *et al.* 2000). Because the likely effects of any action authorized or completed under this Opinion will be too minor, localized and brief to affect the VSP characteristics of any salmon or steelhead population, they also will not have any effects at the species level.

The effects of the SLOPES IV restoration action, as a whole, on species will be the combined effects of all of the individual actions completed under this Opinion. Combining the effects of many actions, does not change the nature of the individual effects caused by individual actions, but does require an analysis of the additive effects of multiple occurrences of the same type of effects at the individual fish, population, and species scales. If the adverse effects of one action are added to the effects of one or more additional actions in the same place and time, individual fish may experience a more significant adverse effect than if only one action was present. This would occur when the action area for two or more recovery actions overlap, *i.e.*, are placed within 100 to 300 feet of each other and are constructed at approximately the same time.

Monitoring information shows that up to 37 restoration actions per year have been completed under SLOPES, with no more than 17 being completed in a single recovery domain and sometimes far less. While those numbers are not increasing from year to year, it is reasonable to assume that interest and funding for restoration and fish passage may increase arithmetically, and that the number of actions authorized and completed each year under this Opinion may also. Even if the number of restoration actions statewide increases dramatically, it is very unlikely that two or more would occur within 100 to 300 feet of each other. Further, the strong emphasis on use of design criteria to minimize the short-term adverse effects of these actions, the small size of individual action areas, and the use of action designs that are likely to result in a long-term improvement in the function and conservation value of each action area will ensure that individual fish will not suffer greater adverse effects even if two or more action areas overlap. Moreover, the rapid onset of beneficial effects from these types of actions is likely to result in an environmental improvement for the population that is likely to improve the baseline for subsequent actions so that adverse effects are not likely to be additive at the population or watershed scale.

**Effects on Critical Habitat.** Completion of each action is likely to have the following effects on the PCEs or habitat qualities essential to the conservation of each species. These effects will vary somewhat in degree between actions because of differences in the scope of construction at each, and in the current condition of PCEs and the factors responsible for those conditions. This assumption is based on the fact that all of the actions are based on the same set of underlying construction actions, and the PCEs and conservation needs identified for each species are also essentially the same. In general, ephemeral effects are likely to last for hours or days, short-term effects are likely to last for weeks, and long-term effects are likely to last for months, years or decades. Actions with more significant construction component are likely to adversely affect larger areas, and to take a longer time to recover, than actions based in restoration of a single habitat element. However, they are also likely to have correspondingly greater conservation benefits.

1. **Freshwater spawning sites**
  - a. Water quantity – Brief reduction in flow due to short-term construction needs, reduced riparian permeability, increased riparian runoff, and reduced late season flows; slight longer-term increase based on improved riparian function and floodplain connectivity.
  - b. Water quality – Short-term increase in total suspended solids, dissolved oxygen demand, and temperature due to riparian and channel disturbance; longer-term improvement due to improved riparian function and floodplain connectivity.
  - c. Substrate – Short-term reduction in quality due to increased compaction and sedimentation; long-term increase in quality due to gravel placement, and increased sediment storage from boulders and large wood.
2. **Freshwater rearing sites**
  - a. Water quantity – as above.
  - b. Floodplain connectivity – Short-term decrease due to increased compaction and riparian disturbance; long-term improvement due to off- and side channel habitat

restoration, set-back of existing berms, dikes, and levees, and removal of water control structures.

- c. Water quality – as above.
  - d. Forage – Short-term decrease due to riparian and channel disturbance, and water quality impairments; long-term improvement due to improved habitat diversity and complexity, and improved riparian function and floodplain connectivity, and increased litter retention.
  - e. Natural cover – Short-term decrease due to riparian and channel disturbance; long-term increase due to improved habitat diversity and complexity, improved riparian function and floodplain connectivity, off- and side channel habitat restoration, and reduced sites for predator resting and hiding.
3. Freshwater migration corridors
- a. Free passage – Short-term decrease due to decreased water quality and in-water work isolation; long-term increase due to improved water quantity and quality, habitat diversity and complexity, forage to support juvenile migration, and natural cover.
  - b. Water quantity – as above.
  - c. Water quality – as above.
  - d. Natural cover – as above.
4. Estuarine areas
- a. Free passage – as above.
  - b. Water quality – as above.
  - c. Water quantity – as above.
  - d. Salinity – no effect.
  - e. Natural cover – as above.
  - f. Forage – as above.
5. Nearshore marine areas
- a. Free passage – no effect.
  - b. Water quality – no effect.
  - c. Water quantity – no effect.
  - d. Forage – no effect.
  - e. Natural cover – no effect.
6. Offshore marine areas
- a. Water quality – no effect.
  - b. Forage – no effect.

The intensity of these effects within the action area, in terms of the total condition and value of PCEs after each action is completed, and the severity of the effects, given the recovery rate for those same PCEs, is such that the function of PCEs and the conservation value of critical habitat are likely to be only impaired for a short time due to restoration actions authorized or completed under this Opinion. Similarly, the frequency of disturbance will be limited to a single event or, at most, a few events within a given watershed. As noted above, no more than 17 restoration actions in a single recovery domain have been completed using this Opinion in a single year. It is unlikely, but not impossible, that two or more actions per year would occur in a single 5<sup>th</sup> field watershed. However, given the mild intensity and severity of these effects, PCE conditions in each action area are likely to quickly return to, or exceed, pre-action levels. Thus, it is unlikely

that several actions within the same watershed, or even within the same action area, would have an important adverse effect on the function of PCEs or the conservation value of critical habitat at the action area, watershed, or designation scales.

As noted above, the indirect effects, or effectiveness, of fish restoration actions, in general, have not been well documented, in part because they often concentrate on instream habitat without addressing the processes that led to the loss of the habitat (see Fox 1992, Zedler 1996, Simenstad and Thom 1996, Cederholm *et al.* 1997, and Roper *et al.* 1997). Nevertheless, the proposed actions are reasonably certain to lead to some degree of ecological recovery within each action area, including the establishment or restoration of environmental conditions associated with functional habitat and high conservation value. Fish passage improvement actions, in particular, may have long-term beneficial effects at the watershed or designation-wide scale.

### **Cumulative Effects**

Between 2000 and 2006, the population of Oregon grew from 3.4 to 3.7 million, an increase of approximately 8%.<sup>12</sup> The state is projected to grow at a similar rate for the next 5 years. Thus, NMFS assumes that future private and state actions will continue within the action areas, increasing as population density rises.

The most common activities reasonably certain to occur in the action areas addressed by this consultation are agricultural activities, operation of non-Federal hydropower facilities, urban and suburban development, recreational activities, timber harvest, road construction and maintenance, and metals and gravel mining. Many of these activities are not subject to ESA consultation and would result in some adverse effects to salmon, steelhead, and their habitat. Some of the activities such as timber harvest and development are subject to regulation under state programs and the effects to fish and stream habitat are reduced to varying degrees under these programs. The adverse effects of these activities will result in negative effect on salmon and steelhead population abundance, productivity, and spatial structure and result in some degradation of the condition of critical habitat PCEs.

Throughout Oregon, watershed councils, Native American Tribes, local municipalities, conservation groups, and others carry out restoration projects in support of salmon and steelhead recovery. Many of these actions will be covered by this consultation, or future individual consultations, in which cases their effects are not cumulative effects. Some of the private or state funded actions for which funding commitments and necessary approvals already exist will not undergo consultation and do result in beneficial cumulative effects. They address protection, restoration, or both, of existing or degraded fish habitat, instream flows, water quality, fish passage and access, and watershed or floodplain conditions that affect stream habitat. These beneficial effects will be similar to those described in the Effects on Listed Species section of this Opinion. These effects will result in small improvements to salmon and steelhead population abundance, productivity, and spatial structure and result in some improvement to the condition of critical habitat PCEs.

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<sup>12</sup> Source: Oregon QuickFacts, available from the Population Estimates Program, U.S. Bureau of the Census, Washington, D.C.

When considered together, these cumulative effects are likely to have a small negative effect on salmon and steelhead population abundance, productivity, and spatial structure. Similarly, the condition of critical habitat PCEs will be slightly degraded by the cumulative effects.

## **Conclusion**

After reviewing the best available scientific and commercial information available regarding the current status of southern green sturgeon, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, NMFS concludes that the proposed action is not likely to adversely affect southern green sturgeon. This conclusion is based on the following considerations. Southern green sturgeon occur in Oregon in nearshore marine areas, bays, estuaries, and the deep, low elevation, riverine mainstem of coastal rivers. NMFS has not completed a detailed viability assessment of southern green sturgeon but has determined that the primary threat facing this species is the reduction in the number and geographic distribution of spawning areas, which do not occur within the action area of this proposed action. Other identified threats related to the destruction, modification, or curtailment of green sturgeon habitats are also limited to the geographic range of green sturgeon outside the action area for this proposed action. Fisheries, including trophy poaching, are another significant threat to this species, but will not be affected by the proposed action. The only adverse effects of the proposed action on southern green sturgeon is likely to occur as a result of the proposed action is short-term degradation of water quality due to increased total suspended solids, dissolved oxygen demand, and temperature due to minor riparian and channel disturbance. Those effects are likely to be insignificant because the intensity will be very low and confined primarily to shallow water habitats not frequented by southern green sturgeon. This level of adverse effect is unlikely to ever rise to the level of take. The proposed action is unlikely to have any effect on nearshore marine areas, bays, or estuaries, where southern green sturgeon are most likely to occur in Oregon.

After reviewing the best available scientific and commercial information available regarding the current status of the 15 species considered in this consultation (LCR Chinook salmon, UWR spring-run Chinook salmon, UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, CR chum salmon, LCR coho salmon, SONCC coho salmon, OC coho salmon, SR sockeye salmon, LCR steelhead, UWR steelhead, MCR steelhead, UCR steelhead, and SRB steelhead), the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify their designated critical habitat. These conclusions are based on the following considerations.

Of those species and populations for which viability has been assessed by a TRT, virtually all face a moderate to very high risk of extinction. Although NMFS considers changes in ocean productivity to be the most important natural phenomenon affecting the productivity of salmon and steelhead, NMFS identified many other factors associated with the freshwater phase of their life cycle that are also limiting the recovery of these species, such as elevated water temperatures, excessive sediment, reduced access to spawning and rearing areas, loss of habitat diversity, large

wood, and channel stability, degraded floodplain structure and function, and reduced flow. NMFS also designated critical habitat for all of these species, except LCR coho salmon. CHART teams determined that most designated critical habitat has a high conservation value, based largely on its restoration potential. Baseline conditions for these PCEs vary widely from poor to excellent.

Although the programmatic nature of the action prevents a precise analysis of each action that eventually will be authorized or completed under this Opinion, each type of action will be carefully designed and constrained by comprehensive design criteria such that construction will cause only brief (days to weeks), localized, and minor exacerbation of factors limiting the viability of the listed species. Also, actions are likely to be widely distributed across all recovery domains in Oregon, so adverse effects will not be concentrated in time or space within the range of any listed species. In the long term, these restoration actions will contribute to a lessening of factors limiting the recovery of these species, particularly those factors related to reduced habitat diversity and large wood, degraded spawning habitat and floodplain connectivity, and fish passage, and improve the currently-degraded environmental baseline, particularly at the site scale. A very small number of individual fish, far too few to affect the abundance, productivity, distribution, or genetic diversity of any salmon or steelhead population, will be affected by the adverse effects of any single action permitted under the proposed action. Because the VSP characteristics at the population scale will not be affected, the likelihood of survival and recovery of the listed species will not be appreciably reduced by the proposed action. Similarly, the adverse effects of each action on PCEs are likely to be brief and mild, while the longer term effects are likely to contribute to lessening of the factors limiting the recovery of these species during the freshwater phase of their life cycle.

### **Conservation Recommendations**

Section 7 (a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The following conservation recommendations are discretionary measures that NMFS believes are consistent with this obligation and therefore should be carried out by the Corps:

1. The effectiveness of some types of stream restoration actions are not well documented, partly because decisions about which restoration actions deserve support do not always address the underlying processes that led to habitat loss. NMFS recommends that the Corps encourage applicants to use species' recovery plans to help ensure that their actions will address those underlying processes that limit fish recovery.
2. NMFS also recommends that the Corps evaluate whether the availability of regulatory streamlining provided by this Opinion influences the design of restoration actions, or acts as an incentive that increases the likelihood that restoration actions will be completed.

Please notify NMFS if the Corps carries out these recommendations so that we will be kept informed of actions that minimize or avoid adverse effects and those that benefit the listed species or their designated critical habitats.

### **Reinitiation of Consultation**

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (a) the amount or extent of taking specified in the Incidental Take Statement is exceeded, (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (c) the identified action is subsequently modified in a manner that has an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

If the Corps fails to provide specified monitoring information annually by February 15, NMFS will consider that a modification of the action that causes an effect on listed species not previously considered and causes the Incidental Take Statement of the Opinion to expire. This programmatic consultation expires five years from the date of issuance. New actions should not be authorized or carried out under this consultation after this date. To reinitiate consultation, contact the Oregon State Habitat Office of NMFS and refer to the NMFS Number assigned to this consultation.

### **Incidental Take Statement**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined by NMFS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering. "Harass" is defined by Fish and Wildlife Service as an intentional or negligent act or omission that creates the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Section 7(o)(2) provides that any incidental take that is in compliance with the reasonable and prudent measures and terms and conditions specified in a written take statement shall not be considered to be a prohibited taking of the species concerned.

### **Amount or Extent of Take**

Work necessary to complete actions authorized or carried out under this Opinion will take place beside and within active stream channels when individuals of the 15 species considered in this

consultation are likely to be present. The habitat that will be affected is of variable quality and may be limited at the stream reach or watershed scale.

Incidental take caused by the adverse effects of the proposed action will include (a) capture of juvenile fish, some of which will be injured or killed during work area isolation; and (b) harassment or harm of juvenile fish because increased water temperatures, increased total suspended solids, decreased forage, decreased cover, and decreased passage will reduce growth, increase disease, increase competition, increase predation, and inhibit movements necessary for rearing and migration.

This take will occur within an area that extends not more than 300 feet upstream and 300 feet downstream from each action's footprint for the duration of the construction period (commonly hours to days), although actions involving off- and side-channel habitat restoration; set-back of an existing berm, dike or levee; or removal of a water control structure may continue to release sediment intermittently for weeks, months, or years until riparian vegetation and floodplain vegetation are restored and a new topographic equilibrium is reached. Incidental take within that area that meets the terms and conditions of this incidental take statement will be exempt from the taking prohibition.

The NMFS anticipates that no more than 900 juvenile individuals, per year, of the species considered in the consultation will be captured, injured, or killed as a result of work necessary to isolate in-water construction areas. Because these fish are from different species that are similar to each other in appearance and life history, and to unlisted species that occupy the same area, it is not possible to assign this take to individual species. This estimate is based on the following assumptions: (1) Up to a three-fold increase may occur in the maximum number of actions authorized or completed each year under the proposed action, due to an increased emphasis on completion of recovery actions as various salmon and steelhead recovery planning products are becoming available, for a total 90 actions per year; (2) approximately 10% of all actions will require isolation of the in-water work area, for a total of nine actions; (3) each action requiring in-water work area isolation is likely to capture fewer than 100 listed juvenile salmon and steelhead; for a total of 900 individuals, and (4) of the ESA-listed fish to be captured and handled in this way, less than 2% are likely to be injured or killed, including delayed mortality, a total of less than 18 fish, while the remainder are likely to survive with no long-term adverse effects. Nonetheless, an estimate of 5% lethal take, or 45 fish per year, will be used here to allow for variations in environment and work conditions during the capture and release operations. Capture and release of adult fish is not likely to occur as part of the proposed isolation of in-water work areas.

Take caused by the habitat-related effects of this action cannot be accurately quantified as a number of fish because the distribution and abundance of fish that occur within an action area are affected by habitat quality, competition, predation, and the interaction of processes that influence genetic, population, and environmental characteristics. These biotic and environmental processes interact in ways that may be random or directional, and may operate across far broader temporal and spatial scales than are affected by the proposed action. Thus, the distribution and abundance of fish within the action area cannot be attributed entirely to habitat conditions, nor can NMFS



precisely predict the number of fish that are reasonably certain to be injured or killed if their habitat is modified or degraded by the proposed action. In such circumstances, NMFS uses the causal link established between the activity and the likely changes in habitat conditions affecting the listed species to describe the extent of take as a numerical level of habitat disturbance.

Here, the best available indicator for the extent of take is the total length of stream reach that will be modified during construction of actions authorized or carried out under the proposed action because that variable is directly proportional to harm and harassment attributable to this action. Because each action may modify up to 300 lineal feet of riparian and shallow-water habitat, and up to 90 actions per year are likely to occur, the extent of take for this action is 27,000 linear stream feet per year. In the accompanying biological opinion, NMFS determined that this level of incidental take is not likely to result in jeopardy to the listed species.

The estimated number of fish to be captured and injured or killed during capture and handling operations conducted during work area isolation, i.e., 45 juveniles per year, and the length of stream reach, i.e., 27,000 linear stream feet per year, that that will be modified by the construction of all actions authorized or carried out under the proposed action are thresholds for reinitiating consultation. Exceeding any of these limits will trigger the reinitiation provisions of this Opinion.

### **Reasonable and Prudent Measures**

The following measures are necessary and appropriate to minimize the impact of incidental take of listed species from the proposed action.

The Corps shall:

1. Minimize incidental take from administration of SLOPES IV Restoration by ensuring that the proposed design criteria are used in all actions authorized or completed using this approach.
2. Ensure completion of a comprehensive monitoring and reporting program regarding all actions authorized or completed using SLOPES IV Restoration.

### **Terms and Conditions**

The measures described below are non-discretionary, and must be undertaken by the Corps or, if an applicant is involved, must become binding conditions of any permit issued to the applicant, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require an applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

1. To implement reasonable and prudent measure #1 (proposed design criteria), the Corps shall ensure that:
  - a. Every action authorized or completed under this Opinion will be administered by the Corps consistent with design criteria 1 through 14.
  - b. For each action with a general construction element, the Corps will apply design criteria 15 through 30 as enforceable permit conditions or as final action specifications.
  - c. For specific types of actions, the Corps will apply design criteria 31 through 48 as appropriate, as enforceable conditions or as final action specifications.
2. To implement reasonable and prudent measure #2 (monitoring and reporting), the Corps shall ensure that:
  - a. The Corps' Regulatory and Civil Works Branches will each submit a monitoring report to NMFS by February 15 each year that describes the Corps efforts to carry out this Opinion. The report will include an assessment of overall program activity, a map showing the location and type of each action authorized and carried out under this Opinion, and any other data or analyses the Corps deems necessary or helpful to assess habitat trends as a result of actions authorized under this Opinion.
  - b. The Corps' Regulatory and Civil Works Branches will each attend an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this Opinion, or make the program more efficient or more accountable.
  - c. If the Corps chooses to continue programmatic coverage under this Opinion, it will reinitiate consultation within 5 years of the date of issuance.
  - d. Failure to provide timely reporting may constitute a modification of SLOPES that has an effect to listed species or critical habitat that was not considered in the biological opinion and thus may require reinitiation of this consultation.

## **MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

The consultation requirement of section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect EFH. Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

The Pacific Fishery Management Council (PFMC) designated EFH for groundfish (PFMC 2005), coastal pelagic species (PFMC 1998b), and Chinook salmon, coho salmon, and Puget Sound pink salmon (PFMC 1999). The proposed action and action area for this consultation are described in the Introduction to this document. The action area includes areas designated as EFH for various life-history stages of Chinook and coho salmon, groundfish, and coastal pelagic species. Based on information provided in the BA and the analysis of effects presented in the ESA portion of this document, NMFS concludes that proposed action will have the following adverse effects on EFH designated for those species:

1. Freshwater EFH quantity will be reduced due to short-term construction needs, reduced riparian permeability, and increased riparian runoff, and a slight longer-term increase based on improved riparian function and floodplain connectivity.
2. Freshwater EFH quality will be reduced due to a short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance, and longer-term improvement due to improved riparian function and floodplain connectivity.
3. Tributary substrate will have a short-term reduction in quality due to increased compaction and sedimentation, and a long-term increase due to gravel placement, increased sediment storage from boulders and large wood.
4. Floodplain connectivity will have a short-term decrease due to increased compaction and riparian disturbance during construction, and a long-term improvement due to off- and side channel habitat restoration, set-back of existing berms, dikes, and levees, and removal of water control structures.
5. Forage will have a short-term decrease in availability due to riparian and channel disturbance, and a long-term improvement due to improved habitat diversity and complexity, and improved riparian function and floodplain connectivity.
6. Natural cover will have short-term decrease due to riparian and channel disturbance, and a long-term increase due to improved habitat diversity and complexity, improved riparian function and floodplain connectivity, off- and side channel habitat restoration.
7. Fish passage will be impaired in the short-term due to decreased water quality and in-water work isolation, and improved over the long-term due to improved water quantity and quality, habitat diversity and complexity, forage, and natural cover.

### **EFH Conservation Recommendations**

The following two conservation recommendations are necessary to avoid, mitigate, or offset the impact of the proposed action on EFH. These conservation recommendations are a subset of the ESA terms and conditions:

1. The effectiveness of stream restoration actions is not well documented, partly because decisions about which restoration actions deserve support do not always address the underlying processes that led to habitat loss. NMFS recommends that the Corps encourage applicants to use species' recovery plans to help ensure that their actions will address those underlying processes that limit fish recovery.
2. NMFS also recommends that the Corps evaluate whether the availability of regulatory streamlining provided by this Opinion influences the design of restoration actions, or acts as an incentive that increases the likelihood that restoration actions will be completed.
3. As appropriate to each action issued a regulatory permit under this Opinion, include the design criteria for construction and types of actions (i.e., 15 through 48) as enforceable permit conditions, except 21 (fish capture and release) and 21 (electrofishing).
4. Include each applicable design criteria for construction and types of actions (i.e., 15 through 48) as a final action specification of every WRDA civil works action carried out under this Opinion, except 21 (fish capture and release), and 22 (electrofishing).

### **Statutory Response Requirement**

Federal agencies are required to provide a detailed written response to NMFS' EFH conservation recommendations within 30 days of receipt of these recommendations [50 CFR 600.920(j) (1)]. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse affects of the activity on EFH. If the response is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations. The reasons must include the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

### **Supplemental Consultation**

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations [50 CFR 600.920(k)].

## DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW

Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554) (Data Quality Act) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the Opinion addresses these Data Quality Act (DQA) components, documents compliance with the DQA, and certifies that this Opinion has undergone pre-dissemination review.

**Utility:** Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users.

This ESA consultation concludes that the proposed revisions to Standard Local Operating Procedures for Endangered Species to administer stream restoration and fish passage improvement actions authorized or carried out by the Department of the Army in Oregon (SLOPES IV Restoration) will not jeopardize the affected listed species. Therefore, the Corps may authorize those actions in accordance with its authorities under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act of 1972, or carry out similar actions as part of the Corps' civil works programs authorized by sections 1135, 206, and 536 of the Water Resources Development Acts of 1986, 1996, and 2000, respectively. The intended users are the Corps and applicants seeking permits from the Department of the Army for stream restoration and fish passage improvement.

Individual copies were provided to the above-listed entities. This consultation will be posted on the NMFS Northwest Region website (<http://www.nwr.noaa.gov>). The format and naming adheres to conventional standards for style.

**Integrity:** This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

**Objectivity:**

***Information Product Category:*** Natural Resource Plan.

***Standards:*** This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA Regulations, 50 CFR 402.01, et seq., and the MSA implementing regulations regarding EFH, 50 CFR 600.920(j).

***Best Available Information:*** This consultation and supporting documents use the best available information, as referenced in the Literature Cited section. The analyses in this Opinion/EFH consultation contain more background on information sources and quality.

***Referencing:*** All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

***Review Process:*** This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with Northwest Region ESA quality control and assurance processes.

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## **Appendix A: E-mail Guidelines & SLOPES IV-Restoration Action Notification Form**

## E-MAIL GUIDELINES FOR SLOPES IV PROGRAMMATIC

The **SLOPES IV** programmatic e-mail box ([slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov)) is to be used for actions submitted to the National Marine Fisheries Service (NMFS) by the Federal Action Agencies for formal consultation (50 CFR § 402.14) under SLOPES IV.

The Federal Action Agency must ensure the final project is being submitted to avoid multiple submittals and withdrawals. In rare occurrences, a withdrawal may be necessary and unavoidable. In this situation, please specify in the e-mail subject line that the project is being withdrawn. There is no form for a withdrawal, simply state the reason for the withdrawal and submit to the e-mail box, following the email titling conventions. If a previously-withdrawn notification is resubmitted later, this resubmittal will be regarded as a new action notification.

An automatic reply will be sent upon receipt, but no other communication will be sent from the programmatic e-mail box; this box is used for **Incoming Only**. All other pre-decisional communication should be conducted **outside** the use of the [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov) e-mail.

The Federal Action Agency will send only **one** project per e-mail submittal, and will attach all related documents. These documents **must be in pdf format** and will include the following:

1. Action Notification Form, the Action Completion Form, or the Salvage Report
2. Map(s) and project design drawings (if applicable);
3. Final project plan.

In the subject line of the email (see below for requirements), clearly identify which SLOPES IV programmatic you are submitting under (Restoration, Bank Stabilization, Boat Docks, or Transportation), the specific submittal category (30-day approval, no approval, project completion, withdrawal, or salvage report), the Corps Permit Number, the Applicant Name, County, Waterway, and State

### E-mail Titling Conventions

Use caution when entering the necessary information in the subject line. **If these titling conventions are not used, the e-mail will not be accepted.** Ensure that you clearly identify:

1. Which SLOPES IV programmatic you are submitting under (Restoration, Bank Stabilization, Boat Docks, or Transportation.);
2. The specific submittal category (30-day approval, no approval, action completion, withdrawal, or salvage report);
3. Corps Permit number;
4. Applicant Name (you may use last name only, or **commonly used** abbreviations);
5. County;
6. Waterway; and
7. State.



Examples:

SLOPES IV Programmatic\_Specific Submittal Category, Corps Permit #, Applicant Name, County, Waterway, State

Action Notification

*Restoration\_No Approval, 200600999, Smith, Multnomah, Willamette, Oregon*

*Restoration\_30-day Approval, 200600999, Smith, Multnomah, Willamette, Oregon*

Project Completion

*Banks\_Completion, 200600999, Smith, Multnomah, Willamette, Oregon*

Salvage Report

*Boat Docks\_Salvage, 200600999, Smith, Multnomah, Willamette, Oregon*

Withdrawal

*Transportation\_Withdrawal, 200600999, Smith, Multnomah, Willamette, Oregon*

**Project Description**

Please provide enough information for NMFS to be able to determine the effects of the action and whether the project fits the SLOPES criteria. Attach additional sheets if necessary. The project description should include information such as (but not limited to):

- Proposed in-water work including timing and duration
- Work area isolation and salvage plan including pumping, screening, electroshocking, fish handling, etc.
- Discussion of alternatives considered
- Description of any proposed mitigation
- Cross section to show depth of over and in-water structures.

## SLOPES IV PROGRAMMATIC - RESTORATION

### ACTION NOTIFICATION FORM

Submit this completed action notification form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). The SLOPES IV Programmatic e-mail box is to be used for **Incoming Only**. Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**NMFS Review and Approval.** Any action that involves (a) fish passage restoration; (b) off- and side-channel habitat restoration; (c) set-back of a berm, dike or levee; or (d) removal of a water control structure, must be individually reviewed and approved by NMFS as consistent with this Opinion before that action is authorized. NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified. For actions that require NMFS approval, attach engineering designs and the results of a site assessment for contaminants to identify the type, quantity, and extent of any potential contamination.

Actions to (e) place boulders, (f) restore large wood, (g) restore spawning gravel, (h) restore streambanks, or (g) remove pilings, do not require NMFS prior review and approval.

Attach a copy of the erosion and pollution control plan, if required.

**DATE OF REQUEST:** \_\_\_\_\_

**NMFS Tracking #: 2007/07790**

**TYPE OF REQUEST:**

- ☐ ACTION NOTIFICATION (NO APPROVAL)  
☐ ACTION NOTIFICATION (APPROVAL REQUIRED)

**Statutory Authority:** ☐ ESA ONLY ☐ EFH ONLY ☐ ESA & EFH INTEGRATED

**Lead Action Agency:** Corps of Engineers

**Action Agency Contact:** \_\_\_\_\_ **Individual Corps Permit #:** \_\_\_\_\_

**Applicant:** \_\_\_\_\_ **Individual DSL Permit #:** \_\_\_\_\_

**Action Title:** \_\_\_\_\_

**6<sup>th</sup> Field HUC & Name:** \_\_\_\_\_

**Latitude & Longitude**  
(including degrees,  
minutes, and seconds) \_\_\_\_\_

**Proposed Project:** \_\_\_\_\_ **Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

**Action Description:**

**Type of Action:**

*Identify the type of action proposed.*

**Actions Requiring No Approval from NMFS:**

- ☐ Boulder Placement
- ☐ Spawning Gravel Restoration
- ☐ Large Wood Restoration
- ☐ Piling Removal
- ☐ Streambank Restoration

**Actions Requiring Approval from NMFS:**

- ☐ Fish Passage Restoration
- ☐ Off- and Side-Channel Habitat Restoration
- ☐ Set-back Berms, Dikes and Levees
- ☐ Water Control Structure Removal

**NMFS Species/Critical Habitat Present in Action Area:**

*Identify the species found in the action area:*

- ☐ Lower Columbia River Chinook
- ☐ Upper Willamette River spring-run Chinook
- ☐ Snake River spring/summer run Chinook
- ☐ Snake River fall-run Chinook
- ☐ Upper Columbia spring-run Chinook
- ☐ Columbia River chum
- ☐ Lower Columbia River coho
- ☐ Oregon Coast coho salmon

- ☐ Southern Oregon/Northern California coho
- ☐ Snake River sockeye
- ☐ Lower Columbia River steelhead
- ☐ Upper Willamette River steelhead
- ☐ Middle Columbia River steelhead
- ☐ Snake River Basin steelhead
- ☐ Upper Columbia River steelhead
- ☐ Green sturgeon

**EFH Species:**

- ☐ Salmon, Chinook
- ☐ Salmon, coho
- ☐ Coastal Pelagics
- ☐ Groundfish

**Terms and Conditions:**

*Check the Terms and Conditions from the biological opinion that will be included as conditions on the permit issued for this proposed action. Please attach the appropriate plan(s) for this proposed action.*

**Administrative**

- ☐ Electronic notification
- ☐ Site assessment for contaminants
- ☐ Action completion report
- ☐ Site access
- ☐ Salvage notice

**Construction**

- ☐ Flagging sensitive areas
- ☐ Temporary erosion controls
- ☐ Temporary access roads
- ☐ Fish passage criteria
- ☐ In-water work period
- ☐ Work area isolation
- ☐ Capture and release
- ☐ Electrofishing
- ☐ Construction water
- ☐ Fish screen criteria
- ☐ Erosion/pollution control plan
- ☐ Choice of equipment
- ☐ Vehicle staging and use
- ☐ Stationary power equipment
- ☐ Work from top of bank
- ☐ Site restoration

**Types of Actions**

**Boulder Placement**

- ☐ Site selection
- ☐ Installation

**Fish Passage Restoration**

- ☐ Needs NMFS Approval

**Large Wood Restoration**

- ☐ Large wood condition

**Off- and Side-Channel Habitat**

- ☐ Needs NMFS Approval

**Piling Removal**

- ☐ Pile removal
- ☐ Broken piles

**Set-back Berm, Dike, and Levee**

- ☐ Needs NMFS Approval

**Spawning Gravel Restoration**

- ☐ Gravel placement
- ☐ Gravel source

**Streambank Restoration**

- ☐ Streambank shaping
- ☐ Soil reinforcement
- ☐ Large Wood
- ☐ Use of Rock in Streambank
- ☐ Planting or installing vegetation
- ☐ Fertilizer
- ☐ Fencing

**Water Control Structure Removal**

- ☐ Needs NMFS Approval

## **Appendix B: SLOPES IV Programmatic-Restoration Action Completion Form**

## SLOPES IV PROGRAMMATIC - RESTORATION ACTION COMPLETION FORM

Within 60 days of completing all work below ordinary high water (OHW) as part of an action completed under the SLOPES IV Restoration programmatic opinion, submit the completed action completion form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Action Agency Contact:**

**Action Title**

**Start and End Dates for the completion of in-water work:**

*Start:*

*End:*

**Any Dates work ceased due to high flows:**

**Include With This Form:**

1. Photos of habitat conditions before, during, and after action completion
2. Evidence of compliance with fish screen criteria for any pump used
3. A summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort
4. Number, type, and diameter of any pilings removed or broken during removal
5. A description of any riparian area cleared within 150 feet of OHW
6. Linear feet of bank alteration
7. A description of site restoration
8. A completed Salvage Reporting Form from Appendix C for any action that requires fish salvage

## **Appendix C: SLOPES IV Programmatic – Restoration Salvage Reporting Form**

## **SLOPES IV PROGRAMMATIC - RESTORATION**

### **SALVAGE REPORTING FORM**

Within 10 days of completing a capture and release as part of an action completed under the SLOPES IV Restoration programmatic opinion. The applicant or, for Corps civil works actions, the Corps, must submit a complete a Salvage Reporting Form, or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Action Agency Contact:**

**Action Title**

**Date of Fish Salvage Operation:**

**Supervisory Fish Biologist (name, address & telephone number):**

#### **Include With This Form:**

1. A description of methods used to isolate the work area, remove fish, minimize adverse effects on fish, and evaluate their effectiveness.
2. A description of the stream conditions before and following placement and removal of barriers.
3. A description of the number of fish handled, condition at release, number injured, and number killed by species.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

**Refer to NMFS No:**  
**2011/05585**

April 5, 2012

Kevin Moynahan  
U.S. Army Corps of Engineers, Portland District  
P.O. Box 2946  
Portland, Oregon 97208-2946

Joyce Casey  
U.S. Army Corps of Engineers, Portland District  
P.O. Box 2946  
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7 Formal Programmatic Opinion, Letter of Concurrence, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revisions to Standard Local Operating Procedures for Endangered Species to Administer Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES IV In-water Over-water Structures)

Dear Mr. Moynahan and Ms. Casey:

The enclosed document contains a programmatic biological opinion (opinion) and letter of concurrence prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7(a)(2) of the Endangered Species Act (ESA) on the effects of a program implementing standard local operating procedures (SLOPES) for Department of Army (Corps) activities involving in-water or over-water structures (including pile driving, access management, and minor discharges) in Oregon and the south shore of the Columbia River and its tributaries as authorized by the Corps authority under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act, or as carried out by the Corps as part of civil works programs authorized by sections 206, 536, and 1135 of the Water Resources Development Act.

In this opinion, NMFS concluded that the proposed program and actions authorized under that program are not likely to adversely affect the Eastern distinct population segment of Steller sea lion (*Eumetopias jubatus*). The Steller sea lion do not have critical habitat designated in the action area.





NMFS also concluded that the proposed program and actions authorized under that program are not likely to jeopardize the continued existence of the following 17 species, or result in the destruction or adverse modification of their designated critical habitats.

- Lower Columbia River Chinook salmon (*Oncorhynchus tshawytscha*)
- Upper Willamette River spring-run Chinook salmon
- Upper Columbia River spring-run Chinook salmon
- Snake River spring/summer-run Chinook salmon
- Snake River fall-run Chinook salmon
- Columbia River chum salmon (*O. keta*)
- Lower Columbia River coho salmon (*O. kisutch*), critical habitat not designated or proposed
- Oregon Coast coho salmon
- Southern Oregon/Northern California Coasts coho salmon
- Snake River sockeye salmon (*O. nerka*)
- Lower Columbia River steelhead (*O. mykiss*)
- Upper Willamette River steelhead
- Middle Columbia River steelhead
- Upper Columbia River steelhead
- Snake River Basin steelhead
- Southern green sturgeon (*Acipenser medirostris*)
- Eulachon (*Thaleichthys pacificus*).

As required by section 7 of the ESA, NMFS is providing an incidental take statement with the opinion. The incidental take statement describes reasonable and prudent measures NMFS considers necessary or appropriate to minimize the impact of incidental take associated with this action. The take statement sets forth nondiscretionary terms and conditions, including reporting requirements, that the Federal action agency must comply with to carry out the reasonable and prudent measures. Incidental take from actions that meet these terms and conditions will be exempt from the ESA's prohibition against the take of listed species, except for eastern Steller sea lion.

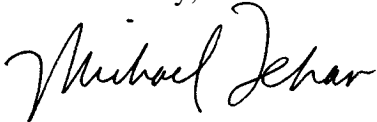
This document also includes the results of our analysis of the action's likely effects on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and includes one conservation recommendation to avoid, minimize, or otherwise offset potential adverse effects on EFH. This conservation recommendation is a subset of the ESA take statement's terms and conditions. Section 305(b) (4) (B) of the MSA requires Federal agencies to provide a detailed written response to NMFS within 30 days after receiving these recommendations.

If the response is inconsistent with the EFH conservation recommendation, the Federal action agency must explain why the recommendations will not be followed, including the scientific justification for any disagreements over the effects of the action and the recommendations. In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH response and how many

are adopted by the action agency. Therefore, we request that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

Please direct questions regarding this opinion to Marc Liverman at 503.231.2336 or Ben Meyer at 503.230.5425, of my staff in the Oregon State Habitat Office.

Sincerely,

  
for William W. Stelle, Jr.  
Regional Administrator

cc: Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Department of Parks and Recreation  
Oregon Department of State Lands  
Oregon State Marine Board  
Oregon Watershed Enhancement Board  
Pacific Northwest Waterways Association  
Port of Portland  
U.S. Fish and Wildlife Service

# Endangered Species Act Section 7 Formal Programmatic Opinion, Letter of Concurrence and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Conservation Recommendations

Revisions to Standard Local Operating Procedures for Endangered Species to Administer  
Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon  
(SLOPES IV In-water Over-water Structures)

NMFS Consultation Number: 2011/05585

Federal Action Agency: Army Corps of Engineers,  
Portland District, Operations and Regulatory Branches

## Affected Species and Determinations:

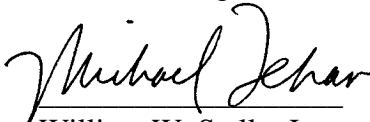
ESA-Listed Species	ESA Status	Is the action likely to adversely affect this species or its critical habitat?	Is the Action likely to jeopardize this species?	Is the action likely to destroy or adversely modify critical habitat for this species?
Lower Columbia River Chinook salmon	T	Yes	No	No
Upper Willamette River Chinook salmon	T	Yes	No	No
Upper Columbia River spring-run Chinook salmon	E	Yes	No	No
Snake River spring/summer run Chinook salmon	T	Yes	No	No
Snake River fall-run Chinook salmon	T	Yes	No	No
Columbia River chum salmon	T	Yes	No	No
Lower Columbia River coho salmon	T	Yes	No	N/A
Oregon Coast coho salmon	T	Yes	No	No
Southern Oregon/Northern California coasts coho salmon	T	Yes	No	No
Snake River sockeye salmon	E	Yes	No	No
Lower Columbia River steelhead	T	Yes	No	No
Upper Willamette River steelhead	T	Yes	No	No
Middle Columbia River steelhead	T	Yes	No	No
Upper Columbia River steelhead	T	Yes	No	No
Snake River Basin steelhead	T	Yes	No	No
Southern green sturgeon	T	Yes	No	No
Eulachon	T	Yes	No	No
Steller sea lion	T	No	No	N/A

Fishery Management Plan that Describes EFH in the Action Area	Would the action adversely affect EFH?	Are EFH conservation recommendations provided?
Coastal Pelagic Species	Yes	Yes
Pacific Coast Groundfish	Yes	Yes
Pacific Coast Salmon	Yes	Yes

Consultation  
Conducted By:

National Marine Fisheries Service  
Northwest Region

Issued by:

  
*for* William W. Stelle, Jr.  
Regional Administrator

Date:

April 5, 2012

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## GLOSSARY

For this consultation –

**Access management** means to maintain vessel access to previously authorized docks, wharfs, mooring structures, and boat ramps by maintaining an existing dredge prism.

**Action** means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by a Federal action agency.

**Action area** means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02).

**Applicant** means any person who requires formal approval, authorization, or funding from a Federal action agency as a prerequisite to conducting the action.

**Bankfull elevation** means the elevation at which a stream first reaches the top of its natural banks and overflows, and is indicated by the topographic break from a vertical bank to a flat floodplain or the topographic break from a steep slope to a gentle slope.

**Conserve, conserving, and conservation** mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Federal Endangered Species Act are no longer necessary.

**Conservation recommendation** means a suggestion by NMFS regarding a discretionary measure to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.

**Critical habitat** means any geographical area designated as critical habitat in CFR part 226.

**Cumulative effects** means those effects of future state or private activities, not involving Federal action, that are reasonably certain to occur within the action area of the Federal action subject to consultation.

**Discharge** means the placement of material below the plane of the ordinary high water mark or the high tide line.

**Design life** means the projected life (in years) of a new structure or structural component under normal loading and environmental conditions before replacement or major rehabilitation is expected.

**Dredge prism** means the location, width, depth, and length of a dredged area.

**Effectively isolated from the active stream** means an area that is inaccessible to fish and that cannot allow a visible release of pollutants or sediment into the water.

**Effects of the action** means the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action that will be added to the environmental baseline.

**Endangered species** means a species that is in danger of extinction throughout all or a significant portion of its range.

**Environmental baseline** means the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.

**Estuary or other saltwater area** means an area with maximum intrusion of more than 0.5 ppt measured at depth; in the Columbia River, this includes all areas downstream from Jim Crow Sands (river mile 27).

**Fill** means any material that has been placed below the plane of the ordinary high water mark or the high tide line.

**Fishery biologist** means a person that has an ecological education, thorough knowledge of aquatic biology and fish management, and is professionally engaged in fish research or management activities; a supervisory fishery biologist is professionally responsible for the supervision of biologists and technical staff engaged in fish research or management.

**Functional floodplain** means an area that is interconnected with the main channel through physical and biological processes such as periodic inundation, the erosion, transport and deposition of bed materials, nutrient cycling, groundwater recharge, hyporheic flows, the production and transport of large wood, aquatic food webs, and fish life history. These processes interact to create and maintain geomorphic features such as alcoves, backwaters, backwater deposits, braided channels, flooded wetlands, groundwater channels, overflow channels, oxbows or oxbow lakes, point bars, ponds, side channels, and sloughs. These features may be difficult to distinguish on smaller streams, where floodplain deposits are subject to rapid removal and alteration. These permanent or intermittent geomorphic features are extensions of the main stream channel and are critical to the survival and recovery of ESA-listed salmon and steelhead. The functional floodplain area is often assumed to be coincident with the flood prone area, if the entrenchment ratio is less than 2.2, or 2.2 times the active channel width if entrenchment ratio is greater than 2.2. This area may also be reduced by the presence of geomorphic features, flow regulation, or encroachment of built infrastructure.

**Grounding out** means the structure or vessel rests on the substrate.

**Harm** means significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.



**Hazardous material** means any chemical or substance which, if released into an aquatic habitat, could harm fish, including, but not limited to, petroleum products, radioactive material, chemical agents, and pesticides.

**Incidental take** means takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal action agency or applicant.

**Indirect effects** means effects that are caused by the proposed action and are later in time, but still are reasonably certain to occur.

**Interdependent actions** means actions that have no independent utility apart from the action under consideration.

**Interrelated actions** means actions that are part of a larger action and depend on the larger action for their justification.

**In-water work** means any part of an action that occurs below ordinary high or within the wetted channel, *e.g.*, excavation of streambed materials, fish capture and removal, flow diversion, streambank protection, and work area isolation.

**Jeopardize the continued existence of** means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

**Large wood** means a tree, log, rootwad, or engineered logjam that is large enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull channel width of the stream in or near which the wood occurs.

**Listed species** means any species of fish, wildlife, or plant which has been determined to be endangered or threatened under section 4 of the Federal Endangered Species Act.

**Minor discharge** means a discharge of dredged or fill material below the plane of the ordinary high water mark or the high tide line that does not exceed 25 cubic yards, and will not affect more than 0.1 acres.

**Minor excavation** means a removal of material that does not exceed 25 cubic yards.

**Natural water** means all perennial or seasonal waters except water conveyance systems that are artificially constructed and actively maintained for irrigation.

**Ordinary high water (OHW) elevation** means the elevation to which the high water ordinarily rises annually in season, excluding exceptionally high water levels caused by large flood events. The ordinary high water elevation is typically below the bankfull elevation. The ordinary high water elevation is considered equivalent to the bankfull elevation if the ordinary high water lines are indeterminate.

**Permittee** - see applicant.

**Pesticide-treated wood means** wood treated with compounds such as chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate.

**Properly functioning, properly functioning condition, and properly functioning habitat condition** refers to the habitat component of a species= biological requirements and means the sustained presence of natural habitat-forming processes in a watershed necessary for the long-term survival of the species through the full range of environmental variation.

**Primary constituent elements (PCE)** means the biological and physical features of critical habitat that are essential to the conservation of listed species.

**Reasonable and prudent measures (RPM)** means actions the NMFS believes necessary or appropriate to minimize the amount or extent of incidental take.

**Recovery** means an improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Federal Endangered Species Act.

**Recreational boat dock** means a structure consisting of a fixed pier, elevated walkway, ramp and float.

**Recreational boat ramp means** a concrete inclined plane extending from the upland into the water for use that is used to move boats to or from the water.

**Riparian management area** means land: (1) Within 150 feet of any natural water occupied by listed species during any part of the year or designated or proposed as critical habitat; (2) within 100 feet of any natural water within 1/4 mile upstream from areas occupied by listed species or designated as critical habitat and that is physically connected by an above-ground channel system such that water, sediment, or woody material delivered to such waters will eventually be delivered to water occupied by listed salmon or designated as critical habitat; and (3) within 50 feet of any natural water upstream from areas occupied by listed species or designated as critical habitat and that is physically connected by an above-ground channel system such that water, sediment, or woody material delivered to such waters will eventually be delivered to water occupied by listed salmon or designated as critical habitat.

**Subaquatic vegetation (SAV)** means any native species of aquatic plants. In estuarine areas this includes all species of eelgrass.

**Saltwater area** – see estuary.

**Scope of the action** means the range of actions and impacts to be considered in the analysis of effects.

**Shallow water** means a water column depth of less than 20 feet as measured at Ordinary Low Water or Mean Lower Low Water.

**Shallow water area** means the areal extent of the waterbody where the column depth is less than 20 feet as measured at Ordinary Low Water or Mean Lower Low Water.

**Sound exposure level (SEL)** means a measure of sound energy dose that is defined as the constant sound level acting for one second that has the same acoustic energy as the original sound (Hastings and Popper 2005). SEL is calculated by summing the cumulative pressure squared over time as decibels re 1 micropascal<sup>2</sup>-second.

**Stream-floodplain corridor** means the main stream channel and its functional floodplain.

**Streambank toe** means the part of the streambank below ordinary high water.

**Take** means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

**Threatened species** means a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**Viable Salmonid Population** means an independent population of any Pacific salmonid that has a negligible risk of extinction due to threats from demographic variation, local environmental variation and genetic changes over a 100 year time frame.

**Working adequately** means erosion controls that do not allow ambient stream turbidity to increase by more than 10% above background 100 feet below the discharge, when measured relative to a control point immediately upstream of the turbidity-causing activity.

## LIST OF ABBREVIATIONS

BA	Biological Assessment
BMP	Best Management Practice
CFR	Code of Federal Regulations
CHART	Critical Habitat Analytical Review Team
CMZ	Channel migration zone
dB	Decibel
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FR	Federal Register
HAPC	Habitat Area of Particular Concern
HUC	Hydraulic Unit Code
LCR	Lower Columbia River
MCR	Middle Columbia River
MP	Mile Post
MSA	Magnuson Stevens Act
NMFS	National Marine Fisheries Service
OHW	Ordinary High Water
PCE	Primary constituent element
Re: 1 $\mu$ Pa	Reference 1 MicroPascal
RM	River Mile
RMS	Root Mean Squared
RPM	Reasonable and prudent measure
SEL	Sound exposure level
SR	Snake River
SRB	Snake River Basin
TRT	Technical Review Team
UCR	Upper Columbia River
U.S.C.	United States Code
UWR	Upper Willamette River
VSP	Viable Salmonid Population
WLC	Willamette/Lower Columbia

## **1. INTRODUCTION**

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3 below.

### **1.1 Background**

The programmatic biological opinion (opinion) and incidental take statement portions of this document were prepared by the National Marine Fisheries Service (NMFS) in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531, *et seq.*), and implementing regulations at 50 CFR 402.

The NMFS also completed an Essential Fish Habitat (EFH) consultation. It was prepared in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801, *et seq.*) and implementing regulations at 50 CFR 600.

The opinion and EFH conservation recommendation are both in compliance with section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-5444) (“Data Quality Act”) and underwent pre-dissemination review.

### **1.2 Consultation History**

On November 2, 2011, the U.S. Army Corps of Engineers, Portland (Corps), requested formal consultation on implementing its Standard Local Operating Procedures for Endangered Species (SLOPES) program as it applies to Corps activities involving in-water and over-water structures (including pile driving, access management, and minor discharges), in Oregon, and the south shore of the Columbia River and its tributaries (SLOPES IV In-water Over-water Structures or SLOPES IV).

SLOPES refers to the process and criteria that the Corps uses to guide the administration of certain activities regulated under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act, or carried out by the Corps as part of civil works programs authorized by sections 206, 536, and 1135 of the Water Resources Development Act. Under SLOPES, applications for proposed actions that the Corps finds to be within the range of effects considered in the corresponding opinion are issued a permit with conditions. Applications found not to be within this range of effects are submitted to NMFS for additional site specific ESA and EFH consultation. A series of SLOPES programmatic opinions have been issued since March 21, 2001.

In annual monitoring reports for SLOPES, the Corps provided the number of permit requests for in- and over-water activities that were permitted under the past programmatics (Table 1). The last SLOPES opinion (SLOPES III, refer to NMFS No.: 2004/01043) covering the proposed actions expired in 2007. Table 2 provides the number since that date of individual consultations NMFS has conducted with the Corps on the types of activities that would be covered under the proposed action.

**Table 1.** Number of Corps permits issued within the action area by activity type under prior SLOPES opinions.

YEAR	ACTIVITY		
	In- and over-water structures	Access Management	Minor Discharges
2001 (n=55)	24	9	22
2002 (n=59)	32	11	16
2003 (n=65)	46	2	17
2004 (n=34)	6	10	18
2005 (n=27)	18	2	7
2006 (n=35)	26	4	5

**Table 2.** Number of individual consultations NMFS conducted with the Corps since 2006 on the types of activities proposed for coverage in the SLOPES IV In-water Over-water programmatic opinion.

YEAR	ACTIVITY		
	In- and over-water structures	Access Management	Minor Discharges
2007 (n = 27)	7	9	11
2008 (n = 30)	8	8	14
2009 (n = 43)	21	14	8
2010= (n = 55)	26	18	11
2011 <sup>1</sup> (n = 18)	9	7	2

Experiences of the Corps and NMFS during administration and implementation of the SLOPES program, including, data collected from individual projects, and the results of the annual monitoring conference, guide the Corps and NMFS in their determination of when it is necessary to adjust actions authorized under the SLOPES opinions. These adjustments ensure that covered actions will continue to meet ESA requirements; share characteristics that produce environmental effects which are minor, repetitive, and predictable in nature; and share similar requirements for regulatory approval.

A complete record of this consultation is on file at the Oregon State Habitat Office in Portland, Oregon.

---

<sup>1</sup> Through July 2011

### 1.3 Proposed Action

The Corps proposes to implement its SLOPES program as it applies to Corps activities involving in-water and over-water structures (including pile driving, access management, and minor discharge) in Oregon, including the south shore of the Columbia River and its tributaries, as authorized by the Corps authority under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act, or as carried out by the Corps as part of civil works programs authorized by sections 206, 536, and 1135 of the Water Resources Development Act. More specifically, the Corps proposes to implement its SLOPES IV in State of Oregon waters and land under the jurisdiction of the Portland District, Army Corps of Engineers – and only to the extent to which the program falls within the NMFS Northwest Region’s area of responsibility.

Historical data (Table 1) show that no more than 65 actions per year have been completed under prior SLOPES Opinions. However, due to expected population growth within Oregon and maintenance of prior approved actions, NMFS assumes that the maximum number of actions authorized or carried out each year under the proposed program may increase by a factor of three, up to a total of 195 actions per year.

The Corps is proposing to use this iteration of SLOPES to authorize four categories of actions, specifically:

**Install a new or expanded aid to navigation, mooring buoy, mooring dolphin, recreational boat dock, or recreational boat ramp**, including all actions necessary to complete installation *e.g.*, geotechnical surveys, pile driving and minimal excavation (less than 25 cubic yards), grading, or filling. A recreational boat dock consists of a fixed pier, elevated walkway, ramp and float; and a recreational boat ramp is an inclined plane (usually of concrete) extending from the upland into the water that is used to move boats to or from the water.

This action does not include any project that would install a new mooring buoy, mooring dolphin, recreational boat dock or recreational boat ramp at a site with any of the following characteristics:

- An alcove, backwater slough, downstream of a bar or island, side channel, or any other shallow-water area (means a water column depth of less than 20 feet as measured at Ordinary Low Water (OLW) or Mean Lower Low Water (MLLW) where routine maintenance dredging will be required), flow is insufficient to dissipate fuels and other pollutants from vessels, or water depth is insufficient to prevent the structure from grounding out during normal low flow conditions.
- A Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps’ best professional judgment.
- Within a Corps or NMFS compensatory mitigation site or aquatic habitat enhancement, restoration, preservation, or creation site.

**Maintain, rehabilitate, replace, or remove an existing in-water or over-water structure** as necessary to extend the useful service life of the structure, or to withdraw the public or private structure from service when its usefulness has ended. Eligible structures include, but are not limited to, an aid to navigation, boat house, boat launch ramp, breakwater, buoy, commercial/industrial/recreational pier or wharf, port/industrial/marina facilities,<sup>2</sup> covered boat house, dock, dolphin, float plane hanger, floating storage unit, floating walkway, groin, jetty, marina, mooring structure, permanently moored floating vessel, private boat dock, recreational boat ramp, or wharf.

This does not include any action that would occur in a Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps' best professional judgment.

**Dredging to maintain vessel access** to previously authorized docks, wharfs, mooring structures, and boat ramps by maintaining an existing dredge prism, provided that any dredged materials and subsequent leave surface are suitable and approved for in-water disposal. Where appropriate, this includes maintenance and advanced maintenance to ensure that vessel access is not interrupted by normal changes in river conditions during a reasonable interval between dredging events. This action does not include any modification that changes the character, scope, size, or location of the project area or previously authorized dredge prism.

This does not include any action that is part of the Corps' navigation program to maintain Federal navigation channels, or that would occur in a Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps' best professional judgment.

**Dredging to maintain functionality** of previously authorized channels, culverts, water intakes, or outfalls, provided that (a) the volume of material moved is limited to the minimum amount necessary to restore existing use, and all naturally-occurring sediment and debris, including large wood, are side cast or returned to the channel downstream from the structure where it will continue to provide aquatic habitat function, (b) fish passage at the structure will be maintained, and meet NMFS passage criteria.

This does not include any action that would (a) result in a discharge or excavation that exceeds 25 cubic yards; and/or 0.1 acres (b) include any water intake or point of diversion that does not have a fish screen that is installed, operated and maintained according to NMFS fish screen criteria (2008 or current version) and meet NMFS fish passage criteria; or (c) occur in a Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps' best professional judgment.

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<sup>2</sup> This includes replacing existing pilings, fender piles, group pilings, walers, and fender pads. It also includes the installation of new mooring dolphins and structural pilings, height extension of existing pilings and the relocation of floats within an existing marina.



### 1.3.1. Proposed Design Criteria

The Corps proposes to apply the following design criteria, in relevant part, to every action authorized or carried out under the program and approved under this opinion. Measures described under “Administration” apply to the Corps as it manages the SLOPES program. Measures described under “General Construction” apply, in relevant part, to each action that involves a construction component. Measures described under “Types of Actions” apply, in relevant part, to each action as described.

#### 1.3.1.1 Administration

1. **Confirm ESA-listed species.** The Corps will confirm that the effects of each action authorized or carried out under this opinion will occur within the present or historic range of an ESA-listed salmon, steelhead, southern distinct population segment (DPS) of green sturgeon, the southern DPS of eulachon (referred to hereafter as eulachon), or Steller sea lion, or designated or proposed critical habitat, or designated EFH.
2. **Corps review.** The Corps will individually review and approve each action to ensure that (a) it meets all applicable design criteria, (b) all adverse effects to listed fish and their designated critical habitats are within the range of effects considered in this opinion; and (c) the action will not occur in a Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps’ best professional judgment.
3. **NMFS review.** The Corps will ensure that all actions will also be individually reviewed and approved by NMFS as consistent with this opinion before the action is authorized. The Corps will initiate NMFS’ review by submitting the action notification form (Appendix A) to NMFS with sufficient detail about the action design and construction to ensure the proposed action is consistent with all provisions of this opinion. NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified.
4. **Full implementation required.** For regulatory projects, the Corps must include each applicable design criterion as an enforceable part of the permit document. For the projects carried out by the Corps, the Corps must include each applicable design criterion as a final project specification. Failure to comply with all applicable design criteria may invalidate protective coverage of ESA section 7(o)(2) regarding “take” of listed species, and may lead NMFS to a different conclusion regarding the effects of a specific project.
5. **Site access.** The Corps will retain the right of reasonable access to the site of actions authorized under this opinion to monitor the use and effectiveness of permit conditions.
6. **Salvage notice.** The Corps will include the following notice as part of each permit issued using this opinion and, for actions completed by the Corps, provide the notice in writing to the action supervisor.

If a sick, injured or dead specimen of a threatened or endangered species is found during construction and within the action area, the finder must notify NMFS’ Office of Law Enforcement at 503-231-6240 or 206-526-6133. The finder must take care in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility for carrying out instructions provided by the Office of Law

Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

7. **Action completion report.** The Corps will submit an action completion report (Appendix B) for each action carried out by the Corps, and require the applicant to submit an action completion report for each action authorized by the Corps, to NMFS within 60 days of completing all work below ordinary high water. A completed fish salvage reporting form (Appendix C) is also required for any action that involves fish capture and removal.
8. **Site restoration or compensatory mitigation report.** The Corps will submit a site restoration or compensatory mitigation report (Appendix D) for each project carried out by the Corps, and require the applicant to submit a report for each such action authorized by the Corps, to NMFS by December 31 of the year that the Corps approves that the site restoration or compensatory mitigation is complete.
9. **Annual program report.** The Corps' Regulatory and Civil Works Branches will each submit an annual report to NMFS by February 15 of the subsequent calendar year that describes the Corps' implementation of SLOPES IV program under the terms of this opinion, and includes the following information:
  - a. An assessment of overall program activity.
  - b. A map showing the location and type of each action authorized and carried out under this opinion.
  - c. A list of any projects for which the Corps has approved site restoration or compensatory mitigation is complete.
  - d. Any other data or analyses the Corps deems necessary or helpful to assess habitat trends because of actions authorized under this opinion.
10. **Annual coordination meeting.** The Corps' Regulatory and Civil Works Branches will convene an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this opinion, or make the program more efficient or more accountable.

### 1.3.1.2 General Construction

11. **Pollution and erosion control.** Any action that will require earthwork and may increase soil erosion and cause runoff with visible sediment into surface water, or that will require the use of materials that are hazardous or toxic to aquatic life (such as motor fuel, oil, or drilling fluid), must have a pollution and erosion control plan that is developed and carried out by the applicant, and commensurate with the scale of the action.
  - a. The plan must include practices to minimize erosion and sedimentation associated with all aspects of the project (*e.g.*, staging areas, stockpiles, grading); to prevent construction debris from dropping or otherwise entering any stream or waterbody; and to prevent and control hazardous material spills.
  - b. During construction, erosion controls and streams must be monitored and maintained daily during the rainy season and weekly during the dry season as necessary to ensure controls are properly functioning.
  - c. If monitoring shows that the erosion controls are ineffective at preventing visible sediment discharge, the project must stop to evaluate erosion control measures.

Repairs, replacements or the installation of additional erosion control measures must be completed before the project resumes.

- d. Proper maintenance includes removal of sediment and debris from erosion controls like silt fences or hay bales once it has reached on-third of the exposed height of the control.

**12. Stormwater management.** Any action that will expand, recondition, reconstruct, or replace pavement, replace a stream crossing, otherwise increase the contributing impervious surface within the project area, or create a new stormwater conveyance or discharge facility, must have a stormwater management plan that is developed and carried out by the applicant, commensurate with the scale of the action, and approved by NMFS. The stormwater plan submitted for approval must include all of the information called for by the “Checklist for Submission of a Stormwater Plan” (ODEQ 2008, or most recent version), or an explanation of why any missing information is not applicable to a specific project.

**13. Site restoration.** Any action that results in significant disturbance of riparian vegetation, soils, streambanks, or stream channel must have a site restoration plan that is developed and carried out by the permittee (or Corps), that is commensurate with the scale of the action. The goal of the plan is to ensure that riparian vegetation, soils, streambanks, and stream channel are cleaned up and restored after the action is complete. No single criterion is sufficient to measure restoration success, but the intent is that the following features should be present in the upland parts of the project area, within reasonable limits of natural and management variation:

- a. Human and livestock disturbance, if any, are confined to small areas necessary for access or other special management situations.
- b. Areas with signs of significant past erosion are completely stabilized and healed, bare soil spaces are small and well-dispersed.
- c. Soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local.
- d. Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site.
- e. Plants are native species and have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation.
- f. Vegetation structure is resulting in rooting throughout the available soil profile.
- g. Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion (“litter dams”).
- h. A continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank.
- i. Streambanks are stable, well vegetated, and protected at margins by roots that extend below baseflow elevation, or by coarse-grained alluvial debris.

**14. Compensatory mitigation.** Any action that will permanently displace riparian or aquatic habitats or otherwise prevent development of properly functioning condition of natural habitat processes will require compensatory mitigation to fully offset those impacts.

- a. Examples of actions requiring compensatory mitigation include construction of a new or enlarged boat ramp or float, the addition of scour protection to a boat

ramp, or construction of new impervious surfaces without adequate stormwater treatment.

- b. For displaced riparian and aquatic habitat, the primary habitat functions of concern are related to the physical and biological features essential to the long-term conservation of listed species. Those are water quality, water quantity, channel substrate, floodplain connectivity, forage, natural cover, space, and free passage. Examples of acceptable mitigation for riparian losses includes planting trees or other woody vegetation in the riparian area, removal of existing overwater structures or restoration of shallow-water, off-channel, or beach habitat by adding features such as submerged or overhanging large wood, aquatic vegetation, large rocks and boulders, side channels and undercut banks.
- c. For new impervious surfaces with inadequate stormwater treatment, the primary habitat functions of concern are water quality and water quantity. Examples of acceptable mitigation for inadequate stormwater management includes providing adequate stormwater treatment at an alternate site where it did not exist before or retrofitting an existing but substandard stormwater facility to provide capacity necessary to infiltrate and retain the proper volume of stormwater.
- d. As part of NMFS's review under clause 3 above, NMFS will determine if the proposed compensatory mitigation fully offsets permanent displacement of riparian or aquatic habitats and/or impacts that prevent development of properly functioning processes.

**15. Preconstruction activity.** Before alteration of the action area, flag the boundaries of clearing limits associated with site access and construction to minimize soil and vegetation disturbance, and ensure that all temporary erosion controls are in place and functional.

**16. Site preparation.** During site preparation, conserve native materials for restoration, including large wood, vegetation, topsoil and channel materials (gravel, cobble and boulders) displaced by construction. Whenever practical, leave native materials where they are found and in areas to be cleared, clip vegetation at ground level to retain root mass and encourage reestablishment of native vegetation. Building and related structures may not be constructed inside the riparian management area.

**17. Heavy equipment.** Heavy equipment will be selected and operated as necessary to minimize adverse effects on the environment (*e.g.*, minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils); and all vehicles and other heavy equipment will be used as follows:

- a. Stored, fueled and maintained in a vehicle staging area placed 150 feet or more from any waterbody, or in an isolated hard zone such as a paved parking lot.
- b. Inspected daily for fluid leaks before leaving the vehicle staging area for operation within 50 feet of any waterbody.
- c. Steam-cleaned before operation below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, seeds, organisms and other visible contaminants.
- d. Generators, cranes and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.

**18. In-water work period.** All work within the active channel will be completed in accordance with the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife resources (ODFW 2000, or the most recent version), except as follows:

- a. All in-water work in the Willamette River mainstem between Willamette Falls and the confluence with the Columbia River must be completed between July 1 and October 31.
- b. All in-water work in the Columbia River mainstem below Bonneville Dam, except pile driving, must be completed between November 1 and December 31.
- c. Pile driving in the Columbia River mainstem below Bonneville Dam must be completed between October 1 and November 31.
- d. Hydraulic and topographic measurements and encased geotechnical drilling may be completed at any time, if a fish biologist determines that no adult fish are congregating for spawning and no redds are occupied by eggs or pre-emergent alevins within 300 feet of the work site.

**19. Actions that require work area isolation.** Any action that involves excavation (other than access management), backfilling, embankment construction, or similar work below ordinary high water where adult or juvenile fish are reasonably certain to be present, or 300 feet or less upstream from spawning habitats, must be effectively isolated from the active stream.

**20. Fish capture and removal.** Whenever work isolation is required and ESA-listed fish are likely to be present, the applicant must attempt to capture and remove the fish as follows:

- a. A fishery biologist experienced with work area isolation and competent to ensure the safe capture, handling and release of all fish will supervise this part of the action, and complete the fish salvage form from Appendix C that will be submitted with the action completion report.
- b. Any fish trapped within the isolated work area must be captured and released using a trap, seine, electrofishing, or other methods as prudent to minimize the risk of injury, then released at a safe release site.
- c. If electrofishing is used to capture fish, that work must consistent with NMFS' electrofishing guidelines (NMFS 2000).

**21. Piling installation.** Pilings may be concrete, steel round pile 24 inches in diameter or smaller, steel H-pile designated as HP24 or smaller, or wood that has not been treated with preservatives or pesticides. Any proposal to use wood pilings treated with preservatives or pesticides is not covered by this consultation and will require individual consultation.

- a. When practical, use a vibratory hammer for piling installation. For pile driving in the Columbia River in the month of October, only a vibratory hammer may be used.
- b. Jetting may be used for piling installation in areas with coarse, uncontaminated sediments.

**22. Pile driving with an impact hammer.** When using an impact hammer to drive or proof steel piles, one of the following sound attenuation methods must be used:

- a. Completely isolate the pile from flowing water by dewatering the area around the pile.
- b. If water velocity is 1.6 feet per second or less, surround the piling being driven by a confined or unconfined bubble curtain (see NMFS and USFWS 2006, Wursig *et al.* 2000, and Longmuir and Lively 2001) that will distribute small air bubbles around 100% of the piling perimeter for the full depth of the water column.

- c. If water velocity is greater than 1.6 feet per second, surround the piling being driven by a confined bubble curtain (*e.g.*, a bubble ring surrounded by a fabric or non-metallic sleeve) that will distribute air bubbles around 100% of the piling perimeter for the full depth of the water column.

**23. Pile driving where Steller sea lions may be present.** If the action area is between Bonneville Dam and the mouth of the Columbia River, or outside of the Columbia River but within 10-miles of a Steller sea lion haul-out<sup>3</sup>, the following conditions apply:

- a. A biologist qualified in marine mammal identification will be on site during all pile driving and will notify the operator to cease operations if a Steller sea lion enters the 1,200 foot radius of the pile.
- b. Pile driving may not begin if Steller sea lions are within 1,200 feet of the pile being driven.
- c. Pile driving must cease if Steller sea lions approach to within 1,200 feet of the pile being driven.

**24. Pile removal.** Use the following steps to minimize creosote release, sediment disturbance and sediment resuspension:

- a. Install a floating surface boom to capture floating surface debris.
- b. Keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.
- c. Dislodge the piling with a vibratory hammer, when possible; never intentionally break a pile by twisting or bending.
- d. Slowly lift the pile from the sediment and through the water column.
- e. Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment – a containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway.
- f. Fill the holes left by each piling with clean, native sediments immediately upon removal.
- g. Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.

**25. Broken or intractable piling.** When a pile breaks or is intractable during removal, continue removal as follows:

- a. Make every attempt short of excavation to remove each piling, if a pile in uncontaminated sediment is intractable, breaks above the surface, or breaks below the surface, cut the pile or stump off at least 3 feet below the surface of the sediment.
- b. If dredging is likely where broken piles are buried, use a global positioning system (GPS) device to note the location of all broken piles for future use in site debris characterization.

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<sup>3</sup> Haul outs are located at 3 Arches Rock, Orford Reef, Rogue Reef, Sea Lion Caves, Cape Arago State Park, Oregon Islands National Wildlife Refuge and South Jetty Columbia River

**26. Pesticide-treated wood installation.**<sup>4</sup> Use of lumber, pilings, or other wood products treated or preserved with pesticidal compounds may not be used below ordinary high water, or as part of an in-water or overwater structure

**27. Pesticide-treated wood removal.** When it is necessary to remove pesticide-treated wood, the following conditions apply.

- a. Ensure that, to the extent possible, no wood debris falls into the water. If wood debris does fall into the water, remove it immediately.
- b. After removal, place wood debris in an appropriate dry storage site until it can be removed from the project area.
- c. Do not leave wood construction debris in the water or stacked on the streambank at or below the ordinary high water.
- d. Evaluate wood construction debris removed during a project, including pesticide-treated wood pilings, to ensure proper disposal of debris.

### 1.3.1.3 Types of Actions

#### In-water or Over-water Structures

**28. Boat ramps.** All boat ramps must consist of pre-cast concrete slabs below ordinary high water, and may be cast-in-place above ordinary high water if completed in the dry. Rock may be used to prevent scouring, down-cutting, or failure at the boat ramp, provided that the rock is no larger than necessary and does not extend further than 4-feet from the edge of the ramp in any direction.

**29. Educational signs.** To educate the public about pollution from boating activities and its prevention, the Corps shall install (Corps project) or require the following information or its equivalent to be posted on a permanent sign that will be maintained at each permitted facility that is used by the public (*e.g.*, a public boat ramp or marina):

- a. A description of the ESA-listed species which are or may be present in the project area.
- b. Notice that adults and juveniles of these species are protected by the ESA and other laws so that they can successfully migrate, spawn, rear, and complete other behaviors necessary for their recovery.
- c. Therefore, all users of the facility are encouraged or required to: (i) Follow procedures and rules governing use of sewage pump-out facilities; (ii) minimize the fuel and oil released into surface waters during fueling, and from bilges and

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<sup>4</sup> For alternatives sources of structural lumber and pilings designed for industrial and marine applications, but not based on pesticide-treated wood, including silica-based wood preservation, improved recycled plastic technology, and environmentally safe wood sealer and stains, see, *e.g.*, Resco Plastics (Coos Bay, Oregon; ph. 541.269.5485) and American Plastic Lumber (Shingle Springs, California; ph. 530.677.7700) for lumber from recycled plastic; Plastic Pilings, Inc. (Rialto, California; ph. 909.874.4080) for structural and non-structural lumber from recycled plastic; Timbersil (Placentia, California; ph. 714.223.1804) for outdoor lumber treated with silica; Kebony (ph. 888.914.9995) for outdoor lumber impregnated with a resin from furfuryl alcohol, a byproduct of sugar production; and Timber Pro Coatings (Portland, Oregon; ph. 503.232.1705) for a silica-based internal wood stabilizer, and a low-VOC wood sealer/stain. The use of trade, firm, or corporation names in this Opinion is for the information and convenience of the action agencies, and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

gas tanks; (iii) avoid cleaning boat hulls in the water to prevent the release of cleaner, paint and solvent; (iv) practice sound fish cleaning and waste management, including proper disposal of fish waste; and (v) dispose of all solid and liquid waste produced while boating in a proper facility away from surface waters.

- 30. Flotation material.** All synthetic flotation material must be permanently encapsulated to prevent breakup into small pieces and dispersal in water.
- 31. New or replacement floats.** Any new or replacement float must be placed at least 50 feet from the shoreline (100-feet from the shoreline in the Columbia River) as measured at ordinary low water or mean lower low water and may not be placed in an estuarine area with submerged aquatic vegetation. Any float wider than 6-feet must also include (a) an open area of grating that is at least 50% of the total surface area,; or (b) be placed where current velocity is at least 0.7 feet per second year-round. Floats may not exceed 10' in width or 40' in length or a total of 400 square feet.
- 32. Piscivorous birds.** All float pilings, mooring buoys, and navigational aids must be fitted with devices to prevent perching by piscivorous birds.
- 33. Relocation of existing structures in a marina.** Any existing structure that is relocated in a marina must remain within the existing overall footprint, but no closer than 50 feet of the shoreline (100 feet in the Columbia River) as measured at ordinary low water or mean lower low water.
- 34. Repair or replacement of wall and roof components for a covered moorage or boat house.** Any replacement for a roof, wall, or garage door of a covered moorage or boat house must be made of translucent materials or incorporate skylights to allow light penetration.

### **Dredging**

- 35. Dredging to Maintain Vessel Access.** When dredging to maintain access to previously authorized docks, wharfs, mooring structures, and boat ramps, the following conditions apply:
  - a. All dredged materials and subsequent leave surface must be suitable and approved for in-water disposal using newly acquired or historical data based on criteria in the Sediment Evaluation Framework ((USACE *et al.* 2009).
  - b. All dredged sediment and debris must be side cast or returned to the channel within the ordinary high-water line downstream from the dredging site where it will be recruited by the next annual high flow and continue to provide aquatic habitat functions.
  - c. The dredging must not alter the character, scope, size, or location of the project area or previously authorized dredge prism.
- 36. Dredging to Maintain Functionality.** When discharging or excavating to maintain the functionality of a channel, culvert, intake, or outfall, the following conditions apply:
  - a. Either the discharge or excavation may not exceed 25 cubic yards, or include any water intake or point of diversion that does not have a fish screen that is installed, operated and maintained according to NMFS fish screen criteria and meet NMFS fish passage criteria.



- b. All dredged materials and subsequent leave surface must be suitable and approved for in-water disposal using newly acquired or historical data based on criteria in the Sediment Evaluation Framework.
- c. All dredged sediment and debris must be side cast or returned within the annual high flow channel downstream from the dredging site where it will continue to provide aquatic habitat functions.
- d. The dredging must not alter the character, scope, size, or location of the project area.

### **1.3.2. Interrelated and Interdependent Actions**

To the extent that the proposed action will result in the construction of new in-water or over-water structures, the operation and maintenance of those structures as necessary to extend their useful service life, or to withdraw those structures from service when their usefulness has ended, are included here as interrelated and interdependent actions whose effects will be considered in the following analysis. Similarly, to the extent that the proposed action will result in the maintenance or replacement of a preexisting structure, the continued operation and maintenance of those structures, and the use of these structures to support boating activities are also included here as interrelated and interdependent actions and those effects will also be considered in the following analysis.

NMFS relied on the foregoing description of the proposed action, including all stated project design criteria, in conducting this consultation. The realities of completing actions proposed, funded or authorized by action agencies often require changes in design, practices, or methods during implementation. Such changes can bear on the environmental effects of an action, and thus could affect the validity of the conclusion made during consultation, and/or the validity of the Incidental Take Statement. Therefore, the Corps should keep NMFS informed of any such changes.

### **1.4 Action Area**

The action area consists of all the areas where the environmental effects of actions authorized under SLOPES IV program may occur. SLOPES IV projects can be authorized, and will have environmental effects, on State of Oregon waters and land under the jurisdiction of the Portland District, Army Corps of Engineers that are within the NMFS Northwest Region's area of responsibility. There is overlap between the areas impacted by the SLOPES IV program and the range of ESA listed salmon, steelhead, southern DPS green sturgeon, southern DPS eulachon, eastern DPS Steller sea lion, or designated critical habitat. Eighteen ESA-listed species and 16 designated critical habitats occur in the action area and were considered in this opinion (Table 3).

The waters that form the Klamath River system do not fall within the action area because the Klamath basin is not within the NMFS Northwest Region's area of responsibility and thus no SLOPES IV projects will be authorized within that basin (nor will SLOPES IV projects authorized in other areas have effects in that basin).

The action area is also designated as EFH for Pacific Coast groundfish (PFMC 2006), coastal pelagic species (PFMC 1998), and Pacific Coast salmon (PFMC 1999), or is in an area where environmental effects of the proposed action may adversely affect designated EFH for those species.

**Table 3.** Federal Register notices for final rules that list threatened and endangered species, designate critical habitats, or apply protective regulations to listed species considered in this consultation. Listing status: “T” means listed as threatened under the ESA; “E” means listed as endangered; “P” means proposed.

Species	Listing Status	Critical Habitat	Protective Regulations
<b>Marine and Anadromous Fish</b>			
<b>Chinook salmon (<i>Oncorhynchus tshawytscha</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River spring-run	E 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	ESA section 9 applies
Snake River spring/summer run	T 6/28/05; 70 FR 37160	10/25/99; 64 FR 57399	6/28/05; 70 FR 37160
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
<b>Chum salmon (<i>O. keta</i>)</b>			
Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Coho salmon (<i>O. kisutch</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	Not applicable	6/28/05; 70 FR 37160
Oregon Coast	T 2/11/08; 73 FR 7816	2/11/08; 73 FR 7816	2/11/08; 73 FR 7816
Southern Oregon / Northern California Coasts	T 6/28/05; 70 FR 37160	5/5/99; 64 FR 24049	6/28/05; 70 FR 37160
<b>Sockeye salmon (<i>O. nerka</i>)</b>			
Snake River	E 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	ESA section 9 applies
<b>Steelhead (<i>O. mykiss</i>)</b>			
Lower Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Middle Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River	T 8/24/09; 74 FR 42605	9/02/05; 70 FR 52630	2/01/06; 71 FR 5178
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Green sturgeon (<i>Acipenser medirostris</i>)</b>			
Southern DPS	T 4/07/06; 71 FR 17757	10/09/09; 74 FR 52300	6/02/10; 75 FR 30714
<b>Eulachon (<i>Thaleichthys pacificus</i>)</b>			
Southern DPS	T 3/18/10; 75 FR 13012	10/20/11; 76 FR 65324	Not applicable
<b>Marine Mammals</b>			
<b>Steller sea lion (<i>Eumetopias jubatus</i>)</b>			
Eastern DPS	T 5/5/1997; 63 FR 24345	8/ 27/93; 58 FR 45269	11/26/90; 55 FR 49204

## 2. ENDANGERED SPECIES ACT BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with the U.S. Fish and Wildlife Service, NMFS, or both, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitat. Section 7(b)(3) requires that at the conclusion of consultation, the Service provide an opinion stating how the agencies' actions will affect listed species or their critical habitat. If incidental take is expected, Section 7(b)(4) requires the provision of an incidental take statement (ITS) specifying the impact of any incidental taking, and including reasonable and prudent measures to minimize such impacts.

### 2.1 Introduction to the Biological Opinion

Section 7(a)(2) of the ESA requires Federal agencies, in consultation with NMFS, to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species, or adversely modify or destroy their designated critical habitat. The jeopardy analysis considers both survival and recovery of the species. The adverse modification analysis considers the impacts to the conservation value of the designated critical habitat.

This opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to critical habitat (Hogarth 2005).

We will use the following approach to determine whether the proposed action described in Section 1.3 is likely to jeopardize listed species or destroy or adversely modify critical habitat:

- *Identify the rangewide status of the species and critical habitat likely to be adversely affected by the proposed action.* This section describes the current status of each listed species and its critical habitat relative to the conditions needed for recovery. For listed salmon and steelhead, NMFS has developed specific guidance for analyzing the status of the listed species' component populations in a “viable salmonid populations” paper (VSP; McElhany *et al.* 2000). The VSP approach considers the abundance, productivity, spatial structure, and diversity of each population as part of the overall review of a species' status. For listed salmon and steelhead, the VSP criteria therefore encompass the species' “reproduction, numbers, or distribution” (50 CFR 402.02). In describing the range-wide status of listed species, we rely on viability assessments and criteria in technical recovery team documents and recovery plans, where available, that describe how VSP criteria are applied to specific populations, major population groups, and species. We determine the rangewide status of critical habitat by examining the condition of its physical or biological features (also called “primary constituent elements” or PCEs in some designations) – which were identified when the critical habitat was designated. Species and critical habitat status are discussed in Section 2.2.

- *Describe the environmental baseline for the proposed action.* The environmental baseline includes the past and present impacts of Federal, state, or private actions and other human activities *in the action area*. It includes the anticipated impacts of proposed Federal projects that have already undergone formal or early section 7 consultation and the impacts of state or private actions that are contemporaneous with the consultation in process. The environmental baseline is discussed in Section 2.3 of this opinion.
- *Analyze the effects of the proposed actions.* In this step, NMFS considers how the proposed action would affect the species' reproduction, numbers, and distribution or, in the case of salmon and steelhead, their VSP characteristics. NMFS also evaluates the proposed action's effects on critical habitat features. The effects of the action are described in Section 2.4 of this opinion.
- *Describe any cumulative effects.* Cumulative effects, as defined in NMFS' implementing regulations (50 CFR 402.02), are the effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area. Future Federal actions that are unrelated to the proposed action are not considered because they require separate section 7 consultation. Cumulative effects are considered in Section 2.5 of this opinion.
- *Integrate and synthesize the above factors to assess the risk that the proposed action poses to species and critical habitat.* In this step, NMFS adds the effects of the action (Section 2.4) to the environmental baseline (Section 2.3) and the cumulative effects (Section 2.5) to assess whether the action could reasonably be expected to:  
(1) appreciably reduce the likelihood of both survival and recovery of the species in the wild by reducing its numbers, reproduction, or distribution; or (2) reduce the value of designated or proposed critical habitat for the conservation of the species. These assessments are made in full consideration of the status of the species and critical habitat (Section 2.2). Integration and synthesis occurs in Section 2.6 of this opinion.
- *Reach jeopardy and adverse modification conclusions.* Conclusions regarding jeopardy and the destruction or adverse modification of critical habitat are presented in Section 2.7. These conclusions flow from the logic and rationale presented in the Integration and Synthesis Section (2.6).
- *If necessary, define a reasonable and prudent alternative to the proposed action.* If, in completing the last step in the analysis, NMFS determines that the action under consultation is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat, NMFS must identify a reasonable and prudent alternative (RPA) to the action. The RPA must not be likely to jeopardize the continued existence of ESA-listed species nor adversely modify their designated critical habitat and it must meet other regulatory requirements.

In this opinion, NMFS concludes that the proposed action is not likely to adversely affect (NLAA) the Eastern DPS of Steller sea lions. See Section 2.11 for details.

## **2.2 Rangewide Status of the Species and Critical Habitat**

The summaries that follow describe the status of the 18 ESA-listed species, and their designated critical habitats, that occur within the geographic area of this proposed action and are considered in this opinion. More detailed information on the status and trends of these listed resources, and

their biology and ecology, can be found in the listing regulations and critical habitat designations published in the Federal Register (Table 3).

Climate change is likely to play an increasingly important role in determining the abundance of ESA-listed species, and the conservation value of designated critical habitats, in the Pacific Northwest. These changes will not be spatially homogeneous across the Pacific Northwest. Areas with elevations high enough to maintain temperatures well below freezing for most of the winter and early spring will be less affected. Low-elevation areas are likely to be more affected.

During the last century, average regional air temperatures increased by 1.5°F, and increased up to 4°F in some areas (USGCRP 2009). Warming is likely to continue during the next century as average temperatures increase another 3 to 10°F (USGCRP 2009). Overall, about one-third of the current cold-water fish habitat in the Pacific Northwest is likely to exceed key water temperature thresholds by the end of this century (USGCRP 2009).

Precipitation trends during the next century are less certain than for temperature but more precipitation is likely to occur during October through March and less during summer months, and more of the winter precipitation is likely to fall as rain rather than snow (ISAB 2007, USGCRP 2009). Where snow occurs, a warmer climate will cause earlier runoff so stream flows in late spring, summer, and fall will be lower and water temperatures will be warmer (ISAB 2007, USGCRP 2009).

Higher winter stream flows increase the risk that winter floods in sensitive watersheds will damage spawning redds and wash away incubating eggs (USGCRP 2009). Earlier peak stream flows will also flush some young salmon and steelhead from rivers to estuaries before they are physically mature, increasing stress and the risk of predation (USGCRP 2009). Lower stream flows and warmer water temperatures during summer will degrade summer rearing conditions, in part by increasing the prevalence and virulence of fish diseases and parasites (USGCRP 2009). Other adverse effects are likely to include altered migration patterns, accelerated embryo development, premature emergence of fry, variation in quality and quantity of tributary rearing habitat, and increased competition and predation risk from warm-water, non-native species (ISAB 2007).

The earth's oceans are also warming, with considerable interannual and inter-decadal variability superimposed on the longer-term trend (Bindoff *et al.* 2007). Historically, warm periods in the coastal Pacific Ocean have coincided with relatively low abundances of salmon and steelhead, while cooler ocean periods have coincided with relatively high abundances (Scheuerell and Williams 2005, Zabel *et al.* 2006, USGCRP 2009). Ocean conditions adverse to salmon and steelhead may be more likely under a warming climate (Zabel *et al.* 2006).

Although southern green sturgeon and eulachon are not part of this recovery domain structure, they are presented here for convenience as part of the Willamette/Lower Columbia Recovery Domain.

### 2.2.1 Status of the Species

The status of steelhead and salmon species and critical habitat sections below are organized under five recovery domains (Table 4) to better integrate recovery planning information that NMFS is developing on the conservation status of the species and critical habitats considered in this consultation. Recovery domains are the geographically-based areas that NMFS is using to prepare multi-species recovery plans. Southern DPS green sturgeon are under the jurisdiction of NMFS' Southwest Region. The first meeting of the recovery team for this species was announced to be held in December 2009. A recovery team has not yet been convened for eulachon, a species under the jurisdiction of NMFS' Northwest Region.

**Table 4.** Recovery planning domains identified by NMFS and their ESA-listed salmon and steelhead species.

Recovery Domain	Species
Willamette-Lower Columbia	LCR Chinook salmon UWR Chinook salmon CR chum salmon LCR coho salmon LCR steelhead UWR steelhead
Interior Columbia	UCR spring-run Chinook salmon SR spring/summer Chinook salmon SR fall-run Chinook salmon LO sockeye salmon SR sockeye salmon UCR steelhead MCR steelhead SRB steelhead
Oregon Coast	OC coho salmon
Southern Oregon/Northern California Coasts	SONCC coho salmon

For each recovery domain, a technical review team (TRT) appointed by NMFS has developed, or is developing, criteria necessary to identify independent populations within each species, recommended viability criteria for those species, and descriptions of factors that limit species survival. Viability criteria are prescriptions of the biological conditions for populations, biogeographic strata, and ESUs that, if met, would indicate that the ESU will have a negligible risk of extinction over a 100-year time frame.

The definition of a population used by each TRT to analyze salmon and steelhead is set forth in the "viable salmonid population" document prepared by NMFS for use in conservation

assessments of Pacific salmon and steelhead (McElhany *et al.* 2000). That document defines population viability in terms of four variables: abundance, population growth rate (productivity), population spatial structure, and genetic diversity.

Abundance is of obvious importance since, in general, small populations are at greater risk of extinction than large populations, primarily because many processes that affect population dynamics may operate differently in small populations than in large populations (Shaffer 1987, McElhany *et al.* 2000).

Population growth rate, the productivity over the entire life cycle, and factors that affect population growth rate provide information about how well a population is performing in the various habitats it occupies during the life cycle. Examining population growth rate allows one to assess if populations are able to replace themselves. Populations that consistently fail to replace themselves are at greater risk of extinction than populations that are consistently at or above replacement levels.

Spatial structure refers to the distribution of individuals within a population at a certain life stage throughout the available habitats, recognizing the abiotic and biotic processes that give rise to that structure. McElhany *et al.* (2000) gave two main reasons why spatial structure is important to consider when evaluating population viability: (1) Overall extinction risk at longer time scales may be affected in ways not apparent from short-term observations of abundance and productivity, because there can be a time lag between changes in spatial structure and the resulting population-level effects; and (2) spatial population structure affects the ability of a population to respond to changing environmental conditions and therefore can influence evolutionary processes. Maintaining spatial structure within a population, and its associated benefits to viability, requires appropriate habitat conditions and suitable corridors linking the habitat and the marine environment to be consistently available.

Diversity relates to the variability of phenotypic characteristics such as life histories, individual size, fecundity, run timing, and other attributes exhibited by individuals and populations, as well as the genetic diversity that may underlie this variation. There are many reasons diversity is important in a spatially and temporally varying environment. Three key reasons are: (1) Diversity allows a species to use a wide array of environments; (2) diversity protects a species against short-term spatial and temporal changes in the environment; and (3) genetic diversity provides the raw material for surviving long-term environmental change (McElhany *et al.* 2000).

Although the TRTs operated from this common set of biological principals described in McElhany *et al.* (2000), they worked semi-independently from each other and developed criteria suitable to the species and conditions found in their specific recovery domains. All of the criteria have qualitative as well as quantitative aspects. The diversity of salmonid species and populations makes it impossible to set narrow quantitative guidelines that will fit all populations in all situations. For this and other reasons, viability criteria vary among species, mainly in the number and type of metrics and the scales at which the metrics apply (*i.e.*, population, major population group [MPG], or ESU) (Busch *et al.* 2008). \

Overall viability risk scores (high to low) are based on combined ratings for the abundance and productivity (A/P) and spatial structure and diversity<sup>5</sup> (SS/D) metrics (Table 5). The A/P score considers the TRT's estimate of a populations' minimum threshold population, natural spawning abundance and the productivity of the population. Productivity over the entire life cycle and factors that affect population growth rate provide information on how well a population is "performing" in the habitats it occupies during the life cycle. Estimates of population growth rate that indicate a population is consistently failing to replace itself are an indicator of increased extinction risk. The four metrics (abundance, productivity, spatial structure, and diversity) are not independent of one another and their relationship to sustainability depends on a variety of interdependent ecological processes (Wainwright *et al.* 2008).

Integrated SS/D risk combines risk for likely, future environmental conditions, and diversity (McElhany *et al.* 2000, McElhany *et al.* 2007, Ford *et al.* 2010). Diversity factors include:

- Life history traits: Distribution of major life history strategies within a population, variability of traits, mean value of traits, and loss of traits.
- Effective population size: One of the indirect measures of diversity is effective population size. A population at chronic low abundance or experiencing even a single episode of low abundance can be at higher extinction risk because of loss of genetic variability, inbreeding and the expression of inbreeding depression, or the effects of mutation accumulation.
- Impact of hatchery fish: Interbreeding of wild populations and hatchery origin fish can be a significant risk factor to the diversity of wild populations if the proportion of hatchery fish in the spawning population is high and their genetic similarity to the wild population is low.
- Anthropogenic mortality: The susceptibility to mortality from harvest or habitat alterations will differ depending on size, age, run timing, disease resistance or other traits.
- Habitat diversity: Habitat characteristics have clear selective effects on populations, and changes in habitat characteristics are likely to eventually lead to genetic changes through selection for locally adapted traits. In assessing risk associated with altered habitat diversity, historical diversity is used as a reference point.

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<sup>5</sup> The WLC-TRT provided ratings for diversity and spatial structure risks. The IC-TRT provided spatial structure and diversity ratings combined as an integrated SS/D risk.



**Table 5.** Population persistence categories from McElhany *et al.* (2006). A low or negligible risk of extinction is considered “viable” (Ford *et al.* 2010). Population persistence categories correspond to: 4 = very low (VL), 3 = low (L), 2 = moderate (M), 1 = high (H), and 0 = very high (VH) in Oregon populations, which corresponds to “extirpated or nearly so” (E) in Washington populations (Ford *et al.* 2010).

Population Persistence Category	Probability of population persistence in 100 years	Probability of population extinction in 100 years	Description
0	0-40%	60-100%	Either extinct or “high” risk of extinction
1	40-75%	25-60%	Relatively “high” risk of extinction in 100 years
2	75-95%	5-25%	“Moderate” risk of extinction in 100 years
3	95-99%	1-5%	“Low” (negligible) risk of extinction in 100 years
4	>99%	<1%	“Very low” risk of extinction in 100 years

The boundaries of each population are defined using a combination of genetic information, geography, life-history traits, morphological traits, and population dynamics that indicate the extent of reproductive isolation among spawning groups. To date, the TRT have divided the species of salmon and steelhead considered in this opinion into a total of 304 populations, although the population structure of PS steelhead has yet to be resolved. The overall viability of a species is a function of the VSP attributes of its constituent populations. Until a viability analysis of a species is completed, the VSP guidelines recommend that all populations should be managed to retain the potential to achieve viable status to ensure a rapid start along the road to recovery, and that no significant parts of the species are lost before a full recovery plan is implemented (McElhany *et al.* 2000).

Climate change, as described in Section 2.2, is likely to adversely affect the size and distribution of populations of ESA-listed anadromous fish in the Pacific Northwest. The size and distribution of the populations considered in this opinion generally have declined over the past few decades due to natural phenomena and human activity, including the operation of hydropower systems, over-harvest, hatcheries, and habitat degradation. Enlarged populations of terns, seals, sea lions, and other aquatic predators in the Pacific Northwest have been identified as factors that may be limiting the productivity of some Pacific salmon and steelhead populations (Ford *et al.* 2010).

Southern DPS green sturgeon occur in all four coastal recovery domains, although they are only known to spawn in the Sacramento River system. Therefore, only subadults and adults may be present in recovery domains north of San Francisco Bay. Eulachon also occur in all coastal recovery domains. However, the status of these species will only be presented once, with information presented for the Willamette and Lower Columbia (WLC) recovery domain. Each species consist of a single population.

Viability status is described below for each of the populations considered in this opinion.

***Willamette and Lower Columbia Recovery Domain.*** Species in the WLC recovery domain include LCR Chinook salmon, UWR Chinook salmon, CR chum salmon, LCR coho salmon, LCR steelhead, UWR steelhead, southern green sturgeon, and eulachon. The WLC-TRT has identified 107 demographically independent populations of Pacific salmon and steelhead (Table 6). These populations were further aggregated into strata, groupings above the population level that are connected by some degree of migration, based on ecological subregions. All 107 populations use parts of the mainstem of the Columbia River and the Columbia River estuary for migration, rearing, and smoltification.

On August 15, 2011, NMFS announced the results of an ESA 5-year review for salmon and steelhead in the WLC Recovery Domain (76 FR 50448). After reviewing new information on the viability of these species, ESA section 4 listing factors, and efforts being made to protect the species, NMFS concluded that all six species in this domain should retain their 2005 (for salmon) or 2006 (for steelhead) listing classifications.

**Table 6.** Populations in the WLC recovery domain. Combined extinction risks for salmon and steelhead based on analysis of Oregon populations only.

Species	Populations
LCR Chinook salmon	32
UWR Chinook salmon	7
CR chum salmon	17
LCR coho salmon	24
LCR steelhead	26
UWR steelhead	4

**LCR Chinook Salmon.** This species includes all naturally-spawned populations of Chinook salmon in the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River; the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River; and progeny of seventeen artificial propagation programs. LCR Chinook populations exhibit three different life history types base on return timing and other features: fall-run (a.k.a. “tules”), late-fall-run (a.k.a. “brights”), and spring-run. The WLC-TRT identified 22 historical populations of LCR Chinook salmon – seven in the coastal subregion, six in the Columbia Gorge, and nine in the Cascade Range (Table 7).

**Table 7.** LCR Chinook salmon strata, ecological subregions, run timing, populations, and scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH) in Oregon populations. VH corresponds to “extirpated or nearly so” (E) in Washington populations.

Stratum		Spawning Population (Watershed)	A/P	Diversity	Spatial Structure	Overall Viability Risk
Ecological Subregion	Run Timing					
Coast Range	Fall	Grays River (WA)	E	E	L	E
		Elochoman River (WA)	E	H	L	E
		Mill, Germany, and Abernathy creeks (WA)	E	H	L	E
		Young Bay (OR)	H to VH	H	L	VH
		Big Creek (OR)	H to VH	H	L to M	VH
		Clatskanie River (OR)	H	M to H	L	VH
		Scappoose River (OR)	H to VH	M to H	L to M	VH
Columbia Gorge	Spring	White Salmon River (WA)	E	E	E	E
		Hood River (OR)	VH	VH	L	VH
	Fall	Upper Gorge (OR)	E	H	H	VH
		Upper Gorge (WA)	H to VH	H	L to M	E
		White Salmon River (WA)	E	H	H	E
		Lower Gorge (OR)	H to VH	H	L to M	VH
		Lower Gorge (WA)	E	H	H	E
		Hood River (OR)	H to VH	H to VH	L	VH
Cascade Range	Spring	Upper Cowlitz River (WA)	E	M	H	E
		Cispus River (WA)	E	M	H	E
		Tilton River (WA)	E	E	E	E
		Toutle River (WA)	E	H	L	E
		Kalama River (WA)	E	H	L	E
		Sandy River (OR)	M to H	L to M	M	M
		Lewis (WA)	E	M	H	E
	Fall	Lower Cowlitz River (WA)	E	M	M	E
		Upper Cowlitz River (WA)	E	M	E	E
		Lewis River (WA)	E	L	M	E
		Salmon Creek (WA)	E	M	M	E
		Sandy River (WA)	H to VH	H	L	VH
		Toutle River (WA)	E	M	M	E
		Coweeman River (WA)	E	L	M	E
		Kalama River (WA)	E	M	L	E
		Clackamas River (OR)	H to VH	H	L	H
		Washougal River (WA)	E	M	M	E
	Late Fall	Lewis River (WA)	VL	L	L	VL
		Sandy River (WA)	L	L to M	L	L

A/P ratings for most LCR Chinook salmon populations are currently “high” risk to “extirpated or nearly so”. Spatial structure was generally rated “low” to “moderate” risk for most populations. Other than the Sandy River, Oregon LCR Chinook salmon populations were rated “high” or “very high” risk for diversity. In 2005, diversity risk for Clackamas River and Lower Gorge

tributary fall Chinook salmon was rated “moderate”; now the risk is rated “high”. Most Washington LCR Chinook salmon populations are currently at “moderate” or “high” risk for diversity (Table 6).

Of the 32 historical populations in the ESU, 28 are extirpated or at “very high” risk. Based on the recovery plan analyses, all of the tule populations are “very high” risk except one that is considered at “high” risk. The modeling conducted in association with tule harvest management suggests that three of the populations (Coweeman, Lewis and Washougal) are at a somewhat lower risk. However, even these more optimistic evaluations suggest that the remaining 18 populations are at substantial risk because of very low natural origin spawner abundance (<100/population), high hatchery fraction, habitat degradation and harvest impacts. Overall, the new information does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

Limiting factors and threats to LCR Chinook salmon include (LCFRB 2010, NOAA Fisheries 2011):

- Degraded estuarine and near-shore marine habitat resulting from cumulative impacts of land use and flow management by the Columbia River hydropower system
- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas, stream substrate, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development.
- Reduced access to spawning and rearing habitat mainly as a result of tributary hydropower projects
- Hatchery-related effects
- Harvest-related effects on fall Chinook salmon
- An altered flow regime and Columbia River plume has altered the temperature regime and estuarine food web, and has reduced ocean productivity
- Reduced access to off-channel rearing habitat in the Lower Columbia River
- Reduced productivity resulting from sediment and nutrient-related changes in the estuary
- Juvenile fish strandings that result from ship wakes
- Contaminants affecting fish health and reproduction

CR Chum Salmon. This species includes all naturally-spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon, and progeny of three artificial propagation programs. The WLC-TRT identified 17 historical populations of CR chum salmon and aggregated these into four strata (Myers *et al.* 2006; Table 8). Unlike other species in the WLC recovery domain, CR chum salmon spawning aggregations were identified in the mainstem Columbia River. These aggregations generally were included in the population associated with the nearest river basin. Three strata and eight historical populations of CR chum salmon occur within the action area (Table 8; of these, none are “viable” (McElhany *et al.* 2007).

**Table 8.** CR chum salmon strata, ecological subregions, run timing, populations, and scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk (Ford *et al.* 2010). Risk ratings are very low (VL), low (L), moderate (M), high (H), and “extirpated or nearly so” (E).

Stratum		Spawning Population (Watershed)	A/P	Diversity	Spatial Structure	Overall Viability Risk
Ecological Subregion	Run Timing					
Coast Range	Fall	Young’s Bay (OR)	*	*	*	*
		Grays River (WA)	VL	L	M	M
		Big Creek (OR)	*	*	*	*
		Elochoman River (WA)	E	E	L	E
		Clatskanie River (OR)	*	*	*	*
		Mill, Abernathy and Germany creeks (WA)	E	E	L	E
		Scappoose Creek (OR)	*	*	*	*
Columbia Gorge	Fall	Lower Gorge (OR)	*	*	*	*
		Lower Gorge (WA)	VL	VL	L	L
		Upper Gorge (OR)	*	*	*	*
		Upper Gorge (WA)	E	E	H	E
Cascade Range	Summer	Cowlitz River (WA)	E	E	H	E
	Fall	Cowlitz River (WA)	E	E	L	E
		Kalama River (WA)	E	E	L	E
		Salmon Creek (WA)	E	E	H	E
		Lewis River (WA)	E	E	L	E
		Clackamas River (OR)	*	*	*	*
		Washougal River (WA)	E	E	L	E
		Sandy River (OR)	*	*	*	*

\* No viability risk was completed for Oregon chum salmon populations. Oregon rivers have occasional reports of a few chum salmon. Populations are functionally extinct, or the risk of extinction is very high.

The vast majority (14 out of 17) chum salmon populations remain “extirpated or nearly so”. The Grays River and Lower Gorge populations showed a sharp increase in 2002, but have since declined back to relatively low abundance levels in the range of variation observed over the last several decades. Chinook and coho salmon populations in the Lower Columbia and Willamette show similar increases in the early 2000s followed by declines to typical recent levels, suggesting the increase in chum salmon may be related to ocean conditions. The Grays and Lower Gorge populations were rated “very low” risk for A/P, but all other populations were rated “extirpated or nearly so.” Spatial structure was rated “low” for seven populations, one was has moderate risk and three have a “high” risk. Diversity risk was “high” for all populations except Grays (moderate) and Lower Gorge (very low). Recent data on the Washougal/mainstem Columbia population are not available, but they likely follow a pattern similar to the Grays and Lower Gorge populations. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

Limiting factors and threats to CR chum salmon include (LCFRB 2010, NOAA Fisheries 2011):

- Degraded estuarine and nearshore marine habitat resulting from cumulative impacts of land use and flow management by the Columbia River hydropower system
- Degraded freshwater habitat, in particular of floodplain connectivity and function, channel structure and complexity, stream substrate, and riparian areas and large wood recruitment as a result of cumulative impacts of agriculture, forestry, and development
- Degraded stream flow as a result of hydropower and water supply operations
- Loss of access and loss of some habitat types as a result of passage barriers such as roads and railroads
- Reduced water quality
- Current or potential predation from hatchery-origin salmonids, including coho salmon
- An altered flow regime and Columbia River plume has altered the temperature regime and estuarine food web, and has reduced ocean productivity
- Reduced access to off-channel rearing habitat in the Lower Columbia River
- Reduced productivity resulting from sediment and nutrient-related changes in the estuary
- Juvenile fish strandings that result from ship wakes
- Contaminants affecting fish health and reproduction

LCR Coho Salmon. This species includes all naturally-spawned populations of coho salmon in the Columbia River and its tributaries in Washington and Oregon, from the mouth of the Columbia up to and including the Big White Salmon and Hood rivers; in the Willamette River to Willamette Falls, Oregon; and progeny of 25 artificial propagation programs. The WLC-TRT identified 24 historical populations of LCR coho salmon and divided these into two strata based on major run timing: early and late (Myers *et al.* 2006). Three strata and nine historical populations of LCR coho salmon occur within the action area (Table 9). Of these nine populations, Clackamas River is the only population characterized as “viable” (McElhany *et al.* 2007).

**Table 9.** LCR coho salmon strata, ecological subregions, run timing, populations, and scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH) in Oregon populations. VH corresponds to “extirpated or nearly so” (E) in Washington populations.

Stratum		Spawning Population (Watershed)	A/P	Diversity	Spatial Structure	Overall Viability Risk
Ecological Subregion	Run Type					
Coast Range	N*	Young’s Bay (OR)	VH	VH	L	VH
		Big Creek (OR)	VH	H	L to M	VH
		Clatskanie River (OR)	H to VH	M	L	H
		Scappoose River (OR)	M to H	M	L to M	M
		Grays River (WA)	E	E	L	E
		Elochoman Creek (WA)	E	E	L	E
		Mill, Germany, and Abernathy Creeks (WA)	E	H	L	E
Columbia Gorge	N	Lower Gorge Tributaries (OR)	VH	H	L to M	VH
		Lower Gorge Tributaries (WA)	E	E	M	E
	S**	Upper Gorge Tributaries (WA)	E	E	M	E
		Hood River (OR)	VH	H	L	H
Cascade Range	N	Lower Cowlitz River (WA)	E	M	M	E
		Coweeman River (WA)	E	M	L	E
		Salmon Creek (WA)	E	E	M	E
	N and S	Upper Cowlitz River (WA)	E	H	M	E
		Cispus River (WA)	E	H	M	E
		Tilton River (WA)	E	H	M	E
		South Fork Toutle River (WA)	E	M	L	E
		North Fork Toutle River (WA)	E	H	M	E
		Kalama River (WA)	E	M	L	E
		North Fork Lewis River (WA)	E	H	H	E
		East Fork Lewis River (WA)	E	M	L	E
		Washougal River (WA)	E	H	L	E
		Clackamas River (OR)	M	L to M	L	M
		Sandy River (OR)	H	L to M	M to H	H

\*“Type N” are late-run fish that tend to undertake oceanic migrations to the north of the Columbia River, extending as far as northern British Columbia and southeast Alaska.

\*\*“Type S” are early coho salmon that spawn in the upper reaches of larger rivers in the Lower Columbia River and in most rivers inland of the Cascade Crest that tend to migrate to the south of the Columbia River.

Three status evaluations of LCR coho salmon status, all based on WLC-TRT criteria, have been conducted since the last NMFS status review in 2005 (McElhany *et al.* 2007, Beamesderfer *et al.* 2010, LCFRB 2010). Of the 27 historical populations in the ESU, 24 are at “very high” risk. The remaining three populations (Sandy, Clackamas and Scappoose) are at “moderate” or “high” risk (Ford *et al.* 2010).

In Oregon, the Scappoose Creek and Clackamas River populations have “moderate” risk ratings for A/P, while the rest are rated “high” or “very high” risk. All of the Washington populations have “extirpated or nearly so” A/P ratings. Spatial diversity is rated “moderate” or “low” risk for all the populations, except the North Fork Lewis River, which has a “high” risk rating for spatial structure. All LCR coho salmon populations, except the Clackamas and Sandy river populations (low risk), are at “moderate” or “high” risk for diversity. All of the Washington side populations are at “very high” risk, although uncertainty is high because of a lack of adult spawner surveys. As was noted in the 2005 status review, smolt traps indicate some natural production in Washington populations, though given the high fraction of hatchery origin spawners suspected to occur in these populations it is not clear that any are self-sustaining. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

Limiting factors and threats to LCR coho salmon include (LCFRB 2010, NOAA Fisheries 2011):

- Degraded estuarine and near-shore marine habitat resulting from cumulative impacts of land use and flow management by the Columbia River hydropower system
- Fish passage barriers that limit access to spawning and rearing habitats
- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large wood supply, stream substrate, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Hatchery-related effects
- Harvest-related effects
- An altered flow regime and Columbia River plume has altered the temperature regime and estuarine food web, and has reduced ocean productivity
- Reduced access to off-channel rearing habitat in the Lower Columbia River
- Reduced productivity resulting from sediment and nutrient-related changes in the estuary
- Juvenile fish strandings that result from ship wakes
- Contaminants affecting fish health and reproduction

LCR Steelhead. This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams and tributaries to the Columbia River between and including the Cowlitz and Wind rivers, Washington; in the Willamette and Hood rivers, Oregon; and progeny of ten artificial propagation programs; but excluding all steelhead from the upper Willamette River basin above Willamette Falls, Oregon, and from the Little and Big White Salmon rivers, Washington.

Summer steelhead return to freshwater long before spawning. Winter steelhead, in contrast, return from the ocean much closer to maturity and spawn within a few weeks. Summer steelhead spawning areas in the Lower Columbia River are found above waterfalls and other features that create seasonal barriers to migration. Where no temporal barriers exist, the winter-run life history dominates. Six strata and 23 historical populations of LCR steelhead occur within the action area (Table 10).



**Table 10.** LCR steelhead strata, ecological subregions, run timing, populations, and scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH) in Oregon populations. VH corresponds to “extirpated or nearly so” (E) in Washington populations.

Stratum		Population (Watershed)	A/P	Diversity	Spatial Structure	Overall Viability Risk
Ecological Subregion	Run Timing					
Columbia Gorge	Summer	Wind River (WA)	VL	L	VL	L
		Hood River (OR)	H	M	L	VH
	Winter	Lower Gorge (OR)	H	L	L	M to H
		Lower Gorge (WA)	H	M	VL	H
		Upper Gorge (OR)	M	M to H	L	VH
		Upper Gorge (WA)	H	M	M	E
		Hood River (OR)	M	M	L	M
West Cascade Range	Summer	Kalama River (WA)	L	M	VL	M
		North Fork Lewis River (WA)	E	E	E	E
		East Fork Lewis River (WA)	E	M	VL	E
		Washougal River (WA)	M	M	VL	M
	Winter	Cispus River (WA)	E	M	M	E
		Tilton river (WA)	E	H	M	E
		Upper Cowlitz River (WA)	E	M	M	E
		Lower Cowlitz River (WA)	H	M	M	H
		North Fork Toutle River (WA)	E	L	L	E
		South Fork Toutle River (WA)	M	L	VL	M
		Coweeman River (WA)	H	VL	VL	H
		Kalama River (WA)	H	L	VL	H
		North Fork Lewis River (WA)	E	M	M	E
		East Fork Lewis River (WA)	M	M	VL	M
		Salmon Creek (WA)	E	M	VL	E
		Washougal River (WA)	H	M	VL	H
		Sandy River (OR)	H	M	M to H	VH
		Clackamas River (OR)	L	L to M	L	L to M

All of the populations increased in abundance during the early 2000s, generally peaking in 2004. Most populations have since declined back to levels within one standard deviation of the long-term mean. Exceptions are the Washougal summer run and North Fork Toutle winter run, which are still higher than the long-term average, and the Sandy, which is lower. In general, the populations do not show any sustained dramatic changes in abundance or fraction of hatchery origin spawners since the 2005 status review (Ford *et al.* 2010).

Limiting factors and threats to LCR steelhead include (LCFRB 2010, NOAA Fisheries 2011):

- Degraded estuarine and nearshore marine habitat resulting from cumulative impacts of land use and flow management by the Columbia River hydropower system

- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and recruitment of large wood, stream substrate, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Reduced access to spawning and rearing habitat mainly as a result of tributary hydropower projects and lowland development
- Avian and marine mammal predation in the lower mainstem Columbia River and estuary.
- Hatchery-related effects
- An altered flow regime and Columbia River plume has altered the temperature regime and estuarine food web, and has reduced ocean productivity
- Reduced access to off-channel rearing habitat in the Lower Columbia River
- Reduced productivity resulting from sediment and nutrient-related changes in the estuary
- Juvenile fish strandings that result from ship wakes
- Contaminants affecting fish health and reproduction

UWR Chinook Salmon. This species includes all naturally spawned populations of spring-run Chinook salmon in the Clackamas River; in the Willamette River and its tributaries above Willamette Falls, Oregon; and progeny of seven artificial propagation programs. All seven historical populations of UWR Chinook salmon identified by the WLC-TRT occur within the action area and are contained within a single ecological subregion, the western Cascade Range (Table 11); only the Clackamas population is characterized as “viable” (McElhany *et al.* 2007).

**Table 11.** Scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk for UWR Chinook salmon (ODFW and NMFS 2011). All populations are in the Western Cascade Range ecological subregion. Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH).

Population (Watershed)	A/P	Diversity	Spatial Structure	Overall Extinction Risk
Clackamas River	M	M	L	M
Molalla River	VH	H	H	VH
North Santiam River	VH	H	H	VH
South Santiam River	VH	M	M	VH
Calapooia River	VH	H	VH	VH
McKenzie River	VL	M	M	L
Middle Fork Willamette River	VH	H	H	VH

Consideration of data collected since the last status review in 2005 has confirmed the high fraction of hatchery origin fish in all of the populations of this species (even the Clackamas and McKenzie rivers have hatchery fractions above WLC-TRT viability thresholds). All of the UWR Chinook salmon populations have “moderate” or “high” risk ratings for diversity. The Clackamas and McKenzie river populations currently have the best risk ratings for A/P, spatial structure, and diversity. Clackamas River Chinook salmon have a “low” risk rating for spatial structure.

The new data have also highlighted the substantial risks associated with pre-spawning mortality. Although recovery plans are targeting key limiting factors for future actions, there have been no significant on-the-ground-actions since the last status review to resolve the lack of access to historical habitat above dams nor have there been substantial actions removing hatchery fish from the spawning grounds. Overall, the new information does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

Limiting factors and threats to UWR Chinook salmon include (ODFW and NMFS 2011, NOAA Fisheries 2011):

- Significantly reduced access to spawning and rearing habitat because of tributary dams
- Degraded freshwater habitat, especially floodplain connectivity and function, channel structure and complexity, and riparian areas and large wood recruitment as a result of cumulative impacts of agriculture, forestry, and development
- Degraded water quality and altered temperature as a result of both tributary dams and the cumulative impacts of agriculture, forestry, and urban development
- Hatchery-related effects
- Anthropogenic introductions of non-native species and out-of-ESU races of salmon or steelhead have increased predation on, and competition with, native UWR Chinook salmon
- Ocean harvest rates of approximately 30%

UWR Steelhead. This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River. The WLC-TRT identified five historical populations of UWR steelhead, all with winter run timing (Myers *et al.* 2006). UWR steelhead are currently found in many tributaries that drain the west side of the upper Willamette River basin. Analysis of historical observations, hatchery records, and genetic analysis strongly suggested that many of these spawning aggregations are the result of recent introductions and do not represent a historical population. Nevertheless, the WLC-TRT recognized that these tributaries may provide juvenile rearing habitat or may be temporarily (for one or more generations) colonized during periods of high abundance. One stratum and five historical populations of UWR steelhead occur within the action area (Table 12), although the west-side tributaries population was included only because it is important to the species as a whole, and not because it is independent. Summer steelhead have become established in the McKenzie River where historically no steelhead existed, although these fish were not considered in the identification of historical populations. Hatchery summer-run steelhead that are produced and released in the subbasins are from an out-of-basin stock and are not part of the DPS (ODFW and NMFS 2011).

**Table 12.** Scores for the key elements (A/P, diversity, and spatial structure) used to determine current overall viability risk for UWR steelhead (ODFW and NMFS 2011). All populations are in the Western Cascade Range ecological subregion. Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH).

<b>Population (Watershed)</b>	<b>A/P</b>	<b>Diversity</b>	<b>Spatial Structure</b>	<b>Overall Extinction Risk</b>
Molalla River	VL	M	M	L
North Santiam River	VL	M	H	L
South Santiam River	VL	M	M	L
Calapooia River	M	M	VH	M

Since the last status review in 2005, UWR steelhead initially increased in abundance but subsequently declines and current abundance is at the levels observed in the mid-1990s when the DPS was first listed. The DPS appears to be at lower risk than the UWR Chinook salmon ESU, but continues to demonstrate the overall low abundance pattern that was of concern during the last status review. The elimination of winter run hatchery release in the basin reduces hatchery threats, but non-native summer steelhead hatchery releases are still a concern for species diversity. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

Limiting factors and threats to UWR steelhead include (ODFW and NMFS 2011, NOAA Fisheries 2011):

- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large wood recruitment, and stream flow have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Degraded water quality and altered temperature as a result of both tributary dams and the cumulative impacts of agriculture, forestry, and urban development
- Reduced access to spawning and rearing habitats mainly as a result of artificial barriers in spawning tributaries
- Hatchery-related effects: impacts from the non-native summer steelhead hatchery program
- Anthropogenic introductions of non-native species and out-of-ESU races of salmon or steelhead have increased predation and competition on native UWR steelhead.

Southern DPS Green Sturgeon. Two DPSs have been defined for green sturgeon: a northern DPS (spawning populations in the Klamath and Rogue rivers) and a southern DPS (spawners in the Sacramento River). Southern green sturgeon includes all naturally-spawned populations of green sturgeon that occur south of the Eel River in Humboldt County, California. When not spawning, this anadromous species is broadly distributed in nearshore marine areas from Mexico to the Bering Sea. Although it is commonly observed in bays, estuaries, and sometimes the deep riverine mainstem in lower elevation reaches of non-natal rivers along the west coast of North America, the distribution and timing of estuarine use are poorly understood.

In addition to the Puget Sound recovery domain, southern green sturgeon occur in the WLC recovery domain, Oregon Coast (OC), and Southern Oregon/Northern California Coasts (SONCC) recovery domains. However, green sturgeon habitat in the PS recovery area was not designated as critical habitat.

The principal factor for the decline of southern green sturgeon is the reduction of its spawning area to a single known population limited to a small portion of the Sacramento River. It is currently at risk of extinction primarily because of human-induced “takes” involving elimination of freshwater spawning habitat, degradation of freshwater and estuarine habitat quality, water diversions, fishing, and other causes (USDC 2010). Adequate water flow and temperature are issues of concern. Water diversions pose an unknown but potentially serious threat within the Sacramento and Feather Rivers and the Sacramento River Delta. Poaching also poses an unknown but potentially serious threat because of high demand for sturgeon caviar. The effects of contaminants and nonnative species are also unknown but potentially serious threats. As mentioned above, retention of green sturgeon in both recreational and commercial fisheries is now prohibited within the western states, but the effect of capture/release in these fisheries is unknown. There is evidence of fish being retained illegally, although the magnitude of this activity likely is small (NOAA Fisheries 2011).

The viability of this species is still under assessment.

Eulachon. The southern DPS of eulachon occur in four recovery domains: Puget Sound, WLC, OC, and SONCC. The ESA-listed population of eulachon includes all naturally-spawned populations that occur in rivers south of the Nass River in British Columbia to the Mad River in California. Core populations for this species include the Fraser River, Columbia River and (historically) the Klamath River. Eulachon leave saltwater to spawn in their natal streams late winter through early summer, and typically spawn at night in the lower reaches of larger rivers fed by snowmelt. After hatching, larvae are carried downstream and widely dispersed by estuarine and ocean currents. Eulachon movements in the ocean are poorly known although the amount of eulachon bycatch in the pink shrimp fishery seems to indicate that the distribution of these organisms overlap in the ocean.

In the early 1990s, there was an abrupt decline in the abundance of eulachon returning to the Columbia River with no evidence of returning to their former population levels since then (Drake *et al.* 2008). Persistent low returns and landings of eulachon in the Columbia River from 1993 to 2000 prompted the states of Oregon and Washington to adopt a Joint State Eulachon Management Plan in 2001 that provides for restricted harvest management when parental run strength, juvenile production, and ocean productivity forecast a poor return (WDFW and ODFW 2001). Despite a brief period of improved returns in 2001–2003, the returns and associated commercial landings have again declined to the very low levels observed in the mid-1990s (JCRMS 2009), and since 2005, the fishery has operated at the most conservative level allowed in the management plan (JCRMS 2009). Large commercial and recreational fisheries have occurred in the Sandy River in the past. The most recent commercial harvest in the Sandy River was in 2003. No commercial harvest has been recorded for the Grays River from 1990 to the present, but larval sampling has confirmed successful spawning in recent years (USDC 2011a).

The primary factors responsible for the decline of the southern DPS of eulachon are changes in ocean conditions due to climate change (Gustafson *et al.* 2010, Gustafson *et al.* 2011), particularly in the southern portion of its range where ocean warming trends may be the most pronounced and may alter prey, spawning, and rearing success. Additional factors include climate-induced change to freshwater habitats, dams and water diversions (particularly in the Columbia and Klamath Rivers where hydropower generation and flood control are major activities), and bycatch of eulachon in commercial fisheries (NOAA Fisheries 2011).

Other limiting factors include (Gustafson *et al.* 2010, Gustafson *et al.* 2011):

- Adverse effects related to dams and water diversions
- Artificial fish passage barriers
- Increased water temperatures, insufficient streamflow
- Altered sediment balances
- Water pollution
- Over-harvest
- Predation

***Interior Columbia (IC) Recovery Domain.*** Species in the IC recovery domain include UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, UCR steelhead, MCR steelhead, and SRB steelhead. The IC-TRT identified 82 populations of those species based on genetic, geographic (hydrographic), and habitat characteristics (Table 13). In some cases, the IC-TRT further aggregated populations into “major groupings” based on dispersal distance and rate, and drainage structure, primarily the location and distribution of large tributaries (IC-TRT 2003). All 82 populations identified use the lower mainstem of the Snake River, the mainstem of the Columbia River, and the Columbia River estuary, or part thereof, for migration, rearing, and smoltification.

On August 15, 2011, NMFS announced the results of an ESA 5-year review for salmon and steelhead in the IC Recovery Domain (76 FR 50448). After reviewing new information on the viability of these species, ESA section 4 listing factors, and efforts being made to protect the species, NMFS concluded that all salmon and steelhead in the Mid-Columbia, Upper Columbia, and Snake River sub-domains should retain their 2005 (for salmon) or 2006 (for steelhead) listing classifications.

**Table 13.** Populations of ESA-listed salmon and steelhead in the IC recovery domain.

Species	Populations
UCR spring-run Chinook salmon	3
SR spring/summer Chinook salmon	31
SR fall-run Chinook salmon	1
SR sockeye salmon	1
UCR steelhead	4
MCR steelhead	17
SRB steelhead	25

The IC-TRT also recommended viability criteria that follow the VSP framework (McElhany *et al.* 2006) and described biological or physical performance conditions that, when met, indicate a population or species has a 5% or less risk of extinction over a 100-year period (IC-TRT 2007; see also NRC 1995).

UCR Spring-run Chinook Salmon. This species includes all naturally-spawned populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington (excluding the Okanogan River), the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington, and progeny of six artificial propagation programs. The IC-TRT identified four independent populations of UCR spring-run Chinook salmon in the upriver tributaries of Wenatchee, Entiat, Methow, and Okanogan (extirpated), but no major groups due to the relatively small geographic area affected (IC-TRT 2003, Ford *et al.* 2010)(Table 14).

**Table 14.** Scores for the key elements (A/P, diversity, and SS/D) used to determine current overall viability risk for winter-run UCR Chinook salmon (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH).

Population	A/P	Diversity	Integrated SS/D	Overall Viability Risk
Wenatchee River	H	H	H	H
Entiat River	H	H	H	H
Methow River	H	H	H	H
Okanogan River	n/a	n/a	n/a	n/a

The UCR spring-run Chinook salmon ESU is not currently meeting the viability criteria (adapted from the IC-TRT) in the Upper Columbia Recovery Plan. A/P remains at “high” risk for each of the three extant populations in this MPG/ESU (Table 14). The 10-year geometric mean abundance of adult natural origin spawners has increased for each population relative to the levels for the 1981-2003 series, but the estimates remain below the corresponding IC-TRT thresholds. Estimated productivity (spawner to spawner return rate at low to moderate escapements) was on average lower over the years 1987-2009 than for the previous period. The combinations of current abundance and productivity for each population result in a “high” risk rating. The composite SS/D risks for all three of the extant populations in this MPG are at “high” risk. The spatial processes component of the SS/D risk is “low” for the Wenatchee River and Methow River populations and “moderate” for the Entiat River (loss of production in lower section increases effective distance to other populations). All three of the extant populations in this MPG are at “high” risk for diversity, driven primarily by chronically high proportions of hatchery-origin spawners in natural spawning areas and lack of genetic diversity among the natural-origin spawners (Ford *et al.* 2010).

Increases in natural origin abundance relative to the extremely low spawning levels observed in the mid-1990s are encouraging; however, average productivity levels remain extremely low.

Overall, the viability of UCR spring-run Chinook salmon ESU has likely improved somewhat since the last status review, but the ESU is still clearly at “moderate-to-high” risk of extinction (Ford *et al.* 2010).

Limiting factors and threats to the UCR spring-run Chinook salmon ESU include (UCSRB 2007, NOAA Fisheries 2011):

- Mainstem Columbia River hydropower–related adverse effects: upstream and downstream fish passage, ecosystem structure and function, flows, and water quality
- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large woody debris recruitment, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Degraded estuarine and nearshore marine habitat
- Hatchery related effects: including past introductions and persistence of non-native (exotic) fish species continues to affect habitat conditions for listed species
- Harvest in Columbia River fisheries

SR Spring/summer-run Chinook Salmon. This species includes all naturally-spawned populations of spring/summer-run Chinook salmon in the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River subbasins; and progeny of fifteen artificial propagation programs. The IC-TRT identified 27 extant and four extirpated populations of SR spring/summer-run Chinook salmon, and aggregated these into major population groups (IC-TRT 2003, Ford *et al.* 2010). Each of these populations faces a “high” risk of extinction (Ford *et al.* 2010) (Table 15).

Population level status ratings remain at “high” risk across all MPGs within the ESU, although recent natural spawning abundance estimates have increased, all populations remain below minimum natural origin abundance thresholds (Table 15). Spawning escapements in the most recent years in each series are generally well below the peak returns but above the extreme low levels in the mid-1990s. Relatively low natural production rates and spawning levels below minimum abundance thresholds remain a major concern across the ESU.

The ability of SR spring/summer-run Chinook salmon populations to be self-sustaining through normal periods of relatively low ocean survival remains uncertain. Factors cited by Good *et al.* (2005) remain as concerns or key uncertainties for several populations. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).



**Table 15.** SR spring/summer-run Chinook salmon ecological subregions, populations, and scores for the key elements (A/P, diversity, and SS/D) used to determine current overall viability risk for SR spring/summer-run Chinook salmon (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH) and extirpated (E).

Ecological Subregions	Spawning Populations (Watershed)	A/P	Diversity	Integrated SS/D	Overall Viability Risk
Lower Snake River	Tucannon River	H	M	M	H
	Asotin River				E
Grande Ronde and Imnaha rivers	Wenaha River	H	M	M	H
	Lostine/Wallowa River	H	M	M	H
	Minam River	H	M	M	H
	Catherine Creek	H	M	M	H
	Upper Grande Ronde R.	H	M	H	H
	Imnaha River	H	M	M	H
	Big Sheep Creek				E
	Lookingglass Creek				E
South Fork Salmon River	Little Salmon River	*	*	*	H
	South Fork mainstem	H	M	M	H
	Secesh River	H	L	L	H
	EF/Johnson Creek	H	L	L	H
Middle Fork Salmon River	Chamberlin Creek	H	L	L	H
	Big Creek	H	M	M	H
	Lower MF Salmon	H	M	M	H
	Camas Creek	H	M	M	H
	Loon Creek	H	M	M	H
	Upper MF Salmon	H	M	M	H
	Pistol Creek				E
	Sulphur Creek	H	M	M	H
	Bear Valley Creek	H	L	L	H
	Marsh Creek	H	L	L	H
Upper Mainstem Salmon	N. Fork Salmon River	H	L	L	H
	Lemhi River	H	H	H	H
	Pahsimeroi River	H	H	H	H
	Upper Salmon-lower mainstem	H	L	L	H
	East Fork Salmon River	H	H	H	H
	Yankee Fork	H	H	H	H
	Valley Creek	H	M	M	H
	Upper Salmon main	H	M	M	H
	Panther Creek				E

\* Insufficient data.

Limiting factors and threats to the SR spring/summer-run Chinook salmon ESU include (NOAA Fisheries 2011):

- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large wood supply, stream substrate, elevated water temperature, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Mainstem Columbia River and Snake River hydropower impacts
- Harvest-related effects
- Predation

SR Fall-run Chinook Salmon. This species includes all naturally-spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River, and progeny of four artificial propagation programs. The IC-TRT identified three populations of this species, although only the lower mainstem population exists at present, and it spawns in the lower main stem of the Clearwater, Imnaha, Grande Ronde, Salmon and Tucannon rivers. The extant population of Snake River fall-run Chinook salmon is the only remaining population from an historical ESU that also included large mainstem populations upstream of the current location of the Hells Canyon Dam complex (IC-TRT 2003, Ford *et al.* 2010).

The recent increases in natural origin abundance are encouraging. However, hatchery origin spawner proportions have increased dramatically in recent years – on average, 78% of the estimated adult spawners have been hatchery origin over the most recent brood cycle. The apparent leveling off of natural returns in spite of the increases in total brood year spawners may indicate that density dependent habitat effects are influencing production or that high hatchery proportions may be influencing natural production rates. The A/P risk rating for the population is “moderate.” The population is at moderate risk for diversity and spatial structure. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010). Given the combination of current A/P and SS/D ratings summarized above, the overall viability rating for Lower SR fall Chinook salmon would be rated as “maintained.”<sup>6</sup>

Limiting factors and threats to SR fall-run Chinook salmon include (NOAA Fisheries 2011):

- Degraded freshwater habitat: Floodplain connectivity and function, and channel structure and complexity have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Lost access to historic habitat above Hells Canyon and other Snake River dams
- Harvest-related effects
- Mainstem Columbia River and Snake River hydropower impacts
- Hatchery-related effects
- Degraded estuarine and nearshore habitat

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<sup>6</sup>“Maintained” population status is for populations that do not meet the criteria for a viable population but do support ecological functions and preserve options for ESU/DPS recovery.

SR Sockeye Salmon. This species includes all anadromous and residual sockeye salmon from the Snake River basin, Idaho, and artificially-propagated sockeye salmon from the Redfish Lake captive propagation program. The IC-TRT identified historical sockeye salmon production in at least five Stanley Basin and Sawtooth Valley lakes and in lake systems associated with Snake River tributaries currently cut off to anadromous access (*e.g.*, Wallowa and Payette Lakes), although current returns of SR sockeye salmon are extremely low and limited to Redfish Lake (IC-TRT 2007).

This species is still at extremely high risk across all four basic risk measures (abundance, productivity, spatial structure and diversity). Although the captive brood program has been successful in providing substantial numbers of hatchery produced *O. nerka* for use in supplementation efforts, substantial increases in survival rates across life history stages must occur in order to re-establish sustainable natural production (Hebdon *et al.* 2004, Keefer *et al.* 2008). Overall, although the risk status of the Snake River sockeye salmon ESU appears to be on an improving trend, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

The key factor limiting recovery of SR sockeye salmon ESU is survival outside of the Stanley Basin. Portions of the migration corridor in the Salmon River are impeded by water quality and temperature (Idaho Department of Environmental Quality 2011). Increased temperatures may reduce the survival of adult sockeye returning to the Stanley River basin. The natural hydrological regime in the upper mainstem Salmon River basin has been altered by water withdrawals. In most years, sockeye adult returns to Lower Granite suffer catastrophic losses (*e.g.*, > 50% mortality in one year; Reed *et al.* 2003) before reaching the Stanley Basin, although the factors causing these losses have not been identified. In the Columbia and Lower Snake River migration corridor, predation rates on juvenile sockeye salmon are unknown, but terns and cormorants consume 12% of all salmon smolts reaching the estuary, and piscivorous fish consume an estimated 8% of migrating juvenile salmon (NOAA Fisheries 2011).

MCR Steelhead. This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington, excluding steelhead from the Snake River basin; and progeny of seven artificial propagation programs. The IC-TRT identified 17 extant populations in this DPS (IC-TRT 2003). The populations fall into four major population groups: the Yakima River basin (four extant populations), the Umatilla/Walla-Walla drainages (three extant and one extirpated populations); the John Day River drainage (five extant populations) and the Eastern Cascades group (five extant and two extirpated populations) (Table 16) (NMFS 2009, Ford *et al.* 2010).

**Table 16.** Ecological subregions, populations, and scores for the key elements (A/P, diversity, and SS/D) used to determine current overall viability risk for MCR steelhead (NMFS 2009, Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH). Maintained (MT) population status indicates that the population does not meet the criteria for a viable population but does support ecological functions and preserve options for recovery of the DPS.

Ecological Subregions	Population (Watershed)	A/P	Diversity	Integrated SS/D	Overall Viability Risk
Cascade Eastern Slope Tributaries	Fifteenmile Creek	L	L	L	Viable
	Klickitat River	M	M	M	Not rated
	Eastside Deschutes River	L	M	M	Viable
	Westside Deschutes River	H	M	M	H*
	Rock Creek	H	M	M	H?
	White Salmon	Extinct	n/a	n/a	Extinct*
	Crooked River	Extinct	n/a	n/a	Extinct*
John Day River	Upper Mainstem	M	M	M	MT
	North Fork	VL	L	L	Highly Viable
	Middle Fork	M	M	M	MT
	South Fork	M	M	M	MT
	Lower Mainstem	M	M	M	MT
Walla Walla and Umatilla rivers	Umatilla River	M	M	M	MT
	Touchet River	M	M	M	H
	Walla Walla River	M	M	M	MT
Yakima River	Satus Creek	M	M	M	Viable/MT
	Toppenish Creek	M	M	M	Viable/MT
	Naches River	H	M	M	H
	Upper Yakima	H	H	H	H

\* Re-introduction efforts underway (NMFS 2009).

There have been improvements in the viability ratings for some of the component populations, but the MCR steelhead DPS is not currently meeting the viability criteria (adopted from the IC-TRT) in the MCR steelhead recovery plan (NMFS 2009). In addition, several of the factors cited by Good *et al.* (2005) remain as concerns or key uncertainties. Natural origin spawning estimates of populations have been highly variable with respect to meeting minimum abundance thresholds. Straying frequencies into at least the Lower John Day River population are high. Returns to the Yakima River basin and to the Umatilla and Walla Walla Rivers have been higher over the most recent brood cycle, while natural origin returns to the John Day River have decreased. Out-of-basin hatchery stray proportions, although reduced, remain very high in the Deschutes River basin. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

The limiting factors and threats to MCR steelhead include (NMFS 2009, NOAA Fisheries 2011):

- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas, fish passage, stream substrate, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, tributary hydro system activities, and development
- Mainstem Columbia River hydropower-related impacts
- Degraded estuarine and nearshore marine habitat
- Hatchery-related effects
- Harvest-related effects
- Effects of predation, competition, and disease

**UCR Steelhead.** This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams in the Columbia River basin upstream from the Yakima River, Washington, to the U.S.-Canada border, and progeny of six artificial propagation programs. Four independent populations of UCR steelhead were identified by the IC-TRT in the same upriver tributaries as for the UC spring-run Chinook salmon (*i.e.*, Wenatchee, Entiat, Methow, and Okanogan; Table 17) and, similarly, no major population groupings were identified due to the relatively small geographic area involved (IC-TRT 2003, Ford *et al.* 2010). All extant populations are considered to be at high risk of extinction (Ford *et al.* 2010).

**Table 17.** Summary of the key elements (A/P, diversity, and SS/D) and scores used to determine current overall viability risk for UCR steelhead populations (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH).

Population (Watershed)	A/P	Diversity	Integrated SS/D	Overall Viability Risk
Wenatchee River	H	H	H	H
Entiat River	H	H	H	H
Methow River	H	H	H	H
Okanogan River	H	H	H	H

UCR steelhead populations have increased in natural origin abundance in recent years, but productivity levels remain low. The proportions of hatchery origin returns in natural spawning areas remain extremely high across the DPS, especially in the Methow and Okanogan river populations. The modest improvements in natural returns in recent years are probably primarily the result of several years of relatively good natural survival in the ocean and tributary habitats. With the exception of the Okanogan population, the UCR populations rated as “low” risk for spatial structure. The “high” risk ratings for SS/D are largely driven by chronic high levels of hatchery spawners within natural spawning areas and lack of genetic diversity among the populations. Overall, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

The limiting factors and threats to the UCR steelhead DPS include (UCSRB 2007, NOAA Fisheries 2011):

- Mainstem Columbia River hydropower–related adverse effects.
- Impaired tributary fish passage.
- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large woody debris recruitment, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development.
- Effects of predation, competition, and disease mortality: Fish management, including past introductions and persistence of non-native (exotic) fish species continues to affect habitat conditions for listed species.
- Hatchery-related effects.
- Harvest-related effects.

SRB Steelhead. This species includes all naturally-spawned steelhead populations below natural and manmade impassable barriers in streams in the Snake River basin of southeast Washington, northeast Oregon, and Idaho, and progeny of six artificial propagation programs. The IC-TRT identified 25 historical populations in five major groups (Table 18) (IC-TRT 2006, Ford *et al.* 2010). The IC-TRT has not assessed the viability of this species.

The level of natural production in the two populations with full data series and the Asotin Creek index reaches is encouraging, but the status of most populations in this DPS remains highly uncertain. Population-level natural origin abundance and productivity inferred from aggregate data and juvenile indices indicate that many populations are likely below the minimum combinations defined by the IC-TRT viability criteria. The relative proportion of hatchery fish in natural spawning areas near major hatchery release sites is highly uncertain. There is little evidence for substantial change in ESU viability relative to the previous BRT and IC-TRT reviews. Overall, therefore, the new information considered does not indicate a change in the biological risk category since the last status review (Ford *et al.* 2010).

**Table 18.** Ecological subregions, populations, and scores for the key elements (A/P, diversity, and SS/D) used to determine current overall viability risk for SRB steelhead (Ford *et al.* 2010). Risk ratings range from very low (VL), low (L), moderate (M), high (H), to very high (VH). Maintained (MT) population status indicates that the population does not meet the criteria for a viable population but does support ecological functions and preserve options for recovery of the DPS.

Ecological subregions	Spawning Populations (Watershed)	A/P	Diversity	Integrated SS/D	Overall Viability Risk*
Lower Snake River	Tucannon River	H??	M	M	H??*
	Asotin Creek	MT	M	M	H
Grande Ronde River	Lower Grande Ronde	**	M	M	Not rated
	Joseph Creek	VL	L	L	Highly viable
	Upper Grande Ronde	M	M	M	MT
	Wallowa River	H	L	L	H
Clearwater River	Lower Clearwater	M	L	L	MT
	South Fork Clearwater	H	M	M	H
	Lolo Creek	H	M	M	H
	Selway River	H	L	L	H
	Lochsa River	H	L	L	H
Salmon River	Little Salmon River	M	M	M	MT
	South Fork Salmon	H	L	L	H
	Secesh River	H	L	L	H
	Chamberlain Creek	H	L	L	H
	Lower MF Salmon	H	L	L	H
	Upper MF Salmon	H	L	L	H
	Panther Creek	M	M	H	H
	North Fork Salmon	M	M	M	MT
	Lemhi River	M	M	M	MT
	Pahsimeroi River	M	M	M	MT
	East Fork Salmon	M	M	M	MT
	Upper Main Salmon	M	M	M	M?
Imnaha	Imnaha River	M		M	,

\*There is some uncertainty regarding these ratings due to a lack of population –specific abundance data.

Limiting factors and threats to the SRB steelhead DPS include (IC-TRT 2006, NOAA Fisheries 2011):

- Mainstem Columbia River hydropower–related adverse effects
- Impaired tributary fish passage
- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large woody debris recruitment, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, and development
- Impaired water quality and increased water temperature

- Related harvest effects, particularly for B-run steelhead
- Predation
- Genetic diversity effects from out-of-population hatchery releases

***Oregon Coast (OC) Recovery Domain.*** The OC recovery domain includes OC coho salmon, southern DPS green sturgeon, and eulachon, covering Oregon coastal streams south of the Columbia River and north of Cape Blanco. Streams and rivers in this area drain west into the Pacific Ocean, and vary in length from less than a mile to more than 210 miles in length.

OC Coho Salmon. This species includes all naturally-spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco, including the Cow Creek population, which is stock #37 of Oregon Department of Fish and Wildlife's (ODFW) coho hatchery program. OC coho salmon were first listed in February 2008. As part of a legal settlement agreement in 2008, NMFS completed a new status review for the ESU. In 2011, NMFS issued a final rule re-promulgating the threatened listing for Oregon Coast coho salmon (76 FR 35755).

The OC-TRT identified 56 populations; 21 independent and 35 dependent. The dependent populations were dependent on strays from other populations to maintain them over long time periods. The TRT also identified five biogeographic strata (Table 19) (Lawson *et al.* 2007).

Wainwright *et al.* (2008) determined that the weakest strata of OC coho salmon were in the North Coast and Mid-Coast of Oregon, which had only "low" certainty of being persistent. The strongest strata were the Lakes and Mid-South Coast, which had "high" certainty of being persistent. To increase certainty that the ESU as a whole is persistent, they recommended that restoration work should focus on those populations with low persistence, particularly those in the North Coast, Mid-Coast, and Umpqua strata.

A 2010 BRT (Stout *et al.* 2011) noted significant improvements in hatchery and harvest practices have been made. However, harvest and hatchery reductions have changed the population dynamics of the ESU. It has not been demonstrated that productivity during periods of poor marine survival is now adequate to sustain the ESU. Recent increases in adult escapement do not provide strong evidence that the century-long downward trend has changed. The ability of the OC coho salmon ESU to survive another prolonged period of poor marine survival remains in question.

Current concerns for spatial structure focus on the Umpqua River. Of the four populations in the Umpqua stratum, two, the North Umpqua and South Umpqua, were of particular concern. The North Umpqua is controlled by Winchester Dam and has historically been dominated by hatchery fish. Hatchery influence has recently been reduced, but the natural productivity of this population remains to be demonstrated. The South Umpqua is a large, warm system with degraded habitat. Spawner distribution appears to be seriously restricted in this population, and it is probably the most vulnerable of any population in this ESU to increased temperatures.



**Table 19.** OC coho salmon populations. Dependent Populations (D) are populations that historically would not have had a high likelihood of persisting in isolation for 100 years. These populations relied upon periodic immigration from other populations to maintain their abundance. Independent Populations are populations that historically would have had a high likelihood of persisting in isolation from neighboring populations for 100 years and are rated as functionally independent (FI) and potentially independent (PI) (McElhany *et al.* 2000, Lawson *et al.* 2007).

Stratum	Population	Type	Stratum	Population	Type
North Coast	Necanicum	PI	Mid-Coast (cont.)	Alsea	FI
	Ecola	D		Big (Alsea)	D
	Arch Cape	D		Vingie	D
	Short Sands	D		Yachats	D
	Nehalem	FI		Cummins	D
	Spring	D		Bob	D
	Watseco	D		Tenmile	D
	Tillamook	FI		Rock	D
	Netarts	D		Big (Siuslaw)	D
	Rover	D		China	D
	Sand	D		Cape	D
	Nestucca	FI		Berry	D
	Neskowin	D		Sutton	D
Mid-Coast	Salmon	PI	Lakes	Siuslaw	FI
	Devils	D		Siltcoos	PI
	Siletz	FI		Tahkenitch	PI
	Schoolhouse	D		Tenmile	PI
	Fogarty	D	Umpqua	Lower Umpqua	FI
	Depoe	D		Middle Umpqua	FI
	Rocky	D		North Umpqua	FI
	Spencer	D		South Umpqua	FI
	Wade	D	Mid-South Coast	Threemile	D
	Coal	D		Coos	FI
	Moolack	D		Coquille	FI
	Big (Yaquina)	D		Johnson	D
	Yaquina	FI		Twomile	D
	Theil	D		Floras	PI
	Beaver	PI		Sixes	PI

Current status of diversity shows improvement through the waning effects of hatchery fish on populations of OC coho salmon. In addition, recent efforts in several coastal estuaries to restore lost wetlands should be beneficial. However, diversity is lower than it was historically because of the loss of both freshwater and tidal habitat loss coupled with the restriction of diversity from very low returns over the past 20 years.

The BRT concluded that there is a moderate certainty of ESU persistence over the next 100 years and a low-to-moderate certainty that the ESU is sustainable for the foreseeable future, assuming no future trends in factors affecting the ESU. The NMFS issued a final determination to retain

the ESA listing status, effective June 20, 2011. Thus, the February 2008 critical habitat designation and 4(d) regulations remain in effect (76 FR 35755).

Limiting factors and threats to the OC coho salmon ESU include (Stout *et al.* 2011, NOAA Fisheries 2011):

- Degraded freshwater habitat: Floodplain connectivity and function, channel structure and complexity, riparian areas and large wood supply, stream substrate, stream flow, and water quality have been degraded as a result of cumulative impacts of agriculture, forestry, instream mining, dams, road crossings, dikes, levees, etc.
- Fish passage barriers that limit access to spawning and rearing habitats
- Adverse climate, altered past ocean/marine productivity, and current ocean ecosystem conditions have favored competitors and predators and reduced salmon survival rates in freshwater rivers and lakes, estuaries, and marine environments

***Southern Oregon and Northern California Coasts (SONCC) Recovery Domain.*** The SONCC recovery domain includes coho salmon, southern DPS green sturgeon, and eulachon. The SONCC recovery domain extends from Cape Blanco, Oregon, to Punta Gorda, California. This area includes many small-to-moderate-sized coastal basins, where high quality habitat occurs in the lower reaches of each basin, and three large basins (Rogue, Klamath and Eel) where high quality habitat is in the lower reaches, little habitat is provided by the middle reaches, and the largest amount of habitat is in the upper reaches of the subbasins

**SONCC Coho Salmon.** This species includes all naturally-spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California, and progeny of three artificial propagation programs. The SONCC-TRT identified 50 populations that were historically present based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Williams *et al.* 2006). In some cases, the SONCC-TRT also identified groups of populations referred to as “diversity strata” largely based on the geographical arrangement of the populations and basin-scale environmental and ecological characteristics. Of those populations, 13 strata and 17 populations occur within the Oregon (Table 20). On August 15, 2011, NMFS Southwest Region announced the results of a 5-year review for SONCC coho salmon (76 FR 50447). After reviewing the available information, they concluded that this species should retain its threatened listing classification.

In most cases, populations appear to be well below the proposed viability thresholds, and the steps needed to move them toward viability will be similar, regardless of the specific recovery targets, which can be refined as more information becomes available. The SONCC-TRT developed a framework to assess the viability of this species and recommended: (1) Securing all extant populations, (2) collecting distribution and abundance data, (3) minimizing straying from hatcheries to natural spawning areas, and (4) beginning critical research on climate change and its potential impacts (Williams *et al.* 2008). Although long-term data on abundance of SONCC coho salmon are scarce, available evidence from shorter-term research and monitoring efforts indicate that conditions have worsened for populations since the last formal status review was published (Good *et al.* 2005, Williams *et al.* 2011). Many independent populations are well

below low-risk abundance targets, and several are likely below the high-risk depensation thresholds specified by the TRT (Williams *et al.* 2011).

**Table 20.** SONCC coho salmon populations in Oregon. Dependent populations (D) are populations that historically would not have had a high likelihood of persisting in isolation for 100 years. These populations relied upon periodic immigration from other populations to maintain their abundance. Independent populations are populations that historically would have had a high likelihood of persisting in isolation from neighboring populations for 100 years and are rated as functionally independent (FI) and potentially independent (PI). Two ephemeral populations (E) are defined as populations both small enough and isolated enough that they are only intermittently present (McElhany *et al.* 2000, Williams *et al.* 2006).

Population		Population Type
River Basin	Subbasin	
Elk River		FI
Mill Creek		D
Hubbard Creek		E
Brush Creek		D
Mussel Creek		D
Euchre Creek		E
Rogue River*	Lower Rogue River	PI
	Illinois River*	FI
	Mid Rogue/Applegate*	FI
	Upper Rogue River	FI
Hunter Creek		D
Pistol River		D
Chetco River		FI
Winchuck River		PI
Smith River*		FI
Klamath River*	Middle Klamath River	PI
	Upper Klamath River	FI

\* Populations that also occur partly in California.

Limiting factors and threats to the SONCC coho salmon ESU include (NMFS 2007, NOAA Fisheries 2011):

- Lack of floodplain and channel structure
- Impaired water quality
- Altered hydrologic function due to altered amount and timing of river flows.
- Degraded riparian forest conditions and large wood recruitment
- Altered sediment supply
- Degraded stream substrate
- Impaired estuarine function.
- Impaired fish passage
- Hatchery-related adverse effects
- Effects of predation, competition, and disease mortality

Threats from natural or man-made factors have worsened in the past 5 years, primarily due to four factors: small population dynamics, climate change, multi-year drought, and poor ocean survival conditions (NOAA Fisheries 2011).

### **2.2.2 Status of the Critical Habitats**

The status of critical habitat was based primarily on a watershed-level analysis of conservation value that focused on the presence of listed ESA-listed species and physical features (*i.e.*, the PCEs) that are essential to their conservation. The analysis for the 2005 designations of salmon and steelhead species was completed by Critical Habitat Analytical Review Teams (CHARTs) that focused on large geographical areas corresponding approximately to recovery domains (NOAA Fisheries 2005). Each watershed was ranked using a conservation value attributed to the quantity of stream habitat with PCEs, the present condition of those PCEs, the likelihood of achieving PCE potential (either naturally or through active restoration), support for rare or important genetic or life history characteristics, support for abundant populations, and support for spawning and rearing populations. In some cases, our understanding of these interim conservation values has been further refined by the work of TRTs and other recovery planning efforts that have better explained the habitat attributes, ecological interactions, and population characteristics important to each species.

A similar team, referred to as a Critical Habitat Review Team (CHRT) was convened for southern DPS green sturgeon, as reported in the proposed rule (73 FR 17757). That team identified and analyzed the conservation value of particular areas occupied by southern green sturgeon, and unoccupied areas they felt may be necessary to ensure the conservation of the species. The CHRT did not identify those particular areas using hydrologic unit code (HUC) nomenclature, but did provide geographic place names for those areas, including the names of freshwater rivers, the bypasses, the Sacramento-San Joaquin Delta, coastal bays and estuaries, and coastal marine areas (within 110 m depth) extending from the California/Mexico border north to Monterey Bay, California, and from the Alaska/Canada border northwest to the Bering Strait; and certain coastal bays and estuaries in California, Oregon, and Washington.

NMFS designated critical habitat for all salmon species considered in this opinion, except LCR coho salmon, for which critical habitat has not been proposed nor designated and eulachon, for which critical habitat is proposed but not yet designated. The CHARTs completed assessed factors of PCEs for 12 species of ESA-listed salmon and steelhead in the Puget Sound, WLC, and IC recovery domains. A CHART also did an initial assessment of PCEs for coho salmon in the Oregon Coast recovery domain (NOAA Fisheries 2005). Each CHART consisted of Federal biologists and habitat specialists from NMFS, the Fish and Wildlife Service, the Forest Service, and the Bureau of Land Management, with demonstrated expertise regarding salmon and steelhead habitat and related protective efforts within that domain.

Each CHART assessed biological information pertaining to areas under consideration for designation as critical habitat to identify the areas occupied by listed salmon and steelhead, determine whether those areas contained PCEs essential for the conservation of those species, and whether unoccupied areas existed within the historical range of the listed salmon and

steelhead that may also be essential for conservation. The CHARTs assigned a 0 to 3 point score for the PCEs in each HUC5 watershed for:

- Factor 1. Quantity,
- Factor 2. Quality – Current Condition,
- Factor 3. Quality – Potential Condition,
- Factor 4. Support of Rarity Importance,
- Factor 5. Support of Abundant Populations, and
- Factor 6. Support of Spawning/Rearing.

Thus, the quality of habitat in a given watershed was characterized by the scores for Factor 2 (quality - current condition), which considers the existing condition of the quality of PCEs in the HUC5 watershed; and Factor 3 (quality – potential condition), which considers the likelihood of achieving PCE potential in the HUC5 watershed, either naturally or through active conservation/restoration, given known limiting factors, likely biophysical responses, and feasibility. The meaning of these scores is given below:

<b>PCE Quality – Current Condition</b>	<b>PCE Quality – Potential Condition</b>
3 = PCEs are in good to excellent condition.	3 = PCEs are highly functioning and are at their historical potential.
2 = PCEs are in fair to good condition.	2 = PCEs are reduced, but have high improvement potential.
1 = PCEs are in fair to poor condition.	1 = PCEs may have some improvement potential.
0 = PCEs are in poor condition.	0 = PCEs have little or no improvement potential.

Each CHART then scored each habitat area based on the quantity and quality of the physical and biological features; rated each habitat area as having a “high,” “medium,” or “low” conservation value; and identified management actions that could affect habitat for salmon and steelhead.

The ESA gives the Secretary of Commerce discretion to exclude areas from designation if he determines that the benefits of exclusion outweigh the benefits of designation. Considering economic factors and information from CHARTs, NMFS partially or completely excluded the following types of areas from the 2005 critical habitat designations:

1. Military areas. All military areas were excluded because of the current national priority on military readiness, and in recognition of conservation activities covered by military integrated natural resource management plans.
2. Tribal lands. Native American lands were excluded because of the unique trust relationship between tribes and the federal government, the federal emphasis on respect for tribal sovereignty and self governance, and the importance of tribal participation in numerous activities aimed at conserving salmon.
3. Areas With Habitat Conservation Plans. Some lands covered by habitat conservation plans were excluded because NMFS had evidence that exclusion would benefit our relationship with the landowner, the protections secured through these plans outweigh the protections that are likely through critical habitat designation, and exclusion of these

lands may provide an incentive for other landowners to seek similar voluntary conservation plans.

4. Areas With Economic Impacts. Areas where the conservation benefit to the species would be relatively low compared to the economic impacts.

In designating these critical habitats, NMFS organized information at scale of the 5<sup>th</sup> field HUC watershed because it corresponds to the spatial distribution and site fidelity scales of salmon and steelhead populations (Washington Department of Fisheries *et al.* 1992, McElhany *et al.* 2000). For earlier critical habitat designations for Snake River salmon and SONCC coho salmon, similar information was not available at the watershed scale, so NMFS used the scale of the 4<sup>th</sup> field HUC subbasin to organize critical habitat information. For southern green sturgeon, the CHRT identified and designated critical habitat as “specific areas” within freshwater rivers, the bypasses, the Sacramento-San Joaquin Delta, coastal bays and estuaries, and coastal marine areas (inshore of the 110-m depth contour).

NMFS reviews the status of designated critical habitat affected by the proposed action by examining the condition and trends of PCEs throughout the designated area. These PCEs vary slightly for some species, due to biological and administrative reasons, but all consist of site types and site attributes associated with life history events (Tables 21 – 24).

**Table 21.** PCEs of critical habitats designated for ESA-listed salmon and steelhead species considered in the opinion (except SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, and SONCC coho salmon), and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site Type	Site Attribute	
Freshwater spawning	Substrate Water quality Water quantity	Adult spawning Embryo incubation Alevin growth and development
Freshwater rearing	Floodplain connectivity Forage Natural cover Water quality Water quantity	Fry emergence from gravel Fry/parr/smolt growth and development
Freshwater migration	Free of artificial obstruction Natural cover Water quality Water quantity	Adult sexual maturation Adult upstream migration and holding Kelt (steelhead) seaward migration Fry/parr/smolt growth, development, and seaward migration
Estuarine areas	Forage Free of artificial obstruction Natural cover Salinity Water quality Water quantity	Adult sexual maturation and “reverse smoltification” Adult upstream migration and holding Kelt (steelhead) seaward migration Fry/parr/smolt growth, development, and seaward migration
Nearshore marine areas	Forage Free of artificial obstruction Natural cover Water quantity Water quality	Adult growth and sexual maturation Adult spawning migration Nearshore juvenile rearing
Offshore marine areas	Forage Water quality	Adult growth and sexual maturation Adult spawning migration Subadult rearing

**Table 22.** PCEs of critical habitats designated for SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, SONCC coho salmon, and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site	Site Attribute	
Spawning and juvenile rearing areas	Access (sockeye) Cover/shelter Food (juvenile rearing) Riparian vegetation Space (Chinook, coho) Spawning gravel Water quality Water temp (sockeye) Water quantity	Adult spawning Embryo incubation Alevin growth and development Fry emergence from gravel Fry/parr/smolt growth and development
Adult and juvenile migration corridors	Cover/shelter Food (juvenile) Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Adult sexual maturation Adult upstream migration and holding Kelt (steelhead) seaward migration Fry/parr/smolt growth, development, and seaward migration
Areas for growth and development to adulthood	Ocean areas – not identified	Nearshore juvenile rearing Subadult rearing Adult growth and sexual maturation Adult spawning migration

**Table 23.** Primary constituent elements of critical habitats designated for eulachon and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site Type	Site Attribute	
Freshwater spawning and incubation	Flow, Water quality Water temperature Substrate	Adult spawning Incubation
Freshwater migration	Flow, Water quality Water temperature, Food	Adult and larval mobility Larval feeding
Nearshore and offshore marine areas	Food Water quality	Adult and juvenile growth, survival and maturation



**Table 24.** PCEs of critical habitat for southern green sturgeon and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site Type	Site Attribute	
Freshwater riverine system	Food resources Migratory corridor Sediment quality Substrate type or size Water depth Water flow Water quality	Adult spawning Embryo incubation, growth and development Larval emergence, growth and development Juvenile metamorphosis, growth and development
Estuarine areas	Food resources Migratory corridor Sediment quality Water flow Water depth Water quality	Juvenile growth, development, seaward migration Subadult growth, development, seasonal holding, and movement between estuarine and marine areas Adult growth, development, seasonal holding, movements between estuarine and marine areas, upstream spawning movement, and seaward post-spawning movement
Coastal marine areas	Food resources Migratory corridor Water quality	Subadult growth and development, movement between estuarine and marine areas, and migration between marine areas Adult sexual maturation, growth and development, movements between estuarine and marine areas, migration between marine areas, and spawning migration

Climate change, as described in Section 2.2, is likely to reduce the conservation value of designated critical habitats in the Pacific Northwest. Other influences on the conservation value of critical habitats in the various recovery domains are discussed below.

Southern DPS Green Sturgeon. For freshwater rivers north of and including the Eel River, the areas upstream of the head of the tide were not considered part of the geographical area occupied by the southern DPS. However, the critical habitat designation recognizes not only the importance of natal habitats, but of habitats throughout their range. Critical habitat has been designated in coastal U.S. marine waters within 60 fathoms depth from Monterey Bay, California (including Monterey Bay), north to Cape Flattery, Washington, including the Strait of Juan de Fuca, Washington, to its United States boundary; the Sacramento River, lower Feather River, and lower Yuba River in California; the Sacramento-San Joaquin Delta and Suisun, San Pablo, and San Francisco bays in California; the Lower Columbia River estuary; and certain coastal bays and estuaries in California (Humboldt Bay), Oregon (Coos Bay, Winchester Bay, Yaquina Bay, and Nehalem Bay), and Washington (Willapa Bay and Grays Harbor) and freshwater (USDC 2009). Table 21, above below delineates PCEs for Southern DPS green sturgeon.

The CHRT identified several activities that may threaten the PCEs in coastal bays and estuaries and may necessitate the need for special management considerations or protection. The application of pesticides may adversely affect prey resources and water quality within the bays and estuaries, as well as the growth and reproductive health of Southern DPS green sturgeon through bioaccumulation. Other activities of concern include those that may disturb bottom substrates, adversely affect prey resources, or degrade water quality through re-suspension of contaminated sediments. Of particular concern are activities that affect prey resources. Prey resources can be affected by: commercial shipping and activities generating point source

pollution and non-point source pollution that can discharge contaminants and result in bioaccumulation of contaminants in green sturgeon; disposal of dredged materials that can bury prey resources; and bottom trawl fisheries that can disturb the bottom (but may result in beneficial or adverse effects on prey resources for green sturgeon). In addition, petroleum spills from commercial shipping activities and proposed alternative energy hydrokinetic projects may affect water quality or hinder the migration of green sturgeon along the coast (USDC 2009).

**Eulachon.** Critical habitat was designated for eulachon on October 20, 2011 (76 FR 65324). Critical habitat for eulachon includes portions of 16 rivers and streams in California, Oregon, and Washington. All of these areas are designated as migration and spawning habitat for this species. In Oregon, 24.2 miles of the lower Umpqua River, 12.4 miles of the lower Sandy River, and 0.2 miles of Tenmile Creek have been designated. The mainstem Columbia River from the mouth to the base of Bonneville Dam, a distance of 143.2 miles is also designated as critical habitat. The lateral extent of critical habitat is defined as the width of the stream channel defined by the ordinary high water line, as defined by the U.S. Army Corps of Engineers in 33 CFR 329.11.

The physical or biological features of freshwater spawning and incubation sites, include water flow, quality and temperature conditions and suitable substrate for spawning and incubation, as well as migratory access for adults and juveniles. These features are essential to conservation because without them the species cannot successfully spawn and produce offspring. The physical or biological features of freshwater migration corridors associated with spawning and incubation sites include water flow, quality and temperature conditions supporting larval and adult mobility, abundant prey items supporting larval feeding after the yolk sac is depleted, and free passage (no obstructions) for adults and juveniles. These features are essential to conservation because they allow adult fish to swim upstream to reach spawning areas and they allow larval fish to proceed downstream and reach the ocean.

**WLC Recovery Domain.** Critical habitat was designated in the WLC recovery domain for UWR spring-run Chinook salmon, LCR Chinook salmon, LCR steelhead, UWR steelhead, CR chum salmon, and southern green sturgeon, and proposed for eulachon. In addition to the Willamette and Columbia river mainstems, important tributaries on the Oregon side of the WLC include Youngs Bay, Big Creek, Clatskanie River, and Scappoose River in the Oregon Coast subbasin; Hood River in the Gorge; and the Sandy, Clackamas, Molalla, North and South Santiam, Calapooia, McKenzie, and Middle Fork Willamette rivers in the West Cascades subbasin.

Land management activities have severely degraded stream habitat conditions in the Willamette River mainstem above Willamette Falls and associated subbasins. In the Willamette River mainstem and lower sub-basin mainstem reaches, high density urban development and widespread agricultural effects have reduced aquatic and riparian habitat quality and complexity, and altered sediment and water quality and quantity, and watershed processes. The Willamette River, once a highly braided river system, has been dramatically simplified through channelization, dredging, and other activities that have reduced rearing habitat by as much as 75%. In addition, the construction of 37 dams in the basin blocked access to more than 435 miles of stream and river spawning habitat. The dams alter the temperature regime of the Willamette

River and its tributaries, affecting the timing and development of naturally-spawned eggs and fry. Agriculture, urbanization, and gravel mining on the valley floor logging in the Cascade and Coast ranges contribute to increased erosion and sediment loads throughout the basin.

The mainstem Willamette River has been channelized and stripped of large wood. Development began to encroach on the riparian forest beginning in the 1870s (Sedell and Froggatt 1984). Gregory *et al.* (2002a) calculated that the total mainstem Willamette River channel area decreased from 41,000 to 23,000 acres between 1895 and 1995. They noted that the lower reach, from the mouth of the river to Newberg (River Mile (RM) 50), is confined within a basaltic trench, and that due to this geomorphic constraint, less channel area has been lost than in upstream areas. The middle reach from Newberg to Albany (RM 50 to 120) incurred losses of 12% primary channel area, 16% side channels, 33% alcoves, and 9% islands. Even greater changes occurred in the upper reach, from Albany to Eugene (RM 187). There, approximately 40% of both channel length and channel area were lost, along with 21% of the primary channel, 41% of side channels, 74% of alcoves, and 80% of island areas.

The banks of the Willamette River have more than 96 miles of revetments; approximately half were constructed by the Corps. Generally, the revetments were placed in the vicinity of roads or on the outside bank of river bends, so that while only 26% of the total length is revetted, 65% of the meander bends are revetted (Gregory *et al.* 2002b). The majority of dynamic sections have been armored, reducing adjustments in channel bed and sediment storage by the river, and thereby diminishing both the complexity and productivity of aquatic habitats (Gregory *et al.* 2002c).

Riparian forests have diminished considerably in the lower reaches of the Willamette River (Gregory *et al.* 2002d). Sedell and Froggatt (1984) noted that agriculture and cutting of streamside trees were major agents of change for riparian vegetation, along with snagging of large wood in the channel. The reduced shoreline, fewer and smaller snags, and reduced riparian forest comprise large functional losses to the river, reducing structural features, organic inputs from litter fall, entrained allochthonous materials, and flood flow filtering capacity. Extensive changes began before the major dams were built, with navigational and agricultural demands dominating the early use of the river. The once expansive forests of the Willamette River floodplain provided valuable nutrients and organic matter during flood pulses, food sources for macroinvertebrates, and slow-water refugia for fish during flood events. These forests also cooled river temperatures as the river flowed through its many channels.

Gregory *et al.* (2002d) described the changes in riparian vegetation in river reaches from the mouth to Newberg, from Newberg to Albany, and from Albany to Eugene. They noted that the riparian forests were formerly a mosaic of brush, marsh, and ash tree openings maintained by annual flood inundation. Below the City of Newberg, the most noticeable change was that conifers were almost eliminated. Above Newberg, the formerly hardwood-dominated riparian forests along with mixed forest made up less than half of the riparian vegetation by 1990, while agriculture dominated. This conversion has reduced river shading and the potential for recruitment of wood to the river, reducing channel complexity and the quality of rearing, migration and spawning habitats

Hyporheic flow in the Willamette River has been examined through discharge measurements and found to be significant in some areas, particularly those with gravel deposits (Wentz *et al.* 1998, Fernald *et al.* 2001). The loss of channel complexity and meandering that fosters creations of gravel deposits decreases the potential for hyporheic flows, as does gravel mining. Hyporheic flow processes water and affects its quality on reemerging into the main channel, stabilizing variations in physical and chemical water characteristics. Hyporheic flow is important for ecological functions, some aspects of water quality (such as temperature and dissolved oxygen), and some benthic invertebrate life stages. Alcove habitat, which has been limited by channelization, combines low hydraulic stress and high food availability with the potential for hyporheic flows across the steep hydraulic gradients in the gravel separating them from the main channel (Fernald *et al.* 2001).

On the mainstem of the Columbia River, hydropower projects, including the Federal Columbia River Hydropower System (FCRPS), have significantly degraded salmon and steelhead habitats (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2006, LCFRB 2010). The series of dams and reservoirs that make up the FCRPS block an estimated 12 million cubic yards of debris and sediment that would otherwise naturally flow down the Columbia River and replenish shorelines along the Washington and Oregon coasts.

Industrial harbor and port development are also significant influences on the Lower Willamette and Lower Columbia rivers (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2006, LCFRB 2010). Since 1878, 100 miles of river channel within the mainstem Columbia River, its estuary, and Oregon's Willamette River have been dredged as a navigation channel by the Corps. Originally dredged to a 20-foot minimum depth, the Federal navigation channel of the Lower Columbia River is now maintained at a depth of 43 feet and a width of 600 feet. The Lower Columbia River supports five ports on the Washington State side: Kalama, Longview, Skamania County, Woodland, and Vancouver. In addition to loss of riparian habitat, and disruption of benthic habitat due to dredging, high levels of several sediment chemicals, such as arsenic and polycyclic aromatic hydrocarbons (PAHs), have been identified in Lower Columbia River watersheds in the vicinity of the ports and associated industrial facilities.

The most extensive urban development in the Lower Columbia River subbasin has occurred in the Portland/Vancouver area. Outside of this major urban area, the majority of residences and businesses rely on septic systems. Common water quality issues with urban development and residential septic systems include higher water temperatures, lowered dissolved oxygen, increased fecal coliform bacteria, and increased chemicals associated with pesticides and urban runoff.

The Columbia River estuary has lost a significant amount of the tidal marsh and tidal swamp habitats that are critical to juvenile salmon and steelhead, particularly small or ocean-type species (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2006, LCFRB 2010). Edges of marsh areas provide sheltered habitats for juvenile salmon and steelhead where food, in the form of amphipods or other small invertebrates which feed on marsh detritus, is plentiful, and larger predatory fish can be avoided. Historically, floodwaters of the Columbia River inundated the margins and floodplains along the estuary, allowing juvenile salmon and steelhead access to a wide expanse of low-velocity marshland and tidal channel habitats. In general, the riverbanks

were gently sloping, with riparian and wetland vegetation at the higher elevations of the river floodplain becoming habitat for salmon and steelhead during flooding river discharges or flood tides. Sherwood *et al.* (1990) estimated that the Columbia River estuary lost 20,000 acres of tidal swamps, 10,000 acres of tidal marshes, and 3,000 acres of tidal flats between 1870 and 1970. This study further estimated an 80% reduction in emergent vegetation production and a 15% decline in benthic algal production.

Habitat and food-web changes within the estuary, and other factors affecting salmon population structure and life histories, have altered the estuary's capacity to support juvenile salmon (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2006, LCFRB 2010). Diking and filling activities have reduced the tidal prism and eliminate emergent and forested wetlands and floodplain habitats. These changes likely have reduced the estuary's salmon-rearing capacity. Moreover, water and sediment in the Lower Columbia River and its tributaries have toxic contaminants that are harmful to fish and wildlife (LCREP 2007). Contaminants of concern include dioxins and furans, heavy metals, polychlorinated biphenyls (PCBs) and organochlorine pesticides such as DDT. Simplification of the population structure and life-history diversity of salmon possibly is yet another important factor affecting juvenile salmon viability. Restoration of estuarine habitats, particularly diked emergent and forested wetlands, reduction of avian predation by terns, and flow manipulations to restore historical flow patterns may have begun to enhance the estuary's productive capacity for salmon, although historical changes in population structure and salmon life histories may prevent salmon from making full use of the productive capacity of estuarine habitats.

The WLC Recovery Domain CHART determined that very few watersheds have PCEs in good to excellent condition (3), with no potential for additional improvement for salmon and/or steelhead. Only the upper McKenzie River and its tributaries were rated "3" with no potential for improvement for Chinook salmon PCEs. Most HUC5 watersheds are in fair-to-poor (score 1) or fair-to-good (score 2) condition. However, most watersheds with currently low or moderate habitat quality have some (score 1), or high (score 2), potential for improvement (Table 25).

**Table 25.** WLC Recovery Domain: Current and potential quality of watersheds identified as supporting historically independent populations of ESA- listed Chinook salmon (CK), chum salmon (CM), and steelhead (ST)(NOAA Fisheries 2005). Occupied watersheds within HUC4 watersheds are ranked primarily by “current quality” and secondly by their potential for restoration.

Geo-graphic Regions and HUC4s	Watershed Name(s) and HUC5 Code(s)	Listed Species	Current Quality	Potential Quality
Columbia Gorge #1707010xxx	Wind River (511)	CK/ST	2/2	2/2
	East Fork Hood (506), & Upper (404) & Lower Cispus (405) rivers	CK/ST	2/2	2/2
	Plympton Creek (306)	CK	2	2
	Little White Salmon River (510)	CK	2	0
	Grays Creek (512) & Eagle Creek (513)	CK/CM/ST	2/1/2	1/1/2
	White Salmon River (509)	CK/CM	2/1	1/2
	West Fork Hood River (507)	CK/ST	1/2	2/2
	Hood River (508)	CK/ST	1/1	2/2
	Unoccupied habitat: Wind River (511)	Chum conservation value “Possibly High”		
Cascade & Coast Range #1708000xxx	Lower Gorge Tributaries (107)	CK/CM/ST	2/2/2	2/3/2
	Lower Lewis (206) & North Fork Toutle (504) rivers	CK/CM/ST	1/3/1	2/1/2
	Salmon (101), Zigzag (102), & Upper Sandy (103) rivers	CK/ST	2/2	2/2
	Big Creek (602)	CK/CM	2/2	2/2
	Coweeman River (508)	CK/CM/ST	2/2/1	2/1/2
	Kalama River (301)	CK/CM/ST	1/2/2	2/1/2
	Cowlitz Headwaters (401)	CK/ST	2/2	1/1
	Skamokawa/Elochoman (305)	CK/CM	2/1	2
	Salmon Creek (109)	CK/CM/ST	1/2/1	2/3/2
	Green (505) & South Fork Toutle (506) rivers	CK/CM/ST	1/1/2	2/1/2
	Jackson Prairie (503) & East Willapa (507)	CK/CM/ST	1/2/1	1/1/2
	Grays Bay (603)	CK/CM	1/2	2/3
	Upper Middle Fork Willamette River (101)	CK	2	1
	Germany/Abernathy creeks (304)	CK/CM	1/2	2
	Mid-Sandy (104), Bull Run (105), & Lower Sandy (108) rivers	CK/ST	1/1	2/2
	Washougal (106) & East Fork Lewis (205) rivers	CK/CM/ST	1/1/1	2/1/2
	Upper Cowlitz (402) & Tilton rivers (501) & Cowlitz Valley Frontal (403)	CK/ST	1/1	2/1
	Clatskanie (303) & Young rivers (601)	CK	1	2
	Rifle Reservoir (502)	CK/ST	1	1
	Beaver Creek (302)	CK	0	1
	Unoccupied Habitat: Upper Lewis (201) & Muddy (202) rivers; Swift (203) & Yale (204) reservoirs	CK & ST Conservation Value “Possibly High”		
mette River #1709 000xx	Upper (401) & South Fork (403) McKenzie rivers; Horse Creek (402); & McKenzie River/Quartz Creek (405)	CK	3	3
	Lower McKenzie River (407)	CK	2	3

Geo-graphic Regions and HUC4s	Watershed Name(s) and HUC5 Code(s)	Listed Species	Current Quality	Potential Quality
	South Santiam River (606)	CK/ST	2/2	1/3
	South Santiam River/Foster Reservoir (607)	CK/ST	2/2	1/2
	North Fork of Middle Fork Willamette (106) & Blue (404) rivers	CK	2	1
	Upper South Yamhill River (801)	ST	2	1
	Little North Santiam River (505)	CK/ST	1/2	3/3
	Upper Molalla River (905)	CK/ST	1/2	1/1
	Abernethy Creek (704)	CK/ST	1/1	1/2
	Luckiamute River (306) & Yamhill (807) Lower Molalla (906) rivers; Middle (504) & Lower (506) North Santiam rivers; Hamilton Creek/South Santiam River (601); Wiley Creek (608); Mill Creek/Willamette River (701); & Willamette River/Chehalem Creek (703); Lower South (804) & North (806) Yamhill rivers; & Salt Creek/South Yamhill River (805)	CK/ST	1	1
	Hills (102) & Salmon (104) creeks; Salt Creek/Willamette River (103), Hills Creek Reservoir (105), Middle Fork Willamette/Lookout Point (107); Little Fall (108) & Fall (109) creeks; Lower Middle Fork of Willamette (110), Long Tom (301), Marys (305) & Mohawk (406) rivers	CK	1	1
	Willamina Creek (802) & Mill Creek/South Yamhill River (803)	ST	1	1
	Calapooia River (303); Oak (304) Crabtree (602), Thomas (603) & Rickreall (702) creeks; Abiqua (901), Butte (902) & Rock (903) creeks/Pudding River; & Senecal Creek/Mill Creek (904)	CK/ST	1/1	0/1
	Row River (201), Mosby (202) & Muddy (302) creeks, Upper (203) & Lower (205) Coast Fork Willamette River	CK	1	0
	Unoccupied habitat in North Santiam (501) & North Fork Breitenbush (502) rivers; Quartzville Creek (604) and Middle Santiam River (605)	CK & ST Conservation Value "Possibly High"		
	Unoccupied habitat in Detroit Reservoir/Blowout Divide Creek (503)	Conservation Value: CK "Possibly Medium"; ST Possibly High"		
Lower Willamette #1709001xxx	Collawash (101), Upper Clackamas (102), & Oak Grove Fork (103) Clackamas rivers	CK/ST	2/2	3/2
	Middle Clackamas River (104)	CK/ST	2/1	3/2
	Eagle Creek (105)	CK/ST	2/2	1/2
	Gales Creek (002)	ST	2	1
	Lower Clackamas River (106) & Scappoose Creek (202)	CK/ST	1	2
	Dairy (001) & Scoggins (003) creeks; Rock Creek/Tualatin River (004); & Tualatin River (005)	ST	1	1
	Johnson Creek (201)	CK/ST	0/1	2/2
	Lower Willamette/Columbia Slough (203)	CK/ST	0	2

**IC Recovery Domain.** Critical habitat has been designated in the IC recovery domain, which includes the Snake River basin, for SR spring/summer-run Chinook salmon, SR fall-run Chinook salmon, UCR spring-run Chinook salmon, SR sockeye salmon, MCR steelhead, UCR

steelhead, and SRB steelhead. Major tributaries in the Oregon portion of the IC recovery domain include the Deschutes, John Day, Umatilla, Walla Walla, Grande Ronde, and Imnaha rivers.

Habitat quality in tributary streams in the IC recovery domain varies from excellent in wilderness and roadless areas to poor in areas subject to heavy agricultural and urban development (Wissmar *et al.* 1994, NMFS 2009). Critical habitat throughout much of the IC recovery domain has been degraded by intense agriculture, alteration of stream morphology (*i.e.*, channel modifications and diking), riparian vegetation disturbance, wetland draining and conversion, livestock grazing, dredging, road construction and maintenance, logging, mining, and urbanization. Reduced summer stream flows, impaired water quality, and reduction of habitat complexity are common problems for critical habitat in developed areas.

Migratory habitat quality in this area has been severely affected by the development and operation of the FCRPS dams and reservoirs in the mainstem Columbia River, Bureau of Reclamation tributary projects, and privately owned dams in the Snake and Upper Columbia river basins. For example, construction of Hells Canyon Dam eliminated access to several likely production areas in Oregon and Idaho, including the Burnt, Powder, Weiser, Payette, Malheur, Owyhee, and Boise river basins (Good *et al.* 2005), and Grand Coulee and Chief Joseph dams completely block anadromous fish passage on the upper mainstem Columbia River. Hydroelectric development modified natural flow regimes, resulting in higher water temperatures, changes in fish community structure leading to increased rates of piscivorous and avian predation on juvenile salmon and steelhead, and delayed migration for both adult and juveniles. Physical features of dams such as turbines also kill migrating fish. In-river survival is inversely related to the number of hydropower projects encountered by emigrating juveniles.

Similarly, development and operation of extensive irrigation systems and dams for water withdrawal and storage in tributaries have drastically altered hydrological cycles. A series of large regulating dams on the middle and upper Deschutes River affect flow and block access to upstream habitat, and have extirpated one or more populations from the Cascades Eastern Slope major population (IC-TRT 2003). Similarly, operation and maintenance of large water reclamation systems such as the Umatilla Basin and Yakima Projects have significantly reduced flows and degraded water quality and physical habitat in this domain.

Many stream reaches designated as critical habitat in the IC recovery domain are over-allocated under state water law, with more allocated water rights than existing streamflow conditions can support. Withdrawal of water, particularly during low-flow periods that commonly overlap with agricultural withdrawals, often increases summer stream temperatures, blocks fish migration, strands fish, and alters sediment transport (Spence *et al.* 1996). Reduced tributary stream flow has been identified as a major limiting factor for all listed salmon and steelhead species in this area except SR fall-run Chinook salmon and SR sockeye salmon (NMFS 2007, NOAA Fisheries 2011).

Many stream reaches designated as critical habitat are listed on the state of Oregon's Clean Water Act section 303(d) list for water temperature. Many areas that were historically suitable rearing and spawning habitat are now unsuitable due to high summer stream temperatures. Removal of riparian vegetation, alteration of natural stream morphology, and withdrawal of



water for agricultural or municipal use all contribute to elevated stream temperatures. Contaminants such as insecticides and herbicides from agricultural runoff and heavy metals from mine waste are common in some areas of critical habitat.

The IC Recovery Domain is a very large and diverse area. The CHART determined that few watersheds have PCEs in good to excellent condition (score 3), with no potential for additional improvement for Chinook salmon and/or steelhead. In Washington, the Upper Methow, Lost White and Chiwawa watersheds were rated “3” for current and potential quality. In Oregon, only the Lower Deschutes, Minam, Wenaha, and Upper and Lower Innaha Rivers HUC5 watersheds were rated “3” with no potential for improvement. In Idaho, a number of watersheds in the Upper Middle Salmon, Upper Salmon/Pahsimeroi, Middle Fork Salmon, Little Salmon, Selway, and Lochsa rivers were rated “3” for current and potential quality for steelhead PCEs. Additionally, several Lower Snake River HUC5 watersheds in the Hells Canyon area, straddling Oregon and Idaho, were highly rated. However, most HUC5 watersheds in the recovery domain are in fair-to-poor (score 1) or fair-to-good (score 2) condition. Most watersheds with currently low or moderate habitat quality have some (1), or high (2), potential for improvement (Table 26).

**Table 26.** Interior Columbia Recovery Domain: Current and potential quality of watersheds identified as supporting historically independent populations of ESA-listed Chinook salmon (CK) and steelhead (ST) (NOAA Fisheries 2005). Occupied watersheds within HUC4s are ranked primarily by “current quality” and secondly by their potential for restoration.

Geo-graphic Regions and HUC4s	Watershed Name and HUC5 Code(s)	Listed Species	Current Quality	Potential Quality
Upper Columbia # 1702000xxx	White (101), Chiwawa (102), Lost (801) & Upper Methow (802) rivers	CK/ST	3	3
	Upper Chewuch (803) & Twisp rivers (805)	CK/ST	3	2
	Lower Chewuch River (804); Middle (806) & Lower (807) Methow rivers	CK/ST	2	2
	Salmon Creek (603) & Okanogan River/Omak Creek (604)	ST	2	2
	Upper Columbia/Swamp Creek (505)	CK/ST	2	1
	Foster Creek (503) & Jordan/Tumwater (504)	CK/ST	1	1
	Upper (601) & Lower (602) Okanogan River; Okanogan River/Bonaparte Creek (605); Lower Similkameen River (704); & Lower Lake Chelan (903)	ST	1	1
	Unoccupied habitat in Sinlahekin Creek (703)	ST Conservation Value “Possibly High”		
Upper Columbia #1702001xxx	Entiat River (001); Nason/Tumwater (103); & Lower Wenatchee River (105)	CK/ST	2	2
	Lake Entiat (002)	CK/ST	2	1
	Columbia River/Lynch Coulee (003); Sand Hollow (004); Yakima/Hansen Creek (604), Middle Columbia/Priest Rapids (605), & Columbia River/Zintel Canyon (606)	ST	2	1
	Icicle/Chumstick (104)	CK/ST	1	2
	Lower Crab Creek (509)	ST	1	2
	Rattlesnake Creek (204)	ST	0	1
Yakima #1703000xxx	Upper (101) & Middle (102) Yakima rivers; Teanaway (103) & Little Naches (201) rivers; Naches River/Rattlesnake Creek (202); & Ahtanum (301) & Upper Toppenish (303) & Satus (305) creeks	ST	2	2
	Umtanum/Wenas (104); Naches River/Tieton River (203); Upper Lower Yakima River (302); & Lower Toppenish Creek (304)	ST	1	2
	Yakima River/Spring Creek (306)	ST	1	1
Lower Snake River #1706010xxx	Snake River/Granite (101), Getta (102), & Divide (104) creeks; Upper (201) & Lower (205) Imnaha River; Snake River/Rogersburg (301); Minam (505) & Wenaha (603) rivers	ST	3	3
	Grande Ronde River/Rondowa (601)	ST	3	2
	Big (203) & Little (204) Sheep creeks; Asotin River (302); Catherine Creek (405); Lostine River (502); Bear Creek (504); & Upper (706) & Lower (707) Tucannon River	ST	2	3
	Middle Imnaha River (202); Snake River/Captain John Creek (303); Upper Grande Ronde River (401); Meadow (402); Beaver (403); Indian (409), Lookingglass (410) & Cabin (411) creeks; Lower Wallowa River (506); Mud (602), Chesnimnus (604) & Upper Joseph (605) creeks	ST	2	2
	Ladd Creek (406); Phillips/Willow Creek (408); Upper (501) & Middle (503) Wallowa rivers; & Lower Grande Ronde	ST	1	3

<b>Geo-graphic Regions and HUC4s</b>	<b>Watershed Name and HUC5 Code(s)</b>	<b>Listed Species</b>	<b>Current Quality</b>	<b>Potential Quality</b>
	River/Menatche Creek (607)			
	Five Points (404); Lower Joseph (606) & Deadman (703) creeks	ST	1	2
	Tucannon/Alpowa Creek (701)	ST	1	1
	Mill Creek (407)	ST	0	3
	Pataha Creek (705)	ST	0	2
	Snake River/Steptoe Canyon (702) & Penawawa Creek (708)	ST	0	1
	Flat Creek (704) & Lower Palouse River (808)	ST	0	0
Upper Salmon & Pahsimeroi #1706020xxx	Germania (111) & Warm Springs (114) creeks; Lower Pahsimeroi River (201); Alturas Lake (120), Redfish Lake (121), Upper Valley (123) & West Fork Yankee (126) creeks	ST	3	3
	Basin Creek (124)	ST	3	2
	Salmon River/Challis (101); East Fork Salmon River/McDonald Creek (105); Herd Creek (108); Upper East Fork Salmon River (110); Salmon River/Big Casino (115), Fisher (117) & Fourth of July (118) creeks; Upper Salmon River (119); Valley Creek/Iron Creek (122); & Morgan Creek (132)	ST	2	3
	Salmon River/Bayhorse Creek (104); Salmon River/Slate Creek (113); Upper Yankee Fork (127) & Squaw Creek (128); Pahsimeroi River/Falls Creek (202)	ST	2	2
	Yankee Fork/Jordan Creek (125)	ST	1	3
	Salmon River/Kinnikinnick Creek (112); Garden Creek (129); Challis Creek/Mill Creek (130); & Patterson Creek (203)	ST	1	2
	Road Creek (107)	ST	1	1
	Unoccupied habitat in Hawley (410), Eighteenmile (411) & Big Timber (413) creeks	Conservation Value for ST "Possibly High"		
Middle Salmon, Panther & Lemhi #1706020xxx	Salmon River/Colson (301), Pine (303) & Moose (305) creeks; Indian (304) & Carmen (308) creeks, North Fork Salmon River (306); & Texas Creek (412)	ST	3	3
	Deep Creek (318)	ST	3	2
	Salmon River/Cow Creek (312) & Hat (313), Iron (314), Upper Panther (315), Moyer (316) & Woodtick (317) creeks; Lemhi River/Whimpey Creek (402); Hayden (414), Big Eight Mile (408), & Canyon (408) creeks	ST	2	3
	Salmon River/Tower (307) & Twelvemile (311) creeks; Lemhi River/Kenney Creek (403); Lemhi River/McDevitt (405), Lemhi River/Yearian Creek (406); & Peterson Creek (407)	ST	2	2
	Owl (302) & Napias (319) creeks	ST	2	1
	Salmon River/Jesse Creek (309); Panther Creek/Trail Creek (322); & Lemhi River/Bohannon Creek (401)	ST	1	3
	Salmon River/Williams Creek (310)	ST	1	2
	Agency Creek (404)	ST	1	1
	Panther Creek/Spring Creek (320) & Clear Creek (323)	ST	0	3
	Big Deer Creek (321)	ST	0	1
Fork, Lower, & Upper	Lower (501), Upper (503) & Little (504) Loon creeks; Warm Springs (502); Rapid River (505); Middle Fork Salmon River/Soldier (507) & Lower Marble Creek (513); & Sulphur (509), Pistol (510), Indian (511) & Upper Marble (512) creeks; Lower Middle Fork Salmon	ST	3	3

Geo-graphic Regions and HUC4s	Watershed Name and HUC5 Code(s)	Listed Species	Current Quality	Potential Quality
	River (601); Wilson (602), Upper Camas (604), Rush (610), Monumental (611), Beaver (614), Big Ramey (615) & Lower Big (617) creeks; Middle Fork Salmon River/Brush (603) & Sheep (609) creeks; Big Creek/Little Marble (612); Crooked (616), Sheep (704), Bargamin (709), Sabe (711), Horse (714), Cottonwood (716) & Upper Chamberlain Creek (718); Salmon River/Hot Springs (712); Salmon River/Kitchen Creek (715); Lower Chamberlain/McCalla Creek (717); & Slate Creek (911)			
	Marsh (506); Bear Valley (508) Yellow Jacket (604); West Fork Camas (607) & Lower Camas (608) creeks; & Salmon River/Disappointment Creek (713) & White Bird Creek (908)	ST	2	3
	Upper Big Creek (613); Salmon River/Fall (701), California (703), Trout (708), Crooked (705) & Warren (719) creeks; Lower South Fork Salmon River (801); South Fork Salmon River/Cabin (809), Blackmare (810) & Fitsum (812) creeks; Lower Johnson Creek (805); & Lower (813), Middle (814) & Upper Secesh (815) rivers; Salmon River/China (901), Cottonwood (904), McKenzie (909), John Day (912) & Lake (913) creeks; Eagle (902), Deer (903), Skookumchuck (910), French (915) & Partridge (916) creeks	ST	2	2
	Wind River (702), Salmon River/Rabbit (706) & Rattlesnake (710) creeks; & Big Mallard Creek (707); Burnt Log (806), Upper Johnson (807) & Buckhorn (811) creeks; Salmon River/Deep (905), Hammer (907) & Van (914) creeks	ST	2	1
	Silver Creek (605)	ST	1	3
	Lower (803) & Upper (804) East Fork South Fork Salmon River; Rock (906) & Rice (917) creeks	ST	1	2
Little Salmon #176021xxx	Rapid River (005)	ST	3	3
	Hazard Creek (003)	ST	3	2
	Boulder Creek (004)	ST	2	3
	Lower Little Salmon River (001) & Little Salmon River/Hard Creek (002)	ST	2	2
Selway, Lochsa & Clearwater #1706030xxx	Selway River/Pettibone (101) & Gardner (103) creeks; Bear (102), White Cap (104), Indian (105), Burnt Knob (107), Running (108) & Goat (109) creeks; & Upper Selway River (106); Gedney (202), Upper Three Links (204), Rhoda (205), North Fork Moose (207), Upper East Fork Moose (209) & Martin (210) creeks; Upper (211), Middle (212) & Lower Meadow (213) creeks; Selway River/Three Links Creek (203); & East Fork Moose Creek/Trout Creek (208); Fish (302), Storm (309), Warm Springs (311), Fish Lake (312), Boulder (313) & Old Man (314) creeks; Lochsa River/Stanley (303) & Squaw (304) creeks; Lower Crooked (305), Upper Crooked (306) & Brushy (307) forks; Lower (308), Upper (310) White Sands, Ten Mile (509) & John's (510) creeks	ST	3	3
	Selway River/Goddard Creek (201); O'Hara Creek (214) Newsome (505) creeks; American (506), Red (507) & Crooked (508) rivers	ST	2	3
	Lower Lochsa River (301); Middle Fork Clearwater River/Maggie Creek (401); South Fork Clearwater River/Meadow (502) & Leggett creeks; Mill (511), Big Bear (604), Upper Big Bear (605), Musselshell (617), Eldorado (619) & Mission (629) creeks, Potlatch	ST	2	2

<b>Geo-graphic Regions and HUC4s</b>	<b>Watershed Name and HUC5 Code(s)</b>	<b>Listed Species</b>	<b>Current Quality</b>	<b>Potential Quality</b>
	River/Pine Creek (606); & Upper Potlatch River (607); Lower (615), Middle (616) & Upper (618) Lolo creeks			
	South Fork Clearwater River/Peasley Creek (502)	ST	2	1
	Upper Orofino Creek (613)	ST	2	0
	Clear Creek (402)	ST	1	3
	Three Mile (512), Cottonwood (513), Big Canyon (610), Little Canyon (611) & Jim Ford (614) creeks; Potlatch River/Middle Potlatch Creek (603); Clearwater River/Bedrock (608), Jack's (609) Lower Lawyer (623), Middle Lawyer (624), Cottonwood (627) & Upper Lapwai (628) creeks; & Upper (630) & Lower (631) Sweetwater creeks	ST	1	2
	Lower Clearwater River (601) & Clearwater River/Lower Potlatch River (602), Fivemile Creek (620), Sixmile Creek (621) and Tom Taha (622) creeks	ST	1	1
<b>Mid-Columbia #1707010xxx</b>	Wood Gulch (112); Rock Creek (113); Upper Walla Walla (201), Upper Touchet (203), & Upper Umatilla (301) rivers; Meacham (302) & Birch (306) creeks; Upper (601) & Middle (602) Klickitat River	ST	2	2
	Glade (105) & Mill (202) creeks; Lower Klickitat River (604); Mosier Creek (505); White Salmon River (509); Middle Columbia/Grays Creek (512)	ST	2	1
	Little White Salmon River (510)	ST	2	0
	Middle Touchet River (204); McKay Creek (305); Little Klickitat River (603); Fifteenmile (502) & Fivemile (503) creeks	ST	1	2
	Alder (110) & Pine (111) creeks; Lower Touchet River (207), Cottonwood (208), Pine (209) & Dry (210) creeks; Lower Walla Walla River (211); Umatilla River/Mission Creek (303) Wildhorse Creek (304); Umatilla River/Alkali Canyon (307); Lower Butter Creek (310); Upper Middle Columbia/Hood (501); Middle Columbia/Mill Creek (504)	ST	1	1
	Stage Gulch (308) & Lower Umatilla River (313)	ST	0	1
<b>John Day #170702xxx</b>	Middle (103) & Lower (105) South Fork John Day rivers; Murderers (104) & Canyon (107) creeks; Upper John Day (106) & Upper North Fork John Day (201) rivers; & Desolation Creek (204)	ST	2	2
	North Fork John Day/Big Creek (203); Cottonwood Creek (209) & Lower NF John Day River (210)	ST	2	1
	Strawberry (108), Beech (109), Laycock (110), Fields (111), Mountain (113) & Rock (114) creeks; Upper Middle John Day River (112); Granite (202) & Wall (208) creeks; Upper (205) & Lower (206) Camas creeks; North Fork John Day/Potamus Creek (207); Upper Middle Fork John Day River (301) & Camp (302), Big (303) & Long (304) creeks; Bridge (403) & Upper Rock (411) creeks; & Pine Hollow (407)	ST	1	2
	John Day/Johnson Creek (115); Lower Middle Fork John Day River (305); Lower John Day River/Kahler Creek (401), Service (402) & Muddy (404) creeks; Lower John Day River/Clarno (405); Butte (406), Thirtymile (408) & Lower Rock (412) creeks; Lower John Day River/Ferry (409) & Scott (410) canyons; & Lower John Day River/McDonald Ferry (414)	ST	1	1

Geo-graphic Regions and HUC4s	Watershed Name and HUC5 Code(s)	Listed Species	Current Quality	Potential Quality
Deschutes #1707030xxx	Lower Deschutes River (612)	ST	3	3
	Middle Deschutes River (607)	ST	3	2
	Upper Deschutes River (603)	ST	2	1
	Mill Creek (605) & Warm Springs River (606)	ST	2	1
	Bakeoven (608) & Buck Hollow (611) creeks; Upper (701) & Lower (705) Trout Creek	ST	1	2
	Beaver (605) & Antelope (702) creeks	ST	1	1
	White River (610) & Mud Springs Creek (704)	ST	1	0
	Unoccupied habitat in Deschutes River/McKenzie Canyon (107) & Haystack (311); Squaw Creek (108); Lower Metolius River (110), Headwaters Deschutes River (601)	ST Conservation Value “Possibly High”		

**OC Recovery Domain.** In this recovery domain, critical habitat has been designated for OC coho salmon and southern DPS green sturgeon, and eulachon. Many large and small rivers supporting significant populations of coho salmon flow through this domain, including the Nehalem, Nestucca, Siletz, Yaquina, Alsea, Siuslaw, Umpqua, Coos, and Coquille.

The historical disturbance regime in the central Oregon Coast Range was dominated by a mixture of high and low-severity fires, with a natural rotation of approximately 271 years. Old-growth forest coverage in the Oregon Coast Range varied from 25 to 75% during the past 3,000 years, with a mean of 47%, and never fell below 5% (Wimberly *et al.* 2000). Currently, the Coast Range has approximately 5% old-growth, almost all of it on Federal lands. The dominant disturbance now is logging on a cycle of 30 to 100 years, with fires suppressed.

The state of Oregon (2005) completed an assessment of habitat conditions in the range of OC coho salmon in 2005. Oregon’s assessment mapped how streams with high intrinsic potential for coho salmon rearing are distributed by land ownership categories. Agricultural lands and private industrial forests have by far the highest percentage of land ownership in high intrinsic potential areas and along all coho salmon stream miles. Federal lands have only about 20% of coho salmon stream miles and 10% of high intrinsic potential stream reaches. Because of this distribution, activities in lowland agricultural areas are particularly important to the conservation of OC coho salmon.

The OC coho salmon assessment concluded that at the scale of the entire domain, pools are generally abundant, although slow-water and off-channel habitat (which are important refugia for coho salmon during high winter flows) are limited in the majority of streams when compared to reference streams in minimally-disturbed areas. Amounts of large wood in streams are low in all four ODFW monitoring areas and land-use types relative to reference conditions. Amounts of fine sediment are high in three of the four monitoring areas, and were comparable to reference conditions only on public lands. Approximately 62 to 91% of tidal wetland acres (depending on estimation procedures) have been lost for functionally and potentially independent populations of coho salmon.

As part of the coastal coho salmon assessment, the Oregon Department of Environmental Quality analyzed the status and trends of water quality in the range of OC coho salmon using the Oregon water quality index, which is based on a combination of temperature, dissolved oxygen, biological oxygen demand, pH, total solids, nitrogen, total phosphates, and bacteria. Using the index at the species scale, 42% of monitored sites had excellent to good water quality, and 29% show poor to very poor water quality. Within the four monitoring areas, the North Coast had the best overall conditions (6 sites in excellent or good condition out of 9 sites), and the Mid-South coast had the poorest conditions (no excellent condition sites, and only 2 out of 8 sites in good condition). For the 10-year period monitored between 1992 and 2002, no sites showed a declining trend in water quality. The area with the most improving trends was the North Coast, where 66% of the sites (6 out of 9) had a significant improvement in index scores. The Umpqua River basin, with one out of 9 sites (11%) showing an improving trend, had the lowest number of improving sites.

***SONCC Recovery Domain.*** Critical habitat in this recovery domain has been designated for SONCC coho salmon and southern DPS green sturgeon, and eulachon. Many large and small rivers supporting significant populations of coho salmon flow through this area, including the Elk, Rogue, Chetco, Smith and Klamath. The following summary of critical habitat information in the Elk, Rogue, and Chetco rivers is also applicable to habitat characteristics and limiting factors in other basins in this area.

The Elk River flows through Curry County, and drains approximately 92 square miles (or 58,678 acres) (Maguire 2001). Historical logging, mining, and road building have degraded stream and riparian habitats in the Elk River basin. Limiting factors identified for salmon and steelhead production in this basin include sparse riparian cover, especially in the lower reaches, excessive fine sediment, high water temperatures, and noxious weed invasions (Maguire 2001).

The Rogue River drains approximately 5,160 square miles within Curry, Jackson and Josephine counties in southwest Oregon. The mainstem is about 200 miles long and traverses the coastal mountain range into the Cascades. The Rogue River estuary has been modified from its historical condition. Jetties were built by the Corps in 1960, which stabilized and deepened the mouth of the river. A dike that extends from the south shore near Highway 101 to the south jetty was completed in 1973. This dike created a backwater for the large shallow area that existed here, which has been developed into a boat basin and marina, eliminating most of the tidal marsh. The quantity of estuary habitat is naturally limited in the Rogue River. The Rogue River has a drainage area of 5,160 square miles, but the estuary at 1,880 acres is one of the smallest in Oregon. Between 1960 and 1972, approximately 13 acres of intertidal and 14 acres of subtidal land were filled in to build the boat basin dike, the marina, north shore riprap and the other north shore developments (Hicks 2005). Jetties constructed in 1960 to stabilize the mouth of the river and prevent shoaling have altered the Rogue River, which historically formed a sill during summer months (Hicks 2005).

The Lower Rogue Watershed Council's watershed analysis (Hicks 2005) lists factors limiting fish production in tributaries to Lower Rogue River watershed. The list includes water temperatures, low stream flows, riparian forest conditions, fish passage and over-wintering habitat. Limiting factors identified for the Upper Rogue River basin include fish passage barriers,

high water temperatures, insufficient water quantity, lack of large wood, low habitat complexity, and excessive fine sediment (Rogue Basin Coordinating Council 2006).

The Chetco River estuary has been significantly modified from its historical condition. Jetties were erected by the Corps in 1957, which stabilized and deepened the mouth of the river. These jetties have greatly altered the mouth of the Chetco River and how the estuary functions as habitat for salmon migrating to the ocean. A boat basin and marina were built in the late 1950s and eliminated most of the functional tidal marsh. The structures eliminated shallow water habitats and vegetation in favor of banks stabilized with riprap. Since then, nearly all remaining bank habitat in the estuary has been stabilized with riprap. The factors limiting fish production in the Chetco River appear to be high water temperature caused by lack of shade, especially in tributaries, high rates of sedimentation due to roads, poor over-wintering habitat due to a lack of large wood in tributaries and the mainstem, and poor quality estuary habitat (Maguire 2001).

### **2.3 Environmental Baseline**

The “environmental baseline” includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process (50 CFR 402.02).

As described above in the Status of the Species and Critical Habitats sections, factors that limit the recovery of salmon and steelhead vary with the overall condition of aquatic habitats on private, state, and Federal lands. Within the action area, many stream, estuarine and riparian areas have been degraded by the effects of land and water use, including road construction, forest management, agriculture, mining, urbanization, and water development. Each of these economic activities has contributed to a myriad of interrelated factors for the decline of salmon and steelhead. Among the most important of these are changes in stream channel morphology, degradation of spawning substrates, reduced instream roughness and cover, loss and degradation of estuarine rearing habitats, loss of wetlands, loss and degradation of riparian areas, water quality (*e.g.*, temperature, sediment, dissolved oxygen, contaminants) degradation, blocked fish passage, direct take, and loss of habitat refugia.

Anadromous salmonids have been affected by the development and operation of dams. Dams, without adequate fish passage systems, have extirpated anadromous fish from their pre-development spawning and rearing habitats. Dams and reservoirs, within the currently accessible migratory corridor, have greatly altered the river environment and have affected fish passage. The operation of water storage projects has altered the natural hydrograph of many rivers. Water impoundment and dam operations also affect downstream water quality characteristics, vital components to anadromous fish survival. In recent years, high quality fish passage is being restored where it did not previously exist, either through improvements to existing fish passage facilities or through dam removal (*e.g.*, Marmot Dam on the Sandy River and Powerdale Dam on the Hood River).



Within the habitat currently accessible by salmon and steelhead, dams have negatively affected spawning and rearing habitat. Floodplains have been reduced, off-channel habitat features have been eliminated or disconnected from the main channel, and the amount of large woody debris in the mainstem has been greatly reduced. Remaining habitats often are affected by flow fluctuations associated with reservoir water management for power peaking, flood control, and other operations.

The development of hydropower and water storage projects within the Columbia River basin have resulted in the inundation of many mainstem spawning and shallow-water rearing areas (loss of spawning gravels and access to spawning and rearing areas); altered water quality (reduced spring turbidity levels), water quantity (seasonal changes in flows and consumptive losses resulting from use of stored water for agricultural, industrial, or municipal purposes), water temperature (including generally warmer minimum winter temperatures and cooler maximum summer temperatures), water velocity (reduced spring flows and increased cross-sectional areas of the river channel), food (alteration of food webs, including the type and availability of prey species), and safe passage (increased mortality rates of migrating juveniles) (Williams *et al.* 2005; Ferguson *et al.* 2005).

Salmon and steelhead are exposed to high rates of natural predation during all life stages. Fish, birds, and marine mammals, including harbor seals, sea lions, and killer whales all prey on juvenile and adult salmon. The Columbia River Basin has a diverse assemblage of native and introduced fish species, some of which prey on salmon and steelhead. The primary resident fish predators of salmonids in many areas of the State of Oregon inhabited by anadromous salmon are northern pikeminnow (native), smallmouth bass (introduced), and walleye (introduced). Other predatory resident fish include channel catfish (introduced), Pacific lamprey (native), yellow perch (introduced), largemouth bass (introduced), and bull trout (native).

Avian predation is another factor limiting salmonid recovery in the Columbia River Basin. Throughout the basin, piscivorous birds congregate near hydroelectric dams and in the estuary near man-made islands and structures. Avian predation has been exacerbated by environmental changes associated with river developments. Water clarity caused by suspended sediments settling in impoundments increases the vulnerability of migrating smolts. Delay in project reservoirs, particularly immediately upstream from the dams increases smolt exposure to avian predators, and juvenile bypass systems concentrate smolts, creating potential feeding stations for birds. Dredge spoil islands, associated with maintaining the Columbia River navigation channel, provide habitat for nesting Caspian terns and other piscivorous birds. Caspian terns, double-crested cormorants, glaucous-winged/western gull hybrids, California gulls, and ring-billed gulls are the principal avian predators in the basin.

The environmental baseline also includes the anticipated impacts of all Federal actions in the action area that have already undergone formal consultation. For example, from 2001 through 2006, the Corps authorized 118 restoration actions in Oregon under programmatic consultations, and more than 800 other actions related to transportation features, over and in-water structures, and bank stabilization. The Corps, Bonneville Power Administration, and Bureau of Reclamation have also consulted on large water management actions, such as operation of the Federal Columbia River Power System, the Umatilla Basin Project, the Willamette River Project and the

Deschutes Project. The U.S. Forest Service and U.S. Bureau of Land Management consult on Federal land management throughout Oregon, including restoration actions, forest management, livestock grazing, and special use permits. Impacts to the environmental baseline from these previous actions vary from short-term adverse effects to long-term beneficial effects.

## **2.4 Effects of the Action on the Species and its Designated Critical Habitat**

Under the administrative portion of this action, the Corps will evaluate each individual project to ensure that (a) the anticipated range of effects is within the range considered in this opinion; (b) the action is carried out consistent with the proposed design criteria; (c) project and program level monitoring and reporting requirements are met; and (d) the action will not occur in a Superfund Site designated by the U.S. Environmental Protection Agency, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information or the Corps' best professional judgment. Although that process will not, by itself, affect a listed species or critical habitat, it informs the effects analysis of the SLOPES IV program.

Construction of each project will begin after Corps approval. The direct physical and chemical effects of this part of the action on the environment will vary depending on the type of action being performed, but will all be based on a common set of effects related to construction.

Activities that are authorized using SLOPES and completed according to the proposed design criteria and the Reasonable and Prudent Measures and Terms and Conditions described in the Incidental Take Statement do not require further consultation. However, activities identified within the opinion as exclusions have a greater likelihood of adverse impacts to listed species and their habitats and require individual consultation.

**Effects to the Environment.** Each project proposed for authorization under this opinion requires one or more actions related to pre-construction, construction, operation and maintenance (including dredging), and restoration and mitigation, of a structure that is likely to adversely affect an ESA-listed species or a designated critical habitat. The direct physical and chemical effects of these activities typically begin with pre-construction activity, such as surveying, minor vegetation clearing, placement of stakes and flagging guides, and minor movements of machines and personnel over the action area. The next stage, site preparation, typically requires development of access roads, construction staging areas, and materials storage areas that affect more of the project area and clear vegetation that will allow rainfall to strike the bare land surface. Additional earthwork follows to clear, excavate, fill and shape the site for its eventual use removes still more vegetation and topsoil, exposes deeper soil layers, extends operations into the active channel, and reshapes banks as necessary for successful revegetation.

The set of effects associated with construction, operation or maintenance depends on the purpose and location of each type of structure and will be analyzed in subsequent sections. The final stage is site restoration and compensatory mitigation, if necessary, that consists of actions necessary to restore ecological recovery mechanisms and stimulate habitat forming processes, to maintain or promote the site along a trajectory toward conditions supporting functional aquatic

habitats, such as soil stability, energy and nutrient distribution, channel fluvial geomorphology, and vegetation succession.

***Pre-construction (Surveying).*** Pre-construction activity includes planning, design, permit acquisition, and surveying. Vegetation and fluvial geomorphic processes at a project site are providing for natural creation and maintenance of habitat function. Pre-construction activity that results in removal of that vegetation will reduce or eliminate those habitat values (Darnell 1976, Spence *et al.* 1996). Denuded areas lose organic matter and dissolved minerals, such as nitrates and phosphates. Microclimate can become drier and warmer with corresponding increases in wind speed, and soil and water temperature. Water tables and spring flow can be reduced. Loose soil can temporarily accumulate in the construction area. In dry weather, this soil can be dispersed as dust. In wet weather, loose soil is transported to streams by erosion and runoff, particularly in steep areas. Erosion and runoff increase the supply of soil to lowland drainage areas and eventually to aquatic habitats where they increase water turbidity and sedimentation.

During and after wet weather, increased runoff can suspend and transport more sediment to receiving waters. This increases turbidity and stream fertility. Increased runoff also increases the frequency and duration of high stream flows and wetland inundation in construction areas. Higher stream flows increase stream energy that can scour stream bottoms and transport greater sediment loads farther downstream that would otherwise occur. Sediments in the water column reduce light penetration, increase water temperature, and modify water chemistry. Once deposited, sediments can alter the distribution and abundance of important instream habitats, such as pool and riffle areas. During dry weather, the physical effects of increased runoff appear as reduced ground water storage, lowered stream flows, and lowered wetland water levels.

The combination of erosion and mineral loss can reduce soil quality and site fertility in upland and riparian areas. Concurrent in-water work can compact or dislodge channel sediments, thus increasing turbidity and allowing currents to transport sediment downstream where it is eventually redeposited. Continued operations when the construction site is inundated can significantly increase the likelihood of severe erosion and contamination.

***Construction, Operation and Maintenance Activities.*** The effects of construction, operation, and maintenance activities are similar to those described above for pre-construction, but involve significantly more use of heavy equipment for vegetation removal and earthwork associated with access and materials staging. New impervious surfaces may allow for delivery of contaminants in stormwater runoff. Isolation of the work area may result in death due to handling stress.

***Heavy equipment.*** Heavy equipment can compact soil, thus reducing soil permeability and infiltration. Use of heavy equipment also creates a risk that accidental spills of fuel, lubricants, hydraulic fluid, and similar contaminants may occur. Discharge of construction water used for vehicle washing, concrete washout, pumping for work area isolation, and other purposes can carry sediments and a variety of contaminants to the riparian area and stream.

***Pilings.*** Pilings made of concrete, plastic, steel, or untreated wood are used in many construction projects in riparian and aquatic areas. Vibratory or impact hammers are

commonly used to drive piles into the substrate. The choice of hammer type depends on pile material, substrate type, and other factors. Impact hammers can drive piles into most substrates, including hardpan and glacial till, while vibratory hammers are limited to softer, unconsolidated substrates. However, overwater structures must often meet seismic stability criteria. This requires that the supporting piles be attached to, or driven into, a hard substrate and this often means that at least some impact driving is necessary. Further, the bearing capacity of a pile driven with vibration is unknown unless an impact hammer is used to “proof” the pile by striking it pile several times to ensure it meets the designed bearing capacity. Temporary piles, fender piles, and some dolphin piles that do not need to be seismically stable can be driven with a vibratory hammer only, providing the pile type and sediments are appropriate.

Piles are removed using a vibratory hammer, direct pull, clam shell grab, or cutting/breaking the pile below the mudline. Vibratory pile removal causes sediments to slough off at the mudline, resulting in some suspension of sediments and, possibly, contaminants. Old and brittle piles may break under the vibrations and require use of another method. The direct pull method involves placing a choker around the pile and pulling upward with a crane or other equipment. When the piling is pulled from the substrate, sediments clinging to the piling slough off as it is raised through the water column, producing a plume of turbidity, contaminants, or both. The use of a clamshell may suspend additional sediment if it penetrates the substrate while grabbing the piling. If a piling breaks, the stub is often removed with a clam shell and crane. Sometimes, pilings are cut, broken, or driven below the mudline, and the buried section left in place. This may suspend small amounts of sediment, providing the stub is left in place and little digging is required to reach the pile. Direct pull or use of a clamshell to remove broken piles is likely to suspend more sediment and contaminants.

*New Impervious Surfaces.* Construction of pavement and other permanent soil coverings to build water-dependent structures (e.g., bridges, boat ramps), roads linking those structures to the transportation system, and road upgrades can also reduce site permeability and infiltration. Permeability and infiltration are inversely related to the rate and volume of runoff. The effects of reduced soil permeability and infiltration are most significant in upland areas where runoff processes and the overall storm hydrograph are controlled mainly by groundwater recharge and subsurface flows. These effects are less significant in riparian areas, where saturated soils and high water tables are more common and runoff processes are dominated by direct precipitation and overland flow (Dunne and Leopold 1978).

Stormwater runoff from roads, bridges, and parking lots delivers a wide variety of pollutants to aquatic ecosystems, such as nutrients, metals (copper and zinc in particular), petroleum-related compounds, sediment washed off the road surface, and agricultural chemicals used in road maintenance (Driscoll *et al.* 1990; Buckler and Granato 1999, Colman *et al.* 2001, Kayhanian *et al.* 2003).

*In-Water Work.* Although the most lethal biological effects of the proposed actions on individual listed species will likely be caused by the isolation of in-water areas, lethal and sublethal effects would be greater than without isolation. In-water work area isolation is itself a conservation measure intended to reduce the adverse effects of erosion and runoff on the population. Any individual fish present in the work isolation area will be captured and released.

***Dredging to maintain access and functionality.*** Dredging will occur to remove sediments necessary to maintain access to existing docks, marinas, port terminals, industrial docks and wharfs, and water diversions. Dredging and disposal of the dredged material speed up the natural processes of sediment erosion, transportation, and deposition (Morton 1977). Dredging and disposal temporarily increases turbidity, changes bottom topography with resultant changes in water circulation, and changes the mechanical properties of the sediment at the dredge and disposal sites (Morton 1977). The effects of turbidity on salmonids are discussed below. These effects are significant in proportion to the ratio of the size of the dredged area to the size of the bottom area and water volume (Morton 1977).

In all areas covered by this consultation, resuspension of toxic sediments may be a problem. Adequate testing of sediments prior to dredging to limit resuspension of toxic materials is necessary. Many areas within the action area have substantial contaminated sediments. The Corps and resource agencies have developed a methodology/protocol to analyze sediments for toxicity and suitability for in-water disposal (USACE *et al.* 2009). Sediment testing results should be submitted to NMFS with the Project Implementation Form for review.

Extraction of bed material with upland disposal causes bed degradation (NMFS 2005b). Gravel extraction sites trap incoming bedload sediment, passing ‘hungry water’ downstream, which typically erodes the channel bed and banks to regain at least part of its sediment load (Kondolf 1997). Gravel removal may cause downstream erosion if the area subsequently receives less bed material from upstream than is being carried away by fluvial transport. Thus, gravel removal not only impacts the extraction site, but also reduces gravel delivery to downstream areas. In some areas there are sufficient amounts of material being delivered that upland disposal is not problematic. The requirement to dispose of the material within the stream/river will prevent this from happening.

***Site Preparation for Construction of Buildings and Related Features.*** The proposed action may include site preparation for construction of buildings and related features outside of the riparian management area. Most direct and indirect effects of this type of site preparation are the same as those for general construction discussed above, and these site preparation actions will follow the conservation measures for general construction as applicable.

***Overwater Structures.*** Overwater structures include recreational boating facilities and dock and wharf facilities operated by ports and other commercial entities. Recreational boating requires construction and maintenance of a variety of types and sizes of structures. Some are water dependent, and will be placed in riparian, nearshore, and overwater areas. Others are “related facilities” (*e.g.*, parking lots, picnic areas), that are not water dependent. For purposes of this consultation, actions proposed to support recreational boating facilities are construction of boat ramps; construction of a residential pier, ramp and float; maintenance, repair and relocation of structures within an existing marina; structures in fleeting and anchorage areas; installation of small temporary floats; and repair of navigational aids.

Commercial dock and wharf facilities also entail many different types and sizes of structures, often installed and operated over large areas. For purposes of this consultation, however, the proposed action includes the following work: (1) Replacement of existing pilings, fender piles,

group pilings, walers, and fender pads; (2) installation of new mooring dolphins and structural pilings; (3) height extension of existing pilings; and (4) recycling of large wood obstructions that limit the usefulness of dock and wharf facilities.

*Predation.* Predation has been identified as one of the limiting factors for all salmonid species in the Columbia River basin (except chum salmon) (NMFS 2008b). Increased predator abundance may result from climate change (ISAB 2007). The ISAB recommend reducing predation by introduced piscivorous species to mitigate these anticipated effects. Predator species such as northern pikeminnow (*Ptychocheilus oregonensis*), and introduced predators such as largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*) white crappie (*P. annularis*) and, potentially, walleye (*Stizostedion vitreum*) (Ward *et al.* 1994, Poe *et al.* 1991, Beamesderfer and Rieman 1991, Rieman and Beamesderfer 1991, Pflug and Pauley 1984, and Collis *et al.* 1995) may use habitat created by overwater structures (Ward and Nigro 1992, Pflug and Pauley 1984) such as piers, float houses, floats and docks (Phillips 1990). Carrasquero (2001), in reviewing the literature regarding impacts of overwater structures, reports that smallmouth and largemouth bass have a strong affinity to structures; forage and spawn in the vicinity of docks, piers and pilings; and, largemouth and smallmouth bass are common predators of juvenile salmonids.

Major habitat types used by largemouth bass include vegetated areas, open water and areas with cover such as docks and submerged trees (Mesing and Wicker 1986). During the summer, bass prefer pilings, rock formations, areas beneath moored boats, and alongside docks. Colle *et al.* (1989) found that, in lakes lacking vegetation, largemouth bass distinctly preferred habitat associated with piers, a situation analogous to slack water areas of the Columbia River. Marinas also provide wintering habitat for largemouth bass out of mainstem current velocities (Raibley *et al.* 1997). Wanjala *et al.* (1986) found that adult largemouth bass in a lake were generally found near submerged structures suitable for ambush feeding. Bevelhimer (1996), in studies on smallmouth bass, indicates that ambush cover and low light intensities create a predation advantage for predators and can also increase foraging efficiency.

Pribyl *et al.* (2005), in studies on piscivorous fish in the Lower Willamette River found that smallmouth bass were the most prevalent species captured. They found that smallmouth bass were found near beaches and rock outcrops more frequently in the winter and spring, and highly associated with pilings regardless of the season. For largemouth bass, they found that they were found near pilings and beach sites in summer and autumn and near pilings, rock and beach areas during winter and spring. They also indicated that large sized predators were present at very low densities, but juveniles were fairly abundant. Smallmouth densities were highest in riprap, mixed riprap/beach and rock outcrop areas. Largemouth bass densities were low throughout the year, with riprap sites and alcoves being the highest density areas. Zimmerman (1999) and Sauter *et al.* (2004) both indicate that wild fall Chinook are the most vulnerable to smallmouth predation due to their smaller size during emigration.

Black crappie and white crappie are known to prey on juvenile salmonids (Ward *et al.* 1991). Ward *et al.* (1991), in their studies of crappies within the Willamette River, found that the highest density of crappies at their sampling sites occurred at a wharf supported by closely

spaced pilings. They further indicated that suitable habitat for crappies includes pilings and riprap areas. Walters *et al.* (1991) also found that crappie were attracted to overwater structures.

Ward (1992) found that stomachs of northern pikeminnow in developed areas of Portland Harbor contained 30% more salmonids than those in undeveloped areas, although undeveloped areas contained more northern pikeminnow. Pribyl *et al.* (2005) found no fish in the stomachs of pikeminnow, but did find fish remains in the stomachs of smallmouth bass.

There are four major predatory strategies used by piscivorous fish: They run down prey; ambush prey; habituate prey to a non-aggressive illusion; or stalk prey (Hobson 1979). Ambush predation is probably the most common strategy. Predators lie in wait, then dart out at the prey in an explosive rush (Gerking 1994). Predators may use sheltered areas that provide slack water to ambush prey fish in faster currents (Bell 1991).

Light plays an important role in defense from predation. Prey species are better able to see predators under high light intensity, thus providing the prey species with an advantage (Hobson 1979, Helfman 1981). Petersen and Gadomski (1994) found that predator success was higher at lower light intensities. Prey fish lose their ability to school at low light intensities, making them vulnerable to predation (Petersen and Gadomski 1994). Howick and O'Brien (1983) found that in high light intensities prey species (bluegill) can locate largemouth bass before they are seen by the bass. However, in low light intensities, the bass can locate the prey before they are seen. Walters *et al.* (1991) indicate that high light intensities may result in increased use of shade-producing structures. Helfman (1981) found that shade, in conjunction with water clarity, sunlight and vision, is a factor in attraction of temperate lake fishes to overhead structure.

The above analysis pertains to predator species that occupy freshwater areas covered by this opinion. Within estuarine areas, while there is some piscivorous predation by saltwater species, these predatory species do not utilize structures as described above.

In addition to piscivorous predation, overwater structures (tops of pilings) also provide perching platforms for avian predators such as double-crested cormorants (*Phalacrocorax auritis*), from which they can launch feeding forays or dry plumage. Krohn *et al.* (1995) indicate that cormorants can reduce fish populations in forage areas, thus possibly affecting adult returns as a result of smolt consumption. Because their plumage becomes wet when diving, cormorants spend considerable time drying out feathers (Harrison 1983) on pilings and other structures near feeding grounds (Harrison 1984).

*Boating.* The placement of a boat ramp will generally result in permanent loss of some riparian habitat. The extent of area of that loss associated with a ramp is usually small. The majority of ramps are one or two lanes, each roughly 15' wide, extending from the top of bank to up to 10' below the water line. Upland parking lots, picnic areas, walking trails, and toilet facilities will also result in losses to riparian vegetation if placed close to the water's edge. In addition, construction activities associated with ramp construction will also result in impacts to the riparian area. These effects can be offset with compensatory mitigation. The proposed use of hard scour protection is limited to preventing scouring at a boat ramp. Direct and indirect effects

of these scour protection actions are similar to the effects of general construction discussed above, including production of new impervious surface.

The indirect effects of scour protection for public infrastructures are similar, with the area occupied by the hard structure itself being analogous to an area of new impervious surface. However, this effect will be offset with the requirement of offset with additional planting of riparian trees and shrubs or restoration of nearshore habitats.

Riparian habitats are one of the most ecologically productive and diverse terrestrial environments (Kondolf *et al.* 1996, Naiman *et al.* 1993). Vegetation in riparian areas influences channel processes through stabilizing bank lines, and providing large wood terrestrial food sources rather than autochthonous food production, and regulating light and temperature regimes (Kondolf *et al.* 1996, Naiman *et al.* 1993). Revegetation of any riparian areas disturbed by construction activities in time is likely to maintain or improve habitat conditions for salmonids within the action area by increasing plant densities in degraded areas or changing plant species at the site to those that are more beneficial to aquatic species.

Many direct and indirect effects of recreational boating activities are similar to those of general construction described above. Among those are construction of new impervious surfaces for a boat ramp or other water-dependent structure that will be offset by an action like planting additional riparian trees and shrubs or restoration of nearshore habitats. Other direct physical and chemical effects are unique to overwater structures. These are disruption of nearshore habitat, shading and ambient light changes, water flow pattern, and energy disruption (Carrasquero 2001), although these effects have been avoided or minimized by conservation measures described above. Overwater structures can alter predator prey relationships by improving predator success (Hobson 1979, Bell 1991, Metcalfe *et al.* 1997), although the environmental conditions created by overwater structures that can increase predation on salmon can be avoided or minimized using project design criteria that reduce shaded area and avoid placement in shallow water and other low velocity locations (Carrasquero 2001).

The obvious indirect effects of recreational boating facilities are those associated with boating activities. Boating can result in discharges of many pollutants from boats and related facilities, and physical disruption to wetland, riparian and benthic communities and ecosystems through the actions of a boat hull, propeller, anchor, or wakes (USEPA 1993, Carrasquero 2001, Kahler *et al.* 2000, Mosisch and Arthington 1998). Boats may interact with the aquatic environment by a variety of mechanisms, including emissions and exhaust, propeller contact, turbulence from the propulsion system, waves produced by movement, noise, and movement itself (Asplund 2000). Sediment resuspension, water pollution, disturbance of fish and wildlife, destruction of aquatic plants, and shoreline erosion are the major areas of concern (Asplund 2000).

Wakes derived from boat traffic may also increase turbidity in shallow waters, uproot aquatic macrophytes in shallow waters, or cause pollution through exhaust, fuel spills, or release of petroleum lubricants (Warrington 1999b, McConchie and Tolman 2003). Hilton and Phillips (1982) in their studies on boat traffic and increased turbidity in the River Ant determined that boat traffic definitely had a large effect on turbidity levels in the river. Nordstrom (1989) says that boat wakes may also play a significant role in creating erosion in narrow creeks entering an



estuary (areas extensively used by rearing juvenile salmonids). Kahler *et al.* (2000) indicates that wake erosion results in continuous low level sediment input with episodic large inputs from bank failure.

Dorava (1999) indicates that boat wake erosion was the cause of substantial bank erosion on the Kenai River, Alaska (whose primary traffic is 10- to 26-foot-long recreational boats) and the reason for substantial bank stabilization measures to arrest that erosion. The result of the erosion in important salmon areas is a reduction in numbers of salmon (Dorava 1999). Dorava (1999) further indicates that juvenile Chinook salmon rearing habitat features are easily altered by boat wake induced streambank erosion and streamside development.

McConchie and Toleman (2003) in their studies on the Waikato River found that effects from boat wakes are site specific and dependent on bank vegetation, bed and bank material, availability of sediment, channel profile, water depth and vessel speed. They further found that boat generated wakes have a greater potential effect where the river channel is narrow and where boat use is regular, concentrated and close to shore, and also in systems where systems are regulated and not subject to high erosive flows.

Klein (1997), citing several EPA studies, indicates that boat traffic in waters less than 8.2 feet in depth result in substantial impacts to submerged vegetation and benthic communities. Klein (1997) also indicates that sediment resuspension is substantial if a boat operates in less than 7.2 feet of water and that a slight increase in depth would prevent the resuspension of sediment. Asplund (2000) evaluated the literature on boating effects to the aquatic environment and found that impacts were few in waters greater than 10 feet. Limiting the placement of structures to areas where any moored boats are in waters deeper than 10 feet (as measured at OLW) would minimize any resuspension and submerged vegetation impacts.

Bauer *et al.* (2002) developed algorithms to predict erosion rates from boat traffic. They verified their models by using data measured during a field experiment in which a 7.5 m (24.6 feet) boat was driven past the site over a range of speeds to generate waves of varying size in a levee bank in the Sacramento–San Joaquin River Delta. Based on their test findings, erosion rates averaged about 0.01 to 0.03 mm/boat passage. The models predicted erosion estimates from their two models were similar, and ranged from less than 0.01 mm/boat passage for the weakest boat-wake event to 0.22 mm for the most energetic boat-wake event. They judged that the uppermost values overestimate the true erosion rate associated with single boat passages. However, two multiple boat-passage experiments yielded erosion rates of roughly 0.01–0.03 mm/boat passage, which agree with the lower estimates from the analytical methods.

In many areas of the state shoreline habitat is relatively untouched. In those areas, increased boating activity could result in substantial erosion and disruption of aquatic vegetation. In areas where there has been substantial revetments and riprap placement an increase in boating activity would not have as big an impact. The requirement for NMFS review and approval of the project will allow for onsite evaluation as to the appropriateness of the activity.

*Aquatic vegetation.* Estuarine and shallow nearshore, tidal marsh habitats fulfill fish and wildlife needs for reproduction, feeding, refuge, and other physiological necessities

(Simenstad *et al.* 1991, Good 1987, Phillips 1984). Estuaries serve as rearing grounds and food sources and provide a transitional area for salmonids moving from fresh to salt water and vice-versa (Botkin *et al.* 1995). Estuaries also play a key role in regulating overall survival and abundance (Williams *et al.* 1996). Changes in estuarine food webs may constrain salmon production (Williams *et al.* 1996). Botkin *et al.* (1995) stated: "Without the rich supporting wetland areas highly valuable to most if not all salmon species, the crucial transition of salmon smolts to oceanic life would be jeopardized."

Coastal fish populations also depend upon both the quantity and quality of the available estuarine and tidal marsh habitats (Peters and Cross 1992). Most marine and intertidal waters, wetlands, swamps and marshes are critical to fish (Fedler and Crookshank 1992). For example, seagrass beds protect young fish from predators, provide habitat for fish and wildlife, improve water quality, and control sediments (Lockwood 1990, Thayer *et al.* 1984, Hoss and Thayer 1993, Phillips 1984). In addition, seagrass beds are critical to nearshore food web dynamics (Wyllie-Echeverria and Phillips 1994). For example, some invertebrates that are principal prey items for fish of commercial and ecological importance (*e.g.*, chum salmon, Pacific herring, Pacific sand lance) in the Pacific Northwest only occur in eelgrass beds (Simenstad *et al.* 1982, Simenstad 1994).

Seagrass beds are among the areas of highest primary productivity in the world (Ferguson *et al.* 1980, Emmett *et al.* 1991, Hoss and Thayer 1993, Herke and Rogers 1993). This primary production, combined with other nutrients, provide high rates of secondary production in fish (Good 1987, Sogard and Able 1991, Emmett *et al.* 1991, Herke and Rogers 1993).

Salmon have evolved several life-history strategies for using estuaries (Williams *et al.* 1996). Four anadromous fish species (pink, chum, coho, and Chinook salmon) are found in association with eelgrass meadows (Phillips 1984). Coho, yearling Chinook, and sockeye salmon spend little time in the estuary; pink salmon traverse through the estuary relatively quickly; and chum and subyearling Chinook salmon use the estuary quite extensively (Percy 1992, Fisher and Percy 1996). Percy (1992) states that chum salmon in Netarts Bay, Oregon use shallow marshes, sloughs, and tidal creeks in the upper reaches extensively during high tides in the spring. During low tides they move into deep water channels. As the fish grow in size, they begin to use the lower portions of the estuary.

The exact times when juvenile salmonids enter the estuary and how long they stay depends on factors such as stream temperatures, fry size and condition, food resources, stream discharge and turbidity, tidal cycles, and photoperiod (Simenstad *et al.* 1982). Simenstad *et al.* (1997), in their monitoring studies of an "engineered" slough, found that coho salmon use these areas as rearing habitat. The National Research Council (1996) states, "loss of estuarine and riverine habitat can potentially affect all salmon."

Fox (1992) states: "The ability of habitats to support high productivity levels of marine resources is diminishing, while pressures for their conversion to other uses are continuing." Point and non-point discharges, waste dumps, eutrophication, acid rain, and other human impacts reduce this ability (Fox 1992). Population growth and demands for international business trade along the Pacific Rim exert pressure to expand coastal towns and port facilities - resulting in net estuary

losses (Kagan 1991, Fawcett and Marcus 1991). Carefoot (1977), discussing Pacific seashores, states: “Estuaries are complex systems which can succumb to humankind’s massive and pervasive assaults.”

Activities that are likely to result in direct long-term adverse effects to estuarine and tidal marsh functions are those that will cause permanent coverage of estuarine and tidal marsh areas by the footprint of new water-dependent structures and the reduction of benthic invertebrates caused by maintenance dredging. Indirect, long-term effects may be caused by vessel wakes and propeller washing due to recreational boat operations above seagrass beds (Peterson *et al.* 1987, Lockwood 1990, Fonseca *et al.* 1998). Mooring boats in or next to seagrass beds can also cause similar damage. These effects will be avoided or minimized by not constructing new facilities in areas containing aquatic vegetation.

***Site Restoration and Compensatory Mitigation.*** The direct physical and chemical effects of post-construction site restoration included as part of the proposed actions are essentially the reverse of the construction activities that go before it. Bare earth is protected by seeding, planting woody shrubs and trees, and mulching. This immediately dissipates erosive energy associated with precipitation and increases soil infiltration. It also accelerates vegetative succession necessary to restore the delivery of large wood to the riparian area and stream, root strength necessary for slope and bank stability, leaf and other particulate organic matter input, sediment filtering and nutrient absorption from runoff, and shade. Microclimate will become cooler and moister, and wind speed will decrease. When projects result in a net loss of functional aquatic habitat after construction and site restoration is complete, off-site compensatory mitigation similar to site restoration is required and will have similar effects to those discussed above.

The primary proposed streambank restoration as part of the action is the use of large wood and vegetation to increase bank strength and resistance to erosion in an ecological approach to engineering streambank stabilization (Mitsch 1996; WDFW *et al.* 2003). The proposed actions explicitly do not include any other type of structure built entirely of rock, concrete, steel or similar materials, other streamflow control structures, or any type of channel-spanning structure. The primary means of streambank stabilization proposed is the use of large wood and vegetation to increase resistance to bank erosion (bioengineering). This approach protects banks by using natural materials to increase erosion resistance and bank roughness to disrupt stream energy. Roots and other small and large pieces of vegetation are used to collect and bind bank sediments. This helps to avoid or minimize loss of riparian function associated with more traditional approaches to streambank stabilization that rely primarily on rock, cement, steel, and other hard materials. Bioengineered bank treatments develop root systems that are flexible and regenerative, and respond more favorably to hydraulic disturbance than conventional hard alternatives.

#### **2.4.1 Effects on ESA-Listed Salmon and Steelhead**

The biological effects included as part of the proposed action are primarily the result of physical and chemical changes in the environment caused by activities authorized under the SLOPES IV program, but also include subsequent operation and maintenance activities. These effects are complex and vary in magnitude and severity between the individual organism, population, ESU/DPS, and community scales.

***Preconstruction.*** Preconstruction activities may result in increased turbidity and suspended sediment. Turbidity may have beneficial or detrimental effects on fish, depending on the intensity, duration and frequency of exposure (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids may be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjorn and Reiser 1991), although these events may produce behavioral effects, such as gill flaring and feeding changes (Berg and Northcote 1985).

Deposition of fine sediments reduces incubation success (Bell 1991), interferes with primary and secondary productivity (Spence *et al.* 1996), and degrades cover for juvenile salmonids (Bjorn and Reiser 1991). Chronic, moderate turbidity can harm newly-emerged salmonid fry, juveniles, and even adults by causing physiological stress that reduces feeding and growth and increases basal metabolic requirements (Redding *et al.* 1987, Lloyd 1987, Bjorn and Reiser 1991, Servizi and Martens 1991, Spence *et al.* 1996). Juveniles avoid chronically turbid streams, such as glacial streams or those disturbed by human activities, unless those streams must be traversed along a migration route (Lloyd *et al.* 1987). Older salmonids typically move laterally and downstream to avoid turbid plumes (McLeay *et al.* 1984, 1987, Sigler *et al.* 1984, Lloyd 1987, Scannell 1988, Servizi and Martens 1991). On the other hand, predation on salmonids may be reduced in waters with turbidity equivalent to 23 Nephelometric Turbidity Units (NTU) (Gregory 1993, Gregory and Levings 1998), an effect that may improve overall survival.

***Construction, Operation and Maintenance Activities.*** Construction actions may also have direct biological effects on individual salmon and steelhead by altering development, bioenergetics, growth, and behavior. Actions that increase flows can disturb gravel in salmon or steelhead redds and can also agitate or dislodge developing young, causing their damage or loss. Similarly, actions that result in water quality changes can result in altered behavior and death. Actions that reduce subsurface or surface flows, reduce shade, deposit silt in streams, or otherwise reduce the velocity, temperature, or oxygen concentration of surface water as it cycles through a redd can adversely affect the survival, timing, and size of emerging fry (Warren 1971). Salmon that survive incubation in the redd, but emerge later and smaller than other fry also appear to be weaker, less dominant, and less capable of maintaining their position in the environment (Mason and Chapman 1965). Once adult salmon or steelhead arrive at a spawning area, their successful reproduction is dependent on the same environmental conditions that affect survival of embryos in the redd. Environmental conditions in estuarine areas with native submerged aquatic vegetation, in particular, are important to all species of salmon and to estuarine fishes.

***Heavy equipment.*** Heavy equipment used instream in spawning areas may disturb or compact gravel and other channel materials, thus making it harder for fish to excavate redds, and decreasing redd aeration. Cederholm *et al.* (1997) recommend that heavy equipment work should be performed from the bank and that work within bedrock or boulder/cobble bedded channels should be viewed as a last resort and that least impacting equipment such as spider harvesters/log loaders be used. Heavy equipment or material used instream in any occupied habitat may inhibit fish passage or kill or injure individual fish.

*Pilings.* Turbidity generated from pile driving or removal is temporary and confined to the area close to the operation. NMFS expects that some individual Chinook salmon and steelhead, both adult and juvenile, may be harassed by turbidity plumes resulting from pile driving or removal. Indirect lethal take can occur if individual juvenile fish are preyed on when they leave the work area to avoid temporary turbidity plumes. The proposed requirements for completing the work during the preferred in-water work window will minimize the effects of turbidity on listed species.

Benthic invertebrates in shallow-water habitats are key food sources for juvenile salmonids during their out migration. New pilings may reduce the substrate available to benthic aquatic organisms and, therefore, the food available for juvenile salmonids in the project area. NMFS believes that some effect on salmon and steelhead productivity may occur due to suppression of benthic prey species. Most existing commercial dock structures have a high density of existing piles and are not likely to provide significant habitat for listed salmonids. Further, listed salmonids must migrate by such structures. This likely takes place in an area of diminished light intensity and deeper water along the outer margin of the structure, where they may have higher predation.

Pile driving often generates intense sound pressure waves that can injure or kill fish (Reyff 2003, Abbott and Bing-Sawyer 2002, Caltrans 2001, Longmuir and Lively 2001, Stotz and Colby 2001). The type and size of the pile, the firmness of the substrate into which the pile is being driven, the depth of water, and the type and size of the pile-driving hammer all influence the sounds produced during pile driving. Fishes with swimbladders (including salmon and steelhead) are sensitive to underwater impulsive sounds, *i.e.*, sounds with a sharp sound pressure peak occurring in a short interval of time, (Caltrans 2001). As the pressure wave passes through a fish, the swimbladder is rapidly squeezed due to the high pressure, and then rapidly expanded as the under pressure component of the wave passes through the fish. The pneumatic pounding may rupture capillaries in the internal organs as indicated by observed blood in the abdominal cavity, and maceration of the kidney tissues (Caltrans 2001). The injuries caused by such pressure waves are known as barotraumas, and include hemorrhage and rupture of internal organs, as described above, and damage to the auditory system. Death can be instantaneous, can occur within minutes after exposure, or can occur several days later.

Fish respond differently to sounds produced by impact hammers than to sounds produced by vibratory hammers. Fish consistently avoid sounds like those of a vibratory hammer (Enger *et al.* 1993; Dolat 1997; Knudsen *et al.* 1997; Sand *et al.* 2000) and appear not to habituate to these sounds, even after repeated exposure (Dolat, 1997; Knudsen *et al.* 1997). On the other hand, fish may respond to the first few strikes of an impact hammer with a startle response, but then the startle response wanes and some fish remain within the potentially harmful area (Dolat 1997). Compared to impact hammers, vibratory hammers make sounds that have a longer duration (minutes vs. milliseconds) and have more energy in the lower frequencies (15-26 Hz vs. 100-800 Hz) (Würsig, *et al.* 2000).

Sound pressure levels (SPLs) greater than 150 decibels (dB)<sup>7</sup> root mean square (RMS) produced when using an impact hammer to drive a pile are thought to affect fish behavior. A multi-agency

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<sup>7</sup> All decibels have a reference pressure of one micro Pascal

work group determined that to protect listed species, sound pressure waves should be within a single strike threshold of 206 decibels (dB), and for cumulative strikes either 187 dB sound exposure level (SEL) where fish are larger than 2 grams or 183 dB SEL where fish are smaller than 2 grams (NMFS 2008c).

Surrounding the pile with a bubble curtain can attenuate the peak SPLs by approximately 28 dB and is equivalent to a 97% reduction in sound energy. Whether confined inside a sleeve made of metal or fabric or unconfined, these systems have been shown to reduce underwater sound pressure (Würsig *et al.* 2000; Longmuir and Lively 2001; Christopherson and Wilson 2002; Reyff and Donovan 2003). However, the sound attenuation achieved by bubble curtains varies greatly depending on design and location. Observed ranges have been between 3 and 28 dB (pers com John Stadler, NMFS). Thus, a bubble curtain may not bring the peak and RMS SPLs below the established thresholds, and take may still occur. Studies on pile driving and underwater explosions suggest that, besides attenuating peak pressure, bubble curtains also reduce the impulse energy and, therefore, the likelihood of injury (Keevin 1998). Because sound pressure attenuates more rapidly in shallow water (Rogers and Cox 1988), it may have fewer deleterious effects there.

Unconfined bubble curtains lower sound pressure by as much as 17 dB (85%) (Würsig *et al.* 2000, Longmuir and Lively 2001), while bubble curtains contained between two layers of fabric reduce sound pressure up to 22 dB (93%) (Christopherson and Wilson 2002). However, an unconfined bubble curtain can be disrupted and rendered ineffective by currents greater than 1.15 miles per hour (Christopherson and Wilson 2002). When using an unconfined air bubble system in areas of strong currents, it is essential that the pile be fully contained within the bubble curtain, and that the curtain have adequate air flow, and horizontal and vertical ring spacing around the pile.

NMFS has developed a spreadsheet to assess the potential effect to fishes exposed to elevated levels of underwater sound (peak and RMS pressure as well as sound exposure level (SEL)) resulting from pile driving. The distance to the thresholds of behavioral impacts and onset of physical injury can be calculated with the following information:

- Number of impact hammer strikes per pile?
- Number of hours/minutes required to drive one pile and all piles?
- Number of hours per day pile driving will occur?
- Depth of water and type of substrate the piles will be driven in?
- If an impact hammer is used, will it be the entire pile or just the last few hits per pile?
- Diameter of pile?
- Will pile-driving be continuous?
- Will be pile be straight or battered?
- Will a template be used?
- Pile type?
- When is pile-driving proposed?
- What life-stages are known to occur within the action area?
- If provided, what is the source of hydroacoustic assumptions?
- Installation plan/ schematics included?

- Pile spacing?

ESA-listed salmonids occur year-round in waters covered by this opinion. However, the likelihood of take resulting from pile driving and removal will be minimized by completing the work during preferred in-water work windows, using a vibratory hammer where possible, using sound attenuators where an impact hammer is necessary, and limiting the number of strikes per day.

*New impervious surfaces.* Copper is a widespread source of water pollution in salmon habitat where it is deposited by mines, urban stormwater runoff, treated wood leachate, and from algicides used in waterways and as fungicides applied to cropland (WWPI 1996, Baldwin *et al.* 2003, Weis and Weis 2004). Copper is the most frequently detected trace element at agricultural and mixed use sites in the Willamette River basin (Wentz *et al.* 1998). Stormwater from parking lots and roads associated with a project may increase metals and other contaminants into the receiving water. Animals can acquire elevated levels of these metals indirectly through trophic transfer, and may exhibit toxic effects at the cellular level (DNA damage), tissue level (pathology), organismal level (reduced growth, altered behavior and mortality) and community level (reduced abundance, reduced species richness, and reduced diversity) (Weis *et al.* 1998, Weis and Weis 2004). Effects are more severe in poorly flushed areas (Weis and Weis 2004).

Chemicals such as copper, zinc, arsenic and chromium may directly affect salmon that spawn, rear, or migrate by contaminated areas, or indirectly when the salmon ingest contaminated prey (Posten 2001). Copper has been shown to impair the olfactory nervous system and olfactory-mediated behaviors in salmonids (Hara *et al.* 1975, Winberg *et al.* 1992, Hansen *et al.* 1999a and 1999b, Baldwin *et al.* 2003). Salmon will actively avoid copper (Hansen *et al.* 1999a and 1999b), suggesting that low levels of copper present in distinct gradients, such as near point-source discharges, may act as migratory barriers to salmon. However, behavioral avoidance is not likely to be an adequate defense against non-point sources of copper in lakes, rivers and estuaries (Baldwin *et al.* 2003).

Even transient exposure lasting just a few minutes to copper at levels typical for surface waters from urban and agricultural watersheds, and within the U.S. Environmental Agency water quality criterion for copper, will cause greater than 50% loss of sensory capacity among resident coho in freshwater habitats (Baldwin *et al.* 2003). While that loss may be at least partially reversible, longer exposures lasting hours have caused cell death in the olfactory receptor neurons of other salmonid species (Julliard *et al.* 1996, Hansen *et al.* 1999b, Moran *et al.* 1992). Therefore, olfactory function will be impaired if salmon are unable to avoid copper pollution within the first few minutes of exposure and, if copper levels subsequently exceed a threshold for sensory cell death, it may take weeks before the functional properties of the olfactory system recover (Baldwin *et al.* 2003). Because olfactory cues convey important information about habitat quality (*e.g.*, pollution), predators, conspecifics, mates, and the animal's natal stream, substantial copper-induced loss of olfactory capacity is likely to impair behaviors essential for the survival or reproductive success of salmon and steelhead (Baldwin *et al.* 2003).

*In-water work.* Effects from in-water work are generally avoided and minimized through use of: (1) In-water work isolation strategies that often involve capture and release of trapped fish and other aquatic invertebrates, and (2) performing the work during work windows when the fewest individuals of a species are present.

Capturing and handling all fish causes them stress, though they typically recover fairly rapidly from the process and therefore the overall effects of the procedure are generally short-lived (NMFS 2002). The primary contributing factors to stress and death from handling are differences in water temperatures (between the river and wherever the fish are held), dissolved oxygen conditions, the amount of time that fish are held out of the water, and physical trauma. Stress on salmonids increases rapidly from handling if the water temperature exceeds 18°C (64°F) or dissolved oxygen is below saturation. Fish that are transferred to holding tanks can experience trauma if care is not taken in the transfer process, and fish can experience stress and injury from overcrowding in traps, if the traps are not emptied on a regular basis. Debris buildup at traps can also kill or injure fish if the traps are not monitored and cleared on a regular basis.

Based on monitoring information from previous fish salvage operations associated with Corps permitted projects, NMFS believes that it is unlikely that eulachon or green sturgeon will be encountered during work area isolation and fish salvage.

*Dredging.* Direct effects to fish are likely to include entrainment of fish (Dutta and Sookachoff 1975a, Boyd 1975, Armstrong *et al.* 1982, Tutty 1976) and mortality from exposure to suspended sediments (turbidity). The likely indirect effects of dredging include: (1) Behavioral changes (Sigler *et al.* 1984, Berg and Northcote 1985, Whitman *et al.* 1982, Gregory 1988) and sub-lethal impacts from exposure to increased turbidity (Sigler 1988, Sigler *et al.* 1984, Kirn *et al.* 1986, Emmett *et al.* 1988, Servizi 1988); (2) mortality from predatory species that benefit from activities associated with dredged material disposal; (3) mortality resulting from stranding as a result of vessel wakes; (4) modifications to nearshore habitat resulting from erosion as a result of vessel wakes or dredging itself; (5) loss of benthic food sources resulting from dredging and disposal of dredged material (Morton 1977); and (6) cumulative effects of increased industrialization at port facilities along the river.

NMFS does not expect clamshell dredging to entrain the listed species considered in this opinion. The action of the bucket passing through the water column should allow for salmonids to avoid it. However, hydraulic suction dredging may entrain juvenile salmonids. When fish come within the “zone of influence” of the cutter head, they may be drawn into the suction pipe (Dutta 1976, Dutta and Sookachoff 1975a). Dutta (1976) reported that salmon fry were entrained by suction dredging in the Fraser River and that suction dredging during juvenile migration should be controlled. Braun (1974a, 1974b), in testing mortality of entrained salmonids, found that 98.8% of entrained juveniles were killed. Dutta and Sookachoff (1975b) found that suction dredging operations “cause a partial destruction of the anadromous salmon fishery resource of the Fraser River.” Boyd (1975) noted that suction pipeline dredges operating in the Fraser River during fry migration took substantial numbers of juveniles. As a result of these studies, the Canadian government issued dredging guidelines for the Fraser River to minimize the likelihood of entrainment (Boyd 1975). Further testing in 1980 by Arseneault (1981) resulted in



entrainment of chum and pink salmon but in low numbers relative to the total of salmonids outmigrating (0.0001 to 0.0099%).

The Corps conducted extensive sampling within the Columbia River in 1985-88 (Larson and Moehl 1990) and again in 1997 and 1998. In the 1985-88 study, no juvenile salmon were entrained and the 1997-98 study resulted in entrainment of only two juvenile salmon. McGraw and Armstrong's (1990) examination of fish entrainment rates in Grays Harbor from 1978 to 1989 resulted in only one juvenile salmon being entrained. Dredging was conducted outside peak migration times. Stickney (1973) also found no evidence of fish mortality while monitoring dredging activities along the Atlantic Intracoastal Waterway. These studies were on deep water areas associated with main channels. Few data are available on the extent of entrainment in shallow-water areas, such as those associated with the side channels proposed as part of maintenance dredging.

In areas of coarse sand, NMFS expects the turbidity generated from all types of dredging to be very small and confined to the area close to the draghead or bucket. Issues involving turbidity associated with flow lane disposal were addressed in the April 6, 1993 biological opinion with the Corps for navigation channel maintenance dredging. NMFS did not believe that mortality resulting from turbidity was an issue of concern during that consultation and has no information that would change that belief for this opinion.

Dredging within the in-water work period and using best management practices (keeping the intake at or just below the surface of the material being extracted and raising it only for short periods to purge) is expected to minimize any potential impacts.

***Site Preparation for Construction of Buildings and Related Features.*** The effects of this type of site preparation (restrooms, picnic shelters, parking lots, etc.) are likely to be less intense than those discussed in the pre-construction section above because all actions will occur outside of the riparian management area. An additional indirect effect of this activity can be intentional or opportunistic human access to riparian or instream areas. Once in the riparian zone or instream area, people may walk or hike, thus trampling soils and channel materials, and disturbing vegetation in ways that can increase runoff and reduce plant growth. They may also start fires, dump trash, or otherwise adversely alter environmental conditions. However, with due diligence for the full range of conservation measures outlined above, including the requirement that fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons, it is unlikely that environmental changes caused by these indirect effects at any single construction site associated with the proposed action, or that any combination of such construction sites, could cause chronic trampling or vegetation removal over a large habitat area sufficient to cause more than transitory indirect affects to salmon or steelhead.

***Overwater Structures.*** An effect of overwater structures is the creation of a light/dark interface that allows ambush predators to remain in a darkened area (barely visible to prey) and watch for prey to swim by against a bright background (high visibility). Prey species moving around the structure are unable to see predators in the dark area under the structure and are more susceptible to predation.

Predatory fish in many of the areas covered by this opinion include northern pikeminnow, smallmouth bass, largemouth bass, and walleye. Predation on ESA-listed salmon and steelhead is reasonably certain to increase with the addition of structures. Juvenile fish abundance has also been found to be reduced under piers and overwater structures when compared to open water or areas with piles but no overwater structures (Able *et al.* 1998), likely due to limitations in prey abundance and increased predation under structures. Several studies have found smallmouth bass and northern pikeminnow predation on juvenile salmonids to be significant:

Fritts and Pearsons (2004) estimated that smallmouth bass in the Yakima River consumed an average of roughly 200,000 juvenile Chinook salmon yearly. They primarily ate the smallest salmon available—that is, offspring of naturally spawning ocean-type Chinook salmon (subyearlings). They further indicated that smallmouth bass predation can adversely affect native salmonids where there is spatial overlap between smallmouth bass and small-sized salmonids.

Tabor *et al.* (1993) found that juvenile salmonids made up 59% by weight of smallmouth bass diets and 28.8% by weight of northern pikeminnow diets in the Columbia River near Richland, Washington. The juvenile salmon were mostly subyearling Chinook salmon. Predation rates were high during the spring and early summer, when their habitat overlapped.

Naughton *et al.* (2004) found that juvenile salmonids comprised less than 11% (by weight) of the diet of smallmouth bass in the Lower Granite Reservoir System. They postulate that variation in juvenile salmonid consumption by smallmouth bass is common within the basin and is probably related to differing biotic and abiotic conditions.

Poe *et al.* (1991) found that juvenile salmonids composed 67% of northern pikeminnow diets (by weight) and 14% of smallmouth bass diets in John Day Reservoir. They further found that subyearling Chinook salmon were selected by smallmouth bass when their two distributions overlapped.

Zimmerman and Ward (1999) found that predation of juvenile salmonids by northern pikeminnow in the Columbia River downstream from Bonneville Dam was consistently an order of magnitude greater than at sites in Columbia and Snake River impoundments.

Tabor *et al.* (2007), in examining salmonid predation by smallmouth and largemouth bass in the Lake Washington Basin found that overall rates of predation were low, but that during certain times of year up to 50% of the smallmouth bass diet was made up of salmonids (primarily subyearlings), particularly in the Lake Washington Ship Canal. They attribute this to the relatively small size of subyearlings and their use of nearshore habitats where overlap with bass is greatest.

Chapman (2007), in evaluating the effects of dock structures on subyearling Chinook salmon in Wells Dam Pool indicates that:

- Subyearling Chinook salmon less than 60mm in length use nearshore covered habitats extensively.
- Docks may be a surrogate for lack of overhead cover.

- Pikeminnow and smallmouth bass are two major predators that would be expected to use dock structures.
- The greatest potential for predation occurs in late April, May, and to a lesser extent, early June, when subyearlings are small and the water in littoral areas warms. Once they are larger they are less susceptible.
- Docks probably increase carrying capacity of Wells Dam Pool for smallmouth bass by providing structural cover and temporary access to prey.
- To avoid increases in mortality of subyearling summer/fall Chinook salmon, placement of docks in littoral zones of Wells Dam Pool should not be undertaken.

As identified in the Draft Upper Willamette River Conservation and Recovery Plan for Chinook salmon and Steelhead (ODFW 2010), predation is a limiting factor for salmon and steelhead recovery in the Willamette River basin. There is emerging concern regarding the extent of pikeminnow, centrarchid, and walleye impacts in other reservoirs and warm water reaches throughout the Willamette River basin, such as slow water areas in sub-basins and the mainstem Willamette that are associated with the remaining floodplain. The plan indicates that the impact of exotic predators can be strengthened by land use practices and hatchery practices that congregate juvenile salmonids, and hydrologic alterations to flow that delay downstream salmonid migration and increase predator survival and productivity. Specifically, action items 64 and 83 of the draft plan recommend the following:

- Reduce the square footage of over-water structures in the estuary and lower mainstem Willamette River.
- Where possible, modify remaining overwater structures to provide beneficial habitat for salmonids.
- Inventory over-water structures in the estuary and develop a GIS layer with detailed metadata files.
- Remove or modify over-water structures to provide beneficial habitats.
- Establish criteria for new permit applications to consider the cumulative impacts of over-water structures in the estuary.
- Conduct research, monitoring, and evaluation of modifications that can be made to overwater structures to assess ecological impacts
- Manage pikeminnow and non-native piscivorous fishes to reduce predation on juvenile salmonids.
- Initiate status/trend monitoring of abundance and occurrence of pikeminnow, centrarchids, walleye, and channel catfish.
- Initiate diet studies to resolve critical uncertainty regarding impact on UWR Chinook salmon and steelhead.
- As needed and feasible, implement habitat actions that are known to prevent predator population growth or that reduces interactions with juvenile salmonids.

As identified in the 2010 Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan (Lower Columbia Fish Recovery Board 2010), predation by native and introduced fish species is a limiting factor for recovery of LCR Chinook and coho salmon, and steelhead. Evidence suggests that predation related mortality of juvenile salmonids during outmigration is substantial, thereby limiting survival and abundance of salmonids. Predation likely has always been a

significant source of mortality but has been exacerbated by habitat changes. Current sources of predation on salmonids are substantial, however, how current predation levels compare to those experienced historically is unknown. Salmonids are an important food for large pikeminnow and millions of juvenile salmonids are estimated to fall prey each year. Significant numbers of salmon are lost to fish, bird, and marine mammal predators during migration through the mainstem Columbia River. Smallmouth bass (*Micropterus dolomieu*) also have been found to consume significant numbers of juvenile salmonids. Habitat alterations in the Lower Columbia River mainstem and estuary have increased the abundance of predators of juvenile salmonids.

The State of Washington's position paper (Dugger 2005) on shading effects recommends for anything wider than 3 feet that 60% of the total coverage be grated and that the grated areas not be used for storage. They do allow for some individual exceptions in waters greater than 20 feet in depth, velocity greater than 0.7 fps and at least 50 feet from the shore (Dugger 2005). NMFS believes that the incorporation of grating covering 60% of the surface area into all of the docks allows for more light penetration and diffuses the light/dark interface and will minimize the susceptibility of juvenile salmonids to piscivorous predation resulting from these types of projects.

Stuber *et al.* (1982), in their development of a habitat suitability index model for largemouth bass found that adults are most abundant in areas of low current velocity and velocities greater than 20 cm/sec (0.7 fps) were unsuitable. Placement of overwater structures in areas with velocities greater than 0.7 fps will minimize the susceptibility of juvenile salmonids to piscivorous predation resulting from these types of projects.

Juvenile salmonid species such as spring Chinook, sockeye, and coho salmon, and up-river steelhead usually move downriver relatively quickly and in the main channel. This would aid in predator avoidance (Gray and Rondorf 1986). Fall and summer Chinook salmon are found in nearshore, littoral habitats and are particularly vulnerable to predation (Gray and Rondorf 1986).

In addition, the presence of predators may force smaller prey fish species into less desirable habitats, disrupting foraging behavior, resulting in less growth (Dunsmoor *et al.* 1991).

Placement of structures in shallow water may also disrupt migration of smaller juvenile salmonids that use nearshore areas. Boat activity and the physical presence of the structures may result in juvenile salmonid delaying passage or forcing them into deeper water areas in an attempt to go around the structures. Juvenile Chinook and coho salmon use backwater areas during their outmigration (Parente and Smith 1981). Littoral areas are important for juvenile salmonid migration (Ward *et al.* 1994). McCabe *et al.* (1986) using a 50-meter (164-foot) beach seine found extensive usage of nearshore areas in the Columbia River estuary by subyearling Chinook salmon. Ledgerwood *et al.* (1990) using a 95-meter (312-foot) beach seine fishing in depths to 6 meters (20 feet) found extensive use of nearshore habitat in the Lower Columbia River by subyearling Chinook salmon. Dawley *et al.* (1986) using a 95-meter beach seine fishing in depths to 3 meters (10 feet) found extensive use of nearshore habitat in the Lower Columbia River by subyearling Chinook salmon. Sampling by them in 1968 found nearshore usage by subyearling Chinook salmon to be 15 times greater than in the adjacent channel area and that

yearling Chinook salmon, coho salmon and steelhead were more often caught in deeper waters (Dawley *et al.* 1986).

Ward *et al.* (1994) reported mean distance offshore for juvenile salmonids caught while vertical gill netting in the Willamette River to range from 39 to 93 feet with most fish caught in waters 18 feet or less in depth. This indicates that the nearshore area in the Lower Willamette River is heavily used by smaller salmonids.

Placement of structures close to the shore impacts the ability of juvenile salmonids to safely migrate past. A 312-foot beach seine effectively fishes up to 99 feet from the shore in the Columbia River, the nearshore are occupied by juvenile salmonids. It is conceivable that the nearshore area used by juveniles would be smaller on smaller stream systems. Therefore, placement of a floating structure at a minimum of 50 feet from the shoreline at OLW and MLLW, while not avoiding migration delays in the Columbia River, would minimize the potential for disruption to migration in all other stream and estuarine systems. Within the Columbia River, floating structures should be placed a minimum of 100 feet from the shoreline at OLW or MLLW to minimize potential impacts to migration.

Shading from docks, piers, boat houses, moored boats, and marinas may also reduce juvenile salmonid prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance (Kahler *et al.* 2000). Placement of dock structures in estuarine areas devoid of aquatic vegetation would avoid impacts to food resources and refugia.

Placement of piles to support the structures will likely provide for some usage by cormorants. Placement of anti-perching devices on the top of the pilings would preclude their use by any likely avian predators.

Residential structures and especially marinas are likely to have high levels of boating activity in their immediate vicinity, particularly next to floats. Specifically, floats may serve as a mooring area for boats or a staging platform for recreational boating activities. Boating activities may adversely affect listed salmonids and aquatic habitats directly through engine noise or prop movement, and the physical presence of a boat hull may disrupt or displace nearby fishes (Mueller 1980, Warrington 1999a).

Mueller (1980), in studying boating effects on long-eared sunfish found that boating affected fish behavior. Depending on speed and proximity to the nests, boats caused spawners to abandon their nests for varying periods in order to find protective shelter. Type of craft (johnboat or canoe) had no noticeable difference in effect, but speed and distance were important. Slow-moving craft (paddled or motored at 1 m (3 feet)/second) passing near a spawner chased it from its nest more often than craft moving at faster speeds. In most predation cases, speed and distance of passing craft made a large difference. Slow-moving craft, whether paddled or motored near nests chased spawners away more frequently than faster-moving craft.

Graham and Cooke (2008) studied the effects of three boat noise disturbances (canoe paddling, trolling motor, and combustion engine (9.9 hp)) on the cardiac physiology of largemouth bass (*Micropterus salmoides*). They found that exposure to each of the treatments resulted in an

increase in cardiac output in all fish, associated with a dramatic increase in heart rate and a slight decrease in stroke volume, with the most extreme response being to that of the combustion engine treatment. Recovery times were the least with canoe paddling (15 minutes) and the longest with the power engine (40 minutes). They postulate that this demonstrates that fish experienced sublethal physiological disturbances in response to the noise propagated from recreational boating activities.

To NMFS' knowledge, studies on salmonid response to these activities have not been conducted, but given these fishes' similar life history and biology it is reasonable that salmonids would also react in much the same manner. This is especially important at the mouths of tributaries where adult salmonids congregate/hold prior to further upstream migration. Precluding adult salmonids from reaching spawning habitat will result in pre-spawning mortality, thus reducing their abundance.

These boating impacts indirectly affect listed fish in many ways. Turbidity may injure or stress affected fishes (see above). The loss of aquatic macrophytes may expose salmonids to predation, decrease littoral productivity, or alter local species assemblages and trophic interactions. The continual loss of bankline results in requests for bank stabilization measures that further disrupt natural stream processes. Despite a general lack of data specifically for salmonids, pollution from boats may cause short-term injury, physiological stress, decreased reproductive success, cancer, or death for fishes. Further, pollution may also affect fishes by affecting likely prey species or aquatic vegetation.

Habitat degradation and loss adversely affect inshore and riverine ecosystems critical to living marine resources. Furthermore, degradation and loss of estuarine habitat reduce salmon carrying capacity in these areas. The cumulative effects of small changes in many estuaries may have a large systematic impact on estuarine and coastal oceanic carrying capacity. Point and non-point discharges, waste dumps, eutrophication, acid rain, and other human impacts reduce this ability. Population growth and demands for international business trade along the Pacific Rim exert pressure to expand coastal towns and port facilities - resulting in net estuary losses.

The proposed siting and dimension criteria for in water structures permitted under this program will not prevent usage by predators, but it will minimize the impacts described above. Grating in the floats will minimize the success of ambush predators. Placing structures further offshore will minimize disruption to migration and the success of predators. Anti-perching devices will alleviate potential bird predation. Increasing boater awareness through signage as to the impacts associated with boating will also help to minimize boating effects.

***Site Restoration and Compensatory Mitigation.*** Except as noted below, most direct and indirect effects of proposed streambank restoration actions are the same as those for general construction discussed above, and streambank stabilization restoration actions will follow the conservation measures for general construction as applicable.

The indirect environmental effects of proposed bioengineered bank treatments are similar to those discussed above for general construction, particularly those related to ecological recovery.

**Summary of Effects to Salmonids.** Many environmental conditions can cause incremental differences in feeding, growth, movements, and survival of salmon and steelhead during the juvenile life stage. Construction actions that reduce the input of particulate organic matter to streams, add fine sediment to channels, or disturb shallow-water habitats, can adversely affect the ability of salmon and steelhead to obtain food necessary for growth and maintenance. Salmon and steelhead are generally able to avoid the adverse conditions created by construction if those conditions are limited to areas that are small or local compared to the total habitat area, and if the system can recover before the next disturbance. This means juvenile and adult salmon and steelhead will, to the maximum extent possible, readily move out of a construction area to obtain a more favorable position within their range of tolerance along a complex gradient of temperature, turbidity, flow, noise, contaminants, and other environmental features. The degree and effectiveness of the avoidance response varies with life stage, season, the frequency and duration of exposure to the unfavorable condition, and the ability of the individual to balance other behavioral needs for feeding, growth, migration, and territory. Chronic or unavoidable exposure heightens physiological stress thus increasing maintenance energy demands (Redding *et al.* 1987, Servizi and Martens 1991). This reduces the feeding and growth rates of juveniles and can interfere with juvenile migration, growth to maturity in estuaries, and adult migration. However, given the full range of mandatory conservation measures in the SLOPES IV program outlined above, the threat is negligible that the environmental changes caused by events at any single construction site associated with the proposed action, or even any combination of such construction sites, could cause chronic or unavoidable exposure over a large habitat area sufficient to cause more than transitory direct affects to individual salmon or steelhead.

At the population level, the effects of the environment are understood to be the integrated response of individual organisms to environmental change. Thus, instantaneous measures of population characteristics, such as population abundance, population spatial structure and population diversity, are the sum of individual characteristics within a particular area, while measures of population change, such as population growth rate, are measured as the productivity of individuals over the entire life cycle (McElhany *et al.* 2000). Lethal take associated with work area isolation or pile driving, if any, is expected to amount to no more than a few individual juveniles. That is too few to influence population abundance. Similarly, small to intermediate reductions in juvenile population density in the action area caused by individuals moving out of SLOPES IV activity areas to avoid dying as a result of exposure to short-term physical and chemical effects of the proposed construction are expected to be transitory and are not expected to alter juvenile survival rates.

Because adult salmon and steelhead are larger and more mobile than juveniles, it is unlikely that any will be killed during work area isolation although adults may move laterally or stop briefly during migration to avoid noise or other construction disturbances (Feist *et al.* 1996, Gregory 1988, Servizi and Martens 1991, Sigler 1988). However, given the full range of mandatory conservation measures in the SLOPES IV program outlined above, it is unlikely that physical and chemical changes caused by construction events at any single construction site associated with the proposed action, or even any combination of such construction sites, will cause delays severe enough to reduce spawning success and alter population growth rate, or cause straying that might alter the spatial structure or genetic diversity of populations. Thus, it is unlikely that

the biological effects of actions taken under the SLOPES IV program will affect the characteristics of salmon or steelhead populations.

#### **2.4.2 Effects on ESA-Listed Green Sturgeon and Eulachon**

Less is known about southern DPS of green sturgeon and eulachon although key differences in the distribution and biology of these two species make it reasonable to assume that the effects of the proposed action on them are likely to be within range of effects described above. Both species are broadly distributed in marine areas along the western coast of North America and only enter the action area in a relatively few subtidal and intertidal areas.

In the case of southern green sturgeon, subadult and adult individuals enter the action area for non-breeding, non-rearing purposes. Impacts from construction to green sturgeon are the same as those described above for salmonids. Because of their age, location, and life history, these individuals are relatively distant from, and insensitive to, the effects of a majority of the actions described above, and those effects are unrelated to the principal factor for the decline of this species, *i.e.*, the reduction of its spawning area in the Sacramento River. Adult and subadult green sturgeon are likely to be far less sensitive to turbidity and suspended solids than salmonids. The NMFS is also reasonably certain elevated suspended sediment concentrations will result in insignificant behavioral and physical response due to the higher tolerance of green sturgeon, which usually inhabit much more turbid environments than do salmonids.

Eulachon are also limited to a relatively few subtidal and intertidal areas and the mainstem Columbia River below Bonneville Dam, but they return to those areas with a presumed fidelity that indicates close association between a particular stock and its spawning environment (Gustafson *et al.* 2008). Moreover, eulachon face numerous potential threats throughout every stage of their life cycle, although the severity of shoreline construction effects and water quality, the most significant effects described above, have been ranked as “very low” and “low,” respectively (Gustafson *et al.* 2008). The biggest impact may be from dredging actions. Limiting dredging in the Columbia River and other occupied areas to the proposed work windows is expected to result in very limited entrainment potential.

**Summary of Effects to Green Sturgeon and Eulachon.** Some individual green sturgeon are likely to be adversely affected by the activities covered under the SLOPES IV program described in this opinion. However, there should be few green sturgeon in the vicinity of most of the actions. Dredging and pile driving would be the most likely activities to affect individuals. The restrictions on pile driving and dredging should minimize those impacts. The impacts from these activities are not expected to result in a change at the population level.

Effects to eulachon would primarily occur as a result of dredging and pile driving activities. Work window restrictions should limit impacts to this species as a result of these activities. The impacts from these activities are not expected to result in any measurable population level effects.



### 2.4.3 Effects on Critical Habitat

Completion of each project is expected to have the following set of effects on the PCEs or habitat qualities essential to the conservation of each species, these effects will vary somewhat in severity between projects because of differences in the scope of construction at each, and in the current condition of PCEs and the factors responsible for those conditions. This assumption is based on the fact that all of the projects are based on the same set of underlying construction actions and the PCEs and conservation needs identified for each species are also essentially the same. In general, ephemeral effects are expected to last for hours or days, short-term effects are expected to last for weeks, and long-term effects are expected to last for months, years or decades. Actions with more significant construction component are likely to have direct adverse effects to a larger area, and to take a longer time to recover, than actions based in restoration of a single habitat element. However, they are also likely to have correspondingly greater conservation benefits.

**Effects on ESA-Listed Salmon and Steelhead Critical Habitat.** Essential habitat for listed salmonids includes summer and winter rearing areas, juvenile migration corridors, areas for growth and development to adulthood, and adult migration corridors, and spawning areas. Juvenile summer and winter rearing areas and spawning areas are often in small headwater streams and side channels, while juvenile migration corridors and adult migration corridors include tributaries, mainstem river reaches and estuarine areas. Growth and development to adulthood occurs primarily in near- and off-shore marine water, although final maturation takes place in freshwater tributaries when the adults return to spawn. Of these, the action area has been designated as essential for spawning and rearing, juvenile migration, and adult migration. The Pacific Ocean areas used by listed salmon for growth and development to adulthood are not well understood, and essential areas and features have not been identified for this life stage. The essential features of critical habitat for listed salmonids are substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, access and safe passage conditions.

1. Freshwater spawning sites
  - a. Water quantity – Ephemeral reduction due to short-term construction, reduced riparian soil permeability, and increased riparian runoff; slight longer-term increase based on improved riparian function and floodplain connectivity.
  - b. Water quality – Short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance.
  - c. Substrate – Short-term reduction due to increased compaction and sedimentation.
2. Freshwater rearing sites
  - a. Water quantity – as above.
  - b. Floodplain connectivity – Both short and long-term decrease due to increased compaction and riparian disturbance.
  - c. Water quality – as above.
  - d. Forage – Both short and long-term decrease due to riparian and channel disturbance, loss of benthos from shading and long-term maintenance due to replaced riparian function from mitigation.

- e. Natural cover – Short-term decrease due to riparian and channel disturbance; long-term maintenance due to replaced riparian function from mitigation.
- 3. Freshwater migration corridors
  - a. Free passage – Short-term decrease due to decreased water quality and in-water work isolation; long-term decrease due to increased predator habitat.
  - b. Water quantity – as above.
  - c. Water quality – as above.
  - d. Forage – as above.
  - e. Natural cover – as above.
- 4. Estuarine areas
  - a. Free passage – as above.
  - b. Water quality – as above.
  - c. Water quantity – as above.
  - d. Natural cover – as above.
  - e. Juvenile forage – as above.
  - f. Adult forage – Short-term decrease due to riparian and channel disturbance.
- 5. Nearshore marine areas
  - a. Free passage – no effect.
  - b. Water quality – no effects.
  - c. Water quantity – no effects.
  - d. Forage – no effects.
  - e. Natural cover – no effect.
- 6. Offshore marine areas
  - a. Water quality – no effect.
  - b. Forage – no effect.

**Effects on Green Sturgeon Critical Habitat.** Critical habitat for green sturgeon includes estuarine and nearshore coastal areas that provide for rearing and migration of adult and subadults. The bays and estuaries along the Oregon coast are subject to increased human activities as populations increase and economic driven activities are developed. These activities result in the need for docks and maintaining access to them. Dredging results in stream and river-bottom disturbances that disrupt benthic production and feeding of green sturgeon, increase turbidity and change depth profiles. The essential features for green sturgeon critical habitat are food, passage, sediment quality and water quality in estuarine and coastal marine areas.

- 1. Estuarine areas
  - a. Food - Short-term decrease due to stream and river-bottom disturbance.
  - b. Passage - Short-term decrease due to stream and river-bottom channel disturbance.
  - c. Sediment quality - Short-term decrease due to stream and river-bottom disturbance.
  - d. Water quality - Short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance.
- 2. Coastal Marine Areas
- 3. Food – No effect.
- 4. Passage – No effect.

5. Water Quality – No effect.

**Effects on Eulachon Critical Habitat.** Critical habitat for eulachon includes:

(1) Freshwater spawning and incubation sites with water flow, quality and temperature conditions and substrate supporting spawning and incubation, and with migratory access for adults and juveniles; (2) freshwater and estuarine migration corridors associated with spawning and incubation sites that are free of obstruction and with water flow, quality and temperature conditions supporting larval and adult mobility, and with abundant prey items supporting larval feeding after the yolk sac is depleted; and, (3) nearshore and offshore marine foraging habitat with water quality and available prey, supporting juveniles and adult survival. As described in the above section on green sturgeon, the Oregon Coast is subject to increased human activities as is the Lower Columbia River. The essential features for eulachon critical habitat are

1. Freshwater spawning sites and incubation
  - a. Flow – Ephemeral reduction due to short-term construction needs, reduced riparian permeability, and increased riparian runoff; slight longer-term increase based on improved riparian function and floodplain connectivity.
  - b. Water quality – Short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance.
  - c. Substrate – Short-term reduction due to increased compaction and sedimentation and removal.
2. Freshwater and estuarine migration corridors
  - a. Free passage – Short-term decrease due to decreased water quality and in-water work isolation.
  - b. Flow – as above.
  - c. Water quality – as above.
  - d. Temperature – no effect.
  - e. Food – no effect.
3. Nearshore and offshore marine foraging areas
  - a. Food – no effect.
  - b. Water quality – no effect.

***Summary of effects to critical habitat.*** Due to the small nature of the SLOPES IV projects and the mandatory offsetting mitigation, the intensity of the effects, in terms of the total condition and function of PCEs, and the severity of the effects, given the recovery rate for those same PCEs, is such that the function of PCEs and the conservation value of critical habitat – including the value of critical habitat for recovery – is likely to be only mildly impaired . Similarly, the frequency of the disturbance will usually be limited to a single event or, at most, a few projects within the same watershed. Review of each project by NMFS will allow for tracking of cumulative impacts within a watershed and the ability to prohibit further permitting under the program within that watershed if necessary. Thus, it is unlikely that several projects within the same watershed, or even within the same action area, would have an important adverse effect on the function of PCEs or the conservation value of critical habitat in the action area, watershed, or designation scales.

**Synthesis of Effects.** The scope of each type of activity that could be authorized under the SLOPES IV program is narrowly proscribed, and is further limited by conservation measures tailored to avoid direct and indirect adverse effects of those actions on properly functioning habitat conditions. Administrative measures are in place to ensure that requirements related to the scope of actions allowed and the mandatory conservation measures (*i.e.*, design criteria) operate to limit direct lethal effects on listed fish to a few deaths associated with pile driving and isolation of in-water work areas, an action necessary to avoid greater environmental harm. All other direct adverse effects will likely be transitory and within the ability of both juveniles and adult fish to avoid by bypassing or temporarily leaving the proposed action area. Such behavioral avoidance will probably be the only significant biological response of listed fish to the SLOPES IV program. This is because areas affected by the specific projects undertaken pursuant to the SLOPES IV program are likely to be widely distributed (the frequency of the disturbance will be limited to a single event or, at most, a few projects within the same watershed) and small compared with the total habitat area; the intensity and severity of environmental effects for each project will be comprehensively minimized by targeted design criteria; and the recovery timeframe for proper functioning habitat conditions is unlikely to be appreciably reduced.

## **2.5 Cumulative Effects**

“Cumulative effects” are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Between 2000 and 2010, the population of Oregon, grew from 3.4 to 3.8 million, an increase of approximately 12%. The population is projected to grow at a similar rate for the next 5 years. The NMFS assumes that private and state actions that have routinely occurred in the past will continue within the action area, increasing as population rises.

The most common activities reasonably certain to occur in the action area are agricultural activities, operation of non-Federal hydropower facilities, urban and suburban development, recreational activities, logging, road construction and maintenance, and metals and gravel mining. These activities are often not subject to ESA consultation and would result in some adverse effects to listed fish, and their habitat. Some of the activities, such as logging and development, are subject to regulation under state programs, and the effects to fish and stream habitats are reduced to varying degrees under these programs. These activities will result in negative effects to abundance, productivity, and spatial structure of fish at the population scale, and result in some degradation of the condition of critical habitat PCEs.

Throughout Oregon, watershed councils, Native American tribes, local municipalities, conservation groups, and others will continue to carry out restoration projects in support of listed fish recovery. Many of these actions will be covered by other programmatic consultation, or by future individual consultations, in which cases their effects will not be cumulative effects. Some of the private or state-funded actions for which funding commitments and necessary approvals already exist will not undergo consultation, and will result in beneficial cumulative effects.

These beneficial effects will be similar to those described in the Effects to Listed Species section of this opinion. These effects will result in small improvements to abundance, productivity, and spatial structure of listed fish at the population scale, and result in some improvement to the condition of critical habitat PCEs.

## **2.6 Integration and Synthesis**

The Integration and Synthesis section is the final step of NMFS' assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action (Section 2.4) to the environmental baseline (Section 2.3) and the cumulative effects (Section 2.5) to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) Result in appreciable reductions in the likelihood of both survival and recovery of the species in the wild by reducing its numbers, reproduction, or distribution; or (2) reduce the value of designated or proposed critical habitat for the conservation of the species. These assessments are made in full consideration of the status of the species and critical habitat (Section 2.2).

Within the action area, many stream, estuarine and riparian areas have been degraded by the effects of land and water use, including road construction, forest management, agriculture, mining, urbanization, and water development. Dams and reservoirs, within the currently accessible migratory corridor, have altered the river environment and affected fish passage. The operation of water storage projects has altered the natural hydrograph of many rivers. Water impoundment and dam operations affect downstream water quality characteristics. Salmon and steelhead are exposed to high rates of natural predation during all life stages from fish, birds, and marine mammals, including harbor seals, sea lions, and killer whales. Avian and introduced fish predation on salmonids has been exacerbated by environmental changes associated with river developments. The Corps, Bonneville Power Administration, and Bureau of Reclamation have also consulted on large water management actions, such as operation of the Federal Columbia River Power System, the Umatilla Basin Project, the Willamette River Project and the Deschutes Project. The U.S. Forest Service and U.S. Bureau of Land Management consult on Federal land management throughout Oregon, including restoration actions, forest management, livestock grazing, and special use permits. Impacts to the environmental baseline from these previous actions vary from short-term adverse effects to long-term beneficial effects.

Considered in the context of this baseline, and as described above, it is unlikely that the aggregated biological effects of all projects undertaken pursuant to the SLOPES IV program will have a measurable effect on listed fish population abundance or productivity. The SLOPES projects will have such minimal, short-term and/or spatially isolated effects that, even in the aggregate, will not appreciably impact population spatial structure or diversity. The SLOPES IV program will therefore have no appreciable effect on the viability of any species addressed by this programmatic consultation.

The condition of critical habitat in the action area for species addressed in the consultation varies, but for the most part at least one physical or biological feature of critical habitat is likely to be degraded at sites where projects authorized under SLOPES IV are likely to occur. The conservation value of critical habitat (identified at the watershed scale) also varies from high to

low, but for the purposes of our analysis we assume that conservation value is high at all sites where projects may be authorized under SLOPES IV. The conservation role of critical habitat within the action area is either to support successful migration of juvenile and adult life stages or to support successful spawning and rearing.

Considered in the context of this baseline, and as described in our effects analysis, implementation of the SLOPES IV program will cause short-term degradation of some critical habitat physical and biological features such as water quality. We expect all of these short-term effects to be minor and transient. The physical and biological features of critical habitat will fully and quickly recover from these minor disturbances. The short term effects will not appreciably impair the ability of this critical habitat to serve its intended conservation role.

Some projects carried out under this program will also cause longer-term effects on critical habitat physical and biological features. For instance, the free passage feature of critical habitat may be degraded at the project-site scale to do a slight increase in predation or a small increase in migration time due to the construction of an in- or over-water structure. The conservation measures applied to each project significantly reduces the severity of these effects. We assume, based on the available information and the NMFS review function built into the administrative procedures of SLOPES IV, that at most, only a few projects are likely to be authorized under SLOPES IV in any given watershed in the action area. Therefore, when considered at the watershed scale, the aggregate effects of all projects authorized under SLOPES IV will not appreciably impair the ability of critical habitat to serve its intended conservation role.

Indirect effects and the effects of interrelated and interdependent actions that are reasonably certain to occur include the continued operation and maintenance of over-water and in-water structures, associated boating activity, as well as ecological recovery actions in the construction area. The human activity will vary with the type and purpose of the structure or activity completed. Pollution and physical disruption to wetland, riparian and benthic communities and ecosystems may result through the boating actions. Sediment resuspension, water pollution, disturbance of fish and wildlife, destruction of aquatic plants, and shoreline erosion may also occur. In many areas of the state shoreline habitat is relatively untouched. In those areas, increased boating activity could result in substantial erosion and disruption of aquatic vegetation. In areas where there has been substantial revetments and riprap placement an increase in boating activity would not have as big an impact. The requirement for NMFS review and approval of the project will allow for onsite evaluation as to the appropriateness of the activity as it affects fish and their habitat.

The effects of the action must be taken together with the cumulative effects. As mentioned above, population growth in Oregon will continue resulting in future private and state actions commensurate with population increases. Some of these actions will have a Federal nexus and be subject to ESA consultation. Those not subject to ESA consultation could result in some adverse effects to listed fish, and their habitat, dependent on the caliber and extent of local and state oversight. Some restoration activities ongoing throughout the state will result in benefits to listed fish. Those activities that result in negative effects will impact abundance, productivity, and spatial structure of fish at the population scale, and result in some degradation of the condition of critical habitat PCEs.

The biological effects of the SLOPES IV program can be understood as the integrated response of individuals and populations of many, interrelated species at the community level. All populations are dependent on the physical and chemical conditions and resources at their locations, and together with these conditions and resources form ecosystems. A persistent change in the environmental conditions or resources of an ecosystem can lead to a change in the abundance of many, if not all, populations in the ecosystem and lead to development of a new community. Differences in riparian and instream habitat quality, including water chemistry, can alter trophic and competitive relationships in ways that support or weaken the populations of salmon and steelhead in relation to other more pollution tolerant species (Wentz *et al.* 1998; Williamson *et al.* 1998). However, with due diligence for the full range of proposed conservation measures outlined above, it is unlikely that physical and chemical changes due to the SLOPES IV program will cause a persistent change in the conditions or resources available relative to the total habitat area. Thus, it is unlikely that the biological effects of the SLOPES IV program will affect the characteristics of individuals and populations at the biological community level.

Our conclusions for all species addressed by this opinion are based on these, as well as the following considerations: (1) Individual review is required of each project that will be covered by SLOPES IV to ensure that its effects, combined with the aggregated effects of other SLOPES IV projects, fall within the range of actions analyzed in this opinion, that extensive activity does not occur within a watershed adversely affecting the environmental baseline, that interrelated and interdependent effects are evaluated, and that each applicable conservation measure is included as a project element or an enforceable condition of the permit document; (2) taken together, the conservation measures applied to each project will ensure that any short-term effects to water quality, habitat access, habitat elements, channel conditions and dynamics, flows, and watershed conditions will be brief, minor, and scheduled to occur at times that are least sensitive for the species' life-cycle; (3) the underlying requirement of an ecological design approach that protects and stimulates natural habitat forming processes is expected to result in authorization of many projects that will have beneficial long-term effects; and (4) the frequency of the disturbance will be limited to a single event or a few projects within the same watershed and thus there is not expected to be any significant aggregate or synergistic impact of the individual SLOPES IV projects; and (5) the individual and combined effects of all actions permitted in this way, when taken together with cumulative effects, are not expected to impair currently properly functioning habitats, appreciably reduce the functioning of already impaired habitats, or retard the long-term progress of impaired habitats toward proper functioning condition essential to the long-term survival and recovery at the population, ESU, or DPS scale.

## 2.7 Conclusion

After reviewing the current status of the listed species, the environmental baseline within the action area, the effects of the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of the following 17 species considered in this opinion, or result in the destruction or adverse modification of their designated or proposed critical habitat:

- Lower Columbia River Chinook salmon
- Upper Willamette River spring-run Chinook salmon

- Upper Columbia River spring-run Chinook salmon
- Snake River spring/summer-run Chinook salmon
- Snake River fall-run Chinook salmon
- Columbia River chum salmon
- Lower Columbia River coho salmon (critical habitat not designated or proposed)
- Oregon Coast coho salmon
- Southern Oregon/Northern California coasts coho salmon
- Snake River sockeye salmon
- Lower Columbia River steelhead
- Upper Willamette River steelhead
- Middle Columbia River steelhead
- Upper Columbia River steelhead
- Snake River Basin steelhead
- Southern DPS green sturgeon
- Eulachon

## **2.8. Incidental Take Statement**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by regulation to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. For purposes of this consultation, we interpret “harass” to mean an intentional or negligent action that has the potential to injure an animal or disrupt its normal behaviors to a point where such behaviors are abandoned or significantly altered.<sup>8</sup> Section 7(b)(4) and Section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA, if that action is performed in compliance with the terms and conditions of this incidental take statement.

### **2.8.1 Amount or Extent of Take**

## **2.8. Incidental Take Statement**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to

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<sup>8</sup> NMFS has not adopted a regulatory definition of harassment under the ESA. The World English Dictionary defines harass as “to trouble, torment, or confuse by continual persistent attacks, questions, etc.” The U.S. Fish and Wildlife Service defines “harass” in its regulations as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering,” 50 CFR 17.3. The interpretation we adopt in this consultation is consistent with our understanding of the dictionary definition of harass and is consistent with the U.S. Fish and Wildlife interpretation of the term.



engage in any such conduct. Harm is further defined by regulation to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. For purposes of this consultation, we interpret “harass” to mean an intentional or negligent action that has the potential to injure an animal or disrupt its normal behaviors to a point where such behaviors are abandoned or significantly altered.<sup>9</sup> Section 7(b)(4) and Section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA, if that action is performed in compliance with the terms and conditions of this incidental take statement.

### **2.8.1 Amount or Extent of Take**

The habitat that will be affected by the proposed action will not be limited at the site-specific or watershed scale. Nonetheless, the proposed action is likely to cause the injury or death of salmon and steelhead of the species considered in this Opinion as a result of:

1. Short-term impacts to water quality (*e.g.*, suspended sediment, temperature, dissolved oxygen demand and contaminants).
2. Short-term decreases in functionality of physical habitat features (*e.g.* floodplain connectivity, natural cover, riparian vegetation, instream flow, stream substrate, space, and safe passage conditions).
3. Creation or continuance of habitat conditions that favor predators (*e.g.* shade created by docks and associated boat moorage).
4. Long-term impacts to water quality, in particular from impervious surface, boating.
5. Long-term habitat disturbances (*e.g.* erosion, aquatic vegetation disruption from boating).
6. Noise and sound pressure, in particular during pile removal and installation.
7. Juvenile fish handling and dewatering during work area isolation.
8. Entrainment associated with dredging.

Juvenile life stages are most likely to be affected, although adults will sometimes also be present when in-water work windows do not exclude the entire adult migration period for all species.

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<sup>9</sup> NMFS has not adopted a regulatory definition of harassment under the ESA. The World English Dictionary defines harass as “to trouble, torment, or confuse by continual persistent attacks, questions, etc.” The U.S. Fish and Wildlife Service defines “harass” in its regulations as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3). The interpretation we adopt in this consultation is consistent with our understanding of the dictionary definition of harass and is consistent with the Service’s interpretation of the term.

**Table 27.** Pathways to incidental take by category of activity.

Activity Category							
	Short-term impacts to water quality (e.g. sediment, contamination)	Short-term decreased functionality of physical habitat features (e.g. natural cover)	Noise/sound pressure (pile driving)	Creation of predator habitat (e.g. shade, perches)	Long-term habitat disturbance (e.g. erosion, aquatic vegetation)	Long-term impacts to water quality	Capture and entrainment
Preconstruction, including site preparation	X	X					
Construction and dredging	X	X	X	X			X
Site restoration and compensatory mitigation	X	X					X
Existence of overwater/inwater structures		X		X	X?	X	
Boat usage associated with structures				X (moored boats)	X	X	

Take caused by the habitat-related effects of this action cannot be accurately quantified as a number of fish because the distribution and abundance of fish that occur within an action area are affected by habitat quality, competition, predation, and the interaction of processes that influence genetic, population, and environmental characteristics. These biotic and environmental processes interact in ways that may be random or directional and operate across far broader temporal and spatial scales than will be affected by the proposed action. Thus, the distribution and abundance of fish within each action area cannot be predicted precisely based on existing habitat conditions, nor can NMFS precisely predict the number of fish that are reasonably certain to be harmed or harassed if their habitat is modified or degraded by the proposed action. In such circumstances, NMFS uses the causal link established between the activity and the likely changes in habitat conditions affecting the listed species to describe the extent of take as a numerical level of habitat disturbance.

**Short-term impacts to water quality and physical habitat features.** Here, the best available indicators for the extent of incidental take associated with short-term impacts to water quality and physical habitat features are as follows:

1. The total length of stream reach that will be modified by construction each year.
2. The visible increase in suspended sediment associated with construction or dredging activities.

These variables are proportional to the amounts of harm and harassment that the proposed action is likely to cause through degradation of water quality or physical habitat. Suspended sediment is

proportional to the water quality impairment that the proposed action will cause, including increased sediment, temperature, and contaminants, and reduced dissolved oxygen. Stream length is proportional to the amount of habitat that will be physically altered, including natural cover, floodplain connectivity, riparian vegetation, forage and safe passage conditions.

NMFS assumes that up to 195 actions per year may be funded or carried out under this opinion, and that each action may modify up to 300 lineal feet of riparian and shallow-water habitat; therefore, modification of 58,500 linear stream feet per year is a threshold for reinitiating consultation.

In addition, NMFS assumes that an increase in sediment will be visible in the immediate vicinity of construction or dredging associated with the proposed action as well as a distance downstream, and the distance that increased sediment will be visible is proportionate both to the size of the disturbance and to the width of the wetted stream as follows (see Rosetta 2005), and whether the area is subject to tidal or coastal scour. Therefore, a further threshold for reinitiating consultation is a visible increase in suspended sediment:

1. up to 50 feet from the project area in streams that are 30 feet wide or less;
2. up to 100 feet from the discharge point or nonpoint source of runoff for streams between 30 and 100 feet wide;
3. up to 200 feet from the discharge point or nonpoint source for streams greater than 100 feet wide; and
4. up to 300 feet from the discharge point or nonpoint source for areas subject to tidal or coastal scour.

Exceeding either the total linear stream feet limit or any of the suspended sediment limits will trigger the reinitiation provisions of this opinion.

**Predator-friendly structures, impervious surface, boat usage, and noise/pressure.**

The best available indicator for the extent of incidental take associated with: (1) The creation or continuance of habitat conditions favored by predators; (2) long-term water quality impacts from impervious surfaces and boats; (3) long-term habitat disturbances from boat usage; and (4) noise and sound pressure, is the total square footage of over-water and in-water structures created pursuant to the proposed action (except for piling projects – which has a separate extent of take surrogate discussed below).

This indicator is rationally related to the take associated with predator habitat because the amount of shade caused by structures directly reflects the square footage of the structures and is the primary source of predator-friendly habitat. Similarly, water pollution from impervious surfaces is directly related to the amount of square footage of over/in-water structures and is the primary source of long-term water pollution. This indicator is also rationally related to take associated with boat usage because there is a relationship between the square footage of over-water structures and the number of boats (and hence boat usage) they can support. Finally, this indicator is rationally related to take associated with noise and sound pressure because the square footage of over-water structures will be roughly proportional to the number of piles required (and hence the amount of noise and pressure associated with driving those piles).

The majority of over-water and in-water construction in the action area has occurred on the mainstem of the Willamette and Columbia Rivers. Since 2003, approximately 124 consultations were concluded for activities associated with docks or pilings. Within the Willamette River there were 40 dock construction and 23 piling replacement consultations. Within the Columbia River below Bonneville Dam, there were 35 dock construction and 26 piling replacement consultations. This results in an average of about 8 dock and 5 piling replacement projects per year. Not all of these consultations were for residential docks, nor was the size of the docks measured. Allowing for some population and economic growth, NMFS expects that the total number of residential docks within this geographic area that would be eligible for inclusion under the SLOPES program would not exceed 15 per year. The requirement that no dock exceed 400 square foot (sf) would result in maximum total square footage of over/in-water structures on these two rivers of approximately 6,000 sf annually. Exceeding this total 6,000 sf limit will trigger the reinitiation provisions of this opinion.

The number of piling projects is harder to determine. It is dependent on many factors such as accidental breakage or deterioration. Assuming a substantial increase, NMFS would not expect to see more than 20 permits for piling projects issued under the SLOPES IV program per year. Exceeding this limit will trigger the reinitiation provisions of this opinion.

**Capture.** Juvenile fish will be captured during work area isolation necessary to minimize construction-related disturbance of streambank and channel areas. Some of those fish will be injured or killed.

It is possible to estimate a numeric amount of take.

NMFS assumes that of the 195 actions per year that are likely to be funded or carried out under this opinion: (a) Approximately 70% (*i.e.*, 136 actions per year) will require in-water work area isolation; (b) each action requiring in-water work area isolation is likely to result in the capture of 100 or fewer of the 16 ESA-listed marine fish species considered in this opinion,<sup>10</sup> and (c) of those, less than 2% are likely to be injured or killed, including by delayed mortality, and the remainder are likely to survive with no long-term adverse effects. NMFS anticipates that up to 13,600 juvenile individuals of the fish species considered in the consultation will be captured, per year, and up to 272 juvenile individuals will be injured or killed, per year, (*i.e.*,  $195 \times 0.70 \times 100 = 13,500$ ; and  $13,500 \times 0.02 = 272$ ) as a result of work necessary to isolate in-water construction areas. Because these fish are from different species that are similar to each other in appearance and life history, and to unlisted species that occupy the same area, it is not possible to assign this take to individual species. NMFS does not anticipate that any adult fish will be taken in this manner. Thus, the threshold for reinitiating consultation is 13,600 juveniles captured and 272 killed. Exceeding either of these limits will trigger the reinitiation provisions of this opinion.

**Entrainment.** Juvenile fish will be captured by entrainment during dredging operations with a suction dredge. The use of a clamshell or bucket to dredge is less likely to entrain juveniles. Most fish that are entrained will be injured or killed. The exact number of juveniles

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<sup>10</sup> Because of the large size of subadult and adult southern green sturgeon, NMFS assumes that they are not likely to be captured during in-water work area isolation. Juvenile and adult eulachon may be captured in this way but, due to the recent listing of eulachon, monitoring data are not yet available to estimate how many.

that would be entrained cannot be determined due to extensive variables. Here the best indicator of take is the number of permits issued per year for dredging activities. Since 2001, NMFS has completed 180 consultations on dredging operations for the 10 year period ending at the end of 2011. Assuming a slight increase in rate of dredging (due to changes in river flows as a result of climate change), NMFS would not expect to see more than 20 permits issued under the SLOPES IV program in a given year. Exceeding this limit will trigger the reinitiation provisions of this opinion.

### **2.8.2 Effect of the Take**

In the accompanying biological opinion, NMFS determined that this level of anticipated take is not likely to result in jeopardy to the species.

### **2.8.3 Reasonable and Prudent Measures and Terms and Conditions**

“Reasonable and prudent measures” are nondiscretionary measures to minimize the amount or extent of incidental take (50 CFR 402.02). “Terms and conditions” implement the reasonable and prudent measures (50 CFR 402.14). These terms and conditions must be implemented for the exemption in section 7(o)(2) to apply.

#### ***Reasonable and Prudent Measures***

The following measures are necessary and appropriate to minimize the impact of incidental take of listed species from the proposed action.

The Corps shall:

1. Implement appropriate design criteria for each activity or attach them as required conditions of a permit.
2. Ensure completion of a monitoring and reporting program to confirm that the take exemption for the proposed action is not exceeded, and that the terms and conditions in this incidental take statement are effective in minimizing incidental take.

#### ***Terms and Conditions***

The measures described below are non-discretionary, and must be undertaken by the Corps or, if an applicant is involved, must become binding conditions of any permit or grant issued to the applicant. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require an applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) will likely lapse.

1. To implement reasonable and prudent measure #1 (proposed design criteria), the Corps shall ensure that:
  - a. Every action authorization or completed under this opinion will be administered by the Corps consistent with design criteria 1 through 10.
  - b. For each action with a general construction element, the Corps will apply design criteria 1 through 10 and 11 through 27 as enforceable permit conditions or as final project specifications.
  - c. For specific types of in-water or over-water actions, the Corps will apply design criteria 28 through 36, as appropriate, as enforceable conditions or as final project specifications.
  - d. Additional excluded areas for dock placement includes any area within 1,000 feet of a tributary that supports a run of ESA listed anadromous species.
  - e. Residential piers leading to ramps and floats are not wider than 8 feet.
  - f. Within 10 days of completing a capture and release as part of an action completed under the SLOPES IV In-water Over-water Structures programmatic opinion the applicant or, for Corps civil works actions, the Corps, must submit a complete a Salvage Reporting Form (Appendix C), or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov).
2. To implement reasonable and prudent measure #2 (monitoring and reporting), the Corps shall ensure that:
  - a. The Corps' Regulatory and Civil Works Branches will each submit a monitoring report to NMFS by February 15 each year that describes the Corps' implementation of the SLOPES IV program under the terms of this opinion. The report will include an assessment of overall program activity, a map showing the location and type of each action authorized and carried out under this opinion, and any other data or analyses the Corps deems necessary or helpful to assess habitat trends because of actions authorized under this opinion, and to assess the need for reinitiation<sup>11</sup>.
  - b. The Corps' Regulatory and Civil Works Branches will each attend an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this opinion, or make the program more efficient or more accountable.

**Failure to provide timely reporting would be a breach of these terms and conditions and thus the exemption in section 7(o)(2) would cease to apply. Failure to timely report may also provide grounds for reinitiation.**

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<sup>11</sup> This report should also include all the monitoring data that is relevant to take, i.e. number of fish injured or killed in connection with juvenile capture, the total linear feet of stream modified, the total square footage of floating structures placed in the Willamette and Columbia Rivers under the program, the total square footage of over-water and in-water structures created pursuant to the proposed action state-wide, and sediment monitoring,

## 2.9. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02). The following conservation recommendation is a discretionary measure that NMFS believes is consistent with this obligation and therefore should be carried out by the Federal action agency:

The Corps should conduct an analysis of boating activity (existing, proposed, and likely to be developed in the near future) on the Willamette River. This includes the number of public and private docks, launches, marinas and upland storage facilities, the types of boating activities and the seasonality of the usage, and the likely cumulative effects of the activity on the recovery of ESA-listed anadromous salmonid populations in the Willamette River.

Please notify NMFS if the Federal action agency carries out any of these recommendations so that we will be kept informed of actions that are intended to improve the conservation of listed species or their designated critical habitats.

## 2.10 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal action agency involvement or control over the action has been retained, or is authorized by law, and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action on listed species or designated critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect on the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

## 2.11 “Not Likely to Adversely Affect” Determinations

**Steller Sea Lion.** The eastern DPS of the Steller sea lion ranges from southeast Alaska south through California with an abundance estimated between 45,000 and 51,000 animals, an increase of 3% per year for 30 years. The northern portion of the Steller sea lion’s range, Southeast Alaska and British Columbia, account for 82% of total pup production while the southern and central California portion has experienced large declines (-90%). In Oregon, the total number of non-pup sea lions at the two rookeries (Rogue Reef and Orford Reef) and eight haulout sites has increased from 1,461 in 1977 to 4,169 in 2002, an annual rate of increase of 3.7%. As of 2002, the Oregon Steller sea lion abundance is approximately 5,000 animals (NMFS 2006b). Because of the current abundance of Steller sea lions and population increase over the last 30 years, current threats to recovery have not been identified. However, there are concerns regarding global climate change and the potential for the southern California range of sea lions to be adversely affected. The May 2006 draft of the Steller Sea Lion Recovery Plan suggests

initiating a status review for the eastern DPS for consideration of removing it from the federal List of Endangered Wildlife and Plants (NMFS 2006b).

Steller sea lions spend most of their time at sea feeding on a variety of fish species. The Steller sea lion is not known to migrate, but they disperse widely outside the breeding season (late May to early July) (Angliss & Outlaw 2005). Primary terrestrial habitats include remote islands, rocks, reefs, and beaches, often in areas exposed to wind and waves, where access by terrestrial predators is limited (NMFS 1992). Females appear to select birthing areas (known as rookeries) that are gently sloping and protected from waves; they will frequently return to the same pupping site in successive years. Pups normally stay on land for about two weeks (NMFS 1992), then spend an increasing amount of time in waters adjacent to rookeries, as will post-parturient females whose foraging range (usually in shallow waters within 20 nautical miles of the rookery) is restricted by the need to return to the rookery to nurse pups (58 FR 45269).

In addition to rookeries, haulouts are essential habitat for Steller sea lions. In Oregon, Steller sea lions may be found hauled out at Astoria East Mooring Basin and at the end of the South Jetty of the Columbia River, and also at Tillamook Rock, Three Arch Rocks, Cascade Head, Seal Rock, Sea Lion Caves, Cape Arago, Rogue Reef, Blacklock Point, Blanco Reef, Orford Reef, and Mack Reef. These haulouts can be used any time of the year. In addition, Steller sea lions have been observed foraging up to 8 miles upriver on the Rogue River during the spring and fall Chinook salmon runs. Small numbers of Steller sea lions may be found in the lower Rogue River at any time of the year since the largest rookery in the State is located just 2 miles northwest of the river mouth. Steller sea lions have also been observed foraging in the Columbia River as far upriver as Bonneville Dam (RM 146), primarily during the fall and spring salmon migration periods and during the winter smelt run. In Oregon, Steller sea lions may be found at any of the above-listed rookeries, haulout areas, or river mouths at any time of year; however, most occurrences in Oregon are during June and July, which corresponds with the Steller sea lion's reproduction period.

The Columbia River south jetty is used only as a haulout site with no known reproductive activity occurring there. Use has been observed only at the far west end of the jetty. Use can occur anytime of the year with the lowest abundance (approximately 200 to 300 individuals) from April through October. In winter, Steller sea lion abundance on the south jetty may be as high as 1,500 animals.

Critical habitat for the Steller sea lion was designated on September 27, 1993 and includes (in Oregon) an air and aquatic zone that extends 3,000 feet from any historically occupied sea lion rookery (58 FR 45269). In Oregon, the major rookeries designated as critical habitat are the Rogue Reef Pyramid Rock Site, the Orford Reef Long Brown Rock Site, and the Seal Rock Site (58 FR 45269). Not all known Steller sea lion locations in Oregon have been designated as critical habitat. The Three Arch National Wildlife Refuge in Tillamook County has a smaller, less successful rookery that is not designated, but is protected by a 500- foot buffer enforced by the Oregon Marine Board. Haulouts in Oregon are not included in critical habitat designation (58 FR 45269). For regulatory purposes, rookeries and haulout boundaries are defined as the mean lower-water mark (58 FR 45269).



Effects to Steller sea lions will primarily result from impacts associated with pile driving during construction. NMFS does not expect impacts to accrue from the other activities considered in this opinion.

NMFS reviewed projects since 2009 that would be covered under this programmatic biological opinion to determine the timing duration and potential impacts to Steller sea lions. Of the 16 projects that discussed total construction time needed for completion, 4 were for boat ramps, 5 for boat docks, and 8 for piling replacement. Time to complete a boat ramp ranged from 8 to 14 days. Time to construct a boat dock ranged from 2 to 27 days, depending on the size of the dock. Time to complete pile driving ranged from 2 days to 25 days. The number of days was dependent on the number of piles to be driven, with an average of 3 to 5 piles being driven in any one day. This indicates that the majority of the projects that would be covered under this opinion would be completed in a relatively short period of time, minimizing the potential to impact Steller sea lions.

NMFS uses conservative thresholds of sound exposure levels from broad band impulse sounds that cause behavioral disturbance (160 dB rms re: 1μPa) and injury (190 dB rms re: 1μPa for pinnipeds) (70 FR 1871). Pile driving will produce sound pressure waves with source levels above the 160 dB rms threshold for disturbance of marine mammals. The use of bubble curtains would reduce these impacts to levels that would not result in injury, but some disturbance would occur if they are present in the action area. NMFS expects that the design criteria requiring use of a monitoring plan and cessation of pile driving if Steller sea lions approach the work area would further minimize any potential impacts. Further design criteria that restrict pile driving in the Columbia River to the months of October and November would alleviate impacts, since Steller sea lions normally do not occur there during those months. Use of the proposed monitoring plan for Steller sea lions would also alleviate impacts.

Based on these minimization measures, NMFS finds that the effects of the proposed action are expected to be insignificant and/or discountable, and thus are not likely to adversely affect Steller sea lions.

### **3. MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

The consultation requirement of section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. The MSA (section 3) defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects on EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH.

This analysis is based, in part, on the EFH assessment provided by the Federal action agency and descriptions of EFH contained in the fishery management plans developed by the Pacific Fishery Management Council (PFMC) and approved by the Secretary of Commerce for coastal pelagic species (PFMC 1998), Pacific Coast groundfish (PFMC 2005), or Pacific Coast salmon (1999)

### **3.1 Essential Fish Habitat Affected by the Project**

The proposed action will affect EFH designated for coastal pelagic species, Pacific Coast groundfish, and Pacific Coast salmon, including estuaries designated as habitats areas of particular concern (HAPCs).

### **3.2 Adverse Effects on Essential Fish Habitat**

As described fully in the preceding sections, adverse effects may result from all of the proposed actions as follows:

- Preconstruction surveys may remove vegetation that will reduce or eliminate habitat, and increase turbidity.
- Construction activities may result in increased turbidity, contaminant release from fuel spills, sound pressure waves from pile driving, and increased predation from altered habitats that are preferred by predators.
- Boating activities may result in loss of aquatic vegetation and shoreline alteration.
- Access maintenance may increase turbidity and decrease prey abundance (short-term).
- Water quality may have an ephemeral reduction due to short-term construction needs, reduced riparian permeability, and increased riparian runoff; slight longer-term increase based on improved riparian function and floodplain connectivity.
- Water quality may be affected by a short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance.
- Substrate may be affected by a short-term reduction due to increased compaction and sedimentation.
- Floodplain connectivity may have both a short and long-term decrease due to increased compaction and riparian disturbance.
- Forage may have both a short and long-term decrease due to riparian and channel disturbance, loss of benthos from shading and long-term maintenance due to replaced riparian function from mitigation.
- Natural cover may have a short-term decrease due to riparian and channel disturbance; long-term maintenance due to replaced riparian function from mitigation.

### **3.3 Essential Fish Habitat Conservation Recommendations**

NMFS expects that full implementation of this EFH conservation recommendation would protect EFH, by avoiding or minimizing the adverse effects described in Section 3.2 above.

1. As appropriate to each action issued a regulatory permit under this opinion, NMFS recommends that the Corps include the project design criteria for administration,

construction, and types of actions as enforceable permit conditions, except #1 (confirm ESA-listed fish presence), #6 (salvage notice), and #20 (fish capture and release).

### **3.4 Statutory Response Requirement**

As required by section 305(b)(4)(B) of the MSA, the Federal action agency must provide a detailed response in writing to NMFS within 30 days after receiving an EFH conservation recommendation from NMFS. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH conservation recommendations, unless NMFS and the Federal action agency have agreed to use alternative time frames for the Federal action agency response. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NMFS' conservation recommendations, the Federal action agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects, 50 CFR 600.920(k)(1).

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH response and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

### **3.5 Supplemental Consultation**

The (Federal action agency) must reinstitute EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations, 50 CFR 600.920(l).

## **4. DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW**

Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554) (Data Quality Act) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the opinion addresses these Data Quality Act (DQA) components, documents compliance with the DQA, and certifies that this opinion has undergone pre-dissemination review.

**4.1 Utility:** Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users. The intended users are the Corps and applicants for a Corps permit involving in-water or over-water structures.

A copy was provided to the Corps with directions to provide a copy of relevant part to any successful applicant for a permit involving in-water or over-water structures. This consultation will be posted on the NMFS Northwest Region website (<http://www.nwr.noaa.gov>). The format and naming adheres to conventional standards for style.

**4.2 Integrity:** This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

#### **4.3 Objectivity:**

*Information Product Category:* Natural Resource Plan.

*Standards:* This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA Regulations, 50 CFR 402.01, *et seq.*, and the MSA implementing regulations regarding EFH, 50 CFR 600.920(j).

*Best Available Information:* This consultation and supporting documents use the best available information, as referenced in the Literature Cited section. The analyses in this opinion/EFH response contain more background on information sources and quality.

*Referencing:* All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

*Review Process:* This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with Northwest Region ESA quality control and assurance processes.

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**APPENDIX A: E-MAIL GUIDELINES FOR SLOPES IV IN-WATER OVER-  
WATER STRUCTURES & SLOPES IV-IN-WATER/OVERWATER  
STRUCTURES ACTION NOTIFICATION FORM**

## E-MAIL GUIDELINES FOR SLOPES IV PROGRAMMATIC

The **SLOPES IV** programmatic e-mail box ([slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov)) is to be used for actions submitted to the National Marine Fisheries Service (NMFS) by the Federal Action Agencies for formal consultation (50 CFR § 402.14) under SLOPES IV.

The Federal Action Agency must ensure the final project is being submitted to avoid multiple submittals and withdrawals. In rare occurrences, a withdrawal may be necessary and unavoidable. In this situation, please specify in the e-mail subject line that the project is being withdrawn. There is no form for a withdrawal, simply state the reason for the withdrawal and submit to the e-mail box, following the email titling conventions. If a previously-withdrawn notification is resubmitted later, this resubmittal will be regarded as a new action notification.

An automatic reply will be sent upon receipt, but no other communication will be sent from the programmatic e-mail box; this box is used for **Incoming Only**. All other pre-decisional communication should be conducted **outside** the use of the [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov) e-mail.

The Federal Action Agency will send only **one** project per e-mail submittal, and will attach all related documents. These documents **must be in pdf format** and will include the following:

1. Action Notification Form, the Action Completion Form, or the Salvage Report, Restoration/Compensatory mitigation Report
2. Map(s) and project design drawings (if applicable);
3. Final project plan.

In the subject line of the email (see below for requirements), clearly identify which SLOPES IV programmatic you are submitting under (Restoration, In-Water/Over-Water Structures, or Transportation), the specific submittal category (30-day approval, project completion, withdrawal, salvage report, or restoration/compensatory mitigation), the Corps Permit Number, the Applicant Name, County, Waterway, and State.

### E-mail Titling Conventions

Use caution when entering the necessary information in the subject line. **If these titling conventions are not used, the e-mail will not be accepted.** Ensure that you clearly identify:

1. Which SLOPES IV programmatic you are submitting under (Restoration, In-water/Over-water Structures, or Transportation);
2. The specific submittal category (30-day approval, action completion, withdrawal, salvage report, or restoration/compensatory mitigation report);
3. Corps Permit number;
4. Applicant Name (you may use last name only, or commonly used abbreviations);
5. County;
6. Waterway; and
7. State.

Examples:

(SLOPES IV Programmatic Specific Submittal Category, Corps Permit #, Applicant Name, County, Waterway, State)

Action Notification

*In-Water Over-Water, 200600999, Smith, Multnomah, Willamette, Oregon*

Project Completion

*In-Water Over-Water \_Completion, 200600999, Smith, Multnomah, Willamette, Oregon*

Salvage Report

*In-Water Over-Water \_Salvage, 200600999, Smith, Multnomah, Willamette, Oregon*

Restoration/Compensatory Mitigation

*In-Water Over-Water \_Restoration/Mitigation\_200600999, Smith, Multnomah, Willamette, Oregon*

Withdrawal

*In-Water Over-Water \_Withdrawal, 200600999, Smith, Multnomah, Willamette, Oregon*

**Project Description**

Please provide enough information for NMFS to be able to determine the effects of the action and whether the project fits the SLOPES criteria. Attach additional sheets if necessary. The project description should include information such as (but not limited to):

- Proposed in-water work including timing and duration
- Work area isolation and salvage plan including pumping, screening, electroshocking, fish handling, *etc.*
- Discussion of alternatives considered
- Description of any proposed mitigation
- Cross-section to show depth of over- and in-water structures.



## SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES ACTION NOTIFICATION FORM

Submit this completed action notification form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). The SLOPES IV Programmatic e-mail box is to be used for **Incoming Only**.

**NMFS Review and Approval**. All actions must be individually reviewed and approved by NMFS as consistent with this opinion before that action is authorized. NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified. Attach engineering designs and the results of a site assessment for contaminants to identify the type, quantity, and extent of any potential contamination.

Attach a copy of the erosion and pollution control plan, if required.

**DATE OF REQUEST:** \_\_\_\_\_

**NMFS Tracking #: 2011/05585**

**Statutory Authority:**    ☐ ESA ONLY ☐ EFH ONLY    ☐ ESA & EFH INTEGRATED

**Lead Action Agency:**    Corps of Engineers

**Action Agency Contact:** \_\_\_\_\_ Individual Corps Permit #: \_\_\_\_\_

**Applicant:** \_\_\_\_\_ Individual DSL Permit #: \_\_\_\_\_

**Action Title:** \_\_\_\_\_

**6<sup>th</sup> Field HUC & Name:** \_\_\_\_\_

**Latitude & Longitude**  
(including degrees,  
minutes, and seconds) \_\_\_\_\_

**Proposed Project:**                      *Start Date:* \_\_\_\_\_                      *End Date:* \_\_\_\_\_

**Action Description:**

**Type of Action:**

*Identify the type of action proposed.*

- ☐ In-water Over-water Structure
- ☐ Access Maintenance
- ☐ Piling Installation or Removal

- *What is the number of impact hammer strikes per pile?* \_\_\_\_\_
- *What is the number of hours/minutes required to drive one pile and all piles?* \_\_\_\_\_
- *What is the number of hours per day pile driving will occur?* \_\_\_\_\_
- *What is the depth of water and type of substrate the piles will be driven in?* \_\_\_\_\_
- *If an impact hammer is used, will it be the entire pile or the last few hits per pile?* \_\_\_\_\_
- *What is the diameter of the piles?* \_\_\_\_\_
- *Will pile-driving be continuous?* \_\_\_\_\_
- *Will be pile be driven straight or battered?* \_\_\_\_\_
- *Will a template be used?* \_\_\_\_\_
- *Pile type (H, round, etc)?* \_\_\_\_\_
- *When is pile-driving proposed?* \_\_\_\_\_
- *What life-stages are known to occur within the action area.* \_\_\_\_\_
- *If provided, what is the source of hydroacoustic assumptions?* \_\_\_\_\_
- *Installation plan/ schematics included?* \_\_\_\_\_
- *Pile spacing?* \_\_\_\_\_

**NMFS Species/Critical Habitat Present in Action Area:**

*Identify the species found in the action area:*

*Species:*

- ☐ Lower Columbia River Chinook
- ☐ Upper Willamette River spring-run Chinook
- ☐ Upper Columbia spring-run Chinook
- ☐ Snake River spring/summer run Chinook
- ☐ Snake River fall-run Chinook
- ☐ Columbia River chum
- ☐ Lower Columbia River coho
- ☐ Oregon Coast coho salmon
- ☐ Southern Oregon/Northern California coasts coho
- ☐ Snake River sockeye
- ☐ Lower Columbia River steelhead
- ☐ Upper Willamette River steelhead
- ☐ Middle Columbia River steelhead
- ☐ Upper Columbia River steelhead
- ☐ Snake River Basin steelhead
- ☐ Southern Green sturgeon
- ☐ Eulachon
  
- ☐ Steller sea lion

*EFH*

- ☐ Salmon
- ☐ Coastal Pelagics
- ☐ Groundfish

**Terms and Conditions:**

*Check the Terms and Conditions from the biological opinion that will be included as conditions on the permit issued for this proposed action. Please attach the appropriate plan(s) for this proposed action.*

Administrative

- ☐ Site access
- ☐ Salvage notice
- ☐ Action completion report
- ☐ Site restoration/mitigation report

Construction

- ☐ Pollution/erosion control
- ☐ Stormwater management
- ☐ Site restoration
- ☐ Compensatory mitigation
- ☐ Preconstruction activity
- ☐ Site preparation
- ☐ Heavy equipment
- ☐ In-water work period
- ☐ Work area isolation
- ☐ Capture and release
- ☐ Piling installation
- ☐ Impact hammer usage
- ☐ Pile driving near Stellar sea lions
- ☐ Piling removal
- ☐ Broken or intractable piling
- ☐ Treated wood
- ☐ Treated wood removal

Action Type

In-water Over-water Structure

- ☐ Boat ramps
- ☐ Educational signs
- ☐ Flotation material
- ☐ New or replacement floats
- ☐ Piscivorous birds
- ☐ Relocation of existing structures
- ☐ Repair/replacement of covered moorage/boat houses

Access Management

- ☐ Maintenance dredging

Minor Discharge

- ☐ Minor discharge

**APPENDIX B: SLOPES IV- IN-WATER OVER-WATER STRUCTURES ACTION  
COMPLETION FORM**

## SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES ACTION COMPLETION FORM

Within 60 days of completing all work below ordinary high water (OHW) as part of an action completed under the SLOPES IV In-water Over-water Structures programmatic opinion, submit the completed action completion form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov).

**Corps Permit #:**

**Corps Contact:**

**Action Title**

**Start and End Dates for the completion of in-water work:**

*Start:*

*End:*

**Any Dates work ceased due to high flows:**

### **Include With This Form:**

1. Photos of habitat conditions before, during, and after action completion
2. Evidence of compliance with fish screen criteria for any pump used
3. A summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort
4. Number, type, and diameter of any pilings removed or broken during removal
5. A description of any riparian area cleared within 150 feet of OHW
6. Linear feet of bank alteration
7. A description of site restoration
8. A completed Salvage Reporting Form from Appendix D for any action that requires fish salvage
9. As-Built drawings for any action involving riprap revetment, stormwater management facility, or bridge rehabilitation or replacement

**APPENDIX C: SLOPES IV- IN-WATER OVER-WATER STRUCTURES  
SALVAGE REPORTING FORM**

## **SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES SALVAGE REPORTING FORM**

Within 10 days of completing a capture and release as part of an action completed under the SLOPES IV In-water Over-water Structures programmatic opinion, the applicant or, for Corps civil works actions, the Corps, must submit a complete a Salvage Reporting Form, or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov).

**Corps Permit #:**

**Corps Contact:**

**Action Title**

**Date of Fish Salvage Operation:**

**Supervisory Fish Biologist (name, address  
& telephone number):**

### **Include With This Form:**

1. A description of methods used to isolate the work area, remove fish, minimize adverse effects on fish, and evaluate their effectiveness.
2. A description of the stream conditions before and following placement and removal of barriers.
3. A description of the number of fish handled, condition at release, number injured, and number killed by species.



**APPENDIX D: SLOPES IV- IN-WATER OVER-WATER STRUCTURES  
RESTORATION/COMPENSATORY MITIGATION REPORTING FORM**

## **SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES RESTORATION/COMPENSATORY MITIGATION REPORTING FORM**

By December 31 of any year in which the Corps approves that the site restoration or compensatory mitigation is complete, the Corps, must submit a complete a Site Restoration/Compensatory Mitigation Reporting Form, or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov).

**Corps Permit #:**

**Corps Contact:**

**Action Title:**

**Type of Activity:**

### **Include With This Form:**

1. Photos of habitat conditions before, during, and after action completion
2. Start and end date for the work
3. A summary of the results of mitigation or restoration work completed

Oregon Department of Transportation  
LOCAL AGENCY CERTIFICATION PROGRAM AGREEMENT

THIS AGREEMENT is made and entered into by and between THE STATE OF OREGON, acting by and through its Department of Transportation, hereinafter referred to as "State;" and County, acting by and through its elected officials, hereinafter referred to as "County," both herein referred to individually or collectively as "Party" or "Parties."

**RECITALS**

1. By the authority granted in Oregon Revised Statutes (ORS) 190.110 and 283.110, state agencies may enter into agreements with units of local government or other state agencies for the performance of any or all functions and activities that a party to the agreement, its officers or agents, have the authority to perform.
2. Under the authority of Title 23 United States Code (USC), the Federal Highway Administration (FHWA) is accountable for all programs under the Federal-Aid Highway Program; and State is responsible for project-level activities associated with Title 23 USC, Section 106. State, pursuant to the 2010 Oregon Department of Transportation Federal Aid Highway Program Stewardship and Oversight Plan (Stewardship Plan), is responsible for all reviews and approvals associated with the design, construction, award, and final inspection of federal-aid projects off the National Highway System (NHS), excluding the exceptions noted in said Plan. State, pursuant to Title 23 Code of Federal Regulations (CFR) Part 1.11, Title 23 CFR Part 635.105, and the Stewardship Plan, may further delegate certain federal-aid project authorities to well-qualified and suitably equipped local public agencies. State retains responsibility under federal law and regulations for all delegated activities.
3. The Local Agency Certification Program (Certification Program) allows State to certify a local agency's procedures and delegates authority to the Certified local agency to administer federal-aid projects that are not on the NHS.

**NOW THEREFORE**, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

**TERMS OF AGREEMENT**

As used in this Agreement, abbreviations shall mean as follows:

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
AKA	Also Known As
BOLI	Oregon State Bureau of Labor and Industries
CFR	Code of Federal Regulations
DBE	Disadvantaged Business Enterprise
DOJ	Department of Justice
EEO	Equal Employment Opportunity
FAPG	Federal-Aid Policy Guide

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FHWA	Federal Highway Administration
NHS	National Highway System
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OJT	On-the-Job Training
OMB	Office of Management and Budget
ORS	Oregon Revised Statutes
PS&E	Plans, Specifications and Estimates (includes schedule)
PTESC	Professional, Technical and Expert Services Contracts (This term, for the purpose of this Agreement, shall be synonymous with State's term "personal services contracts")
USC	United States Code
USDOT	United States Department of Transportation

### **Certification**

1. County is currently pursuing certification in: ***(If County is not seeking Certification in all areas, remove the areas in which it does not intend to become Certified from the following list:)*** consultant selection; design; advertising, bid and award; and construction contract administration. As a result, this Agreement grants authority to County, for those test projects identified under Paragraph three (3) of this Section, to ***(If County is not seeking Certification in all areas, remove the areas in which it does not intend to become Certified from the following list:)*** select consultants; design; advertise; bid and award; make contractor payments; provide construction contract administration; and ensure a construction quality assurance and quality control program for County's federal-aid non-NHS projects. In addition, County is authorized to pursue certification in the areas of: ***(If County is not seeking Certification in all areas, include any areas from the following list that County may choose to pursue later. List any area that was removed in the first sentence of this paragraph here. If County is seeking Certification in an area in the first sentence of this paragraph, remove that area from the following list:)*** consultant selection; design; advertising, bid and award; and construction contract administration provided County first contacts and works with State prior to commencing activities for County to become Certified in such new area(s). State shall retain responsibility for all environmental review, permitting, agreements or approvals that are necessary as a result of the federal action. State shall administer on behalf of County, State's Civil Rights Plan including the Disadvantaged Business Enterprise (DBE) program, Equal Employment Opportunity (EEO) program, and On-The-Job Training (OJT)/APPRENTICESHIP program. Professional, Technical and Expert Services Contracts (PTESC) shall conform to FHWA requirements and all requirements outlined under the subtitle "Professional, Technical and Expert Services Contracts" shown below in this Agreement. The language in this Agreement is written to cover all areas in which County could seek certification. If County is not seeking Certification status in all areas, then some language may not apply. County shall not perform design work beyond their area(s) of expertise, as identified through the Certification Program process.
2. County understands and agrees that only County's (insert name of County's Division, such as: Public Works Engineering Division here) has met all Certification criteria and that full Certification status is conditioned upon County's successful completion of test projects

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and written approval from State. County also understands and agrees that while federal-aid projects may originate from one or more of County's other divisions or departments, only County's (Insert proper County Division name here) and County's Certification Program Liaison shall provide quality control, oversight and have final approval authority for all such federal-aid projects and ensure that rules, regulations, and processes outlined in this Agreement are followed. County understands that **(If County is not seeking Certification in all areas, remove the areas in which it does not intend to become Certified from the following list:)** consultant selection, design, advertising, bid and award; and construction contract administration for County's federal-aid non-NHS projects shall be conducted only by (Insert proper County's Division name here).

3. County understands and agrees that it must successfully perform two (2) to four (4) test projects, which may be select project phases, and until successful, County shall retain Conditional Certification status. State will conduct performance measurement and quality assurance reviews during all phases of the test projects. At the conclusion of the second test project and each subsequent test project, an assessment will be made by County and State to determine whether County should proceed to full Certification status or continue with another test project. Upon successful completion of the test projects and written approval by State, County shall be fully Certified to administer future federal-aid projects that are not on the NHS in accordance with this Agreement.
4. State retains its responsibility to FHWA for the administration of all federal-aid projects. If requested by County, or if deemed necessary by State in order to meet its obligations to FHWA, State will act for County in other matters pertaining to projects. Prior to taking such action, State will confer with County concerning actions necessary to meet federal obligations.
5. State and County shall each assign a liaison to coordinate activities under this Agreement and assure that the interests of both Parties are considered during all phases of any projects. State's Regional Local Agency Liaison shall provide program advice and support as needed throughout all projects.
6. County understands and agrees that final approval for full Certification status is conducted through State's Active Transportation Section Certification Program Manager in conjunction with State's Region Manager and may be rescinded at any time upon County's written request or if, in the opinions of State's Active Transportation Section Certification Program Manager and State's Region Manager, it is necessary to do so. The rescission may be applied to all or part of the programs or projects approved under the Certification Program.
7. State shall conduct random oversight reviews on County's Certification Program and projects through State's Local Government Section at least once every two (2) years after County has been awarded full Certification status. State may, at any time, initiate a formal audit using professional auditing standards of a federal-aid project.
8. The terms of this Agreement shall begin on the date all required signatures are obtained and shall terminate twenty (20) years following the date all required signatures are obtained, unless extended by an executed amendment. This Agreement may also be

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terminated upon County's or State's written request pursuant to the "Termination" Section of this Agreement.

*Use the paragraph below if superseding previous Master Certification Agreement, if not superseding delete and number accordingly.*

9. This Agreement shall supersede and replace Agreement No. \_\_\_\_\_, and its subsequent amendment, in their entirety. Supplemental Project Agreements under Agreement No. \_\_\_\_\_ shall remain in full force and effect. It is agreed that all existing Supplemental Project Agreements entered into under the authority granted in Local Agency Certification Program Agreement No. \_\_\_\_\_ shall continue under the authority of Agreement No. \_\_\_\_\_, and shall be effectively amended with this Agreement to replace any references to Agreement No. \_\_\_\_\_ with a reference to Agreement No. \_\_\_\_\_. Invoices for construction, preliminary engineering and right of way work incurred prior to the replacement of Agreement No. \_\_\_\_\_ can be invoiced by County and paid for by State under Agreement No. \_\_\_\_\_ and the existing Supplemental Project Agreements.

#### **Certified Agency Performing Work For Non-Certified Agency**

1. County may perform work on behalf of a non-Certified agency in the areas in which County is Certified if County has obtained written approval from State. To obtain approval, County must submit a written request to State's Regional Local Agency Liaison with a copy to the State's Active Transportation Section Certification Program Manager. State's Regional Local Agency Liaison and State's Active Transportation Section Certification Program Manager will review the request and advise County in writing if the request is approved or denied.
2. If State approves County's request, the non-Certified agency and County must enter into a separate agreement which identifies the responsibilities between the two parties. County must submit a copy of the agreement to the State's Regional Local Agency Liaison and State's Active Transportation Section Certification Program Manager. The non-Certified agency must already have a signed federal-aid funding agreement with State on such a project. State and County will then enter into a Supplemental Project Agreement covering the non-Certified agency's project. County shall be responsible for the entire project, costs and non-participating costs. Long-term maintenance of a non-Certified agency project will be the responsibility of the non-Certified agency unless otherwise indicated in the Supplemental Project Agreement.

#### **Program Administration**

Projects must be consistent with the Regional Transportation Plan and appear in the Metropolitan Planning Organization's Transportation Improvement Program and State Transportation Improvement Program if the projects receive federal funding through Title 23 Code of Federal Regulations (CFR).

#### **Project Funding Request**

1. County shall submit a separate agreement to State for each project, hereinafter referred to as "Supplemental Project Agreement." The Supplemental Project Agreements will be

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signed by both County and State before any federal-aid project work begins. At least one (1) of County's approval authorities, as identified in the "Signature Authorities" Section of this Agreement, is required to sign the Supplemental Project Agreements. The Supplemental Project Agreements will, at a minimum, cover specific project details including project name, County's project manager's title or designee, description of work, schedule, and funding sources. The Supplemental Project Agreements shall include services to be provided by State, County, or others.

2. State shall submit a separate written project funding request to FHWA requesting approval of federal-aid participation for each project phase including a) Program Development (Planning), b) Preliminary Engineering (National Environmental Policy Act - NEPA, Permitting and Project Design), c) Right of Way Acquisition, d) Utilities, e) Construction Advertising, Bid and Award and f) Construction. Any work performed prior to acceptance by FHWA will be considered nonparticipating and paid for at County expense. County shall not proceed on any activity in which federal-aid participation is desired until such written approval for each corresponding phase is obtained by State. State shall notify County in writing when authorization to proceed has been received from FHWA. All work and records of such work shall be in conformance with FHWA rules and regulations. The federal funding for projects covered by individual Supplemental Project Agreements is contingent upon approval by FHWA.
3. County shall, on any project that uses federal funds in project development, submit final PS&E documents, construction schedule, environmental requirements and right of way certification to State's Regional Local Agency Liaison at least five (5) weeks prior to bid opening. State shall review such submittals and then submit a request to FHWA for approval of federal-aid participation for the construction phase when federal-aid participation is desired in this phase.

## Finance

1. Federal funds shall be applied toward individual project costs at the current federal-aid matching ratio, unless otherwise agreed to and allowed by law. County shall be responsible for the entire match amount for the federal funds and any portion of the individual projects, which are not covered by federal funding, unless otherwise agreed to and specified in the Supplemental Project Agreements. County must obtain written approval from State to use in-kind contributions rather than cash to satisfy all or part of the matching funds requirement. State considers County a subrecipient of the federal funds it receives as reimbursement under the Supplemental Project Agreements. The Catalog of Federal Domestic Assistance (CFDA) number and title for these Projects is 20.205, Highway Planning and Construction, unless otherwise indicated in the individual Supplemental Project Agreements.
2. County shall pay one hundred (100) percent of the cost of any item in which FHWA will not participate. If County has not repaid any non-participating costs, future allocations of federal funds, or allocations of State Highway Trust Funds to County may be withheld to pay the non-participating costs. If State approves County processes, procedures, or contract administration outside the *Local Agency Guidelines Manual* that result in items

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being declared non-participating by FHWA, such items deemed non-participating will be negotiated between County and State.

3. County agrees that costs incurred by State and County for services performed in connection with any phase on any individual federal-aid project shall be charged to the project, unless otherwise mutually agreed upon by the Parties. State will send an estimate of anticipated project service costs to County at thirty (30) percent plans review. Costs will be negotiated and reflected in the Supplemental Project Agreements. State shall simultaneously invoice FHWA and County for State's project costs, and County agrees to reimburse State for the federal-aid matching state share and any non-participating costs as determined in accordance with paragraph two (2), above upon receipt of invoice. Failure of County to make such payments to State may result in withholding of County's proportional allocation of State Highway Trust Funds until such costs are paid.
4. If County makes a written request for the cancellation of a federal-aid project, County shall bear one hundred (100) percent of all costs incurred as of the date of cancellation. If State was the sole cause of the cancellation, State shall bear one hundred (100) percent of all costs incurred. If it is determined that the cancellation was caused by third parties or circumstances beyond the control of State or County, County shall bear all costs, whether incurred by State or County, either directly or through contract services, and State shall bear any State administrative costs incurred.
5. County shall follow the requirements stated in the Single Audit Act. Local governments receiving five hundred thousand dollars (\$500,000) or more in federal funds must follow the requirements stated in the Single Audit Act. The Single Audit Act of 1984, PL 98-502 as amended by PL 104-156, described in OMB Circular A-133, requires local governments to obtain an audit that includes internal controls and compliance with federal laws and regulations of all federal-aid programs in which County participates. The cost of this audit can be partially prorated to the federal program.
6. County shall present invoices for one hundred (100) percent of actual costs incurred by County on behalf of each project directly to State's Regional Local Agency Liaison for review, approval and reimbursement to County. Such invoices shall a) have an invoice number, b) reference a vendor number, c) include a "remit to" name and address, d) reference this Certification Program Agreement Number e) include State's Expenditure Account number f) reference State's Supplemental Project Agreement number, g) identify the project by the project name in the Supplemental Project Agreement, and h) itemize and explain all expenses for which reimbursement is claimed. Invoices for services including, but not limited to, preliminary engineering and construction engineering shall be presented for periods of not less than one-month duration, based on actual expenses to date. (See paragraph seven (7) of Construction Activities and Administration of this Agreement for the construction contractor invoice period.) All invoices received from County must be approved by State's Regional Local Agency Liaison prior to payment. County's actual costs eligible for federal-aid or State participation shall be those allowable under the provisions of the Federal-Aid Policy Guide (FAPG), Title 23 CFR Parts 1.11, 140, and 710. Final invoices shall be submitted to State for processing within three (3) months from the end of each funding phase as follows: a)



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award date of a construction contract for preliminary engineering b) last payment for right of way acquisition and c) contract completion for construction. Partial invoices (progress payment) shall be submitted to State within three (3) months from the date that costs are incurred. Final invoices submitted after the three (3) months shall not be eligible for reimbursement. If County has an approved or Certified indirect cost rate proposal which applies to federal-aid projects, as defined in Title 2 CFR Part 225, that rate must be clearly outlined in any invoices, either as a line item or submitted in the invoice transmittal cover letter.

7. County shall, upon State's written request for reimbursement in accordance with Title 23, CFR Part 630.112(c) 1 and 2, as directed by FHWA, reimburse State for federal-aid funds distributed to County if any of the following events occur:
  - a. Right of way acquisition is not undertaken utilizing federal-aid funds or actual construction is not started by the close of the twentieth federal fiscal year following the federal fiscal year in which the federal-aid funds were authorized for right of way acquisition. County may submit a written request to State's Regional Local Agency Liaison for a time extension beyond the twenty (20) year limit with no repayment of Federal funds and State will forward the request to FHWA. FHWA may approve this request if it is considered reasonable.
  - b. Right of way acquisition or actual construction of the facility for which preliminary engineering is undertaken is not started by the close of the tenth federal fiscal year following the federal fiscal year in which the federal-aid funds were authorized. County may submit a written request to State's Regional Local Agency Liaison for a time extension beyond the ten (10) year limit with no repayment of Federal funds and State will forward the request to FHWA. FHWA may approve this request if it is considered reasonable.
8. County shall maintain all project documentation in keeping with State and FHWA standards and specifications for all individual projects. This shall include, but not be limited to, daily work records, quantity documentation, material invoices, quality documentation, certificates of origin, process control records, test results, and inspection records to ensure that projects are completed in conformance with approved plans and specifications.
9. State shall submit all claims received from County for federal-aid participation to FHWA in the normal manner and compile accurate cost accounting records. State shall pay County all reimbursable costs on each project. State may request from County a statement of costs to date at any time by submitting a written request. When the actual total cost of each project has been computed, County shall furnish State with an itemized statement of final costs. County shall pay one hundred (100) percent of the final total actual project costs. The actual cost of services provided by State will be covered in the Supplemental Project Agreements.
10. County agrees to refund to State all federal funds paid to County, if FHWA requests such funds from State, because County has not followed a process, rule or procedure outlined

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in County's Procedures, this Agreement or Supplemental Project Agreements. Refund from County shall be within thirty (30) days upon State's written notification. If County does not repay State within thirty (30) days, State shall withhold County's proportionate share of State Highway Trust Fund distribution until repayment has been made in full.

11. County shall, upon completion of each individual federal-aid project that constructs or improves any facility that would not be eligible for State Highway Trust Fund moneys subject to Oregon Constitution, Article IX, section 3a, complete and file with the appropriate County Clerk, a Memorandum of Agreement and Acknowledgment of Federal Assistance. The Memorandum of Agreement and Acknowledgement of Federal Assistance is marked as Exhibit A, attached hereto and by this reference made a part of this Agreement. In such circumstances, the individual Supplemental Project Agreement will include this Exhibit.

### **Standards**

1. In accordance with County's standard contract specifications and design standards manual, County shall include in the title sheet of the plans the following: federal-aid project number, location sketch, title of project, project limits, and a provision for approving official(s) signature(s) and date(s) and scale(s). A plan sheet index and list of applicable Oregon Standard Drawings will be included on the first sheet following the title sheet. County agrees that PS&E and construction plans shall, at a minimum, be in conformance with the current, State-approved edition of the following unless otherwise requested by County and approved by State, which are incorporated hereto by reference, and made a part of this Agreement:

***(Note: Active Transportation Section Certification Program Manager must determine if a, b and c apply on an individual basis.)***

- a. County's *Public Improvement Design Standards Manual*;
- b. County's Standard Construction Specifications;
- c. Construction Specifications Institute technical specifications and General Conditions of the Contract for Construction B;
- d. All AASHTO policies and guidelines;
- e. *Oregon Standard Specifications for Construction (APWA Oregon Chapter)* or County's *Standard Provisions* as approved by State;
- f. *Manual on Uniform Traffic Control Devices* and Oregon Supplements;
- g. *Transportation Research Board's Highway Capacity Manual*;
- h. Local Agency Certification Procedures found in the *Local Agency Guidelines Manual*;
- i. Title 23 and Title 49 USC and Title 23 and Title 49 Code of Federal Regulations (CFR);
- j. *FHWA Contract Administration Core Curriculum Participants Manual & Reference Guide*;
- k. *ODOT Right of Way Manual*;
- l. *Oregon Bicycle and Pedestrian Plan*; and
- m. *ODOT Bridge Section Load Rating Procedures. Use Tier 2 (LRFR) for bridges designed using Load Resistance Factor Design.*

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2. County must obtain State's written concurrence for any changes to the Part 100's, General Conditions, of the Standard Specifications for Construction before being added to the construction contract.
3. County agrees that design standards for all projects on the Oregon State Highway System shall be in compliance with standards specified in State's current edition of the *Highway Design Manual* and related references, which are incorporated hereto by reference and made a part of this Agreement. County agrees construction plans shall be in conformance with the standard practices of State for plans prepared by its own staff.
4. County shall verify that the installation of traffic control devices meets the warrants prescribed in the *Manual on Uniform Traffic Control Devices* and Oregon Supplements. County further understands and agrees that any installation of traffic control devices on or adjacent to State facilities requires the approval of the State Traffic Engineer or State's Region Traffic Engineer as described in the *ODOT Traffic Signal Policy and Guidelines* and the *ODOT Traffic Manual*.
5. The standard unit of measurement for all aspects of the project shall be English Units. All project documents and products shall be in English. This includes, but is not limited to, right of way, environmental documents, plans and specifications, and utilities.
6.
  - a. County shall, on all National Scenic Byways and All-American Road projects, include the America's Byways TM logo in publications, videos, and on other materials produced with National Scenic Byway Program funds. Where possible and in addition to the logo, County shall include the following statement: "Funded in part by FHWA".
  - b. County shall make photos, brochures, plans, designs, and videos funded with the National Scenic Byways Program funds available to the National Scenic Byways Program for use in presentations, publications, and posting on the websites.
  - c. The value of the required match on Scenic Byway and All-American road projects may come from donations or contributions. County shall be responsible for documenting the value of donations or contributions. County shall obtain approval from State's Transportation Program Office for any donations or contributions before the project begins. The services provided by County and match donations or contributions shall be described in an attachment to the Supplemental Project Agreement.
7.
  - a. County shall obtain approval from State's Active Transportation Section Certification Program Manager prior to commencing any in-house bridge design.
  - b. County shall, for On-System Bridge projects, be responsible for funding the road approach work on individual Supplemental Project Agreements. County shall submit a letter identifying the funding source for this work six (6) weeks prior to advertisement for bid opening of individual On-System Bridge projects.
  - c. County must provide written notification to State's Bridge Inventory Coordinator when a bridge project is complete so the initial inspection can be scheduled.
8. County must submit the following information for any bridge project to State's Senior Local

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Bridge Standards Engineer:

- a. As-Built Drawings (signed, final copy on mylar, "D" sized (24 x36) (containing final construction notes).
- b. A copy of the construction or contract drawings. These can be half size (11x17) and can be on paper.
- c. A copy of the foundation report.
- d. Pile Records. (If applicable).
- e. Hydraulic Reports (scour analysis report included in this report)
- f. Load Ratings Report Load Ratings Report (County shall notify the State's Senior Local Bridge Standards Engineer if there is a contract in place to load rate the bridge. If there is not a contract in place, County shall hire a consultant to obtain the load rating. County shall provide a stamped report to the State's Senior Local Bridge Standards Engineer when it is complete.)

### **Professional, Technical and Expert Services Contracts**

1. County shall conduct consultant selection processes to obtain Architectural and Engineering (A&E) and Non-A&E personal services consultants in accordance with all applicable state and federal laws, regulations and policies in the solicitation and award process of any Supplemental Project Agreements containing federal funds. County shall follow County's documented processes for consultant selection, which have been reviewed and approved by State and FHWA.
2. Upon written request, State may make Region's consultant services contracts available for preliminary engineering and/or construction engineering services for County's federal-aid projects. If County chooses to use said services, County agrees to manage the work done by the consultant and make funds available to State for payment of those services.
3. County or others may perform preliminary and construction engineering. In the event that County elects not to use County's Certified consultant selection process to engage the services of a professional, technical and expert services consultant to perform any work covered by this Agreement, County may request State's two-tiered consultant selection process as allowed by OAR 137-048-0260, or work with another Certified local agency to solicit consultants to perform architectural, engineering, land surveying and related services (A&E Services) as needed for federal-aid transportation projects. Use of any one of these process is required to ensure federal reimbursement. State, or another Certified agency through which the County chooses to obtain consultant services, will award and execute the contracts. State's personal services contracting process and resulting contract document will follow Title 23 CFR Part 172, Title 49 CFR Part 18, ORS 279A.055, 279C.110, 279C.125, Oregon Administrative Rule 137-048-0130 OAR 137-048-0220(4) and State Personal Services Contracting Procedures as approved by the FHWA. If County obtains consultant services from another Certified agency, that Certified agency will follow the processes approved by State for obtaining consultant services. Such personal services contract(s) shall contain a description of the work to be performed, a project schedule, and the method of payment. No reimbursement shall be made using federal-aid funds for any costs incurred by County or contractors, including any consultant, prior to receiving written authorization to proceed from State or Certified

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agency County engages to perform services. Any amendments to such contract(s) also require State's approval or the approval of Certified agency County engages to perform services.

### **Preliminary Engineering**

1. State shall, at project expense, review, process and approve or submit for approval to the federal regulators all environmental statements. State shall, if State prepares these documents, offer County the opportunity to review and approve the documents prior to advertising for bids.
2. County or its consultant shall, as a federal-aid participating preliminary engineering function, a) conduct the necessary field surveys, b) conduct environmental studies, c) conduct traffic investigations, d) conduct foundation explorations and hydraulic studies, e) either acquire or assist State with acquisition of necessary right of way and/or easements in accordance with the Right of Way section of this Agreement, and f) perform all preliminary engineering and design work required to produce final plans, preliminary/final specifications and cost estimates, g) conduct all public involvement processes and h) identify and obtain all required permits necessary for the construction of the project. Said permits shall include, but are not limited to, access, utility, environmental, construction, and approach permits. All pre-construction permits will be obtained prior to advertisement for construction. All design exceptions from AASHTO design standards shall be reviewed by State for concurrence prior to advertisement of final plans and specifications.

### **Right of way**

1. County and its consultant, if any, agree that right of way activities shall be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, ORS Chapter 35, FAPG, CFR, the *ODOT Right of Way Manual*, Title 23 CFR Part 710 and Title 49 CFR Part 24. State, at project expense, shall review all right of way activities engaged in by County to ensure compliance with all laws and regulations.
2. State is responsible for proper acquisition of the necessary right of way and easements for construction and maintenance of projects. County may perform acquisition of the necessary right of way and easements for construction and maintenance of projects provided County or its consultant are qualified to do such work, as required by the *ODOT Right of Way Manual*, and County has obtained prior approval from State's Region Right of Way office to do such work.
3. Regardless of who acquires or performs any of the right of way activities, a right of way services agreement shall be created by State's Region Right of Way office setting forth the responsibilities and activities to be accomplished by each Party. On any project that has the potential of needing additional right of way, to ensure compliance in the event that additional right of way is unexpectedly needed, a right of way services agreement will be required. State, at project expense, shall be responsible for requesting the obligation of project funding from FHWA. State, at project expense, shall be responsible for coordinating certification of the right of way, and providing oversight and monitoring. Funding authorization requests for federal right of way funds must be sent through State's

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Regional Local Agency Liaison, who will forward the request to State's Region Right of Way office on all projects. County must receive written authorization to proceed from State's Right of Way Section prior to beginning right of way activities. All projects must have right of way certification coordinated through State's Region Right of Way office to declare compliance and project readiness for construction (even for projects where no federal funds were used for right of way, but federal funds were used elsewhere on the project). County shall contact State's Regional Local Agency Liaison, who will contact State's Region Right of Way office for additional information or clarification on behalf of County.

4. County agrees that if any real property purchased with federal-aid participation is no longer needed for the originally authorized purpose, the disposition of such property shall be subject to applicable rules and regulations, which are in effect at the time of disposition. Reimbursement to State and FHWA of the required proportionate shares of the fair market value may be required.
5. County ensures that all project right of way monumentation will be conducted in conformance with ORS 209.155.

**Title VI**

1. County agrees to comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964, Title 49 CFR Part 21, and Executive Order 11246, relative to the employment practices under any contract awarded in conjunction with this Agreement. If County fails to comply with any federal or state Civil Rights requirements identified in this Agreement, sanctions may be imposed by FHWA or State as appropriate, including, but not limited to:
  - a. Withholding of payments to County under this Agreement until County causes compliance, or
  - b. Cancellation, termination, or suspension of this Agreement, in whole or in part.
2. County shall consider Title VI issues from the beginning of project development, through the entire project process, including project closure. County understands and agrees to comply with the Title VI requirements listed in the *Local Agency Guidelines Manual*, attached hereto by reference and made a part of this Agreement. In order to meet the requirements of the Title VI of the Civil Rights Act of 1964, County shall develop one of the following items, which must be approved by State's Office of Civil Rights.
  - a. A Title VI Program Plan (applicable to counties over 200,000 in population); or
  - b. A Title VI Program Plan or a Nondiscrimination Agreement (applicable to counties under 200,000 in population).
3. Complaint Procedures: County shall comply with Title VI by deferring all Civil Rights discrimination complaints to State's Office of Civil Rights and County must include the following language in any of its contracts under the certification program:

*"Any person who believes that he/she has been excluded from participation in, denied*

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*benefits or services of any program or activity administered by the Department or its subrecipients, consultants, and contractors on the basis of age, disability, race, color, national origin, sex, or income status may bring forth a complaint of discrimination under Title VI and related statutes to the Oregon Department of Transportation, Office of Civil Rights, 355 Capitol Street NE, Salem, Oregon, 97301, (503)986-3169.”*

## **Construction – Bid, Award and Contract Administration**

### **Civil Rights**

#### **Disadvantaged Business Enterprise (DBE), Equal Employment Opportunity Program (EEO), and On-the-Job Training (OJT) /APPRENTICESHIP**

1. County, its contractors and subcontractors shall comply with the “United States Department of Transportation (USDOT) Approved Disadvantaged Business Enterprise (DBE) Commitment Requirements” and the “USDOT Approved Disadvantaged Business Enterprise (DBE) Supplemental Required Contract Provisions,” incorporated hereto by reference and made a part of this Agreement. County shall send electronic copies of all completed Committed DBE Breakdown and Certification forms described in the “USDOT Approved DBE Commitment Requirements” to State’s Small Business and DBE Program Manager, with a copy to State’s Regional Local Agency Liaison, for review and approval. County shall not award any contracts under this Agreement prior to receiving written approval of said forms from State’s Small Business and DBE Program Manager. County agrees to ensure that the above provisions (including references therein) shall be incorporated into all contracts and subcontracts (regardless of tier) describing the work to be performed by DBEs on projects financed in whole or in part with federal funds. Failure by County to carry out these requirements on any project is a material breach of contract, which may result in the termination of the contract or such other remedy as State deems appropriate. Federal regulations Title 49 CFR Part 26, as approved by USDOT, are also incorporated by reference and shall be made a part of any contract specifications and this Agreement.
2. County, its contractors and subcontractors, shall not discriminate on the basis of race, color, national origin, or sex, in the award, administration, and performance of any federal-aid contract in the administration of DBE requirements under Title 49 CFR Part 26.
3. County, its contractors and subcontractors shall comply with the EEO and the OJT/APPRENTICESHIP requirements, as referenced in the *Local Agency Guidelines Manual*, incorporated hereto by reference and made a part of this Agreement. County agrees to ensure that the EEO and OJT/APPRENTICESHIP requirements listed in the *Local Agency Guidelines Manual* shall be a part of all solicitations for bids on all federal-aid construction contracts or subcontracts of ten thousand dollars (\$10,000) or more. Title 23 USC Section 140, Equal Employment Opportunity, as in effect on May 1, 1982, is incorporated hereto by reference and shall be made a part of any contract specifications and this Agreement. The OJT/APPRENTICESHIP requirements shall also be part of all solicitations for bids on all federal-aid construction contracts or subcontracts when OJT/APPRENTICESHIP is assigned and is in implementation of Title 23 USC Section 140(a). Federal regulations Title 23 CFR Part 230, as approved by USDOT, are also

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incorporated hereto by reference and shall be made a part of any contract specifications and this Agreement.

4. County, its contractors and subcontractors shall not discriminate on the basis of age, disability, race, color, national origin, sex, income status or religion in the award, administration, and performance of any federal-aid contract in the administration of EEO and OJT/APPRENTICESHIP requirements under Title 23 CFR Part 230.

5. County shall include in all construction bid books, relative to receiving federal-aid, the following paragraph.

*“The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR Part 26 in the award and administration of federal-aid contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as County deems appropriate.”*

6. State shall make available to County, by electronic medium, all current and pertinent DBE, EEO and OJT/APPRENTICESHIP forms. County will include the forms in County’s bid books, as defined in County’s manual and procedures as appropriate. State’s Office of Civil Rights will be available to provide EEO, OJT/APPRENTICESHIP and DBE training during the test projects.
7. State shall review and determine goals or requirements for DBE, and OJT/APPRENTICESHIP for each project as appropriate. To initiate this review, County shall submit to State’s Regional Local Agency Liaison, approximately thirteen (13) weeks before bid opening, the plans, specifications ninety (90) percent complete), engineer’s estimate, cost and completion data as well as the DBE/OJT/APPRENTICESHIP Civil Rights Sheet also known as (aka) “yellow sheet”) by electronic means, fax, or hard copy. State’s Regional Local Agency Liaison shall submit the documents to State’s Small Business/DBE Program Manager in the Office of Civil Rights. If County disagrees with State’s assigned goals or requirements for DBE and OJT/APPRENTICESHIP, County and State shall discuss, however, State will have final determination.
8. County understands that the DBE provisions and bid document inserts are required even if the DBE goal is set to zero (0). Federal regulations encourage contractors to involve DBE firms even if the DBE goal is zero (0). All prime bidders shall submit the Subcontractor Solicitation and Utilization Report (SSUR) (State form 734-2721) to the County within ten (10) days of bid opening. County shall forward the SSUR by electronic means or fax, to State’s Small Business/DBE Program Manager in the Office of Civil Rights regardless of whether the DBE goal is zero or not.
9. County shall fax or send a list of the prime bidders with bid amounts for all bidders to State’s Small Business/DBE Program Manager in the Office of Civil Rights. In addition, County shall forward appropriate Civil Rights form, “DBE Commitment Certification and Utilization Form”, 734-2785, and information within twenty-four (24) hours of bid opening. State’s Small Business Program Manager will evaluate the bids for DBE compliance and



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notify the County of the results. County shall not notify bidders of contract award until they have received the evaluation from State. After award, and prior to contract execution, County shall forward copies of all forms received by County from contractor(s) to State's Regional Local Agency Liaison within ten (10) days. The State's Regional Local Agency Liaison shall immediately forward a copy of all forms received to the State's Small Business Program Manager. After the contract is executed, County shall forward all forms received from contractor(s) to State's Regional Local Agency Liaison with ten (10) days. State's Regional Local Agency Liaison will forward all copies immediately to State's Small Business Program Manager.

10. County shall comply with the goals or requirements, for DBE, and OJT/APPRENTICESHIP established by State for each federal-aid project.
11. If County's lowest bidder has not met the DBE goal on a project, State's Office of Civil Rights shall determine if good-faith efforts were made and make a recommendation to County regarding award as it applies to meeting the DBE goal assigned for that particular project. If State's Office of Civil Rights determines that County's apparent low bidder has not made good faith efforts, State's Office of Civil Rights will provide a paragraph to be included in a letter to the contractor from County that the bidder is non-responsive. The paragraph will include the reason for the determination that the bid is non-responsive and provide the bidder an opportunity for administrative reconsideration. County shall use the information provided by State's Office of Civil Rights verbatim and make no changes to the wordage when submitting to the contractor. If the bidder requests administrative reconsideration, County shall notify State's Office of Civil Rights and State's Office of Civil Rights shall conduct the administrative reconsideration. State's Office of Civil Rights shall provide the results of the administrative reconsideration to County. County shall use the information provided by State's Office of Civil Rights verbatim and make no changes to the wordage when submitting to the contractor. County shall defend the administrative reconsideration committee decision with State and Department of Justice providing assistance.
12. If a protest is filed involving a DBE goal, State's Office of Civil Rights shall provide a written response to the protest and forward to County for finalizing and signature. County shall use verbatim the wordage provided by State's Office of Civil Rights in connection with the DBE goal issue. If County disagrees with the response, County may discuss with State's Office of Civil Rights, however State's Office of Civil Rights has the final determination.
13. State shall provide support, compliance monitoring and on-site reviews (as required) for the DBE, EEO, and OJT/APPRENTICESHIP programs. State shall deliver to County the Standard Precon package for each project. State shall act on behalf of County regarding all Civil Rights contract administration activities and shall report any discrepancies or issues to County, not the Contractor. County shall forward the "Committed DBE Breakdown and Certification Form" to State's Office of Civil Rights for verification that the DBE goal continues to be met. County maintains responsibility to uphold the DBE, EEO, and OJT/APPRENTICESHIP programs with the contractor.

## **Construction Activities and Administration**

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1. County understands and agrees that certification is only for the low bid contracting process. If County wishes to use an alternate method of bidding other than low bid, County shall contact State's Regional Local Agency Liaison to obtain State's and/or FHWA written approval.
2. County may use Additive Alternate Bidding (aka Bid Alternates). County's first Additive Alternate Bidding project using the Certification Program will be considered a test project and County will need to inform State's Regional Local Agency Liaison at ninety (90) percent PS&E.
3. County agrees that contract administration, quality control, quality assurance, material sampling and testing will be accomplished in accordance with County's current standards for federal-aid projects, or County may use State's current Construction Manual. Said manuals are incorporated hereto by reference, and made a part of this Agreement.
4. After receipt of ninety (90) percent PS&E, State shall determine whether state Bureau of Labor & Industries (BOLI) wage rates apply or if BOLI and federal Davis-Bacon wage rates must be compared and the higher of the two (2) rates paid per classification and inform County within ten (10) working days. County shall monitor labor compliance and prevailing wage rate compliance.
5. County shall include in the bid book the requirement of a bid guaranty in an amount not to exceed ten (10) percent of the bid amount; a performance bond in an amount equal to the full contract price; and a payment bond in the amount equal to the full contract price. Each bid guaranty, performance bond and each payment bond must be executed solely by a surety company or companies holding a certificate of authority to transact surety business in Oregon. County will ensure that State is included as either a dual obligee or a named additional obligee under the performance bond. Proof of said bonding will be provided to State's Regional Local Agency Liaison by the acquiring Party.
6. If County awards a construction contract, County shall follow County's materials quality program. County shall process and pay all contractor progress estimates, make final contractor payment, check final quantities and costs, and oversee and provide intermittent inspection services during the construction phase of each project.
7. State will reimburse County for construction contractor payments within ten (10) working days of receipt of payment request from County. Once State's Regional Local Agency Liaison has received invoice from County, State's Regional Local Agency Liaison shall forward the invoice to State's Financial Services Office for payment. Receipt of payment requests shall include the items listed in paragraph six (6) of Finance in this Agreement.
8. County shall prepare contract and bidding documents, advertise for bid proposals, award all contracts, and conduct all contract administration. Upon County's award of the construction contract, County, or its consultant, shall be responsible to perform all construction engineering, field testing of materials, technical inspection and project manager services for administration of the contract and making contractor payments.
9. County shall send State, within one (1) year following contract completion for construction,

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a final copy of "As Constructed" plans if a roadway project is on or affects the state highway system and for all bridge projects both on and off the state highway system where State has responsibility for inspection of such bridges.

### **Contract Claims and Contractor Change Orders**

1. County shall follow County's procedures for contractor claims and Contract Change Orders as described in County's standard for federal-aid projects. County's contract specifications are required to include a process for dispute and claim resolution. Those specifications must require a claims review by State of any unresolved claims prior to the contractor being allowed to pursue litigation. State will conduct claims reviews and will make independent determinations on contractor's entitlement and award of damages.
2. County cannot exceed any project authorization without following State's process, and obtaining approval for an increase in project authorization.
3. FHWA retains approval authority over:
  - a. Waiver for Buy American provisions;
  - b. Any sensitive or controversial change, or any change for which FHWA review and approval is specifically requested; and
  - c. Work not already approved by FHWA if approval is questionable.
4. State retains approval authority over the following Contract Change Orders, including:
  - a. Changes which affect environmental mitigation classification or commitments;
  - b. Right of way access control on or impacting State's facilities;
  - c. Changes in the scope of work or extension of the contract limits shown in the project documents approved by State and FHWA;
  - d. Any contract change altering the DBE goals or requirements;
  - e. Any impact or changes to traffic mobility including width, height, weight, length, access to the route or additional travel delay on or impacting State's facilities; and
  - f. Any change(s) resulting in less than AASHTO Design Standards for projects on the NHS.

### **Railroads**

County shall follow State established policy and procedures when impacts occur on railroad property. The policy and procedures are available through the appropriate State Regional Local Agency Liaison, who will contact State's Railroad Liaison on behalf of County. Only those costs allowable under Title 23 CFR Part 140 Subpart I, and Title 23 Part 646 Subpart B shall be included in the total project costs; all other costs associated with railroad work will be at the sole expense of County, or others. County may request State, in writing and at project expense, to provide railroad coordination and negotiations. However, State is under no obligation to agree to perform said duties.

### **Utilities**

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County shall follow State established statutes, policies and procedures when impacts occur to privately or publicly-owned utilities. Policy, procedures and forms are available through the State Utility Liaison or State's Regional Local Agency Liaison. County shall provide copies of all signed utility notifications, agreements and Utility Certification to the State Utility Liaison. Only those utility relocations, which are eligible for reimbursement under the FAPG, Title 23 CFR Part 645 Subpart A and B, shall be included in the total project costs; all other utility relocations shall be at the sole expense of County, or others. County may send a written request to State, at project expense, to arrange for utility relocations/adjustments lying within County jurisdiction. This request must be submitted no later than twenty-one (21) weeks prior to bid let date. However, State is under no obligation to agree to perform said duties. (County shall not perform any utility work on state highway right of way without first receiving written authorization from State).

### **Maintenance Responsibilities**

County shall, upon completion of each project, maintain, operate and provide power as needed to operate the projects at its own cost and expense for the useful life of each project. The useful life of each project shall be identified eight as (8) years for pavement overlay projects and twenty years (20) for all other projects, unless otherwise indicated in the individual Supplemental Project Agreements. In the event a project will include or affect a state highway, this provision does not address maintenance of that state highway.

### **Projects On or Impacting State Highway**

1. County shall contact the appropriate State District Office prior to commencement of work to determine if any permits are needed to occupy State right of way. County agrees to comply with all provisions of any State-issued permits to occupy or perform operations upon a state highway and to also obtain road approach permits from the State District Office if they are needed, according to OAR 734, Division 51. County agrees to comply with all provisions of required permits, and shall require its developers, contractors, subcontractors, or consultants performing such work to comply with such provisions.
2. Pursuant to OAR 734-020-0430, County shall obtain the approval of the State Traffic Engineer prior to the design and construction of any traffic signal to be installed on a state highway.
3. County and State shall enter into a separate traffic signal agreement to cover obligations for any traffic signal being installed on a state highway.
4. County, or its contractor's, electrical inspectors shall possess a current State Certified Traffic Signal Inspector certificate, in order to inspect electrical installations on state highways. The State District Permitting Office shall verify compliance with this requirement prior to construction. The permit fee should also cover the State electrician's supplemental inspection.
5. State shall, at project expense, perform the signal equipment environmental testing. State Signal Technicians shall, at project expense, perform the signal field testing, and turn-on.

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6. Traffic signal timing shall be the responsibility of State, unless there is an agreement that specifically allows County to perform that function. State shall retain the right of review of the traffic signal timing for signals on state highways, or those which State maintains, and shall reserve the right to request adjustments when needed. In cases where County modifies timing to add railroad or emergency vehicle preemption, bus priority, or other changes that affect vehicle or pedestrian clearances, or operation of the state highway, such modifications shall be reported to State's Region Traffic Engineer. State's Region Traffic Engineer will notify County whenever timing changes that affect the operation of local street connections to the state highway are scheduled. All modifications shall follow guidelines set forth in the current *Manual on Uniform Traffic Control Devices*, and the current *ODOT Traffic Signal Policy and Guidelines*.
7. County shall, upon completion of individual projects and at its own expense, maintain the pavement surrounding the vehicle detector loops installed in County roads and streets in such a manner as to provide adequate protection for said detector loops. Failure to do so may result in State requiring County to repair or replace the damaged loops at County expense. Future County roadwork activities involving the detector loops may also result in the same State requirements. County shall also adequately maintain the pavement markings and signing installed in accordance with the approved signal plan sheets for the signal installation or current *Manual on Uniform Traffic Control Devices* standards.
8. State shall, upon completion of individual projects and at its own expense, maintain the pavement surrounding the vehicle detector loops installed in the state highway in such a manner as to provide adequate protection for said detector loops. State shall also adequately maintain the pavement markings and signing installed on the state highway in accordance with current State standards.
9. County shall include the following stipulations in the Special Provisions for construction contract work for any project where County is contracting work on a state highway:
  - a. Contractor shall name State as a third party beneficiary of the resulting contract.
  - b. Contractor shall indemnify, defend and hold harmless County, State and their officers, employees and agents from and against all claims, suits, actions, losses, damages, liabilities, costs and expenses of any nature whatsoever resulting from, arising out of, or relating to the activities of contractor or its officers, employees, subcontractors, or agents under the resulting contract.
  - c. Commercial General Liability. Contractor shall obtain, at contractor's expense, and keep in effect during the term of the resulting contract, Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverages that are satisfactory to State and County. This insurance shall include personal and advertising injury liability, products and completed operations. Coverage may be written in combination with Automobile Liability Insurance (with separate limits). Coverage shall be written on an occurrence basis. If written in conjunction with Automobile Liability the combined single limit per occurrence shall not be less than one million dollars (\$1,000,000) for each job site or location. Each annual aggregate limit shall not be less than two million dollars (\$2,000,000.)

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- d. Automobile Liability. Contractor shall obtain, at contractor's expense, and keep in effect during the term of the resulting contract, Commercial Business Automobile Liability Insurance covering all owned, non-owned, or hired vehicles. This coverage may be written in combination with the Commercial General Liability Insurance (with separate limits). Combined single limit per occurrence shall not be less than one million dollars (\$1,000,000.)
  - e. Additional Insured. The liability insurance coverage, except Professional Liability, Errors and Omissions, or Workers' Compensation, if included, required for performance of the resulting contract shall include State and County and its divisions, officers and employees as Additional Insured but only with respect to the contractor's activities to be performed under the resulting contract. Coverage shall be primary and non-contributory with any other insurance and self-insurance.
  - f. Notice of Cancellation or Change. There shall be no cancellation, material change, potential exhaustion of aggregate limits or non-renewal of insurance coverage(s) without thirty (30) days written notice from the contractor or its insurer(s) to State and County. Any failure to comply with the reporting provisions of this clause shall constitute a material breach of the resulting contract and shall be grounds for immediate termination of the resulting contract and this Agreement.
  - g. County shall require its contractor(s) and/or subcontractor(s) as appropriate to acquire construction and performance bonding covering State's interests where project construction affects State property. State will be included as either a dual obligee or a named additional obligee under the performance bond. Proof of said bonding will be provided to State's Regional Local Agency Liaison by the acquiring Party. If County fails to meet the requirements of this paragraph or the underlying agreement conditions, including all incorporated state and federal laws, rules and regulations and costs are incurred by State because of it, State may withhold County's proportional share of Highway Trust Fund distribution necessary to reimburse State for those costs.
10. Traffic signal, illumination poles and foundations installed on state highways shall conform to State's standards, pursuant to State's Traffic Structures Design Manual and Geotechnical Design Manual.
11. County shall be responsible for any behind the curb improvements including areas located within highway right of way. Such improvements shall be maintained at the same level as are similar facilities owned by State. County may require the adjacent property owners to fund or perform maintenance of the behind the curb improvements. County shall remain responsible for compliance with the terms of this Agreement, and for the performance of such work, even when maintenance is performed by County contractors or property owners, or if right of way behind the curb is partly or entirely on state highway right of way.
12. County shall maintain the landscaping and irrigation to be installed for all improvements behind the curbs or roadway. Maintenance along and on highway shall include replacement of dead or dying plants and trees, removal of litter, removal of weeds or weed control and tree trimming to maintain a seventeen (17) foot clear zone in the travel lane, leaf removal and irrigation for healthy sustainability of said landscaping.

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13. County shall be responsible for one hundred (100) percent of water and power costs associated with the landscape and irrigation installed as part of improvements behind the curbs or roadway. County shall ensure that the water and power companies send water and power bills directly to County.
14. State grants County or others designated by County and permitted by State District Permitting Office, permission to access State right of way for the purpose of maintaining project-related landscaping and sidewalks. In lieu of State district permits, State hereby grants County or others designated by County the right to enter and occupy State right of way for the purpose of routine maintenance of all project related landscaping and sidewalk improvements. County shall contact State's Regional Local Agency Liaison to determine if a permit is required from State's District Office for all other activities beyond the listed routine maintenance prior to commencing activities.
15. County grants State or others designated by State the right to enter onto and occupy County right of way for the purpose of inspection, audit, maintenance and operation of State owned and other designated facilities, and performance of any other State duty or obligations.
16. County shall be responsible for the cost of decorative embellishment on any signal or separate illumination poles and shall be responsible for any decorative embellishment maintenance on such poles upon completion of County projects. Any decorative lighting shall be the responsibility of County for both power costs and maintenance. Such illumination shall be served by a separate system from the signal system. Any such additional illumination on the highway must be reviewed by the office of the State Traffic Engineer. State District Office shall coordinate all such reviews. Decorative poles and foundations installed on state highways must conform to State's standards, pursuant to Technical Bulletin TR07-06(B).
17. State may conduct periodic inspections during the life of County certification projects to verify that projects are being properly maintained and continue to serve the purpose for which federal funds were provided.
18. State shall, at its own expense, maintain and operate the portions of the individual projects on state highway right of way.

### **General Provisions**

1. County further agrees to comply with all applicable Civil Rights laws, rules and regulations, including Title V and Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA), and Titles VI and VII of the Civil Rights Act of 1964.
2. County agrees and understands that it will conduct all contracting in compliance with all applicable federal, state, and local laws, regulations, executive orders and ordinances applicable to the work including, but not limited to, the provisions of ORS Chapters 279A, 279B, and 279C, the provisions of ORS 279C.505, 279C.515, 279C.520, 279.530, and 279B.270, Title 2 CFR Part 225; Title 23 CFR Parts 1.11, 140, 710, and 771; Title 49 CFR

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Parts 18, 24 and 26; and OMB CIRCULAR NO. A-133; Title 23, USC, Federal-Aid Highway Act; Title 41, Chapter 1, USC 51-58, Anti-Kickback Act; Title 42 USC; Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, as amended and provisions of the FAPG. *FHWA Contract Administration Core Curriculum Participants Manual & Reference Guide, Local Contract Review Board Contracting Rules*, and County's applicable contracting rules of procedure adopted pursuant 279A.060 and 279A.065(5).

3. County acknowledges and agrees that State, the Oregon Secretary of State's Office, USDOT Office of Inspector General, FHWA, any other federal government agency, and their duly authorized representatives shall have access to such fiscal records and other books, project documents, papers, plans and writings of County pertaining to work covered by the Supplemental Project Agreements to perform examinations and audits and make excerpts and transcripts. County is responsible for using its procedures, as approved by State, for project documentation and long term retention of project documentation. In all contracts, County shall expressly require that the contractor and subcontractor(s) maintain the records and keep the records accessible and available at reasonable times and places for a minimum period of six (6) years from the date of final payment under the contract or subcontract or until the conclusion of any audit, controversy or litigation arising out of or related to the contract, whichever date is later, unless a different period is required by law. See the Secretary of State's Retention Schedule; e.g. OAR Chapter 166, Division 150 for counties and Division 300 for state agencies. This shall include, but is not limited to:

- a. daily work records;
- b. quantity documentation;
- c. material invoices and quality documentation;
- d. certificate of materials origin;
- e. process control records;
- f. project diary;
- g. erosion control reports;
- h. temporary protection and direction of traffic reports;
- i. foreign steel summary;
- j. test results; and
- k. inspection records to ensure that projects are completed in conformance with approved plans and specifications.

4. County shall retain and keep all files and records for a minimum of six (6) years following the date of final voucher to FHWA. Copies of such records and accounts shall be made available upon request. For real property and equipment, the retention period starts from the date of disposition (Title 49 CFR Part 18 Subpart 42).

## **County and State Indemnifications**

### **CONTRIBUTION**

1. If any third party makes any claim or brings any action, suit or proceeding alleging a tort as now or hereafter defined in ORS 30.260 ("Third Party Claim") against State or County



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with respect to which the other Party may have liability, the notified Party must promptly notify the other Party in writing of the Third Party Claim and deliver to the other Party a copy of the claim, process, and all legal pleadings with respect to the Third Party Claim. Each Party is entitled to participate in the defense of a Third Party Claim, and to defend a Third Party Claim with counsel of its own choosing. Receipt by a Party of the notice and copies required in this paragraph and meaningful opportunity for the Party to participate in the investigation, defense and settlement of the Third Party Claim with counsel of its own choosing are conditions precedent to that Party's liability with respect to the Third Party Claim.

2. With respect to a Third Party Claim for which State is jointly liable with County (or would be if joined in the Third Party Claim ), State shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by County in such proportion as is appropriate to reflect the relative fault of State on the one hand and of County on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of State on the one hand and of County on the other hand shall be determined by reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. State's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if State had sole liability in the proceeding.
3. With respect to a Third Party Claim for which County is jointly liable with State (or would be if joined in the Third Party Claim), County shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by State in such proportion as is appropriate to reflect the relative fault of County on the one hand and of State on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of County on the one hand and of State on the other hand shall be determined by reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. County's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if it had sole liability in the proceeding.

#### ALTERNATIVE DISPUTE RESOLUTION

The Parties shall attempt in good faith to resolve any dispute arising out of this Agreement and Supplemental Project Agreements. In addition, the Parties may agree to utilize a jointly selected mediator or arbitrator (for non-binding arbitration) to resolve the dispute short of litigation.

#### INDEMNIFICATION

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1. County shall require its contractor(s) and subcontractor(s) that are not units of local government as defined in ORS 190.003, if any, to indemnify, defend, save and hold harmless the State of Oregon, Oregon Transportation Commission and its members, Department of Transportation and its officers, employees and agents from and against any and all claims, actions, liabilities, damages, losses, or expenses, including attorneys' fees, arising from a tort, as now or hereafter defined in ORS 30.260, caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of County's contractor or any of the officers, agents, employees or subcontractors of the contractor("Claims"). It is the specific intention of the Parties that State shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of State, be indemnified by the contractor and subcontractor from and against any and all Claims.
2. Any such indemnification shall also provide that neither County's contractor and subcontractor nor any attorney engaged by County's contractor and subcontractor shall defend any claim in the name of the State of Oregon or any agency of the State of Oregon, nor purport to act as legal representative of the State of Oregon or any of its agencies, without the prior written consent of the Oregon Attorney General. The State of Oregon may, at anytime at its election assume its own defense and settlement in the event that it determines that County's contractor is prohibited from defending the State of Oregon, or that County's contractor is not adequately defending the State of Oregon's interests, or that an important governmental principle is at issue or that it is in the best interests of the State of Oregon to do so. The State of Oregon reserves all rights to pursue claims it may have against County's contractor if the State of Oregon elects to assume its own defense.
3. County, subject to any limitations imposed by State law and the Oregon Constitution, agrees that on all projects where County is contracting for services pursuant to this Agreement or performing project management for the project to accept all responsibility, defend lawsuits, indemnify and hold State harmless, for all contract related claims and suits, including but not limited to all contract claims brought by any contractor arising out of the contractor's work, County's supervision of any individual project, or County's failure to comply with the terms of this Agreement and Supplemental Project Agreements.

**Insurance**

1. County shall require its contractor(s) to list the State of Oregon, Oregon Transportation Commission and its members, and Department of Transportation, its officers and employees, as additional insured in the insurance certificates required of contractor(s) under any contract. Prior to Notice to Proceed, contractor shall provide insurance certificates to County. For railroad insurance, the maximum dollar amounts of coverage to be reimbursed for federal funds with respect to bodily injury, death and property damage is limited to a combined amount of two million dollars (\$2,000,000) per occurrence with an aggregate of six million dollars (\$6,000,000) applying separately to each annual period. FHWA must approve any exceptions to the maximum railroad protective insurance limits. County should contact local railroad for insurance requirements. The required insurance coverage shall be in effect for the life of the contract.
2. County shall include State as a third party beneficiary in the specifications of County's

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construction contract on any projects, with express authority to enforce the terms and conditions of the contract.

### **Workers' Compensation Coverage**

All employers, including County, that employ subject workers who work under this Agreement in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage unless such employers are exempt under ORS 656.126. Employers Liability Insurance with coverage limits of not less than five hundred thousand dollars (\$500,000) must be included. County shall ensure that each of its contractors complies with these requirements.

### **Termination**

1. This Agreement or Supplemental Project Agreements may be terminated by mutual written consent of both Parties.
2. State may terminate or rescind this Agreement or Supplemental Project Agreements if County fails to comply with the requirements of the above-mentioned agreements, and after receipt of written notice from State, fails to correct such compliance issue within ten (10) days or such longer period as State may authorize.
3. State may terminate this Agreement or Supplemental Project Agreements effective upon delivery of written notice to County, or at such later date as may be established by State, under any of the following conditions:
  - a. If State fails to receive funding, appropriations, limitations or other expenditure authority sufficient to allow State, in the exercise of its reasonable administrative discretion, to continue to make federal fund reimbursements to County as provided under the Certification Program.
  - b. If federal or state laws, regulations or guidelines are modified or interpreted in such a way that either the Certification Program is prohibited or State is prohibited from reimbursing County with federal funds.
4. Any termination of this Agreement or Supplemental Project Agreements shall not prejudice any rights or obligations accrued to the Parties prior to termination.

### **Lobbying Restrictions** – pursuant to Form FHWA-1273, Required Contract Provisions

1. County certifies by signing the Agreement that:
  - a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or

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cooperative agreement.

- b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit, for each Supplemental Project Agreement, Standard Form-LLL "Disclosure Form to Report Lobbying," in accordance with its instructions.
- c. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts and subcontracts under grants, subgrants, loans, and cooperative agreements) which exceed one hundred thousand dollars (\$100,000), and that all such subrecipients shall certify and disclose accordingly.
- d. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Title 31, USC Section 1352.
- e. Any person who fails to file the required certification shall be subject to a civil penalty of not less than ten thousand dollars (\$10,000) and not more than one hundred thousand dollars (\$100,000) for each such failure.

### **Signature Authorities**

- 1. County agrees that it has the means to provide adequate expertise and has support staff available to perform the functions being subdelegated. The support staff may include consultants or state services. County shall ensure that any contracts entered into with consultants, contractors or subcontractors shall adhere to the same requirements as those required of County under this Agreement.
- 2. County's approval authorities for any work performed by County under conditional certification, and after final certification has been granted, shall be identified in a letter to be provided to State. The letter must be sent to State's Active Transportation Section Certification Program Manager upon execution of this Agreement. If any of the titles identified by County as having approval authority change, County shall immediately send a new letter to State's Active Transportation Section Certification Program Manager and State's Region Manager identifying all the Parties by title that have approval authority. State's Active Transportation Section Certification Program Manager will provide a copy of any updates to the State's Regional Local Agency Liaison. County agrees that the signatures on each project prospectus, Supplemental Project Agreement, contract, and all project development phases shall adhere to said approval authority.
- 3. County certifies and represents that the individual(s) signing this Agreement has been authorized to enter into and execute this Agreement on behalf of County, under the direction or approval of its governing body, commission, board, officers, members or

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representatives, and to legally bind County.

4. The provisions of this Agreement shall apply to all federal-aid Supplemental Project Agreements County enters into with State. If needed, and agreed to by both State and County, the provisions of this Agreement may be modified by use of special provisions in the Supplemental Project Agreements. In the event of a conflict, the Supplemental Project Agreement shall control over this Agreement.
5. This Agreement may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this Agreement so executed shall constitute an original.
6. This Agreement and the attached exhibits constitutes the entire agreement between the Parties on the subject matter hereof. Supplemental Project Agreements will incorporate this Agreement and the exhibit(s) for purposes of those specific projects. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. No waiver, consent, modification or change of terms of this Agreement shall bind either Party unless in writing and signed by both Parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of State to enforce any provision of this Agreement shall not constitute a waiver by State of that or any other provision.

**THE PARTIES**, by execution of this Agreement, hereby acknowledges that their signing representatives have read this Agreement, understand it, and agree to be bound by its terms and conditions.

**Signature Page to Follow**

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**COUNTY**, acting by and through its  
elected officials

By \_\_\_\_\_  
County Commissioner, Chair

Date \_\_\_\_\_

By \_\_\_\_\_

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
County Legal Counsel

Date \_\_\_\_\_

**County Contact:**

Name/Title  
Address  
Phone  
Email

**State Contact:**

Name/Title  
Address  
Phone  
Email

**STATE OF OREGON**, acting by and  
through its Department of Transportation

By \_\_\_\_\_  
Highway Division Administrator

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By \_\_\_\_\_  
Active Transportation Section Manager

Date \_\_\_\_\_

By \_\_\_\_\_  
Region                      Manager

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
Assistant Attorney General

Date \_\_\_\_\_

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STATE OF OREGON  
DEPARTMENT OF TRANSPORTATION

County is seeking Certification status in the following functional areas as marked below:

- ☐ Consultant Selection
- ☐ Design
- ☐ Advertise, Bid and Award
- ☐ Construction Contract Administration

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After recording, return to:

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**EXHIBIT A**

**MEMORANDUM OF AGREEMENT AND ACKNOWLEDGEMENT OF FEDERAL ASSISTANCE**  
**[State Recording Authority: ORS 93.710 and ORS 205.130(2)]**

Agreement Number:

Project Name:

Key Number:

Supplemental Project Agreement No. \_\_\_\_\_ between the (Insert County Name) and the State of Oregon, Department of Transportation was executed on \_\_\_\_\_. Pursuant to paragraph \_\_\_\_\_, County Obligations, page \_\_\_\_\_ of the Supplemental Project Agreement, upon the recording of this document, the (Insert County Name) received federal funds for the Project described in the Supplemental Project Agreement. The property and assets under the jurisdiction of the (Insert County Name) were improved with the assistance from the United States Government. Such assistance was provided to (Insert County Name), in reimbursement of costs associated with the (Insert County Name). The use and disposition of said property is subject to the terms of the above noted Supplemental Project Agreement, copies of which may be obtained from the Director of ODOT and is also subject to 49 CFR Part 18. A description of the improved property is attached.

(Insert County Name)

By: \_\_\_\_\_  
(Name of person)

(Notary Stamp)

Title: \_\_\_\_\_

State of Oregon: County of \_\_\_\_\_

Signed or attested before me on \_\_\_\_\_ by \_\_\_\_\_  
(Date) (name(s) of person(s))

\_\_\_\_\_ My commission expires on \_\_\_\_\_.

---

**STATE OF OREGON, DEPARTMENT OF TRANSPORTATION**

By: \_\_\_\_\_  
Darel Capps

(Notary Stamp)

Title: Active Transportation Section Manager

Signed or attested before me on \_\_\_\_\_ by \_\_\_\_\_  
(Date) (name(s) of person(s))

\_\_\_\_\_ My commission expires on \_\_\_\_\_.



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Oregon Department of Transportation; 555 13<sup>th</sup> St. NE, Suite 2; Salem, OR 97301.

Misc. Contracts and Agreements No. \_\_\_\_\_  
Cross Ref. Master Certification Agreement \_\_\_\_\_

(Without State Impact)  
Oregon Department of Transportation  
LOCAL AGENCY CERTIFICATION PROGRAM  
Supplemental Project Agreement No. **Insert Project Name**

THIS AGREEMENT is made and entered into by and between THE STATE OF OREGON, acting by and through its Department of Transportation, hereinafter referred to as "State;" and the \_\_\_\_\_ acting by and through its elected officials, hereinafter referred to as "City," both herein referred to individually or collectively as "Party" or "Parties."

## RECITALS

1. By the authority granted in Local Agency Certification Program Agreement No. \_\_\_\_\_ incorporated herein and by this reference made a part hereof, State may enter into this Supplemental Project Agreement with City for the performance of work on this improvement Project. The Certification Program allows State to certify a Local Agency's procedures and delegates authority to the certified Local Agency to administer federal-aid projects that are not on the National Highway System.

**To identify jurisdiction of the road or street system, choose one paragraph no. 2**

2. \_\_\_\_\_ is a part of the City's **street system or city or public improvement** under the jurisdiction and control of City.
2. \_\_\_\_\_, is a part of the State highway system under the jurisdiction and control of the Oregon Transportation Commission. \_\_\_\_\_ is a part of the **(city street system or city public improvement)** under the jurisdiction and control of City.

**If this Supplemental Project Agreement is a required test project for conditional certification, insert the following paragraph number 3, otherwise delete.**

3. The Project in this Supplemental Project Agreement is one of the required test projects that constitute conditional certification described in Local Agency Certification Program (Certification Program) Agreement No. \_\_\_\_\_

**NOW THEREFORE**, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

## TERMS OF AGREEMENT

1. Under such authority, City agrees to \_\_\_\_\_, hereinafter referred to as "Project". The location of the Project is shown on the sketch map attached hereto, marked "Exhibit A" and by this reference made a part hereof.

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2. The total estimated cost of the Project is \$ , which is subject to change.
3. The Project shall be conducted as a part of the (enter program: ie, Federal-Aid Surface Transportation Program (STP) or Transportation Enhancement Program, etc.) under Title 23, United States Code. (identify fund type, ie, State STP, or Transportation Enhancement, etc.) funds for this Project shall be (limited to or estimated at) \$ . The Project will be financed with (identify fund type) funds at the maximum allowable federal participating amount, with City providing the match and any non-participating costs, including all costs in excess of the available federal funds.

**If Transportation Enhancement funds are used and are estimated in paragraph 3 above, insert the following paragraphs**

- 3a. City must obtain approval from State's Transportation Enhancement Program Manager for any additional funds beyond the amount in Paragraph No. 2 above. For additional Enhancement Funds up to a total of \$ (10 percent over the \$ estimated Enhancement funding) City's matching share will be percent of Enhancement eligible costs. For any approved Enhancement Funds above \$ City's matching share will be fifty (50) percent of the Enhancement eligible costs.
- b. City is not guaranteed the use of unspent funds for a particular phase of work. State will not release funds from any authorized phase of work for use on a subsequent phase unless specifically requested by City before obligating funds on the subsequent phase.

**Choose one paragraph No. 4 for match language and delete those that do not apply**

**If Project is new and does not have an Agreement started, and the City will be performing all work, or if project already started under another agreement and local agency match or other funds have been deposited, insert the following paragraph:**

4. City shall make all payments for work performed on the Project, including all construction costs, and invoice State for 100 percent of its costs. State shall reimburse City invoices at the pro-rated federal share. All costs beyond the federal and state reimbursement, any deposited local funds, and any non-participating costs will be the responsibility of the City. State shall perform work in the estimated amount of \$ . State shall simultaneously invoice FHWA and City for State's Project costs, and City agrees to reimburse State for the federal-aid matching state share and any non-participating costs as determined in accordance with paragraph number 3, above upon receipt of invoice. Failure of City to make

**Comment [JKR1]:** "This charge covers LAL administrative time for oversight and completeness reviews, funding requests and environmental coordination. Cost for these reviews are generally between \$5,000 and \$10,000. If a project is on or impacting the state system or involves a bridge, additional costs may be involved. Civil Rights and Right of Way review are not part of these costs."

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such payments to State may result in withholding of City's proportional allocation of State Highway Trust Funds until such costs are paid. City understands that State's costs are estimates only and agrees to reimburse State for the actual amount expended.

Or

***If this is a Scenic Byway project and the Project uses donations/contributions as the match insert the following paragraph:***

4. The value of the required match may come from donations or contributions. City shall be responsible for documenting the value of donations or contributions. City shall obtain approval from "State's Transportation Program Office" of any donations or contributions before the Project begins. The services provided by City and match donations or contributions are described in Exhibit B, attached hereto and by this reference made a part hereof. City shall make all payments for work performed on the Project and invoice State for one-hundred (100) percent of its costs. State shall reimburse City invoices at the pro-rated federal share. All costs beyond the federal reimbursement and any non-participating costs will be the responsibility of the City. State shall perform work in the estimated amount of \$[REDACTED]. State shall simultaneously invoice FHWA and City for State's Project costs, and City agrees to reimburse State for the federal-aid matching state share and any non-participating costs as determined in accordance with paragraph number 3, above upon receipt of invoice. Failure of City to make such payments to State may result in withholding of City's proportional allocation of State Highway Trust Funds until such costs are paid. City understands that State's costs are estimates only and agrees to reimburse State for the actual amount expended.

Or

***If this is a CMAQ project, or if CMAQ funds are involved, then you must obtain Highway Program Office guidance for language regarding match.***

Or

***If City requests work to be performed by State or by one of State's Consultants, an advance deposit from City will be required use 4a and 4b***

- 4a. City shall upon receipt of a fully executed copy of this Agreement and upon a subsequent letter of request from State, forward to State an advance deposit or irrevocable letter of credit in the amount of \$[REDACTED] for the Project, said amount being equal to the estimated total cost for the work performed by State at City's request. City agrees to make additional deposits as needed upon request from State. Depending upon the timing of portions of the Project to which the advance

**Comment [JKR2]:** "This charge covers LAL administrative time for oversight and completeness reviews, funding requests and environmental coordination. Cost for these reviews are generally between \$5,000 and \$10,000. If a project is on or impacting the state system or involves a bridge, additional costs may be involved. Civil Rights and Right of Way review are not part of these costs."

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deposit contributes, it may be requested by State prior to preliminary engineering, purchase of right of way, or approximately four (4) to six (6) weeks prior to Project bid opening. The work being performed by State on behalf of City includes . State will make all payments for said services. Upon completion of the Project and receipt from State of an itemized statement of the actual total cost of State's participation for the Project, City shall pay any amount which, when added to City's advance deposit, will equal one-hundred (100) percent of actual total State costs for the Project. Any portion of said advance deposit which is in excess of the State's total costs will be refunded or released to City.

- b. City shall make all payments for construction at one-hundred (100) percent. State shall reimburse City invoices at the pro-rated federal share. All costs beyond the federal reimbursement and any non-participating costs will be the responsibility of the City. State shall perform work in the estimated amount of \$[REDACTED]. State shall simultaneously invoice FHWA and City for State's Project costs, and City agrees to reimburse State for the federal-aid matching state share and any non-participating costs as determined in accordance with paragraph number 3, above upon receipt of invoice. Failure of City to make such payments to State may result in withholding of City's proportional allocation of State Highway Trust Funds until such costs are paid. City understands that State's costs are estimates only and agrees to reimburse State for the actual amount expended.

Or

***If Immediate Opportunity Funds are being used to partially fund this Project, add the following paragraph below.***

5. This Project is partially funded with Immediate Opportunity Funds (IOF) in the amount of \$ . The details of the funding requirements for these funds can be found under IOF Agreement No.
6. City shall (choose one or more of the following) select consultants, design, advertise, bid, award the construction contract, and perform construction administration. City understands that this Project is a test project and agrees to comply with all of the terms and conditions found in Certification Program Agreement No. . (Enter Master Agreement Number here).
7. The federal funding for this Project is contingent upon approval by the FHWA. Any work performed prior to acceptance by FHWA will be considered nonparticipating and paid for at City expense. State's Regional Local Agency Liaison or designee will provide City with a written notice to proceed when FHWA approval has been secured and funds are available for expenditure on this Project.

**Comment [JKR3]:** "This charge covers LAL administrative time for oversight and completeness reviews, funding requests and environmental coordination. Cost for these reviews are generally between \$5,000 and \$10,000. If a project is on or impacting the state system or involves a bridge, additional costs may be involved. Civil Rights and Right of Way review are not part of these costs."

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8. State considers City a subrecipient of the federal funds it receives as reimbursement under this Agreement. The Catalog of Federal Domestic Assistance (CFDA) number and title for this Project is 20.205, Highway Planning and Construction.

**If Scenic Byway, insert the following sentence, subsections “a” and “b” and renumber subsequent paragraphs accordingly, otherwise delete:**

9. This Project is conditionally funded as follows: **(insert condition from grant application here)**
- a. FHWA asks that all National Scenic Byways and All-American Roads include the America’s Byways™ logo in publications, videos, and on other materials produced with National Scenic Byway Program funds. Where possible and in addition to the logo, include the following statement: “Funded in part by the Federal Highway Administration”.
  - b. Photos, brochures, plans/designs and videos funded with the National Scenic Byways Program funds shall be made available to the National Scenic Byways Program for use in presentations, publications, and for posting on the websites.

**If High Priority Project, insert the following sentence and fill out chart, otherwise delete and renumber the paragraphs:**

10. The Federal Bill(s) Number(s) and Project Description are as shown in the table below:

Federal Bill Number	Project Description

**Use one of the following two paragraphs, No. 11, to identify the term of the Agreement. If the Project is a Transportation Enhancement (TE insert the following paragraph**

11. The term of this Agreement shall begin on the date all required signatures are obtained and shall terminate upon completion of the Project and final payment or ten (10) calendar years following the date all required signatures are obtained, whichever is sooner. The Parties agree that this Agreement shall terminate if the funds for this Project are not obligated for construction on or before **(insert**

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**date).** Upon termination of this Agreement, State may reassign any **(list fund type)** funds not yet obligated for the Project and shall have no obligation to fund any remaining phases of work through the **(list program)** program.

**If the project is not a TE agreement, use the following paragraph 11 for Term of Agreement**

11. The term of this Agreement shall begin on the date all required signatures are obtained and shall terminate upon completion of the Project and final payment or ten (10) calendar years following the date all required signatures are obtained, whichever is sooner.

12. Local Agency Certification Program Agreement No. (Enter Master Agreement **Number here**) was fully executed on . This Agreement is subject to the terms and provisions of the Local Agency Certification Program Agreement.

**Use the following paragraph if this Agreement is replacing an existing Agreement, otherwise delete and renumber the paragraphs:**

13. This Agreement shall supersede and replace Agreement No. and its supplements in its entirety. Agreement No. is terminated upon execution of this Agreement. Bills for preliminary engineering work incurred prior to the replacement of Agreement No. shall be invoiced by City and paid for by State under this Agreement.

**Use one of the following two paragraphs depending upon the condition that applies. Delete the paragraph that does not apply:**

**Use only if the project is not Highway fund eligible (If improving a local road/street delete)**

14. City shall, upon completion of Project and as a condition to this Agreement, complete and file with the appropriate County Clerk, a Memorandum of Agreement and Acknowledgment of Federal Assistance, which is attached hereto as Exhibit , and by this reference is made a part hereof. City shall provide confirmation of this filing by forwarding to the State's Regional Local Agency Liaison a conformed copy of the recorded Exhibit . By means of said acknowledgment of City's financial obligations, the continued use of said property for public purposes, and the maintenance of the facility or service at a level consistent with normal depreciation and/or demand is recognized and attached to the property as conditions of receipt of these funds. Any interest in said property by State is proportional to the federal and state participation in Project. City will be ineligible to receive any state or federal funds while in default of conditions of this Agreement or the Memorandum of Agreement and Acknowledgment of Federal Assistance. **(Add the following**

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**sentence if the Project is an Enhancement Project, otherwise delete:)** City will be ineligible to receive any Enhancement Funds while in default of conditions underlying the lien.

**If improving a local road/street and the Project is Highway fund eligible**

15. If City fails to meet the requirements of this Agreement or the underlying federal regulations, State may withhold the City's proportional share of Highway Fund distribution necessary to reimburse State for costs incurred by such City breach.

**(Add the following sentence if the Project is an Enhancement Project, otherwise delete:)** City will be ineligible to receive or apply for any Enhancement Funds until State receives full reimbursement of the costs incurred.

16. City shall, at its own expense, maintain and operate the Project upon completion and throughout the useful life of the Project at a minimum level that is consistent with normal depreciation and/or service demand. State and City agree that the useful life of this Project is defined as twenty (20) years. **(Useful life of the project may, change - check with State's Regional Local Agency Liaison.)**

17. State may conduct periodic inspections during the life of City Certification Projects to verify that Projects are being properly maintained and continue to serve the purpose for which federal funds were provided.

18. This Agreement may be terminated by mutual written consent of both Parties.

19. State may terminate this Agreement effective upon delivery of written notice to City, or at such later date as may be established by State, under any of the following conditions:

- a. If City fails to provide services called for by this Agreement within the time specified herein or any extension thereof.
- b. If City fails to perform any of the other provisions of this Agreement, or so fails to pursue the work as to endanger performance of this Agreement in accordance with its terms, and after receipt of written notice from State fails to correct such failures within ten (10) days or such longer period as State may authorize.
- c. If City fails to provide payment of its share of the cost of the Project.
- d. If State fails to receive funding, appropriations, limitations or other expenditure authority sufficient to allow State, in the exercise of its reasonable administrative discretion, to continue to make payments for performance of this Agreement.



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- e. If federal or state laws, regulations or guidelines are modified or interpreted in such a way that either the work under this Agreement is prohibited or if State is prohibited from paying for such work from the planned funding source.
- 20. Any termination of this Agreement shall not prejudice any rights or obligations accrued to the Parties prior to termination.
- 21. City, as a recipient of federal funds, pursuant to this Agreement with State, shall assume sole liability for City's breach of any federal statutes, rules, program requirements and grant provisions applicable to the federal funds, and shall, upon City's breach of any such conditions that requires State to return funds to the FHWA, hold harmless and indemnify State for an amount equal to the funds received under this Agreement; or if legal limitations apply to the indemnification ability of City, the indemnification amount shall be the maximum amount of funds available for expenditure, including any available contingency funds or other available non-appropriated funds, up to the amount received under this Agreement.
- 22. This Agreement may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this Agreement so executed shall constitute an original.
- 23. This Agreement and the Local Agency Certification Program (Certification Program) Agreement No. \_\_\_\_\_, as amended and all attached exhibits constitutes the entire agreement between the Parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. No waiver, consent, modification or change of terms of this Agreement shall bind either Party unless in writing and signed by both Parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of State to enforce any provision of this Agreement shall not constitute a waiver by State of that or any other provision.
- 24. State's Project Liaison for the Agreement is (insert title, address phone number and e-mail address), or assigned designee upon individual's absence. State shall notify the other Party in writing of any contact information changes during the term of this Agreement.
- 25. City's Project Liaison for this Agreement is (insert title, address phone number and e-mail address), or assigned designee upon individual's absence. City shall notify the other Party in writing of any contact information changes during the term of this Agreement.

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**THE PARTIES**, by execution of this Agreement, hereby acknowledges that their signing representatives have read this Agreement, understand it, and agree to be bound by its terms and conditions.

This Project is in the 2010-2013 Statewide Transportation Improvement Program, (Key # ) that was approved by the Oregon Transportation Commission on December 16, 2010 (or subsequently approved by amendment to the STIP).

, acting by and through its

By \_\_\_\_\_

Date \_\_\_\_\_

By \_\_\_\_\_

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_

City Legal Counsel

Date \_\_\_\_\_

**City Contact:**

Name/Title

Address

Phone

Email

**State Contact:**

Name/Title

Address

Phone

Email

**STATE OF OREGON**, acting by and  
through its Department of Transportation

By \_\_\_\_\_

Highway Division Administrator

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By \_\_\_\_\_

Active Transportation Section Manager

Date \_\_\_\_\_

By \_\_\_\_\_

Region                      Manager

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_

Assistant Attorney General

Date \_\_\_\_\_

City/State  
Agreement No.

**Exhibit A – Project Location Map**

City/State  
Agreement No.

After recording, return to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(Choose one of the following Exhibit B's – see next page & delete the one that does not apply)**

**EXHIBIT B**

**MEMORANDUM OF AGREEMENT AND ACKNOWLEDGEMENT OF FEDERAL ASSISTANCE**

**[State Recording Authority: ORS 93.710 and ORS 205.130(2)]**

Agreement Number:

Project Name:

Key Number:

Supplemental Project Agreement No. \_\_\_\_\_ between the (Insert City Name) and the State of Oregon, Department of Transportation was executed on \_\_\_\_\_. Pursuant to paragraph \_\_\_\_\_, City Obligations, page \_\_\_\_\_ of the Supplemental Project Agreement, upon the recording of this document, the (Insert City Name) received federal funds for the Project described in the Supplemental Project Agreement. The property and assets under the jurisdiction of the (Insert City Name) were improved with the assistance from the United States Government. Such assistance was provided to (Insert City Name), in reimbursement of costs associated with the (Insert City Name). The use and disposition of said property is subject to the terms of the above noted Supplemental Project Agreement, copies of which may be obtained from the Director of ODOT and is also subject to 49 CFR Part 18. A description of the improved property is attached.

(Insert City Name)

By: \_\_\_\_\_ (Notary Stamp)  
(Name of person)

Title: \_\_\_\_\_

State of Oregon: County of \_\_\_\_\_

Signed or attested before me on \_\_\_\_\_ by \_\_\_\_\_  
(Date) (name(s) of person(s))

\_\_\_\_\_ My commission expires on \_\_\_\_\_.

**STATE OF OREGON, DEPARTMENT OF TRANSPORTATION**

By: \_\_\_\_\_ (Notary Stamp)  
Darel Capps

Title: Active Transportation Section Manager

Signed or attested before me on \_\_\_\_\_ by \_\_\_\_\_  
(Date) (name(s) of person(s))

\_\_\_\_\_ My commission expires on \_\_\_\_\_.

City/State  
Agreement No.

Oregon Department of Transportation; 555 13<sup>th</sup> St. NE, Suite 2; Salem, OR 97301.

City/State  
Agreement No.

**EXHIBIT B (Page 1 of 2)**  
**Initial Donations/Contributions Approval Form**

_____ Name of City	_____ Date
_____ City Contact Person	_____ Phone Number
_____ Project Name	_____ Key Number
_____ State Region Contact Person	_____ Phone Number

Type and Description of Donation/Contribution

☐ Materials    ☐ Services    ☐ Funds    ☐ Credit for Property

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
Stated Value

**We certify that the value of the donation/contribution will be documented in an approved manner by State and incorporated into the Project, the donation/contribution has never previously received Federal funding or was paid for with Federal funds, and if the value of the donation/contribution at the end of the Project is less than the originally stated value, we will provide funding to make up the difference.**

_____ Signature and Title of City	_____ Date
--------------------------------------	---------------

**State Review and Concurrence**

_____ Department	
_____ State Contact Person	_____ Phone Number
_____ Signature	_____ Date

City/State  
Agreement No.

**EXHIBIT B (Page 2 of 2)**

Examples of Acceptable Documentation for  
Donations and Contributions

Labor and Services:

Documentation should include verification of the actual hours worked (or to be worked) **and** the value (or hourly rate) of the employee/sole proprietor/volunteer. Labor and services donated from a public or private entity can be credited as match against a federal-aid share. The public entity's labor or services can also be charged as a direct cost to the project as appropriate and reimbursed at the federal pro-rata share. Below are some (but not all) examples of acceptable documentation:

1. Timesheets of an employee of a private entity that record actual hours worked, signed by the person doing the work and a supervisor or project manager.
2. A letter on company letterhead of a sole proprietor listing the hours worked and signed by the owner.
3. A payroll or personnel record that shows the person(s) actual salary rate.
4. Timesheets (individual or group) of volunteers who worked on a project, which lists hours worked by each, initialed or signed by each, and valued at a rate commensurate with the appropriate job and skill level (otherwise, the rate should be calculated at minimum wage). If Davis-Bacon wages were applicable to the federal-aid project (construction phase) then the work would be valued at the applicable Davis-Bacon rates.

Materials:

Documentation should include the quantity of material used (or to be used) on the project **and** the value (or unit cost) of the material consumed. Material donated from a private entity or contributed from a public entity can be credited as match against the federal-aid share. Below are some (but not all) examples of acceptable documentation:

1. Invoice that shows the purchase price of the material.
2. Inventory records that list the unit cost and current value of the material.
3. Job cost records that list the costs charged to the project.
4. Independent outside appraisal of the material donated.

(a) Real Property

Please see the ODOT Right of Way Manual for donations and contributions of real property and appropriate valuation.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

**Refer to NMFS No.:**  
**2008/04070**

August 13, 2008

Lawrence C. Evans  
U.S. Army Corps of Engineers, Portland District  
P.O. Box 2946  
Portland, Oregon 97208-2946

Robert Willis  
U.S. Army Corps of Engineers, Portland District  
*ATTN: Mr. Kim Larson*  
P.O. Box 2946  
Portland, Oregon 97208-2946

Re: Programmatic Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revisions to Standard Local Operating Procedures for Endangered Species to Administer Maintenance or Improvement of Road, Culvert, Bridge and Utility Line Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES IV Roads, Culverts, Bridges and Utility Lines).

Dear Mr. Evans and Mr. Willis:

The enclosed document contains a programmatic biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7(a)(2) of the Endangered Species Act (ESA) on the effects of implementing a proposed revision to the standard local operating procedures used by the U.S. Army Corps of Engineers, Portland District (Corps), to authorize or carry out actions to maintain or improve roads, culverts, bridges and utility lines in Oregon (SLOPES IV Roads, Culverts, Bridges and Utility Lines). This action is in accordance with the Corps' regulatory and civil works authorities under section 10 of the Rivers and Harbors Act of 1899, section 404 of the Clean Water Act of 1972, and sections 1135, 206, and 536 of the Water Resources Development Acts of 1986, 1996, and 2000, respectively. Actions covered in this Opinion are modified from those analyzed in the biological opinion issued on November, 2004, as summarized in the consultation history section of the Opinion.





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This Opinion does not apply to any proposed actions that may affect ESA-listed marine mammals, including actions beside the Columbia River, the Oregon coast, or estuarine areas where ESA-listed marine mammals are likely to occur. All marine mammals are protected under the Marine Mammal Protection Act (MMPA). If you have questions about the distribution of marine mammals in Oregon, whether a proposed action may affect marine mammals, or how to comply with the ESA or MMPA for marine mammals, please contact Bridgette Lohrman at 503-230-5422 or Brent Norberg at 206-526-6550.

In this Opinion, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of the Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), Upper Willamette River (UWR) spring-run Chinook salmon, Upper Columbia River (UCR) spring-run Chinook salmon, Snake River (SR) spring/summer run Chinook salmon, SR fall-run Chinook salmon, Columbia River chum salmon (*O. keta*), LCR coho salmon (*O. kisutch*), Oregon Coast coho salmon, Southern Oregon/Northern California Coasts coho salmon, SR sockeye salmon (*O. nerka*), LCR steelhead (*O. mykiss*), UWR steelhead, Middle Columbia River steelhead, UCR steelhead, Snake River Basin steelhead, or southern green sturgeon (*Acipenser medirostris*), and is not likely to result in the destruction or adverse modification of critical habitat designated for each of the above listed species, with the exception of LCR coho salmon and southern green sturgeon, for which critical habitat has not yet been proposed.

As required by section 7 of the ESA, this Opinion includes reasonable and prudent measures with terms and conditions that are necessary to minimize the impact of incidental take associated with this action. The action agency and applicant, if any, must comply with these terms and conditions for exemption from the prohibition against taking in section 7(o) to apply.

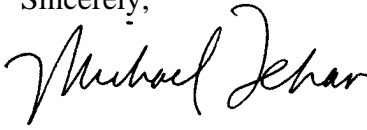
This document also presents the results of our consultation on the proposal's effect on essential fish habitats (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and includes two conservation recommendations to avoid, minimize, or otherwise offset likely adverse effects to EFH. Section 305(b)(4)(B) of the MSA requires Federal agencies to provide a detailed written response to NMFS within 30 days after receiving these recommendations.

If the response is inconsistent with the recommendations, the action agency must explain why the recommendations will not be followed, including the justification for any disagreements over the effects of the action and the recommendations. In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we request that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

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If you have any questions regarding this consultation, please contact Marc Liverman at 503-231-2336, or Ben Meyer at 503-230-5425, in the Oregon State Habitat Office.

Sincerely,

  
for D. Robert Lohn  
Regional Administrator

cc: Federal Emergency Management Agency  
Federal Highways Administration  
Natural Resources Conservation Service  
U.S. Environmental Protection Agency  
U.S. Fish and Wildlife Service  
Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Department of Parks and Recreation  
Oregon Department of State Lands  
Oregon Department of Transportation  
Oregon Watershed Enhancement Board

# Endangered Species Act - Section 7 Programmatic Biological Opinion

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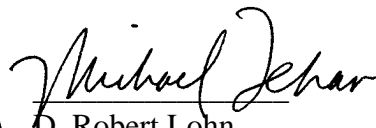
## Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Revisions to Standard Local Operating Procedures for Endangered Species to  
Administer Maintenance or Improvement of Road, Culvert, Bridge and Utility Line Actions  
Authorized or Carried Out by the U.S. Army Corps of Engineers in the Oregon  
(SLOPES IV Roads, Culverts, Bridges and Utility Lines)

Agency: U.S. Army Corps of Engineers,  
Portland District, Operations and Regulatory Branches

Consultation  
Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: August 13, 2008

Issued by:   
for D. Robert Lohn  
Regional Administrator

Refer to: 2008/04070

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## LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
C.F.R.	Code of Federal Regulations
CHART	Critical Habitat Analytical Review Team
CWA	Clean Water Act
DDT	dichloro-diphenyl-trichloroethane
DQA	Data Quality Act
EFH	essential fish habitat
ESA	Endangered Species Act
FHWA	Federal Highways Administration
FR	Federal Register
GPS	global positioning system
HIP	high intrinsic potential
HUC5	fifth-field hydrologic unit code
IC	interior Columbia
LCR	lower Columbia River
LID	low impact development
MCR	mid Columbia River
MSA	Magnuson – Stevens Act
NMFS	National Marine Fisheries Service
NWP	nationwide permit
OC	Oregon Coast
OBDP	Oregon Bridge Delivery Partners
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OTIA	Oregon Transportation Improvement Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	primary constituent element
RHA	Rivers and Harbors Act
SEL	sound exposure level
SLOPES	standard local operating procedures for endangered species
SMI	Stormwater Management Initiative
SONCC	Southern Oregon/Northern California Coasts
SR	Snake River
SRB	Snake River Basin
TRT	technical recovery team
UCR	upper Columbia River
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
UWR	upper Willamette River
VSP	viable salmonid population
WLC	Willamette/lower Columbia
WRDA	Water Resources Development Act

## INTRODUCTION

This document contains a programmatic biological opinion (Opinion) and incidental take statement prepared in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531, *et seq.*), and implementing regulations at 50 CFR 402. The National Marine Fisheries Service (NMFS) also completed an essential fish habitat (EFH) consultation, prepared in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801, *et seq.*) and implementing regulations at 50 CFR 600.

The docket for this consultation is available at the Oregon State Habitat Office in Portland, Oregon.

### Background and Consultation History

The U.S. Army Corps of Engineers, Portland District (Corps), propose to revise the “Standard Local Operating Procedures for Endangered Species” (SLOPES). “SLOPES” refers to the process and criteria that the Corps uses to guide the administration of activities regulated under section 10 of the Rivers and Harbors Act of 1899 (RHA) and section 404 of the Clean Water Act of 1972 (CWA), or carried out by the Corps as part of civil works programs authorized by sections 1135, 206, and 536 of the Water Resources Development Acts of 1986, 1996, and 2000, respectively (WRDA), in areas occupied by ESA-listed salmon and steelhead or their designated critical habitats.

Section 10 of the RHA requires authorization from the Secretary of the Army for the creation of any structure, excavation, or fill within the limits defined for navigable waters of the United States, if the structure or work will affect the course, location, or condition of the waterbody. The law applies to any dredging or disposal of dredged material, excavation, filling, channelization, or any other modification of a navigable water of the United States, and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom, breakwater, jetty, groin, bank stabilization, mooring structures (such as pilings), aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent or semi-permanent obstacle or obstruction.

Section 404 of the CWA requires authorization from the Secretary of the Army, acting through the Corps, for the discharge of dredged or fill material into all waters of the United States, including adjacent wetlands. Discharges of fill material generally include, without limitation, any placement of fill that is necessary for construction of any type of structure, development, property protection, reclamation, or other work involving the discharge of fill or dredged material. A Corps permit is required whether the work is permanent or temporary. Examples of temporary discharges included dewatering of dredged material before final disposal, and temporary fills for access roadways, cofferdams, storage, and work areas.

Section 1135 of WRDA authorizes the Corps to modify the structure or operation of a Corps project to restore or improve environmental quality and ecosystem functions impaired by that

project, provided that the modification does not conflict with the authorized project purposes. Section 206 of WRDA expands this authority to cover construction of projects for the restoration and protection of aquatic ecosystems unrelated to an existing Corps facility. Section 536 of WRDA authorizes studies and ecosystem restoration actions in the Lower Columbia River and Tillamook Bay. The Corps has environmental restoration programs in place in Oregon that are authorized by these authorities and are intended to restore habitat for ESA-listed salmon and steelhead.

Nearly all anadromous fish-bearing streams within the Corps' jurisdiction are occupied by ESA-listed salmon and steelhead and designated as EFH for Chinook salmon and coho salmon. Individual ESA and EFH consultation for permits within these streams results in a substantial workload for both the Corps and NMFS, often with little additional benefit to the species. Many of these activities are minor and repetitive in nature, and consultation on them has resulted in the imposition of similar conditions for regulatory approval.

Since March 21, 2001, the Portland District has used SLOPES, as described in a series of programmatic biological opinions,<sup>1</sup> to guide its review of individual permit requests under section 10 of the RHA and section 404 of the CWA, including requests for authorization of activities which are similar to those that may be regulated under the following 2007 Corps nationwide permits (NWP): NWP-3 Maintenance; NWP-6 Survey Activities; NWP-7 Outfall and Associated Intake Structures; NWP-12 Utility Line Activities; NWP-14 Linear Transportation Projects; and NWP-25 Structural Discharge. Applications for actions that the Corps finds to be within the range of effects considered in the most recent SLOPES biological opinion are issued a permit with corresponding conditions; applications that are not found to be within this range of effects are submitted to NMFS for additional, site-specific ESA and EFH consultation.

Under SLOPES, the Corps is required to provide an annual monitoring report. The report is intended to be a summary of action data and a description of program participation, the quality of supporting analyses, monitoring information, compensatory mitigation provided by applicants, and recommendations to improve the effectiveness of the program. Between 2001 and 2007, the

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<sup>1</sup> Programmatic Biological Opinion – 15 Categories of Activities Requiring Department of the Army Permits. (refer to: OSB2001-0016) (March 21, 2001); Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species (SLOPES) for Certain Activities Requiring Department of Army Permits in Oregon and the North Shore of the Columbia River (refer to OHB2001-0016-PEC) (June 14, 2002); Letter from D. Robert Lohn, NOAA Fisheries, to Lawrence Evans and Thomas Mueller, U.S. Army Corps of Engineers (August 14, 2002) (Amending Terms and Conditions for SLOPES, issued June 14, 2002); Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species (SLOPES II) for Certain Regulatory and Operations Activities Carried Out by the Department of Army Permits in Oregon and the North Shore of the Columbia River (refer to: 2003/00850) (July 8, 2003); Programmatic Biological Opinion and Conference Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Revised Standard Local Operating Procedures for Endangered Species (SLOPES III) to Administer Certain Activities Authorized or Carried Out by the Department of the Army in the State of Oregon and on the North Shore of the Columbia River (refer to: 2004/01043) (November 30, 2004).

Corps used SLOPES to issue 290 permits for maintenance or improvement of roads, culverts, bridges and utility lines, mostly in the Willamette/Lower Columbia and coastal areas (Table 1).

**Table 1.** Number of permits for maintenance or improvement of roads, culverts, bridges and utility lines issued by the Corps using SLOPES, by geographic area and year (n=290).

Geographic Area	2001 n=33	2002 n=38	2003 n=46	2004 n=48	2005 n=61	2006 n=35	2007 n = 29
Willamette/Lower Columbia n=229	21	27	36	40	47	26	20
Interior Columbia n=20	8	6	0	2	4	0	0
Oregon Coast n=42	3	4	8	4	9	6	8
Southern Oregon/Northern California Coasts n=11	1	1	2	2	1	3	1

By design, SLOPES provides a focus for discussion between NMFS, the Corps, and applicants regarding ways to reduce or remove the adverse effects of regulated actions on ESA-listed salmon and steelhead, designated critical habitat, and EFH. The delivery of technical assistance for administration of individual actions under SLOPES, interagency training in the use of SLOPES, the SLOPES annual review process, and many individual consultations which are beyond the range of actions authorized by SLOPES, have all been informed by previous SLOPES opinions, and thus helped to ensure that SLOPES will continue to be adaptive, accountable, and credible as a conservation and regulatory tool. Over the years, the Federal Highway Administration (FHWA), Natural Resources Conservation Service, Oregon Department of Environmental Quality (ODEQ), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Transportation (ODOT), Oregon Division of State Lands, Oregon Marine Board, Oregon Watershed Enhancement Board, Oregon Public Ports Association, the City of Portland, various port authorities, and others with a substantial and recurrent stake in the Corps' regulatory program have each made major contributions to the development of SLOPES.<sup>2</sup>

In some cases, requests by those action agencies for a separate programmatic consultation have been collected into SLOPES. This was possible because the Corps consented to act as the lead agency for consultation, and the SLOPES Opinion already encompassed analyses of effects of those actions and corresponding measures to minimize take, or could be easily expanded to do so (e.g., activities related to geological drilling and surveying; maintenance of boat docks, commercial marinas, ports, and roads; regulatory streamlining; stream and wetland restoration). This helped to ensure that SLOPES is based on the highest quality scientific information and

<sup>2</sup> See e.g., Letter from Lawrence C. Evans, U.S. Army Corps of Engineers, to Michael Crouse, NMFS, (December 26, 2002) (requesting programmatic consultation for maintenance and restoration activities conducted by port authorities and commercial/industrial organizations); NMFS (2003).



strong, collaborative partnerships, and will continue to yield the highest degree of conservation effectiveness and regulatory efficiency.

In this way, NMFS and the Corps have examined the shared characteristics of many regulatory actions with similar effects and identified those types of actions for which direct environmental effects (ephemeral and short-term, instantaneous to months) are likely to be low intensity, repetitive, and predictable, and for which indirect effects (long term, years to decades) are likely to contribute to the recovery of listed species. These individual actions also have similar requirements for regulatory approval and, beyond confirmation that each action meets applicable constraints on design and the use of conservation practices, would not reward additional analysis or deliberation with further conservation benefits. The NMFS and the Corps have used this information in SLOPES to set clear expectations and achieve consistent outcomes that, with other important regulatory initiatives, have significantly reduced conflict over listed species and regulatory actions, thus improving public relations and creating new opportunities for further advances in listed species conservation.

The broad scope of the Corps' regulatory program, the rapid pace at which interested parties have gained and shared practical experience using SLOPES, and the need to assure adequate oversight in light of evolving ESA policies often require the Corps to adjust the actions authorized by SLOPES. Moreover, many requests by the Corps and various applicants for assistance regarding the use of SLOPES for actions related to stream and wetland restoration, streambank stabilization, transportation, and over and in-water structures, led NMFS to conclude that SLOPES can be better managed if these categories are addressed in separate opinions. This will allow these consultation documents to be more focused on specific consultation needs, rather than dependent on reissuance of the entire opinion in its present form. Accordingly, on February 25, 2008, NMFS issued an updated SLOPES Opinion for Stream Restoration and Fish Passage Improvement Actions.<sup>3</sup>

On June 25, 2008, the Corps requested consultation on SLOPES for actions related to roads, culverts, bridges and utility lines to incorporate lessons learned from the ongoing process of SLOPES management, new information about effects of the proposed action on listed species and critical habitats, and the listing of new species and designation of new critical habitats after 2004. Significant new information about the effects of the action, particularly as it relates to floodplain function, ecological connectivity, and water quality have come, in part, from interagency experience gained during implementation of the third Oregon Transportation Improvement Act (OTIA III) and an interagency Stormwater Management Initiative (SMI) chaired by ODOT.

Experience with OTIA III was developed primarily through implementation of a joint biological opinion issued by NMFS and the U.S. Fish and Wildlife Service (USFWS) to the Corps and FHWA on the effects of authorizing and funding the OTIA III program.<sup>4</sup> The program is

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<sup>3</sup> Formal and Informal Programmatic Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation Revisions to Standard Local Operating Procedures for Endangered Species to Administer Stream Restoration and Fish Passage Improvement Activities Authorized or Carried Out by the U.S. Army Corps of Engineers in the Oregon (SLOPES IV Restoration) (refer to: 2007/07790) (February 25, 2008).

<sup>4</sup> Informal Concurrence and Formal Biological Opinion and Conference and Magnuson-Stevens Fishery

administered by the Oregon Bridge Delivery Partners (OBDP), a private-sector firm under contract with ODOT, and has earned national and regional recognition for excellence in environmental stewardship and regulatory streamlining.<sup>5</sup> To-date, 73 bridges have been built, and 83 are under construction using OTIA III performance standards.<sup>6</sup> The fluvial performance standard developed for OTIA III to allow normative physical processes within the stream-floodplain corridor was used in this consultation as a model for the proposed design criteria for permanent stream crossing design.

Similarly, since 2006, ODOT has been meeting with representatives of the OBDP, ODEQ, ODFW, FHWA, NMFS, the U.S. Environmental Protection Agency, and USFWS to develop a collaborative approach to stormwater treatment and management in Oregon. At these meetings, participants helped ODOT to review information on the adverse effects of roadway runoff to watersheds and aquatic life, including the sublethal effects of copper on salmon and steelhead, the effectiveness of various stormwater runoff treatments, and different approaches to the design of stormwater management facilities. As a result of those meetings, ODOT prepared guidance to help designers identify and select the best methods to treat each class of common highway pollutants, then to size each treatment facility appropriately. That guidance was used in this consultation as a model for the proposed design criteria for stormwater management.

New species listings include the Lower Columbia River coho salmon, Oregon Coast coho salmon and southern green sturgeon (see Table 2). The NMFS also designated critical habitat for the Oregon Coast coho salmon, but has not designated or proposed critical habitat for the Lower Columbia River coho salmon or southern green sturgeon.

## **Proposed Action**

For purposes of this consultation, the proposed action is a revision of SLOPES that the Corps will use to guide the permitting of maintenance and improvement of roads, culverts, bridges and utility lines as regulated under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act, including NWP27, or are carried out by the Corps as part of civil works programs authorized by sections 206, 536, and 1135 of the Water Resources Development Act. Use of the revised SLOPES will ensure that the Corps' regulatory oversight of these actions will continue to meet requirements of the ESA and MSA with procedures that are simpler to use, more efficient, and more accountable for all parties.

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Conservation and Management Act Essential Fish Habitat Consultation on the Oregon Department of Transportation's OTIA III Statewide Bridge Delivery Program, Oregon (refer to: NOAA Fisheries NWR 2004/00209; USFWS file #8330.02233 (June 28, 2004).

<sup>5</sup> E.g., American Association of State Highway and Transportation Officials (AASHTO) Team Excellence Award (2007); AASHTO Best Program Award for Environmental Excellence (2005); FHWA Environmental Excellence Award (2004); USFWS Environmental Stewardship Excellence Award (2004).

<sup>6</sup> Testimony of Tom Lauer, major projects branch manager, Oregon Department of Transportation, before the Oregon House Committee on Transportation (February 20, 2008) (OTIA III state bridge delivery program and context sensitive and sustainable solutions).

The Corps is proposing to use SLOPES IV Roads, Culverts, Bridges and Utility Lines to authorize four categories of actions, specifically:

**Major hazard response** to complete an unplanned, immediate or short-term repair of a road, culvert, bridge, or utility line. These repairs must be made before the next in-water work period to resolve critical conditions that, unless corrected, are likely to cause loss of human life, property, or natural resources. Major hazards include, but are not limited to, a large flood event that causes scour erosion to remove a significant amount of streambank or bed material from the foundation of a bridge; culvert failure due to blockage by fluvial debris, overtopping, or crushing; and ground saturation that causes a debris slide, earth flow, or rock fall to cover a road. The major hazard response must include an assessment of its effects to listed species and critical habitats and a plan to bring the response into conformance with all other applicable design criteria in this Opinion.

**Streambank and channel stabilization** to ensure that roads, culverts, bridges and utility lines do not become hazardous due to the long-term effects of toe erosion, scour, subsurface entrainment, or mass failure. This action includes installation and maintenance of scour protection, such as a footing, facing, head wall, as necessary to prevent scouring or down cutting of an existing culvert, road foundation, or bridge support. It does not include scour protection for bridge approach fills. The primary streambank stabilization method proposed is vegetated riprap with large woody debris. Other proposed methods, to be used alone or in combination, include a log or roughened rock toe, a partially spanning porous weir, woody plantings, herbaceous cover, deformable soil reinforcement, coir logs, bank reshaping and slope grading, floodplain flow spreaders, floodplain roughness, and engineered log jams. The channel stabilization method proposed is to fill local scour holes with rock. Any action that requires additional excavation or structural changes to a road, culvert, or bridge foundation is covered under road, culvert and bridge maintenance, rehabilitation, and replacement.

**Maintenance, rehabilitation, and replacement** to ensure that roads, culverts and bridges remain safe and reliable for their intended use without impairing fish passage, to extend their service life, and to withdraw temporary access roads from service in a way that promotes watershed restoration when their usefulness has ended. This includes actions necessary to complete geotechnical surveys, such as access road construction, drill pad preparation, mobilization and set up, drilling and sampling operations, demobilization, boring abandonment, and access road and drill pad reclamation. Excavation, grading, and filling necessary to maintain, rehabilitate, or replace existing roads, culverts, and bridges, and to construct and maintain stormwater facilities are also included. This type of action does not include significant channel realignment, installation of fish passage devices (*e.g.*, culvert baffles, roughened chutes, step weirs), tidegate maintenance or replacements other than full removal, construction of new permanent roads within the riparian zone that are not a bridge approach, or construction of a new bridge where a culvert or other road stream crossing did not previously exist.

**Utility line stream crossings** to install, maintain, rehabilitate, or replace pipes or pipelines used to transport gas or liquids, including new or upgraded stormwater outfalls, and cables, or lines or wires used to transmit electricity or communication. This action involves excavation, temporary side casting of excavated material, backfilling of the trench, and

restoration of the work site to preconstruction contours and vegetation. This type of action does not include construction or enlargement of a gas, sewer or water line to support a new or expanded service area for which effects, including indirect effects from interrelated or interdependent activities, have not been analyzed in this Opinion, or that transit the bed of an estuary or saltwater area at depths less than -10.0 feet (mean lower low water).

## **Proposed Design Criteria**

The Corps proposed to apply the following design criteria, in relevant part, to every action authorized or carried out under this opinion. Measures described under “Administration” apply to the Corps as it manages the SLOPES IV Roads, Culverts and Bridges program. Measures described under “General Construction” apply, in relevant part, to each action that involves a construction component. Measures described under “Types of Actions” apply, in relevant part, to each action as described.

### **Administration**

1. **Confirm ESA-listed species.** The Corps will confirm each action authorized or carried out under this Opinion will occur within the present or historic range of an ESA-listed salmon, steelhead, or southern green sturgeon, designated critical habitat, or designated EFH.
2. **Corps review.** The Corps will individually review and approve each action to ensure that all adverse effects to fish and their designated critical habitats are within the range of effects considered in this Opinion.
3. **NMFS review.** The Corps will ensure that each of the following actions will also be individually reviewed and approved by NMFS as consistent with this Opinion before the action is authorized: (A) A replacement culvert or bridge; (B) vegetated riprap with large wood; (C) a stormwater facility; (D) surface water diversion at a rate that exceeds 3 cubic feet per second; and (E) new or upgraded stormwater outfalls.
4. **Electronic notification.** (A) The Corps will initiate NMFS’ review by submitting the action notification form (Appendix A) to NMFS with sufficient detail about the action design and construction to ensure the proposed action is consistent with all provisions of this Opinion; (B) NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified; and (C) use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.
5. **Full implementation required.** For regulatory projects, the Corps must include each applicable design criterion as an enforceable part of the permit document. For the projects carried out by the Corps, the Corps must include each applicable design criterion as a final project specification. Failure to comply with all applicable design criteria may invalidate protective coverage of ESA section 7(o)(2) regarding “take” of listed species, and may lead NMFS to a different conclusion regarding the effects of a specific project.
6. **Site access.** The Corps will retain the right of reasonable access to the site of actions authorized using this Opinion to monitor the use and effectiveness permit conditions.
7. **Salvage notice.** The Corps will include the following notice as part of each permit issued using this Opinion and, for actions completed by the Corps, provide the notice in writing to the action supervisor.

If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify NMFS' Office of Law Enforcement at 503-231-6240 or 206-526-6133. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility for carrying out instructions provided by the Office of Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

**8. Major hazard response report.** The Corps will submit a major hazard response report (Appendix B) for each response carried out by the Corps, and require each applicant to submit a report for each response authorized by the Corps, to NMFS within 30 days of the initial response with the following information: (A) The Corps contact person and the Corps permit number; (B) the name of the major hazard event; (C) the type of major hazard; (D) the name of the public transportation district manager that declared the response necessary; (E) the NMFS staff contacted, with date and time of contact; (F) the location of the response site by latitude and longitude (including degrees, minutes and seconds), and 6th field hydrologic unit code; (G) the start and end date for the completion of the immediate response; (H) photos of habitat conditions during the response, if available, and after; (I) a description of the amount and type of riprap or other material used to repair a culvert, road, or bridge; (J) the linear feet of bank alteration; (K) a description of any riparian area cleared within 150 feet of ordinary high water; (L) an assessment of the effects of the initial response to listed species and critical habitats; (M) a summary of the design criteria followed and not followed; and (N) any remedial actions necessary to bring the initial response into compliance with design criteria in this Opinion.

**9. Action completion report.** The Corps will submit an action completion report (Appendix C) for each action carried out by the Corps, and require the applicant to submit an action completion report for each action authorized by the Corps, to NMFS within 60 days of completing all work below ordinary high water with the following information: (A) The Corps contact person and the Corps permit number; (B) the action name; (C) the type of activity; (D) the location of the action site by latitude and longitude (including degrees, minutes and seconds), and 6th field hydrologic unit code; (E) start and end date for the completion of in-water work; (F) as-built drawings for any action involving a riprap revetment, stormwater management facility, or a bridge rehabilitation or replacement; (G) photos of habitat conditions before, during, and after action completion; (H) any date work ceased due to high flows; (I) evidence of compliance with fish screen criteria, as defined below, for any pump used; (J) a summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release and correction effort; (K) the number, type and diameter of any pilings removed or broken during removal; (L) a description of any riparian area cleared within 150 feet of ordinary high water; (M) the linear feet of bank alteration; (N) a description of site restoration; and (O) a completed fish salvage reporting form from (Appendix D) for any action that requires fish capture and removal.

**10. Site restoration or compensatory mitigation report.** The Corps will submit a site restoration or compensatory mitigation report (Appendix E) for each project with those actions carried out by the Corps, and require the applicant to submit a report for each such action authorized by the Corps, to NMFS by December 31 the year that the Corps approves that the site restoration or compensatory mitigation is complete with the following information: (A) The

Corps contact person and the Corps permit number; **(B)** the action name; **(C)** the type of activity; **(D)** the location of the action site by latitude and longitude (including degrees, minutes and seconds), and 6th field hydrologic unit code; **(E)** start and end date for the restoration or compensatory mitigation work; **(F)** photos of habitat conditions before, during and after restoration or mitigation completion; and **(G)** a summary of the results of restoration or mitigation work completed.

**11. Annual program report.** The Corps' Regulatory and Civil Works Branches will each submit an annual report to NMFS by February 15 each year that describes the Corps' efforts in carrying out this Opinion and includes the following information: **(A)** An assessment of overall program activity; **(B)** a map showing the location and type of each action authorized and carried out under this Opinion; **(C)** a list of any projects for which the Corps has approved site restoration or compensatory mitigation is complete; and **(D)** any other data or analyses the Corps deems necessary or helpful to assess habitat trends because of actions authorized under this Opinion.

**12. Annual coordination meeting.** The Corps' Regulatory and Civil Works Branches will each attend an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this Opinion, or make the program more efficient or more accountable.

**13. Failure to provide reporting may trigger reinitiation.** If the Corps fails to provide notification of actions for NMFS' review or an annual report, or fails to participate in the annual coordination meeting, NMFS may assume the action has been modified in a way that constitutes a modification of the proposed action in a manner and to an extent not previously considered, and may recommend reinitiation of this consultation.

**14. Reinitiation.** If the Corps chooses to continue programmatic coverage under this Opinion, it will reinitiate consultation within 5 years of the date of issuance.

### **General Construction**

**15. In-water work period.** **(A)** All work within the active channel will be completed in accordance with the Oregon Guidelines for timing of in-water work to protect fish and wildlife resources (ODFW 2000, or the most recent version), except that the winter work period for the Willamette River below Willamette Falls is not approved (*i.e.*, in-water work from the mouth of the Willamette River to Willamette Falls is not approved between December 1 and January 31); and **(B)** hydraulic and topographic measurements and encased geotechnical drilling may be completed at any time, if a fish biologist determines that the affected area is not occupied by adult fish congregating for spawning or in an area where redds are occupied by eggs or preemergent alevins.

**16. Piling installation.** **(A)** Pilings may be replaced with concrete, steel round pile 24 inches in diameter or smaller, steel H-pile designated as HP24 or smaller, or untreated wood;<sup>7</sup> **(B)** when possible, use a vibratory hammer for piling installation; and **(C)** when using an impact hammer

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<sup>7</sup> An individual consultation and site-specific risk assessment are required for actions that propose the use of pilings made of treated wood, including chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate.

to drive or proof steel piles, one of the following sound attenuation methods must be used to effectively dampen sound pressure waves in all areas to a single strike peak threshold of 206 decibels and, for cumulative strikes, a 187 decibel sound exposure level (SEL) in areas and times where fish are larger than 2 grams and a 183 decibel SEL in areas and times when fish are smaller than 2 grams: (i) Completely isolate the pile from flowing water by dewatering the area around the pile; (ii) if water velocity is 1.6 feet per second or less, surround the piling being driven by a confined or unconfined bubble curtain, as described in NMFS and USFWS (2006), that will distribute small air bubbles around 100% of the piling perimeter for the full depth of the water column;<sup>8</sup> and (iii) if water velocity is greater than 1.6 feet per second, surround the piling being driven by a confined bubble curtain (*e.g.*, a bubble ring surrounded by a fabric or non-metallic sleeve) that will distribute air bubbles around 100% of the piling perimeter for the full depth of the water column.

**17. Piling removal.** The following steps will be used to minimize creosote release, sediment disturbance and total suspended solids: (A) Install a floating surface boom to capture floating surface debris; (B) keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions; (C) dislodge the piling with a vibratory hammer, when possible; never intentionally break a pile by twisting or bending; (D) slowly lift the pile from the sediment and through the water column; (E) place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment – a containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway; (F) fill the holes left by each piling with clean, native sediments immediately upon removal; and (G) dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.

**18. Broken or intractable piling.** (A) Make every attempt short of excavation to remove each piling, if a pile in uncontaminated sediment is intractable, breaks above the surface, or breaks below the surface, cut the pile or stump off at least 3 feet below the surface of the sediment; (B) if a pile in contaminated sediment is intractable or breaks above the surface, cut the pile or stump off at the sediment line; (C) if a pile breaks within contaminated sediment, make no further effort to remove it and cover the hole with a cap of clean substrate appropriate for the site; and (D) if dredging is likely where broken piles are buried, use a global positioning system (GPS) device to note the location of all broken piles for future use in site debris characterization.

**19. Fish capture and removal.** (A) Fish capture and removal must be completed in any area that is to be isolated from the active channel; (B) a supervisory fish biologist experienced with work area isolation and competent to ensure the safe capture, handling and release of all fish will supervise this part of the action, and complete the fish salvage form from Appendix D that will be submitted with the action completion report; (C) any fish trapped within the isolated work area must be captured and released using a trap, seine, electrofishing, or other methods as prudent to minimize the risk of injury, then released at a safe release site; and (D) if

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<sup>8</sup> See also Wursig *et al.* (2000) and Longmuir and Lively (2001) for additional information on how to deploy an effective, economical bubble curtain.

electrofishing will be used to capture fish, NMFS' electrofishing guidelines must be followed (NMFS 2000; available from the NMFS Northwest Region, Protected Resources Division, Portland, Oregon).

**20. Fish passage.** (A) Fish passage must be provided for any adult or juvenile fish present in the action area during construction, unless passage did not exist before construction; and (B) after construction, adult and juvenile passage that meets NMFS' fish passage criteria must be provided for the life of the action (NMFS 2008, or latest version).

**21. Fish screens.** (A) NMFS must review and approve fish screens for surface water diverted by gravity or by pumping at a rate that exceeds 3 cubic feet per second (cfs); (B) all other diversions must have a fish screen that meets the following specifications: (i) An automated cleaning device with a minimum effective surface area of 2.5 square feet per cubic foot per second, and a nominal maximum approach velocity of 0.4 feet per second, or no automated cleaning device, a minimum effective surface area of 1 square foot per cubic foot per second, and a nominal maximum approach rate of 0.2 foot per second; and (ii) a round or square screen mesh that is no larger than 2.38 millimeters (mm) (0.094") in the narrow dimension, or any other shape that is no larger than 1.75 mm (0.069") in the narrow dimension; and (C) each fish screen must be installed, operated, and maintained according to NMFS' fish screen criteria (NMFS 2008).

**22. Surface water diversion.** (A) Streamflow may be diverted only if water from developed sources, *e.g.*, municipal supplies, small ponds, reservoirs, or tank trucks, are unavailable or inadequate; and (B) when surface water is diverted, the diversion shall be made as follows: (i) Water will be taken be from the alternative source with the greatest flow available; (ii) include a temporary fish screen that meets criteria below; and (iii) not to exceed 10% of the available flow at any given time. For streams with less than 5 cfs, drafting will not exceed 0.03 cfs (18,000 gallons per day).

**23. Construction discharge water.** (A) All discharge water created by construction (*e.g.*, concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) must be treated using the best available technology applicable to site conditions to remove debris, nutrients, sediment, petroleum products, metals and other pollutants likely to be present; and (B) do not allow pollutants such as green concrete, contaminated water, silt, welding slag, sandblasting abrasive, or grout cured less than 24 hours to contact any waterbody, wetland, or stream channel below ordinary high water.

**24. Temporary access routes.** (A) Do not build temporary access routes for motorized equipment on steep slopes, where grade, soil, or other features suggest a likelihood of excessive erosion (*e.g.*, rills or gullies) or failure; (B) when possible, use existing routes that will minimize soil disturbance and compaction within 150 feet of any waterbody; (C) when the action is completed, obliterate all temporary access routes, stabilize the soil and restore the vegetation; and (D) restore temporary routes in wet or flooded areas before the end of the applicable in-water work period.

**25. Temporary stream crossings.** (A) When a temporary stream crossing is necessary, a fish biologist must be consulted to ensure that the proposed crossing will not interfere with spawning behavior, eggs or preemergent juveniles in an occupied redd, or native submerged aquatic vegetation; (B) if the crossing is a ford, it must be located and designed to provide for foreseeable risks, such as flooding and associated bedload and debris, to prevent the diversion of streamflow out of the channel and down the road if the crossing fails; (C) if vehicles and machinery must cross riparian areas and streams, cross perpendicular to the main channel



wherever possible; and **(D)** when a crossing is no longer needed, block the area, obliterate the route, and restore the soils and vegetation.

**26. Heavy equipment.** **(A)** Heavy equipment will be selected and operated as necessary to minimize adverse effects on the environment (*e.g.*, minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils); and **(B)** all vehicles and other heavy equipment will be used as follows: **(i)** Stored, fueled and maintained in a vehicle staging area placed 150 feet or more from any waterbody, or in an isolated hard zone such as a paved parking lot; **(ii)** inspected daily for fluid leaks before leaving the vehicle staging area for operation within 50 feet of any waterbody; and **(iii)** steam-cleaned before operation below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, and other visible contaminants.

**27. Stationary power equipment.** Generators, cranes and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.

**28. Preconstruction activity.** Before significant alteration of the action area, flag the boundaries of clearing limits associated with site access and construction to minimize soil and vegetation disturbance, and ensure that all temporary erosion controls are in place and functional.

**29. Site preparation.** **(A)** During site preparation, conserve native materials for restoration, including large wood, vegetation, topsoil and channel materials (gravel, cobble and boulders) displaced by construction; **(B)** when possible, leave native materials where they are found; and **(C)** in areas to be cleared, clip vegetation at ground level to retain root mass and encourage reestablishment of native vegetation.

**30. Drilling and boring.** **(A)** If drilling or boring are used, isolate drilling operations in wetted stream channels using a steel casing or other appropriate isolation method to prevent drilling fluids from contacting water; **(B)** if drilling through a bridge deck is necessary, use containment measures to prevent drilling debris from entering the channel; **(C)** sampling and directional drill recovery/recycling pits, and any associated waste or spoils must be completely isolated from surface waters, off-channel habitats and wetlands; **(D)** all waste or spoils must be covered if precipitation is falling or imminent; **(E)** all drilling fluids and waste must be recovered and recycled or disposed to prevent entry into flowing water; and **(F)** if a drill boring case breaks and drilling fluid or waste is visible in water or a wetland, make all possible efforts to contain the waste and contact NMFS within 48 hours.

**31. Drilling waste containment.** **(A)** All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, must be contained then completely recovered and recycled or disposed of as necessary to prevent entry into any waterway. Use a tank to recycle drilling fluids; and **(B)** when drilling is completed, remove as much of the remaining drilling fluid as possible from the casing (*e.g.*, by pumping) to reduce turbidity when the casing is removed.

**32. Pesticide-treated wood installation.** **(A)** Use of lumber, pilings, or other wood products treated or preserved with pesticidal compounds<sup>9</sup> may not be used below ordinary high water, or

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<sup>9</sup> *E.g.*, chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate.

For alternatives sources of structural lumber and pilings designed for industrial and marine applications, but not based on pesticide-treated wood, including silica-based wood preservation, improved recycled plastic technology,

as part of an in-water or overwater structure, except as described below; **(B)** pesticide-treated wood shipped to the project area must be stored out of contact with standing water and wet soil, and protected from precipitation; **(C)** each load and piece of pesticide-treated wood must be visually inspected and rejected for use in or above aquatic environments if visible residue, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present; **(D)** use prefabrication when possible to ensure that cutting, drilling and field preservative treatment are minimized; **(E)** when field fabrication is necessary, all cutting and drilling of pesticide-treated wood, and field preservative treatment of wood exposed by cutting and drilling, must occur above ordinary high water to minimize discharge of sawdust, drill shavings, excess preservative and other debris in riparian or aquatic habitats; **(F)** use tarps, plastic tubs or similar devices to contain the bulk of any fabrication debris, and wipe off any excess field preservative; **(G)** all pesticide-treated wood structures, including pilings, must have design features to avoid or minimize impacts and abrasion that would deposit pesticide-treated wood debris and dust in riparian or aquatic habitats; and **(H)** pesticide-treated wood may be used to construct a bridge, overwater structure or an in-water structure, if all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with paint, opaque stain, or barrier that will be maintained for the life of the project. Coatings and any paint-on field treatment must be carefully applied and contained to reduce contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a timber bridge completely covered by the roadway wearing surface of the bridge deck, are exempt from this requirement.

**33. Pesticide-treated wood removal.** **(A)** Projects that require removal of pesticide-treated wood must ensure that, to the extent possible, no wood debris falls into the water. If wood debris does fall into the water, remove it immediately; **(B)** after removal, place wood debris in an appropriate dry storage site until it can be removed from the project area; **(C)** do not leave wood construction debris in the water or stacked on the streambank at or below the ordinary high water; and **(D)** evaluate wood construction debris removed during a project, including pesticide-treated wood pilings, to ensure proper disposal of debris.

**34. Actions that require pollution and erosion control.** **(A)** Any action that will require the use of materials that are hazardous or toxic to aquatic life (such as motor fuel, oil, or drilling fluid), or that involves earthwork that is likely to increase soil erosion and cause runoff with visible sediment into surface water, must complete effective pollution and erosion control measures at the project site; **(B)** the electronic notification for any action that involves the use of hazardous material or earthwork must explain how the Corps or applicant will avoid or minimize pollution and erosion, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action; **(C)** include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis; and **(D)** describe practices that will be used to: **(i)** Inventory, store, handle and monitor any hazardous products or

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and environmentally safe wood sealer and stains, see, *e.g.*, American Plastic Lumber (Shingle Springs, California) and Resco Plastics (Coos Bay, Oregon) for structural lumber from recycled plastic; Plastic Pilings, Inc. (Rialto, California) for structurally reinforced plastic marine products; Timbersil (Springfield, Virginia) for structural lumber from wood treated with a silica-based fusion technology; and Timber Pro Coatings (Portland, Oregon) for non-petroleum based wood sealer and stains. The use of trade, firm, or corporation names in this Opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

materials that will be used as part of the action; **(ii)** contain and control a spill of those hazardous materials; **(iii)** confine, remove and dispose of excess concrete, cement, grout and other mortars or bonding agents, including washout facilities; **(iv)** avoid or minimize pollution and erosion at all roads, stream crossings, drilling sites, construction sites, borrow pits, equipment and material storage sites, fueling operations and staging areas; **(v)** prevent construction debris from dropping into any waterbody, and to remove any material that does drop with a minimum of disturbance; **(vi)** avoid or minimize resource damage if the action area is inundated by precipitation or high streamflow; and **(vii)** stabilize all disturbed soils following any break in work unless construction will resume within four days.

**35. Actions that require work area isolation.** **(A)** Any action, except for piling installation or removal, that involves a substantial amount of excavation, backfilling, embankment construction, or similar work below ordinary high water where adult or juvenile fish are reasonably certain to be present, or 300 feet or less upstream from spawning habitats, must be effectively isolated from the active stream; **(B)** the electronic notification for these actions must explain how the Corps or applicant will isolate the work area, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action; **(C)** the notification must also include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis; and **(D)** describe practices that will be used to ensure the area will remain effectively isolated throughout the range of stream flows likely to occur during construction.

**36. Actions that require stormwater management.** **(A)** Any action that will expand, recondition, reconstruct, or replace pavement, replace a stream crossing, otherwise increase the contributing impervious area within the project area, or create a new stormwater conveyance or discharge facility, must meet stormwater pollution reduction and flow control requirements described below; actions that merely resurface pavement by placing a new surface, or overlay, directly on top of existing pavement with no intervening base course and no change in the subgrade shoulder points, are not subject to these stormwater requirements; **(B)** pollution reduction requirements apply to runoff produced by all contributing impervious area that is within or contiguous with the project area; flow control requirements apply to all stormwater discharges that do not flow directly into a large water body where the discharge is unlikely to increase stream erosion rates, *e.g.*, a mainstem river, estuary, or the ocean; **(C)** the electronic notification must explain how the Corps or applicant will manage stormwater runoff from all contributing impervious area that is within or contiguous with the project area using site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action; **(D)** describe the pollutants of concern, identify all contributing and non-contributing impervious areas that are within and contiguous with the project area, explain how the volume of stormwater to be treated was calculated, show the combination of treatment technologies that will be used to treat the identified pollutants of concern for the calculated volume of runoff, and the proposed maintenance activities and schedule; **(E)** include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis; **(F)** all stormwater quality treatment practices and facilities must be designed to accept 50% of the cumulative rainfall from the 2-year, 24-hour storm for that site, except as follows: climate zone 4 – 67%; climate zone 5 – 75%; and climate zone 9 – 67%. (ESA-listed salmon, steelhead, or southern green sturgeon are unlikely to occur in Zones 5 or 9.) A continuous rainfall/runoff

model may be used instead of the above runoff depths to calculate water quality treatment depth; **(G)** for runoff that cannot be infiltrated or evaporated such that no discharge to surface or subsurface waters results, apply one or more of the following specific primary treatment practices, supplemented with appropriate soil amendments and, if possible, plantings of metals hyperaccumulating species, that will maximize treatment efficiency prior to discharge to surface or subsurface waters: **(i)** Bioretention; **(ii)** bioslope; **(iii)** infiltration pond; **(iv)** porous pavement; **(v)** constructed wetlands; or **(vi)** vegetated and soil amended swale designed for infiltration; **(H)** all stormwater flow control treatment practices and facilities must also be designed to ensure that no increase in sediment transporting flows occurs (*i.e.*, match the natural hydrology) between the bankfull event or the 10-year flow event (annual series), whichever is less; **(I)** when conveyance is necessary to discharge treated stormwater directly into surface water or a wetland, the following requirements apply: **(i)** Ensure that all runoff from the road or bridge is treated before commingling with any runoff from offsite for conveyance; **(ii)** maintain natural drainage patterns; **(iii)** where overland flow would concentrate causing erosion, use a conveyance system made entirely of manufactured elements (*e.g.*, pipes, ditches, outfall protection) that extends at least to ordinary high water of the receiving water; and **(iv)** stabilize any erodible elements of this system as necessary to prevent erosion; **(J)** for all structural stormwater facilities and conveyance systems, document completion of inspections and maintenance activities according to a regular schedule in a log that is available for inspection on request by the Corps or NMFS; and **(K)** sediment and liquid from any catch basin cleaning may only be disposed of in an approved facility.

**37. Actions that require site restoration.** **(A)** Any action that results in significant disturbance of riparian vegetation, soils, streambanks, or stream channel must clean up and restore those features after the action is complete. Although no single criterion is sufficient to measure restoration success, the intent is that the following features should be present in the upland parts of the project area, within reasonable limits of natural and management variation: **(i)** Human and livestock disturbance, if any, are confined to small areas necessary for access or other special management situations; **(ii)** areas with signs of significant past erosion are completely stabilized and healed, bare soil spaces are small and well-dispersed; **(iii)** soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local; **(iv)** native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site; **(v)** plants have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation; **(vi)** vegetation structure is resulting in rooting throughout the available soil profile; **(vii)** plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ("litter dams"); **(viii)** a continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank; and **(ix)** streambanks are stable, well vegetated, and protected at margins by roots that extend below baseflow elevation, or by coarse-grained alluvial debris; **(B)** the electronic notification for any action involving site preparation or construction that disturbs soil, vegetation, or channel substrate must explain how the Corps or applicant will complete site restoration, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action; **(C)** include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis; and **(D)** describe practices that will be used to: **(i)** Restore damaged streambanks to a natural

slope, pattern and profile suitable for establishment of permanent woody vegetation; **(ii)** replant each area requiring revegetation before the first April 15 following construction with a diverse assemblage of species native to the project area or region, including grasses, forbs, shrubs and trees (noxious or invasive species may not be used); and **(iii)** when possible, reuse the large wood, vegetation, topsoil and channel materials conserved during site preparation.

**38. Actions that require compensatory mitigation.** **(A)** *The following actions require compensatory mitigation: (i) Any stormwater management facility that requires a new or enlarged structure within the riparian zone; or that has insufficient capacity to infiltrate and retain the volume of stormwater called for by this Opinion; (ii) any riprap revetment that extends the use of riprap above the streambank toe, extends the use of riprap laterally into an area that was not previously revetted, or that does not include vegetation and large wood; and (iii) any bridge rehabilitation or replacement that does not span the functional floodplain, or causes a net increase in fill within the functional floodplain;* **(B)** the electronic notification for an action that requires compensatory mitigation must explain how the Corps or applicant will complete the mitigation, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action; **(C)** include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis; **(D)** describe practices that will be used to ensure: **(i)** No net loss of habitat function; **(ii)** completion before, or concurrent with, construction whenever possible; and **(iii)** achieve a mitigation ratio that is at least a one-to-one, measured as deficit stormwater treatment capacity, and larger when necessary to compensate for time lags between the loss of conservation value in the project area and replacement of conservation value in the mitigation area, uncertainty of conservation value replacement in the mitigation area, or when the affected area has demonstrably higher conservation value than the mitigation area;<sup>10</sup> **(E) for stormwater management:** **(i)** The primary habitat functions of concern are related to the physical and biological features essential to the long-term conservation of listed species, *i.e.*, water quality, water quantity, channel substrate, floodplain connectivity, forage, natural cover (such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels and undercut banks), space, and free passage; **(ii)** acceptable mitigation for riparian habitat displaced by a stormwater treatment facility is restoration of shallow-water or off-channel habitat; and **(iii)** acceptable mitigation for inadequate stormwater treatment includes providing adequate stormwater treatment where it did not exist before, and retrofitting an existing but substandard stormwater facility to provide capacity necessary to infiltrate and retain the proper volume of stormwater; **(F) for riprap:** **(i)** The primary habitat functions of concern are related to floodplain connectivity, forage, natural cover, and free passage; and **(ii)** Acceptable mitigation for those losses include removal of existing riprap; retrofit existing riprap with vegetated riprap and large wood, or one or more other streambank stabilization methods described in this Opinion; and restoration of shallow water or off-channel habitats; **(G) for a bridge replacement:** **(i)** The primary habitat functions of concern are floodplain connectivity, forage, natural cover, and free passage; and **(ii)** acceptable mitigation is removing fill from elsewhere in the floodplain – native channel material, soil and vegetation may not be counted as fill; and **(H)** mitigation actions will meet general construction

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<sup>10</sup> For additional information on compensatory mitigation, see Mitigation Guidelines and Monitoring Requirements, and the Compensatory and Mitigation Plan Checklist, available from the U.S. Army Corps of Engineers, Portland District, Portland, Oregon.

criteria and other appropriate minimization measures (dependent on the type of proposed mitigation).

## Types of Actions

### Major Hazard Response

**39. Declaration of a major hazard.** If a major hazard is declared by the manager of a state, regional, county, or municipal public transportation district, or any other duly constituted public transportation district, and requires a response that is immediate, or before the next in-water work window, to repair or rehabilitate a road, culvert, bridge or utility line as necessary to prevent imminent loss of human life, property, or natural resources, and the repair may affect a listed species or its designated critical habitat, the Corps will encourage the applicant to: **(A)** Act as necessary to resolve the initial response; and **(B)** without endangering human life or contributing to further loss of property or natural resources, apply all proposed design criteria from this Opinion which are applicable to the response to the maximum extent possible.

**40. Contact NMFS as part of the major hazard response.** **(A)** As soon as possible after the onset of the major hazard, the Corps will require the applicant to contact the Corps and NMFS to describe the nature and location of the major hazard, review design criteria from this Opinion that are applicable to the situation, and determine whether additional steps may be taken to further minimize the effects of the initial response action on listed species or their critical habitat; and **(B)** for the Oregon Coast and Lower Columbia River contact Cathy Tortorici (503-231-6268), for the Willamette Basin contact Ben Meyer (503-230-5425), for southwest Oregon contact Ken Phippen (541-957-3385), and for eastern Oregon contact Spencer Hovekamp (541-975-1835).

### Streambank and Channel Stabilization

**41. Streambank stabilization methods allowed.** **(A)** The following streambank stabilization methods may be used individually or in combination: **(i)** Vegetated riprap with large wood; **(ii)** partially spanning porous weir, **(iii)** woody plantings; **(iv)** herbaceous cover, in areas where the native vegetation does not include trees or shrubs; **(v)** bank reshaping and slope grading; **(vi)** coir logs; **(vii)** deformable soil reinforcement; **(viii)** engineered log jams; **(ix)** floodplain flow spreaders; and **(x)** floodplain roughness; **(B)** other than woody and herbaceous plantings, streambank stabilization projects should be designed by a qualified engineer that is appropriately registered in the state where the work is performed; and **(C)** stream barbs, non-porous partially spanning weirs, full-spanning weirs and other instream flow control structures are not allowed under this Opinion.

**42. Vegetated riprap with large wood.** **(A)** Due to the poor aquatic-habitat value of riprap and the local and cumulative effects of riprap use on river morphology, vegetated riprap is only acceptable where necessary to prevent failure of a culvert, road or bridge foundation; **(B)** when this method is necessary, limit installation to the areas identified as most highly erodible, with highest shear stress, or at greatest risk of mass-failure, and provide compensatory mitigation. The greatest risk of mass-failure will usually be at the toe of the slope and will not extend above ordinary high water elevation except in incised streams; **(C)** vegetated riprap with large wood must be installed as follows: **(i)** When present, use natural hard points, such as large, stable trees

or rock outcrops, to begin or end the toe of the revetment; **(ii)** develop rock size gradations for elevation zones on the bank, especially if the rock will extend above ordinary high water – the largest rock should be placed at the toe of the slope, while small rock can be used higher in the bank where the shear stress is generally lower, most upper bank areas will not require the use of any rock but can depend on the vegetation for erosion protection; **(iii)** bank areas above ordinary high water where rock is still deemed necessary, mix rock with soil to provide a better growing medium for plants; **(iv)** develop an irregular toe and bank line to increase roughness and habitat value; **(v)** use large, irregular rock to create large interstitial spaces and small alcoves to create planting spaces and habitat to mitigate for flood-refuge impacts – do not use geotextile fabrics as filter behind the riprap whenever possible, if a filter is necessary to prevent sapping, use a graduated gravel filter; **(vi)** place large boulders in the channel to create roughness and pool habitat; **(vii)** include large wood as an integral component to create roughness, pools and cover (wood must be intact, hard and undecayed to partly decaying with untrimmed root wads; **(viii)** root woody vegetation in the joints between the rocks or using vegetated riprap to restore streambank vegetation; **(ix)** use terracing and leave, restore, or enhance habitat features on the upper bank; **(x)** when possible, create or enhance a vegetated riparian buffer; and **(D)** monitor vegetated riprap each year following installation by visual inspection during low flows to examine transitions between undisturbed and treated banks to ensure that native soils above and behind the riprap are not collapsing, sinking, or showing other evidence of piping loss or movement of rock materials; and the overall integrity of the riprap treatment, including: **(i)** loss of rock materials; **(ii)** survival rate of vegetation; **(iii)** anchoring success of large woody debris placed in the treatment; and **(iv)** any channel changes since construction.

**43. Channel stabilization by filling local scour holes with rock.** When a hole in the channel bed caused by local scour must be filled with rock to prevent damage to a culvert, road, or bridge foundation, the amount of rock must be limited to the minimum necessary to protect the integrity of the structure.

**44. Slope stabilization with rock.** When a footing, facing, head wall, or other protection must be constructed with rock to prevent scouring or downcutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used is limited to the minimum necessary to protect the integrity of the structure. Whenever feasible, include soil and woody vegetation as a covering and throughout the structure.

### **Maintenance, Rehabilitation and Replacement**

**45. Road, culvert and bridge maintenance.** **(A)** Routine road surface, culvert and bridge maintenance activity will be completed in accordance with the Oregon Department of Transportation Routine Road Maintenance: Water Quality and Habitat Guide Best Management Practices (ODOT 2004, or the most recent version approved by NMFS), unless maintenance activities and practices in that manual conflict with design criteria in this Opinion; and **(B)** any conflict between ODOT (2004) and this Opinion (*e.g.*, stormwater management for maintenance yards, erosion repair related to use of riprap, dust abatement, and use of pesticides) will be resolved in favor of design criteria in this Opinion.

**46. Permanent stream crossing replacement.** **(A)** Demonstrate that a permanent stream crossing replacement that passes over a floodplain will not impair the physical and biological processes associated with a fully functional floodplain, and will restore any physical or biological process that was degraded by the previous crossing; **(B)** a crossing will be presumed

to maintain or restore floodplain function if it: **(i)** Maintains the general scour prism, as a clear, unobstructed opening (i.e., free of any fill, embankment, scour countermeasure, or structural material); **(ii)** is a single span structure that maintains a clear, unobstructed opening above the general scour elevation that is at least as wide as 1.5 times the active channel width, and otherwise meet NMFS' fish passage criteria (NMFS 2008, or latest version); or **(iii)** is a multiple span structure that maintains a clear, unobstructed opening above the general scour elevation, except for piers or interior bents, that is at least as wide as 2.2 times the active channel width.<sup>11</sup> This presumption will not apply to a crossing replacement in a tidally-influenced area, large river delta, or other area with a wide, expansive floodplain that is significantly larger than 2.2 times the active channel width – crossing replacements in those areas require individual consultation; **(C)** scour and stream stability countermeasures may be applied below the general scour elevation, however, except as described above in **(B)(ii)** and **(iii)**, no scour countermeasure may be applied above the general scour elevation, including but not limited to bendways, channelization, grout, grout bags, rip rap, sheet piling, and sills – maintain clear, unobstructed openings in all stream crossings by using longer spans, altered pier shape and orientation, placing foundations at bents and piers into erosion resistant materials below the general scour elevation, or other integral design features to reduce or avoid problems due to contraction scour or stream instability; **(D)** ensure that all stream crossings are designed and placed to: **(i)** Avoid causing local scour of streambanks and reasonably likely spawning areas; **(ii)** allow the fluvial transport of large wood, up to a site potential tree height in size, through the project area without becoming stranded on the bridge structure; **(iii)** allow for likely channel migration patterns within the functional floodplain for the design life of the bridge; and **(iv)** otherwise align with well-defined, stable channels; **(E)** remove all other artificial constrictions within the functional floodplain of the project area as follows: **(i)** Remove existing roadway fill, embankment fill, approach fill, or other fills; **(ii)** install relief conduits through existing fill; **(iii)** remove vacant bridge supports below total scour depth, unless the vacant support is part of the rehabilitated or replacement stream crossing; and **(iv)** reshape exposed floodplains and streambanks to match upstream and downstream conditions; and **(F)** the electronic notification for each permanent stream crossing replacement must explain how the Corps or applicant will ensure that the new span will maintain or restore the physical and biological processes within the functional floodplain including: **(i)** Site sketches, drawings, aerial photographs, or other supporting specifications, calculations, or information that is commensurate with the scope of the action, that show the active channel, the 100-year floodplain, the functional floodplain, any artificial fill within the project area, the existing crossing to be replaced, and the proposed crossing; **(ii)** a completed scour and stream stability analysis for any crossing that includes scour or stream stability countermeasures within the crossing opening that shows the general scour elevation and the local scour elevation for any pier or interior bent; and **(iii)** the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis.

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<sup>11</sup> For guidance on how to complete bridge scour and stream stability analysis, see Lagasse *et al.* 2001a (HEC-20), Lagasse *et al.* 2001b (HEC-23), Richardson and Davis 2001 (HEC-18), ODOT 2005, and AASHTO 2007.



## Utility Line Stream Crossings

**47. Utility line stream crossings.** (A) Design utility line stream crossings in the following priority: (i) Aerial lines, including lines hung from existing bridges; (ii) directional drilling, boring and jacking that spans the channel migration zone and any associated wetland; (iii) trenching – this method is restricted to intermittent streams and may only be used when the stream is naturally dry, all trenches must be backfilled below the ordinary high water line with native material and capped with clean gravel suitable for fish use in the project area; (B) align each crossing as perpendicular to the watercourse as possible, and for drilled, bored or jacked crossings, ensure that the line is below the total scour prism; (C) any large wood displaced by trenching or plowing must be returned as nearly as possible to its original position, or otherwise arranged to restore habitat functions; and (D) any action involving a stormwater outfall must meet the stormwater management criteria.

## Action Area

“Action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For this consultation, the overall action area consists of the combined action areas for each action to be authorized or carried out under this Opinion within the range of ESA-listed salmon, steelhead, southern green sturgeon, designated critical habitat, or designated EFH in Oregon. This includes all upland, riparian and aquatic areas affected by site preparation, construction, and site restoration design criteria at each action site. Individual action areas also include riparian areas, banks, and the stream channel in an area extending no more than 300 feet upstream and 300 feet downstream from the action footprint, generally no more than an additional 150 feet, where aquatic habitat conditions will be temporarily degraded until site restoration is complete. All actions authorized by this Opinion will occur within the jurisdiction of the Portland District in Oregon.

However, this Opinion does not apply to any proposed actions that may affect ESA-listed marine mammals, or to any action area adjacent to the Columbia River, the Oregon coast, or estuarine or riverine areas where ESA-listed marine mammals are likely to occur. All marine mammals are protected under the Marine Mammal Protection Act (MMPA). If you have questions about the distribution of marine mammals in Oregon, whether a proposed action may affect marine mammals, or how to comply with the ESA or MMPA for marine mammals, please contact Bridgette Lohrman (503-230-5422), or Brent Norberg (206-526-6550).

The Corps concluded that the proposed action was “likely to adversely affect” Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), Upper Willamette River spring-run (UWR) Chinook salmon, Upper Columbia River (UCR) spring-run Chinook salmon, Snake River (SR) spring/summer run Chinook salmon, SR fall-run Chinook salmon, Columbia River (CR) chum salmon (*O. keta*), LCR coho salmon (*O. kisutch*), Oregon Coast (OC) coho salmon, Southern Oregon/Northern California (SONCC) coho salmon, SR sockeye salmon (*O. nerka*), LCR steelhead (*O. mykiss*), UWR steelhead, Middle Columbia River (MCR) steelhead, UCR steelhead, Snake River Basin (SRB) steelhead, and southern green sturgeon (*Acipenser medirostris*) (Table 2).

**Table 2.** Federal Register notices for final rules that list threatened and endangered species, designate critical habitats, or apply protective regulations to listed species considered in this consultation. Listing status: ‘T’ means listed as threatened under the ESA; ‘E’ means listed as endangered.

Species	Listing Status	Critical Habitat	Protective Regulations
<b>Chinook salmon (<i>Oncorhynchus tshawytscha</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River spring-run	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River spring-run	E 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	ESA section 9 applies
Snake River spring/summer run	T 6/28/05; 70 FR 37160	10/25/99; 64 FR 57399	6/28/05; 70 FR 37160
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
<b>Chum salmon (<i>O. keta</i>)</b>			
Columbia River	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Coho salmon (<i>O. kisutch</i>)</b>			
Lower Columbia River	T 6/28/05; 70 FR 37160	Not applicable	6/28/05; 70 FR 37160
Oregon Coast	T 2/11/08; 73 FR 7816	2/11/08; 73 FR 7816	2/11/08; 73 FR 7816
Southern Oregon / Northern California Coasts	T 6/28/05; 70 FR 37160	5/5/99; 64 FR 24049	6/28/05; 70 FR 37160
<b>Sockeye salmon (<i>O. nerka</i>)</b>			
Snake River	E 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	ESA section 9 applies
<b>Steelhead (<i>O. mykiss</i>)</b>			
Lower Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Willamette River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Middle Columbia River	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
Upper Columbia River	E 1/05/06; 71 FR 834*	9/02/05; 70 FR 52630	ESA section 9 applies
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
<b>Green sturgeon (<i>Acipenser medirostris</i>)</b>			
Southern	T 4/07/06; 71 FR 17757	Not applicable	Not applicable

\* UCR steelhead was initially listed as an endangered species (6/18/97; 62 FR 43937), status upgraded to threatened (1/5/06; 71 FR 834), then reinstated as endangered status per a decision in U.S. District Court on June 13, 2007 (Trout Unlimited *et al.* v. Lohn, No. CV06-0483-JCC).

The Opinion also addresses effects to critical habitat designated for LCR Chinook salmon, UWR spring-run Chinook salmon, UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, CR chum salmon, OC coho salmon, SONCC coho salmon, SR sockeye salmon, LCR steelhead, UWR steelhead, MCR steelhead, UCR steelhead and SRB steelhead. Critical habitat has not been proposed or designated for LCR coho salmon or for southern green sturgeon.

The overall action area is also designated as EFH for Pacific Coast groundfish (PFMC 2006), coastal pelagic species (PFMC 1998), and Pacific Coast salmon (PFMC 1999), or is in an area where environmental effects of the proposed action may adversely affect designated EFH for those species.

## **ENDANGERED SPECIES ACT**

Section 7(a)(2) of the ESA requires Federal agencies to consult with NMFS to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species, or adversely modify or destroy their designated critical habitat. The Opinion that follows records the results of the interagency consultation for this proposed action. An incidental take statement (ITS) is provided after the Opinion that specifies the impact of any taking of threatened or endangered species that will be incidental to the proposed action, reasonable and prudent measures that NMFS considers necessary and appropriate to minimize such impact, and nondiscretionary terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency and applicant (if any) to carry out the reasonable and prudent measures.

### **Biological Opinion**

To complete the jeopardy analysis presented in this Opinion, NMFS reviews the status of each listed species<sup>12</sup> considered in this consultation, the environmental baseline in the action area, the effects of the action, and cumulative effects (50 CFR 402.14(g)). Southern green sturgeon are included in each section along with salmon and steelhead, although the geographic range of effects to this species is limited to those caused by actions that occur in bays, estuaries, and deep mainstem reaches of lower elevation rivers, as opposed to actions that will take place at higher elevations and in tributary habitats more typically occupied by salmon and steelhead. From this analysis, NMFS determines whether effects of the action were likely, in view of existing risks, to appreciably reduce the likelihood of both the survival and recovery of the affected listed species.

For the critical habitat adverse modification analysis, NMFS considers the status of the entire designated area of the critical habitat considered in this consultation, the environmental baseline in the action area, the likely effects of the action on the function and conservation role of the affected critical habitat, and cumulative effects. The NMFS uses this assessment to determine whether, with implementation of the proposed action, critical habitat would remain functional, or retain the current ability for the primary constituent elements (PCEs) to become functionally established, to serve the intended conservation role for the species.<sup>13</sup>

### **Status of the Species and Critical Habitats**

The summaries that follow describe the status of ESA-listed salmon and steelhead, their designated critical habitats, and southern green sturgeon that occur within the geographic area of the Corps' regulatory jurisdiction, and that are likely to be adversely affected by a permit the Corps may issue under this Opinion within the next 5 years to maintain or improve a road,

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<sup>12</sup> An "evolutionarily significant unit" (ESU) of Pacific salmon (Waples 1991), a "distinct population segment" (DPS) of steelhead (71 FR 834; January 5, 2006), and a DPS of sturgeon are all "species" as defined in section 3 of the ESA.

<sup>13</sup> Memorandum from William T. Hogarth to Regional Administrators, Office of Protected Resources, NMFS (November 7, 2005) (Application of the "Destruction or Adverse Modification" Standard Under Section 7(a)(2) of the Endangered Species Act).

culvert, bridge, or utility crossing. Information presented in these summaries is based on information presented in a large body of scientific publications and reports, and is the basis for the analyses we present in the Effects of the Action section of this Opinion. More detailed information on the status and trends of these listed resources, and their biology and ecology, can be found in the listing regulations and critical habitat designations published in the Federal Register (Table 2) and in many publications available from the NMFS Northwest Region, Protected Resources Division, Portland, Oregon.

The status of species and critical habitat sections below are organized by recovery domains to better integrate recovery planning information that NMFS is developing on the conservation status of the species and critical habitats considered in this consultation. Recovery domains are the geographically-based areas that NMFS is using to prepare multi-species recovery plans. Southern green sturgeon are under the jurisdiction of NMFS' Southwest Region which has not yet convened a recovery team for this species.

The four recovery domains relevant to this consultation and the ESA-listed salmon and steelhead species that reproduce in each recovery domain are shown in Table 3. For this consultation, populations that reproduce in Oregon are also identified as one indication of the importance of the action area to the recovery of these species. However, all populations spawning within the Columbia River basin use the Columbia River mainstem and estuary to complete part of their life history.

**Table 3.** Recovery planning domains identified by NMFS and their ESA-listed salmon and steelhead species.

Recovery Domain	Species
Willamette-Lower Columbia	LCR Chinook salmon
	UWR Chinook salmon
	CR chum salmon
	LCR coho salmon
	LCR steelhead
	UWR steelhead
Interior Columbia	UCR spring-run Chinook salmon
	SR spring/summer Chinook salmon
	SR fall-run Chinook salmon
	SR sockeye salmon
	UCR steelhead
	MCR steelhead
	SRB steelhead
Oregon Coast	OC coho salmon
Southern Oregon Northern California Coasts	SONCC coho salmon

For each recovery domain, a technical review team (TRT) appointed by NMFS has developed, or is developing, criteria necessary to identify independent salmon populations within each species, recommend viability criteria for that species, and analyze factors that limit species survival. The definition of a population used by each TRT is set forth in the “viable salmonid population”

(VSP) document prepared by NMFS for use in conservation assessments of Pacific salmon and steelhead (McElhany *et al.* 2000). The boundaries of each population are defined using a combination of genetic information, geography, life-history traits, morphological traits, and population dynamics that indicate the extent of reproductive isolation among spawning groups.

Understanding population size and spatial extent is critical for the viability analyses, and a necessary step in recovery planning and conservation assessments for any species. If a species consists of multiple populations, the overall viability of that species is a function of the VSP attributes of its constituent populations. Until a viability analysis of a species is completed, the VSP guidelines recommend that all populations should be managed to retain the potential to achieve viable status to ensure a rapid start along the road to recovery, and that no significant parts of the species are lost before the full recovery plan is implemented (McElhany *et al.* 2000).

The status of critical habitat was based primarily on a watershed-level analysis of conservation value that focused on the presence of listed ESA-listed salmon and steelhead and the biological and physical features (*i.e.*, the PCEs) that are essential to their conservation. This analysis for the 2005 designations was completed by Critical Habitat Analytical Review Teams (CHARTs) that focused on large geographical areas corresponding approximately to recovery domains (NOAA Fisheries 2005). Each watershed was ranked using a conservation value attributed to the quantity of stream habitat with PCEs, the present condition of those PCEs, the likelihood of achieving PCE potential (either naturally or through active restoration), support for rare or important genetic or life history characteristics, support for abundant populations, and support for spawning and rearing populations. In some cases, our understanding of these interim conservation values has been further refined by the work of TRTs and other recovery planning efforts that have better explained the habitat attributes, ecological interactions, and population characteristics important to each species.

**Status of the Species.** Natural variations in freshwater and marine environments have substantial effects on the abundance of Pacific salmon and steelhead populations. Of the various natural phenomena that affect most populations of salmon and steelhead, changes in ocean productivity are generally considered the most important. Pacific salmon and steelhead are exposed to high rates of natural predation, particularly during freshwater rearing and migration stages. Ocean predation probably contributes to significant natural mortality, although the levels of predation are largely unknown. In general, Pacific salmon and steelhead are eaten by pelagic fishes, birds, and marine mammals.

Over the past few decades, the size and distribution of the salmon and steelhead populations considered in this Opinion, like the other salmon and steelhead that NMFS has listed, generally have declined because of natural phenomena and human activity, including the operation of hydropower systems, over-harvest, hatcheries, and habitat degradation. Enlarged populations of terns, seals, and sea lions in the Pacific Northwest have reduced the survival of some Pacific salmon and steelhead populations. As noted more fully in the status of the critical habitats section below, climate change is likely to play an increasingly important role in determining the abundance of salmon and steelhead by exacerbating long-term problems related to temperature, stream flow, habitat access, predation, and marine productivity (CIG 2004, Scheuerell and Williams 2005, Zabel *et al.* 2006, ISAB 2007).

***Willamette and Lower Columbia (WLC) Recovery Domain.*** Species in the WLC Recovery Domain include LCR Chinook salmon, UWR Chinook salmon, CR chum salmon, LCR coho salmon, LCR steelhead, and UWR steelhead. The WLC-TRT identified 107 demographically-independent populations of those species (Table 4), including 47 populations that spawn within Oregon. These populations were further aggregated into strata, groupings above the population level that are connected by some degree of migration, based on ecological subregions. All 107 populations use parts of the mainstem of the Columbia River and the Columbia River estuary that flow through Oregon for migration, rearing, and smoltification.

The WLC-TRT recommended viability criteria that follow the VSP framework and described biological or physical performance conditions that, when met, indicate a population or species has a 5% or less risk of extinction over a 100-year period (McElhany *et al.* 2006, see also, NRC 1995). McElhany *et al.* (2007) applied those criteria to populations in Oregon and found that the combined extinction risk is very high for LCR Chinook salmon, UWR Chinook salmon, CR chum salmon, LCR coho salmon, and moderate for LCR steelhead and UWR steelhead, although the status of those species with populations in Washington is still under assessment.

**Table 4.** Demographically-independent populations in the WLC Recovery Domain and spawning populations in Oregon.

Species	Populations In WLC	Spawning Populations In Oregon
LCR Chinook salmon	32	12
UWR Chinook salmon	7	7
CR chum salmon	17	8
LCR coho salmon	24	9
LCR steelhead	23	6
UWR steelhead	5	5

***LCR Chinook salmon.*** This species includes all naturally-spawned populations of Chinook salmon in the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River; the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River; and progeny of seventeen artificial propagation programs. The WLC-TRT identified 32 historical populations of LCR Chinook salmon – seven in the coastal subregion, six in the Columbia Gorge, and nine in the western Cascades. Twelve of those populations occur within the action area (Table 5) and only Sandy River late fall Chinook is considered “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR Chinook salmon include altered channel morphology, loss of habitat diversity, excessive sediment, high water temperature, reduced access to spawning/rearing habitat, and harvest impacts (NMFS 2006).

***UWR Chinook salmon.*** The species includes all naturally-spawned populations of spring-run Chinook salmon in the Clackamas River and in the Willamette River, and its

tributaries, above Willamette Falls, Oregon, and progeny of seven artificial propagation programs. All seven historical populations of UWR Chinook salmon identified by the WLC-TRT occur within the action area and are contained within a single ecological subregion, the western Cascade Range (Table 6); only the Clackamas population is characterized as “viable” (McElhany *et al.* 2007). The major factors limiting recovery of UWR Chinook salmon identified by NMFS include lost/degraded floodplain connectivity and lowland stream habitat, degraded water quality, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).

**Table 5.** LCR Chinook salmon populations spawning in Oregon. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years, “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Coast Range	Fall	Young Bay	Very High
		Big Creek	Very High
		Clatskanie	Relatively High
		Scappoose	Very High
Columbia Gorge	Spring	Hood	Very High
	Early fall (“tule”)	Upper Gorge	Very High
	Fall	Hood	Very High
		Lower Gorge	Very High
West Cascade Range	Spring	Sandy	Moderate
	Early fall (“tule”)	Clackamas	Very High
		Sandy	Very High
	Late fall (“bright”)	Sandy	Low

**Table 6.** UWR Chinook salmon populations. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
West Cascade Range	Spring	Clackamas	Low
		Mollala	Relatively High
		North Santiam	Very high
		South Santiam	Very high
		Calapooia	Very high
		McKenzie	Moderate
		Middle Fork Willamette	Very high

**CR chum salmon.** This species includes all naturally-spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon, and progeny of three artificial propagation programs. The WLC-TRT identified 17 historical populations of CR chum salmon and aggregated these into four strata (Myers *et al.* 2006). Unlike other species in the WLC Recovery Domain, CR chum salmon spawning aggregations were identified in the mainstem Columbia River. These aggregations generally were included in the population associated with the nearest river basin. Three strata and eight historical populations of CR chum salmon occur within the action area (Table 7); of these, none are “viable” (McElhany *et al.* 2007). The major factors limiting recovery of CR chum salmon include altered channel morphology, loss of habitat diversity, excessive sediment, reduced streamflow, harassment of spawners, and harvest impacts (NMFS 2006).



**Table 7.** CR chum salmon populations spawning in Oregon. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Coast Range	Fall	Young’s Bay	Very high
		Big Creek	Very high
		Clatskanie	Very high
		Scappoose	Very high
Columbia Gorge	Fall	Lower Gorge	Very high
		Upper Gorge	Very high
West Cascade Range	Fall	Clackamas	Very high
		Sandy	Very high

**LCR coho salmon.** This species includes all naturally-spawned populations of coho salmon in the Columbia River and its tributaries in Washington and Oregon, from the mouth of the Columbia up to and including the Big White Salmon and Hood rivers, in the Willamette River to Willamette Falls, Oregon, and progeny of 25 artificial propagation programs. The WLC-TRT identified 24 historical populations of LCR coho salmon and divided these into two strata based on major run timing: early and late (Myers *et al.* 2006). Three strata and nine historical populations of LCR coho salmon occur within the action area (Table 8). Of these nine populations, Clackamas River is the only population characterized as “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR coho salmon include degraded floodplain connectivity and channel structure and complexity, loss of riparian areas and large wood recruitment, degraded stream substrate, loss of stream flow, reduced water quality, and impaired passage (NMFS 2007).

In general, late coho salmon spawn in smaller rivers or the lower reaches of larger rivers from mid-November to January, coincident with the onset of rain-induced freshets in the fall or early winter. Spawning typically takes place within a few days to a few weeks of freshwater entry. Late-run fish also tend to undertake oceanic migrations to the north of the Columbia River, extending as far as northern British Columbia and southeast Alaska. As a result, late coho salmon are known as “Type N” coho. Alternatively, early coho salmon spawn in the upper reaches of larger rivers in the Lower Columbia River and in most rivers inland of the Cascade Crest. During their oceanic migration, early coho salmon tend to migrate to the south of the Columbia River and are known as “Type S” coho salmon. They may migrate as far south as the waters off northern California. While the ecological significance of run timing in coho salmon is fairly well understood, it is not clear how important ocean migratory pattern is to overall diversity and the relative historical abundance of Type N and Type S life histories largely is unknown.

**Table 8.** LCR coho salmon populations spawning in Oregon. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Spawning Population In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Type		
Coast Range	N	Young’s Bay	Very High
		Big Creek	Very High
		Clatskanie River	Relatively High
		Scappoose River	Relatively High
Columbia Gorge	N and S	Lower Gorge	Very High
		Upper Gorge	NA
		Hood River	Very high
West Cascade Range	S	Clackamas River	Low
		Sandy River	Relatively High

**LCR steelhead.** The species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams and tributaries to the Columbia River between and including the Cowlitz and Wind rivers, Washington; in the Willamette and Hood rivers, Oregon; and progeny of ten artificial propagation programs; but excluding all steelhead from the Upper Willamette River basin above Willamette Falls, Oregon, and from the Little and Big White Salmon rivers, Washington. The WLC-TRT identified 23 historical populations of LCR steelhead (Myers *et al.* 2006). Within these populations, the winter-run timing is more common in the west Cascade subregion, while farther east summer steelhead are found almost exclusively.

Summer steelhead return to freshwater long before spawning. Winter steelhead, in contrast, return from the ocean much closer to maturity and spawn within a few weeks. Summer steelhead spawning areas in the Lower Columbia River are found above waterfalls and other features that create seasonal barriers to migration. Where no temporal barriers exist, the winter-run life history dominates. Three strata and six historical populations of LCR steelhead occur within the action area (Table 9). Of the populations in Oregon, only Clackamas is “viable” (McElhany *et al.* 2007). The major factors limiting recovery of LCR steelhead include altered channel morphology, lost/degraded floodplain connectivity and lowland stream habitat, excessive sediment, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).

**Table 9.** LCR steelhead populations spawning in Oregon. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Population Spawning In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Timing		
Columbia Gorge	Summer	Hood River	Very High
	Winter	Lower Gorge	Relatively High
		Upper Gorge	Moderate
		Hood River	Moderate
West Cascade Range	Winter	Clackamas	Low
		Sandy	Relatively High

**UWR steelhead.** This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River. The WLC-TRT identified four historical populations of UWR steelhead, all with winter run timing and all within Oregon (Myers *et al.* 2006). Only winter steelhead historically existed in this area, because flow conditions over Willamette Falls allowed only late winter steelhead to ascend the falls, until a fish ladder was constructed in the early 1900s and summer steelhead were introduced. Summer steelhead have become established in the McKenzie River where historically no steelhead existed, although these fish were not considered in the identification of historical populations. UWR steelhead currently are found in many tributaries that drain the west side of the Upper Willamette River basin. Analysis of historical observations, hatchery records, and genetic analysis strongly suggested that many of these spawning aggregations are the result of recent introductions and do not represent a historical population. Nevertheless, the WLC-TRT recognized that these tributaries may provide juvenile rearing habitat or may be temporarily (for one or more generations) colonized during periods of high abundance.

One stratum and five historical populations of UWR steelhead occur within the action area (Table 10), although the west-side tributaries population was included only because it is important to the species as a whole, and not because it is independent. Of these five populations, none are “viable” (McElhany *et al.* 2007). The major factors limiting recovery of UWR steelhead include lost/degraded floodplain connectivity and lowland stream habitat, degraded water quality, high water temperature, reduced streamflow, and reduced access to spawning/rearing habitat (NMFS 2006).

**Table 10.** UWR steelhead populations. Overall viability risk: “Extinct or very high” means greater than 60% chance of extinction within 100 years; “relatively high” means 60 to 25% risk of extinction in 100 years; “moderate” means 25 to 5% risk of extinction in 100 years, “low or negligible” means 5 to 1% risk of extinction in 100 years; “very low” means less than 1% chance of extinction in 100 years, and NA means not available. A low or negligible risk of extinction is considered “viable.”

Stratum		Population Spawning In Oregon (Watershed)	Overall Viability Risk
Ecological Subregion	Run Type		
West Cascade Range	Winter	Molalla	Moderate
		North Santiam	Moderate
		South Santiam	Moderate
		Calapooia	Moderate
		West-side Tributaries	Moderate

***Interior Columbia (IC) Recovery Domain.*** Species in the IC Recovery Domain include UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, UCR steelhead, MCR steelhead, and SRB steelhead. The IC-TRT identified 82 demographically-independent populations of those species based on genetic, geographic (hydrographic), and habitat characteristics (Table 11). In some cases, the IC-TRT further aggregated populations into “major groupings” based on dispersal distance and rate, and drainage structure, primarily the location and distribution of large tributaries (IC-TRT 2003). Of the 82 populations identified, 24 have all or part of their spawning range in Oregon, and all 82 use the lower mainstem of the Snake River, the mainstem of the Columbia River, and the Columbia River estuary, or part thereof, in Oregon for migration, rearing, and smoltification.

**Table 11.** Demographically-independent populations in the IC Recovery Domain and spawning populations in Oregon.

Species	Populations In IC	Spawning Populations In Oregon
UCR spring-run Chinook salmon	3	0
SR spring/summer Chinook salmon	31	7
SR fall-run Chinook salmon	1	1
SR sockeye salmon	1	0
UCR steelhead	4	0
MCR steelhead	17	10
SRB steelhead	25	6

The IC-TRT also recommended viability criteria that follow the VSP framework (McElhany *et al.* 2006) and described biological or physical performance conditions that, when met, indicate a population or species has a 5% or less risk of extinction over a 100-year period (IC-TRT 2007, see also, NRC 1995). As of this writing, the IC-TRT has applied the viability criteria to 68

populations, although it has only completed a draft assessment for 55 populations (see IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). Of those assessments, the only population that the TRT found to be viable was the North Fork John Day population of MCR steelhead. The strength of this population is due to a combination of high abundance and productivity, and good spatial structure and diversity, although the genetic effects of the large number of out-of-species strays and of natural spawners that are hatchery strays are still significant long-term concerns.

***UCR spring-run Chinook salmon.*** This species includes all naturally-spawned populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington (excluding the Okanogan River), the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington, as well as progeny of six artificial propagation programs. The IC-TRT identified four independent populations of UCR spring-run Chinook salmon in the upriver tributaries of Wenatchee, Entiat, Methow, and Okanogan (extirpated), but no major groups due to the relatively small geographic area affected (IC-TRT 2003, McClure *et al.* 2005). Although none of these populations spawn in Oregon, they all use the Columbia River mainstem and estuary so all adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT considered that this species, as a whole, is at high risk of extinction because all extant populations are at high risk (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors limiting recovery of UWR spring-run Chinook salmon include altered channel morphology and floodplain, riparian degradation and loss of in-river large wood, reduced streamflow, impaired passage, hydropower system mortality, and harvest impacts (NMFS 2006).

***SR spring/summer run Chinook salmon.*** This species includes all naturally-spawned populations of spring/summer run Chinook salmon in the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River subbasins; and progeny of fifteen artificial propagation programs. The IC-TRT identified 31 historical populations of SR spring/summer run Chinook salmon, and aggregated these into major population groups (IC-TRT 2003, McClure *et al.* 2005). This species includes those fish that spawn in the Snake River drainage and its major tributaries, including the Grande Ronde River and the Salmon River, and that complete their adult, upstream migration past Bonneville Dam between March and July. Of the 31 historical populations of SR spring/summer run Chinook salmon identified by the IC-TRT, seven occur entirely or partly within Oregon (Table 12). Each of these populations are part of the Grande Ronde and Imnaha River major group, and all face a high risk of extinction (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon).

The major factors limiting recovery of SR spring/summer run Chinook salmon include altered channel morphology and floodplain, excessive sediment, degraded water quality, reduced streamflow, and hydropower system mortality (NMFS 2006).

**Table 12.** SR spring/summer run Chinook salmon populations in Oregon. Overall viability risk: “high” means greater than 25% risk of extinction in 100 years; “moderate” means 5 to 25% risk of extinction with 100 years; “low” means 1 to 5% risk of extinction in 100 years; and “very low” means less than 1% risk of extinction in 100 years.

Major Group	Spawning Populations In Oregon (Watershed)	Viability Assessment		
		Abundance Productivity Risk	Spatial Diversity Risk	Overall Viability Risk
Grande Ronde And Imnaha Rivers	Wenaha River	High	Moderate	High
	Wallowa-Lostine River	High	Moderate	High
	Minam River	High	Moderate	High
	Catherine Creek	High	Moderate	High
	Upper Grande Ronde	High	High	High
	Imnaha River mainstem	High	Moderate	High
	Big Sheep Creek	High	Moderate	High

***SR fall-run Chinook salmon.*** This species includes all naturally-spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River, and progeny of four artificial propagation programs. The IC-TRT identified three populations of this species, although only the lower mainstem population exists at present, and it spawns in the lower main stem of the Clearwater, Imnaha, Grande Ronde, Salmon and Tucannon rivers (IC-TRT 2003, McClure *et al.* 2005). Unlike the other listed Chinook species in this recovery domain, most SR fall-run Chinook have a subyearling, ocean-type life history in which juveniles outmigrate the next summer, rather than rearing in freshwater for 13 to 14 months before outmigration. Adults return to the Snake River basin in September and October and spawn shortly thereafter. The lower mainstem population spawns in the Columbia River mainstem, in part adjacent to Oregon. All adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT has not completed a viability assessment of this species. The major factors limiting recovery of SR fall-run Chinook salmon include reduced spawning/rearing habitat, degraded water quality, hydropower system mortality, and harvest impacts (NMFS 2006).

***SR sockeye salmon.*** This species includes all anadromous and residual sockeye salmon from the Snake River basin, Idaho, and artificially-propagated sockeye salmon from the Redfish Lake captive propagation program. The IC-TRT identified historical sockeye production in at least five Stanley Basin lakes and in lake systems associated with Snake River tributaries currently cut off to anadromous access (*e.g.*, Wallowa and Payette lakes), although current returns of SR sockeye are extremely low and limited to Redfish Lake (IC-TRT 2007). SR sockeye salmon do not spawn in Oregon, but all adult and juvenile individuals of this species must pass through part of the action area. The major factors limiting recovery of SR sockeye

salmon include altered channel morphology and floodplain, reduced streamflow, impaired passage, and hydropower system mortality (NMFS 2006).

***MCR steelhead.*** This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington, excluding steelhead from the Snake River basin; and progeny of seven artificial propagation programs. The IC-TRT identified 20 historical populations of MCR steelhead in major groups (IC-TRT 2003, McClure *et al.* 2005). Ten populations of MCR steelhead occur in Oregon, divided among three major groups (Table 13). Of the 20 historical populations of MCR steelhead identified by the IC-TRT, only the North Fork John Day population currently meets viability criteria, and none of the major groups or the species are considered viable (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors limiting recovery of MCR steelhead include altered channel morphology and floodplain, excessive sediment, degraded water quality, reduced streamflow, impaired passage, and hydropower system mortality (NMFS 2006).

**Table 13.** MCR steelhead populations in Oregon. The Walla Walla population also occurs partly in Washington.

Major Group	Population (Watershed)
Cascade East Slope Tributaries	Fifteenmile Creek
	Deschutes Eastside Tributaries
	Deschutes Westside Tributaries
John Day River	Lower Mainstem John Day River
	North Fork John Day River
	Middle Fork John Day River
	South Fork John Day River
	Upper Mainstem John Day River
Walla Walla and Umatilla Rivers	Umatilla River
	Walla Walla River

***UCR steelhead.*** This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the U.S./Canada border, and progeny of six artificial propagation programs. Four independent populations of UCR steelhead were identified by the IC-TRT in the same upriver tributaries as for the previous species (*i.e.*, Wenatchee, Entiat, Methow, and Okanogan) and, similarly, no major population groupings were identified due to the relatively small geographic area involved (IC-TRT 2003, McClure *et al.* 2005). None of these populations spawn in Oregon, although all adult and juvenile individuals of this species must pass through part of the action area. The IC-TRT has not completed a viability assessment of this species, although all extant populations are considered to be at high risk of extinction (IC-TRT - Current Status Assessments, as of April 21, 2006, available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon). The major factors

limiting recovery of UCR steelhead include altered channel morphology and floodplain, riparian degradation and loss of in-river large wood, excessive sediment, degraded water quality, reduced streamflow, hydropower system mortality, harvest impacts, and hatchery impacts (NMFS 2006).

**SRB steelhead.** This species includes all naturally-spawned steelhead populations below natural and artificial impassable barriers in streams in the Snake River basin of southeast Washington, northeast Oregon, and Idaho, and progeny of six artificial propagation programs. These fish are genetically differentiated from other interior Columbia steelhead populations and spawn at higher altitudes (up to 6,500 feet) after longer migrations (more than 900 miles). The IC-TRT identified 24 populations in five major groups (IC-TRT 2003, McClure *et al.* 2005). Of those, six populations divided among three major groups spawn in Oregon (Table 14). The IC-TRT has not completed a viability assessment of this species. The major factors limiting recovery of SRB steelhead include altered channel morphology and floodplain, excessive sediment, degraded water quality, reduced streamflow, hydropower system mortality, harvest impacts, and hatchery impacts (NMFS 2006).

**Table 14.** SRB steelhead populations in Oregon.

Major Group	Population (Watershed)
Grande Ronde	Lower Grande Ronde
	Joseph Creek
	Wallowa River
	Upper Grande Ronde
Imnaha River	Imnaha River
Hells Canyon Tributaries	Hells Canyon Tributaries

**Oregon Coast (OC) Salmon Recovery Domain.** The OC recovery domain includes one species, the OC coho salmon, and covers Oregon coastal streams south of the Columbia River and north of Cape Blanco. Streams and rivers in this area drain west into the Pacific Ocean, and vary in length from less than a mile to more than 210 miles in length. All, with the exception of the largest, the Umpqua River, drain from the crest of the Coast Range. The Umpqua transects the Coast Range and drains from the Cascade Mountains. The OC recovery domain covers cities along the coast and inland, including Tillamook, Lincoln City, Newport, Florence, Coos Bay and Roseburg, and has substantial amounts of private forest and agricultural lands. It also includes portions of the Siuslaw and Umpqua National Forests, lands managed by the U.S. Bureau of Land Management, and the Tillamook and Elliott State Forests.

**OC coho salmon.** This species includes all naturally-spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco, and progeny of five artificial propagation programs. The OC-TRT identified 56 historical populations, grouped into five major “biogeographic strata,” based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Table 15) (Lawson *et al.* 2007). The OC-TRT concluded that, if recent past conditions continue into the future, OC coho salmon are moderately likely to persist over a 100-year period without artificial support, and



have a low to moderate likelihood of being able to sustain their genetic legacy and long-term adaptive potential for the foreseeable future (Wainwright *et al.* 2007). The major factors limiting recovery of OC coho salmon include altered stream morphology, reduced habitat complexity, loss of overwintering habitat, excessive sediment, high water temperature, and variation in ocean conditions (NMFS 2006).

**Table 15.** OC coho salmon populations in Oregon. Population type “D” means dependent; “FI” means functionally independent; and “PI” means potentially independent.

Stratum	Population	Type	Stratum	Population	Type
North Coast	Necanicum	PI	Mid-Coast (cont.)	Alsea	FI
	Ecola	D		Big (Alsea)	D
	Arch Cape	D		Vingie	D
	Short Sands	D		Yachats	D
	Nehalem	FI		Cummins	D
	Spring	D		Bob	D
	Watseco	D		Tenmile	D
	Tillamook	FI		Rock	D
	Netarts	D		Big (Siuslaw)	D
	Rover	D		China	D
	Sand	D		Cape	D
	Nestucca	FI		Berry	D
	Neskowin	D		Sutton	D
Mid-Coast	Salmon	PI	Lakes	Siuslaw	FI
	Devils	D		Siltcoos	PI
	Siletz	FI		Tahkenitch	PI
	Schoolhouse	D		Tenmile	PI
	Fogarty	D	Umpqua	Lower Umpqua	FI
	Depoe	D		Middle Umpqua	FI
	Rocky	D		North Umpqua	FI
	Spencer	D		South Umpqua	FI
	Wade	D	Mid-South Coast	Threemile	D
	Coal	D		Coos	FI
	Moolack	D		Coquille	FI
	Big (Yaquina)	D		Johnson	D
	Yaquina	FI		Twomile	D
	Theil	D		Floras	PI
	Beaver	PI		Sixes	PI

***Southern Oregon and Northern California Coasts (SONCC) Recovery Domain.*** The SONCC recovery domain includes one ESA-listed species: the SONCC coho salmon. The SONCC recovery domain extends from Cape Blanco, Oregon, to Punta Gorda, California. This area includes many small-to-moderate-sized coastal basins, where high quality habitat occurs in the lower reaches of each basin, and three large basins (Rogue, Klamath and Eel) where high quality habitat is in the lower reaches, little habitat is provided by the middle reaches, and the largest amount of habitat is in the upper reaches of the subbasins.

***SONCC coho salmon.*** This species includes all naturally-spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California; and progeny of three artificial propagation programs. The SONCC-TRT identified 50

populations that were historically present based on consideration of historical distribution, geographic isolation, dispersal rates, genetic data, life history information, population dynamics, and environmental and ecological diversity (Williams *et al.* 2006). In some cases, the SONCC-TRT also identified groups of populations referred to as “diversity strata” largely based on the geographical arrangement of the populations and basin-scale environmental and ecological characteristics. Of those populations, 13 strata and 17 populations occur within the action area (Table 16). The SONCC-TRT has not yet developed viability criteria for use in setting recovery goals. The major factors limiting recovery of SONCC coho salmon include loss of channel complexity, loss of estuarine and floodplain habitat, loss of riparian habitat, loss of in-river wood, excessive sediment, degraded water quality, high water temperature, reduced streamflow, unscreened water diversions, and structures blocking fish passage (NMFS 2006).

**Table 16.** SONCC coho salmon populations in Oregon. Populations that also occur partly in California are marked with an asterisk. Population type “D” means dependent; “E” means ephemeral; “FI” means functionally independent; and “PI” means potentially independent.

Population		Population Type
River Basin	Subbasin	
Elk River		FI
Mill Creek		D
Hubbard Creek		E
Brush Creek		D
Mussel Creek		D
Euchre Creek		E
Rogue River *	Lower Rogue River	PI
	Illinois River*	FI
	Mid Rogue/Applegate*	FI
	Upper Rogue River	FI
Hunter Creek		D
Pistol River		D
Chetco River		FI
Winchuck River		PI
Smith River *		FI
Klamath River *	Middle Klamath River	PI
	Upper Klamath River	FI

***Southern green sturgeon.*** The southern green sturgeon was recently listed as threatened under the ESA (Table 2). This species includes all naturally-spawned populations of green sturgeon that occur south of the Eel River in Humboldt County, California. The principal factor for the decline of southern green sturgeon is the reduction of its spawning area to a single known population limited to a small portion of the Sacramento River. Unless spawning, green sturgeon are broadly distributed in nearshore marine areas from Mexico to the Bering Sea and are commonly observed in bays, estuaries, and sometimes the deep riverine mainstem in lower elevation reaches of non-natal rivers along the west coast of North America. The principal threat to southern green sturgeon is the reduction of available spawning habitats due to the construction of barriers along the Sacramento and Feather rivers. Other threats are insufficient flow rates,

increased water temperatures, water diversion, nonnative species, poaching, pesticide and heavy metal contamination, and local fishing. The viability of this species is still under assessment.

**Status of Critical Habitat.** The NMFS designated critical habitat for all species considered in this opinion, except LCR coho salmon and southern green sturgeon, for which critical habitat has not been proposed or designated (Table 2). To assist in the designation of critical habitat in 2005, NMFS convened CHARTs, organized by major geographic areas that roughly correspond to salmon recovery planning domain (NOAA Fisheries 2005). Each CHART consisted of Federal biologists and habitat specialists from NMFS, the Fish and Wildlife Service, the Forest Service, and the Bureau of Land Management, with demonstrated expertise regarding salmon and steelhead habitat and related protective efforts within that domain.

Each CHART assessed biological information pertaining to areas under consideration for designation as critical habitat to identify the areas occupied by ESA-listed salmon and steelhead, determine whether those areas contained PCEs essential for the conservation of those species, and whether unoccupied areas existed within the historical range of the ESA-listed salmon and steelhead that may also be essential for conservation. The CHART then scored each habitat area based on the quantity and quality of the physical and biological features; rated each habitat area as having a “high,” “medium,” or “low” conservation value; and identified management actions that could affect habitat for ESA-listed salmon and steelhead. CHART reports are available from NMFS Northwest Region, Protected Resources Division, Portland, Oregon.

The ESA gives the Secretary of Commerce discretion to exclude areas from designation if he determines that the benefits of exclusion outweigh the benefits of designation. Considering economic factors and information from CHARTs, NMFS partially or completely excluded the following types of areas from the 2005 critical habitat designations:

1. **Military areas.** All military areas were excluded because of the current national priority on military readiness, and in recognition of conservation activities covered by military integrated natural resource management plans.
2. **Tribal lands.** Native American lands were excluded because of the unique trust relationship between tribes and the federal government, the federal emphasis on respect for tribal sovereignty and self governance, and the importance of tribal participation in numerous activities aimed at conserving salmon.
3. **Areas With Habitat Conservation Plans.** Some lands covered by habitat conservation plans were excluded because NMFS had evidence that exclusion would benefit our relationship with the landowner, the protections secured through these plans outweigh the protections that are likely through critical habitat designation, and exclusion of these lands may provide an incentive for other landowners to seek similar voluntary conservation plans.
4. **Areas With Economic Impacts.** Areas where the conservation benefit to the species would be relatively low compared to the economic impacts.

In designating these critical habitats, NMFS organized information at scale of the watershed or 5<sup>th</sup> field hydrologic unit code (HUC5) because that scale largely corresponds to the spatial distribution and site fidelity of Pacific salmon and steelhead populations (WDF *et al.* 1992, McElhany *et al.* 2000). For earlier critical habitat designations for Snake River salmon and SONCC coho salmon, similar information was not available at the watershed scale, so NMFS used the scale of the subbasin or 4<sup>th</sup> field HUC to organize critical habitat information.

The NMFS reviews the status of designated critical habitat affected by the proposed action by examining the condition and trends of PCEs throughout the designated area. PCEs consist of the physical and biological features identified as essential to the conservation of the listed species in the documents that designate critical habitat (Tables 17 and 18).

**Table 17.** PCEs of critical habitats designated for ESA-listed salmon and steelhead species considered in the Opinion (except SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, and SR sockeye salmon), and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site Type	Site Attribute	
Freshwater spawning	Substrate Water quality Water quantity	Adult spawning Embryo incubation Alevin development
Freshwater rearing	Floodplain connectivity Forage Natural cover Water quality Water quantity	Fry emergence Fry/parr growth and development
Freshwater migration	Free of artificial obstructions Natural cover Water quality Water quantity	Adult sexual maturation Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration
Estuarine areas	Forage Free of obstruction Natural cover Salinity Water quality Water quantity	Adult sexual maturation Adult “reverse smoltification” Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration Fry/parr smoltification Smolt growth and development Smolt seaward migration
Nearshore marine areas	Forage Free of obstruction Natural cover Water quantity Water quality	Adult sexual maturation Smolt/adult transition
Offshore marine areas	Forage Water quality	Adult growth and development

**Table 18.** PCEs of critical habitats designated for SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, SR sockeye salmon, SONCC coho salmon, and corresponding species life history events.

Primary Constituent Elements		Species Life History Event
Site	Site Attribute	
Spawning and juvenile rearing areas	Access (sockeye) Cover/shelter Food (juvenile rearing) Riparian vegetation Space (Chinook and coho) Spawning gravel Water quality Water temperature (sockeye) Water quantity	Adult spawning Embryo incubation Alevin development Fry emergence Fry/parr growth and development Fry/parr smoltification Smolt growth and development
Juvenile migration corridors	Cover/shelter Food Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Fry/parr seaward migration Smolt growth and development Smolt seaward migration
Areas for growth and development to adulthood	Ocean areas – not identified	Adult growth and development Adult sexual maturation Fry/parr smoltification Smolt/adult transition
Adult migration corridors	Cover/shelter Riparian vegetation Safe passage Space Substrate Water quality Water quantity Water temperature Water velocity	Adult sexual maturation Adult “reverse smoltification” Adult upstream migration Kelt (steelhead) seaward migration

Climate change is likely to have negative implications for the conservation value of designated critical habitats in the Pacific Northwest (CIG 2004, Scheuerell and Williams 2005, Zabel *et al.* 2006, ISAB 2007). Average annual Northwest air temperatures have increased by approximately 1°C since 1900, or about 50% more than the global average warming over the same period (ISAB 2007). The latest climate models project a warming of 0.1 to 0.6°C per decade over the next century. According to the ISAB, these effects may have the following physical impacts within the next forty or so years:

- Warmer air temperatures will result in a shift to more winter/spring rain and runoff, rather than snow that is stored until the spring/summer melt season.
- With a shift to more rain and less snow, the snowpacks will diminish in those areas that typically accumulate and store water until the spring freshet.
- With a smaller snowpack, these watersheds will see their runoff diminished and exhausted earlier in the season, resulting in lower streamflows in the June through September period.
- River flows in general and peak river flows are likely to increase during the winter due to more precipitation falling as rain rather than snow.
- Water temperatures will continue to rise, especially during the summer months when lower streamflow and warmer air temperatures will contribute to the warming regional waters.

These changes will not be spatially homogeneous across the entire Columbia River basin. Areas with elevations high enough to maintain temperatures well below freezing for most of the winter and early spring would be less affected. Low-lying areas that historically have received scant precipitation contribute little to total streamflow and are likely to be more affected. The ISAB also identified the likely effects of projected climate changes on Columbia basin salmon. These long-term effects may include, but are not limited to, depletion of cold water habitat, variation in quality and quantity of tributary rearing habitat, alterations to migration patterns, accelerated embryo development, premature emergence of fry, and increased competition among species

To mitigate for the effects of climate change on listed salmonids, the ISAB (2007) recommends planning now for future climate conditions by implementing protective tributary, mainstem, and estuarine habitat measures; as well as protective hydropower mitigation measures. In particular, the ISAB (2007) suggests increased summer flow augmentation from cool/cold storage reservoirs to reduce water temperatures or to create cool water refugia in mainstem reservoirs and the estuary; the protection and restoration of riparian buffers, wetlands, and floodplains; removal of stream barriers; implementation of fish ladders; and assurance of high summer and autumn flows.

***Willamette and Lower Columbia River Recovery Domain.*** Critical habitat was designated in the WLC Recovery Domain for UWR spring-run Chinook salmon, LCR Chinook salmon, LCR steelhead, UWR steelhead, and CR chum salmon. In addition to the Willamette and Columbia river mainstems, important tributaries on the Oregon side of the WLC include Youngs Bay, Big Creek, Clatskanie River, and Scappoose River in the Oregon Coast subbasin; Hood River in the Gorge; and the Sandy, Clackamas, Mollala, North and South Santiam, Calapooia, McKenzie, and Middle Fork Willamette rivers in the West Cascades subbasin.

The Willamette River, once a highly braided river system, has been dramatically simplified through channelization, dredging, and other activities that have reduced rearing habitat by as much as 75%. In addition, the construction of 37 dams in the basin blocked access to more than 435 miles of stream and river spawning habitat. The dams alter the temperature regime of the Willamette River and its tributaries, affecting the timing and development of naturally-spawned eggs and fry. Agriculture, urbanization, and gravel mining on the valley floor and timber

harvesting in the Cascade and Coast ranges contribute to increased erosion and sediment loads throughout the basin.

The mainstem Willamette River has been channelized and stripped of large wood. Development began to encroach on the riparian forest beginning in the 1870s (Sedell and Froggatt 1984). Gregory *et al.* (2002a) calculated that the total mainstem Willamette River channel area decreased from 41,000 to 23,000 acres between 1895 and 1995. They noted that the lower reach, from the mouth of the river to Newberg (RM 50), is confined within a basaltic trench, and that due to this geomorphic constraint, less channel area has been lost than in upstream areas. The middle reach from Newberg to Albany (RM 50 to RM 120) incurred losses of 12% primary channel area, 16% side channels, 33% alcoves, and 9% islands. Even greater changes occurred in the upper reach, from Albany to Eugene (RM 187). There, approximately 40% of both channel length and channel area were lost, along with 21% of the primary channel, 41% of side channels, 74% of alcoves, and 80% of island areas.

The banks of the Willamette River have more than 96 miles of revetments; approximately half were constructed by the Corps. Generally, the revetments were placed in the vicinity of roads or on the outside bank of river bends, so that while only 26% of the total length is revetted, 65% of the meander bends are revetted (Gregory *et al.* 2002c). The majority of dynamic sections have been armored, reducing adjustments in channel bed and sediment storage by the river, and thereby diminishing both the complexity and productivity of aquatic habitats (Gregory *et al.* 2002b).

Riparian forests have diminished considerably in the lower reaches of the Willamette River (Gregory *et al.* 2002d). Sedell and Froggatt (1984) noted that agriculture and cutting of streamside trees were major agents of change for riparian vegetation, along with snagging of large wood in the channel. The reduced shoreline, fewer and smaller snags, and reduced riparian forest comprise large functional losses to the river, reducing structural features, organic inputs from litter fall, entrained allochthonous materials, and flood flow filtering capacity. Extensive changes began before the major dams were built, with navigational and agricultural demands dominating the early use of the river. The once expansive forests of the Willamette River floodplain provided valuable nutrients and organic matter during flood pulses, food sources for macroinvertebrates, and slow-water refugia for fish during flood events. These forests also cooled river temperatures as the river flowed through its many channels.

Gregory *et al.* (2002d) described the changes in riparian vegetation in river reaches from the mouth to Newberg, from Newberg to Albany, and from Albany to Eugene. They noted that the riparian forests were formerly a mosaic of brush, marsh, and ash tree openings maintained by annual flood inundation. Below the City of Newberg, the most noticeable change was that conifers were almost eliminated. Above Newberg, the formerly hardwood-dominated riparian forests along with mixed forest made up less than half of the riparian vegetation by 1990, while agriculture dominated. This conversion represents a loss of recruitment potential for large wood, which functions as a component of channel complexity, much as the morphology of the streambed does, to reduce velocity and provide habitat for macroinvertebrates that support the prey base for salmon and steelhead. Declining extent and quality of riparian forests have also reduced rearing and refugia habitat provided by large wood, shading by riparian vegetation



which can cool water temperatures, and the availability of leaf litter and the macroinvertebrates that feed on it.

Hyporheic flow in the Willamette River has been examined through discharge measurements and was found to be significant in some areas, particularly those with gravel deposits (Fernald *et al.* 2001). The loss of channel complexity and meandering that fosters creations of gravel deposits decreases the potential for hyporheic flows, as does gravel mining. Hyporheic flow processes water and affects its quality on reemerging into the main channel, stabilizing variations in physical and chemical water characteristics. Hyporheic exchange was found to be significant in the National Water-Quality Assessment of the Willamette Basin (Wentz *et al.* 1998). In the transient storage zone, hyporheic flow is important for ecological functions, some aspects of water quality (such as temperature and dissolved oxygen), and some benthic invertebrate life stages. Alcove habitat, limited by channelization, combines low hydraulic stress and high food availability with the potential for hyporheic flows across the steep hydraulic gradients in the gravel separating them from the main channel (Fernald *et al.* 2001).

On the mainstem of the Columbia River, hydropower projects, including the Federal Columbia River Hydropower System (FCRPS), have significantly degraded salmon and steelhead habitats (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). The series of dams and reservoirs that make up the FCRPS block an estimated 12 million cubic yards of debris and sediment that would otherwise naturally flow down the Columbia and replenish shorelines along the Washington and Oregon coasts.

Industrial harbor and port development are also significant influences on the Lower Willamette and Lower Columbia rivers (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Since 1878, 100 miles of river channel within the mainstem Columbia River, its estuary, and Oregon's Willamette River have been dredged as a navigation channel by the Army Corps of Engineers. Originally dredged to a 20-foot minimum depth, the Federal navigation channel of the Lower Columbia River is now maintained at a depth of 43 feet and a width of 600 feet. The Lower Columbia River supports five ports on the Washington State side: Kalama, Longview, Skamania County, Woodland, and Vancouver. These ports primarily focus on the transport of timber and agricultural commodities. In addition to loss of riparian habitat, and disruption of benthic habitat due to dredging, high levels of several sediment chemicals, such as arsenic and polycyclic aromatic hydrocarbons (PAHs), have been identified in Lower Columbia River watersheds in the vicinity of the ports and associated industrial activities.

The most extensive urban development in the Lower Columbia River subbasin occurs in the Portland/Vancouver area. Outside of this major urban area, the majority of residences and businesses rely on septic systems. Common water quality issues with urban development and residential septic systems include higher water temperatures, lowered dissolved oxygen, increased fecal coliform bacteria, and increased chemicals associated with pesticides and urban runoff.

The Columbia River estuary has lost a significant amount of tidal marsh and tidal swamp habitat that are critical to juvenile salmon and steelhead, particularly small or ocean-type species (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Edges of marsh

areas provide sheltered habitats for juvenile salmon and steelhead where food, in the form of amphipods or other small invertebrates which feed on marsh detritus, is plentiful, and larger predatory fish can be avoided. Historically, floodwaters of the Columbia River inundated the margins and floodplains along the estuary, allowing juvenile salmon and steelhead access to a wide expanse of low-velocity marshland and tidal channel habitats. In general, the riverbanks were gently sloping, with riparian and wetland vegetation at the higher elevations of the river floodplain becoming habitat for salmon and steelhead during flooding river discharges or flood tides. Sherwood *et al.* (1990) estimated that the Columbia River estuary lost 20,000 acres of tidal swamps, 10,000 acres of tidal marshes, and 3,000 acres of tidal flats between 1870 and 1970. This study further estimated an 80% reduction in emergent vegetation production and a 15% decline in benthic algal production.

Habitat and food-web changes within the estuary, and other factors affecting salmon population structure and life histories, have altered the estuary's capacity to support juvenile salmon (Bottom *et al.* 2005, Fresh *et al.* 2005, NMFS 2005a, NOAA Fisheries 2006). Diking and filling activities that decrease the tidal prism and eliminate emergent and forested wetlands and floodplain habitats have likely reduced the estuary's salmon-rearing capacity. Moreover, water and sediment in the lower Columbia River and its tributaries have levels of toxic contaminants that are harmful to fish and wildlife (LCREP 2007). Contaminants of concern include dioxins and furans, heavy metals, polychlorinated biphenyls (PCBs) and organochlorine pesticides such as DDT. Simplification of the population structure and life-history diversity of salmon possibly is yet another important factor affecting juvenile salmon viability. Restoration of estuarine habitats, particularly diked emergent and forested wetlands, reduction of avian predation by terns, and flow manipulations to restore historical flow patterns might significantly enhance the estuary's productive capacity for salmon, although historical changes in population structure and salmon life histories may prevent salmon from making full use of the productive capacity of estuarine habitats, even in their presently altered state.

***Interior Columbia Recovery Domain.*** Critical habitat has been designated in the IC Recovery Domain, which includes the Snake River basin, for SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, UCR spring-run Chinook salmon, SR sockeye salmon, MCR steelhead, UCR steelhead, and SRB steelhead. Major tributaries in the Oregon portion of the IC Recovery Domain include the Deschutes, John Day, Umatilla, Walla Walla, Grande Ronde, and Imnaha rivers.

Habitat quality in tributary streams in the IC Recovery Domain varies from excellent in wilderness and roadless areas to poor in areas subject to heavy agricultural and urban development (Wissmar *et al.* 1994, Carmichael 2006). Critical habitat throughout the IC recovery domain has been degraded by intense agriculture, alteration of stream morphology (*i.e.*, channel modifications and diking), riparian vegetation disturbance, wetland draining and conversion, livestock grazing, dredging, road construction and maintenance, timber harvest, mining, and urbanization. Reduced summer stream flows, impaired water quality, and reduction of habitat complexity are common problems for critical habitat in developed areas.

Migratory habitat quality in this area has been severely affected by the development and operation of the FCRPS dams and reservoirs in the mainstem Columbia River, Bureau of

Reclamation tributary projects, and privately-owned dams in the Snake and Upper Columbia river basins. For example, construction of Hells Canyon Dam eliminated access to several likely production areas in Oregon and Idaho including the Burnt, Powder, Weiser, Payette, Malheur, Owyhee, and Boise river basins (Good *et al.* 2005), and Grande Coulee and Chief Joseph dams completely block anadromous fish passage on the upper mainstem Columbia River. Hydroelectric development modified natural flow regimes, resulting in higher water temperatures, changes in fish community structure leading to increased rates of piscivorous and avian predation on juvenile salmon and steelhead, and delayed migration for both adult and juveniles. Physical features of dams such as turbines also kill migrating fish. In-river survival is inversely related to the number of hydropower projects encountered by emigrating juveniles.

Similarly, development and operation of extensive irrigation systems and dams for water withdrawal and storage in tributaries have drastically altered hydrological cycles. A series of large regulating dams on the middle and upper Deschutes River affect flow and block access to upstream habitat, and have extirpated one or more populations from the Cascades Eastern Slope major population (IC-TRT 2003). Pelton Round Butte Dam blocked 32 miles of MCR steelhead habitat in the mainstem Deschutes below Big Falls and removed the historically-important tributaries of the Metolius River and Squaw Creek from production. Similarly, Condit Dam on the White Salmon River extirpated another population from the Cascades Eastern Slope major group. In the Umatilla River subbasin, the Bureau of Reclamation developed the Umatilla Project beginning in 1906. The project blocked access to more than 108 miles of historically highly productive tributary habitat for MCR steelhead in upper McKay Creek with construction of the McKay Dam and Reservoir in 1927. A flood control and irrigation dam on Willow Creek was built near RM 5, completely blocking MCR steelhead access to productive habitat upstream in this subbasin. Construction of Lewiston Dam, completed in 1927, eliminated access for Snake River basin steelhead and salmon to a major portion of the Clearwater basin. Continued operation and maintenance of large water reclamation systems such as the Umatilla Basin and Yakima Projects have significantly reduced flows and degraded water quality and physical habitat in these rivers.

Many stream reaches designated as critical habitat in the IC Recovery Domain are over-allocated under state water law, with more allocated water rights than existing streamflow conditions can support. Irrigated agriculture is common throughout this region and withdrawal of water increases summer stream temperatures, blocks fish migration, strands fish, and alters sediment transport (Spence *et al.* 1996). Reduced tributary stream flow has been identified as a major limiting factor for all listed salmon and steelhead species in this area except SR fall-run Chinook salmon (NMFS 2005).

Summer stream temperature is the primary water quality problem, with many stream reaches designated as critical habitat listed on the Clean Water Act's section 303(d) list for water temperature. Many areas that were historically suitable rearing and spawning habitat are now unsuitable due to high summer stream temperatures. Removal of riparian vegetation, alteration of natural stream morphology, and withdrawal of water for agricultural or municipal use all contribute to elevated stream temperatures. Contaminants such as insecticides and herbicides from agricultural runoff and heavy metals from mine waste are common in some areas of critical habitat.

***Oregon Coast (OC) Coho Salmon Recovery Domain.*** In this recovery domain, critical habitat has been designated for OC coho salmon. Many large and small rivers supporting significant populations of coho salmon flow through this domain, including the Nehalem, Nestucca, Siletz, Yaquina, Alsea, Siuslaw, Umpqua, Coos, and Coquille.

The historical disturbance regime in the central Oregon Coast Range was dominated by a mixture of high and low-severity fires, with a natural rotation of approximately 271 years. Old-growth forest coverage in the Oregon Coast Range varied from 25-75% during the past 3000 years, with a mean of 47%, and never fell below 5% (Wimberly *et al.* 2000). Currently the Coast Range has approximately 5% old-growth, almost all of it on Federal lands. The dominant disturbance now is timber harvesting on a cycle of 30-100 years, with fires suppressed.

In 2005, ODFW mapped the distribution of streams with high intrinsic potential for coho salmon rearing by land ownership categories (ODFW 2005). Agricultural lands and private industrial forests have by far the highest percentage of land ownership in high intrinsic potential (HIP) areas and along all coho stream miles. Federal lands have only about 20% of coho stream miles and 10% of HIP stream reaches. Because of this distribution, activities in lowland agricultural areas are particularly important to the conservation of Oregon coastal coho.

The coho assessment concluded that at the scale of the entire domain, pools are generally abundant, although slow-water and off-channel habitat (which are important refugia for coho during high winter flows) are limited in the majority of streams when compared to reference streams in minimally-disturbed areas. Amounts of large wood in streams are low in all four ODFW monitoring areas and land-use types relative to reference conditions. Amounts of fine sediment are high in three of the four monitoring areas, and were comparable to reference conditions only on public lands. Approximately 62 to 91% of tidal wetland acres (depending on estimation procedures) have been lost for functionally and potentially independent populations of coho.

As part of the coastal coho assessment, the Oregon Department of Environmental Quality (ODEQ) analyzed the status and trends of water quality in the range of OC coho using the Oregon water quality index, which is based on a combination of temperature, dissolved oxygen, biological oxygen demand, pH, total solids, nitrogen, total phosphates, and bacteria. Using the index at the species scale, 42% of monitored sites had excellent to good water quality, and 29% show poor to very poor water quality. Within the four monitoring areas, the North Coast had the best overall conditions (six sites in excellent or good condition out of nine sites), and the Mid-South coast had the poorest conditions (no excellent condition sites, and only two out of eight sites in good condition). For the 10-year period monitored between 1992 and 2002, no sites showed a declining trend in water quality. The area with the most improving trends was the North Coast, where 66% of the sites (six out of nine) had a significant improvement in index scores. The Umpqua River basin, with one out of nine sites (11%) showing an improving trend, had the lowest number of improving sites.

***Southern Oregon and Northern California Coasts (SONCC) Coho Salmon Recovery Domains.*** Critical habitat in this recovery domain has been designated for SONCC coho

salmon. Many large and small rivers supporting significant populations of coho salmon flow through the area, including the Elk, Rogue, Chetco, Smith and Klamath. The following summary of critical habitat information in the Elk, Rogue, and Chetco rivers is also applicable to habitat characteristics and limiting factors in other basins in this area.

The Elk River flows through Curry County, drains approximately 92 square miles (or 58,678 acres) (Maguire 2001). Major tributaries of the Elk River include the North Fork, South Fork, Blackberry Creek, Panther Creek, Butler Creek, and Bald Mountain Creek. The upper portion of the Elk River basin is characterized by steeply sloped forested areas with narrow valleys and tributary streams that have steep to very steep gradients. Grazing, rural/residential development and other agricultural uses are the dominant land uses in the lower portion of the basin (Maguire 2001). Over half of the Elk River basin is in the Grassy Knob wilderness area. Historical logging, mining, and road building have degraded stream and riparian habitats in the Elk River basin. Limiting factors identified for salmon and steelhead production in this basin include sparse riparian cover, especially in the lower reaches, excessive fine sediment, high water temperatures, and noxious weed invasions (Maguire 2001).

The Rogue River drains approximately 5,160 square miles within Curry, Jackson and Josephine counties in southwest Oregon. The mainstem is about 200 miles long and traverses the coastal mountain range into the Cascades. The Rogue River estuary has been modified from its historical condition. Jetties were built by the Corps in 1960, which stabilized and deepened the mouth of the river. A dike that extends from the south shore near Highway 101 to the south jetty was completed in 1973. This dike created a backwater for the large shallow area that existed here, which has been developed into a boat basin and marina, eliminating most of the tidal marsh.

The quantity of estuary habitat is naturally limited in the Rogue River. The Rogue River has a drainage area of 5,160 square miles, but the estuary at 1,880 acres is one of the smallest in Oregon. Between 1960 and 1972, approximately 13 acres of intertidal and 14 acres of subtidal land were filled in to build the boat basin dike, the marina, north shore riprap and the other north shore developments (Hicks 2005). Jetties constructed in 1960 to stabilize the mouth of the river and prevent shoaling have altered the Rogue River, which historically formed a sill during summer months (Hicks 2005).

The Lower Rogue Watershed Council's watershed analysis (Hicks 2005) lists factors limiting fish production in tributaries to Lower Rogue River watershed. The list includes water temperatures, low stream flows, riparian forest conditions, fish passage and over-wintering habitat. Limiting factors identified for the Upper Rogue River basin include fish passage barriers, high water temperatures, insufficient water quantity, lack of large wood, low habitat complexity, and excessive fine sediment (RBCC 2006).

The Chetco River is in the southwest corner of Oregon, almost entirely within Curry County, with a drainage of approximately 352 square miles. The Chetco River mainstem is about 56 miles long, and the upper 28 miles are within the Kalmiopsis Wilderness Area. Elevations in the watershed range from sea level to approximately 5,098 feet. The upper portion of the basin is characterized by steep, sloping forested areas with narrow valleys and tributary streams that have

moderately steep to very steep gradient. The lowest 11 miles of the river are bordered by private land in rural/residential, forestry, and urban land uses.

The Chetco River estuary has been significantly modified from its historical condition. Jetties were erected by the Corps 1957, which stabilized and deepened the mouth of the river. These jetties have greatly altered the mouth of the Chetco River and how the estuary functions as habitat for salmon migrating to the ocean. A boat basin and marina were built in the late 1950s and eliminated most of the functional tidal marsh. The structures eliminated shallow water habitats and vegetation in favor of banks stabilized with riprap. Since then, nearly all remaining streambank in the estuary has been stabilized with riprap. The South Coast Watershed Council's watershed analysis (Maguire 2001) states the factors limiting fish production in the Chetco River appear to be high water temperature caused by lack of shade, especially in tributaries, high rates of sedimentation due to roads, poor over-wintering habitat due to a lack of large wood in tributaries and the mainstem, and poor quality estuary habitat (Maguire 2001).

### **Environmental Baseline**

Because the action area for this programmatic consultation includes the combined action areas of road, culvert, bridge and utility line actions for which an exact location within the Corps jurisdiction is not yet known, it was not possible to precisely define the current condition of fish or critical habitats in the action area, the factors responsible for that condition, or the conservation role of those specific areas. Therefore, to complete the jeopardy and destruction or adverse modification of critical habitat analyses in this consultation, NMFS made the following assumptions regarding the environmental baseline in each area that will eventually be chosen to support an action: (1) The purpose of the proposed action is to authorize or carry out actions to maintain or improve roads, culverts, bridges and utility lines in Oregon; (2) each individual action area will be occupied by one or more listed species; (3) the biological requirements of individual fish in those areas are not being fully met because aquatic habitat functions, including functions related to habitat factors limiting the recovery of the species in each area, are impaired; and (4) active site restoration after each maintenance or improvement action is complete is likely to maintain conditions necessary for survival and recovery at sites where habitat features and processes were functional before the action was completed, and improve conditions in areas where habitat features and processes were limiting recovery.

As described above in the Status of the Species and Critical Habitats section, factors that limit the recovery of salmon and steelhead vary with the overall condition of aquatic habitats on private, state, and Federal lands. Many stream habitats and riparian areas have been degraded by the effects of land and water use, including road construction, forestry, agriculture, mining, urbanization, and water development. Each of these economic activities has contributed to a myriad of interrelated factors for the decline of salmon and steelhead. Among the most important of these are changes in channel morphology, loss spawning substrates, loss of instream roughness, loss of estuarine rearing habitats, loss of wetlands, loss and degradation of riparian areas, water quality degradation (*e.g.*, temperature, sediment, dissolved oxygen, contaminants), blocked passage, elimination of habitats, direct take, and loss of core refugia areas.

The environmental baseline also includes the anticipated impacts of all Federal actions in the action area that have already undergone formal consultation. For example, from 2001 through 2006, the Corps authorized 118 restoration actions in Oregon under the SLOPES consultation, and more than 800 other actions related to transportation features, over and in-water structures, and bank stabilization. The Corps, Bonneville Power Administration, and Bureau of Reclamation have also consulted on large water management actions, such as operation of the FCRPS, the Umatilla Basin Project, and the Deschutes Project. The U.S. Forest Service and U.S. Bureau of Land Management consult on Federal land management throughout Oregon, including restoration actions, timber harvest, livestock grazing, and special use permits. Each of these actions was designed to avoid or minimize effects on listed salmon, steelhead, and their habitats.

It is very likely that a few action areas for some of these Federal actions that have been previously consulted upon, including actions analyzed in previous SLOPES opinions, will overlap with action areas for road, culvert, bridge and utility line actions covered under this new iteration of the SLOPES consultation. Impacts to the environmental baseline from these previous actions vary from ephemeral and short-term adverse effects (instantaneous to months) to long-term beneficial effects (years to decades).

### **Effects of the Action**

Under the administrative portion of the proposed action, the Corps will evaluate each individual application to ensure that the following conditions are true: (a) The requirements of this Opinion are only applied where ESA-listed salmon or steelhead, their designated critical habitats, or ESA-listed southern green sturgeon are present; (b) the anticipated range of effects is within the range considered in this Opinion; (c) the action will be carried out consistent with the proposed design criteria; and (d) the action and program-level monitoring and reporting requirements are being met. This administrative process determines which factors must be considered to analyze the effects of each individual action that will be authorized or completed under this Opinion. The physical effects of each action on ESA-listed listed salmon or steelhead, their designated critical habitats, or ESA-listed southern green sturgeon, and will not begin without the Corps' approval, except for actions that authorize a replacement culvert or bridge, riprap, or a stormwater facility – those actions will not begin until they are also individually reviewed and approved by NMFS. Actions considered in this Opinion are intended to benefit existing service areas, not new or expanded service areas that will enable interrelated or interdependent activities with adverse affects on ESA-listed salmon, steelhead, sturgeon, or designated critical habitat that exceed those analyzed here. Thus, any action that the Corps or NMFS find to have interrelated and interdependent effects that exceed those considered here will not be covered by this Opinion, and will require individual consultation.

The physical effects of each action authorized or carried out under this Opinion will vary by the specific action. Each action will have short-term adverse effects, due to construction, and long-term neutral or positive effects due to the combination of site restoration, design criteria that correct engineering flows in existing structures which do not allow for functional floodplain and riparian conditions, and compensatory mitigation when those standards cannot be achieved onsite.

In the case of a natural hazard response, the effects of the action will be complicated by the initial conditions of the action area which will include imminent or recent failure of an existing road, culvert, bridge, or utility line. Such failures are likely to include significant amount of structural debris plus disturbance and erosion of riparian vegetation and soils, stream banks, and stream substrates that must be stabilized then restored to the same standard as other parts of the proposed action. For purposes of this Opinion, the effects the proposed action, including natural hazard response, will be analyzed using a common set of effects related to construction, site restoration, and operation and maintenance. The NMFS assumes that no action will have effects that are greater than the full range of effects described here because each action is based on a similar set of underlying construction activities, is limited by the same design criteria, and, except where noted, the species that will be affected have similar biological requirements and behaviors.

Construction activities for roads, culverts, bridges and utility lines may include surveying, mapping, placement of stakes and flagging guides, exploratory drilling, minor vegetation clearing, opening access roads, establishing vehicle and material staging areas, exploratory drilling, and isolation of the in-water work area. Work may also extend into the active channel to install rock or other hard structures, and may require use of pesticide-treated wood or pile driving. Site restoration consists of work necessary to undo disturbance caused by the previous activities and includes replacement natural materials displaced by construction, and other action as necessary to restore ecosystem processes that form and maintain productive fish habitats. This stage also includes compensatory mitigation for any actions that are unable to meet in-site performance criteria for stormwater management, use of vegetated riprap, or protection of the functional floodplain. Operation and maintenance includes activities necessary to keep roads, culverts, bridges and utility lines in service with a minimum of adverse effects to ESA-listed species and designated critical habitats. Most of these actions will be completed in accordance with best management practices in (ODOT 2004, or the most recent version approved by NMFS), unless those practices conflict with design criteria in this Opinion.

Surveying, mapping, and the placement of stakes and flagging entail minor movements of machines and personnel over the action area with minimal direct effects but important indirect effects by establishing the geographic boundaries for actions later that will have much larger environmental impacts.

Excavating test pits removes vegetation in the excavated area and may cause soil compaction along wheel tracks and in excavated spoils placement areas. Typically, spoils do not erode into streams or wetlands since this material is placed back into the test pit once the investigation or sampling has been completed, usually within a 2-hour time period, and the disturbed area is stabilized by seeding and mulching to prevent rainfall from washing sediment from the spoils piles into nearby streams or wetlands.

Exploratory drilling with an auger typically produces 1.5 to 11.5 cubic meters of spoil that must be stabilized or removed from the site. Erosion control berms and ditching that are sometimes used to manage runoff from an active drill site may themselves cause erosion, sedimentation from drilling mud, or other temporary site disturbances. Similarly, untreated drilling fluids



sometimes travel along a subsurface soil layer and exit in a stream or wetland and degrade water quality.

Effects from soils testing are similar to those described above for drilling operations. Air rotary drilling produces dust, flying sand-sized rock particles, foaming additives, and fine water spray that must be collected to prevent deposition in a stream or wetland. The distances that cuttings and liquids (*e.g.*, water, foaming additives) are ejected out of the boring depend on the size of the drilling equipment. Unrestrained, larger equipment will disperse particles up to 6.1 meters, while smaller equipment will typically expel particles up to 3 meters. As with any heavy equipment, drilling rigs are subject to accidental spills of fuel, lubricants, hydraulic fluid and other contaminants that, if unconfined, may harm the riparian zone or aquatic habitats.

When borings are abandoned near streams or wetlands, excess grout must be contained to prevent pollution, especially during rainy periods. In some cases, boring abandonment may not occur for months or even years after the drilling has been completed. Then, soils and vegetation are subjected to additional disturbance when workers re-enter the site. Sometimes, instruments must be drilled out. When this occurs, effects are similar to those described above drilling.

Establishing access roads and staging areas requires disturbance of vegetation and soils that support floodplain and riparian function, such as delivery of large wood and particulate organic matter, shade, development of root strength for slope and bank stability, and sediment filtering and nutrient absorption from runoff (Darnell 1976, Spence *et al.* 1996). Denuded areas will lose organic matter and dissolved minerals, such as nitrates and phosphates. The microclimate at each action site where vegetation is removed is likely to become drier and warmer, with a corresponding increase in wind speed, and soil and water temperature. Water tables and spring flow in the immediate area may be temporarily reduced. Loose soil will temporarily accumulate in the construction area. In dry weather, part of this soil is dispersed as dust and, in wet weather, loose soil part is transported to streams by erosion and runoff, particularly in steep areas. Erosion and runoff increase the supply of sediment to lowland drainage areas and eventually to aquatic habitats, where they increase total suspended solids and sedimentation.

During and after wet weather, increased runoff is likely to suspend and transport more sediment to receiving waters. This increases total suspended solids and, in some cases, stream fertility. Increased runoff also increases the frequency and duration of high stream flows and wetland inundation in construction areas. Higher stream flows increase stream energy that scours stream bottoms and transports greater sediment loads farther downstream that would otherwise occur. Sediments in the water column reduce light penetration, increase water temperature, and modify water chemistry. Redeposited sediments partly or completely fill pools, reduce the width to depth ration of streams, and change the distribution of pools, riffles, and glides. Increased fine sediments in substrate also reduce survival of eggs and fry, reducing spawning success of salmon and steelhead. Spawning areas for southern green sturgeon will not be affected by the proposed actions.

During dry weather, the physical effects of increased runoff appear as reduced ground water storage, lowered stream flows, and lowered wetland water levels. The combination of erosion and mineral loss reduce soil quality and site fertility in upland and riparian areas. Concurrent in-

water work compacts or dislodges channel sediments, thus increasing total suspended solids and allowing currents to transport sediment downstream where it is eventually redeposited. Continued operations when the construction site is inundated significantly increase the likelihood of severe erosion and contamination.

Use of heavy equipment for vegetation removal and earthwork compact the soil, thus reducing permeability and infiltration. Use of heavy equipment, including stationary equipment like generators and cranes, also creates a risk that accidental spills of fuel, lubricants, hydraulic fluid, coolants, and other contaminants may occur. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain PAHs, which are acutely toxic to salmonid fish and other aquatic organisms at high levels of exposure and cause sublethal adverse effects on aquatic organisms at lower concentrations (Heintz *et al.* 1999, 2000, Incardona *et al.* 2004, 2005, 2006).

It is likely that petroleum-based contaminants have similar affects on southern green sturgeon. At some construction sites, stream flow must be diverted for drilling, concrete mixing and washout, vehicle washing, and a variety of other purposes, thus reducing streamflow. This water must be discharged in turn, with precautions to ensure that it does not carry sediment, heat, and other contaminants to riparian areas and streams.

If work area isolation is necessary, any juvenile salmon or steelhead present in the work isolation area will be captured and released. It is unlikely that any adult salmon or steelhead, or any southern green sturgeon, will be affected by this procedure, however, because it will occur when adults are unlikely to be present and, if any are present, their size allows them to easily escape from the containment area. Capturing and handling fish causes them stress though they typically recover fairly rapidly from the process and therefore the overall effects of the procedure are generally short-lived (NMFS 2002). The primary contributing factors to stress and death from handling are differences in water temperature between the river where the fish are captured and wherever the fish are held, dissolved oxygen conditions, the amount of time that fish are held out of the water, and physical trauma. Stress on salmonids increases rapidly from handling if the water temperature exceeds 18°C (64°F) or dissolved oxygen is below saturation. Proposed design criteria regarding fish capture and release, use of pump screens during the de-watering phase, and fish passage around the isolation area are built around standard NMFS guidance to reduce the adverse effects of these activities (NMFS 2000 and 2008).

Many actions authorized or carried out under this Opinion will seek to install rock or other hard structures within a functional floodplain to stabilize a streambank or channel and reduce erosion of the approach to, or foundation of, a road, culvert, or bridge. In addition to the construction impacts described above, the adverse impacts of hardening the functional floodplain include direct habitat loss, reduced water quality, upstream and downstream channel impacts, reduced ecological connectivity, and the risk of structural failure (Schmetterling *et al.* 2001, Bates *et al.* 2003, Fischenich 2003, Saldi-Caromile *et al.* 2004, NMFS 2008).

Here, the Corps proposes to avoid or minimize the adverse impacts of installing rock or other hard structures by ensuring that existing rock or hard structures will be maintained in a way that reduces their on-going adverse effects (*e.g.*, requirements to move existing structures and structural fill out of the functional floodplain whenever possible, and for erosion protection measures to incorporate vegetation, planting terraces, large wood, irregular faces, toe roughness),

or else avoids or minimizes the adverse effects of altering the functional floodplain through compensatory mitigation (*e.g.*, remove or retrofit existing riprap, hard structures, or other fill elsewhere in the functional floodplain).

Direct habitat loss refers to displacement of native streambed material and diversity by the installation of rock or other hard structures within the functional floodplain. The habitat features of concern include water velocity, depth, substrate size, gradient, accessibility and space that are suitable for salmon and steelhead rearing. In spawning areas, rock and other hard structures are often used to replace spawning gravels, realign channels to eliminate natural meanders, bends, spawning riffles and other habitat elements. Riffles and gravel bars downstream are scoured when flow velocity is increased. For sturgeon, the habitat features of concern include bays, estuaries, and sometimes the deep riverine mainstem in lower elevations where sturgeon congregate.

Rock and other hard structures within the functional floodplain reduce water quality by reducing or eliminating riparian vegetation that regulates the quantity and quality of runoff and, together with channel complexity, help to maintain and reduce stream temperatures. Conversely, where anthropogenic sources of bank or channel erosion are already present, installation of rock or other hard structures can reduce that erosion and subsequent sedimentation, sometimes allowing riparian vegetation to become reestablished and thus contributing to beneficial water quality effect (Scmetterling *et al.* 2001, Fischenich 2003). However, the benefits of using rock or other hard structures for this purpose are often speculative or minimal, at best, particularly in contrast to the multiple habitat benefits provided by other erosion control methods that do not require hardening of the stream bank or bed (Saldi-Caromile *et al.* 2004, Cramer *et al.* 2006).

Upstream and downstream channel effects occur when bank and channel hardening and channel narrowing alter stream velocity. Downstream, loss of stream roughness and channel narrowing causes water velocity and erosion to increase. Upstream, channel narrowing reduces water velocity and leads to backwater effects during high flows that typically result in upstream deposition. Then, when flows recede, erosion occurs around or through the new deposition. Thus, a hardened bank or channel creates chronically unstable conditions that increase bed and bank erosion upstream and downstream, and often affect either the subject structure or an unrelated structure in a way that applicants prefer to address by further hardening. This sets in motion another round of upstream and downstream channel effects that perpetuates and extends the extent of aquatic habitat damage.

Channel maintenance is another very serious source of upstream and downstream channel effects. Channel maintenance refers to the periodic (sometimes annual) dredging necessary to counteract natural deposition which occurs around structures where they impinge on the edge of a functional floodplain, particularly where a smaller tributary enters the floodplain and creates an alluvial fan. These areas tend to fill with alluvial material that must be dredged to prevent a road, culvert, or other structure from being overtopped during high flow events. This chronic source of bed removal is a major cause of channel instability and loss of spawning and rearing habitat for long distances upstream and downstream, and is a source of mechanical disturbance in bays, estuaries, and lower elevation mainstem reaches where sturgeon occur.

Ecological connectivity refers to the capacity of the landscape to support the movement of energy, water, sediment, organisms, and other material. Ecological connectivity is adversely affected by rock or other hard structures in the functional floodplain when bed material and aggrading channel processes cannot cycle throughout the reach, and when the upstream or downstream movements of organisms are restricted. The conservation of salmon, steelhead, and sturgeon is intimately linked to the health of their underlying ecosystems. This, in turn, depends on more than just the ability of these fish to move upstream and downstream during different life history stages and under a wide variety of different stream conditions. Ecological health also requires ecological connectivity for a wide range of physical and biotic processes that are more difficult to quantify than fish passage, such as seasonally shifting channel patterns, the upstream flight and downstream drift of insects, and delivery of large wood from terrestrial sources to the stream, estuary and coastal ocean (Maser *et al.* 1988). Installation of rock or structures that require channel maintenance, capture large wood, accelerate or delay fish movements, or otherwise inhibit the movement of energy and material also reduce ecological connectivity material.

Although alternatives sources of structural lumber and pilings that are not based on pesticide-treated wood are increasingly available for use in industrial and marine applications, including silica-based wood preservation, improved recycled plastic technology, and environmentally safe wood sealer and stains,<sup>14</sup> pesticide-based preservatives continue to be in common use. These include water-based wood preservatives, such as chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate (FPL 2000). Acid copper chromate (ACC) and copper HDO (CX-A) are more recent compounds not yet in wide use (Lebow 2004a). Withdrawal of CCA from most residential applications has increased interest in arsenic-free preservative systems that all rely on copper as their primary active ingredient (FPL 2003, Lebow 2004a) with the proportion of preservative component ranging from 17% copper oxide in some CDDC formulations, to 96% copper oxide in CA-B (Lebow 2004a).

A pesticide-treated wood structure placed in or over flowing water will leach copper and a variety of other toxic compounds directly into the stream (Weis and Weis 1996, Hingston *et al.* 2001, Poston 2001, NOAA 2003). Although the likelihood of leaching pesticides, including copper, from wood used above or over the water is different than splash zone or in-water applications (WWPI 1996), these accumulated materials add to the background loads of receiving streams. Movement of leached preservative components is generally limited in soil but is greater in soils with high permeability and low organic content. Mass flow with a water front is probably most responsible for moving metals appreciable distances in soil, especially in

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<sup>14</sup> See, e.g., American Plastic Lumber (Shingle Springs, California) and Resco Plastics (Coos Bay, Oregon) for structural lumber from recycled plastic; Plastic Pilings, Inc. (Rialto, California) for structurally reinforced plastic marine products; Timbersil (Springfield, Virginia) for structural lumber from wood treated with a silica-based fusion technology; and Timber Pro Coatings (Portland, Oregon) for non-petroleum based wood sealer and stains. The use of trade, firm, or corporation names in this Opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

permeable, porous soils. Preservatives leached into water are more likely to migrate downstream compared with preservative leached into soil, with much of the mobility occurring in the form of suspended sediment. If shavings, sawdust, or smaller particles of pesticide-treated wood generated during construction, use, maintenance of a structure are allowed to enter soil or water below, they make a disproportionately large contribution to environmental contamination because the rate of leaching from smaller particles is 30 to 100 times greater than from solid wood (FPL 2001b, Lebow and Tippie 2001, Lebow *et al.* 2004).

Copper and other toxic chemicals, such as zinc, arsenic, chromium, and PAHs, that leach from pesticide-treated wood used to construct a road, culvert or bridge are likely to adversely affect salmon, steelhead, and sturgeon that spawn, rear, or migrate by those structures, and when they ingest contaminated prey (Posten 2001). Heavy metal contamination is identified as a threat to southern green sturgeon and copper has been shown to impair the olfactory nervous system and olfactory-mediated behaviors in salmonids (Baldwin *et al.* 2003, Baldwin and Scholz 2005, Linbo *et al.* 2006, Sandahl *et al.* 2007, Hecht *et al.* 2007, McIntyre *et al.* 2008). Similarly, PAHs, which leach from wood treated with creosote, may cause cancer, reproductive anomalies, immune dysfunction, growth and development impairment, and other impairments to exposed fish (Johnson *et al.* 1999, Johnson 2000, Stehr *et al.* 2000, Collier *et al.* 2002, Johnson *et al.* 2002, Incardona *et al.* 2004, 2005, 2006, Carls *et al.* 2008).

The Corps has proposed design criteria to minimize exposure of fish to the adverse affects of treated wood by prohibiting the use of lumber, pilings, or other wood products treated or preserved with pesticidal compounds below ordinary high water, or as part of an in-water or overwater structure, except under strict limits. Those limits include requirements that any pesticide-treated wood must first be inspected to ensure that no visible residue, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present, then stored out of contact with standing water and wet soil and protected from precipitation. The use of prefabrication is required whenever possible to ensure that cutting, drilling and field preservative treatment are minimized. When field fabrication is necessary, all cutting and drilling of pesticide-treated wood, and field preservative treatment of wood exposed by cutting and drilling, must occur above ordinary high water to minimize discharge of sawdust, drill shavings, excess preservative and other debris in riparian or aquatic habitats. Tarps, plastic tubs or similar devices must be used to contain the bulk of any fabrication debris, and any excess field preservative must be wiped off. Any structure built of pesticide-treated wood, including pilings, must have design features to avoid or minimize impacts and abrasion that would deposit pesticide-treated wood debris and dust in riparian or aquatic habitats. Every surface of any bridge, overwater structure, or in-water structure built out of pesticide-treated wood that will be exposed to leaching by precipitation, overtopping waves, or submersion must be coated with paint, opaque stain, or barrier that will be maintained for the life of the project. Such coatings and any paint-on field treatment must be carefully applied and contained to reduce contamination. Moreover, any project that requires removal of pesticide-treated wood must ensure that, to the extent possible, no wood debris falls into the water. If wood debris does fall into the water, it must be removed immediately. After treated wood is removed, it must be placed in an appropriate dry storage site until it can be removed from the project area.

The installation and removal of piling with a vibratory or impact hammer is likely to result in adverse effects to salmon, steelhead, and sturgeon due to high levels of underwater sound that will be produced. Although there is little information regarding the effects on fish from underwater sound pressure waves generated during the piling installation (Anderson and Reyff 2006, Laughlin 2006), laboratory research on the effects of sound on fish has used a variety of species and sounds (Popper and Clarke 1976, Hastings *et al.* 1996, Scholik and Yan 2002).

Because those data are not reported in a consistent manner and most studies did not examine the type of sound generated by pile driving, it is difficult to directly apply the results of those studies to pile driving effects on salmon, steelhead, and sturgeon. However, it is well established that elevated sound can cause injuries to fish swim bladders and internal organs and temporary and permanent hearing damage. The degree to which normal behavior patterns are altered is less known, although it is likely that salmon, steelhead, and sturgeon that are resident within the action area are more likely to sustain an injury than fish that are migrating up or downstream. Removal of pilings within the wetted perimeter that are at the end of their service life will disturb sediments that become suspended in the water, often along with contaminants that may have been pulled up with, or attached to, the pile. A major release of PAHs into the water is likely to occur if creosote-treated pilings unnecessarily damaged during removal, or if debris is allowed to re-enter or remain in the water.

The Corps has proposed design criteria to minimize exposure of fish to high levels of underwater sound during pile driving and to increased suspended solids and contaminants during pile removal. Those include requirements that pilings must be 24 inches in diameter or smaller, steel H-pile must be designated as HP24 or smaller, a vibratory hammer must be used whenever possible for piling installation, and full or partial (bubble curtain) isolation of the pile while it is being driven. During pile extraction, care will be taken to ensure that sediment disturbance is minimized, including special measures for broken or intractable piles, all adhering sediment and floating debris are contained, and all residue is properly disposed. Nonetheless, it is still likely that sound energy will radiate directly or indirectly into the water as a result of pile driving vibrations, although widespread propagation of sounds injurious to fish is not expected to occur, and that a small contaminant release will occur when a creosote pile is removed, and total suspended sediment will increase with every pile removal.

Proposed utility line actions consist of stream crossings for pipes, pipelines, cables, and wires. Most direct and indirect effects of utility line actions are similar to the effects of general construction discussed above, and will follow the proposed design criteria for general construction as applicable. Aerial utility lines hung from an existing bridge are likely to add no additional effects to those of the bridge; drilled lines are likely to have a smaller subset of the construction effects discussed above, including drilling effects, or will express those effects to a lesser degree. However, trenched utility lines are likely to cause additional adverse effects related to erosion.

Excavation and subsequent filling of a trench in a streambank or dry channel or is likely to make the area of the trench more or less resistant to erosion, depending on the substrate composition, the type of excavation, and the type of fill. If the trench area is less resistant to erosion, due to loosening of the substrate or through the use of fill with smaller substrate particles than were

originally present, then high stream flows are likely to erode the disturbed substrate, thus mobilizing sediment or abruptly altering the bottom contours or bank stability of the stream. If the trench area is more resistant to erosion, through compaction of the substrate or through the use of fill with larger substrate particles than were originally present, then high stream flows may be less likely to erode the disturbed substrate than the remainder of the streambed or bank, possibly creating hydraulic control points and altering fluvial processes. Similarly, pipelines, cables, and materials used to armor them may create hydraulic control points (“jumps”) that degrade channel conditions and impede fish passage, if they remain at the same elevation after being exposed by streambed or bank erosion.

Some of these adverse effects will abate almost immediately, such as vibration caused by pile driving a pile. Others will be long-term conditions that may decline quickly but persist at some level for weeks, months, or years, until riparian and floodplain vegetation are fully re-established. Failure to complete site restoration, or to prevent disturbance of newly restored areas by livestock or unauthorized persons will delay or prevent recovery of processes that form and maintain productive fish habitats.

The direct physical and chemical effects of site restoration to be included as parts of the proposed actions are essentially the reverse of the construction activities that go before it. Bare earth will be protected by various methods, including seeding, planting woody shrubs and trees, and mulching. This will immediately dissipate erosive energy associated with precipitation and increase soil infiltration. It also will accelerate vegetative succession necessary to restore the delivery of large wood to the riparian area and aquatic system, root strength necessary for slope and bank stability, leaf and other particulate organic matter input, sediment filtering and nutrient absorption from runoff, and shade. Microclimate will become cooler and moister, and wind speed will decrease. Whether recovery occurs over weeks or years, the disturbance frequency, considered as the number of actions authorized or completed per year within a given recovery domain is likely to be extremely low, as is the intensity of the disturbance, considered as a function of the total number of miles of critical habitat present within each watershed (see Table 19).

Stormwater runoff from the highway system, including roads, culverts, and bridges, delivers a wide variety of pollutants to aquatic ecosystems, such as nutrients, metals, petroleum-related compounds, sediment washed off the road surface, and agricultural chemicals used in highway maintenance (Driscoll *et al.* 1990; Buckler and Granato 1999, Colman *et al.* 2001, Kayhanian *et al.* 2003). These ubiquitous pollutants are a source of potent adverse effects to salmon and steelhead, even at ambient levels (Loge *et al.* 2006, Hecht *et al.* 2007, Johnson *et al.* 2007, Sandahl *et al.* 2007, Spromberg and Meador 2006), and are among the identified threats to sturgeon. Aquatic contaminants often travel long distances in solution or attached to suspended sediments, or gather in sediments until they are mobilized and transported by next high flow (Anderson *et al.* 1996, Alpers *et al.* 2000a, 2000b). These contaminants also accumulate in the prey and tissues of juvenile salmon where, depending on the level of exposure, they cause a variety of lethal and sublethal effects on salmon and steelhead, including disrupted behavior, reduced olfactory function, immune suppression, reduced growth, disrupted smoltification, hormone disruption, disrupted reproduction, cellular damage, and physical and developmental abnormalities (Fresh *et al.* 2005, Hecht *et al.* 2007, LCREP 2007). The proposed design

criterion for stormwater management is based on a designed range of flows that will generally result in more than 95% of the runoff from all impervious surfaces within each project area being infiltrated at or near the point at which rainfall occurs using low impact development, bioretention, filter subsoils, and other practices that have been identified as excellent treatments to reduce or eliminate contaminants for highway runoff (Barrett *et al.* 1995, CWP and MDE 2000, NCHRP 2006, WDOT 2006, Hirshman *et al.* 2008).<sup>15</sup>

Roads, culverts, bridges and utility lines require routine maintenance to remain serviceable with a minimum of adverse effects to species and designated critical habitats. Most of these actions will be completed in accordance with best management practices in (ODOT 1999, revised in 2004), or the most recent version approved by NMFS), unless those practices conflict with design criteria in this Opinion. The effects of those actions were evaluated by NMFS in 2000 when it provided an exception from the prohibition against take of threatened salmon and steelhead for routine road maintenance actions completed as specified in the Oregon Department of Transportation Maintenance Management System Water Quality and Habitat Guide, first published in 1999 (65 FR 42422, July 10, 2000). This exception has been affirmed for each subsequent listing of salmon and steelhead in Oregon.

Unlike routine road maintenance, structural failure of road, culvert, or bridge infrastructure causes extensive and long-lasting damage to aquatic habitats. Consequences of infrastructure failure include erosion and sedimentation, release of toxic materials or structural debris into the water, rerouting of flows into neighboring drainages that may be unable to adjust to the increase in peak flow, or onto unchanneled slopes. Structural failure may be caused by inadequate design, poor construction, damage accumulated from vehicles, inadequate maintenance, or extreme natural events, but most often is a result of flooding and improper or inadequate engineering and design, particularly at stream crossings but also where roads cross headwater swales and other areas of convergent groundwater. A typical failure occurs when culverts that are sized only to accommodate the flow of water, but not the additional sediment and wood typically transported during higher flows, becomes obstructed, thus causing water and debris to overflow. In more serious cases, diversion and concentration of overflow then leads to a “cascading failure,” a series of adverse events that end with loss of the structure or initiation of landslides and debris flows (Gucinski *et al.* 2001).

Although flooding will always be a threat to this type of infrastructure, the Corps’ proposed action will minimize this danger by requiring road, culvert, and bridge designs that anticipate and accommodate the movement of water, sediment and debris during infrequent but major storms and reduce stormwater runoff. Reduced maintenance costs will be a significant ancillary benefit for applicants. Moreover, the proposed action will allow the Corps to authorize or carry out a “major hazard response” when road, culvert, bridge, or utility line infrastructure fails, or is about to fail. This will allow a public transportation manager to act immediately, or before the next appropriate in-water work window, as necessary to repair or prevent infrastructure failure

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<sup>15</sup> See also Memos from Ronan Igloria, HDR (Henningson, Durham, and Richardson, Inc.), to Jennifer Sellers and William Fletcher, Oregon Department of Transportation, dated December 28, 2007 (Stormwater Treatment Strategy Development – Water Quality Design Storm Performance Standard), February 28, 2008 (Stormwater Treatment Strategy Development – Water Quantity Design Storm Performance Standard - Final), and April 15, 2008 (Stormwater Treatment Strategy Development – BMP Selection Tool).



that poses an imminent threat to human life, property, or natural resources. Part of the response includes contacting NMFS as soon as possible to review design criteria from this Opinion that are applicable to the situation and determine whether additional steps may be taken to further minimize the effects of the initial response action on listed species or their critical habitat. Later, a report on the incident must provide an assessment of the effects to listed species and critical habitats and a plan to bring the response into conformance with all other applicable design criteria in this Opinion.

**Effects on Critical Habitat.** Each individual project will be completed as proposed, including full application of the design criteria for construction, installation of rock or other hard structures within the functional floodplain, stormwater management, and compensatory mitigation, is likely to have the following effects on the PCEs or habitat qualities essential to the conservation of each species. The nature of these effects will be similar between different projects because each project is based on a similar set of underlying construction activities that are limited by the same design criteria and the PCEs affected are intended to serve similar conservation roles. Conversely, the intensity of the effects, in terms of change in the PCE from baseline condition, and severity of these effects, in terms of recovery time, will vary somewhat between projects because of differences at each site in the scope of work area isolation and construction, whether the PCE is present, the baseline condition of each PCE present, and factors responsible for those conditions. However, no project will have effects on PCEs and or habitat qualities that are greater than the full range of effects described here.

In general, direct effects are ephemeral (instantaneous to hours) or short-term (days to months), and indirect effects are long-term (years to decades, or the life of the project). Effects are described as an increase or decrease relative to the existing conditions at the time of analysis. Projects with a more significant construction aspect are likely to adversely affect larger areas, and to take a longer time to recover, than projects with less construction. However, larger projects are also likely to have correspondingly greater conservation benefits because they are more likely to include a significant design or engineering change that will correct an improper or inadequate engineering design, and thus restore lost habitat, improve water quality, reduce upstream and downstream channel impacts, improve ecological connectivity, and reduce the risk of structural failure.

1. Freshwater spawning sites
  - a. Water quantity. *Direct* – Reduced base flow due to withdrawals for short-term construction needs and reduced hyporheic flow due to floodplain and riparian disturbance, including reduced permeability and increased runoff. *Indirect* – Beneficial effects from reduced peak flow and increased base flow due to improved stormwater management, riparian conditions, and ecological connectivity.
  - b. Water quality. *Direct* – Increased temperature, suspended sediment, and contaminants, decreased dissolved oxygen, and impoverished community structure, including the composition, distribution, and abundance of prey, competitors, and predators due to floodplain, riparian, and channel disturbance, and increased erosion, sedimentation, and contaminants. *Indirect* – More normal temperature and sediment load, reduced contaminants, and increased dissolved

- oxygen due to improved stormwater management, riparian, streambank, and channel conditions, ecological connectivity, and more normative community structure.
- c. Substrate. *Direct* – Decreased space and gravel supply, increased compaction and embeddedness, and impoverished community structure due mechanical compression and floodplain, riparian, and channel disturbance, including loss of large wood. *Indirect* – More functional sediment balance, with increased gravel and large wood supply, due to improved riparian, streambank, and channel conditions, improved ecological connectivity, and more normative community structure.
2. Freshwater rearing sites
    - a. Water quantity – Same as above.
    - b. Floodplain connectivity. *Direct* – Reduced hyporheic flow due to floodplain and riparian disturbance, including reduced permeability and increased runoff. *Indirect* – More functional floodplain area due to improvements in stormwater management, riparian, streambank and channel conditions, and ecological connectivity.
    - c. Water quality – Same as above.
    - d. Forage. *Direct* – Decreased quantity and quality of forage due to increased suspended sediment and contaminants, decreased space, decreased dissolved oxygen, loss of habitat diversity and productivity, and impoverished community structure caused by floodplain, riparian, and channel disturbance. *Indirect* – Increased quantity and quality of forage due to increased habitat diversity and productivity caused by improved riparian, streambank, and channel conditions, improved ecological connectivity, and more normative community structure.
    - e. Natural cover. *Direct* – Decreased natural cover quantity and quality for thermal, velocity, and predator refugia, due to increased temperature, riparian and channel disturbance, reduced space, and impoverished community structure. *Indirect* – Increased natural cover due to improved habitat diversity and productivity, including space, width-depth ratio, pool frequency, pool quality, and off-channel habitat caused by improved riparian, streambank, and channel conditions, improved ecological connectivity, and more normative community structure.
  3. Freshwater migration corridors
    - a. Free passage. *Direct* – Decreased access due to decreased space, water quantity and quality, and ecological connectivity, and in-water work area isolation. *Indirect* – Increased access due to improved water quantity and quality, greater habitat diversity, more natural cover, and more normative community structure caused by improved riparian conditions, streambank conditions, and ecological connectivity.
    - b. Water quantity. Same as above.
    - c. Water quality. Same as above.
    - d. Natural cover. Same as above.
  4. Estuarine areas

- a. Free passage. Same as above.
  - b. Water quality. Same as above.
  - c. Water quantity. Same as above.
  - d. Salinity. No effect.
  - e. Natural cover. Same as above.
  - f. Forage. Same as above.
5. Nearshore marine areas
  - a. Free passage. No effect.
  - b. Water quality. *Direct* – Increased contaminants, impoverished community structure. *Indirect* – Reduced contaminants, more normative community structure.
  - c. Water quantity. No effect.
  - d. Forage. *Direct* – Decreased quantity and quality of forage due to impoverished community. *Indirect* – Increased quantity and quality of forage due to more normative community structure.
  - e. Natural cover. *Direct* – Decreased natural cover quantity and quality due to reduced large wood. *Indirect* – Increased natural cover due to increased large wood.
6. Offshore marine areas
  - a. Water quality. *Direct* – Increased contaminants, impoverished community structure. *Indirect* – Reduced contaminants, more normative community structure.
  - b. Forage. *Direct* – Decreased quantity and quality of forage due to impoverished community. *Indirect* – Increased quantity and quality of forage due to more normative community structure.

It is likely that the function of any PCE that is impaired at the site or reach level by the effects of a project that is authorized or completed under this Opinion will only be impaired for a period of hours to months and will affect an individual project action area that includes no more than 750 linear feet (0.14 miles) of upland, riparian and aquatic areas, and often much less. For those few projects that require 2 or more years of work to complete, some adverse effects will last proportionally longer and effects related to runoff from the construction site may be exacerbated by winter precipitation.

The frequency of these projects is likely to be limited to a few events within a given watershed. Monitoring information shows that no more than 47 road, culvert, bridge or utility projects have been completed in the Willamette-Lower Columbia recovery domain in a single year under a SLOPES Opinion, and no other domain has exceeded nine projects per year (Table 1). However, even if the number of projects in each recovery domain increases by 100% more than its previous maximum, it is unlikely that the action areas for projects will occur in proximity to each other in the same 5th field watershed, during the same year, except in the Willamette-Lower Columbia Recovery Domain (Table 19).

**Table 19.** Number of HUC5 watersheds, total critical habitat miles, maximum anticipated number of projects expected to be authorized or completed under this Opinion per year, and maximum anticipated action area per year in miles, by recovery domain.

Recovery Domain	Total HUC5	Total Critical Habitat (miles)	Maximum Anticipated Number of Projects per year	Maximum Anticipated Action Area per year (miles)*
Willamette-Lower Columbia	88	3240	94	13.4
Interior Columbia	152	6108	16	2.3
Oregon Coast	80	6652	18	2.6
Southern Oregon/Northern California Coasts	42		6	0.9
Total	362		134	19.2

\*The maximum anticipated action area for each recovery domain, in miles, is equal to the maximum number of projects that is likely to occur in that domain multiplied by the maximum anticipated length of the action area for each project (see Action Area, p.23) (*e.g.*, for the Willamette-Lower Columbia recovery domain, 94 projects multiplied by 750 feet per project and divided by 5280 feet per mile equals 13.4 miles).

Given the small size of the action area for individual projects, the relatively low intensity and severity of the effects described, and their low frequency in a given watershed, any adverse effects to PCE conditions and conservation value of critical habitat at the site level or reach level are likely to quickly return to, and improve beyond, conditions existing before the action. Moreover, the proposed action is also reasonably certain to lead to some degree of ecological recovery within each action area, including the establishment or restoration of environmental conditions associated with functional habitat and high conservation value. This is because each action is likely to partially or fully correct improper or inadequate engineering designs in ways that will help to restore lost habitat, improve water quality, reduce upstream and downstream channel impacts, improve ecological connectivity, and reduce the risk of structural failure. Improved fish passage through culverts and more functional ecological connectivity, in particular, may have long-term beneficial effects.

**Effects on Listed Species.** As noted above, each individual project will be completed as proposed with full application of the design criteria for construction, installation of rock or other hard structures within the functional floodplain, stormwater management, and compensatory mitigation. Each action is likely to have the following effects on individual fish at the site and reach scale. The nature of these effects will be similar between projects because each project is based on a similar set of underlying construction activities that are limited by the same design criteria and the individual salmon and steelhead have relatively similar life history requirements and behaviors regardless of species. Although the life history and distribution of southern green sturgeon are less well known, NMFS assumes that individual projects which include construction, rock installation, and stormwater management in areas adjacent to bays, estuaries, and deep riverine mainstem habitat will also affect the rearing and migration of southern green sturgeon. Conversely, the intensity of the effects, in terms of changes in the condition of

individual fish from baseline condition and the number of individual affected, and severity of these effects, in terms of individual recovery time, will also vary somewhat between projects because of differences at each site in the scope of work area isolation and construction, the particular life history stages present, the baseline condition of each fish present, and factors responsible for those conditions. However, no project will have effects on fish that are more important than the full range of effects described here.

The proximity of spawning adults, eggs, and fry of most salmon and steelhead species to any construction-related effects of the proposed action that could injure or kill them will be rigorously limited by the proposed design criteria that require work within the active channel to be isolated from that channel and completed in accordance with the Oregon guidelines for timing of in-water work to protect fish and wildlife resources. The Oregon guidelines for timing of in-water work are primarily based on the average run timing of salmon and steelhead populations, although the actual timing of each run varies from year to year according to environmental conditions. Moreover, because populations of salmon and steelhead have evolved different run timings, work timing becomes less effective as a measure to reduce adverse effects on species when two or more populations occur in a particular area. It is unlikely that spawning adults, eggs, or fry of endangered UCR spring-run Chinook salmon, SR sockeye salmon, and UCR steelhead will ever occur in proximity to construction-related effects of the proposed action because they do not spawn in Oregon. Nonetheless, adult and juvenile individuals of these species pass through the Columbia River mainstem and estuary and so are likely to encounter effects of the action during those life history periods. It is unknown whether the Oregon guidelines for timing of in-water work are also protective of southern green sturgeon because their migration and rearing times are less well known and were not considered when the guidelines were prepared.

In general, direct effects are ephemeral (instantaneous to hours) or short-term (days to months), and indirect effects are long-term (years to decades, or the life of the project). Effects are described as an increase or decrease relative to the environmental baseline. Projects with a more significant construction aspect are likely to adversely affect more fish, and to take a longer time to recover, than projects with less construction. However, larger projects are also likely to have correspondingly greater conservation benefits because they are more likely to include a significant design or engineering change that will correct an improper or inadequate engineering design. This will contribute to more normal freshwater habitat conditions that produce fry, parr, or smolts who are larger or healthier when they enter the estuary than they would otherwise be under baseline conditions, and therefore more likely to survive to adulthood, and to improve access and other spawning conditions for adults.

1. Freshwater spawning
  - a. Adult. *Direct* – No holding or spawning in the construction area, more pre-spawning mortality and less spawning success upstream and downstream of the construction area due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, and an increased likelihood of competition, predation, and disease. *Indirect* – Better pre-spawning survival and spawning success.
  - b. Egg. *Direct* – No effect. *Indirect* – More normal development.

- c. Alevin. *Direct* – No effect. *Indirect* – More normal growth and development.
  - d. Southern green sturgeon. No effect because this species does not spawn in Oregon.
2. Freshwater rearing
- a. Fry. *Direct* – Capture (with some injury and death) during in-water work isolation, reduced growth and development due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, an increased likelihood of competition, predation, and disease, and an impoverished community. *Indirect* – More normal growth and development.
  - b. Parr. Same as for fry, although probably fewer individuals affected due to greater swimming ability.
  - c. Southern green sturgeon. For actions affecting deep mainstem habitats: *Direct* – Decreased access for holding, rearing, or both, due to decreased space, water quantity and quality, and ecological connectivity, and in-water work area isolation. *Indirect* – Increased access or holding due to improved water quantity and quality, greater habitat diversity, more natural cover, and more normative community structure caused by improved riparian conditions, streambank conditions, and ecological connectivity.
3. Freshwater migration
- a. Adult. *Direct* – Delayed upstream migration and increased pre-spawning mortality due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, and an increased likelihood of competition, predation, and disease. *Indirect* – More normal upstream migration and pre-spawning mortality.
  - b. Kelt (steelhead). *Direct* – Delayed seaward migration and increased post-spawning mortality due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, and an increased likelihood of competition, predation, and disease. *Indirect* – More normal seaward migration and post-spawning mortality.
  - c. Fry. *Direct* – Capture (with some injury and death) during in-water work isolation, delayed seaward migration and reduced growth and development due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, and an increased likelihood of competition, predation, and disease. *Indirect* – More normal seaward migration, growth and development.
  - d. Parr. Same as for fry, although probably fewer individuals affected due to greater swimming ability.
  - e. Southern green sturgeon. No effect because this species does not migrate in freshwater in Oregon.
4. Estuary rearing and smoltification
- a. Adult. *Direct* – More sublethal effects of contaminants, less adaptive behavior and movement, an increased likelihood of competition, predation, and disease,

- and an impoverished community. *Indirect* – More normal adult maturation and upstream migration.
- b. Kelt (steelhead). *Direct* – Same as for adult. *Indirect* – More normal seaward migration.
  - c. Fry. *Direct* – Capture (with some injury and death) during in-water work isolation, reduced growth and development due to higher bioenergetic cost, more sublethal effects of contaminants, less adaptive behavior and movement, an increased likelihood of competition, predation, and disease, and an impoverished community. *Indirect* – More normal estuary rearing and smoltification.
  - d. Parr. Same as for fry, although probably fewer individuals affected due to greater swimming ability.
  - e. Smolt. Same as for fry and parr, although probably fewer individuals affected due to greater swimming ability.
  - f. Southern green sturgeon. *Direct* – Decreased access for holding, rearing or both, due to decreased space, water quantity and quality, and ecological connectivity, and in-water work area isolation. *Indirect* – Increased access for holding, rearing, or both, due to improved water quantity and quality, greater habitat diversity, more natural cover, and more normative community structure caused by improved riparian conditions, streambank conditions, and ecological connectivity.
5. Nearshore marine growth and migration
- a. Kelt (steelhead). No effect because marine growth and migration of adult steelhead are controlled by ocean conditions that are disconnected from terrestrial ecology.
  - b. Adult. Same as for kelt.
  - c. Smolt. *Direct* – Delayed growth, transition to adulthood, and migration due to smaller size at ocean entry. *Indirect* – More normal growth, transition to adulthood, and migration.
  - d. Southern green sturgeon. No effect because of ocean control.
6. Offshore marine growth and migration
- a. Adult. No effect because of ocean control.
  - b. Southern green sturgeon. No effect because of ocean control.

Except for fish that are captured during work area isolation, individual fish whose condition or behavior is impaired by the effects of a project authorized or completed under this Opinion are likely to suffer only from ephemeral or short-term sublethal effects during construction, including diminished rearing and migration as described above. The few projects that are likely to require two or more years to complete are also likely to adversely affect more fish due to more sustained adverse environmental effects, but will not cause any additional effects as a result of work area isolation because that will only be completed once, regardless of project duration. Individual fish entering each project area after construction and site restoration are complete are not likely to be adversely affected as a result of these projects.

Again, as noted above, monitoring information shows that no more than 48 road, culvert, bridge or utility actions have been completed in a single recovery domain, in a single year, using this

Opinion, and the average is 9 actions per year. While those numbers are not increasing from year to year, it is reasonable to assume that interest and funding for road, culvert, bridge and utility line actions may increase arithmetically, and that the number of actions authorized and completed each year under this Opinion may also. However, even if the number of actions in each recovery domain increases by 100% more than its previous maximum, it is unlikely, but not impossible, that the action area for these effects will occur in proximity to each in the same 5th field watershed, during the same year (Table 19).

An estimate of the maximum affect that capture and release operations for projects authorized or completed under this opinion will have on the abundance of adult salmon and steelhead in each recovery domain was obtained as follows:

$$\begin{aligned} & 134 \text{ (maximum anticipated number of projects per year)} \\ & \times 100 \text{ (maximum anticipated number of juveniles to be captured per project)} \text{ In 2007,} \\ & \quad \text{ODOT completed 36 work area isolation operations involving capture and release} \\ & \quad \text{using nets and electrofishing; 12 of those operations resulted in capture of 0} \\ & \quad \text{Chinook salmon, 345 coho salmon, and 22 steelhead; with an average mortality of} \\ & \quad \text{5\%.}^{16} \\ & \times 0.5 \text{ (maximum anticipated number of juveniles that are likely to be injured or killed} \\ & \quad \text{due to electrofishing during capture and release)} \text{ Consistent with observations by} \\ & \quad \text{ODOT in 2007 and data reported in McMichael } et al. \text{ 1998.} \\ & \times .02 \text{ (an estimated average smolt to adult survival ratio) See Smoker } et al. \text{ (2004) and} \\ & \quad \text{Scheuerell and Williams (2005); this is very conservative because many juveniles} \\ & \quad \text{are likely to be captured as fry or parr, life history stages that have a survival rate} \\ & \quad \text{to adulthood that is exponentially smaller than for smolts.} \\ & = 14 \text{ maximum anticipated number of adult equivalents "killed" each year due to} \\ & \quad \text{capture and release operations, to be distributed across 100 populations and four} \\ & \quad \text{recovery domains (Table 20).} \end{aligned}$$

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<sup>16</sup> Email from Ken Cannon, Oregon Department of Transportation, to Marc Liverman, National Marine Fisheries Service (July 29, 2008) (transmitting ODOT 2007 Fish Salvage Report).



**Table 20.** Number of HUC5 watersheds, total populations, maximum anticipated number of projects expected to be authorized or completed under this Opinion per year, and maximum number of juveniles captured per year, by recovery domain.

Recovery Domain	Number of Populations	Maximum Anticipated Number of Juveniles Captured per Year	Maximum Anticipated Number of Juveniles Killed per Year	Maximum Anticipated Number of Adult Equivalents “Killed” per year
Willamette-Lower Columbia	47	9400	470	9
Interior Columbia	22	1600	80	2
Oregon Coast	21	1800	90	2
Southern Oregon/Northern California Coasts	10	600	30	1
Total	100	13,400	670	14

Additional fish are likely to be indirectly injured or killed due to the habitat-related effects of this action. Those losses are expected to be small, commensurate with the intensity and severity of effects described above, although it is not possible to estimate those effects as a number of fish because of the difficulty of disentangling multiple stressors within poorly sampled systems at the scale of these actions.

Given the small reduction in the growth and survival of fish that will be directly affected by individual projects, primarily at the fry, parr, and smolts life stages, the relatively low intensity and severity of the that reduction at the population level, and their low frequency in a given population, any adverse effects to fish growth and survival are likely to quickly return to environmental baseline levels. Moreover, the proposed action is also reasonably certain to lead to some degree of species recovery within each action area, including more normal growth and development, improved survival, and improved spawning success. Improved fish passage through culverts and more functional ecological connectivity, in particular, may have long-term beneficial effects.

### Cumulative Effects

Between 2000 and 2006, the population of Oregon grew from 3.4 to 3.7 million, an increase of approximately 8%.<sup>17</sup> The state is projected to grow at a similar rate for the next 5 years. Thus, NMFS assumes that future private and state actions will continue within the action areas, increasing as population density rises.

The most common activities reasonably certain to occur in the action areas addressed by this consultation are agricultural activities, operation of non-Federal hydropower facilities, urban and

<sup>17</sup> Source: Oregon QuickFacts, available from the Population Estimates Program, U.S. Bureau of the Census, Washington, D.C.

suburban development, recreational activities, timber harvest, road construction and maintenance, and metals and gravel mining. Many of these activities are not subject to ESA consultation and would result in some adverse effects to ESA-listed salmon and steelhead, their designated critical habitats, and ESA-listed southern green sturgeon. Some of the activities such as timber harvest and development are subject to regulation under state programs and the effects to fish and stream habitat are reduced to varying degrees under these programs. These activities are likely to have some adverse effects on the spawning, rearing and migration behavior of listed species considered in this Opinion, and result in some degradation of the conservation value of designated critical habitat.

Throughout Oregon, watershed councils, Native American Tribes, local municipalities, conservation groups, and others carry out restoration projects in support of salmon and steelhead recovery, some of which may also benefit southern green sturgeon. Many of these actions will be covered by this consultation, or future individual consultations, in which cases their effects are not cumulative effects. Some of the private or state funded actions for which funding commitments and necessary approvals already exist will not undergo consultation and do result in beneficial cumulative effects. They address protection, restoration, or both, of existing or degraded fish habitat, instream flows, water quality, fish passage and access, and watershed or floodplain conditions that affect stream habitat. These beneficial effects will be similar to those described in the Effects on Listed Species section of this Opinion. These effects will result in small improvements to salmon, steelhead, and possibly southern green sturgeon population abundance, productivity, and spatial structure and result in some improvement to the condition of critical habitat PCEs.

When considered together, these cumulative effects are likely to have a small negative effect on salmon, steelhead, and southern green sturgeon population abundance, productivity, and spatial structure. Similarly, the condition of critical habitat PCEs will be slightly degraded by the cumulative effects.

## **Conclusion**

After reviewing the best available scientific and commercial information available regarding the current status of the 16 species considered in this consultation (LCR Chinook salmon, UWR spring-run Chinook salmon, UCR spring-run Chinook salmon, SR spring/summer run Chinook salmon, SR fall-run Chinook salmon, CR chum salmon, LCR coho salmon, SONCC coho salmon, OC coho salmon, SR sockeye salmon, LCR steelhead, UWR steelhead, MCR steelhead, UCR steelhead, SRB steelhead, and southern green sturgeon), the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify their designated critical habitats. These conclusions are based on the following considerations.

Of those salmon and steelhead species and populations for which viability has been assessed by a TRT, virtually all face a moderate to very high risk of extinction. Although NMFS considers changes in ocean productivity to be the most important natural phenomenon affecting the productivity of salmon and steelhead, NMFS identified many other factors associated with the

freshwater phase of their life cycle that are also limiting the recovery of these species, such as elevated water temperatures, excessive sediment, reduced access to spawning and rearing areas, loss of habitat diversity, large wood, and channel stability, degraded floodplain structure and function, and reduced flow. The NMFS also designated critical habitat for all of these species, except LCR coho salmon and southern green sturgeon. CHARTs determined that most designated critical habitat has a high conservation value, based largely on its restoration potential. Baseline conditions for these PCEs vary widely from poor to excellent.

The NMFS has not completed a detailed viability assessment of southern green sturgeon but has determined that the primary threat facing this species is the reduction in the number and geographic distribution of spawning areas, which do not occur within the action area of this proposed action. Other identified threats related to the destruction, modification, or curtailment of southern green sturgeon habitats are also limited to the geographic range of southern green sturgeon outside the action area for this proposed action. Fisheries, including trophy poaching, are another significant threat to this species. Southern green sturgeon occur in Oregon in nearshore marine areas, bays, estuaries, and the deep, low elevation, riverine mainstem of coastal rivers but NMFS has not designated critical habitat for this species.

Although the programmatic nature of the action prevents a precise analysis of each action that eventually will be authorized or completed under this Opinion, each type of action will be carefully designed and constrained by comprehensive design criteria such that construction will cause only short-term (weeks to months) increase in factors limiting the viability of the affected populations at the site and reach scale. For salmon and steelhead, these effects are likely to include short-term degradation of water quality due to increased total suspended solids, dissolved oxygen demand, and temperature due to floodplain, riparian and channel disturbance, which will impair rearing, migration, or both. For actions that will affect bays, estuaries, and deeper reaches of mainstem rivers, southern green sturgeon are likely to also experience decreased water quality and mechanical disturbance that will impair rearing and migration. However, individual projects are likely to be widely distributed across all recovery domains in Oregon, and most will occur in tributary areas, so adverse effects will not be concentrated in time or space within the range of any single population or species.

Over the long term (months to years), the requirement of active site restoration following each action will ensure that conditions necessary for survival and recovery are maintained where they were already functional before the action occurred. Moreover, many actions will correct improper or inadequately designed roads, culverts and bridges that unnecessarily constrained ecological functions, either during their initial service life or when they failed, and thus will result in some degree of ecological recovery, including restoration of lost habitat, improved water quality, reduced upstream and downstream channel impacts, improved ecological connectivity, and reduced the risk of structural failure. Improved fish passage through culverts and more functional ecological connectivity, in particular, may have long-term beneficial effects. These long-term effects are consistent with ISAB (2007) recommendations to prepare for and mitigate the effects of climate change with actions that are likely to include improved floodplain and riparian function and removal of stream barriers.

A very small number of individual salmon, steelhead, or sturgeon will be affected by the short-term adverse effects due to construction of any single action authorized or completed under this Opinion. This number is likely to be too small to reduce adult returns, and thus too small to affect the abundance or productivity of any affected population, to or appreciably reduce the likelihood of survival and recovery of the listed species. The longer term effects are likely to be neutral or positive effects due to the combination of site restoration, design criteria that correct engineering flows in existing structures which do not allow for functional floodplain and riparian conditions, and compensatory mitigation when those standards cannot be achieved onsite. Similarly, the direct adverse effects of each action on PCEs are likely to be brief and mild, while the longer term effects are likely to contribute to lessening of the factors limiting the recovery of these species during the freshwater phase of their life cycle, thus ensuring that critical habitat will remain functional, or retain the current ability for PCEs to become functionally established, to serve the intended conservation role for the species.

### **Conservation Recommendations**

Section 7 (a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The following conservation recommendation is a discretionary measure that NMFS believes is consistent with this obligation and therefore should be carried out by the Corps:

The effectiveness of using 1.5 times the active channel width for a single span crossing and 2.2 times the active channel width for a multiple span crossing to protect normative physical processes within the functional floodplain is not well documented, in part because information about the relationship between existing spans, channel width, and the amount of rock used for scour protection in Oregon has not been compiled. Similarly, the success of using large wood as a component of streambank protection in Oregon is largely unknown. A better understanding of the relationship between these features, and preexisting conditions, such as built environment and streamflow regulation, would provide useful information to guide the development of this Opinion in the future. Accordingly, NMFS recommends that the Corps develop a program to (1) assess permanent stream crossing in Oregon, including span width, channel width, the amount of rock used for scour protection, streamflow protection, and (2) the use and success of large wood as part of bank protection treatment in Oregon.

Please notify NMFS if the Corps carries out this recommendation so that we will be kept informed of actions that minimize or avoid adverse effects and those that benefit the listed species or their designated critical habitats.

### **Reinitiation of Consultation**

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (a) the amount or extent of taking specified in the Incidental Take Statement is exceeded, (b) new information reveals effects of the action that may affect listed

species or critical habitat in a manner or to an extent not previously considered, (c) the identified action is subsequently modified in a manner that has an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

If the Corps fails to provide specified monitoring information annually by February 15, NMFS may consider that a modification of the action that causes an effect on listed species not previously considered and causes the Incidental Take Statement of the Opinion to expire. Consultation also must be reinitiated five years after the date this Opinion is signed. To reinitiate consultation, contact the Oregon State Habitat Office of NMFS.

### **Incidental Take Statement**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by Fish and Wildlife Service as an intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA, if that such taking is in compliance with the terms and conditions of this incidental take statement.

#### **Amount or Extent of Take**

Work necessary to complete actions authorized or carried out under this Opinion will take place beside and within active stream channels when individuals of the 15 species considered in this consultation are reasonably certain to occur. A prohibition against take is in place for all salmon and steelhead species considered in this Opinion, but not for southern green sturgeon (Table 2). The habitat that will be affected is of variable quality and may be limited at the stream reach or watershed scale.

Incidental take of ESA-listed salmon and steelhead that is reasonably certain to be caused by the adverse effects of the proposed action will include (a) capture of juvenile fish, some of which will be injured or killed during work area isolation; and (b) harassment or harm of juvenile fish because increased water temperatures, increased total suspended solids, decreased forage, decreased cover, and decreased passage will reduce growth, increase disease, increase competition, increase predation, and inhibit movements necessary for rearing and migration.

This take will occur within an area that extends not more than 300 feet upstream and 300 feet downstream from each action's footprint for the duration of the construction period (commonly hours to months), although actions that require two or more years of work to complete will cause

adverse effects that last proportionally longer, and effects related to runoff from the construction site may be exacerbated by winter precipitation. These adverse effects may continue intermittently for weeks, months, or years until riparian vegetation and floodplain vegetation are restored and a new topographic equilibrium is reached. Incidental take within that area that meets the terms and conditions of this incidental take statement will be exempt from the taking prohibition.

The NMFS anticipates that no more than 13,400 juvenile individuals, per year, of the salmon and steelhead species considered in the consultation will be captured, and no more than 670 will be killed as a result of work necessary to isolate in-water construction areas (Table 20). Because these fish are from different species that are similar to each other in appearance and life history, and to unlisted species that occupy the same area, it is not possible to assign this take to individual species. This estimate is based on the following assumptions: (1) Up to a 100% increase may occur in the maximum number of actions authorized or completed each year under the proposed action for a total 134 actions per year; (2) 100% of the actions will require isolation of the in-water work area; (3) each action requiring in-water work area isolation is likely to capture fewer than 100 listed juvenile salmon and steelhead; for a total of 13,400 individuals, and (4) of the fish to be captured and handled in this way, less than 2% are likely to be killed, while the remainder are likely to survive with no long-term adverse effects. Nonetheless, an estimate of 5% lethal take, or 13,400 fish per year, will be used here to allow for variations in environment and work conditions during the capture and release operations. Capture and release of adult fish is not likely to occur as part of the proposed isolation of in-water work areas.

Take caused by the habitat-related effects of this action cannot be accurately quantified as a number of fish because the distribution and abundance of fish that occur within an action area are affected by habitat quality, competition, predation, and the interaction of processes that influence genetic, population, and environmental characteristics. These biotic and environmental processes interact in ways that may be random or directional, and may operate across far broader temporal and spatial scales than are affected by the proposed action. Thus, the distribution and abundance of fish within the action area cannot be attributed entirely to habitat conditions, nor can NMFS precisely predict the number of fish that are reasonably certain to be injured or killed if their habitat is modified or degraded by the proposed action. In such circumstances, NMFS uses the causal link established between the activity and the likely changes in habitat conditions affecting the listed species to describe the extent of take as a numerical level of habitat disturbance.

Here, the best available indicator for the extent of take is the total length of stream reach that will be modified during construction of actions authorized or carried out under the proposed action because that variable is directly proportional to harm and harassment attributable to this action. Because each action may modify up to 750 lineal feet of riparian and shallow-water habitat (including a 150 construction area and a 600-foot action area for upstream and downstream effects), and up to 134 actions per year are likely to occur, the extent of take for this action is 19.2 linear stream miles per year (Table 19).

The estimated number of fish to be captured and injured or killed during capture and handling operations conducted during work area isolation, *i.e.*, 13,400 juveniles per year, and the length of

stream reach, *i.e.*, 19.2 linear stream miles per year, that that will be modified by the construction of all actions authorized or carried out under the proposed action are thresholds for reinitiating consultation. In the accompanying Opinion, NMFS determined that this level of incidental take is not likely to result in jeopardy to the listed species. Exceeding any of these limits will trigger the reinitiation provisions of this Opinion.

### **Reasonable and Prudent Measures**

The following measures are necessary and appropriate to minimize the impact of incidental take of listed species from the proposed action.

The Corps shall:

1. Minimize incidental take from administration of SLOPES IV Roads, Culverts, Bridges and Utility Lines by ensuring that the proposed design criteria apply to all projects authorized or completed using this approach.
2. Ensure completion of a comprehensive monitoring and reporting program regarding all actions authorized or completed using SLOPES IV Roads, Culverts, Bridges and Utility Lines.

### **Terms and Conditions**

The measures described below are non-discretionary, and must be undertaken by the Corps or, if an applicant is involved, must become binding conditions of any permit issued to the applicant, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require an applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

1. To implement reasonable and prudent measure #1 (proposed design criteria), the Corps shall ensure that:
  - a. Every action authorization or completed under this Opinion will be administered by the Corps consistent with design criteria 1 through 14.
  - b. For each action with a general construction element, the Corps will apply design criteria 15 through 38 as enforceable permit conditions or as final project specifications.
  - c. For specific types of actions, the Corps will apply design criteria 39 through 47, as appropriate, as enforceable conditions or as final project specifications.
2. To implement reasonable and prudent measure #2 (monitoring and reporting), the Corps shall ensure that:

- a. The Corps' Regulatory and Civil Works Branches will each submit a monitoring report to NMFS by February 15 each year that describes the Corps efforts in carrying out this Opinion. The report will include an assessment of overall program activity, a map showing the location and type of each action authorized and carried out under this Opinion, and any other data or analyses the Corps deems necessary or helpful to assess habitat trends because of actions authorized under this Opinion.
- b. The Corps' Regulatory and Civil Works Branches will each attend an annual coordination meeting with NMFS by March 31 each year to discuss the annual monitoring report and any actions that will improve conservation under this Opinion, or make the program more efficient or more accountable.
- c. If the Corps chooses to continue programmatic coverage under this Opinion, it will reinitiate consultation within 5 years of the date of issuance.
- d. Failure to provide timely reporting may cause the Incidental Take Statement to expire.

## **MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

The consultation requirement of section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect EFH. Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

The Pacific Fishery Management Council (PFMC) designated EFH for groundfish (PFMC 2006), coastal pelagic species (PFMC 1998), and Chinook salmon, coho salmon, and Puget Sound pink salmon (PFMC 1999). The proposed action and action area for this consultation are described in the Introduction to this document. The action area includes areas designated as EFH for various life-history stages of Chinook and coho salmon, groundfish, and coastal pelagic species. Based on information provided in the BA and the analysis of effects presented in the ESA portion of this document, NMFS concludes that proposed action will have the following adverse effects on EFH designated for those species:

1. Freshwater quantity will be reduced due to short-term construction needs, reduced riparian permeability, and increased riparian runoff, and a slight longer-term increase based on improved riparian function and floodplain connectivity.
2. Freshwater quality will be reduced due to a short-term increase in turbidity, dissolved oxygen demand, and temperature due to riparian and channel disturbance, and longer-term improvement due to improved riparian function and floodplain connectivity.



3. Tributary substrate will have a short-term reduction in quality due to increased compaction and sedimentation, and a long-term increase due to gravel placement, increased sediment storage from boulders and large wood.
4. Floodplain connectivity will have a short-term decrease due to increased compaction and riparian disturbance during construction, and a long-term improvement due to off- and side channel habitat restoration, set-back of berms, dikes, and levees, and removal of water control structures.
5. Forage will have a short-term decrease due to riparian and channel disturbance, and a long-term improvement due to improved habitat diversity and complexity, improved riparian function and floodplain connectivity, and litter retention.
6. Natural cover will have short-term decrease due to riparian and channel disturbance, and a long-term increase due to improved habitat diversity and complexity, improved riparian function and floodplain connectivity, off- and side channel habitat restoration.
7. Fish passage will have a short-term decrease due to decreased water quality and in-water work isolation, and a long-term increase due to improved water quantity and quality, habitat diversity and complexity, forage, and natural cover.

### **EFH Conservation Recommendations**

The following two conservation recommendations are for actions the Corps should take to avoid, mitigate, or offset the impact of the proposed action on EFH. These conservation recommendations are a subset of the ESA terms and conditions:

1. Include each applicable proposed design criteria from 15 to 38 as an enforceable condition of every regulatory permit issued under this Opinion, except 19 (fish capture and removal).
2. Include each applicable proposed design criteria from 15 to 38 as a final project specification of every WRDA civil works project carried out under this Opinion, except 19 (fish capture and removal).

### **Statutory Response Requirement**

Federal agencies are required to provide a detailed written response to NMFS' EFH conservation recommendations within 30 days of receipt of these recommendations [50 CFR 600.920(j) (1)]. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse affects of the activity on EFH. If the response is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations. The reasons must include the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

### **Supplemental Consultation**

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations [50 CFR 600.920(k)].

## **DATA QUALITY ACT DOCUMENTATION AND PREDISSEMINATION REVIEW**

Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554) (Data Quality Act) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the Opinion addresses these Data Quality Act (DQA) components, documents compliance with the DQA, and certifies that this Opinion has undergone predissemination review.

**Utility:** Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users. The intended users are the Corps and applicants seeking permits from the U.S. Army Corps of Engineers, Portland District, for road, culvert, bridge and utility line actions.

An individual copy was provided to the U.S. Army Corps of Engineers, Portland District. This consultation will be posted on the NMFS Northwest Region website (<http://www.nwr.noaa.gov>). The format and naming adheres to conventional standards for style.

**Integrity:** This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

### **Objectivity:**

***Information Product Category:*** Natural Resource Plan.

***Standards:*** This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA

Regulations, 50 CFR 402.01, et seq., and the MSA implementing regulations regarding EFH, 50 CFR 600.920(j).

***Best Available Information:*** This consultation and supporting documents use the best available information, as referenced in the Literature Cited section. The analyses in this Opinion/EFH consultation contain more background on information sources and quality.

***Referencing:*** All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

***Review Process:*** This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with Northwest Region ESA quality control and assurance processes.

## GLOSSARY

For purposes of this consultation --

**Abutment** means part of a bridge structure that supports the end of a span and often supports and retains the approach embankment.

**Action** means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies.

**Action area** means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

**Active channel width** means the stream width measured perpendicular to stream flow between the ordinary high water lines, or at the channel bankfull elevation if the ordinary high water lines are indeterminate. This width includes the cumulative active channel width of all individual side- and off-channel components of channels with braided and meandering forms, and measure outside the area influence of any existing stream crossing, e.g., five to seven channel widths upstream and downstream.

**Applicant** means to any person who requires formal approval, authorization, or funding from a Federal agency as a prerequisite to conducting the action.

**Bankfull discharge** means the streamflow level when the water just begins to leave the channel and spread onto the floodplain; an event that returns approximately every 1.1 to 1.2-years in western Oregon, and every 2.6-years in eastern Oregon.

**Bankfull elevation** means the elevation at which a stream first reaches the top of its natural banks and overflows, and is indicated by the topographic break from a vertical bank to a flat floodplain or the topographic break from a steep slope to a gentle slope.

**Bankfull width** means the stream width measured perpendicular to stream flow between the bankfull elevations. Compare active channel width – because bankfull width is measured between bankfull elevations, it is typically wider than active channel width, which is measured between ordinary high water marks.

**Bent** means part of a bridge substructure that supports a vertical load and is placed transversely to the length of a structure; an end bent is the supporting frame forming part of an abutment.

**Bioretention** means the use of soils of appropriate composition and depth with woody and herbaceous plants to retain and remove pollutants from stormwater runoff in facilities such as vegetated swales, infiltration planters, vegetated filters, and vegetated infiltration basins. These facilities retain water for cycling mainly through evapotranspiration, though underdrains may be used to disperse treated water.

**Bioslope, or ecology embankment**, means a linear flow-through stormwater runoff treatment

facility that can be sited along highway side-slopes, medians, borrow ditches, or other linear depressions, and consists of four basic components: a gravel no-vegetation zone, a vegetated filter strip, the ecology-mix bed, and a gravel-filled underdrain trench.

Bridge means a structure of any span, as distinguished from culverts, that includes superstructure and substructure components including abutments or arches and supports a deck erected over a depression or an obstruction, such as water, and having a track or passageway for carrying traffic or other moving loads. Single span rigid frame structures with a span 20 feet or greater, measured perpendicular to the centerline of the hydraulic opening, are considered bridges.

Bridge opening means the cross-sectional area beneath a bridge that is available for conveyance of water.

Bridge waterway means the area of a bridge opening available for flow, as measured below a specified stage and normal to the principal direction of flow.

Catchment means an area that has a common outlet for its surface runoff

Channel migration zone means the area where a stream or river is susceptible to channel erosion, and often include typically encompass floodplains and some portions of terraces.

Channel-forming discharge means a theoretical streamflow which would result in channel morphology close to that of the existing channel.

Clear, unobstructed opening means the area within the opening that is above the general scour elevation is free of any fill, embankment, scour countermeasure, or other structure.

Conserve, conserving, and conservation mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Federal Endangered Species Act are no longer necessary.

Conservation recommendation means a suggestion by NMFS regarding a discretionary measure to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information

Contraction scour, in a natural channel or at a bridge crossing, means erosion of material from the bed and banks across all or most of the channel width. This component of scour results from a contraction of the flow area at the bridge which causes an increase in velocity and shear stress on the bed at the bridge. The contraction can be caused by the bridge or from a natural narrowing of the stream channel.

Contributing impervious area means all impervious surfaces that are (a) within the project area and discharge runoff directly into a stream, wetland, or subsurface water, indirectly through a ditch, gutter, storm drain, dry well, or other underground injection system, or (b) are contiguous with the project boundary and discharge runoff directly or indirectly into the project area.

Critical habitat means any geographical area designated as critical habitat in CFR part 226.

Culvert means a structure of any span, as distinguished from bridges, that is usually covered with embankment and is composed of structural material around the entire perimeter including pipes, arches, and box culverts. Some culverts are supported on spread footings with the streambed serving as the bottom of the culvert, such as arches and rigid frames. Single span rigid frame structures with a span less than 20 feet, measured perpendicular to the centerline of the hydraulic opening, are considered culverts.

Cumulative effects are those effects of future state or private activities, not involving Federal action, that are reasonably certain to occur within the action area of the Federal action subject to consultation.

Design life means the projected life (in years) of a new structure or structural component under normal loading and environmental conditions before replacement or major rehabilitation is expected.

Designated non-Federal representative means a person designated by the Federal agency as its representative to conduct informal consultation and/or to prepare any biological assessment.

Destruction or adverse modification of critical habitat means to engage in an action that reasonably would be expected, directly or indirectly, to prevent critical habitat from retaining its current ability to function in its intended role in the conservation of species, or retain the current ability for the primary constituent elements to be functionally established, to serve the intended conservation role for the species.

Earthwork means excavation, ditching, backfilling, embankment construction, augering, diking, ripping, grading, leveling, borrow, and other earth-moving work.

Effective discharge means the calculated measure of channel forming discharge.

Effective impervious surface area means all impervious surfaces within the project boundaries that discharge stormwater into a surface or subsurface receiving water. This includes all paved areas that drain into ditches, gutters, or storm drains that discharge into surface or subsurface waters, all pavement that is immediately adjacent to those water bodies, and all pavement that drains into dry wells or other underground injection systems.

Effectively isolated from the active stream means an area that is inaccessible to fish and do not allow a visible release of pollutants or sediment into the water.

Effects of the action are the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline.

Endangered species are in danger of extinction throughout all or a significant portion of its range.

Entrenchment means the ratio between the flood prone width and bankfull channel width; streams with a ratio that is less than 1.4 have a relatively small floodplain while streams with a ratio greater than 2.2 have high floodplain connectivity.

Environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.

Fish capture and removal means capturing fish inside an area that is to be isolated from the active stream and releasing them in a safe place.

Fishery biologist means a person that has an ecological education, thorough knowledge of aquatic biology and fish management, and is professionally engaged in fish research or management activities; a supervisory fishery biologist is professionally responsible for the supervision of biologists and technical staff engaged in fish research or management.

Flood frequency zone means an area that is likely to be inundated during streamflow that occur at a given frequency and is defined using base flood elevations determined using U.S. Geological Survey guidelines; e.g., Zone A, defined by the 100-year base flood elevation.

Flood prone area means the area subject to flooding during flood events of a given frequency (e.g., a 100 year flood) and is often estimated to be at an elevation equal to (a) two times the maximum bankfull depth, (b) three times the average bankfull depth, or (c) 2.2 times the average bankfull width.

Flood prone width means the horizontal distance along transect, measured perpendicular to stream flow, from the flood prone elevation on one side of the floodplain to flood prone elevation on the opposite side of the floodplain.

Functional floodplain means an area that is interconnected with the main channel through physical and biological processes such as periodic inundation, the erosion, transport and deposition of bed materials, nutrient cycling, groundwater recharge, hyporheic flows, the production and transport of large wood, aquatic food webs, and fish life history. Together, these processes interact to create and maintain geomorphic features such as alcoves, backwaters, backwater deposits, braided channels, flooded wetlands, groundwater channels, meander scrolls, natural levees, overflow channels, oxbows or oxbow lakes, point bars, ponds, sand splays, side channels, and sloughs, although these features may be difficult to distinguish on smaller streams, where floodplain deposits are subject to rapid removal and alteration. These permanent or intermittent geomorphic features are extensions of the main stream channel and are critical to the survival and recovery of ESA-listed salmon and steelhead. The functional floodplain area is often assumed to be coincident with the flood prone area, if the entrenchment ratio is less than 2.2, or 2.2 times the active channel width if entrenchment ratio is greater than 2.2. This area may also be reduced by the presence of geomorphic features, flow regulation, or encroachment

of built infrastructure.

General scour means a lowering of the streambed across the stream or waterway at the bridge. This lowering may be uniform across the bed or non-uniform. That is, the depth of scour may be deeper in some parts of the cross section. General scour may result from contraction scour which involves removal of material from the bed across all or most of the channel width (see above), or other general scour that may cause a non-uniform lowering of the bed due to conditions such as changes in flow around a bend, at the confluence of two tributaries, downstream of a bar or island, or short-term (daily, weekly, yearly, or seasonal) changes in the downstream water surface elevation that control backwater.

General scour depth, or general scour elevation, means a cross section reference line showing the probable vertical distance that a streambed will be lowered by general scour below a reference elevation during the scour design discharge or scour check discharge, whichever is more severe, including commonly accepted minimum safety factors.

General scour prism means all floodplain, bank, and streambed material above the general scour depth or general scour elevation.

Harass means intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering.

Harm means significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Hazardous material means any chemical or substance which, if released into an aquatic habitat, could harm fish, including, but not limited to, petroleum products, radioactive material, chemical agents, and pesticides.

Incidental take means takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant.

Incipient motion means the stream velocity at which bed material becomes mobile.

Indirect effects are caused by the proposed action and are later in time, but still are reasonably certain to occur.

Infiltration means the flow or movement of water through the soil surface and into the ground.

Interdependent actions have no independent utility apart from the action under consideration.

Interrelated actions are part of a larger action and depend on the larger action for their justification.



In-water work includes any part of an action that occurs below ordinary high or within the wetted channel, e.g., excavation of streambed materials, fish capture and removal, flow diversion, streambank protection, and work area isolation.

Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

Large wood means a tree, log, rootwad, or engineered logjam that is large enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull channel width of the stream in or near which the wood occurs.

Listed species are any species of fish, wildlife, or plant which has been determined to be endangered or threatened under section 4 of the Federal Endangered Species Act.

Local scour means removal of material from the channel bed or banks which is restricted to a relatively minor part of the width of a channel, such as scour in a channel or on a floodplain that is localized at a pier, abutment, or other obstruction to flow. Local scour is caused by the acceleration of the flow and the development of a vortex system induced by the obstruction to the flow and does not include the additional scour caused by any contraction, natural channel degradation, or bendway.

Low impact development means an alternative to conveyance and off-site treatment of stormwater that uses decentralized, micro-scale controls to mimic the site's predevelopment capacity to infiltrate, filter, store, evaporate, and detain runoff close to its source.

Major hazard response means an unplanned, immediate or short-term repair of a road, culvert, bridge, or utility line that must be made before the next in-water work period to resolve critical conditions that, unless corrected, are likely to cause loss of human life, property, or natural resources. The major hazard response must include a report with an assessment of effects to listed species and critical habitats, and of any remedial actions necessary to bring the repair into compliance with other project design criteria in this Opinion.

Meander scroll means an arc-shaped feature that can occur on either side of meander bends but are common on the concave side of bends formed as the channel migrated laterally down valley and toward the concave bank.

Natural levee means raised berms or crests above the floodplain surface beside the channel, usually containing coarser materials deposited as flood flows over the top of the stream bank - more frequently found on concave banks; where most of the sediment load in transit is fine grained, natural levees may be absent or nearly imperceptible.

Ordinary high water elevation means the elevation to which the high water ordinarily rises annually in season, excluding exceptionally high water levels caused by large flood events. Ordinary high water is indicated in the field by one or more of the following physical

characteristics: (a) a clear natural line impressed on the bank or shore; (b) destruction of terrestrial vegetation; (c) change in vegetation from riparian to upland; (d) textural change of depositional sediment or changes in the character of the substrate, e.g., from sand to cobbles, or alluvial material to upland soils; (e) the elevation below which no needles, leaves, cones, seeds, or other fine debris occurs; (f) the presence of litter and debris, water-stained leaves, water lines on tree trunks; or (g) other appropriate means that consider the characteristics of the surrounding areas. The ordinary high water elevation is typically below the bankfull elevation. The ordinary high water elevation is considered equivalent to the bankfull elevation if the ordinary high water lines are indeterminate.

Oregon climate zones are climate zones as determined by the Oregon Climate Service, Oregon State University, Corvallis.

Oxbow or oxbow lake means the cutoff portion of a stream meander bend.

Partially spanning weir means a low-profile structure consisting of loosely arranged boulders that does not exceed 25% of the cross-sectional area of the low flow channel; used to protect streambanks by redirecting the flow away from the bank, increase aquatic habitat diversity, and provide refuge for fish during high flows.

Pavement expansion means total rebuilding of the pavement and subgrade of an existing roadway and construction of additional through travel lanes or, in some cases, construction of an entirely new roadway on a new alignment. The existing roadway may or may not be rebuilt. Substantial new or additional right of way may be required, and horizontal alignment may change such that the old and new right-of-way are no longer contiguous.

Pavement reconditioning means resurfacing or replacement with improvement of an isolated grade, curve, intersection or sight distance problem, or changing the subgrade to widen shoulders or correct a structural problem. Widening of the continuous shoulder, pavement or subgrade may occur, but does not increase the number of driving lanes. Additional right-of-way may be required.

Pavement reconstruction means total rebuilding of the pavement and subgrade of an existing roadway. Major elements may include flattening of hills and grades, improvement of curves, and widening of the roadbed. Normally, this either changes the location of the existing subgrade shoulder points, or removes all of the existing pavement and base course 50% or more of the project length. Additional right-of-way is normally required.

Pavement replacement means structural improvement to the subgrade of an existing roadway, or removal of the total thickness of all existing layers of concrete and asphalt paving from an existing roadway and providing a new paved surface without changing the subgrade or location of shoulder points. This generally does not improve capacity or geometrics, or increase roadbed width. Additional right-of-way is not normally required.

Pavement resurfacing means placing a new surface, or overlay, on an existing roadway to provide a better all weather surface, a better riding surface, and to extend or renew the pavement life. The overlay must be placed directly on top of existing pavement, with no intervening base

course, no change in the subgrade shoulder points, and no improvement in capacity or geometrics. Resurfacing may include some elimination or shielding of roadside obstacles, culvert replacements, signals, marking, signing and intersection improvements.

Pile, or piling, means a long column driven into the ground to form part of a foundation or substructure.

Point bar means areas of deposition typically on the concave side of river curves.

Preconstruction means all surveying activities necessary to plan the work required to complete the action.

Primary constituent elements are the biological and physical features of critical habitat that are essential to the conservation of listed species.

Reasonable and prudent measures are actions the NMFS believes necessary or appropriate to minimize the amount or extent of incidental take.

Recovery means an improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Federal Endangered Species Act.

Rehabilitation means the major work required to restore the structural integrity and extend the service life of a culvert, road or bridge, and work necessary to correct major safety defects when total replacement is not warranted.

Riprap means rock or stones used as a part of a foundation or revetment, or to construct with or strengthen with rock or stones, either loose or fastened with mortar.

Roadway means the part of a highway, including shoulders, that is for vehicular use. A divided highway has two or more roadways.

Sand splay means deposits of flood debris usually of coarser sand particles in the form of splays or scattered debris.

Scope of the action means the range of actions and impacts to be considered in the analysis of effects.

Scour means the displacement and removal of channel bed material due to the erosive action of flowing water which excavates and carries away material from the channel bed, usually considered as being localized as opposed to general bed degradation or headcutting. For information on scour analysis and delineation of scour depth, scour elevation, and scour prism, see Lagasse et al. 2001a and 2001b, Richardson and Davis 2001, and ODOT 2005.

Shoulder means the paved or unpaved portion of the roadway that is contiguous with the traveled way for accommodating stopped vehicles, for emergency use, and for lateral support of base and

surface courses.

Site potential tree height means the average maximum height of the tallest dominant trees for a given site class, as reported in a soil survey.

Slough means an area of dead water formed in a meander scroll depression or along the valley wall as flood flows move directly down valley, scouring beside the valley walls.

Sound exposure level (SEL) means a measure of sound energy dose that is defined as the constant sound level acting for one second that has the same acoustic energy as the original sound (Hastings and Popper 2005). SEL is calculated by summing the cumulative pressure squared over time as decibels re 1 micropascal<sup>2</sup>-second.

Span, used as a verb, means to extend over or across, and used as a noun means the horizontal space between two supports of a bridge or to the bridge itself.

Stormwater, or runoff, means surface water runoff that originates as precipitation on a particular site, basin, or watershed.

Stream-floodplain corridor means the main stream channel and its functional floodplain.

Stream-floodplain system, see stream-floodplain corridor.

Streambank toe means the part of the streambank below ordinary high water.

Streamflow means the rate at which a volume of water flows past a point over a unit of time.

Subgrade means the roadway grade established in preparation for top surface of asphalt, concrete, gravel, or other material.

Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Threatened species are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Toe, see streambank toe.

Total scour elevation, or total scour depth, means a cross section reference line showing the probable vertical distance that a streambed will be lowered by total scour below a reference elevation during the scour design discharge or scour check discharge, whichever is more severe, including commonly accepted minimum safety factors.

Total scour prism means all floodplain, bank, and streambed material above the total scour elevation or depth.

Undercoping of an abutment means the point where the bridge bearing seat intersects the front face (toward the stream, usually nearly vertical) of the abutment.

Vacant structure is an unused, unnecessary, or abandoned piece of a roadway or bridge that no longer fulfill its intended purpose.

Vegetated riprap means riprap in which the voids have been filled with soil and planted using seed, plant cuttings or rooted plants.

Water quantity, or quantity, design storm means the depth of rainfall predicted from a storm event of a given frequency.

Watershed means a designated hydrologic unit, or drainage area, typically at the 5<sup>th</sup> or 6<sup>th</sup> field, for identification and hierarchical cataloging purposes.

Working adequately means erosion controls that do not allow ambient stream turbidity to increase by more than 10% above background 100 feet below the discharge, when measured relative to a control point immediately upstream of the turbidity-causing activity.

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## **APPENDICES**

A-E

**Appendix A: E-mail Guidelines & SLOPES IV-Road, Culvert, Bridge, Utility Line  
(Transportation) Action Notification Form**

## E-MAIL GUIDELINES FOR SLOPES IV PROGRAMMATIC

The **SLOPES IV** programmatic e-mail box ([slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov)) is to be used for actions submitted to the National Marine Fisheries Service (NMFS) by the Federal Action Agencies for formal consultation (50 CFR § 402.14) under SLOPES IV.

The Federal Action Agency must ensure the final project is being submitted to avoid multiple submittals and withdrawals. In rare occurrences, a withdrawal may be necessary and unavoidable. In this situation, please specify in the e-mail subject line that the project is being withdrawn. There is no form for a withdrawal, simply state the reason for the withdrawal and submit to the e-mail box, following the email titling conventions. If a previously-withdrawn notification is resubmitted later, this resubmittal will be regarded as a new action notification.

An automatic reply will be sent upon receipt, but no other communication will be sent from the programmatic e-mail box; this box is used for **Incoming Only**. All other pre-decisional communication should be conducted **outside** the use of the [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov) e-mail.

The Federal Action Agency will send only **one** project per e-mail submittal, and will attach all related documents. These documents **must be in pdf format** and will include the following:

1. Action Notification Form, the Action Completion Form, Major Hazard Response Form, or the Salvage Report
2. Map(s) and project design drawings (if applicable);
3. Final project plan.

In the subject line of the email (see below for requirements), clearly identify which SLOPES IV programmatic you are submitting under (Restoration, Over-Water/In-Water Structures, or Transportation), the specific submittal category (30-day approval, no approval, major hazard response, project completion, withdrawal, or salvage report), the Corps Permit Number, the Applicant Name, County, Waterway, and State

### E-mail Titling Conventions

Use caution when entering the necessary information in the subject line. **If these titling conventions are not used, the e-mail will not be accepted.** Ensure that you clearly identify:

1. Which SLOPES IV programmatic you are submitting under (Restoration, Bank Stabilization, Boat Docks, or Transportation.);
2. The specific submittal category (30-day approval, no approval, major hazard response, action completion, withdrawal, or salvage report);
3. Corps Permit number;
4. Applicant Name (you may use last name only, or **commonly used** abbreviations);
5. County;
6. Waterway; and
7. State.

Examples:

SLOPES IV Programmatic\_Specific Submittal Category, Corps Permit #, Applicant Name, County, Waterway, State

Action Notification

*Transportation\_No Approval, 200600999, Smith, Multnomah, Willamette, Oregon*

*Transportation\_30-day Approval, 200600999, Smith, Multnomah, Willamette, Oregon*

*Transportation\_Hazard, 200600999, Smith, Multnomah, Willamette, Oregon*

Project Completion

*Transportation\_Completion, 200600999, Smith, Multnomah, Willamette, Oregon*

Salvage Report

*Transportation\_Salvage, 200600999, Smith, Multnomah, Willamette, Oregon*

Withdrawal

*Transportation\_Withdrawal, 200600999, Smith, Multnomah, Willamette, Oregon*

**Project Description**

Please provide enough information for NMFS to be able to determine the effects of the action and whether the project fits the SLOPES criteria. Attach additional sheets if necessary. The project description should include information such as (but not limited to):

- Proposed in-water work including timing and duration
- Work area isolation and salvage plan including pumping, screening, electroshocking, fish handling, etc.
- Discussion of alternatives considered
- Description of any proposed mitigation
- Cross section to show depth of over and in-water structures.

## SLOPES IV PROGRAMMATIC - TRANSPORTATION

### ACTION NOTIFICATION FORM

Submit this completed action notification form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). The SLOPES IV Programmatic e-mail box is to be used for **Incoming Only**. Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**NMFS Review and Approval.** Any action that involves: (a) Replacement culvert or bridge; (b) vegetated riprap with large wood; (c) a stormwater facility; (d) surface water diversion at a rate that exceeds 3 cubic feet per second; and (e) new or upgraded stormwater outfalls, must be individually reviewed and approved by NMFS as consistent with this Opinion before that action is authorized. NMFS will notify the Corps within 30 calendar days if the action is approved or disqualified. For actions that require NMFS approval, attach engineering designs and the results of a site assessment for contaminants to identify the type, quantity, and extent of any potential contamination.

Attach a copy of the erosion and pollution control plan, if required.

**DATE OF REQUEST:** \_\_\_\_\_

**NMFS Tracking #: 2008/04070**

**TYPE OF REQUEST:**

- ☐ ACTION NOTIFICATION (NO APPROVAL)  
☐ ACTION NOTIFICATION (APPROVAL REQUIRED)

**Statutory Authority:** ☐ ESA ONLY ☐ EFH ONLY ☐ ESA & EFH INTEGRATED

**Lead Action Agency:** Corps of Engineers

**Action Agency Contact:** \_\_\_\_\_ **Individual Corps Permit #:** \_\_\_\_\_

**Applicant:** \_\_\_\_\_ **Individual DSL Permit #:** \_\_\_\_\_

**Action Title:** \_\_\_\_\_

**6<sup>th</sup> Field HUC & Name:** \_\_\_\_\_

**Latitude & Longitude**  
(including degrees,  
minutes, and seconds) \_\_\_\_\_

**Proposed Project:** \_\_\_\_\_ **Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

**Action Description:**

**Type of Action:**

*Identify the type of action proposed.*

**Actions Requiring No Approval from NMFS:**

- ☐ Major Hazard Response  
☐ Streambank and Channel Stabilization  
☐ Maintenance/Rehabilitation/Replacement  
☐ Utility Line Stream Crossing

**Actions Requiring Approval from NMFS:**

- ☐ Replacement Culvert or Bridge  
☐ Vegetated Riprap with Large Wood  
☐ Stormwater Facility  
☐ Surface Water Diversion > 3cfs  
☐ New/Upgraded Stormwater Outfall

**NMFS Species/Critical Habitat Present in Action Area:**

*Identify the species found in the action area:*

- ☐ Lower Columbia River Chinook
- ☐ Upper Willamette River spring-run Chinook
- ☐ Snake River spring/summer run Chinook
- ☐ Snake River fall-run Chinook
- ☐ Upper Columbia spring-run Chinook
- ☐ Columbia River chum
- ☐ Lower Columbia River coho
- ☐ Oregon Coast coho salmon

- ☐ Southern Oregon/Northern California coho
- ☐ Snake River sockeye
- ☐ Lower Columbia River steelhead
- ☐ Upper Willamette River steelhead
- ☐ Middle Columbia River steelhead
- ☐ Snake River Basin steelhead
- ☐ Upper Columbia River steelhead
- ☐ Green sturgeon

**EFH Species:**

- ☐ Salmon, Chinook
- ☐ Salmon, coho
- ☐ Coastal Pelagics
- ☐ Groundfish

**Terms and Conditions:**

*Check the Terms and Conditions from the biological opinion that will be included as conditions on the permit issued for this proposed action. Please attach the appropriate plan(s) for this proposed action.*

**Administrative**

- ☐ Electronic notification
- ☐ Site access
- ☐ Salvage notice
- ☐ Major hazard response report
- ☐ Action completion report
- ☐ Site restoration/mitigation report

**Construction**

- ☐ In-water work period
- ☐ Piling installation
- ☐ Piling removal
- ☐ Broken or intractable piling
- ☐ Capture and release
- ☐ Fish passage
- ☐ Fish screens
- ☐ Surface water diversion
- ☐ Discharge water
- ☐ temporary access routes
- ☐ Temporary stream crossings
- ☐ Heavy equipment
- ☐ Stationary power equipment
- ☐ Preconstruction activity
- ☐ Site preparation
- ☐ Drilling and boring
- ☐ Drilling waste containment
- ☐ Treated wood installation
- ☐ Treated wood removal
- ☐ Pollution/erosion control
- ☐ Work area isolation
- ☐ Stormwater management
- ☐ Site restoration
- ☐ Compensatory mitigation

**Types of Actions**

**Major Hazard**

- ☐ Declaration
- ☐ Contact NMFS

**Maintenance/Rehabilitation/  
Replacement**

- ☐ Road/Culvert/Bridge maintenance
- ☐ Permanent stream crossing replacement

**Utility Stream Crossings**

- ☐ Design criteria

**Streambank/Channel Stabilization**

- ☐ Methods
- ☐ Vegetated riprap with large wood
- ☐ Scour hole
- ☐ Slope stabilization with rock



## **Appendix B: SLOPES IV-Road, Culvert, Bridge, Utility Line (Transportation) Major Hazard Response Form**

## SLOPES IV PROGRAMMATIC - TRANSPORTATION MAJOR HAZARD RESPONSE FORM

Within 30 days of the initial response to a major hazard as part of an action completed under the SLOPES IV Transportation programmatic opinion, submit the completed major hazard response form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System- Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Corps Contact:**

**Major Hazard Event Name:**

**Type of Major Hazard:**

**Name of Transportation Manager Declaring  
Major Hazard**

**Include With This Form:**

1. Name of NMFS Staff contacted
2. Date and Time NMFS contacted
3. Location of Major Hazard (Lat./Long. And 6th Field HUC Code)
4. Amount and type of material used for repairs
5. Linear feet of bank alteration
6. Description of riparian area cleared within 150' of OHW
7. Assessment of effects to fish from initial response
8. Summary of design criteria followed
9. Summary of design criteria not followed
10. Remedial actions necessary to comply with design criteria of SLOPES IV Transportation

## **Appendix C: SLOPES IV-Road, Culvert, Bridge, Utility Line (Transportation) Action Completion Form**

## SLOPES IV PROGRAMMATIC - TRANSPORTATION ACTION COMPLETION FORM

Within 60 days of completing all work below ordinary high water (OHW) as part of an action completed under the SLOPES IV Restoration programmatic opinion, submit the completed action completion form with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Corps Contact:**

**Action Title**

**Start and End Dates for the completion of in-water work:**

*Start:*

*End:*

**Any Dates work ceased due to high flows:**

**Include With This Form:**

1. Photos of habitat conditions before, during, and after action completion
2. Evidence of compliance with fish screen criteria for any pump used
3. A summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort
4. Number, type, and diameter of any pilings removed or broken during removal
5. A description of any riparian area cleared within 150 feet of OHW
6. Linear feet of bank alteration
7. A description of site restoration
8. A completed Salvage Reporting Form from Appendix D for any action that requires fish salvage
9. As-Built drawings for any action involving riprap revetment, stormwater management facility, or bridge rehabilitation or replacement

## **Appendix D: SLOPES IV-Road, Culvert, Bridge, Utility Line (Transportation) – Transportation Salvage Reporting Form**

## **SLOPES IV PROGRAMMATIC - TRANSPORTATION SALVAGE REPORTING FORM**

Within 10 days of completing a capture and release as part of an action completed under the SLOPES IV Restoration programmatic opinion. The applicant or, for Corps civil works actions, the Corps, must submit a complete a Salvage Reporting Form, or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Corps Contact:**

**Action Title**

**Date of Fish Salvage Operation:**

**Supervisory Fish Biologist (name, address  
& telephone number):**

**Include With This Form:**

1. A description of methods used to isolate the work area, remove fish, minimize adverse effects on fish, and evaluate their effectiveness.
2. A description of the stream conditions before and following placement and removal of barriers.
3. A description of the number of fish handled, condition at release, number injured, and number killed by species.

**Appendix E: SLOPES IV-Road, Culvert, Bridge, Utility Line (Transportation) Site  
Restoration/Compensatory Mitigation Reporting Form**

## **SLOPES IV PROGRAMMATIC - TRANSPORTATION SITE RESTORATION/ COMPENSATORY MITIGATION REPORTING FORM**

By December 31 of any year in which the Corps approves that the site restoration or compensatory mitigation is complete, the Corps, must submit a complete a Site Restoration/Compensatory Mitigation Reporting Form, or its equivalent, with the following information to NMFS at [slopes.nwr@noaa.gov](mailto:slopes.nwr@noaa.gov). Use the NMFS Public Consultation Tracking System-Consultation Initiation and Reporting System (CIRS) to submit this report when the online system becomes available.

**Corps Permit #:**

**Corps Contact:**


**Action Title:**

**Type of Activity:**


**Include With This Form:**

1. Photos of habitat conditions before, during, and after action completion
2. Location of Major Hazard (Lat./Long. And 6th Field HUC Code)
3. Start and end date for the work
4. A summary of the results of mitigation or restoration work completed



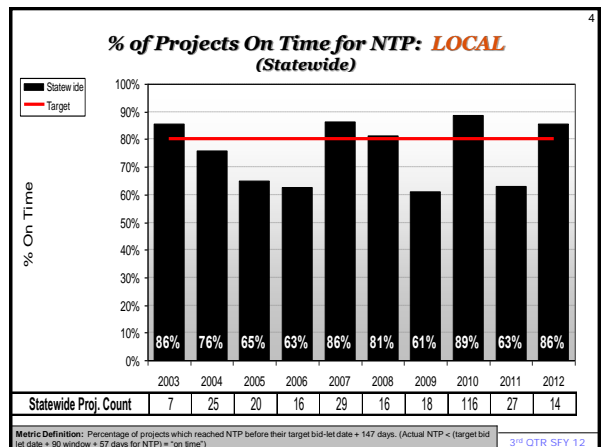
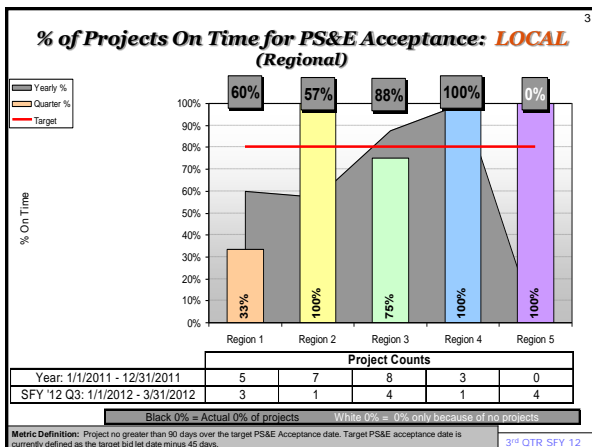
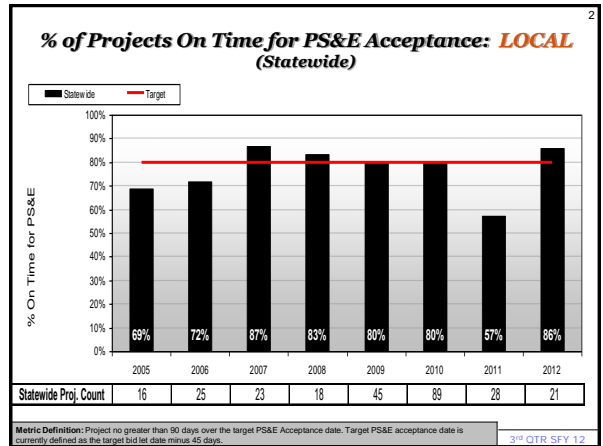


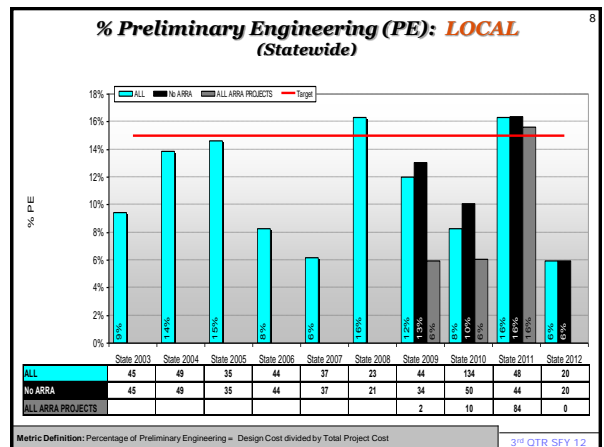
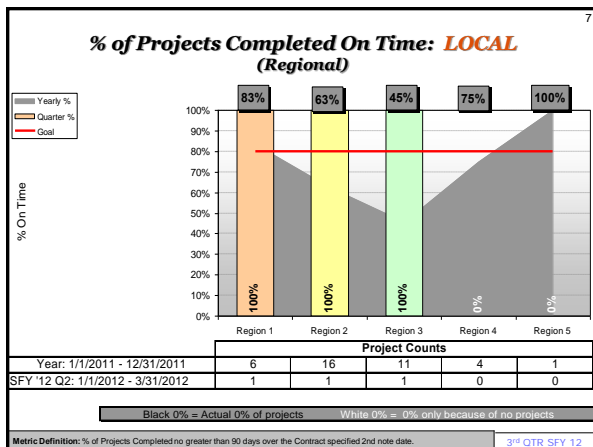
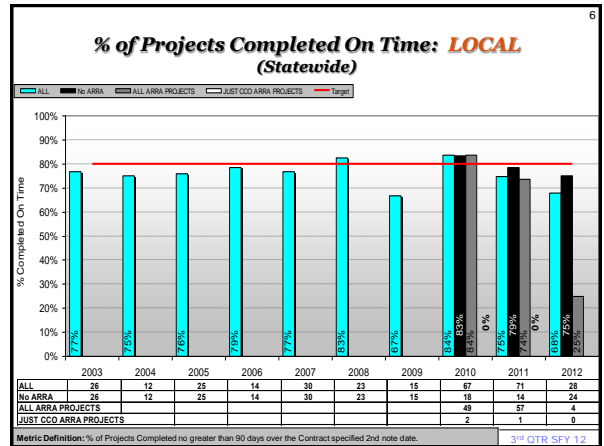
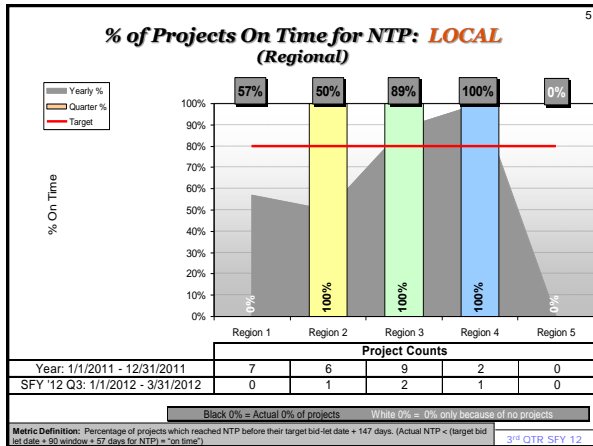
**Oregon Department of Transportation**

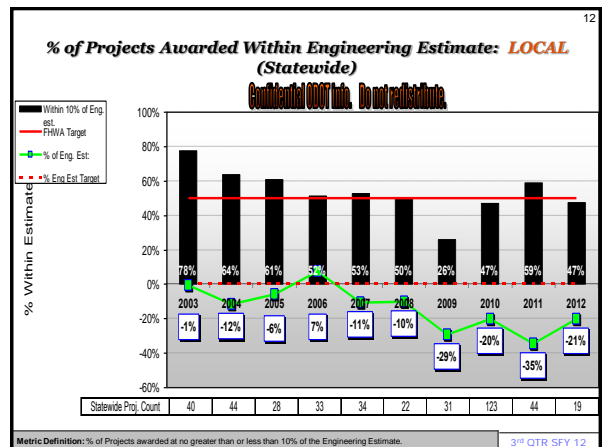
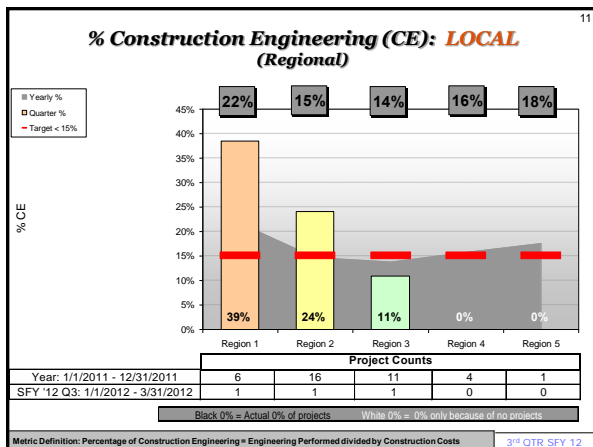
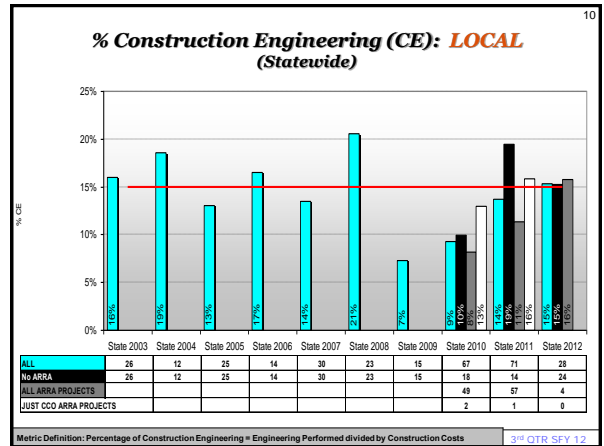
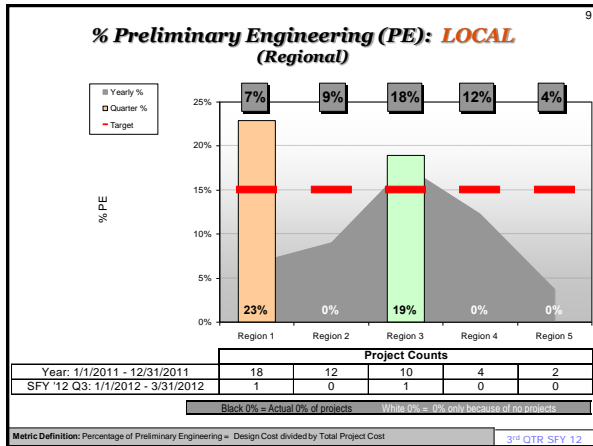


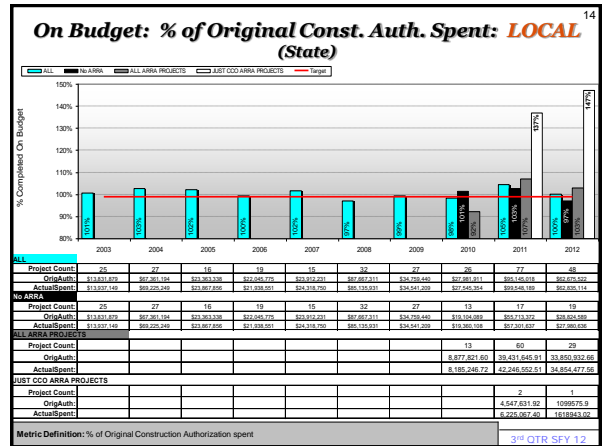
**Oregon Dept. of Transportation**  
**Quarterly Business Review**  
**Local Federal Aid Program**  
**January - March 2012**

3<sup>rd</sup> QTR SFY 12









## **Guidelines for Use of the Bridge and Roadway Programmatic Agreement (BRPA)**

### **April 29, 2010**

This Programmatic Agreement (PA) is intended to address environmental clearance for a vast majority of the bridge, roadway and non-complex projects the Department undertakes. Stipulation 1 of Part A, Stipulations 1 and 2 of Part B, and Stipulation 1 of Part C of the PA define the authorized activities. Part A addresses roadway rehabilitation and pavement preservation activities, Part B addresses bridge replacement, rehabilitation and preservation and Part C addresses other non-complex projects such as intersection improvements, addition of turn lanes, construction or replacement of signage and guiderail/barrier, traffic operations, grade crossings, certain pedestrian and bicycle facilities, fringe parking and ADA curb cuts. Specific activities authorized by the PA are described in detail within the PA.

The Preamble and Stipulation 2 of Part A, Stipulation 3 of Part B, Stipulation 2 of Part C, and all of Part D identify specific limitations on the type of activities authorized under the PA. Those limitations generally include, but are not limited to:

1. No adverse effects to resources under Section 106,
2. Does not require the preparation of an Individual Section 4(f) evaluation (Programmatic 4(f) evaluations and De Minimis Findings are allowed)
3. No adverse impacts to Federal or State Threatened or Endangered Species,
4. Limitations on permanent right-of-way acquisition (temporary easements for construction are also allowed),
5. Wetland impacts shall not exceed 0.05 acres,
6. No reduction in hydraulic capacity,
7. No significant floodplain encroachment, and
8. Widening is authorized, but widening cannot exceed 12-feet on each side.

In addition, for purposes of this PA, it is assumed that replacement of structures will occur within the same approximate footprint of the existing structure except for any widening that is required.

The use of this PA continues to require the collection of traditional engineering and environmental data to support the design process. Traditional data includes natural resources studies (wetlands, streams, water quality, threatened and endangered species, etc.), cultural resource studies (historic structures, archaeology), and socioeconomic resources evaluation (community services/facilities, parks, agricultural resources, etc.); as well as engineering design components. Once that data has been collected and analyzed, and the preliminary design completed, the “Bridge and Roadway Programmatic Agreement Categorical Exclusion Applicability Matrix” (Applicability Matrix) (Appendix A of the PA) should be completed. The Applicability Matrix poses a series of questions related first to the scope of the work and second to the potential impacts of the project. Additional pages and documentation should be attached to the Applicability Matrix as necessary to provide the requested information. Provision of this information

serves as documentation that the proposed activity is in fact consistent with the requirements of the PA.

Users should complete the Project Information and Project Description Sections of the Applicability Matrix including identifying the specific action(s) being proposed from the list of activities in Part A Stipulation 1, Part B Stipulations 1 and/or 2, and/or Part C Stipulation 1 of the PA; defining the limits of work; providing a written narrative of the proposed activity(s), noting any anticipated need for temporary easements or permanent right-of-way acquisition; and confirming the availability of funding on the Transportation Improvement Program (TIP).

The Resource Analysis Section of the Applicability Matrix focuses on specific resource impacts of the proposed action(s). All proposed projects authorized under the PA are Categorical Exclusion (CE) level actions and therefore shall have no significant impacts. Utilize the questions on the Applicability Matrix to document the presence of resources and resource impacts on attached pages as required. For each item, note whether the resource is present, if impacts will result from the project, what actions are proposed to mitigate those impacts, and if the impact will be significant. The attached documentation should refer to any supporting studies conducted, including but not limited to, wetland delineation reports, Section 106 documentation, Section 4(f) documentation, threatened and endangered species coordination, etc.

The individual(s) responsible for preparing the forms shall be identified in the “Prepared By” section. Upon completion of the form, the District Environmental Manager or designee (as defined in the Administrative Conditions of the PA) shall review all of the information to ensure compliance with the terms and conditions of the PA and to independently verify that the project:

- Does not result in significant environmental impacts,
- Does not result in substantial controversy on environmental grounds,
- Does not have significant impacts on properties protected by Section 4(f), and
- Does not result in any inconsistencies with any Federal, state or local law, requirement or administrative determination.

Following verification of the data contained in the form, and that the above criteria are met, the Environmental Manager shall concur with the findings documented on the Applicability Matrix. The Environmental Manager’s concurrence shall constitute Environmental Clearance for the proposed activity. The date of the approval of the PA (April 29, 2010) shall be listed as the formal NEPA Approval date for the project.

The CE Expert System (CEES) has been modified to record and report projects approved under this PA. To create BRPA packages, users should select the “Bridge and Roadway Programmatic Agreement” option in the Classification field on a new Package Document. Users must then enter other relevant data such as FPN and MPMS information before clicking the “Generate” button. Once the package is generated an

Applicability Matrix form is created. Like all other CEES forms, this document must be completed and verified online. Authors should include relevant supporting documentation as attachments. When the matrix is complete, the package is submitted like all other CEES packages to the associated District Environmental Manager (EM) or designee, who will receive an email telling them the package is available for their review. The EM can request revisions if necessary. Once the EM is satisfied that the project as documented is appropriate under this PA, they “approve” the package using the “Mark as Applicable” button. The CEES then permanently archives the package and makes it available to the public. Applicability concurrence date is based on the day the EM clicks the “Mark as Applicable” button, which the CEES automatically sends to ECMS for the Project Development Checklist.

While the documentation requirements for environmental clearance have changed, the use of this PA does not alter the engineering and environmental (E&E) scoping process. Potential projects should still be documented via a scoping process in accordance with applicable Department requirements. For projects that are expected to fall within the limitations of the PA, the Applicability Matrix can be used to document Project Scoping. The traditional Scoping Process must be followed, all relevant resources and features must be considered, and a scoping field view must be held in accordance with applicable Department procedures. Users can then document the process on an Applicability Matrix by generating a package after selecting the “Scoping” option in the Phase field on a new Package Document. Authors must attach supporting documentation such as the field view attendee list, minutes and decisions made, before the Applicability Matrix document can be verified. Scoping BRPA packages are submitted to EMs for review and “approval” as described above. This flexibility is being provided in an effort to reduce redundancy in the required paper documentation for the project. If at any point during the Scoping Process it is determined that the PA will not apply, the traditional Scoping Form must be completed.

This PA is based on the premise that the FHWA Regulations contain a list of specific actions and types of actions that normally do not result in significant environmental impacts, and are classified as CE activities. Some of those activities do not require the submission of any further documentation to the FHWA and do not require any further NEPA approvals (23 CFR 771.117(c)). This PA is intended to address the other actions that meet the criteria for a CE but require the submission of documentation to FHWA demonstrating that the specific conditions and criteria for the project to be classified as CEs are met and that significant environmental impacts will not result (23 CFR 771.117(d)). This PA, negotiated in partnership with the FHWA, serves as the additional documentation required by 23 CFR 771.117(d) for the class of actions defined in Part A Stipulation 1, Part B Stipulations 1 and 2 and Part C Stipulation 1. This PA is therefore the formal NEPA approval document for those projects regardless of when the determination of concurrence (concurrence date) is rendered by the Environmental Manager; hence the date of the PA becomes the formal NEPA approval date for the project.

Any questions regarding the use or applicability of the PA should be directed to the Environmental Quality Assurance Division.



Bridge and Roadway Programmatic Agreement

**PROGRAMMATIC AGREEMENT  
BETWEEN  
THE FEDERAL HIGHWAY ADMINISTRATION  
AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
FOR BRIDGE, ROADWAY AND NON-COMPLEX PROJECTS**

The Federal Highway Administration, Pennsylvania Division, hereinafter FHWA, and the Pennsylvania Department of Transportation, hereinafter PennDOT, have developed this Programmatic Agreement, hereinafter PA, to outline the policy and procedures for environmental processing of certain federally funded bridge and roadway projects which are found to have no significant social, economic or environmental effects. In addition, this PA shall be applicable for the environmental clearance for specific 100% state-funded projects meeting the conditions herein, in accordance with Pennsylvania Act 120.

The FHWA hereby concurs that those types of bridge and roadway projects listed in Parts A, B, and C of this PA, and which satisfy the conditions and criteria in stipulations presented in Parts A, B, C and D as more fully described herein, will not result in significant environmental impacts, and are therefore excluded from the requirement to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) pursuant to 23 CFR 771.115(b).

As outlined in the PA, PennDOT will individually determine the applicability of this PA and certify that an activity will not result in significant environmental impacts and document accordingly.

**WHEREAS**, the Division Administrator, FHWA, is the "Agency Official" responsible for compliance with the National Environmental Policy Act (NEPA) and implementing regulations (23 CFR 771);

**WHEREAS**, PennDOT and FHWA participated in the consultation and have jointly been invited to concur in this PA;

**WHEREAS**, PennDOT, as the statewide recipient of the federal-aid program, is responsible for compliance with all federal laws and regulations;

**WHEREAS**, this PA is consistent with the Statewide Long Range Transportation Plan, the Statewide Transportation Improvement Program (STIP), and applicable Metropolitan or Rural Planning Organizations' Transportation Improvement Programs (TIPs) and Long Range Transportation Plans, and is exempt from regional air quality conformity determinations (40 CFR parts 51 and 93);

**WHEREAS**, the FHWA has delegated approval authority of certain Categorical Exclusion (CE) activities as prescribed in the PennDOT Categorical Exclusion Evaluation (CEE) Handbook, Publication 294;

## Bridge and Roadway Programmatic Agreement

**WHEREAS**, these projects are a subset of Level 1a and Level 1b CE Projects, and therefore delegated approval authority resides within the PennDOT District(s);

**WHEREAS**, project conditions, which define approval authority, are contained in Publication 294, and apply to this PA;

**WHEREAS**, the FHWA will monitor the approval of bridge and roadway projects using this PA, as described within, and retains the authority to revoke approval authority upon discovery of the misapplication of the PA or non-compliance with any federal law or regulation;

**NOW, THEREFORE**, the FHWA and PennDOT agree that bridge and roadway projects consisting of activities defined in this PA, which are not part of a larger undertaking, shall be administered in accordance with the following in order to satisfy FHWA's NEPA and Pennsylvania Act 120 responsibilities.

This Agreement establishes a procedure that will reduce the paperwork and processing time for certain federal actions that do not have significant impacts on the human and natural environment. PennDOT and FHWA concur in advance that certain bridge and roadway projects (identified in Stipulation 1 of Part A, Stipulations 1 and 2 of Part B, and Stipulation 1 of Part C of this Agreement) normally are found to have no significant social, economic and environmental effect. PennDOT agrees that all the conditions stated in this PA will be satisfied for all projects processed under this Agreement.

In accordance with FHWA regulations (23 CFR 771, "Environmental Impact and Related Procedures"), actions performed under this PA meet the definition contained in the Council on Environmental Quality regulations, 40 CFR 1508.4, and, based on past experience with similar actions, do not involve significant environmental impacts. They are actions which:

- Do not induce significant impacts to planned growth or land use for the area,
- Do not require the relocation of significant numbers of people,
- Do not have a significant impact on any natural, cultural, recreational, historic, or other resource,
- Do not involve significant air, noise or water quality impacts,
- Do not have significant impacts on travel patterns,
- Do not otherwise, either individually or cumulatively, have any significant environmental impacts, and are, therefore, excluded from the requirement to prepare an EA or EIS, and
- Do not involve unusual circumstances including: significant environmental impacts; substantial controversy on environmental grounds; significant impact on properties protected by Section 4(f) of the USDOT Act of 1966/Section 2002 of PA Act 120 or Section 106 of the National Historic Preservation Act; or inconsistencies with any Federal, State or local law, requirement or administrative determination relating to the environmental aspects of the action.

## Bridge and Roadway Programmatic Agreement

### STIPULATIONS

#### **PART A: ROADWAY REHABILITATION AND PAVEMENT PRESERVATION**

##### **Stipulation 1**

Due to the limited scope of work for certain projects whose entire scope can be defined as rehabilitating and maintaining the roadway, and based on past experience with similar actions, FHWA and PennDOT will not require additional NEPA documentation for the projects listed below, provided conditions and criteria in Stipulations 2 of Part A and the Stipulations of Part D herein are satisfied. These actions meet the intent of 23 CFR 771.117 (a), (b) and (d).

The signatories to this PA agree that the project types listed below (provided the projects are limited to the activities specified and are not part of a larger undertaking), by their nature and definition, constitute undertakings that have no potential to cause significant effects on environmental resources.

The following five (5) categories of activities shall therefore be approved under this Agreement with no further NEPA documentation required provided the conditions and stipulations are met:

1. Interstate and Expressway Pavement Preservation including: overlay projects, mill and overlay projects, micro surfacing, ultra thin friction course, concrete patching and joint rehabilitation, diamond grinding, and dowel bar retrofit. This includes the construction of crossovers in previously disturbed medians.
2. Non-Expressway Pavement Preservation including: overlay projects, mill and overlay projects, micro surfacing, ultra thin friction course, cold in-place recycling, seal coat, ultra thin white topping, concrete patching and joint rehabilitation, diamond grinding, and dowel bar retrofit. This includes the construction of crossovers in previously disturbed medians.
3. Maintenance Betterments/Roadway Rehabilitation (3R) (Resurfacing, Restoration, and Rehabilitation) including pipe replacement, guiderail replacement, paving and overlays on existing alignment, and minor widening.
4. Reconstruction within same approximate footprint including Replacement, Crack and Seal, and Rubbelizing.
5. Minor widening provided such widening does not extend more than 12-feet from the existing edge of pavement.

##### **Stipulation 2**

Projects meeting the activity descriptions in Part A, Stipulation 1 shall also meet the following criteria in order to be approved under this PA. The term "Project", as used here, includes the totality of work activities required for pavement preservation:

1. The project is designed using the latest guidance for each project type and follows the Pavement Policy Manual, Publication 242.

## Bridge and Roadway Programmatic Agreement

2. The proposed work does not include new interchanges, new ramps, or new rest areas.
3. The permanent acquisition of additional right-of-way is limited to that which is minimally necessary to allow for the activity authorized herein. Additional temporary easements which are minimally necessary to facilitate construction are also permitted
4. Pavement Rehabilitation is limited to structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity.
5. The project does not result in a significant impact on travel patterns based on detours for the traveling public, including bicycle/pedestrian users.
6. Impacts to jurisdictional wetlands resulting from the activities in Stipulation 1 of this Part shall not exceed 0.05 acres, nor shall the projects result in the relocation of any stream channels.

### **PART B: BRIDGE REPLACEMENT, REHABILITATION AND PRESERVATION**

#### **Stipulation 1 (Bridge Replacement/Rehabilitation)**

Due to the limited scope of work for certain bridge projects and based on past experience with similar actions, FHWA and PennDOT will not require additional NEPA documentation for the bridge actions listed below provided the conditions and criteria in Stipulation 3 of this Part, and the Stipulations of Part D herein are satisfied. These actions meet the intent of 23 CFR 771.117 (a), (b) and (d).

The signatories of this PA agree that the project types listed below (provided the projects are limited to the activities specified and are not part of a larger undertaking), by their nature and definition, constitute undertakings that have no potential to cause significant effects on environmental resources.

The following ten (10) categories of bridge rehabilitation/replacement activities shall therefore be approved under this Agreement with no further NEPA documentation required provided the conditions in Stipulation 3 of this Part, and the Stipulations of Part D herein are met (for purposes of this PA, the term "bridge" includes bridges as well as culverts (box, metal and concrete pipe, arch, etc.):

1. Bridge replacement activities including but not limited to in-kind replacement, within the same approximate footprint and reconstruction of bridge superstructure and/or substructure.
2. Bridge decking and/or bridge barrier (parapet) replacements or modifications and substructure repair and modifications.
3. Replacement or strengthening of beams and other structural components of the bridge to extend the longevity of the structure.
4. In-kind replacement, reconstruction or ordinary repair or modification of existing bridge-mounted lighting, guiderails, curbs and gutters, sidewalks, noise barriers, signing, utility supports, fencing, etc. on the bridge.

## Bridge and Roadway Programmatic Agreement

5. Overlay, milling, grooving, repairing (concrete or asphalt patching), striping, or resurfacing of existing bridges; or addition of pavement markings (normal and raised), and snow and ice detectors to the same.
6. Other bridge related maintenance and repair actions, including but not limited to: overlay of existing approach roads for all bridges (not to exceed 500-feet of approach work (including pavement, guiderail and shoulder work) on either side of the bridge); seismic retrofits; in-kind replacement or repair of pedestals or bearing seats, bearings, shear blocks, diaphragms, structural steel, bridge and off-structure drainage, slope protection, steel caps, protective jackets, and dolphins; installation of external post-tensioning; and other similar routine actions.
7. Any remedial activity to an existing culvert or concrete rigid frame structure less than 20 feet in length, or pipe, so long as the remedial work is aesthetically and functionally in-kind and in the same footprint (no new elements or expansion).
8. General highway maintenance on bridges, including filling potholes, crack sealing, mill and resurfacing, joint grinding/milling, shoulder reconstruction, minimal bank stabilization, etc. within the right-of-way associated with the bridge.
9. Bridge beautification or facility improvement projects (e.g., curb and gutter replacement, decorative lighting, etc.) that are covered by other Agreements.
10. Construction of bicycle and pedestrian lanes, paths and facilities on existing bridges provided any required widening does not extend more than 12-feet on either side of the structure.

### **Stipulation 2 (Bridge Preservation)**

It is understood that by their nature, the activities listed below are actions which meet the definition contained in 40 CFR 1508.4, and, based on past experiences with similar actions, do not involve significant environmental impacts. The following twelve (12) bridge preservation activities are designated as CEs under this PA pursuant to 23 CFR 771.117 (a), (b), and (d) without further approval or NEPA documentation, and are hereby approved provided the conditions and criteria in PA General Stipulations of Part D herein are satisfied:

1. Expansion dams: Repair, replace or install new expansion dams to ensure leak proof joints. Repairs to deck drainage or down spouting may also be included. Replacement of seals is also permitted, provided other items, if any, relative to leakage are also addressed.
2. Beam end repairs and restoration: restore steel, concrete or P/S concrete beam-ends to extend their service life.
3. Bridge bearings and supports: Restore or replace the existing bearings to make them functional and repair or rehabilitate substructure units to extend service life.
4. Approach slabs: Repair the approach slab as necessary where the condition of the approach slab is affecting the performance of the bridge. Where practical and needed, repair or replace approach slabs, pavement relief joints, and other high spots adjacent to bridge to restore functionality and/or improve rideability.

## Bridge and Roadway Programmatic Agreement

5. Deck restoration and overlays: concrete deck patching (Repair Types I, II, or III) and/or waterproofing overlays (i.e., latex concrete, bituminous with membrane) needed to extend deck life and improve rideability.
6. Spot/Zone painting: spot/zone painting can be used as a stand-alone measure or with other steel repair items. Cleaning and waste disposal is included in this item.
7. Painting: full overcoats or complete repaintings, with cleaning, waste disposal, and steel repairs.
8. Fatigue and Fracture Retrofits: retrofits or repairs to fatigue-prone details of steel bridges.
9. Scour Countermeasures: scour countermeasures including underpinning, riprap placement, stream bed paving, grout bags, sediment deposition and debris removal, etc. properly designed for predicted scour.
10. Concrete repairs, concrete sealing, crack sealing.
11. Guiderail updates or repair.
12. Bridge washing and cleaning activities including waste disposal.

### Stipulation 3

Projects meeting the activity descriptions in Stipulation 1 of this Part shall also meet the following criteria in order to be approved under this PA. The term "Project", as used here, includes the totality of work activities required for replacement or rehabilitation of the structure, including but not limited to the structure itself, appurtenant works including walls, wingwalls and bank protection, and any approach roadway work:

1. Widening of existing structures (within the same approximate footprint) cannot exceed 12-feet on each side of the structure.
2. Changes in horizontal and vertical alignment (within the same approximate footprint) are permitted so long as those changes do not result in substantial impacts to area resources.
3. The permanent acquisition of additional right-of-way is limited to that which is minimally necessary to allow for any widening of the structure authorized herein. Additional temporary easements which are minimally necessary to facilitate construction are also permitted.
4. Impacts to jurisdictional wetlands for the project shall not exceed 0.05 acres.
5. Stream realignment shall be limited to that which is incidental to the replacement of the structure, and occurs immediately adjacent to the structure. This limitation shall also apply to temporary diversions required to facilitate construction.
6. Use of temporary crossings, causeways, cofferdams, and associated roadways that are consistent with the criteria contained in this PA to facilitate construction are allowed. Construction of these features shall be coordinated closely with the US Army Corps of Engineers (USACE), Pennsylvania Department of Environmental Protection (DEP) or other regulatory entities. Upon completion of construction, all areas disturbed by these features shall be restored to their preconstruction condition.
7. No significant floodplain encroachments as defined at 23 CFR 650.105(q)(1-3) shall occur as a result of the project.
8. There shall be no permanent reduction in hydraulic capacity as a result of any proposed work.

## Bridge and Roadway Programmatic Agreement

### **PART C: NON-COMPLEX PROJECTS**

#### **Stipulation 1 (Non-Complex Projects)**

Due to the limited scope of work for certain non-complex projects and based on past experience with similar actions, FHWA and PennDOT will not require additional NEPA documentation for the actions listed below provided the conditions and criteria in Stipulation 2 of this Part, and the Stipulations of Part D herein are satisfied. These actions meet the intent of 23 CFR 771.117 (a), (b) and (d).

The signatories of this PA agree that the project types listed below (provided the projects are limited to the activities specified and are not part of a larger undertaking), by their nature and definition, constitute undertakings that have no potential to cause significant effects on environmental resources.

The following nine (9) categories of non-complex (minor) projects shall therefore be approved under this Agreement with no further NEPA documentation required provided the conditions in Stipulation 2 of this Part, and the Stipulations of Part D herein are met:

1. Intersection improvement projects with minor or no signal layout changes, or unsignalized.
2. Construction of turn lanes at intersections.
3. Construction or replacement of sign structures including Dynamic/Variable Message Sign structures.
4. Guiderail/barrier installation, elimination, replacement or updating.
5. Traffic operations activities with minor or no roadway work including signalization, signing, pavement markings (including raised pavement markers (RPM), and roadway lighting.
6. 23 U.S.C. Sections 130 and 148 Highway 130 Safety Projects (relating to railroad grade crossings).
7. Transportation Enhancement Projects designed to address pedestrian and bicycle facilities.
8. Transportation corridor fringe parking areas and park and ride facilities located within previously disturbed right-of-way.
9. ADA curb cuts in areas that involve no disturbance outside of the existing right-of-way or no disturbance beyond the existing curb/sidewalk limits.

#### **Stipulation 2**

Projects meeting the activity descriptions in Stipulation 1 of this part shall also meet the following criteria in order to be approved under this PA.

1. All work shall occur within existing right-of-way.
2. Impacts to jurisdictional wetlands resulting from these projects shall not exceed 0.05 acres.

## Bridge and Roadway Programmatic Agreement

3. Projects shall not result in or require relocation of any stream channels or other jurisdictional waterways.
4. There shall be no public controversy on environmental grounds.

### **PART D: OTHER STIPULATIONS**

Stipulations presented in Part D are applicable to all actions and activities meeting the criteria identified in Parts A (Roadway), B (Bridge), and/or C (Non-Complex Projects) of this PA.

#### **Stipulation 1**

Projects applicable under this PA must be funded in part by state or Federal funds.

#### **Stipulation 2**

Projects meeting the activity descriptions in Stipulation 1 of Part A (Roadway), Stipulations 1 and 2 of Part B (Bridge), or Stipulation 1 or Part C (Non-Complex Projects) shall be consistent with the following:

1. Meet the requirements of Appendix C of the Programmatic Agreement among the FHWA, PennDOT, the Pennsylvania State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of the Federal Aid Highway Program in Pennsylvania (Section 106 Delegation PA).
2. Have a finding of either No Historic Properties Affected or No Adverse Effect under the Section 106 Delegation PA.

#### **Stipulation 3**

Projects under this PA will be coordinated, as required (refer to Publication 546, the Threatened and Endangered Species Desk Reference), with the U.S. Fish and Wildlife Service (USFWS), Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), and the Pennsylvania Department of Conservation and Natural Resources' (DCNR) Pennsylvania Natural Diversity Inventory (PNDI) using the Heritage Geographic Information System (HGIS) to determine the potential presence of state or federally candidate or listed threatened or endangered species and if approved activities have the potential to impact threatened or endangered species. This may include, but is not limited to, those activities involving ground disturbance in undisturbed areas, areas outside existing right-of-way or potentially affecting water quality. If it has been determined that an activity "may affect - likely to adversely affect" a federal proposed, candidate, or listed threatened or endangered species, or state listed threatened or endangered species, then formal consultation with USFWS pursuant to the Endangered Species Act (ESA) (16 U.S.C. Section 1531, as amended) and 50 CFR 402 for federal species or coordination with the agency with jurisdiction for species that are state listed, is appropriate, and this PA does not apply.



## Bridge and Roadway Programmatic Agreement

### **Stipulation 4**

If at any time the project requires additional Federal permits or approvals (beyond a Section 404 permit) other than from FHWA, this PA is no longer applicable. Examples include a U.S. Coast Guard permit or Section 7 consultation with the USFWS.

### **Stipulation 5**

Projects meeting the scope descriptions in Stipulation 1 of Part A (Roadway), Stipulations 1 or 2 of Part B (Bridge) and/or Stipulation 1 of Part C (Non-Complex Projects) of this Agreement require completion of the *Bridge and Roadway Programmatic Agreement CE Applicability Matrix* (Appendix A).

### **Stipulation 6**

Upon successful review and approval by PennDOT of the *Bridge and Roadway Programmatic Agreement CE Applicability Matrix* (Appendix A), in accordance with the stipulations contained herein, the approval date of the PA shall be the designated CE approval date for the subject project. Projects meeting the scope and condition descriptions in this PA do not require review and approval by FHWA.

### **Stipulation 7**

Documentation assembled by PennDOT to support any environmental findings resulting from anticipated impacts, including the *Bridge and Roadway Programmatic Agreement CE Applicability Matrix* (Appendix A) will be maintained in the respective project file. This includes, but is not limited to documentation related to the National Historic Preservation Act (NHPA) (36 CFR 800), Endangered Species Act (50 CFR 402), the Clean Water Act, Section 4(f) of the US DOT Act of 1966/Section 2002 of PA Act 120, and all applicable permits.

### **Stipulation 8**

If the scope of the proposed roadway, bridge, or non-complex project activity/ies change, or previously unidentified environmental resources are identified in final design, the PennDOT District Environmental Manager shall be notified, and will evaluate the need for additional environmental studies, the continued applicability of this PA to the project, and the need for other environmental documentation. All findings shall be documented in the project file and coordinated with FHWA, if necessary, for full NEPA compliance.

### **Stipulation 9**

If previously unidentified environmental resources are identified during construction, those work activities that could potentially impact the resources will be stopped. The PennDOT District Environmental Manager shall be notified, and will evaluate the need for additional environmental studies, the continued applicability of this PA to the project, and the need for other environmental documentation. All findings shall be documented in the project file.

### **Stipulation 10**

If at any time the PennDOT District Environmental Manager establishes that this PA no longer applies to a specific project due to changes in scope of work activities or

## Bridge and Roadway Programmatic Agreement

environmental impacts, the appropriate individual project environmental document (CE, EA or EIS) will be completed.

### **Stipulation 11**

The continued applicability of this PA to each individual project shall be re-evaluated according to the criteria contained in the FHWA Regulations at 23 CFR 771.129 which requires a confirmation of the continued applicability prior to “requesting any major approvals or grants” from the FHWA.

## Bridge and Roadway Programmatic Agreement

### ADMINISTRATIVE CONDITIONS

1. **Applicability.** Applicable activities are defined as those specified in Stipulation 1 of Part A, Stipulations 1 and 2 of Part B, and Stipulation 1 of Part C of this PA, including any areas necessary to support implementation of the project including, but not limited to staging areas, dewatering basins, stormwater facilities and temporary construction easements that are necessary to carry out the activity so long as those areas are depicted on the project plans being reviewed to determine applicability with this PA. Applicable activities shall include those administered by PennDOT and funded by the FHWA, as well as activities administered and 100% state-funded by PennDOT. This PA may not be applied to activities that are part of a larger action not covered under this PA.
2. **Prior Agreements.** This PA shall supersede the previous Bridge Preservation Program PA distributed under SOL 430-05-17, and the Bridge Preservation/Replacement PA distributed under SOL 438-09-01.
3. **Other Permits.** The use of this PA does not alleviate the need to obtain any necessary Federal or State permits including, but not limited to, Section 404, Chapter 105 and NPDES.
4. **Documentation.** For those bridge, roadway, and non-complex projects comprising the activity/ies and meeting the conditions defined in this PA, the PennDOT Environmental Managers or Designees shall, in reviewing the documentation provided, exercise their best judgment that the above conditions are being met, and shall document that no further NEPA compliance review shall be necessary other than the *Bridge and Roadway Programmatic Agreement CE Applicability Matrix* (Appendix A) as part of the appropriate NEPA project file. The NEPA project file shall contain supporting documentation (i.e., Section 4(f) no use, PNDI receipt, etc.). All projects shall be scoped either by desk review or site visit. The CE Applicability Matrix shall serve as the scoping documentation and CE evaluation. For purposes of this PA, Designee shall be defined to include the Assistant Environmental Manager, Assistant District Executive or District Executive. PennDOT shall maintain a list of projects reviewed by PennDOT under this PA.
5. **Monitoring.** FHWA shall conduct process reviews of a sampling of Districts on a triennial basis for compliance with the PA.
6. **Amendments.** Either party to this PA may request that it be amended, whereupon the FHWA shall consult with PennDOT to consider such an amendment. Any party to this Agreement may request that it be amended, and the request will be addressed within 30 days.
7. **Re-evaluation.** The FHWA and PennDOT may from time to time re-evaluate the list of undertakings (Stipulation 1 of Part A (Roadway), Stipulations 1 and 2 of Part B (Bridge), and Stipulation 1 of Part C (Non-Complex Projects) of this PA) for possible new inclusions and/or deletions.
8. **Freedom of Information Act (FOIA).** Any information furnished to the FHWA by PennDOT under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

## Bridge and Roadway Programmatic Agreement

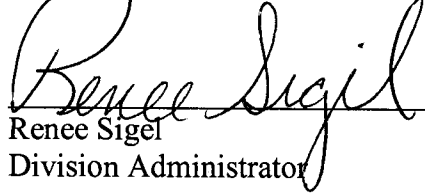
- 9. Disputes.** Objections to any actions carried out by either party under this Agreement shall be raised in writing by the objecting party. The FHWA and PennDOT shall consult to resolve those objections.
- 10. Resolution of Objections by the Public.** At any time during the implementation of the activities stipulated in this PA, should any objection pertaining to any such activities or its manner of implementation be raised by a member of the public, the FHWA shall notify PennDOT and take the objection into account, consulting with the objector and, should the objector so request, with PennDOT to resolve the objection.
- 11. Review of Implementation.** If the process of this Agreement has not been initiated within three (3) years after execution of this PA, the parties to the Agreement shall review the Agreement to determine whether revisions are needed. If revisions are needed, the parties to this Agreement shall consult to make such revisions.
- 12. Termination.** Any party to this PA may terminate it by providing thirty (30) days notice to the other party, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, FHWA shall consult with PennDOT to develop a new PA or request comments from PennDOT. PennDOT shall have forty-five (45) days to respond with comments.

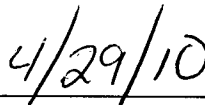
## Bridge and Roadway Programmatic Agreement

### PROGRAMMATIC AGREEMENT:


An Agreement for Bridge, Roadway and Non-Complex Projects:

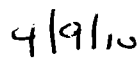
#### FEDERAL HIGHWAY ADMINISTRATION (FHWA)

  
\_\_\_\_\_  
Renee Sigel  
Division Administrator

  
\_\_\_\_\_  
Date

#### PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT)

  
\_\_\_\_\_  
R. Scott Christie, P.E.  
Deputy Secretary for Highway Administration

  
\_\_\_\_\_  
Date

APPROVED AS TO LEGALITY  
AND FORM

FUNDS COMMITMENT DOC. NO. \_\_\_\_\_  
CERTIFIED FUNDS AVAILABLE UNDER \_\_\_\_\_  
SAP NO. \_\_\_\_\_  
SAP COST CENTER \_\_\_\_\_  
AL ACCOUNT \_\_\_\_\_  
AMOUNT \_\_\_\_\_

BY Michael H. Klei  
for Chief Counsel 4/9/10 Date 4/17/10

BY ACC  
Deputy General Counsel Date

BY Richard C. Lepley II 4/16/10  
for Comptroller Operations Date

BY R. Stahl 4/26/10  
Deputy Attorney General Date

**NON-ENCUMBERED**

## Bridge and Roadway Programmatic Agreement

### **APPENDIX A**

#### **Bridge and Roadway Programmatic Agreement CE Applicability Matrix**

# **Bridge and Roadway Programmatic Agreement** **Categorical Exclusion Applicability Matrix** for Bridge, Roadway and Non-Complex Projects

☐ **Project Scoping**    ☐ **Project Evaluation**    ☐ **Project Re-Evaluation** (original approval date \_\_\_\_\_)

Project Information		
MPMS#:	BMS# and BRKey:	SR/Section:
County:	Municipality:	Segment/Offset Start and End:
Project Name:		
Project Description		
Description of Activity		
Identify activity from Stipulation 1 of Part A and/or Stipulations 1 and/or 2 of Part B and/or Stipulation 1 of Part C of the PA (ex. Act B2-4 = Part B, Stipulation 2, Activity 4). If the proposed activity is not included in Stipulation 1 of Part A, or Stipulation 1 or 2 of Part B, or Stipulation 1 of Part C, the PA is not applicable. Identify multiple activities, if appropriate.		Is project fully funded on TIP or LRTP through construction?
Are temporary easements required? If yes, describe.	Will there be any permanent right-of-way acquisition? If yes, describe.	
Resource Analysis		
Include a YES or NO to indicate whether each resource is present or absent.		
If YES, briefly discuss potential impacts and related commitments to minimize or mitigate. Attach additional documentation as required to document project impacts and any mitigative measures.		
1. Potential for impacts to Wild or Stocked Trout Streams?		
2. Potential for impacts to High Quality/EV Streams?		
3. Potential for impacts to Wetlands?		
4. Potential for impacts to Federally proposed, candidate or listed; or State listed Threatened & Endangered Species?		



5. Potential for impacts to Agricultural Resources?	
6. Potential for effects to Historic Properties or Archaeological Resources? If yes, identify effect and whether a standard treatment is included in the design. If no, provide exemption activity (ies) from the Section 106 Programmatic Agreement.	
7. Potential for Public Controversy on Environmental Grounds?	
8. Potential temporary or permanent impacts (use) to resources protected under Section 4(f)/Section 2002? (If an Individual Section 4(f)/Section 2002 Evaluation is required (excluding de minimis), this PA does not apply.)	
9. Potential for temporary or permanent impacts to water trail?	
10. Potential temporary or permanent impacts to hazardous/residual waste site?	
11. Potential impact to regulated floodplain within or beyond the project limits? If there is a significant floodplain encroachment which requires a Floodplain Finding, the PA does not apply.	
12. Potential for impacts to navigable watercourses which requires U.S. Coast Guard coordination or to a waterway which requires an Aids to Navigation Plan?	
13. DEP/USACE Permit Required?	
The projects identified on this form are in full compliance with the Bridge and Roadway Programmatic Agreement dated April 2010, and found not to have significant social, economic or environmental impacts, and therefore qualify as a CE under 23 CFR 771.117(a) and (b).	
Prepared by:	
	Name/Title
	Date
Reviewed for Applicability by:	
	Name/Title
	Date

March 31, 2010

**PROGRAMMATIC AGREEMENT  
AMONG THE FEDERAL HIGHWAY ADMINISTRATION  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
THE PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER  
AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION  
REGARDING IMPLEMENTATION OF THE FEDERAL AID HIGHWAY  
PROGRAM IN PENNSYLVANIA**

WHEREAS, the Federal Highway Administration (FHWA) administers the Federal-Aid Highway Program in Pennsylvania authorized by 23 U.S.C. § 101 et seq., through the Pennsylvania Department of Transportation (PennDOT) (23 U.S.C. § 315); and

WHEREAS, the FHWA has determined that the Federal-Aid Highway Program may have an effect upon properties included in or eligible for inclusion in the National Register of Historic Places, and has consulted with the Advisory Council on Historic Preservation (ACHP) and the Pennsylvania State Historic Preservation Officer (SHPO) pursuant to 36 CFR § 800.14(b) of the regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470f); and

WHEREAS, cooperating Federal agencies that recognize FHWA as the lead agency for an undertaking may fulfill their obligations under Section 106 of the NHPA according to 36 CFR 800.2(a)(2), provided that FHWA and PennDOT follow the requirements of this Programmatic Agreement (PA) and the cooperating Federal agency's undertaking does not have the potential to cause effects to historic properties beyond those considered by FHWA and PennDOT; and

WHEREAS, the FHWA recognizes that it has a unique legal relationship with Indian tribes (Tribes and Nations) set forth in the Constitution of the United States, treaties, statutes, and court decisions, and, therefore, consultation with an Indian tribe must recognize the government-to-government relationship between the federal government and tribes; and

WHEREAS, in the development of this PA the FHWA has consulted with the following Federally recognized Tribes and Nations with ancestral ties to Pennsylvania that may attach religious or cultural significance to properties in Pennsylvania: the Absentee-Shawnee Tribe of Oklahoma, the Cayuga Nation, the Delaware Nation, the Eastern Shawnee Tribe of Oklahoma, the Oneida Indian Nation, the Oneida Tribe of Indians of Wisconsin, the Onondaga Indian Nation, the Seneca Nation of Indians, the Seneca-Cayuga Tribe of Oklahoma, the St. Regis Mohawk Tribe, the Shawnee Tribe of Oklahoma, the Stockbridge-Munsee Community of Mohican Indians of Wisconsin, the Tonawanda Seneca Nation, and the Tuscarora Nation; and

WHEREAS, the FHWA has invited other parties to participate in the development of this PA pursuant to 36 CFR § 800.2 (a)(2), namely the Society for Pennsylvania Archaeology, the Pennsylvania Archaeological Council, Preservation Pennsylvania, the Pennsylvania Federation

of Museums and Historical Organizations, the Keystone Contractors Association, and the Pennsylvania Turnpike Commission; and

WHEREAS, PennDOT, the Seneca Nation of Indians, the Tonawanda Band of Seneca Indians, the Pennsylvania Archaeological Council, Preservation Pennsylvania, and the Society for Pennsylvania Archaeology have agreed to concur in this PA; and

WHEREAS, 36 CFR 800 encourages Federal agencies to fulfill their obligations efficiently under Section 106 of the NHPA through the development and implementation of cooperative Programmatic Agreements; and

WHEREAS, PennDOT maintains cultural resource staff and consultants meeting the Secretary of Interior's Professional Qualification standards (36 CFR 61) in the fields of archaeology and architectural history, or related fields; and

WHEREAS the ACHP, FHWA, SHPO, and PennDOT agree that effective and efficient consultation is in the public interest and seek to 1) develop a comprehensive, transparent, and efficient process for all Section 106 undertakings, 2) integrate project reviews under Federal historic preservation and environmental laws, 3) simplify procedural requirements to the maximum extent possible, and 4) reduce paperwork; and

WHEREAS, in the spirit of stewardship, the FHWA and PennDOT are committed to the design of transportation projects that 1) avoid, minimize and mitigate adverse effects to historic and archaeological properties, 2) utilize context sensitive solutions in appropriate settings, and 3) balance transportation needs with other needs of Pennsylvania communities; and

WHEREAS, the FHWA, SHPO and PennDOT support long term planning that considers preservation of historic properties and these agencies reasonably participate in the 1) development of historic contexts; 2) development of bridge management plans; 3) engagement in partnership in the continued upgrade and maintenance of the cultural resources GIS (CRGIS), and 4) continued development of innovative programs to address historic preservation issues; and

WHEREAS, the *Programmatic Agreement among the Federal Highway Administration, the Pennsylvania Department of Transportation, the Pennsylvania State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of Minor Transportation Projects* (1996) in Pennsylvania is superseded by this PA; and

WHEREAS, the following Programmatic Agreements are still in effect and are separate from this PA: *Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the State Historic Preservation Officer, the Delaware Nation and the City of Philadelphia Regarding Implementation of Minor Transportation Improvement Projects in the City of Philadelphia* and, *Programmatic Agreement among the Federal Highway Administration, the Pennsylvania Department of Transportation, the Pennsylvania State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Emergency Relief Program*;

NOW, THEREFORE, the ACHP, FHWA, SHPO, and PennDOT agree that the Federal-Aid Highway Program shall be administered in accordance with the following stipulations to satisfy FHWA's Section 106 responsibilities.

## **Stipulations**

FHWA shall ensure that the following measures are carried out:

### **I. Applicability and Scope**

- A. This PA sets forth the process by which FHWA will meet its responsibilities under Section 106 of the NHPA, with the assistance of PennDOT, for transportation projects under the Federal-Aid Highway Program.
- B. This PA applies to any project under the Federal-Aid Highway Program including Transportation Enhancements (TE) projects. The purpose of this PA is to delegate certain aspects of Section 106 review to PennDOT and to establish the process by which the FHWA, ACHP, SHPO, PennDOT, and any consulting parties will be involved in such review.
- C. If, for any undertaking, the U. S. Army Corps of Engineers (USACE) should become the lead federal agency under Section 106 because of project funding changes from Federal-Aid to State funding with a USACE Section 404 Permit under the Clean Water Act (33 U.S.C. § 1344) or a Section 10 permit under the River and Harbors Act of 1899 (33 U.S.C. § 403 et seq.), USACE shall be responsible for compliance with Section 106 of the NHPA. To the extent that the USACE deems applicable, the USACE may use studies, findings and determinations previously completed by PennDOT to document its own findings.
- D. Any other designated lead federal agency may use PennDOT studies to support their findings and determinations under Section 106 of the NHPA.

### **II. Responsibilities and General Requirements**

- A. In compliance with its responsibilities under the NHPA and as a condition of their award of any assistance under the Federal-Aid Highway Program, FHWA will require PennDOT to carry out the requirements of this PA. This authorization does not preclude FHWA's right to take the lead in consultation among PennDOT, the SHPO and other consulting parties; or to consult with federally recognized Indian tribes (Tribes & Nations) on a government-to-government basis. When FHWA takes the lead, it may either carry out consultation in accordance with the procedures of this PA or follow the procedures in 36 CFR 800.3-800.6. If PennDOT cannot comply with

the requirements of this PA for any undertaking under the Federal-Aid Highway Program, FHWA shall comply with 36 CFR 800.

B. PennDOT shall employ professionally qualified personnel sufficient to implement this PA. PennDOT personnel, hereafter referred to as Cultural Resource Professionals (CRP), are Pennsylvania State Employees and will meet the Secretary of the Interior's Standards for Professional Qualifications (36 CFR 61) in the fields of archaeology or architectural history. Use of consultants will be guided by Stipulation III.D.

C. Tribal Consultation

- 1) Before the stipulations of this PA may be implemented, FHWA shall send a letter similar to that in Appendix A to the following Tribes and Nations: the Absentee-Shawnee Tribe of Oklahoma, the Cayuga Nation, the Delaware Nation, the Delaware Tribe of Indians, Oklahoma, the Eastern Shawnee Tribe of Oklahoma, the Oneida Indian Nation, the Oneida Tribe of Indians of Wisconsin, the Onondaga Indian Nation, the Seneca Nation of Indians, the Seneca-Cayuga Tribe of Oklahoma, the St. Regis Mohawk Tribe, the Shawnee Tribe of Oklahoma, the Stockbridge-Munsee Community of Mohican Indians of Wisconsin, the Tonawanda Seneca Nation, and the Tuscarora Nation. These letters will be individually addressed to the tribal leaders of the listed tribes.
- 2) Every other year after this PA goes into effect, FHWA shall send a letter similar to that in Appendix A to the Tribes and Nations identified in Stipulation II.C.1 above.
- 3) PennDOT may, on behalf of FHWA, initiate consultation with Tribes and Nations for individual undertakings carried out under the provisions of this PA. PennDOT and FHWA shall ensure that Tribes and Nations are provided information regarding proposed undertakings early in project planning and are invited to participate in consultation in accordance with the requirements of Section 101(d)(6) of the NHPA and 36 CFR Part 800. In consulting with Tribes and Nations, PennDOT shall follow the procedures in its *Tribal Consultation Handbook* (Publication 591) and, for those Tribes and Nations that have signed an individual Memorandum of Understanding (MOU) with FHWA, the provisions of the MOU. However, upon receipt of a written request from any Tribe or Nation, or officially designated representative of a Tribe or Nation, to consult with FHWA in lieu of PennDOT, FHWA shall consult with that Tribe or Nation for the particular undertaking or program.

- D. FHWA authorizes PennDOT to consult with the SHPO and other consulting parties on their behalf for the following:
- 1) establish whether there is an undertaking with the potential to affect historic properties,
  - 2) solicit and identify consulting parties,
  - 3) conduct public involvement activities,
  - 4) establish the Area of Potential Effect (APE),
  - 5) determine the National Register eligibility of properties within the APE,
  - 6) determine effect, and
  - 7) initiate consultation on the resolution of adverse effects.
- E. PennDOT, in consultation with FHWA, ACHP, and the SHPO, will develop a handbook containing guidance on how to implement this PA. The *Cultural Resources Handbook* must be completed and approved by FHWA prior to implementation of this PA. A table of contents for the handbook is included in Appendix D. The handbook will be made publicly available. PennDOT will ensure that their staff and consultants act consistent with the procedures contained therein.
- F. PennDOT, with the assistance of FHWA and the SHPO, will provide training for PennDOT personnel and their consultants relative to implementation of this PA, as specified in Appendix B. PennDOT Personnel responsible for review under Stipulation III will receive such training prior to implementing activities under Stipulation III.
- G. For projects funded under the Transportation Enhancements (TE) Program, and when an agreement is in place between PennDOT and the SHPO, the FHWA may delegate certain Section 106 activities to the SHPO. These activities will be mutually agreed upon between FHWA, PennDOT, and the SHPO, and will be specified in a separate agreement. In the absence of such an agreement, the FHWA, SHPO, and PennDOT will follow the requirements in Stipulation III.
- H. The current Historic Bridge Inventory and Evaluation will provide individual determinations of eligibility for bridges 20 ft. and greater. With the exception of covered bridges, stone arch bridges, and closed spandrel concrete arch bridges, all other bridges or culverts less than 20 ft. in length are considered not individually eligible for the National Register.
- I. PennDOT and FHWA will collaborate with the SHPO to continue the development of the Agricultural Context, the CRGIS, and bridge management plans, and to develop new projects or programs of mutual interest that facilitate historic preservation planning. These may include but are not limited to 1) historic contexts, 2) data syntheses, 3) development of management plans, 4) development of predictive models, and 5) electronic data exchange.

### III. Project Review Responsibilities

Notwithstanding Stipulation II.G above, PennDOT, FHWA, and the SHPO will observe the following requirements for all projects covered under this PA.

#### A. Review by PennDOT District Designees

The types of projects listed in Appendix C, Section 2.A have little or no potential to affect historic properties and may be reviewed by PennDOT District staff (PennDOT Designees), provided the projects are limited to the activities specified and are not part of a larger undertaking. PennDOT Designees shall receive training (Appendix B) prior to review of activities defined in Appendix C.

- 1) The PennDOT Designee will exercise his/her best judgment that the conditions in Appendix C are being met, and will document that no further review is necessary under Section 106. The PennDOT Designee may consult with the PennDOT CRPs in reaching a decision. The PennDOT Designee will document his/her decision in the CE Expert system, as part of the appropriate National Environmental Policy Act (NEPA) documentation.
- 2) On a quarterly basis, PennDOT will prepare an electronic report of projects reviewed by the Designees that meet the conditions in Appendix C. For each project included in the report, the county, project name, and the specific project type in Appendix C that applies will be provided. Map locations of each project will be included. The report will be made available to the FHWA, SHPO, and the public.

#### B. Review by PennDOT Cultural Resource Professionals

In the absence of a District Designee, or at the request of a District Designee, PennDOT CRPs may review projects listed in Appendix C, Section 2.A. The CRPs will review the projects in Appendix C, Section 2.B. Those projects that meet the conditions specified in Appendix C may be exempted from further review under Section 106. The CRP will document his/her decision in the CE Expert system as part of the appropriate NEPA documentation.

For projects that do not meet the conditions of Stipulation III.A and Appendix C, the PennDOT CRPs, who meet the Secretary of Interior professional qualifications under 36 CFR 61, will be responsible for carrying out the following requirements.

##### 1) *Early Notification*

Prior to making a finding of effect for an undertaking, the PennDOT CRP will provide the SHPO with an Early Notification for those projects that may have effects on historic properties. The Early Notification will include a brief project description and a map location.

2) *Consulting Parties*

In consultation with the SHPO, and pursuant to 36 CFR 800.2(c), PennDOT CRPs will identify consulting parties and invite them to participate in the Section 106 process. PennDOT shall also seek and consider the views of consulting parties. Consulting parties may include local governments, owners of property affected by the undertaking, or other individuals or organizations with a demonstrated interest in the undertaking.

3) *Tribal Consultation*

PennDOT CRPs will initiate consultation with appropriate federally recognized Tribes and Nations following the procedures in PennDOT's *Tribal Consultation Handbook* (Publication 591). For those Tribes or Nations that have signed an individual Memorandum of Understanding (MOU) with FHWA, the provisions of the MOU will be followed.

4) *Involving the Public*

Consistent with current state and federal laws and regulations and PennDOT policy, including the Public Involvement Handbook (Publication 295), FHWA and the PennDOT CRPs shall, through the opportunities afforded by the PennDOT project development process, seek and consider the views of the public, including municipalities and other interest groups. Public outreach will be conducted in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties, the likely interest of the public in the effects on historic properties, the confidentiality and concerns of property owners, who are either private individuals and/or businesses, and the relationship of the federal involvement to the undertaking.

5) *Area of Potential Effect*

PennDOT CRPs will define the undertaking's area of potential effect (APE) as defined in 36 CFR 800.16(d). The APE will initially be established during project field scoping. As the project develops, the APE will be adjusted, as necessary. The APE will be documented per Stipulation IV of the PA and the *Cultural Resources Handbook*.

- a) As a streamlining measure, PennDOT may combine consultation with the SHPO on the APE with consultation on determinations of eligibility and/or effect for projects classified as Categorical Exclusions (CE) and Environmental Assessments (EA) under NEPA.
- b) For projects requiring the preparation of an Environmental Impact Statement (EIS) under NEPA and the provisions of federal transportation legislation, the PennDOT CRP will consult with the SHPO on the APE



early in project development prior to a determination of eligibility or effect.

6) *Determine the Appropriate Level of Identification*

- a) Based upon the best available background information gathered via a literature search, including but not limited to the SHPO's Cultural Resources GIS (CRGIS), PennDOT's Historic Bridge Inventory, and a project scoping field view, the PennDOT CRP shall assess the likelihood that as yet unidentified historic properties exist within the APE. The PennDOT CRP will make a determination as to the need for further field survey to identify historic properties. In making such a determination and consistent with 36 CFR 800.4(b)(1), the CRP will take into account past planning, research and studies, the magnitude and nature of the undertaking and the degree of Federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. PennDOT will also seek information from consulting parties, as appropriate.
- b) When the PennDOT CRP determines that a field survey is necessary to identify historic properties, the CRP shall conduct, or cause to be conducted, a survey to identify historic properties. Such surveys will be conducted in a manner consistent with the *Secretary of Interior's Standards and Guidelines for Identification (48 FR 44720-23)*, and, where appropriate, applicable SHPO guidelines, and the approved PennDOT *Cultural Resources Handbook* developed to implement this PA.
- c) Pursuant to 36 CFR 800.4(b)(2) and in consultation with the SHPO, Tribes and Nations, and other consulting parties, PennDOT may use a phased process to identify and evaluate historic properties. A phased process will be limited to the following conditions:
  - large or complex projects where multiple alternatives are under consideration; or
  - when access to property is restricted; or
  - when the APE is not known until later in project development for the locations of items typically included as part of final design and permitting, such as bridge piers, storm water detention facilities, or wetland mitigation sites.

In such cases, PennDOT will prepare, or cause to be prepared, a reconnaissance or windshield survey, and/or an archaeological predictive model or archaeological sensitivity study, as appropriate. Reconnaissance or windshield surveys, archaeological predictive models or sensitivity studies will establish the likely presence of historic properties within each alternative under consideration or within each inaccessible area, and will

be documented in accordance with Stipulation IV and the *Cultural Resources Handbook*. Once an alternative has been selected or access to property is gained, PennDOT shall comply with Stipulations III.B.5.b, and III.B.6-9 of this PA, as appropriate.

7) *Determination of Eligibility*

- a) When PennDOT CRPs identify properties that may be eligible for the National Register of Historic Places, the CRPs will apply the National Register criteria following National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation* and the *Secretary of Interior's Standards and Guidelines for Evaluation* (48 FR 44723-26). The PennDOT CRPs may consult with the SHPO and FHWA in making a determination of eligibility. The PennDOT CRPs will consult with Tribes and Nations that may attach religious and cultural significance to properties in the APE, in accordance with the *Tribal Consultation Handbook* and Tribal agreements. PennDOT will also seek information from consulting parties, as appropriate. Where eligible or listed historic properties have previously been identified but boundaries have not been established, the CRPs may identify recommended boundaries following the guidance in National Register Bulletin 21, *Defining Boundaries for National Register Properties*. Due to the passage of time, the CRPs may also reevaluate properties.
- b) PennDOT CRPs will prepare documentation according to Stipulation IV and the *Cultural Resources Handbook*. For undertakings that will not affect historic properties, consultation with the SHPO on determinations of eligibility is not required. However, PennDOT will seek and consider the views of any Tribe or Nation that ascribes traditional cultural and religious significance to a property. The documentation will be made available to the SHPO, Tribes and Nations, consulting parties, and the public. For undertakings that may have an effect on historic properties, PennDOT CRPs shall consult with the SHPO and any Tribe or Nation that ascribes traditional cultural and religious significance to a potential historic property on determinations of eligibility when any of the conditions under III.B.9.b apply or when III.B.10 applies. This consultation may be completed as a separate step or combined with the finding of effect. The documentation will be provided to the Tribes and Nations, consulting parties, and made available to the public.

8) *No Historic Properties Affected*

If the PennDOT CRPs determine that either there are no historic properties within the APE, or historic properties are present but will not be affected by the undertaking, the PennDOT CRPs shall issue a finding of No Historic Properties Affected. The PennDOT CRPs will document their finding

according to Stipulation IV and the *Cultural Resources Handbook* and will notify the SHPO, FHWA, Tribes and Nations, and other consulting parties that a finding has been made, and make the documentation available for public inspection prior to approving the undertaking. Except when dispute resolution in Stipulation XI is invoked, PennDOT may consider Section 106 concluded.

9) *No Adverse Effect*

- a) For those undertakings where historic properties may be affected, the PennDOT CRPs shall apply the Criteria of Adverse Effect in accordance with 36 CFR 800.5. If the effect of the undertaking will not be adverse, the PennDOT CRPs will propose a finding of No Adverse Effect and will document their finding according to Stipulation IV and the *Cultural Resources Handbook*. PennDOT shall seek and consider the views of the Tribes and Nations, and other consulting parties, and will make its finding available for inspection by the public. If a Tribe or Nation, a consulting party, or member of the public objects to the finding within 30 days, the dispute resolution process in Stipulation XI will be applied. Except when dispute resolution in Stipulation XI is applied, PennDOT may consider Section 106 concluded.
- b) Under the following conditions the PennDOT CRP will request the concurrence of the SHPO on findings of No Adverse Effect:
  - i) Rehabilitation projects where the finding of No Adverse Effect is based on the proposed work being consistent with Secretary of Interior's Standards for rehabilitation,
  - ii) When there is public controversy on historic preservation issues,
  - iii) At the request of the CRP,
  - iv) When a consulting party, FHWA, a Tribe or Nation requests the SHPO's concurrence.

PennDOT shall submit the finding to the SHPO. If the SHPO fails to concur with an adequately documented finding of No Adverse Effect within the review time specified in Stipulation III.C, the dispute resolution process in Stipulation XI will be applied. Except when dispute resolution in Stipulation XI is applied, PennDOT may consider Section 106 concluded.

10) *Adverse Effect*

- a) If the PennDOT CRPs determine that the undertaking will have an adverse

effect on historic properties, PennDOT will issue a finding of Adverse Effect and will document the finding according to Stipulation IV and the *Cultural Resources Handbook*. PennDOT CRPs will consult with the SHPO, FHWA, Tribes and Nations, and any other consulting parties, to evaluate the Adverse Effect finding and/or discuss options that would avoid or minimize adverse effects. These parties will have 30 days to provide comment.

- b) If, after consultation, PennDOT determines that adverse effects cannot be avoided, PennDOT will consult with the FHWA, SHPO, Tribes and Nations, and other consulting parties, as appropriate, to resolve the adverse effect. FHWA will notify the ACHP of an Adverse Effect determination and invite its participation under any of the following conditions:

- i) When the undertaking will adversely affect a National Historic Landmark,
- ii) When the effects to historic properties are highly controversial or there is substantial public interest in the undertaking's effects on historic properties,
- iii) When PennDOT, the SHPO, and FHWA are not able to reach agreement on the resolution of adverse effects.

- c) Resolution with a Letter of Agreement

If the FHWA, SHPO, and PennDOT agree to measures to resolve adverse effects, and other consulting parties, including Tribes and Nations do not object to the proposed resolution, PennDOT may prepare and execute a Letter of Agreement. Letters of Agreement prepared under this stipulation will be consistent with the sample provided in Appendix E. The execution of a Letter of Agreement and implementation of its terms will document FHWA's compliance with Section 106 of the NHPA for that undertaking. The Letter of Agreement shall be signed by the authorized representatives of the FHWA. SHPO, PennDOT and other concurring parties and approved as to legality and form by PennDOT's Office of Chief Counsel.

- d) Resolution with a Memorandum of Agreement

FHWA shall carry out the requirements of 36 CFR 800.6 to complete the Section 106 process for resolving adverse effects in the following circumstances:

- i) When one of the potential signatories to the Letter of Agreement was not signatory to this PA,

ii) If a proposed mitigation commitment is not on the list of potential commitments in the Letter of Agreement in Appendix E,

iii) If a consulting party objects to the proposed resolution of adverse effects.

**C. Review by SHPO**

- 1) The SHPO will have 30 days to respond to any request for review made by PennDOT under Stipulations III.B.5.b, III.B.7.b, and III.B.9.b, unless the following Stipulations III.C.2 or III.C.3 apply.
- 2) The review times specified in any FHWA/PennDOT/SHPO interagency funding agreement will supercede III.C.1 above.
- 3) Provided that consulting Tribes, other consulting parties and the public have an adequate opportunity to express their views as provided in 36 CFR 800.2(d) of the regulations, PennDOT may request an expedited review by the SHPO. PennDOT and the SHPO will negotiate a review time that is mutually agreeable.

**D. Use of Consultants in Project Review**

- 1) Consistent with 36 CFR 800.2(a)(3), PennDOT may use consultants to gather information, analyze data, and prepare documentation. PennDOT, or FHWA, where applicable, will be responsible for all findings and determinations made under this PA.
- 2) Consultant staff meeting Secretary of the Interior's Standards for Professional Qualification (36 CFR 61) may be qualified to assume the role of PennDOT CRP by written approval from FHWA and PennDOT Cultural Resources Section Chief, and upon completion of the training specified in Appendix B.
- 3) Consultant staff may assume the role of a PennDOT CRP in a temporary capacity (defined as less than two years) only in the following circumstances: temporary vacancies of permanent staff; temporary fluctuations in workload; or, temporary specialized expertise that cannot be found within existing permanent staff.
- 4) Consultant staff may constitute no more than 25% of PennDOT cultural resource staff at any one time as defined under this Agreement. Exceptions to this provision will be handled under Section X.E of this Agreement.

**IV. Documentation**

With the exception of projects covered under Stipulation III.A and Appendix C, all findings and determinations made under this PA will be documented in accordance with 36 CFR 800.11 and

consistent with the *Cultural Resources Handbook* developed to implement this PA. The level of documentation will be determined by the nature and complexity of the undertaking and magnitude of effects to historic properties.

#### A. Confidentiality

Consistent with Section 304 of the NHPA and 36 CFR 800.11(c), PennDOT will ensure that PennDOT, and any consultants assigned to act on behalf of PennDOT, will not disclose to the public any information on the location, character, or ownership of historic properties when such disclosure may cause a significant invasion of privacy, risk harm to the historic property, or impede the use of a traditional religious site by practitioners.

### V. Standard Treatments

PennDOT, in consultation with FHWA, the SHPO, ACHP and consulting parties, may develop standard treatments for certain types of historic properties that would be affected by projects reviewed under this PA. Once FHWA, SHPO and ACHP have agreed, in writing, to a standard treatment, PennDOT shall incorporate it into Appendix F and the *Cultural Resources Handbook* and may implement it, as appropriate, to resolve adverse effects. If a standard treatment is the sole measure to resolve adverse effects, no Memorandum of Agreement or Letter of Agreement is needed. When the standard treatment would apply to properties of traditional cultural and religious significance to Indian Tribes or Nations, PennDOT shall consult with appropriate Tribe or Nation in developing the standard treatment. A list of standard treatments in effect is found in Appendix F.

### VI. Treatment of Human Remains

If human remains, graves, or grave-associated artifacts are encountered during any archaeological investigations conducted under this PA, or during project construction, all work shall cease in the area of the encounter and PennDOT will ensure that the remains, graves, or grave-associated artifacts are secured and protected. PennDOT will immediately notify the FHWA. FHWA and/or PennDOT will concurrently notify the SHPO and any federally recognized tribes that may attach religious or cultural significance to the affected property. For those Tribes and Nations that have signed an individual Memorandum of Understanding (MOU) with FHWA, the provisions of the MOU will be followed. If historic burials or cemeteries are encountered, PennDOT will follow procedures consistent with Pennsylvania State Law Title 9 P.S. § 41-47. PennDOT will also take into account guidance in the National Register Bulletin 41, *Guidelines for Evaluating and Registering Cemeteries and Burial Places*, and the 1993 Pennsylvania Historical and Museum Commission (PHMC) *Policy for the Treatment of Burials and Human Remains*. For human remains discovered or potentially affected on Federal lands, PennDOT will notify the federal land managing agency. No activities which might disturb or damage the remains, graves, or grave-associated artifacts, will be conducted until the FHWA, in consultation with consulting parties and other appropriate parties, has determined an appropriate

course of action. When Native American graves are discovered under this provision, FHWA will consult with the appropriate Tribe or Nation in determining an appropriate course of action.

## **VII. Preparation of Archaeological Materials for Final Disposition**

For all archaeological investigations conducted under this PA, FHWA shall ensure that artifacts and records are prepared in accordance with 36 CFR 79 and consistent with the guidelines of the PHMC.

- A. Artifacts recovered from Commonwealth property and all associated records will be curated at the State Museum of Pennsylvania or their designee. A copy of the appropriate final Archaeological Report will be included in the submission.
- B. When artifacts are recovered from property not owned by the Commonwealth, PennDOT will explain to the property owner the importance of artifact donation and will request that the owner sign a gift agreement donating the artifacts to the State Museum. If the property owner does not wish to donate the artifacts, PennDOT will complete the necessary analyses prior to returning the artifacts, and will submit all records to the State Museum. A copy of the appropriate final Archaeological Report will be included with the submission.
- C. FHWA will fund activities necessary to prepare collections for disposition; PennDOT will be responsible for any additional fees relevant to long term curation.
- D. Requests by Tribes or local institutions to curate archaeological collections will be considered on a case-by-case basis by FHWA and PennDOT in consultation with the State Museum of Pennsylvania.

## **VIII. Post-Review Discoveries**

If previously unidentified historic properties are discovered after PennDOT has completed its review under this agreement, or if an undertaking affects previously known historic properties in an unanticipated manner, the procedures under 36 CFR 800.13 will be followed. If the discovery is made during construction, the contractor shall follow PennDOT Publication 408 and shall cease work in the area of the discovery. When the discovery consists of human remains, graves or grave-associated artifacts or other properties that may be of interest to federally recognized tribes with ancestral ties to Pennsylvania, FHWA will notify such tribes. For those Tribes that have signed an individual Memorandum of Understanding (MOU) with FHWA, the provisions of the MOU will be followed. Construction shall not resume in the area of the discovery until FHWA has complied with the requirements of 36 CFR 800.13.

## **IX. Emergencies**

Pursuant to 36 CFR 800.12, in event of an emergency declared by the President of the United States and/or the Governor of Pennsylvania, PennDOT shall follow the procedures in the *Programmatic Agreement among the Federal Highway Administration, the Pennsylvania Department of Transportation, the Pennsylvania State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Emergency Relief Program* (January, 14, 2005) or any subsequent amendment to that agreement for review of projects under Section 106.

## **X. Annual Review and Monitoring**

- A. FHWA will monitor activities carried out pursuant to this PA in consultation with the ACHP and SHPO. PennDOT shall cooperate with any party in carrying out the monitoring effort.
- B. PennDOT, the ACHP, and the SHPO may each establish its own internal monitoring program.
- C. During the first year after execution of this PA, PennDOT will meet with the SHPO on a quarterly basis to review the implementation of the PA, to discuss projects, or to suggest improvements. Any unresolved issues or recommendations for improvement or modifications to the implementation of the PA will be forwarded to the FHWA and ACHP for consideration.
- D. PennDOT will prepare an annual report on the activities carried out under this PA. The report will include a list of projects and findings made by PennDOT. The report may also identify issues, and make recommendations for improving the implementation of the PA. PennDOT will submit the report to the signatories of this PA within 30 days of the anniversary of the execution of the PA. The report will serve as the basis for an annual review of the PA.
- E. Within three months of receipt of the annual report, the FHWA, ACHP, SHPO and PennDOT will consult to review implementation of the terms of this PA. The review will include an assessment of PennDOT qualified staff to ensure that adequate staffing is maintained to implement the PA. Should monitoring activities result in evidence that the requirements of this PA are not being met, FHWA will meet with the SHPO, ACHP, and PennDOT to develop corrective measures. If an individual PennDOT District repeatedly fails to meet the requirements of this PA, FHWA may suspend that District from participating in the PA; in that case FHWA, or the PennDOT Central Office Cultural Resource Section Chief will be responsible for carrying out the requirements of 36 CFR Part 800, or this PA for that District for the duration of the suspension.



## **XI. Dispute Resolution**

- A. Except as provided in Stipulation IX. B (below), should any party to this agreement, or a consulting party on an individual FHWA undertaking covered by this agreement, object within 30 days to any actions proposed or findings submitted for review, PennDOT shall consult with the objecting party(ies) to resolve the objection. If PennDOT determines that such objection(s) cannot be resolved, it shall request FHWA's assistance in resolving the objection. If FHWA determines that the objection remains unresolved, FHWA will:
- 1) Forward all documentation relevant to the dispute to the ACHP in accordance with 36 CFR Section 800.2(b)(2). Upon receipt of adequate documentation, the ACHP shall review and advise FHWA on the resolution of the objection within 30 days. Any comment provided by the ACHP, and all comments from the parties to this Agreement, will be taken into account by FHWA in reaching a final decision regarding the dispute.
  - 2) If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, FHWA may render a decision regarding the dispute. In reaching its decision, FHWA will take into account all comments regarding the dispute from the parties to this Agreement.
  - 3) FHWA's and PennDOT's responsibility to carry out all other actions subject to the terms of this Agreement that are not subject of the dispute remain unchanged. FHWA will notify all parties of its decision in writing before implementing that portion of the undertaking subject to dispute under this stipulation. FHWA's decision will be final.
- B. If the SHPO objects to a National Register eligibility determination made by PennDOT or FHWA pursuant to this agreement, and that objection cannot be resolved through consultation among SHPO, FHWA, and PennDOT; OR if the ACHP so requests, FHWA will obtain a determination of eligibility from the Keeper of the National Register in accordance with 36 CFR 800.4(c)(2). If a consulting party or a member of the public objects to a National Register eligibility determination pursuant to this agreement and the objection cannot be resolved through consultation with that party, the FHWA in consultation with PennDOT and the SHPO will determine whether to request a Determination of Eligibility from the Keeper of the National Register of Historic Places.

## **XII. Amendment**

- A. Any party to this PA may request that it be amended, whereupon the signatories shall consult to consider such amendment. Authorized representatives of all the original signatories shall sign the amendment; PennDOT's Office of Chief Counsel, the

Pennsylvania Governor's Office of General Counsel, and the Pennsylvania Office of Attorney General shall approve it as to legality and form.

- B. The lists of minor projects in Appendix C and the *Cultural Resources Handbook* may be modified by the mutual written agreement of FHWA, PennDOT, and the SHPO, and shall not require a formal amendment to this PA. Upon such agreed upon revisions, PennDOT shall provide the revised appendix to all the parties to the PA.
- C. Any other Appendix in this PA may be modified by the mutual written agreement of FHWA, PennDOT, and the SHPO and shall not require a formal amendment to the PA. Upon such agreed upon revisions, PennDOT shall provide the revised appendix to all the parties to the PA.

### **XIII. Termination**

Any signatory to this PA may terminate it by providing thirty (30) days written notice to the other parties, provided that the parties shall consult during the period prior to termination to seek agreement on amendments or other action that would avoid termination. In the event of termination, FHWA shall conduct individual project review pursuant to 36 CFR Part 800.

### **XIV. Duration**

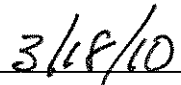
FHWA, PennDOT, SHPO, and the ACHP will review this PA every ten (10) years from the date of execution for modifications or termination. If no changes are proposed and no party objects, the term of the PA will be extended automatically for another ten years without reexecution.

Execution and implementation of this PA evidences that the FHWA has satisfied its Section 106 responsibilities for all individual undertakings of the Federal-aid Highway Program and has afforded the ACHP a reasonable opportunity to comment.

SIGNATORIES:

ADVISORY COUNCIL ON HISTORIC PRESERVATION

  
\_\_\_\_\_  
John M. Fowler, Executive Director

  
\_\_\_\_\_  
Date

FEDERAL HIGHWAY ADMINISTRATION

\_\_\_\_\_  
Renee Sigel, Division Administrator

\_\_\_\_\_  
Date

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER

  
\_\_\_\_\_  
Jean Cutler, Director  
Bureau for Historic Preservation

2/8/2010  
\_\_\_\_\_  
Date

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Scott Christie, PE  
Deputy Secretary for Highway Administration

\_\_\_\_\_  
Date

CONCURRING PARTIES:

SENECA NATION

\_\_\_\_\_  
Kathleen Mitchell, THPO

\_\_\_\_\_  
Date

TONAWANDA SENECA NATION

\_\_\_\_\_  
Roger Hill, Chief

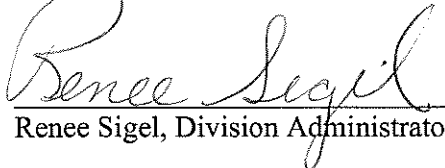
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Date

PRESERVATION PENNSYLVANIA

\_\_\_\_\_  
Mindy Crawford, Director

\_\_\_\_\_  
Date

FEDERAL HIGHWAY ADMINISTRATION

  
\_\_\_\_\_  
Renee Sigel, Division Administrator


3/8/2010  
\_\_\_\_\_  
Date

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER

\_\_\_\_\_  
Jean Cutler, Director  
Bureau for Historic Preservation

\_\_\_\_\_  
Date

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

  
\_\_\_\_\_  
Scott Christie, PE  
Deputy Secretary for Highway Administration

2/2/2010  
\_\_\_\_\_  
Date

CONCURRING PARTIES:

SENECA NATION

\_\_\_\_\_  
Kathleen Mitchell, THPO

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Roger Hill, Chief

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Date

PRESERVATION PENNSYLVANIA

\_\_\_\_\_  
Mindy Crawford, Director

\_\_\_\_\_  
Date

2/5/2010

PENNSYLVANIA ARCHAEOLOGICAL COUNCIL

\_\_\_\_\_  
Richard Geidel, President

\_\_\_\_\_  
Date

SOCIETY FOR PENNSYLVANIA ARCHAEOLOGY

\_\_\_\_\_  
Paul Nevin, President

\_\_\_\_\_  
Date

<i>Approved as to Legality and Form</i>	
BY <u>Michael H. Kline</u> for Chief Counsel	Date <u>2/3/2010</u> <i>2/3/2010</i>
BY <u>[Signature]</u> Deputy General Counsel	Date <u>2-12-10</u> <i>2-12-10</i>
BY <u>Amy M. Elliott</u> Deputy Attorney General	Date <u>2-24-10</u> <i>2-24-10</i>

OS-299 (8-72)



## TRANSMITTAL LETTER

Transportation Project Development- Section 4(f)  
Handbook PennDOT Publication 349 Revision#2

Date: September 8, 2008

### SUBJECT:

Publication #349

Transportation Project Development- Section 4(f) Handbook

August 2008

### INFORMATION AND SPECIAL INSTRUCTIONS:

This revision of Publication 349 incorporates and supersedes the July 9, 2007 Transportation Project Development – Section 4(f) Handbook.

Publication 349 is available at [www.dot.state.pa.us](http://www.dot.state.pa.us) by using the *Forms, Publications & Maps* link. This handbook will be effective on September 8, 2008.

### CANCEL AND DESTROY THE FOLLOWING:

This handbook supercedes the Pennsylvania Department of Transportation Publication:

\*PennDOT Publication #349 Transportation Development Process- Section 4(f) Handbook July 9, 2007

\*Strike-Off Letter 440-98-15, Section 4(f) Evaluation Format, dated April 22, 1998.

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### APPROVED FOR ISSUANCE BY:

A handwritten signature in cursive script, appearing to read "Brian Thompson".

Brian Thompson, P.E.  
Director  
Bureau of Design



**THE  
TRANSPORTATION PROJECT DEVELOPMENT  
PROCESS**

**SECTION 4(f) HANDBOOK**

**VOLUME I**

August 2008



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# Preface

Over the years, the application of the requirements contained in Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. §303(c)) has been the subject of debate. Section 4(f) is an area of law that has undergone, and continues to undergo, interpretation through litigation. As such, the requirements for a Section 4(f) Evaluation can vary on a case-by-case basis depending on the facts of the situation and current case law interpretations. In addition, the provisions in Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) directed a new rulemaking (23 CFR 774) on Section 4(f) to clarify factors to consider and standards to apply in determining when an avoidance alternative is feasible and prudent, and factors to consider in selecting a project alternative when all alternatives use Section 4(f) property. The rulemaking also established procedures for determining when a Section 4(f) use is “*de minimis*” (negligible, or a trifle).

This Handbook has been prepared as a guidance document for use in understanding the requirements of a Section 4(f) analysis and Section 4(f) documentation. The Handbook is based on the regulations governing Section 4(f) and case law interpretations to date. The facts of each situation involving Section 4(f) properties will vary, and therefore, need to be considered on a case-by-case basis by the Federal Highway Administration (FHWA). **This Handbook is for guidance and informational purposes only; it is not regulatory.**

# Executive Summary

Section 4(f) was enacted as Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. It was originally set forth in 49 U.S.C. §1653(f). In January 1983, as part of an overall recodification of the USDOT Act of 1966, Section 4(f) was amended and codified in 49 U.S.C. §303. Similar language is contained at 23 U.S.C. §138, which has been interpreted the same. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) regulations regarding Section 4(f) were included along with the implementing regulations for the National Environmental Policy Act (NEPA) at 23 CFR 771.135. The provisions in Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, amended existing Section 4(f) legislation at 23 U.S.C. §138 and 49 U.S.C. §303, and directed a new rulemaking (23 CFR 774) to further clarify the Section 4(f) process (via the rulemaking, Section 4(f) was removed from 23 CFR 771, and is now found at 23 CFR 774).

Section 6009(a) of SAFETEA-LU simplified the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). Section 6009 directed a new rulemaking (23 CFR 774) on Section 4(f) to clarify factors to consider and standards to apply in determining when an avoidance alternative is feasible and prudent, and factors to consider in selecting a project alternative when all alternatives use Section 4(f) property. The rulemaking also established procedures for determining when a Section 4(f) use is “*de minimis*” (negligible, or a trifle). Based on Section 6009(a), 49 U.S.C. §303, and 23 CFR 774, the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land from an historic site of national, state, or local significance (as determined by the Federal, state, or local official(s) having jurisdiction over the park, recreation area, refuge, or site) only if:

- There is no **feasible** and **prudent** alternative to **using** that land; and
- The program or project includes **all possible planning to minimize harm** (as defined in 23 CFR 774.17) to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Or

- The use, including any measures to minimize harm (such as any avoidance, minimization, or enhancement measures) will have a *de minimis* impact on the property.

**Section 4(f) properties** include:

- Historic sites eligible or listed on the *National Register of Historic Places*
- Archaeological sites eligible for preservation in place
- Publicly owned public parks and recreation areas that are designated as such and that serve a significant recreational purpose



- Publicly owned wildlife and waterfowl refuges that are designated as such and that serve a significant refuge purpose

Section 4(f) properties are considered **used** if:

- **Actual Use** – there is an actual incorporation of property
- **Constructive Use** – the proximity impact would result in a substantial impairment of the activities, features, or attributes that qualify the property for protection under Section 4(f)

**NOTE:** The **temporary occupancy** of Section 4(f) property, such as construction easements, will constitute a "use" unless **all** of the conditions cited in 23 CFR 774.13(d) are met. Additional details regarding temporary occupancies can be found in **Section VII.A.2**.

An actual use is considered *de minimis* if, after considering reasonable measures to minimize harm (such as any avoidance, minimization, mitigation, and enhancements):

- Historic sites – the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) concurs with a No Adverse Effect or No Historic Properties Affected determination as a result of the Section 106 process and the views of any consulting parties have been considered.
- Parks/recreation areas/refuges – The public has been afforded an opportunity to review and comment on the effects of the project on the Section 4(f) property; and the official(s) with jurisdiction over the property are informed of the intent to make the *de minimis* impact finding and provide written concurrence (after public comments were received) that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

After determining use, there are several **programmatic Section 4(f) Evaluations** that can be reviewed for applicability. Four of the programmatics can only be used on non-Environmental Impact Statement (EIS) projects. These include:

- Minor use of property from public parks, recreation areas, and wildlife and waterfowl refuges;
- Minor use of historic properties;
- Use of an historic bridge structure; and
- Bikeway and walkway construction projects

The fifth programmatic is the **Net Benefit** Programmatic and it can be applied on any project where a "net benefit" is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project result in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features, and attributes

that qualify the property for Section 4(f) protection. A project does not achieve a “net benefit” if it would result in a substantial diminishment of the functions or values that made the property eligible for Section 4(f) protection. The official(s) with jurisdiction over the Section 4(f) property must agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property in order to use the Net Benefit Programmatic. A Section 4(f) avoidance alternative may be considered imprudent if it would result in a missed opportunity for a net benefit on a Section 4(f) property.

Section 4(f) requires that a **feasible and prudent alternative that avoids the use** of Section 4(f) properties be selected as the Preferred Alternative, if such an avoidance alternative exists. Alternatives can be found to not be **feasible** only if they **cannot be constructed** in accordance with sound engineering practices. Alternatives can be found to not be **prudent** if they **do not meet the established project needs**, or if they would result in **unique problems** or environmental (natural and socioeconomic) impacts of an **extraordinary magnitude**. (Feasible and Prudent Avoidance Alternative is defined within 23 CFR 774.17.) For alternatives that do not solely include *de minimis* uses, if a prudent and feasible Total Section 4(f) Avoidance Alternative exists, it must be selected. If no prudent and feasible Total Avoidance Alternative exists, then the alternative that causes the least overall harm (in light of the statute’s preservation purpose) must be identified/approved.

**NOTE:** For alternatives that solely include *de minimis* uses, in accordance with the FHWA *Guidance for Determining De Minimis Impacts to Section 4(f) Resources*, and 23 CFR 774.3(b), and 774.17, a formal alternatives analysis is not required. Instead, as alternatives are being developed, they are assessed using a “common sense” approach. The *de minimis* (trifle) impact on the Section 4(f) property is compared to the impacts that would be incurred to other important resource(s) if the Section 4(f) property did not incur any encroachment. This information is used in making the *de minimis* finding determination. Once that finding is made, no further alternatives analysis is required.

If there is no feasible and prudent alternative to the use of Section 4(f) properties, then a Least Overall Harm Assessment should be conducted. This involves:

- Examination of avoidance shifts to determine whether they are feasible and prudent
- Consideration of minimization/mitigation measures
- Assessment of harm to determine which feasible and prudent alternative would minimize overall harm

**NOTE:** When conducting a Least Overall Harm Assessment, by definition, *de minimis* Section 4(f) uses are considered “a trifle” with a negligible impact to a Section 4(f) property. Net Benefit Section 4(f) uses result in a positive overall impact to the Section 4(f) property. Actual Section 4(f) uses (other than *de minimis* or net benefit uses) result in a negative impact to the Section 4(f) property. How negative, how much harm, takes into consideration both quantitative and qualitative impacts.

It is important to note that the Section 4(f) process is **separate** from the NEPA process and the process associated with Section 106 of the National Historic Preservation Act (NHPA). However, all three processes are coordinated under the NEPA process to streamline project development. It is also important to note that Section 4(f) applies to **all** *National Register* eligible or listed historic sites, but only to **publicly owned** public parks, recreation areas, and wildlife and waterfowl refuges.

**The Section 106 process** is the **mechanism** through which *National Register* eligible or listed historic and archaeological sites are identified. All eligible or listed historic sites and those archaeological sites listed or eligible for preservation in place are Section 4(f) properties. From this point, the Section 106 and Section 4(f) processes diverge. **Section 106** requires **effects** determinations concurred with by the SHPO and consideration of mitigation measures for adverse effects. In contrast, the Section 4(f) process requires a determination by FHWA as to whether there is an **actual or constructive use** of the Section 4(f) property, and requires that all **possible planning to minimize harm** is incorporated.

Use and effects are separate assessments. An Adverse Effect does not, per se, mean that there is a use of the Section 4(f) property. In contrast, a use can occur even when a No Historic Properties Affected or No Adverse Effect determination is made. A ***de minimis* finding** can be made when there is an actual Section 4(f) use of an historic property with a No Adverse Effect or No Historic Properties Affected determination. A Section 4(f) **Proximity Impact Analysis** would only be performed for historic properties if there is no actual use and an **Adverse Effect** determination is made. The Proximity Impact Analysis is used to determine if the Adverse Effect is of sufficient magnitude to rise to the level of a constructive use. The relationship between Section 106 “effect” and Section 4(f) “use” is further explained in **Table ES-1**.

<b>Table ES-1: Relationship of Section 106 Effects and Section 4(f) Use</b>			
	<b>No Historic Properties Affected</b>	<b>No Adverse Effect</b>	<b>Adverse Effect</b>
<b>Section 4(f) Property Acquired</b>	<i>De minimis</i> use	<i>De minimis</i> use	Actual use, not <i>de minimis</i>
<b>No Section 4(f) Property Acquired</b>	No use	No use	Possible constructive use, proximity impact analysis required

**The NEPA process** suggests that effects on socioeconomic, natural, and cultural resources be balanced throughout the alternatives development process. Public and resource agency input and engineering factors are also weighed in the NEPA balancing effort. In contrast, Section 4(f) requires that an alternative that avoids Section 4(f) properties be selected unless this avoidance alternative can be shown to not be constructable, not meet the project needs, result in unique problems/unusual factors, or result in environmental impacts of an extraordinary magnitude. Cumulative effects of avoiding Section 4(f) property must be compared to the net harm to the property after incorporating mitigation (see 23 CFR 774.17 for the list of factors). Further, if no Feasible and Prudent Total Section 4(f) Avoidance Alternative exists, then Section 4(f) requires that the alternative that causes the least overall harm (in light of the statute's preservation purpose) be selected. As per 23 CFR 774.3(c)(1), it is important that the following factors be weighed into the overall least harm analysis:

- The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- The relative severity of the remaining harm, after reasonable mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- The relative significance of each Section 4(f) property;
- The views of the official(s) with jurisdiction over each Section 4(f) property;
- The degree to which each alternative meets the purpose and need for the project;
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- Substantial differences in costs among the alternatives.

Section 4(f) is a complex process with a lengthy history of legal decisions and court interpretations of how to apply the statute. As such, conclusions regarding no feasible and prudent alternatives and all possible measures to minimize harm must be well documented and supported. This guidance document discusses the identification of Section 4(f) properties, the determination of use/constructive use, the alternatives analysis process and the documentation, review, and approval process for Section 4(f).

# I. PURPOSE

The purpose of this Handbook is to: define the Section 4(f) process; to provide guidance in completing a legally sufficient Section 4(f) Evaluation; to explain the relationship of Section 4(f) to other laws, such as the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA); and to discuss the requirements of Section 4(f) in relation to the transportation project development process.

The procedures described in this Handbook are in conformance with the following state and Federal regulations, policies, guidance, and programmatic agreements, copies of which are included as Appendices:

- Federal Highway Administration (FHWA) regulations at 23 CFR 774 (*Appendix A*)
- FHWA Section 4(f) Policy Paper dated March 1, 2005 (*Appendix B*)
- FHWA Guidance for Determining De Minimis Impacts to Section 4(f) Resources, December 13, 2005 (*Appendix C*)
- FHWA Exceptions to Interstate Exemption, December 19, 2006 (*Appendix D*)
- Final Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid for Transportation Projects That Have a Net Benefit to a Section 4(f) Property (*Appendix E*)
- Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements With Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges (*Appendix E*)
- Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Historic Sites (*Appendix E*)
- Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges (*Appendix E*)
- Final Negative Declaration/Section 4(f) Statement and Determination for Independent Bikeway or Walkway Construction Projects (*Appendix E*)
- Pennsylvania Act 120, 71 PS § 512(e) (*Appendix F*)
- PennDOT Directive 4300-88-29, Act 120 Agency Review (*Appendix G*)

This document includes information regarding Temporary Construction Easements and their relationships to Section 4(f), and therefore supercedes PennDOT Directive 430-90-93, Guidance for Temporary Construction Easements for Section 4(f) Lands.

The procedures in this Handbook are based upon experience with Section 4(f) issues from past and current transportation projects throughout Pennsylvania. Numerous examples of how the Section 4(f) principles should be applied are included in this Handbook.

Please note that completion of a Section 4(f) Evaluation is triggered when a project, subject to approval by FHWA or another U.S. Department of Transportation (USDOT) agency, uses a resource protected by Section 4(f). Therefore, all USDOT Federal-aid funded projects that use Section 4(f) property would be subject to Section 4(f) analysis and documentation. State-funded projects could be subject to Section 4(f) analysis and documentation, if there is some USDOT action required (e.g. a Point of Access approval). This Handbook is written primarily for projects that require a USDOT action. ***Section XVI: Pennsylvania Act 120 Requirements*** addresses the PA Act 120 requirements that apply to all transportation projects whether a USDOT action is involved or not.

These guidelines will be updated as needed through the issuance of revisions or additions. Questions, comments, or suggestions about these policies and guidelines should be directed to: Environmental Quality Assurance Division, Bureau of Design, Pennsylvania Department of Transportation, P.O. Box 3790, Harrisburg, Pennsylvania 17105-3790.

## II. SECTION 4(f) REGULATORY REQUIREMENTS

Section 4(f) was enacted as Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. It was originally set forth in 49 U.S.C. §1653(f). In January 1983, as part of an overall recodification of the USDOT Act, Section 4(f) was amended and codified in 49 U.S.C. §303. Similar language is contained at 23 U.S.C. §138, which has been interpreted the same. Section 4(f) applies only to agencies within the USDOT, namely the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the Federal Transit Administration (FTA), and the Federal Rail Administration (FRA). Section 4(f) is separate from the National Environmental Policy Act (NEPA), its associated Executive Orders, and Section 106 of the National Historic Preservation Act (NHPA).

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amended existing Section 4(f) legislation at 23 U.S.C. §138 and 49 U.S.C. §303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). Section 6009 directed a new rulemaking (23 CFR 774) on Section 4(f) to clarify factors to consider and standards to apply in determining when an avoidance alternative is feasible and prudent, and factors to consider in selecting a project alternative when all alternatives use Section 4(f) property. The rulemaking also established procedures for determining when a Section 4(f) use is “*de minimis*” (negligible, or a trifle).

Based on Section 6009(a), 49 U.S.C. §303, and 23 CFR 774, the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land from an historic site of national, state, or local significance (as determined by the Federal, state, or local officials having jurisdiction over the park, recreation area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the public park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

Or

- the use, including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) will have a *de minimis* impact on the property.

Properties subject to Section 4(f) include: publicly or privately owned historic or archaeological properties which are listed or eligible for listing in the *National Register of Historic Places*; and publicly owned public parks, recreation areas, or wildlife and waterfowl refuges. More detailed information regarding identification of Section 4(f) properties is provided in **Section VI:**

***Definition of a Section 4(f) Property.***

**NOTE:** In Pennsylvania, archaeological sites are generally only found eligible for the *National Register* based on the information they contain. If an archaeological site is eligible only for the information it contains, and has minimal value for preservation in place, there is no Section 4(f) use, and these resources are then not considered in the Section 4(f) Evaluation. Archaeological sites are only Section 4(f) properties when they are determined eligible and warrant preservation **in place**.

In general, Section 4(f) is triggered when a project subject to approval by FHWA, or another USDOT agency, "uses" a property protected by Section 4(f). "Use" has been defined to include an actual use of a Section 4(f) property, or the "constructive use" of a Section 4(f) property (actual use and constructive use are defined in ***Section VII: Definition of "Use" of a Section 4(f) Property***). In general, if a Section 4(f) property is used by the alternatives in a transportation project, the FHWA must determine if a Feasible and Prudent Avoidance Alternative exists.

An exception to this requirement would occur where the use is determined to be *de minimis*. The FHWA *Guidance for Determining De Minimis Impacts to Section 4(f) Resources* and 23 CFR 774.3(b) state that the Administration may not approve the use of Section 4(f) property unless the Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact. Generally speaking, this means that if, as alternatives are developed, it is determined that there are common sense reasons why an alternative should encroach into a Section 4(f) property in order to avoid some other important resource(s), and it can be determined in coordination with the official(s) with jurisdiction that the use meets the definition of *de minimis* as defined in 23 CFR 774.17, an avoidance alternatives analysis for that resource does not need to be conducted. *De minimis* Section 4(f) use is further discussed in ***Section XI: De Minimis Section 4(f) Use***.

The analyses of Section 4(f) properties and uses of these properties should be documented, reviewed by PennDOT, and approved by the FHWA for federal-aid projects and projects involving other USDOT actions. Where Section 4(f) uses occur and neither *de minimis* nor any of the programmatic apply, a Section 4(f) Evaluation document must be prepared. As part of the Section 4(f) approval process, PennDOT will conduct an Act 120 compliance finding. Please note that for 100% state-funded projects that do not require any USDOT action, PennDOT makes the determination regarding feasible and prudent alternatives and least harm in accordance with Section 2002 of PA Act 120 (see ***Section XVI: Pennsylvania Act 120 Requirements***).

**NOTE:** Section 4(f) would apply to 100% state-funded projects where a USDOT action such as Point of Access approval is required.



## III. OVERVIEW OF THE SECTION 4(f) PROCESS

The Federal Highway Administration's (FHWA) regulations in 23 CFR 774 further describe the Section 4(f) process. Basically, the Section 4(f) process consists of the following stages:

- Identify Section 4(f) properties (Section 4(f) properties are defined in detail in *Section VI: Definition of a Section 4(f) Property.*)
- Identify whether Section 4(f) properties are used (Use is defined in detail in *Section VII: Definition of "Use" of a Section 4(f) Property.*)
- Determine whether any of the uses are *de minimis* (*De minimis* use is discussed in *Section XI: De Minimis Section 4(f) Use.*)
- Determine if there are Feasible and Prudent Avoidance Alternatives for any non-*de minimis* uses. (See *Section IV: What Constitutes a Feasible and Prudent Alternative* and *Section VIII: Section 4(f) Alternatives Analysis.*)
- Evaluate the best Section 4(f) processing option (Processing options are discussed in *Section V: Approach to Section 4(f) Decision-Making.*)
- Complete the Section 4(f) analysis (See *Section VIII: Section 4(f) Alternatives Analysis.*)
- Complete the appropriate documentation (Approaches to documentation are provided in *Section V: Approach to Section 4(f) Decision-Making.*)

If an Individual Section 4(f) Evaluation is being prepared, after approval of the FHWA, circulate the Draft Individual Section 4(f) Evaluation to the official(s) with jurisdiction over the Section 4(f) properties, the Department of the Interior (DOI) (Washington Headquarters), and, if applicable, to the US Department of Agriculture (USDA) (appropriate Forest Supervisor) and Department of Housing and Urban Development (HUD) (Region), for a 45-day comment period. If a Programmatic Section 4(f) Evaluation is being prepared, provide the Programmatic Section 4(f) Evaluation to the FHWA for approval. Interagency coordination is required only with the official(s) with jurisdiction and not with the DOI, USDA, or HUD (unless the Federal agency has a specific action). More information on the circulation and approval process for Programmatic and Individual Section 4(f) Evaluations can be found in *Sections XIV: Documentation Required for Programmatic Section 4(f) Evaluations* and *Section XV: Circulation and Approval Process*, respectively.

**NOTE:** For Environmental Impact Statements (EISs), the Draft Section 4(f) Evaluation is typically circulated as a separate section bound with the Draft EIS. For Environmental Assessments (EAs), it is typically circulated as a separate section bound with the EA. For Categorical Exclusion Evaluations (CEEs), it is typically circulated as a separate document.

- For Individual Section 4(f) Evaluations, review and address comments received on the Draft Section 4(f) Evaluation and prepare a Final Section 4(f) Evaluation for FHWA approval.

**NOTE:** For EISs, a Final Section 4(f) Evaluation is typically included with the FEIS and approval of the Section 4(f) Evaluation is documented in the Record of Decision (ROD). For EAs, comments on the Draft Section 4(f) Evaluation are typically addressed in an attachment to the EA, and the conclusions of the Section 4(f) Evaluation and the Section 4(f) approval are typically included in the FONSI. For CEEs, the conclusions and approval of the Section 4(f) Evaluation are typically issued in a separate approval letter.

- Provide the Final Section 4(f) Evaluation to FHWA legal counsel for a legal sufficiency review. It should be noted that a conditional legal sufficiency review can be requested on the Draft or Pre-Final Section 4(f) Evaluation at the discretion of the Project Team; however a formal legal sufficiency review is required for the Final Section 4(f) Evaluation.

**NOTE:** Application of an approved Programmatic Section 4(f) does not require a legal sufficiency review, because the legal sufficiency review occurred when the Programmatic was originally approved.

A discussion of things to keep in mind when conducting a Section 4(f) analysis during the Transportation Project Development Process is included in ***Section X: Section 4(f) Activities Which Should Occur During the Project Development Process*** of this Handbook.

## IV. WHAT CONSTITUTES A FEASIBLE AND PRUDENT ALTERNATIVE?

The U.S. Supreme Court and 23 CFR 774.17 have defined the terms "feasible" and "prudent". In general, a feasible and prudent avoidance alternative does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. When assessing the importance of protecting the 4(f) property, the relative value of the resource to the preservation purpose of the 4(f) statute is considered.

Documentation as to why an alternative is not feasible and prudent is key to preparing a legally sufficient Section 4(f) Evaluation. To the extent possible, factual, quantitative data should be used in this documentation.

**Example:** A historic building/property that has been condemned and has a history of a lack of maintenance may require a lesser standard under the "feasible and prudent" test because of the relative value of the resource to the preservation purpose of the 4(f) statute. The same could be said of a property that has approved development plans, because it would appear that the property would not be preserved in the future due to that development. On the other hand, an historic property that is the last example of its kind within a particular county may warrant a greater standard under the "feasible and prudent" test because of its value to the preservation purpose of the statute.

### A. FEASIBILITY

A particular alternative is considered not "feasible" if the Federal Highway Administration (FHWA) determines, as a matter of sound engineering, that it would not be possible to build the transportation improvement/project along this route or location. Engineering facts and figures will be required as documentation to support a statement indicating that an alternative is not feasible.

**Example:** An example of an alternative that **would not be feasible** might be an alternative across a very large sinkhole where, for geotechnical reasons that can be documented, a stable road surface could not be constructed. An alternative could also be found not feasible if it cannot be constructed to meet current design criteria within its roadway classification.

### B. PRUDENCY

An alternative is not "prudent" if it would not meet the project needs. In addition, an alternative is not "prudent" if there are "truly unusual factors" present in a particular case, the cost or community disruption resulting from the alternative reaches "extraordinary magnitudes", or the alternative presents severe or unique problems. A number of problems may collectively add up to make an alternative not prudent.

**NOTE:** For projects that qualify under the Net Benefit Programmatic, in addition to being not prudent if it does not meet the project needs, or if it involves truly unusual factors, unique problems, or environmental impacts/cost/community disruption reaching an extraordinary magnitude, **an avoidance alternative can be considered not prudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property.**

**Examples:** Examples of severe social, economic, or environmental impacts, severe disruption of established communities, severe disproportionate impacts to minority or low income populations that are of an extraordinary magnitude or result in truly unusual or unique problems are described below. Please note that these reasons must be characterized as truly unusual, or unique, or of an extraordinary magnitude (individually or collectively) and must substantially outweigh the importance of protecting the Section 4(f) property (e.g. the relative value of the property to the preservation goals of the statute):

- Based on the facts presented in the Section 4(f) document, the alternative would result in substantial adverse community impacts to adjacent homes, businesses, or other improved properties that are of an extraordinary magnitude;
- The new location would result in substantial adverse social, economic, or environmental impacts, including such impacts as extensive severing of productive agricultural lands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, substantial damage to wetlands or other sensitive natural areas;
- The new location would substantially increase costs or create engineering difficulties, such as an inability to achieve minimum design standards, or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.

## C. FEASIBLE AND PRUDENT ALTERNATIVES

An alternative may be determined not feasible and prudent if:

- It cannot be built as a matter of sound engineering judgment (feasibility);
- It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (prudence);
- It results in unacceptable safety or operational problems (prudence);
- It causes (prudence):
  - Severe social, economic, or environmental impacts
  - Severe disruption to established communities

- Severe disproportionate impacts to minority or low income populations
- Severe impacts to environmental resources protected under other Federal statutes
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude (prudence);
- It causes other unique problems or unusual factors (prudence); or
- It involves multiples of the above mentioned factors, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude (prudence).

**NOTE:** For projects that qualify under the Net Benefit Programmatic, an alternative can also be considered not prudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property.

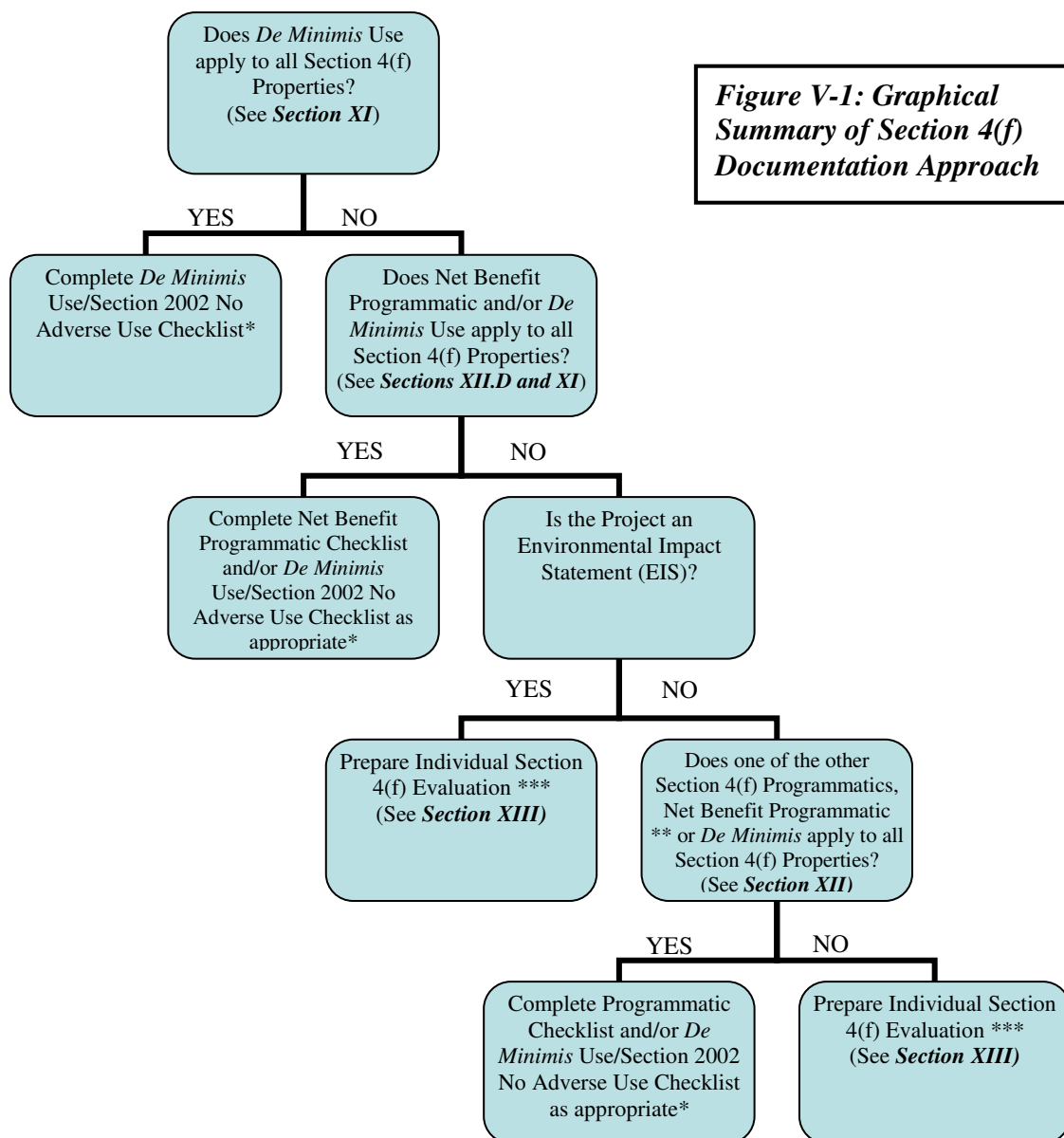
As to the number of avoidance alternatives that need to be evaluated under Section 4(f), the FHWA is under the obligation to examine enough alternatives to permit a sound judgment that the study of additional alternative routes is not worthwhile.

**NOTE:** Since **only feasible and prudent avoidance alternatives must be considered for selection** in the overall process, it follows that avoidance alternatives that could not/would not meet the project needs would not be prudent, and therefore, should not be developed in detail.

## V. APPROACH TO SECTION 4(f) DECISION-MAKING

With the addition of the *de minimis* use provisions (as detailed in **Section XI: De Minimis Section 4(f) Use**) and the Net Benefit Section 4(f) Programmatic (as detailed in **Section XII.D: Net Benefit**), as well as the other Section 4(f) Programmatic, there are several avenues for Section 4(f) documentation and processing that should be analyzed and considered for a project. (See **Figure V-1**.) The intent of the *de minimis* finding, as well as the various Programmatic, is to aid in streamlining the Section 4(f) process. However, some of the Section 4(f) processing options can overlap one another. For instance, a use that qualifies as *de minimis*, could also meet the requirements of one of the Programmatic. An example would be the acquisition of a sliver of land from a public park. It is possible that this use could have “no adverse effect on the activities, features, and attributes” of the park. With public input and written concurrence from the official(s) with jurisdiction, this use could be found to be *de minimis*. Assuming the criteria of the Programmatic are met, this use could also qualify under the Programmatic for use of minor amounts of property from public parks, recreation areas, and wildlife and waterfowl refuges. In addition, depending on the mitigation opportunities, there could also be potential for a “net benefit”, and the Net Benefit Programmatic would then also apply.

So how does one determine the best approach to assess and document Section 4(f) uses (assuming that avoidance is not possible)? In the case noted above, it would be appropriate to use the *de minimis* finding, or the Programmatic for use of minor amounts of property from public parks, recreation areas, and wildlife and waterfowl refuges, or possibly even the Net Benefit Programmatic. However, from a streamlining perspective, the *de minimis* finding would be recommended. Neither the *de minimis* finding nor the Programmatic are an exemption from Section 4(f); each requires documentation and approval by the Federal Highway Administration (FHWA) Division Administrator. The reason for choosing the *de minimis* finding is because the *de minimis* finding does not require an analysis of avoidance alternatives. Instead, as alternatives are being developed, they are assessed using a “common sense” approach. This information is used in making the *de minimis* finding determination. In contrast, the Section 4(f) Programmatic require an avoidance alternatives analysis that applies the feasible and prudent standard to each avoidance option. The *de minimis* finding would therefore represent the most streamlined approach to documenting the Section 4(f) use in this case.



**Notes:**

\* Prepare one checklist for each type of use (or for each property if multiple uses occur under the same type (e.g., two properties each with a *de minimis* use) cannot easily be described on the same checklist), and combine into one unit for submission, serving as the complete Section 4(f) documentation.

\*\* Section 4(f) Programmatic include the following (The Net Benefit Programmatic can be applied to all classes of action; the remaining Programmatic cannot be used on EIS projects):

1. Net Benefit
2. Minor use of property from public parks, recreation areas, and wildlife & waterfowl refuges
3. Minor use of historic property(ies)
4. Use of an historic bridge
5. Negative declaration for trails on park property (under this Programmatic, there is no Section 4(f) use. (Documentation would consist of the Section 4(f) Non-Applicability/No Use form, along with a copy of the FHWA May 23, 1977 negative declaration/Section 4(f) statement.)

\*\*\* All Section 4(f) uses, including those that are *de minimis* or result in a net benefit would be evaluated in the Individual Section 4(f) Evaluation. *De minimis* uses and uses that result in a net benefit should be highlighted/emphasized since they would denote negligible or positive Section 4(f) uses (see **Section XIII**).

The steps to determine which documentation approach to use vary slightly for Environmental Impact Statements (EIS) as compared to Environmental Assessments (EA) and Categorical Exclusion Evaluations (CEE). (See Note box below.) However, as a general rule of thumb, it is recommended that the Section 4(f) uses be addressed in the following order (as applicable) due to the amount of analysis and/or documentation required for each:

1. *De Minimis* Finding
2. Net Benefit Programmatic
3. Other Section 4(f) Programmatics (cannot be used for projects classified as EISs)
4. Individual Section 4(f) Evaluation

**NOTE:** The minor use of public parks/recreation areas/wildlife and waterfowl refuges, minor use of historic properties, historic bridge, and negative declaration for trails on park property Programmatics cannot be used on EIS Projects.

The first step in determining the Section 4(f) documentation approach is to determine if any of the uses would be *de minimis*. If all uses are found to be *de minimis*, the *De Minimis* Use/Section 2002 No Adverse Use Checklist can be completed, serving as the Section 4(f) documentation. If there are uses that do not qualify as *de minimis*, further analysis is required.

The second step requires determining whether the non-*de minimis* uses, when considering mitigation options in coordination with the official(s) with jurisdiction, would/could have a net benefit to the Section 4(f) property. If all uses would have a net benefit, the Net Benefit Programmatic can be completed. If there are a combination of *de minimis* and net benefit uses, both the *De Minimis* Use/Section 2002 No Adverse Use Checklist and the Net Benefit Checklist can be completed and submitted together as the complete Section 4(f) documentation.

If uses would occur that do not qualify as *de minimis* or as having a net benefit, the class of action will determine the next step. If the project is an EIS, an Individual Section 4(f) Evaluation must be prepared. *De minimis* uses and uses that result in a net benefit should be discussed along with the other uses in the Individual Section 4(f) Evaluation. (See **Section XIII: Content and Format of Individual Section 4(f) Evaluations** for additional information on the content of an Individual Section 4(f) Evaluation.)

If the project is classified as an EA or a CE, determine whether the remaining uses would qualify under one of the other Programmatics. If all uses qualify under the Net Benefit Programmatic, one of the other Programmatics, and/or as a *de minimis* use, a combination of the appropriate Section 4(f) Programmatic Checklists and the *De Minimis* Use/Section 2002 No Adverse Use Checklist can be prepared and submitted as a single unit, serving as the Section 4(f) documentation. If one or more uses would not qualify for these Programmatics and/or as a *de minimis* use, an Individual Section 4(f) Evaluation must be prepared.

For projects that would result in a Section 4(f) use, **and** would have a temporary occupancy of a Section 4(f) property that would meet the conditions under 23 CFR 774.13(d), it is recommended that the temporary occupancy be documented in the same document/checklist that discusses the Section 4(f) use. For example, a project that would have a *de minimis* use of a public park, and would also require a temporary construction easement within that park (that meets the conditions



under 23 CFR 774.13(d) and is therefore not a 4(f) use), only the *de minimis* checklist needs to be completed. That checklist should include discussion of the temporary construction easement.

**NOTE:** For projects that have more than one use of the same type (e.g. two *de minimis* uses, two net benefit uses, etc), if information regarding both uses can be adequately included on the same checklist, one checklist can be prepared. However, if adequate space is not provided, or if it is difficult to describe each use properly through a single checklist, multiple checklists (one for each use) should be completed.

If there is a *de minimis* use and/or net benefit use, along with other uses that require completion of an Individual Section 4(f) Evaluation, it is recommended that the *de minimis*/net beneficial uses be described within the Individual Section 4(f) Evaluation, rather than completing the *de minimis*/net beneficial use checklists, because the *de minimis*/net beneficial uses must be described in the Least Overall Harm analysis regardless of whether a checklist is completed. Therefore use of a checklist would be redundant, and is not necessary.

## VI. DEFINITION OF A SECTION 4(f) PROPERTY

The first step in the Section 4(f) analysis is to identify Section 4(f) properties. As stated in the language of the statute (49 U.S.C. §303), Section 4(f) properties are those properties that function or are designated as a public park, recreation area, wildlife and waterfowl refuge, or historic or archaeological site in, or eligible for listing in, the *National Register of Historic Places*. Historic and archaeological sites need not be publicly owned, but all of the other types of Section 4(f) properties must be publicly owned. **Therefore, Section 4(f) properties fall into three principal categories:**

- Publicly owned public parks, recreation areas, and wildlife and waterfowl refuges (See ***Section VI.A: Public Parks, Recreation Areas, and Wildlife and Waterfowl Refuges*** for more detail.)
- Parts of public multi-use properties which are significant for park, recreation area, wildlife and waterfowl refuge purposes (See ***Section VI.B: Public Multiple-Use Properties*** for more detail.)
- Publicly or privately-owned historic and archaeological sites (See ***Section VI.C: Historic and Archaeological Resources*** for more detail.)

For projects requiring a U.S. Department of Transportation (USDOT) action (funding, point of access approval, or other actions), **the Federal Highway Administration (FHWA) must be involved in the Section 4(f) process of identifying Section 4(f) properties and will make the final decision on applicability of Section 4(f) to the above listed types of properties.**

### A. PUBLIC PARKS, RECREATION AREAS, AND WILDLIFE AND WATERFOWL REFUGES

Parks, recreation areas, or wildlife and waterfowl refuges are Section 4(f) properties only if all of the following are met:

- The property is publicly owned and open to the general public;
- It is designated as a public park, recreation area, or wildlife and waterfowl refuge;
- The major purpose of the property is for recreation activities or wildlife and waterfowl refuge (incidental, secondary, occasional, or dispersed activities are not considered a major purpose); and
- The property has significance.

The following subsections provide additional details on each of these criteria, coordination requirements, and final determination on whether a resource qualifies as a Section 4(f) property.

# **1. PUBLICLY OWNED/OPEN TO THE PUBLIC**

A Section 4(f) property can be publicly owned through fee simple ownership, a public easement, or a lease agreement. Properties owned by government agencies or public institutions are considered publicly owned. Public easements for Section 4(f) purposes and properties leased to public agencies, depending on the lease terms and any cancellation clauses, may also meet the definition of publicly owned. Lease agreements must reflect long-term intent for property to remain in recreational or refuge use to be considered a Section 4(f) property. Land owned by private institutions or individuals and used as a park, recreation area, or wildlife/waterfowl refuge is not considered under Section 4(f).

**Example** of leased property that was **considered** to be a **Section 4(f) property**: A private entity owns property that is leased by a township as a park. The characteristics of the property show evidence of a recreational use (i.e. benches, ball fields, picnic tables, etc.) and the term of the lease indicates an obvious intent to continue using the property indefinitely for recreational purposes.

In addition to being publicly owned, to qualify as a Section 4(f) property, the general public must be permitted visitation at any time when the publicly owned park or recreation area is open.

**Example** of a park **not** considered to be a **Section 4(f) property**: If a park is only open to a select group, the park is not considered a Section 4(f) property. Select groups could include, but are not limited to, residents of a public housing project; military and their dependents; and students, faculty, and alumni of a school, college, or university. A ball field on school property that is fenced in and restricted to use by the school teams would not fall under Section 4(f) jurisdiction.

Section 4(f) does not apply when visitation is permitted to only a select group and not the general public at large. For example, a military golf course would be considered publicly owned, but if access is restricted to military personnel and their guests, then it would not be considered open to the public and would not be a Section 4(f) resource. A fee may be charged for visitation as long as that fee is reasonable. For example, a municipal golf course charging a fee that is in keeping with normal golf fees would be considered a Section 4(f) property. An exception to the public visitation criteria is afforded for wildlife and waterfowl refuges or other similar Section 4(f) lands where visitation is restricted to protect sensitive species habitat.

**NOTE:** In accordance with the Governor’s Executive Order (EO) #1990-7 dated October 17, 1990 (*Appendix H*), “islands in navigable rivers or in streams declared by law to be public highways” may be Section 4(f) properties. The EO provides that if an island has never passed into private ownership, the island is owned by the Commonwealth. The Pennsylvania Department of Conservation and Natural Resources (DCNR) has administrative jurisdiction over islands that are owned by the Commonwealth, but may bestow jurisdiction to the Pennsylvania Game Commission or the Pennsylvania Fish and Boat Commission. The EO states that the islands “provide critical habitats for wildlife and plants, offer exceptional opportunities for public recreation, and possess important aesthetic values.” If the proposed project involves using an island owned by the Commonwealth, coordination with the official with jurisdiction will be required to determine if Section 4(f) applies. Examples of uses for this type of resource are provided in *Appendix I*.

## 2. DESIGNATED AS A PARK, RECREATION AREA, OR WILDLIFE/WATERFOWL REFUGE

Publicly owned land is considered to be a park, recreation area, or wildlife and waterfowl refuge when the land has been **officially designated** as such. Designation occurs when the Federal, state, or local official(s) with jurisdiction over the land have made a written designation that the land either (1) represents a park, recreation area, or wildlife and waterfowl refuge, or (2) one of its major purposes or functions is for park, recreation, or refuge purposes. The "official(s) with jurisdiction" are the official(s) of the agency owning or administering the land. Publicly owned property that has been designated as a public park in the municipality's preliminary planning stages is considered to be a Section 4(f) property.

**Example:** Land donated to a municipality by a developer to be used as open space or a park would not be Section 4(f) property unless the municipality officially designates the property as a park and/or indicates their intent in their comprehensive plan or planning document to eventually develop it into a park or recreation site.

Section 4(f) would apply to Federally designated Wild and Scenic Rivers, or portions thereof, if that portion of the river is publicly owned and functions as, or is designated in a management plan as, a significant park, recreation area, or wildlife and waterfowl refuge (23 CFR 774.11(g)). In making this determination, the ownership, designations, and use of the river, along with the management plan, must be examined.

**Example:** A river is included in the Federal Wild and Scenic River System, and the segment to be used for the proposed project is designated as “wild”. The segment is not being used as, nor is it designated under a management plan as a park, recreation area, wildlife or waterfowl refuge, and is not an historic site. Based on this information, Section 4(f) would not apply.

**Example:** A river is part of the Federal Wild and Scenic River System, and the segment to be used for the proposed project is designated as “recreational”. This would be considered a Section 4(f) property, since the major purpose is recreation.

Water trails designated by the Pennsylvania Fish and Boat Commission (PFBC) should be treated as Section 4(f) properties in Pennsylvania. The PFBC water trails list is available on the internet at [www.fish.state.pa.us/watertrails/index.htm](http://www.fish.state.pa.us/watertrails/index.htm).

### 3. MAJOR PURPOSE IS RECREATION/REFUGE

In order to qualify as a Section 4(f) property, the property must serve a major recreational or refuge purpose. Incidental, secondary, occasional, or dispersed recreational activities do not constitute a major purpose.

**Example:** A proposed project includes placing a pier on an island that is in a navigable river. The island is owned by the Commonwealth, and provides an excellent location for fishing. It is not, however, designated as a recreational area or park. No other Section 4(f) purpose is present, and thus, after coordination with DCNR, it was determined that the island would not fall under Section 4(f) jurisdiction.

**Example:** A wildlife refuge provides habitat for several bird species that rest and breed in the refuge. The refuge property is managed in a way to encourage these species to use the property. This would be considered to serve a major purpose as a refuge.

### 4. PROPERTY IS SIGNIFICANT

The "significance" of a publicly owned public park, recreation area, or wildlife and waterfowl refuge is assessed by the official(s) with jurisdiction over the land. For certain types of Section 4(f) lands, more than one agency may have jurisdiction over the property. In these situations, additional information on significance from local official(s) involved in the administration of the land is needed. Significance means that in comparing the availability and function of the recreation area, park, or wildlife and waterfowl refuge area with the recreational, park, and refuge objectives of that community, the land in question plays an important role in meeting those objectives. For any public park, recreation area, or wildlife and waterfowl refuge that is not a multi-use property as defined in **Section VI.B: Public Multiple-Use Properties** below, the significance determination must consider the significance of the entire property and not just the portion of the property being used by the proposed project. If information from the official(s) with jurisdiction cannot be obtained, the Section 4(f) land will be presumed to be significant. All significance determinations are subject to review by FHWA for reasonableness. (PennDOT reviews significance determinations for 100% state funded projects that require no USDOT action to determine compliance with PA Act 120, Section 2002. Additional information regarding PA Act 120, Section 2002 can be found in **Section XVI: Pennsylvania Act 120 Requirements**.)

**Example** of a property **not** considered to be **significant**: A wooded piece of property was donated to the City by a developer to be used as a park or open space. The City's records have no plans for the use of the property and the City does nothing to maintain the property.

## 5. SECTION 4(f) COORDINATION

It should be noted that, in addition to coordinating with Federal, state, and local official(s) with jurisdiction over the Section 4(f) properties, coordination must also be undertaken with the Department of the Interior (DOI), and where appropriate, with the US Department of Agriculture (USDA) and the Department of Housing and Urban Development (HUD). Coordination with the USDA is undertaken when land from the National Forest System is used, and coordination with HUD is undertaken when the project uses Section 4(f) land for/on which HUD funding was utilized. The minimum allowable coordination would involve providing the Draft Section 4(f) Evaluation to these agencies for comment. (See *Section XV: Circulation and Approval Process*, for more detailed information.)

**NOTE:** Initial coordination with DOI may occur at the Regional level; however, the Draft Section 4(f) Evaluation is provided to the DOI Headquarters office in Washington, D.C. for comment. When applicable, USDA coordination is undertaken with the Forest Supervisor, and HUD coordination is at the Regional level.

## 6. SECTION 4(f) PROPERTY DETERMINATION

After consultation, and in the absence of an official designation of purpose or function by the official(s) with jurisdiction, PennDOT will base its recommendation of Section 4(f) applicability on its own examination of actual functions that exist. This recommendation will be presented to FHWA, who will make the final decision on whether the resource qualifies as a Section 4(f) property.

It is important to remember that if a public park, recreation area, or wildlife and waterfowl refuge qualifies as a Section 4(f) property, Section 4(f) will be applied to the entire site, not just to the section of the property that has recreation facilities.

**Example:** A section of a park has ball fields, concession stands, and other recreation equipment, and another section of the park is primarily forested. Section 4(f) applies to the entire park property. Therefore, even if a project would only impact (use) the section of the park that is primarily forested, and would avoid the recreational activity areas, a Section 4(f) Evaluation would be needed. (See *Section VII. Definition of "Use" of a Section 4(f) Property* for more information on use).

## B. PUBLIC MULTIPLE-USE PROPERTIES

If publicly owned lands are administered under statutes permitting management for multiple uses, and are actually managed for multiple uses, Section 4(f) may apply; however, Section 4(f) only applies to those portions of such lands that function as or are designated in the management plans of the administering agency as being for significant park, recreation, or wildlife and

waterfowl refuge purposes. Examples of multi-use properties would include State and Federal Forest Land, school property, military properties, etc. The multi-use concept would be applied to such parts of these properties that function or are designated as a significant park, recreation, or wildlife and waterfowl refuge, and where the general public is permitted visitation at any time that the facility is open. The official(s) with jurisdiction over the lands will make the determination as to which portions of their land are significant park, recreation, or wildlife and waterfowl refuge resources. FHWA will review this determination to assure its reasonableness. For publicly owned multi-use properties that do not have management plans (or where existing management plans are not current), Section 4(f) applies to those areas that function primarily for Section 4(f) purposes. Section 4(f) does not apply to areas of multiple-use lands that function primarily for purposes not protected by Section 4(f).

**Example:** A substantial acreage of State Forest Land exists in the project area. The official with jurisdiction (DCNR) has a management plan for the property. A portion of the property is designated in the plan for recreational use and has ballfields, benches, and picnic tables. A separate area contains a lake with a beach and swimming area. These two recreation areas are connected by a short hiking trail. The recreation areas and hiking trail are open to the general public, and are considered significant recreational facilities by the DCNR officials. The remaining portions of the property are designated in the management plan for timbering. The ballfields, picnic area, trail, and swim area would fall under Section 4(f) jurisdiction; the timbering areas would not.

**NOTE:** Under Section 4(f), State Game Lands are considered multi-use properties. However, Section 2002 of PA Act 120 (see *Section XVI: Pennsylvania Act 120 Requirements* for information on Section 2002) specifically lists State Game Lands as one of the resources to be avoided, if possible. Therefore, a portion of State Game Land that is determined not to be a Section 4(f) property applying multi-use principles (e.g. management plan providing primary use is timbering, property is landlocked and only occasionally used by the public) may still be identified as a Section 4(f)/Section 2002 property to avoid the preparation of two separate evaluations.

## C. HISTORIC AND ARCHAEOLOGICAL RESOURCES

### 1. HISTORIC PROPERTIES

Historic sites are considered Section 4(f) properties if they are individually eligible or listed in the *National Register of Historic Places*, or are a contributing element in a *National Register* eligible or listed historic district. These resources may be either publicly or privately owned. Pursuant to FHWA's regulations (23 CFR 774.11(e)), historic sites must be identified in cooperation with the official(s) with jurisdiction. For historic sites, the official with jurisdiction is the State Historic Preservation Officer (SHPO), and/or the Tribal Historic Preservation Officer (THPO). In Pennsylvania, the Pennsylvania Historical and Museum Commission (PHMC) is the SHPO. It should be noted that there are no tribal lands in Pennsylvania, therefore for historic sites, the PHMC will always be the official with jurisdiction.

**NOTE:** If a Wild and Scenic River is designated as such due to an historic component, but is not considered individually eligible for listing in the *National Register* or eligible as a contributing element to an historic district, it may still be considered to be locally significant. If this circumstance occurs, the FHWA should be consulted to determine whether the Wild and Scenic River should be treated as a Section 4(f) resource based on its historic nature. (See **Section VI.A.2: Designated as a Park, Recreation Area, or Wildlife/Waterfowl Refuge** for additional information regarding Wild and Scenic Rivers' Section 4(f) classification due to recreational components.)

## 2. ARCHAEOLOGICAL RESOURCES

Archaeological resources that are considered Section 4(f) properties are those sites that are determined by FHWA, through consultation with the SHPO, to be eligible and to be important for preservation in place. Section 4(f) does not apply to archaeological sites that are determined to be important chiefly because of what can be learned by data recovery and have minimal value for preservation in place. Most archaeological sites in Pennsylvania fall into this category; therefore, Section 4(f) does not usually apply to archaeological sites.

## 3. HISTORIC/ARCHAEOLOGICAL ELIGIBILITY DETERMINATION

Historic and archaeological sites are identified using the Determination of Eligibility phase of the Section 106 process. The Determination of Eligibility phase is defined in **Section IX.A.1: Identification and Evaluation of the Historic Properties** of this Handbook. Properties 50 years or older are evaluated to determine whether the properties meet one of the four different eligibility criteria and maintain integrity. A report (or forms) is then prepared identifying the properties that are being recommended as eligible for listing or are already listed in the *National Register of Historic Places*. A recommendation on the boundaries of the historic or archaeological resources is also made in this report/submission. In the case of historic districts, contributing and non-contributing elements should be identified. Please note that the Section 106 process is separate from the Section 4(f) process. The eligibility determinations made in the Section 106 process serve as input to the Section 4(f) process, by identifying the *National Register* eligible or listed historic and archaeological Section 4(f) properties.

**NOTE:** It is important that the boundary guidelines, which are contained at *National Register Bulletin 21*, U.S. Department of the Interior, National Park Service, be carefully followed during the determination of eligibility phase. Although using the tax parcel boundaries is generally acceptable as a *National Register* standard, there may be other boundaries (either larger or smaller) that might be more appropriate/precise in defining the historic or archaeological site, which would meet the boundary guidelines requirements. The boundaries of an historic or archaeological resource are key to determining whether the property is used (a Section 4(f) use) by one of the project alternatives. Even if the alternative only uses a sliver of the property located within the historic resource's boundaries without taking a structure, there is a use of a Section 4(f) property. Therefore, establishing the appropriate boundaries of historic and archaeological resources, and determining contributing and non-contributing elements in the case with an historic district, based on proper eligibility criteria, is a key component to the Section 4(f) process.



Furthermore, if it is reasonably foreseeable that a property would qualify as eligible for the *National Register of Historic Places* (NRHP) prior to the start of construction, the property should be treated as historic for Section 4(f) purposes.)

If the SHPO does not concur with FHWA's recommendations, either PennDOT (working through FHWA), FHWA, or the SHPO, can elevate the process to the Keeper of the *National Register* to make the formal determination of eligibility. Once concurrence is received from the SHPO or a formal determination is made by the Keeper, the property is considered an historic or archaeological property for purposes of Section 106 and Section 4(f).

**NOTE:** For 100% State-funded projects not requiring any USDOT actions, PennDOT Central Office or the District, if they have their own Cultural Resource Professional (CRP), makes the request to the Keeper.

## D. EXCEPTIONS

Section 4(f) **does not apply** to the following projects/situations:

- The restoration, rehabilitation, or maintenance of **transportation facilities** that are listed in or eligible for listing in the *National Register* if (1) FHWA determines that the facility's historic qualities that caused it to be on or eligible for the *National Register* will not be adversely affected; and (2) the official(s) with jurisdiction have been consulted and have not objected to the finding.
- The Interstate System and individual elements of the Interstate System, with the exception of those elements formally designated by FHWA for Section 4(f) protection on the basis of national or exceptional historic significance, are not covered under Section 4(f). See **Appendix D** for FHWA Exceptions to the Interstate Exemption.
- Archaeological sites that are determined by FHWA, through consultation with the SHPO, to be important chiefly because of what can be learned by data recovery and have minimal value for preservation in place. Most archaeological sites in Pennsylvania fall into this category; therefore, Section 4(f) does not usually apply to archaeological sites. The environmental document (CE, EA, EIS) should present information to support this finding. Generally, this is achieved through correspondence with the SHPO and inclusion of the appropriate letter(s) in an appendix.
- Certain trails, paths, bikeways, and sidewalks where (1) the trail-related project is funded under the Recreational Trails Program (23 U.S.C. 206(h)(2)); (2) the trail is a National Historic Trail designated under the National Trails System Act (with the exception of segments that are historic sites) (16 U.S.C. 1241-1251); (3) the trail/path/bikeway/sidewalk occupies a transportation facility right-of-way and can be maintained somewhere within that right-of-way; or (4) the trail/path/bikeway/sidewalk is part of the local transportation system and functions primarily for transportation.

- Transportation enhancement projects and mitigation activities where (1) the use of the 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for section 4(f) protection, and (2) the officials with jurisdiction over the 4(f) property agree in writing that the project is solely for such preservation/enhancement.

## VII. DEFINITION OF “USE” OF A SECTION 4(f) PROPERTY

In assessing the applicability of Section 4(f), the Federal Highway Administration (FHWA) regulations require that an assessment be made to determine whether the Section 4(f) property is "used" by the project. A "use" can occur either as an **actual use** or as a **constructive use**.

An "**actual use**" of Section 4(f) property occurs:

- When property from a Section 4(f) site is **permanently acquired** (fee simple or permanent easement) **and incorporated** into a transportation project; or
- When there is an **occupancy of land** (i.e., construction access areas, detours, temporary bridges, replacement of an historic bridge, etc.) **that is adverse** in terms of the statute's preservationist purposes of preserving the integrity of the Section 4(f) property. This occupancy can be temporary or permanent.

A "**constructive use**" of Section 4(f) property occurs:

- When the **proximity impacts** of a transportation project on a Section 4(f) property, without acquisition of land from that property, are so great that the characteristics which qualify the resource as a Section 4(f) property are **substantially impaired**.

### A. ACTUAL USE

As discussed above, there are two types of **actual use** (1) when land from a Section 4(f) property is **permanently** incorporated into a transportation project or (2) when there is a **temporary** use of Section 4(f) property which results in an adverse effect upon the resource in terms of Section 4(f)'s preservation purposes, or what makes the Section 4(f) property significant.

**NOTE:** A *de minimis* use is a form of actual use that occurs when the permanent incorporation of Section 4(f) land or the temporary use of Section 4(f) property results in a “negligible” effect on the Section 4(f) property. Additional details on *de minimis* use are provided in **Section XI: De Minimis Section 4(f) Use**.

#### 1. PERMANENT INCORPORATION

The first type of actual use, the **permanent** incorporation of Section 4(f) property for transportation purposes, is self-explanatory. If any amount of property that has been identified as qualifying for protection under Section 4(f) (See **Section VI: Definition of a Section 4(f) Property**) is incorporated into the proposed transportation project, there has been an actual use of Section 4(f) property. This is true no matter how small the amount of property incorporated is; no matter what type of transportation project is being proposed; no matter what class of National Environmental Policy Act (NEPA) documentation is required (EA, CEE, or EIS); regardless of whether the property is from an historic site, archaeological site that qualifies for preservation in

place, public park, public recreation area, or wildlife and waterfowl refuge; and regardless of whether the proposed project qualifies under one of the Programmatic Section 4(f) Evaluations or as *de minimis*. (See **Section XII: Programmatic Section 4(f) Evaluations** for more details regarding Programmatic Section 4(f) Evaluations.)

## 2. TEMPORARY OCCUPANCY

The second type of actual use, the **temporary** occupancy of Section 4(f) property, such as construction easements, will constitute a "use" unless **all** of the following conditions are met:

- The duration of the use is temporary (i.e., less than the construction period) and there is no change in the ownership of the land;
- The scope of the work is minor, i.e. both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
- There are no permanent, adverse physical impacts anticipated and no interference with the protected activities, features, or attributes of the property on either a temporary or permanent basis;
- The land being used is fully restored to a condition equal to or better than that which existed prior to the project;
- There is a written agreement with the appropriate Federal, state, or local official(s) with jurisdiction over the property regarding the conditions listed above. (For historic and archaeological sites, written agreement would come from the State Historic Preservation Officer (SHPO).)

**NOTE:** If one or more of the conditions above is not met, there is an actual use. Often, a temporary occupancy that results in an actual use can be considered *de minimis* (see Question 1H of FHWA's *De Minimis* Guidance (**Appendix C**)).

Water trails designated by the Pennsylvania Fish and Boat Commission (PFBC) are treated as Section 4(f) properties in Pennsylvania. Often, when a project crosses a water trail, the above conditions can be met, and therefore there is no Section 4(f) use. This should be documented in the Temporary Occupancy Checklist. However, where a temporary causeway is constructed, or where the path of the trail is affected (temporarily closed, altered, etc), the use of aids to navigation should be considered in coordination with the PFBC to ensure the safety of recreational boaters. If the requirements under 23 CFR 774.13(d) cannot be met, a Section 4(f) use would result, and the Temporary Occupancy Checklist cannot be used. Examples of water trails and Section 4(f) use documentation are provided in **Appendix I**.

## 3. DETERMINATION IF ACTUAL USE IS *DE MINIMIS*

When an actual use is identified, the next step is to determine whether that use is *de minimis*. According to 23 CFR 774.3(b) and 774.17 (**Appendix A**), as well as FHWA's *Guidance for Determining De Minimis Impacts to Section 4(f) Resources* (**Appendix C**), a *de minimis* use

would not adversely affect the protected resource. In general terms, if a project would result in a Section 106 No Adverse Effect or No Historic Properties Affected determination for an historic or archaeological site, the use would be considered *de minimis*. The *de minimis* criteria for publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not “adversely affect the activities, features, and attributes” of the Section 4(f) property that qualify the property for protection under Section 4(f). Details on what constitutes a *de minimis* use and the coordination requirements needed to make an official *de minimis* use finding are provided in **Section XI: Definition of a De Minimis Use**.

**NOTE:** *De minimis* determinations are made after taking into account reasonable measures to minimize harm (such as any avoidance, minimization, mitigation or enhancement measures) committed to by the applicant.

The primary purpose of identifying *de minimis* uses early on is based on the avoidance alternative analysis requirements. An avoidance alternative analysis including application of the feasible and prudent standard is not required for *de minimis* uses. Details on *de minimis* use documentation are provided in **Section XI.B: Documentation Approach**.

## B. CONSTRUCTIVE USE

Even activities that do not require an actual physical incorporation of land from Section 4(f) properties are governed by Section 4(f) if the activities create sufficiently serious proximity impacts that would substantially impair the value of the site in terms of its prior significance and enjoyment. According to FHWA's regulations, substantial impairment occurs only when the protected activities, features, or attributes of the resource are substantially diminished. The degree of impairment should be determined in consultation with the official(s) with jurisdiction over the property. However, FHWA is the final decision-maker on whether a Section 4(f) property has been constructively used.

**NOTE:** As per Question 16 of FHWA's *De Minimis* Guidance (**Appendix C**), a constructive use cannot be considered a *de minimis* impact because, by definition, a constructive use would substantially impair the activities, features, or attributes that qualify a resource as a Section 4(f) property. A *de minimis* finding can only be made when the use would not adversely affect the activities, features, or attributes that qualify a resource as a Section 4(f) property.

### 1. SITUATIONS WHERE CONSTRUCTIVE USE DOES NOT OCCUR

FHWA's regulations do provide some specific situations where constructive use does and does not occur. A constructive use **does not occur** when:

- Compliance with the requirements of Section 106 of the National Historic Preservation Act and its regulations (36 CFR 800) for proximity impacts of the proposed action on a site listed in or eligible for listing in the *National Register* results in an agreement of "No Historic Properties Affected" or "No Adverse Effect". (However, if you acquire any land from the resource, even if there is a “No Historic Properties Affected” or “No Adverse Effect” determination, this is an actual (*de minimis*) use and Section 4(f) is applicable.)

**NOTE:** A “No Historic Properties Affected” or “No Adverse Effect” determination under Section 106 equates to **no** constructive use under Section 4(f). An “Adverse Effect” determination triggers an assessment of constructive use (when no land is being acquired) but does not automatically constitute a constructive use.

- The projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA noise abatement criteria as contained in Table 1, 23 CFR 772.
- The projected noise levels exceed the FHWA criteria noted in the previous bullet because of high existing noise levels, but the increase in projected noise levels, assuming the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less).
- There are proximity impacts (i.e., visual, noise, etc.) to a Section 4(f) property, but FHWA's approval of the final NEPA clearance document established the location for the proposed project before the designation, establishment, or change in the significance of the resource.
- Overall (combined) proximity impacts caused by a proposed project do not substantially impair the activities, features, or attributes that qualify a property for protection under Section 4(f).
- Proximity impacts will be mitigated to a condition equivalent to, or better than, that which would occur under a no-build scenario.
- Change in accessibility will not substantially diminish the utilization of the Section 4(f) property.
- Vibration levels from the proposed construction activities are mitigated through advanced planning and monitoring of the activities to levels that do not cause a substantial impairment of the Section 4(f) property.

## 2. SITUATIONS WHERE CONSTRUCTIVE USE DOES OCCUR

A constructive use **occurs** when:

- The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility within a Section 4(f) property, such as hearing performances at an outdoor amphitheater, sleeping in the sleeping area of a campground, enjoyment of an historic site where a quiet setting is a generally recognized feature or attribute of the site's significance, enjoyment of an urban park where serenity and quiet are significant attributes, or viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing.
- The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f), where such features or attributes are considered

important contributing elements to the value of the property. Examples of substantial impairment to visual or esthetic qualities would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a Section 4(f) property which derives its value in substantial part due to its setting.

- The project results in a restriction of access that substantially diminishes the utility of a significant publicly owned park, recreation area, or an historic site.
- The vibration impact from operation of the project substantially impairs the use of a Section 4(f) property, such as vibration levels that are great enough to physically damage an historic building, or diminish its integrity (unless the damage is repaired/restored consistent with the Standards for the Treatment of Historic Properties).
- The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife or waterfowl refuge adjacent to the project or substantially interferes with the access to a wildlife or waterfowl refuge, when such access is necessary for established wildlife migration or critical cycle processes, or substantially reduces the wildlife use of a wildlife or waterfowl refuge.

**NOTE:** Due to the nature of its definition, constructive use is **rarely** determined to occur.

### 3. DOCUMENTATION NEEDED FOR A CONSTRUCTIVE USE

If a constructive use assessment is necessary, the following information is required to determine whether a Section 4(f) property has been constructively used:

- Identify the project activities that may result in proximity impacts to a Section 4(f) property.
- Identify the functions, activities, and qualities of the Section 4(f) property, which qualify the resource for protection under section 4(f), that may be sensitive to proximity impacts.
- Analyze the proximity impacts on the Section 4(f) property. Quantify impacts such as noise, water runoff, etc. and qualify impacts such as visual intrusion, access, etc. If any of the proximity impacts will be mitigated, only the net impact must be considered in the analysis. The analysis should also consider the impacts that could reasonably be expected if the proposed project were not constructed, (e.g. noise and vibration impacts caused by projected no-build traffic).
- Consult with the Federal, state, or local official(s) with jurisdiction over the park, recreation area, wildlife and waterfowl refuge, historic site, or archaeological site regarding the identification and analysis of impacts.
- Determine if the proximity impacts, after mitigation, will substantially impair the function, value, etc. of the Section 4(f) property.

This analysis should be done, at a minimum, for any eligible or listed historic structure that is determined by FHWA to be adversely affected by an alternative and for any public park, recreation area, or wildlife and waterfowl refuge that is near the proposed alternative (where there is no land being acquired). If a potential constructive use is identified for the proposed project, a request for a determination of Section 4(f) applicability should be completed in the form of a letter and provided to the FHWA Division Office through the PennDOT Bureau of Design. This request should include the information listed in the bullet points above. This information will also be reviewed by PennDOT Chief Counsel. If FHWA determines that there is a constructive use, the Draft Section 4(f) Evaluation must document this and be approved by FHWA Headquarters (through the FHWA Division Office) prior to circulation.

If a constructive use assessment is warranted and it is determined that there is no constructive use, the information and facts supporting this determination should be compiled in a Proximity Impacts Analysis Report/Memorandum and be included in the technical support data files for the project. A copy of the Proximity Impacts Analysis Report should be provided to the Chief Counsel's office and FHWA along with the Section 4(f) Evaluation for their use in reviewing the Section 4(f) Evaluation.

## **C. SITUATIONS WHERE SECTION 4(f) DOES NOT APPLY**

In accordance with 23 CFR 774.11 and 774.13, there are several situations where Section 4(f) does not apply. These include the following:

- The park, recreations area, or wildlife or waterfowl refuge is not considered significant by the official(s) with jurisdiction;
- Where lands are managed for multi-use and the lands serving a recreational/refuge function are not affected;
- When a property formally reserved for a future transportation facility is temporarily used for recreational or refuge purposes, regardless of the duration, that interim activity is not subject to Section 4(f);
- Where there are impacts to a proposed public park, recreation area, or wildlife and waterfowl refuge, but the proposed project and the resource are concurrently planned or developed. Examples of such concurrent planning or development include, but are not limited to:
  - Designation or donation of property for the specific purpose of such concurrent development by the entity with jurisdiction or ownership of the property for both the proposed project and the Section 4(f) property; or
  - Designation, donation, planning, or development of property by two or more governmental agencies with jurisdiction for the proposed project and the Section 4(f) property, in consultation with each other.



- The interstate system is not considered an historic site, except for a list of specific individual elements formally identified as possessing national or exceptional historic significance. (Refer to the list in Appendix D).
- Eligible archaeological sites important for the information they contain, and having minimal value for preservation in place.
- Certain trails, paths, bikeways, and sidewalks where (1) the trail-related project is funded under the Recreational Trails Program (23 U.S.C. 206(h)(2)); (2) the trail is a National Historic Trail designated under the National Trails System Act (with the exception of segments that are historic sites) (16 U.S.C. 1241-1251); (3) the trail, path, bikeway, and/or sidewalk occupies a transportation facility right-of-way and can be maintained somewhere within that right-of-way; or (4) the trail/path/bikeway/sidewalk is part of the local transportation system and functions primarily for transportation.
- Transportation enhancement projects and mitigation activities where (1) the use of the 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for section 4(f) protection, and (2) the officials with jurisdiction over the 4(f) property agree in writing that the project is solely for such preservation/enhancement.

## VIII. SECTION 4(f) ALTERNATIVES ANALYSIS

The alternatives analysis portion of the Section 4(f) Evaluation is the key to preparing a legally sufficient Section 4(f) document. In accordance with 23 CFR 774.3, the use of Section 4(f) property cannot be approved unless it is determined that either:

- There is no feasible and prudent alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the property resulting from such use.

Or

- The use, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures) will have a *de minimis* impact on the property.

In general, if a Section 4(f) property is used by the alternatives in a transportation project, the Federal Highway Administration (FHWA) must determine if a Feasible and Prudent Avoidance Alternative exists. An exception to this requirement would occur where the use is determined to be *de minimis*. The FHWA *Guidance for Determining De Minimis Impacts to Section 4(f) Resources* and 23 CFR 774.3(b) state that the Administration may not approve the use of Section 4(f) property *unless* the Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact. Generally speaking, this means that, if as alternatives are developed, it is determined that there are common sense reasons why an alternative might impact a Section 4(f) property in order to eliminate or reduce impact on some other sensitive resource(s), and it can be determined in coordination with the official(s) with jurisdiction that the use meets the definition of *de minimis* (negligible) as defined in 23 CFR 774.17, an avoidance alternatives analysis for that resource does not need to be conducted. *De minimis* Section 4(f) use is further discussed in **Section XI: De Minimis Section 4(f) Use**.

Additional details regarding the Section 4(f) Alternatives Analysis are provided in **Sections XIII.A: What is a Total Section 4(f) Avoidance Alternative** and **XIII.D: Alternatives Analysis**.

### A. WHAT IS A TOTAL SECTION 4(f) AVOIDANCE ALTERNATIVE?

A Total Section 4(f) Avoidance Alternative is an alternative that does not involve use of any Section 4(f) properties.

In order to dismiss a Total Section 4(f) Avoidance Alternative, it must be shown to not be feasible and prudent. As discussed in **Section IV: What Constitutes a Feasible and Prudent Alternative?**, this can be done in the following ways:

**Not Feasible** - An alternative is considered not feasible if it cannot be built as a matter of sound engineering judgment. (This is not often found to occur.)

**Not Prudent** - An alternative is not prudent if:

- It does not meet the project needs
- It results in unacceptable safety or operational problems
- It causes severe social, economic, or environmental impacts; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; severe impacts to environmental resources protected under other Federal statutes; additional construction, maintenance, or operational costs; or other unique problems or unusual factors that individually or cumulatively cause unique problems or impacts of an extraordinary magnitude when compared to the value of the resource and other alternatives.
- In addition, for projects that qualify under the *Net Benefit Programmatic*, a Total Section 4(f) Avoidance Alternative can be considered not prudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property.

Environmental constraints/features mapping should be used to identify Total Section 4(f) Avoidance Alternatives. These alternatives should be developed (engineered) only to the point necessary to determine whether or not they are feasible and prudent. In dismissing a Total Section 4(f) Avoidance Alternative as not feasible and prudent, facts to support this conclusion must be clearly presented.

**Example:** In dismissing an alternative because it does not meet the project needs, it is not sufficient to state, "Alternative X does not meet the needs of safety improvements and congestion relief". It must be explained how this is known. For instance, "Alternative X, a widening alternative, does not meet the need for safety improvement because it would not separate the mix of local and through traffic in the study area. It also would not meet the need of congestion relief as shown by the Level of Service (LOS) analysis, which indicates that even after widening from two to four lanes the road would operate at LOS F in the design year."

In general, a feasible and prudent avoidance alternative does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. When assessing the importance of protecting the 4(f) property, the relative value of the resource to the preservation purpose of the 4(f) statute is considered.

**Example:** An historic building/property that has been condemned and has a history of a lack of maintenance may require a lesser standard under the “feasible and prudent” test because of the relative value of the resource to the preservation purpose of the 4(f) statute. The same could be said of a property that has approved development plans, because it would appear that the property would not be preserved in the future due to that development. On the other hand, an historic property that is the last example of its kind within a particular county may warrant a greater standard under the “feasible and prudent” test because of its value to the preservation purpose of the 4(f) statute.

## B. WHAT IS A *DE MINIMIS* USE?

According to FHWA’s *Guidance for Determining De Minimis Impacts to Section 4(f) Resources* and 23 CFR 774.17, a *de minimis* use would have no adverse effect on the protected resource. In general terms, if a project would result in a Section 106 No Adverse Effect or No Historic Properties Affected determination, the use of the eligible historic property would be considered *de minimis*. The *de minimis* criteria for publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not “adversely affect the activities, features, and attributes” of the Section 4(f) property that qualify the property for protection under Section 4(f).

A *de minimis* use is considered “a trifle”, and is therefore negligible. The FHWA *Guidance for Determining De Minimis Impacts to Section 4(f) Resources*, and 23 CFR 774.3(b) state that once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any reasonable measures to minimize harm (such as any avoidance, minimization, mitigation or enhancement measures), results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. As alternatives are being developed, they are assessed using a “common sense” approach, rather than the feasible and prudent standard. The *de minimis* (trifle) impact on the Section 4(f) property is compared to the impacts that would be incurred to other sensitive resource(s) if the Section 4(f) property did not incur any encroachment. If, in order to eliminate or reduce impacts to some other sensitive resource(s), it can be determined in coordination with the official(s) with jurisdiction that the Section 4(f) use meets the definition of *de minimis* (negligible) as defined in 23 CFR 774.17, an avoidance alternatives analysis for that 4(f) property/use does not need to be conducted.

**NOTE:** Details on what constitutes a *de minimis* use and the coordination requirements needed to make an official *de minimis* use finding are provided in **Section XI.A: Definition of a De Minimis Use**.

**Example:** A proposed project alternative would require acquisition of a small sliver of land from the eastern edge of a municipal park. The land being acquired is along the edge of the property, and has no park amenities/facilities located on it. The park currently has a fenced ball field adjacent to the area being acquired, and the fence is in need of repair. As part of the mitigation for property acquisition, it was agreed that the fence would be repaired/replaced. The public has been afforded the opportunity to comment on the effects to the park's features, attributes, and activities, and the municipality (official with jurisdiction) has been notified of FHWA's intent to make a *de minimis* finding. No negative comments were received. The municipality has agreed in writing that the acquisition of land from the park, along with the agreed upon mitigation, would not adversely affect the activities, features, or attributes of the park. Based on the degree of use, and coordination with the public and the official(s) with jurisdiction, the use of the park would be *de minimis*.

## C. WHAT IS A NET BENEFIT?

A net benefit is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project result in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features, and attributes that qualify the property for Section 4(f) protection. A project does not achieve a net benefit if it would result in a substantial diminishment of the function or value that made the property eligible for Section 4(f) protection.

In order to result in a net benefit, the official(s) with jurisdiction must agree in writing that the use (with all mitigation incorporated):

- Does not result in a substantial impairment of the activities, features, and attributes of the property
- Includes all possible planning to minimize harm, including mitigation
- Results in an overall improvement or enhancement of the Section 4(f) property when compared to the future do nothing or avoidance alternative(s).

When a project would result in a Section 4(f) use(s) that would have a net benefit to the property, the Net Benefit Programmatic can be applied. It should be noted that when applying net benefit, alternatives that avoid the use of the property must be evaluated. However, an avoidance alternative can be found imprudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property. This is in addition to prudence arguments regarding inability to meet project needs and impacts of an extraordinary magnitude. The missed opportunity concept provides more flexibility in the prudent and feasible test for avoidance alternatives; thereby helping to stress the importance of performing environmental stewardship whenever practicable. Additional details on the Net Benefit Programmatic are provided in **Section XII.D: Net Benefit**.

Net benefit requires the early consideration of minimization and mitigation measures. Mitigation measures are generally considered during the Least Harm Assessment (see next subsection below), but must be examined earlier in the process when making a net benefit determination.

## D. WHAT IS AN ASSESSMENT OF LEAST HARM?

The Assessment of Least Harm analysis is undertaken if it is determined that all feasible and prudent alternatives use Section 4(f) properties. Alternatives that are not feasible and prudent can be dismissed and are not carried into the Least Harm Assessment.

The assessment of least harm involves three activities:

1. Explore design modifications/alignment shifts to avoid the non-*de minimis* use of each individual Section 4(f) property for each alternative and determine whether these avoidance options are feasible and prudent.
2. Explore all possible planning to minimize harm, including reasonable mitigation measures.
3. After design modifications/shifts and measures to minimize harm have been evaluated, compare all alternatives to determine which would result in the least overall harm.

The first activity in the Least Harm Assessment, exploring design modifications/shifts to **avoid** the use of Section 4(f) properties, is done for each non-*de minimis* use of a Section 4(f) property. In exploring design modifications/alignment shifts to avoid the non-*de minimis* use of each individual Section 4(f) property, it must be determined whether or not these avoidance modifications/shifts are, or are not, feasible and prudent. Feasible and prudent avoidance modifications/shifts must be incorporated into the alternative. If an avoidance modification/shift is not feasible and prudent it is dismissed, and the facts to support this determination must be clearly presented. *De minimis* uses do not require an evaluation of avoidance alternatives or shifts/modifications. Instead, the *de minimis* uses should be cited, indicating that because the use was determined to be *de minimis* (a “trifle”), avoidance shifts/modifications do not have to be analyzed.

**NOTE:** Do not dismiss a design modification/shift solely because it impacts other Section 4(f) properties. If this is the case, the modification/shift will need to be retained for comparison at the end of the Least Harm Assessment.

Once avoidance modifications/shifts have been evaluated for each non-*de minimis* use of a Section 4(f) property and feasible and prudent modifications/shifts have been incorporated into the alternatives, the second activity in the Least Harm Assessment, incorporating all possible planning to minimize harm is undertaken. In this activity, look again at each Section 4(f) property still used and explore reasonable measures to further minimize harm or mitigate for adverse impacts and effects to the Section 4(f) properties. These measures often include design modifications/shifts to **minimize** the use of the Section 4(f) property. These design modifications/shifts should be in the immediate vicinity of the property and can include retaining structures, minor alignment shifts, a reduced facility, combinations of the above items, or other design features that would minimize the use as appropriate. In addition to design modifications,

other minimization/mitigation measures for public parks, recreation areas, and wildlife/waterfowl refuges can include (but are not limited to) replacement of land or facilities of comparable value and function, monetary compensation to enhance the remaining property, landscaping, noise walls, etc. For historic sites, these measures generally serve to preserve the historic activities, features, or attributes of the site as agreed upon by the SHPO and in accordance with the Section 106 consultation process. Reasonable minimization/mitigation measures must be incorporated into the alternatives.

One key to identifying and incorporating all possible planning to minimize harm is that the measures must be reasonable. Reasonable measures, as defined in 23 CFR 774.117 should consider the preservation purpose of Section 4(f), along with:

- The views of the officials with jurisdiction;
- Whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the 4(f) property and the benefits of the measure to the property; and
- Any impacts or benefits of the measures to communities or environmental resources outside of the 4(f) property.

When considering measures to minimize harm, it should be determined if any of the Section 4(f) uses would result in a net benefit to that property. In order to result in a net benefit, the official(s) with jurisdiction must agree in writing that the use:

- Does not result in a substantial impairment of the activities, features, and attributes of the property;
- Includes all possible planning to minimize harm, including mitigation;
- Results in an overall improvement or enhancement of the Section 4(f) property when compared to the future do-nothing or avoidance alternative(s).

Additional details on the requirements for making a net benefit determination are included in *Section XII.D: Net Benefit*.

**NOTE:** Even if only one alternative is found to be feasible and prudent, all possible planning to minimize harm must be evaluated and incorporated as part of the Least Harm Assessment.

After design modifications/shifts to avoid each Section 4(f) property have been explored and either dismissed as not feasible and prudent or incorporated into the alternatives, and all possible planning to minimize harm has been incorporated, the third activity in the Least Harm Assessment is conducted, comparing the Section 4(f) uses of the alternatives to determine which would result in the least overall harm. The alternative that causes the least overall harm in light of the statute's preservation purpose should be identified by considering and balancing the following factors:

- The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)
- The relative severity of the remaining harm to the protected activities, features, or attributes that qualify each Section 4(f) property for protection
- The relative significance of each Section 4(f) property
- The views of the official(s) with jurisdiction over each Section 4(f) property
- The degree to which each alternative meets the purpose and need for the project
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f)
- Substantial differences in costs among the alternatives

**NOTE:** When examining the term “in light of the statute’s preservation purpose”, the statute’s preservation purpose is described in 49 U.S.C. 303(a), which states: “It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

In conducting this Least Harm Assessment, consider both the number of Section 4(f) uses and the magnitude of the uses. For historic properties, consideration should be given to whether land is acquired from the property, or whether the actual structure is removed and how the integrity of the resource is affected. For parks, recreation areas, and wildlife and waterfowl refuges, the portion of the property taken and the disruption to the purpose of the property should be considered along with the ability to replace the acquired property or disrupted function in an adjacent area or in close proximity. *De minimis* and net beneficial uses must be considered in the Least Harm Assessment.

**NOTE:** *De minimis* uses, by nature, do not cause substantial impairment, or an “adverse effect” to the Section 4(f) property. As such, a *de minimis* use should be considered almost negligible (“a trifle”) when assessing harm to Section 4(f) properties. Uses resulting in a net benefit would enhance the Section 4(f) property, and therefore should be considered to have a positive effect on the resource when assessing least harm. Because a net benefit is weighed as a positive effect, it is possible that a shift that avoids a Section 4(f) use could result in more harm to that property than an alternative that uses the property, if that use is determined to have a net benefit.

**Example:** Sliver takes from **two or three** historic properties might result in less harm than the removal of a ball field from **one** park property.



**NOTE:** When assessing which alternative results in the least overall harm, mitigation options and commitments are considered in the determination.

## **E. FORMAT/APPROACH TO DOCUMENTING ALTERNATIVES ANALYSIS**

To document the alternatives analysis, there are three general approaches that can be taken. The first approach is for projects where all uses are *de minimis*. These projects do not require an avoidance alternatives analysis. The *Determination of Section 4(f) De Minimis Use/Section 2002 No Adverse Use Checklist* would be completed for these projects.

The second approach is for projects where one or more of the Programmatic/Temporary Use Checklists may apply. For these projects (where all uses qualify under one of the checklists), the appropriate checklist(s) would be completed, compiled, and submitted together as one unit, serving as the complete Section 4(f) documentation.

For the remaining projects, an Individual Section 4(f) Evaluation must be completed. The general outline for an alternatives analysis in an Individual Section 4(f) Evaluation is as follows:

- IV. *Alternatives Analysis*
  - A. *Identification and Evaluation of Alternatives That Totally Avoid All Section 4(f) Properties*
  - B. *Identification and Evaluation of Other Alternatives Considered*
  - C. *Assessment of Least Harm*
    - 1. *Shifts/Design Modifications to Avoid the Use of Section 4(f) Properties*
    - 2. *All Possible Planning to Minimize Harm to Section 4(f) Properties*
    - 3. *Determination of Which Alternative Results in Least Overall Harm*

In general, the first step of this analysis is to identify and evaluate Total Section 4(f) Avoidance Alternatives. If a prudent and feasible Total Section 4(f) Avoidance Alternative exists, it must be selected. If it does not exist, this section must document why the Total Avoidance Alternative(s) is not feasible and prudent.

If a feasible and prudent Total Section 4(f) Avoidance Alternative does not exist, the next step in the analysis is to evaluate and document other alternatives considered. In this section, all alternatives considered in the National Environmental Policy Act (NEPA) process should be discussed, and a determination should be made of which of these alternatives are feasible and prudent. Those that are feasible and prudent are carried into the next section – Assessment of Least Harm. Those that are not prudent and feasible are dropped from further consideration, and do not need to be carried into the Least Harm Analysis.

The final section of the analysis is the Least Harm Assessment. Here each alternative should be examined to determine if a shift or modification can be implemented to avoid the use of individual Section 4(f) properties. Each of these shifts/modifications should be evaluated to determine if the shift/modification is prudent and feasible. Those that are found to be feasible

and prudent must be implemented. Other reasonable minimization/mitigation measures must then be examined and incorporated. This includes design modifications/shifts to minimize harm (rather than avoiding the use), along with other measures such as landscaping, monetary compensation, recordation, etc. Once all reasonable measures to minimize/mitigate have been incorporated, the analysis should examine the overall harm of each alternative and identify the alternative that results in the least overall harm.

Additional details regarding the content and format of the Alternatives Analysis can be found in ***Section XIII: Content and Format of Individual Section 4(f) Evaluations.***

# IX. RELATIONSHIP OF SECTION 106 AND NEPA REQUIREMENTS TO SECTION 4(f) REQUIREMENTS

## A. DESCRIPTION OF THE SECTION 106 PROCESS

Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470f) involves consideration of the effects of Federal projects on historic and archaeological resources. Section 106 requires coordination with the State Historic Preservation Office (SHPO) (i.e. the Pennsylvania Historical and Museum Commission (PHMC)) in the identification of historic and archaeological resources, assessment of effects, and the development of mitigation measures. (More detailed information regarding Section 106 is included in **Appendix J**). The Section 106 Review process consists of the following three basic steps:

1. **Identification and evaluation of the historic properties:** Under Section 106, historic properties include properties that are listed in the *National Register of Historic Places* and properties that are eligible for inclusion in the *National Register*. To determine eligibility, properties 50 years or older are evaluated by the Federal Highway Administration (FHWA) to determine whether they meet at least one of the four different *National Register* eligibility criteria and maintain integrity. The boundaries of the historic or archaeological resource are identified, and a report (or PHRS cards) is then submitted to PHMC identifying the historic properties within a project's Area of Potential Effect (APE) determined to be *National Register* eligible or listed and the properties' boundaries. For projects within historic districts, contributing and non-contributing elements are identified only within the project's APE. If PHMC concurs with the eligibility determinations, the potentially *National Register* eligible properties are then considered to be historic properties for purposes of Section 106. If PHMC does not agree, a formal determination of eligibility may be requested by the Pennsylvania Department of Transportation (PennDOT) from the Keeper of the *National Register* (Department of Interior) through FHWA.

**NOTE:** Communication with FHWA is automatically triggered if any **National Historic Landmarks** are identified within the APE for a project through the Section 106 Process. FHWA notifies the Advisory Council on Historic Preservation (ACHP) and provides ACHP with a project description and a statement of the potential for effect to the National Historic Landmark. ACHP will determine what level of involvement it will have in the project based upon the information provided.

2. **Assessment of the project's effect on historic properties:** Once the historic properties have been identified, FHWA (or PennDOT) makes a determination as to whether the proposed project has an effect on these properties. A determination of "Adverse Effect", "No Adverse Effect", or "No Historic Properties Affected" will be made for each historic

property. If the project could change in any way the characteristics that qualify the property for inclusion in the *National Register*, for better or for worse, it is considered to have an "effect".

- A. **No Historic Properties Affected:** When there is no alteration of the characteristics that qualify the property for inclusion in the *National Register* resulting in no effect of any kind (that is either harmful or beneficial) on an historic property.
- B. **No Adverse Effect:** When there could be an effect but the effect would not diminish those characteristics that qualify the property for inclusion in the *National Register*. In addition, specific exceptions to the criteria of adverse effect are when (1) a project is limited to maintenance, repair, rehabilitation, or restoration of buildings or structures and is conducted in accordance with the Secretary of the Interior's Standards or (2) the project involves the transfer, lease, or sale of an historic property and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.
- C. **An Adverse Effect:** When the effect on an historic property may diminish the characteristics (i.e. the integrity of the property's location, design, setting, materials, workmanship, feeling, or association) that make it eligible for listing in the *National Register*.

The FHWA determination of effect on historic properties for the project is then submitted by PennDOT (for FHWA) in report form to the PHMC and any consulting parties for review. This report is also submitted by FHWA to the ACHP (if ACHP elects to participate in the project) after PHMC review if the project will result in an Adverse Effect. (The submission to the ACHP should be made prior to circulation of the Final Environmental Impact Statement (FEIS).)

- 3. **Consultation to avoid, or reduce adverse effects:** If there is an Adverse Effect determination, FHWA or PennDOT in consultation with PHMC and others as appropriate (for example, consulting parties such as local historical societies, local governments, etc.) considers ways to avoid, or reduce the adverse effects of the project on historic properties. First, avoidance alternatives are considered, and then alternatives that would minimize project effects are evaluated. Alternatives (alternative designs) to minimize impacts to the property are considered. Next, mitigation of the adverse effects is considered. A Memorandum of Agreement (MOA), containing the stipulations specifying measures that will be carried out to mitigate adverse effects, is most commonly the product of this consultation.

## B. RELATIONSHIP OF THE SECTION 106 PROCESS TO SECTION 4(f)

### 1. IDENTIFICATION PROCESS

Under the Section 4(f) regulations, historic and archaeological properties listed in or eligible for listing in the *National Register of Historic Places* are Section 4(f) properties. Historic and archaeological Section 4(f) properties are identified using the Determination of Eligibility phase of the Section 106 process. The Determination of Eligibility phase is defined above in **Section IX.A.1: Identification and evaluation of the historic properties**. Properties 50 years or older are evaluated to determine whether the properties meet at least one of the four different criteria and maintain integrity. A submission (which can be in the form of a report or forms) identifying the properties within the APE that are being determined eligible for listing in, or are listed in, the *National Register* is prepared and provided to the SHPO. Identified boundaries of the historic or archaeological resources are included in this report. In the case of historic districts located within the APE, contributing and non-contributing elements should also be identified.

**NOTE:** It is important that the boundary guidelines, which are contained at *National Register Bulletin 21*, U.S. Department of the Interior, National Park Service, be carefully followed during the determination of eligibility phase. Although using the tax parcel boundaries is generally acceptable, there may be other boundaries (either larger or smaller) that might be more appropriate/precise in defining the historic or archaeological site, which would meet the boundary guidelines requirements. The boundaries of an historic or archaeological resource are key to determining whether the property is used (a Section 4(f) use) by one of the project alternatives. Even if the alternative only uses a sliver of the property located within the historic resource's boundaries without taking a structure, there is a use of a Section 4(f) property. Therefore, establishing the appropriate boundaries of historic and archaeological resources based on proper eligibility criteria is a key component to the Section 4(f) process.

If the SHPO does not concur with the determinations, PennDOT may request through FHWA that the Keeper of the *National Register* make the formal determination of eligibility. Once concurrence is received from the SHPO or a formal determination is made by the Keeper that the property is eligible, the property is considered an historic or archaeological property for purposes of both Section 106 and Section 4(f).

**NOTE:** Section 4(f) does not apply to archaeological sites which are determined at the completion of the Section 106 process to be important chiefly because of what can be learned by data recovery and have minimal value for preservation in place.

If it is reasonably foreseeable that a property would qualify as eligible for the *National Register* prior to the start of construction (but is not currently eligible), the property should be treated as an historic site for Section 4(f) purposes.

## 2. EFFECTS DETERMINATION

The effects determination under the Section 106 process does not equate to use under the Section 4(f) process. It is possible to receive a No Historic Properties Affected or No Adverse Effect determination under Section 106 and still have a use under Section 4(f), although the Section 4(f) use would be a *de minimis* use. It is also possible to receive an Adverse Effect determination under Section 106 without having a Section 4(f) use. The effects determination under the Section 106 process plays a role in the Section 4(f) process when determining whether there is a *de minimis* or constructive use of a Section 4(f) property. This role is summarized in the table below:

<b>Table IX-1: Relationship of Section 106 Effects and Section 4(f) Use</b>			
	<b>No Historic Properties Affected</b>	<b>No Adverse Effect</b>	<b>Adverse Effect</b>
<b>Section 4(f) Property Acquired</b>	<i>De minimis</i> use	<i>De minimis</i> use	Actual use, not <i>de minimis</i>
<b>No Section 4(f) Property Acquired</b>	No use	No use	Possible constructive use, proximity impact analysis required

**Example:** Constructed circa 1800, the Hemlock House is eligible for the *National Register* under Criterion C, as a good example of an early 19th century log farmhouse. The historic property includes 5 acres, and a total of 0.3 acre would be acquired for the roadway project. PHMC concurred with a No Adverse Effect determination because the small use of the property occurs in the corner of the property that is furthest from the farmhouse, not diminishing the characteristics that qualify the property for inclusion in the *National Register*. Property is acquired, resulting in an actual use, but it is considered *de minimis* because of the Section 106 No Adverse Effect determination.

**Example:** The 2-acre Farmers Church property is eligible for the *National Register* under Criterion C for being of a particular architectural style for churches constructed in the 1880s. The proposed right-of-way along the new roadway alternative would come within 10 feet of the *National Register* boundary and within 150 feet of the church structure. PHMC concurred with FHWA's determination that an Adverse Effect determination was applicable because the effect on the property may diminish the characteristics that make it eligible for listing in the *National Register*. No property is acquired; however, based on the Section 106 Adverse Effect determination the impact must be addressed to determine if a constructive use would occur. See **Section VII.B: Constructive Use** for more information regarding what constitutes a constructive use.

### a. Effects and *De Minimis* Use

As discussed later in **Section XI: *De Minimis* Section 4(f) Use**, an actual Section 4(f) use of an historic resource (incorporation of property) is considered *de minimis* if a Section 106 determination of No Adverse Effect or No Historic Properties Affected is made by FHWA and concurred with by the SHPO, and ACHP if participating in the Section 106 consultation. Views of any consulting parties must also be considered.

**NOTE:** If there is an actual taking of land from the Section 4(f) property, this is an actual Section 4(f) use, and Section 4(f) applies regardless of the effect determination. If the effect determination is No Adverse Effect or No Historic Properties Affected, a *de minimis* finding can be made.

**NOTE:** In Pennsylvania, the PHMC submitted a letter, dated March 1, 2006, documenting their written understanding that PennDOT will make a *de minimis* finding for historic resources where a Section 106 effects determination of No Adverse Effect or No Historic Properties Affected is made. Therefore, individual notices of the intent to apply the *de minimis* finding for historic resources are no longer required in Pennsylvania. Concurrence on the Section 106 effects determination may be assumed if PHMC does not respond within 30 days. (A copy of the March 1, 2006 PHMC *De Minimis* letter is contained in **Appendix K**.)

**NOTE:** When a project is anticipated to have a Section 4(f) use of an historic resource, early Section 106 coordination is advised. This coordination should look at the possibility of incorporating measures into the project design that could offset impacts to the historic resource such that a No Adverse Effect determination might be made. If a No Adverse Effect determination can be made based on a commitment that particular design elements would be incorporated into the project, the *de minimis* finding can be used.

### b. Effects and Constructive Use

Constructive use occurs when there is no incorporation of property but the proximity impacts would result in a substantial impairment of the features and attributes that make the historic site eligible. An historic Section 4(f) property in proximity to a proposed transportation project does not have to be analyzed for constructive use when the Effects Determination under Section 106 results in No Historic Properties Affected or No Adverse Effect to the Section 4(f) property. If a Section 4(f) property has an Adverse Effect determination under Section 106, the property should be analyzed for constructive use under Section 4(f). Constructive use is further discussed in **Section VII.B: Constructive Use**.

**NOTE:** An Adverse Effect determination under the Section 106 process does not automatically result in a constructive use. It merely triggers the need to analyze the property for a constructive use.

### c. Effects and Historic Transportation Facilities

Section 4(f) requirements do not apply to the restoration, rehabilitation, or maintenance of *National Register* eligible or listed transportation facilities if the Section 106 process concludes with a No Historic Properties Affected or No Adverse Effect determination. Some examples of transportation facilities where this would be applicable are historic bridges, national roadways, railroad stations, and terminal buildings.

The Interstate System and individual elements of the Interstate System, with the exception of those elements formally designated by FHWA for Section 4(f) protection on the basis of national or exceptional historic significance, are not covered under Section 4(f). See **Appendix D** for FHWA Exceptions to the Interstate Exemption.

### 3. MITIGATION MEASURES

The Section 4(f) process requires consultation in developing mitigation measures, and the Section 106 process provides the mechanism for consultation with the SHPO for historic structures and archaeological Section 4(f) properties. The mitigation measures developed in accordance with the Section 106 process (See **Section IX.A.3: Consultation to avoid, or reduce adverse effects**) should be considered when the feasible and prudent alternatives are balanced to determine which alternative results in the least overall harm.

**NOTE:** Effects determinations under Section 106 could be used to help determine which alternative results in the least overall harm in the minimization phase of the Section 4(f) Evaluation process. For example, two alternatives are being compared, and each would **use** land from one Section 4(f) property. In both cases, the property is an historic structure. Alternative A has an Adverse Effect and Alternative B has a No Adverse Effect (*de minimis* finding). It would logically follow that Alternative B would result in the least harm to Section 4(f) properties. (Remember, all mitigation measures are included in the least harm analysis.)

## C. RELATIONSHIP OF NEPA REQUIREMENTS TO SECTION 4(f) REQUIREMENTS

There is a tendency of those preparing environmental documents and Section 4(f) Evaluations to treat Section 4(f) properties as one factor among a multitude of other environmental features. In writing Environmental Impact Statements (EISs) and other National Environmental Policy Act (NEPA) documents, a number of issues are addressed - wetlands, streams, productive agricultural lands, threatened and endangered species, displacements, community impacts, economic impacts, hazardous wastes, air and noise, to name a few, and Section 4(f) properties - historic and archaeological sites, public parks, recreation areas, and wildlife and waterfowl refuges.

It is important to recognize that Section 4(f) is a separate issue; it is not a NEPA issue. Where NEPA seeks to balance impacts among all resources, Section 4(f) is only truly concerned with Section 4(f) properties - public parks, public recreation areas, wildlife and waterfowl refuges, and *National Register* eligible or listed historic and archaeological sites.



NEPA attempts to balance impacts to all environmental features, including Section 4(f) properties, together with engineering factors, public input, agency input, and costs in identifying a preferred alternative. In contrast, Section 4(f) requires that an alternative that avoids all Section 4(f) properties be selected unless this avoidance alternative is proven not to be feasible and prudent or the use would result in a *de minimis* impact. Further, if no Feasible and Prudent Total Section 4(f) Avoidance Alternative exists, Section 4(f) then dictates that the alternative that causes the least overall harm in light of Section 4(f)'s preservation purpose, as determined by balancing a number of factors (see ***Section IV: What Constitutes a Feasible and Prudent Alternative?***) should be chosen.

The NEPA and Section 4(f) processes do converge in some respects. First of all, impacts to Section 4(f) properties are considered along with impacts to all other resources in the NEPA documentation. Second, impacts to resources other than Section 4(f) properties are considered in the determination of whether a Section 4(f) avoidance alternative or shift is, or is not, feasible and prudent. A Section 4(f) avoidance alternative can be dismissed if it would result in impacts of an extraordinary magnitude or other unique problems compared to the value of the Section 4(f) property. Third, when determining the alternative that causes the least overall harm, the magnitude of any adverse impacts to resources not protected by Section 4(f) can be compared to the harm that would result to the features and attributes that qualify the Section 4(f) property for protection.

In addition, the Section 4(f) Evaluation is typically bound or attached to the NEPA document, Environmental Assessment (EA), or EIS), and they are then circulated or distributed as one document. The NEPA/Section 4(f) Evaluation document moves through the review and approval process as a single document. This helps to streamline two complex processes. An exception is a Categorical Exclusion Evaluation (CEE). The Section 4(f) Evaluation document is a separate report which moves through the review approval process as an EA or EIS and thus is detached from the Section 4(f) Evaluation document.

# **X. SECTION 4(f) ACTIVITIES WHICH SHOULD OCCUR DURING THE TRANSPORTATION PROJECT DEVELOPMENT PROCESS**

The Section 4(f) process occurs throughout the development of the preliminary design of the project for an Environmental Impact Statement (EIS), Environmental Assessment (EA), or Categorical Exclusion Evaluation (CEE). This section addresses how the Section 4(f) process fits into the Transportation Project Development Process for all National Environmental Policy Act (NEPA) processing options.

**For more detailed information on the activities and analyses required in the development of an EIS, refer to *The Transportation Project Development Process Environmental Impact Statement Handbook (PennDOT Publication No. 278)*. For more detailed information on an EA, refer to *The Transportation Project Development Process Environmental Assessment Handbook (PennDOT Publication No. 362)*. For more detailed information on a CEE, refer to *The Transportation Project Development Process Categorical Exclusion Evaluation Handbook (PennDOT Publication No. 294)*. At the time of publication of this handbook, PennDOT's Transportation Project Development Process was in the process of being updated. The CE, EA, and EIS Handbooks may be altered or incorporated into another publication in conjunction with revisions to the overall Project Development Process.**

Section 4(f) activities are similar for all NEPA processing options, but **when** those activities occur differs slightly because the project development steps are different for an EIS than for a CEE or an EA.

## **A. INTERNAL ADMINISTRATIVE ACTIVITIES AND SCOPING**

For all NEPA classes of action, the internal administrative activities establish the general parameters of the proposed project. These parameters include: (1) preliminarily defining the purpose and need for the project; (2) preliminarily defining the study area of the proposed project; and (3) preliminarily identifying the potential environmental and engineering issues that the proposed project may encounter in the study area. (During this step, coordination with Planning and Programming should be done to gather information compiled during the planning process to help streamline the Section 4(f) process.) As the study area is being defined and various key resources in the study area are preliminarily identified, possible Section 4(f) properties are noted.

The scoping process of a proposed project is very important to the Section 4(f) process and should be conducted in accordance with procedures outlined in Design Manual 1A. During this initial scoping, the study area is defined and various key resources in the study area are preliminarily identified, usually during a scoping field view of the study area. It is important to attempt to identify existing or potential Section 4(f) properties as early as possible. Therefore,

when scoping the project, potential public parks, recreation areas, and wildlife and waterfowl refuges and potential historic/archaeological sites should be identified. Early identification of the locations of existing or potential Section 4(f) properties will facilitate the development of alternatives later in the process. Also at this time, consideration can be given to whether a Programmatic Section 4(f) is likely to be applicable for any particular Section 4(f) properties, or whether any of the uses might qualify as *de minimis*.

**NOTE:** All available documentation (mapping, environmental impact matrices, letters from official(s) with jurisdiction, etc.) to support findings should be available for review at the scoping field view. Scoping field view attendance should include a vast array of interdisciplinary staff to coordinate the direction of the project. The Federal Highway Administration (FHWA) encourages in-field meetings to examine Programmatic and *de minimis* applicability.

Agency and public scoping is important to the Section 4(f) process because the resource agencies, including the cooperating agencies, the participating agencies, and the public are introduced to the proposed project, and the resource agencies/cooperating agencies/participating agencies can be asked to assist in the early identification of existing or potential public parks, recreation areas, wildlife and waterfowl refuges, and potential historic/archaeological sites in the study area. Again, early identification is key to the development of alternatives that avoid Section 4(f) properties. The amount of detail in the agency and public scoping should be commensurate to the amount of potential Section 4(f) impact on a project and the complexity of the project.

Section 4(f) requires coordination with the official(s) with jurisdiction over the Section 4(f) properties. The official with jurisdiction is the agency that owns or administers the resource. For historic resources, this would be the State Historic Preservation Officer (SHPO). Typical examples of official(s) with jurisdiction for parks/recreation areas/refuges would include local municipalities, Pennsylvania Game Commission (PGC), U.S. Department of Interior (DOI), the U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), PA Department of Conservation and Natural Resources (DCNR), U.S. Department of Agriculture (USDA), and U.S. Department of Housing and Urban Development (HUD).

Section 4(f) properties are defined within ***Section VI: Definition of a Section 4(f) Property***, and ***Section XVII: Section 4(f) Questionnaires*** contains sample questionnaires that can be used to guide information gathering for potential Section 4(f) properties. Please note that FHWA makes the final decision on whether a property is, or is not, a Section 4(f) property.

## **B. ANALYSIS AND REVIEW OF PROJECT NEEDS**

At a glance, development of project needs would appear to be unrelated to the Section 4(f) process. However, the definition of the proposed project's needs is important to the Section 4(f) analysis. An alternative can be dismissed from further analysis under Section 4(f) if the alternative does not adequately satisfy the project needs (whether or not it uses a Section 4(f) property). An alternative that does not meet the project needs is not considered to be prudent. Therefore, it is imperative that the needs of the project are clearly defined and documented.

## C. ENVIRONMENTAL AND ALTERNATIVES ANALYSIS

While alternatives are being developed and environmental analyses are being performed as part of the NEPA process, several steps should be taken in the Section 4(f) Process. These include:

- 1) Identification of Section 4(f) properties
- 2) Determination of whether alternatives “use” Section 4(f) properties
- 3) Determination of whether a Total Section 4(f) Avoidance Alternative exists and/or if the use(s) could be considered *de minimis* or result in a net benefit
- 4) Consideration of shifts/design modifications to avoid or minimize use of Section 4(f) properties if a Total Section 4(f) Avoidance Alternative does not exist
- 5) Dismissal of Alternatives
- 6) Least Harm Assessment

Throughout the NEPA and Section 4(f) processes, coordination efforts with the official(s) with jurisdiction over the Section 4(f) properties, as required under the Section 4(f) regulations, occurs. If a public park, recreation area, or wildlife and waterfowl refuge is being "used" by one of the project alternatives that is still under consideration, coordination would be conducted with the official(s) with jurisdiction over the property. Any agreements reached with regard to mitigation measures to these Section 4(f) properties should be obtained in writing (i.e., a letter or formal agreement from the official with jurisdiction over the Section 4(f) property). Official(s) with jurisdiction need to concur on *de minimis* and net benefit determinations if they are being applied to their properties in order for FHWA to recognize them as such.

Some key considerations during each of the Section 4(f) steps are as follows:

### 1. IDENTIFICATION OF SECTION 4(f) PROPERTIES

- Section 4(f) properties are defined within ***Section VI: Definition of a Section 4(f) Property***. Information on the Section 4(f) properties will be gathered in coordination with the official(s) with jurisdiction over the properties. Questionnaires similar to the example questionnaires contained in ***Section XVII: Section 4(f) Questionnaires*** could be used for this purpose.
- Historic and archaeological resources are initially identified through the Cultural Resources Geographic Information System (CRGIS), which is maintained by the Pennsylvania Historical and Museum Commission (PHMC) (i.e., the SHPO), to determine (1) historic and archaeological properties listed in the *National Register of Historic Places* and (2) historic sites previously determined to be eligible for the *National Register* by other projects.
- Section 4(f) does not apply to archaeological sites that are determined by FHWA, through consultation with the SHPO, to be important chiefly because of what can be learned by data recovery and have minimal value for preservation in place. Most archaeological sites in Pennsylvania fall into this category; therefore, Section 4(f) does not usually apply to

archaeological sites. However, documentation must be presented in the environmental document to support this finding.

- The Determination of Eligibility submission (report or PHRS cards) for historic resources and/or the Phase I/II Archaeological Reports will be prepared and submitted through the PennDOT Environmental Quality Assurance Division (EQAD) to the SHPO for its concurrence (in coordination with the Cultural Resource Professional(s)). The SHPO will make its concurrence, thus completing the identification of historic/archaeological resources (Section 4(f) properties) and the boundaries of these resources. Concurrence letters from the SHPO (i.e. PHMC) or documentation by the Cultural Resource Professional (CRP) of the expiration of required review timeframes constitute the completion of the eligibility determinations.
- It is desirable to complete the Section 106 determination of eligibility process during the preliminary alternatives analysis phase. This will facilitate the development of alternatives to avoid and/or minimize use of Section 4(f) properties. For an EIS project in Preliminary Alternatives Development, the detailed field studies on the identification of potentially eligible historic and archaeological resources may not always be completed until the detailed alternatives analysis phase in the process. There should be enough information available during preliminary alternatives development to know the location of possible historic and archaeological resources.
- It is important that the boundary guidelines, which are contained at National Register Bulletin 21, U.S. DOI, NPS, be carefully followed during the determination of eligibility phase. Do not simply use the tax parcel boundaries because these boundaries may be larger or smaller than the boundary guidelines require. The boundaries of an historic or archaeological resource are key to determining whether the property is used (a Section 4(f) use) by one of the project alternatives. Even if the alternative only uses a sliver of the property located within the historic resource's boundaries without taking a structure, there is a use of a Section 4(f) property. Therefore, establishing the appropriate boundaries of historic and archaeological resources based on proper eligibility criteria is a key component to the Section 4(f) process.
- Identify the specific attributes of Section 4(f) properties that may be important in assessing impacts to the properties. Note what characteristics make an historic resource eligible or listed on the National Register, amenities of a park or recreation area, etc.
- FHWA makes the final decision on whether a resource is a Section 4(f) property and whether the Section 4(f) property is used by the project.

## **2. DETERMINATION OF WHETHER A SECTION 4(f) PROPERTY IS "USED" BY THE PROJECT**

- When alternatives are developed for the project, the alternatives should be evaluated to determine if any or all of the alternatives "use" Section 4(f) properties. This determination would be based on the preliminary identification of historic/archaeological resources and the identification of public parks, recreation areas, and refuges. Actual uses, including those that

are de minimis, and potential constructive use situations should be identified for each alternative. See Section VII: Definition of “Use” of a Section 4(f) Property for more detailed information on determining the “use” of Section 4(f) properties and Section XI: De Minimis Section 4(f) Use for the definition of a de minimis use. FHWA makes the final decision on whether a resource is a Section 4(f) property and whether the Section 4(f) property is used by the project.

- At the Preliminary Alternatives Development and Review phase of an EIS project, it is likely that the Determination of Effects for historic sites will not have been completed and therefore de minimis and constructive use will not be able to be officially assessed for historic sites. Effects determinations are necessary to evaluate de minimis and constructive use. Only Adverse Effect determinations trigger an assessment of constructive use for historic sites, and a de minimis use finding can only be made with a No Adverse Effect or No Historic Properties Affected determination.
- In some cases, where only non-contributing elements or property from non-contributing elements are taken from an historic district, it may not be considered a Section 4(f) use. In these situations, consultation should be undertaken with FHWA to determine whether or not there is a Section 4(f) use.

### **3. DETERMINATION OF WHETHER A TOTAL SECTION 4(f) AVOIDANCE ALTERNATIVE EXISTS**

- A feasible and prudent Total Section 4(f) Avoidance Alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.
- If a Feasible and Prudent Total Section 4(f) Avoidance Alternative exists, it generally must be selected, and a Section 4(f) Evaluation will not be needed. There may be situations where there is a Total Section 4(f) Avoidance Alternative and an alternative with a net benefit or a de minimis use and in these situations it may be appropriate to select the alternative with the net benefit to the Section 4(f) property or the de minimis use. See Section II: Section 4(f) Regulatory Requirements and Section VIII: Section 4(f) Alternatives Analysis for additional information on this subject.
- If it is determined that there are Section 4(f) properties in reasonable proximity but none are used (actual, temporary or constructive) by the project, complete the Section 4(f) Non-Applicability/No Use Checklist. For EAs and CEs, this checklist can be electronically attached within the CE/EA Expert System. The latest checklist can be found in the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>. If Section 4(f) properties are not in reasonable proximity, completion of the *Section 4(f) Non-Applicability/No Use Checklist* is not necessary. Avoidance of Section 4(f) properties can simply be referenced in the NEPA document.

#### **4. CONSIDERATION OF SHIFTS/DESIGN MODIFICATIONS TO AVOID OR MINIMIZE USE OF SECTION 4(f) PROPERTIES IF A TOTAL SECTION 4(f) AVOIDANCE ALTERNATIVE DOES NOT EXIST**

- *Section XIII.D.3.a: Shifts/Design Modifications to Avoid the Use of Section 4(f) Properties* discusses analyzing alternative shifts or possible design modifications that would avoid or minimize the use of Section 4(f) properties.
- After consideration of Section 4(f) uses, and of any reasonable measures to minimize harm (such as any avoidance, minimization, and mitigation or enhancement measures), if a project is determined to have a de minimis use, an analysis of avoidance alternatives is not required.
- All alternatives being considered under the NEPA process must be examined in the Section 4(f) Evaluation; however, Section 4(f) can analyze alternatives and design shifts not examined in the NEPA process to determine whether they are feasible and prudent and should be examined further. NEPA would need to consider the new alternative analyzed in Section 4(f) if it is feasible and prudent. (See Section IV: What Constitutes a Feasible and Prudent Alternative? for details on feasible and prudent alternatives.)

#### **5. DISMISSAL OF ALTERNATIVES**

- An alternative should only be dismissed from further consideration under Section 4(f) if the alternative is not feasible and prudent. Feasible and prudent alternatives are discussed in *Section IV: What Constitutes a Feasible and Prudent Alternative?*
- The courts have rarely upheld a decision to dismiss an alternative as not feasible. This is because, in general, if enough money is provided for the project, almost anything can be engineered and constructed.. Examples of when an alternative is not feasible include structures on sinkhole-prone geography or rock talus areas.
- An alternative is not prudent if it does not meet the project needs, or if it involves truly unusual factors, unique problems, or environmental impacts/cost/community disruption reaching an extraordinary magnitude compared to the value and use of the Section 4(f) property.

#### **6. LEAST HARM ASSESSMENT**

- If no Feasible and Prudent Total Avoidance Alternative exists, Section 4(f) then dictates that the alternative that causes the least overall harm, when considering a number of factors, should be chosen. (See *Section XIII.D.3: Assessment of Least Overall Harm.*)
- When determining the alternative that causes the least overall harm, the magnitude of any adverse impacts to resources not protected by Section 4(f) can be compared to the harm that would result to the activities, features, and attributes that qualify the Section 4(f) property for protection.

- The Least Harm Assessment is not simply a count of the number of Section 4(f) properties used. An alternative that uses only one Section 4(f) property by going through the center or the developed portion of the resource can result in more harm than an alternative that uses ten Section 4(f) properties by skirting the edge of the boundaries of the ten properties whereby the properties are essentially unaffected or have a minor impact. Concentrate on the nature of the impact to Section 4(f) properties from the alternatives and fully discuss the impacts.
- *De minimis* uses and uses that result in a net benefit should be included in the final Least Harm Assessment.
- In the Least Harm Assessment, a net beneficial use of a Section 4(f) property should be considered to have a positive effect on the Section 4(f) property since the alternative would result in an overall benefit to the property. Not choosing an alternative that would benefit a Section 4(f) property as the result of a project could be viewed as a “missed opportunity” to better the property. The official(s) with jurisdiction over the property must concur in writing that there would be a net benefit to the resource as a result of the proposed project.
- A *de minimis* use of a Section 4(f) property by nature does not cause a “substantial impairment” or an “adverse effect” to the Section 4(f) property. As such, a *de minimis* use should be considered essentially negligible (“a trifle”) when assessing harm. In order to make the *de minimis* finding, the official(s) with jurisdiction over the property must concur in writing that the project will not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).
- At this point in the Section 4(f) process, a presentation can be made to PennDOT Chief Counsel and FHWA as a summary of the Section 4(f) analysis and findings. The presentation could be made by way of a letter with supporting information; at a field view; or through a special meeting with the project team. This presentation can help to avoid receiving comments on the Draft Section 4(f) Evaluation, which require a rewrite of the document or further analysis of avoidance alternative(s), which slows the completion of the process.
- Remember that the Draft Section 4(f) Evaluation includes facts supporting whether or not a particular avoidance alternative or design modification is, or is not, feasible and prudent and makes a statement for each alternative and modification regarding feasibility and prudence. However, the final conclusions that “there is no feasible and prudent alternative to the use of Section 4(f) properties and that Alternative XX incorporates all possible planning to minimize harm” are only made in the Final Section 4(f) Evaluation.

## **D. DRAFT SECTION 4(f) EVALUATION PREPARATION AND CIRCULATION**

Prior to reaching the documentation phase, the Section 4(f) analysis should have been completed. The Section 4(f) properties will have been identified, and a determination as to which Section 4(f) properties are actually or constructively used by the project alternatives will have been made. *De minimis* findings will have been made and uses that result in a net benefit to the



properties will have been identified. Alternatives that avoided the use of Section 4(f) properties will have been evaluated, and measures to minimize harm will have been developed.

Refer to **Section XIII: Content and Format of Individual Section 4(f) Evaluations** for detailed information on the content and format of a Section 4(f) Evaluation. The specifics on how to circulate the Draft Section 4(f) Evaluation with the project's corresponding NEPA document are discussed in **Section XV: Circulation and Approval Process**.

**NOTE FOR PROGRAMMATICS:** In an effort to reduce the processing time and to streamline procedures for certain Federal actions, PennDOT and FHWA have developed a series of checklists to serve as documentation to support the conclusions required by the Programmatic Section 4(f) Evaluations. Additional guidance is provided in the *Alternative Processing Procedures for Section 4(f) Evaluation Guidance*, which can be found in the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>. Samples of the checklists are included in **Appendix L**, and the most up-to-date versions of the checklists can be found in the CE/EA Expert System Help Database. Refer to **Section XII: Programmatic Section 4(f) Evaluations** and **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations** for more information on Programmatrics.

## E. COMMENTS, ANALYSIS, AND COORDINATION

Any comments received on the Draft Section 4(f) Evaluation during the circulation period should be addressed in the Final Section 4(f) Evaluation. Any comments received from any of the official(s) with jurisdiction over the Section 4(f) property(s) regarding the Section 4(f) property(s) should also be addressed in coordination with that official. This must be done to satisfy the coordination required by the Section 4(f) regulations. **Section XV: Circulation and Approval Process** discusses the circulation and approval process in more detail.

## F. FINAL SECTION 4(f) PREPARATION AND DISTRIBUTION

In preparing the Final Section 4(f) Evaluation, appropriate revisions should be made based on comments received on the Draft Section 4(f) Evaluation. All comments received from the official(s) with jurisdiction over the Section 4(f) properties, DOI, USDA, and HUD (as appropriate) should be addressed. Copies of the Section 4(f) comments should be included in the appendix of the Final Section 4(f) Evaluation. FHWA legal staff will review the Final Section 4(f) Evaluation for legal sufficiency. **Section XV: Circulation and Approval Process** discusses the circulation and approval process in more detail.

## G. NEPA APPROVAL

The Section 4(f) approval and a summary of the mitigation measures to minimize impacts to Section 4(f) properties will be included in the Record of Decision (ROD) for an EIS, Finding of No Significant Impact (FONSI) for an EA, or a separate letter for a CEE. This will officially document FHWA's approval of the Section 4(f) Evaluation for the project.

## **H. FINAL DESIGN AND CONSTRUCTION ACTIVITIES**

Any mitigation measures committed to in the Final Section 4(f) Evaluation, NEPA document, and mitigation report (if applicable) for Section 4(f) properties should be included in the final design plans, estimates, and specifications and Environmental Commitments Mitigation Tracking System (See Design Manual 1A) to ensure that these mitigation measures are carried out during construction.

Construction activities must be carefully monitored to ensure that the Section 4(f) mitigation measures that are committed to in the Final Section 4(f) Evaluation, NEPA document, and mitigation report are properly implemented.

If a late discovery or new Section 4(f) use occurs during the final design or construction phase of a project, coordination with FHWA is required. From that coordination, a supplemental or revised Section 4(f) Evaluation may be required. The findings of the coordination and documentation may result in changes to the design or construction plans, including the selection of a new alternative. Precautions should be taken to avoid late discoveries, since it may cause considerable disruption to the project schedule.

## XI. *DE MINIMIS* SECTION 4(f) USE

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, amended existing Section 4(f) legislation at Section 138 of Title 23 and Section 303 of Title 49, United States Code, to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This is the first substantive revision of Section 4(f) legislation since passage of the U.S. Department of Transportation (USDOT) Act of 1966. This revision provides that once the USDOT determines that a transportation use of Section 4(f) property, after consideration of any reasonable measures to minimize harm (such as any avoidance, minimization, mitigation or enhancement measures), results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. In response to Section 6009(a) of SAFETEA-LU, FHWA developed *Guidance for Determining De Minimis Impacts to Section 4(f) Resources*. This guidance (hereinafter referred to as FHWA's *De Minimis* Guidance), dated December 13, 2005, provides information on how and when to apply the *de minimis* finding. FHWA's *De Minimis* Guidance is contained within **Appendix C**. In addition, *de minimis* use is included in 23 CFR 774.

**NOTE:** A *de minimis* Section 4(f) use is still a Section 4(f) use, not an exemption. A Section 4(f) analysis and documentation must still be completed. The primary difference between a *de minimis* use and a non-*de minimis* use is that once consideration of reasonable measures to minimize harm (such as avoidance, minimization, and mitigation or enhancement measures) are completed as part of the *de minimis* finding, an analysis of avoidance alternatives, and assessment as to whether those avoidance alternatives are feasible and prudent, is not required for *de minimis* uses.

The following sections discuss what constitutes a *de minimis* use and how to document that use.

### A. DEFINITION OF A *DE MINIMIS* USE

Black's Law Dictionary (8th ed. 1999) defines “*de minimis*” as 1) Trifling, minimal, 2) (Of a fact or thing) so insignificant that a court may overlook it in deciding an issue or case, and 3) *De Minimis Non Curat Lex, The law does not concern itself with trifles*. According to FHWA's *De Minimis* Guidance, the “...SAFETEA-LU amendment to the Section 4(f) requirements allows the U.S. DOT to determine that certain uses of Section 4(f) land will have no adverse effect on the protected resource. When this is the case, and the responsible official(s) with jurisdiction over the resource agrees in writing, compliance with Section 4(f) is greatly simplified...”

The *de minimis* impact criteria of “no adverse effect” are defined for historic sites by a Section 106 determination of No Adverse Effect or No Historic Properties Affected. The criteria for publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those impacts that do not “adversely affect the activities, features, and attributes” of the Section 4(f) property that qualify the property for protection under Section 4(f).

**NOTE:** The *de minimis* finding is ultimately made by the FHWA Division Administrator or Federal Transit Administration (FTA) Regional Administrator.

## **1. APPLICABILITY OF *DE MINIMIS***

The *de minimis* impact criteria can be applied to all projects regardless of the National Environmental Policy Act (NEPA) documentation processing option being undertaken (Environmental Impact Statement (EIS), Environmental Assessment (EA), Categorical Exclusion Evaluation (CE)). The *de minimis* impact criteria and associated determination requirements are specified in Section 6009(a) of SAFETEA-LU and described in Questions 3A and 3B of FHWA's *De Minimis* Guidance. These criteria are provided within the next two subsections.

### **a. Historic Resources**

The criteria for a *de minimis* use of an historic resource are defined in SAFETEA-LU Section 6009(a). These criteria, as discussed in Question 2A of FHWA's *De Minimis* Guidance include:

- The process required by Section 106 of the National Historic Preservation Act results in the determination of “No Adverse Effect” or “No Historic Properties Affected” with the concurrence of the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) if participating in the Section 106 consultation;
- The SHPO and ACHP, if participating in the Section 106 consultation, is informed of FHWA's or Federal Transit Administration's (FTA's) intent to make a *de minimis* impact finding based on their written concurrence in the Section 106 determination; and
- FHWA or FTA has considered the views of any consulting parties participating in the Section 106 consultation.

### *Effect Determination*

The first criterion is based on the Section 106 effects determination. When a project is anticipated to have a Section 4(f) use of an historic resource, early Section 106 coordination is advised. This coordination should look at the possibility of incorporating measures into the project design that could offset impacts to the historic resource such that a No Adverse Effect (or No Historic Properties Affected) determination might be made. If a No Adverse Effect determination can be made based on a commitment that particular design elements will be incorporated into the project, or if a No Historic Properties Affected determination can be made, the *de minimis* finding can be used. However, it will be critical that the commitments made be tracked and adhered to during final design and construction in order to meet the *de minimis* Section 106 effect determination criterion. This will require better and earlier coordination/communication between project designers and cultural resource experts.

### Notification of Intent to Make a De Minimis Finding

In addition to the effects determination, a *de minimis* finding for use of an historic resource requires that the SHPO be notified of PennDOT's intent to apply the *de minimis* finding based on the Section 106 effects determination. In Pennsylvania, the PHMC submitted a letter, dated March 1, 2006, documenting their written understanding that PennDOT will make a *de minimis* finding for historic resources where a Section 106 effects determination of No Adverse Effect or No Historic Properties Affected is made. Therefore individual notices of the intent to apply the *de minimis* finding for historic resources are no longer required in Pennsylvania. A copy of the March 1, 2006 PHMC *De Minimis* letter is contained in **Appendix K**. It should be noted that this is an agreement with the Pennsylvania SHPO, and therefore only applies to Pennsylvania projects.

**NOTE:** Based on agreements made between PennDOT and the Pennsylvania Historical and Museum Commission (PHMC), under Section 106, concurrence on the Section 106 effects determination may be assumed if PHMC does not respond within 30 days. In a letter dated March 1, 2006 PHMC has also agreed that if they do not provide written concurrence on the effects determination within the 30-day timeframe, PennDOT will assume their concurrence on effects and apply the Section 4(f) *de minimis* finding. For projects that qualify under the Section 106 Minor Projects Programmatic Agreement (MPPA), the MPPA signatures act as written concurrence, therefore separate written concurrence on effects is not needed for projects covered by the MPPA. (See Question 2B and 2C of FHWA's *De Minimis* Guidance.) These agreements are specific to Pennsylvania.

### Consulting Party Coordination

Finally, coordination with identified consulting parties is required to gather the views of those consulting parties. This can be done through the Section 106 consulting process via a number of venues including public meetings, public officials meetings, telephone calls, mailings, etc.

**NOTE:** For *de minimis* findings on historic resources, Section 6009(a) of SAFETEA-LU does not require additional public notice or opportunity for review and comment. Only consultation with the consulting parties is required.

### **b. Publicly Owned Parks, Recreation Areas, and Wildlife and Waterfowl Refuges**

The criteria for a *de minimis* use of a park, recreation area, and/or wildlife and waterfowl refuge are defined in SAFETEA-LU Section 6009(a). These criteria, as discussed in Questions 3A and 3B of FHWA's *De Minimis* Guidance include:

- The transportation use of the Section 4(f) property, together with any reasonable measures to minimize harm (such as avoidance, minimization, mitigation or enhancement measures) incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
- The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) property; and
- The official(s) with jurisdiction over the property are informed of FHWA's or FTA's intent to make the *de minimis* impact finding, and provide written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

### Effect Determination

The first criterion requires that the project not “adversely affect the activities, features, and attributes” that qualify the resource for protection under Section 4(f). Reasonable measures to minimize harm (such as avoidance, minimization, mitigation or enhancement measures) should be taken into account before the *de minimis* determination is made.

### Public Notification/Comment

The public must be given the opportunity to review and comment on effects to the resource’s protected activities, features and attributes. This should be done before the official(s) with jurisdiction agree in writing, that the project will not adversely affect the “activities, features, and attributes” of the resource. This allows public comments to be considered prior to making that final determination. There are several methods that can be used to inform the public and gather comment on park/recreation area/refuge impacts. These could include, but are not limited to, providing/gathering information at a public meeting or public officials meeting, posting information at the park/recreation area, public notices in local papers, etc. In most cases, the public involvement requirements related to the NEPA document/process will be sufficient to satisfy the requirements for the *de minimis* finding. For those actions that do not routinely require public review and comment (such as certain CEs or Re-evaluations), a separate public notice and opportunity for review/comment is required. In these cases, the type/level of public involvement should be commensurate with the type and location of the Section 4(f) property(s), impacts, and public interest. (See Question 3F of FHWA’s *De Minimis* Guidance.)

### Notification of Intent and Concurrence on De Minimis Finding

Once public input has been considered, the official(s) with jurisdiction should be notified of the intent to make a *de minimis* finding. The must then concur in writing that the project will not adversely affect the “activities, features, and attributes” of the resource. Another approach to this would be to submit a letter, asking for the official(s)’ concurrence, simultaneously indicating PennDOT’s intent to make a *de minimis* finding if they concur. A sample letter requesting concurrence from the official(s) with jurisdiction and indicating PennDOT’s intent to make a *de minimis* finding is provided in **Appendix K**.

**NOTE:** The notification of the intent to make a *de minimis* finding can be done at any time. The official(s) with jurisdiction's written concurrence must occur after public input is received.

**Example:** A project requires acquisition of a corner piece of a municipal park, including removal of the existing playground. The park includes other facilities, such as a soccer field, two baseball fields, and a picnic area. The existing playground equipment is old and in need of major repair or replacement. There is room close to the picnic area to move the existing playground equipment or put in new equipment. After coordination with the municipality, (official with jurisdiction), it is agreed that the impact will be mitigated by providing new improved playground equipment and locating it adjacent to the picnic area. Parking and park access will not be affected. Based on the impact and the proposed mitigation, the use of the park and its current activities/features will be maintained/preserved; therefore PennDOT submits a letter to the official(s) with jurisdiction indicating their intent to make a *de minimis* finding. The public is then notified of the process through presentations at the municipal park, recreation board meetings, and the municipality monthly board meetings. Requests for particular playground equipment were incorporated into the mitigation. After receipt of public input, the municipality provided a letter stating that they agree that there will be no adverse effect to the activities, features, and attributes of the park.

## B. DOCUMENTATION APPROACH

A *de minimis* Section 4(f) use is not an exemption under Section 4(f). It still constitutes a use, and therefore, requires analysis and documentation. The advantage in finding a use to be *de minimis* is in the documentation effort required for avoidance alternatives. According to SAFETEA-LU Section 6009(a), the requirements for evaluating feasible and prudent avoidance alternatives will be considered satisfied if it is determined that, after considering reasonable measures to minimize harm (such as avoidance, minimization, and mitigation or enhancement measures), a transportation project will have only a *de minimis* use on the Section 4(f) property. Therefore, an evaluation of avoidance alternatives need not be conducted for *de minimis* uses.

**NOTE:** The *de minimis* finding is not a license to intentionally impact Section 4(f) properties. These are important resources and efforts should still be made to avoid impacting (using) these resources just as is done for all sensitive features/resources. However, the *de minimis* provision provides more flexibility in the balancing of impacts to resources overall.

How a *de minimis* use is documented depends on whether the project contains other Section 4(f) uses that are not *de minimis* in nature. In general, there are three situations/documentation approaches:

- All Section 4(f) uses on a project are *de minimis*; there are no non-*de minimis* uses.
- *De minimis* and non-*de minimis* uses would occur; all non-*de minimis* Section 4(f) uses can be included under one of the Section 4(f) Programmatic or the temporary use conditions.

- *De minimis* and non-*de minimis* uses would occur; one or more non-*de minimis* Section 4(f) uses do NOT qualify under one of the Section 4(f) Programmatic or the temporary use conditions.

# 1. PROJECTS RESULTING IN ONLY *DE MINIMIS* SECTION 4(f) USES

For projects which result in only *de minimis* Section 4(f) uses, the *de minimis* use(s) can be documented in the *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist*. PennDOT, on behalf of the FHWA Division Office, maintains this checklist for use for such projects. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help database. The CE/EA Expert System is located at <http://www.dot2.state.pa.us/ceea/ceeain.nsf>. It should be noted that this checklist has been developed by FHWA and PennDOT for use on PennDOT projects. This checklist only applies to PennDOT projects.

**NOTE:** The *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist* applies to all NEPA classes of action (EIS, EA, CE). It also satisfies Pennsylvania Act 120, Section 2002.

Reasonable measures to minimize harm (such as any avoidance, minimization, mitigation, and enhancement measures) should be considered in making the *de minimis* determination. Before the *de minimis* finding can be made for an historic resource, the views of the consulting parties must be considered. Similarly, before the finding can be made for a public park, recreation area, or wildlife or waterfowl refuge, there must be some conveyance to the affected public that the *de minimis* use ruling is being applied, and an opportunity for comment must be provided. In addition, for parks/recreation areas/refuges, PennDOT must inform the official(s) with jurisdiction of their intent to make the *de minimis* finding, and the official(s) with jurisdiction must concur in writing that the project will not “adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f)”. For historic resources, the SHPO must provide concurrence on the effect finding (written or implied based on a lack of response within the 30-day timeframe). In Pennsylvania, separate notification of the intent to apply the *de minimis* finding is not required as per the March 1, 2006 PHMC *De Minimis* letter (**Appendix K**) for projects where the PHMC is the official with jurisdiction.

**NOTE:** For public parks, recreation areas, or wildlife or waterfowl refuges, the public review and comment can be solicited as part of routine public involvement when appropriate, or as a separate effort if needed.

The *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist* consists of five primary sections, including:

- Identification of Section 4(f)/2002 Resources
- Brief Description of Project Scope
- Applicability Determination



- Alternatives Analysis
- Summary and Determination

The applicability section is separated into two subsections, one for historic resources and one for public parks, recreation areas, and wildlife and waterfowl refuges. This checklist will prompt the user to consider and complete all requirements/criteria needed to make the *de minimis* finding. If there is more than one historic resource, or more than one public park, recreation area, or wildlife and waterfowl refuge where a *de minimis* use would occur, and the checklist does not provide adequate space to properly and effectively document the uses, more than one checklist can be completed (one for each resource) and combined into one submission for the Section 4(f) Evaluation.

**NOTE:** Use of the checklist is recommended; however, a narrative form of documentation can be applied if desired.

## 2. PROJECTS RESULTING IN BOTH *DE MINIMIS* AND NON-*DE MINIMIS* SECTION 4(f) USES

There are two scenarios for projects that would result in both *de minimis* and non-*de minimis* Section 4(f) uses. The first would be a project where all non-*de minimis* uses qualify under one or more of the Section 4(f) Programmatic or the temporary use conditions. These types of projects can be documented using a series of checklists that are combined into one submission for the Section 4(f) Evaluation. The other scenario would involve a project that results in one or more non-*de minimis* uses that do not qualify under one of the Section 4(f) Programmatic or the temporary use conditions. For these projects, an Individual Section 4(f) Evaluation must be prepared, which describes both the *de minimis* and non-*de minimis* uses.

### a. Projects Resulting in a Mix of *De Minimis* and Other Section 4(f) Uses That Fall Under One or More of the Section 4(f) Programmatic or Temporary Use Conditions

These types of projects can be documented using the *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist*, in combination with any (or all) of the other Section 4(f) checklists. These would include the following checklists, which are further described in **Section XII: Programmatic Section 4(f) Evaluations** and **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations**:

- Programmatic for minor use of property from public parks, recreation areas, and wildlife and waterfowl refuges
- Programmatic for minor use of historic properties
- Programmatic for use of an historic bridge structure
- Programmatic for use of a Section 4(f) property that results in a net benefit to the property
- For bikeway or walkway construction projects, use of the Section 4(f) Non-Applicability/No Use form

- Temporary use checklist

In these cases, the appropriate checklist should be completed for each use that qualifies for a Programmatic or other checklist and for each *de minimis* use, and then the checklists should be compiled and submitted together as one unit, serving as the complete Section 4(f) documentation.

**NOTE:** The Net Benefit Programmatic is the only Programmatic that can be used for projects processed as EISs.

**NOTE:** For projects that would result in a Section 4(f) use, **and** would have a temporary occupancy of a Section 4(f) property that would meet the conditions under 23 CFR 774.13(d), it is recommended that the temporary occupancy be discussed in the same document/checklist that discusses the Section 4(f) use. For example, a project that would have a *de minimis* use of a public park, and would also require a temporary construction easement within that park (that meets the conditions under 23 CFR 774.13(d) and is therefore not a 4(f) use), only the *de minimis* checklist needs to be completed. That checklist should include discussion of the temporary construction easement.

**Example:** A bridge replacement project being processed as an EA or CE would require the demolition and replacement of an historic bridge that is listed in the *National Register of Historic Places*. In order to replace the bridge and fix horizontal and vertical geometry deficiencies at the approaches, right-of-way must be acquired from both of the properties on the south side of the bridge. One of these properties is part of the Wright Township municipal golf course. The golf course is open to the public, and is owned by Wright Township. Approximately 100 people play golf there every day. The property acquisition would involve a small “strip take” along the edge of the property, and would not affect any of the holes, maintenance areas, or buildings.

The replacement of the bridge would qualify for the *Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges*. After consultation with Wright Township and the affected public, a letter is received from Wright Township stating that the property acquisition at the golf course would not “adversely affect the activities, features, and attributes” of the golf course. The public was notified, and afforded the opportunity to comment. No public objections were made, and all comments were addressed. As such, this use is considered *de minimis*, and a letter was sent to Wright Township indicating PennDOT’s intent to apply the *de minimis* finding. To document the uses, two checklists were completed; the *Nationwide Programmatic Section 4(f) Evaluation for Projects that Necessitate the Use of Historic Bridges Checklist* and the *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist*. These checklists were submitted as a single unit, serving as the complete Section 4(f) documentation.

**NOTE:** If there is a use of one (or more) resources that do NOT qualify as *de minimis*, under one of the Section 4(f) Programmatics, or under the temporary use conditions, an Individual Section 4(f) Evaluation must be prepared.

**b. Projects Resulting in a Mix of *De Minimis* and Other Section 4(f) Uses That Do Not Qualify Under One of the Section 4(f) Programmatic**

These types of projects must be documented using an Individual Section 4(f) Evaluation. The Individual Section 4(f) Evaluation would follow the outline provided in ***Section XIII: Content and Format of Individual Section 4(f) Evaluations***. However, when discussing avoidance alternatives, the *de minimis* use(s) should be approached differently. An analysis of avoidance alternatives is not required for *de minimis* uses. Therefore, the *de minimis* uses should be acknowledged in the avoidance alternative discussion, but no avoidance alternatives analysis would be conducted for these uses.

The *de minimis* uses would then be included in the Least Overall Harm Analysis. When weighing the harm related to a *de minimis* use, it should be generally considered of less harm than a non-*de minimis* use. In order to qualify as *de minimis*, the official(s) with jurisdiction must have agreed that the use would not have an “adverse effect” on the resource. Since uses that do not qualify as *de minimis* would result in an “adverse effect”, they would have a greater degree of harm. *De minimis* uses should therefore be considered almost negligible (“a trifle”) when assessing harm to Section 4(f) properties.

**NOTE:** The Section 4(f) Non-applicability/No Use checklist should **not** be used to document Section 4(f) properties that are avoided/not used when an Individual Section 4(f) Evaluation is being prepared.

Since *de minimis* uses must be examined under the Least Harm Analysis, it is not recommended that a separate *de minimis* checklist be prepared. Rather, the *de minimis* use(s) should be discussed within the Individual Section 4(f) Evaluation to eliminate unnecessary documentation.

## XII. PROGRAMMATIC SECTION 4(f) EVALUATIONS

Under certain circumstances, the option exists to apply a Nationwide Programmatic Section 4(f) Evaluation, rather than conduct an Individual Section 4(f) Evaluation. There are five Nationwide Programmatic Section 4(f) Evaluations:

The Programmatic Section 4(f) Guidelines which were published in the *Federal Register* are contained in **Appendix E**.

- Improvements to existing highways which result in the use of minor amounts of property from public parks, recreation areas, and wildlife and waterfowl refuges (52 FR 31116, August 19, 1987);
- Improvements to existing highways which result in the use of minor amounts of historic properties (52 FR 31118, August 19, 1987);
- Bridge replacement or rehabilitation projects which constitute a use of an historic bridge structure (48 FR 38139, August 22, 1983);
- Bikeway and walkway construction projects (Federal Highway Administration (FHWA), May 23, 1977); and
- Improvements to existing highways or a new alignment which result in the use of a park, recreation area, wildlife or waterfowl refuge, or historic property, where the position of the FHWA and the official(s) with jurisdiction over the property is that the use of the property will result in a net benefit to the property (70 FR 20618, April 20, 2005).

**NOTE:** Programmatic Section 4(f)s are “pre-approved” as long as project facts match the criteria in the Programmatic.

Programmatic Section 4(f)s are essentially pre-approved as long as:

- The project facts match the Programmatic;
- The impacts are within the range specified in the Programmatic;
- The avoidance alternatives that are specified in the Programmatic have been evaluated;
- Agreements have been received in writing from the official(s) with jurisdiction; and
- All measures to minimize harm have been evaluated. The policy requires that the FHWA Division Administrator determines that the conditions of the Programmatic Section 4(f)s have been met.

**NOTE:** Programmatic Section 4(f) Evaluations still require evaluation of avoidance alternatives and application of the feasible and prudent standard.

Many individuals view the ability to apply a Programmatic Section 4(f) Evaluation as a huge "short cut" in the Section 4(f) process. However, in fact, the same analysis is required for Programmatic Section 4(f) Evaluations as is required for Individual Section 4(f) Evaluations:

- The Section 4(f) properties still must be identified;
- The use must be determined;
- Avoidance alternatives still must be evaluated to determine if they are feasible and prudent; and
- The impact to the Section 4(f) property still must be minimized (if not avoided).

The Programmatic Section 4(f) does not relax the Section 4(f) requirements. The justification to use Section 4(f) properties is the same with the Programmatic Section 4(f) Evaluation as it is with an Individual Section 4(f) Evaluation. It still must be determined that:

- There is no feasible and prudent alternative to the use of Section 4(f) property, and
- The project includes all possible planning to minimize harm to the Section 4(f) property resulting from the use.

The primary differences in applying a Programmatic Section 4(f) instead of conducting an Individual Section 4(f) Evaluation are in the documentation required and the approval process. Documentation requirements for Programmatic Section 4(f) Evaluations are outlined in ***Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations***. The approval process for Programmatic Section 4(f) Evaluations is described in ***Section XV: Circulation and Approval Process***.

**NOTE:** Programmatic Section 4(f) Evaluations are documented using a checklist and are approved by the FHWA Division Administrator. No legal sufficiency review is required and there is no review and comment period.

**A Programmatic Section 4(f) Evaluation is approved by the FHWA Division Administrator; no legal sufficiency review is required.** In contrast, an Individual Section 4(f) Evaluation is subject to a legal sufficiency review by FHWA's legal counsel for the Final Section 4(f) Evaluation. Also, **Programmatic Section 4(f)s do not go through a circulation and comment period**, whereas, Individual Section 4(f) Evaluations (the Draft Section 4(f) Evaluations) are circulated for a 45-day comment period to the official(s) with jurisdiction, the US Department of the Interior (DOI), and where applicable, the US Department of Agriculture (USDA) and the US Department of Housing and Urban Development (HUD). **A Programmatic Section 4(f) Evaluation utilizes a structured checklist and supporting documentation.** Therefore, where appropriate, applying a Programmatic Section 4(f) can save a few months of processing time.

**NOTE:** The FHWA Division office approves all Section 4(f) Evaluations; however, a legal sufficiency review by FHWA's legal counsel is required for all Final Section 4(f) Evaluations.

In general, a Programmatic Section 4(f) Evaluation involves the following process:

- (1) Identify Section 4(f) properties and whether any of these properties will be used by the project alternatives through project scoping.
- (2) Coordinate with the official(s) with jurisdiction over the Section 4(f) property(s) used (i.e., the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), Park Authority, Municipality, etc.).
- (3) Confirm with the FHWA Division Office that the Programmatic Section 4(f) is applicable.
- (4) Evaluate avoidance alternatives as required by the Programmatic Section 4(f) guidelines and minimize impacts to the Section 4(f) properties where avoidance is not feasible and prudent.
- (5) Receive written agreement from the official(s) with jurisdiction over the Section 4(f) property(s) regarding the assessment of impacts to the Section 4(f) property(s) and the measures to minimize harm to the Section 4(f) property(s).
- (6) Request FHWA approval.
  - (a) Compile the Programmatic Section 4(f) checklist and submit it to the FHWA Division Office for review.

Or

- (b) Conduct a field view and document FHWA approval within the field view meeting minutes.
- (7) For minor takes from parks, recreation areas, and refuges or the Net Benefit nationwide programatics, provide the Programmatic Section 4(f) checklist to the official(s) with jurisdiction for informational purposes. The other three Programmatic 4(f)s do not require that documentation be provided to the official(s) with jurisdiction.

As indicated in the items above, the FHWA Division Administrator is charged with the responsibility of determining if the proposed project meets the criteria and procedures established for the Programmatic Section 4(f) Evaluation. Therefore, PennDOT must request approval from FHWA on the applicability of the Programmatic Section 4(f). This is accomplished through the completion and FHWA approval of the Programmatic checklist, which includes all of the necessary information to determine applicability.

The remainder of this chapter describes, in detail, the specifics regarding the applicability, avoidance alternatives analysis, and minimization measures for each of the five Programmatic Section 4(f) Evaluations.

**NOTE:** In many cases, a project may result in a use(s) that would qualify for both a Nationwide Programmatic and a *De Minimis* Use. Where this occurs, there would be an advantage to applying *De Minimis* Use, as it would eliminate the need to perform an avoidance alternatives analysis. This would help streamline the Section 4(f) process. Additional details on *De Minimis* Use are provided in **Section XI: De Minimis Section 4(f) Use** of this handbook.

In other cases, a project may qualify for the Net Benefit Programmatic as well as one of the other Programmatic. In these cases, either option can be used. The Net Benefit Programmatic provides more flexibility in the prudent and feasible test for avoidance alternatives and helps to stress the importance of performing environmental stewardship whenever practicable. (Net Benefit is discussed in more detail in **Section XII.D: Net Benefit** below.) However, if the official(s) with jurisdiction are unsure as to whether the project does in fact result in a Net Benefit, or costs associated with mitigation are too high, it may be advantageous to apply the other Programmatic.

## **A. PROJECTS WHICH IMPROVE EXISTING HIGHWAYS AND USE MINOR AMOUNTS OF A SECTION 4(f) PROPERTY**

This section addresses the requirements for two of the five types of Programmatic Section 4(f) Evaluations:

- Improvements to existing highways that use minor amounts of public parks, recreation areas, and wildlife and waterfowl refuges; and
- Improvements to existing highways that use minor amounts of historic or archaeological sites.

These are addressed in one section because the provisions are similar. Copies of the policy governing these two Programmatic are included in **Appendix E**. In determining whether the proposed project qualifies under one of these Programmatic Section 4(f) Evaluations, certain criteria must be satisfied regarding the nature of the project (See **Subsection 1 below**), and the nature of and degree of impact to the Section 4(f) property (See **Subsection 2 below** for public parks, recreation areas, or wildlife and waterfowl refuges and **Subsection 3 below** for historic or archaeological resources).

### **1. APPLICABLE PROJECTS**

To qualify under one of the two minor amounts Programmatic Section 4(f) Evaluations, the proposed project must be designed to improve the operational characteristics, safety, and/or physical condition of an existing highway facility. Therefore, the proposed project must be on essentially the same alignment. The following types of improvements are examples of improvements that qualify for the minor amounts Programmatic Section 4(f) Evaluations:

- "4R" work (resurfacing, restoration, rehabilitation, and reconstruction);
- Safety improvements, such as shoulder widening and correction of substandard curves and intersections;
- Traffic operation improvements, such as signalization, channelization, and turning or climbing lanes;
- Bicycle and pedestrian facilities;
- Bridge replacements on essentially the existing alignment; and
- The construction of additional lanes along an existing alignment.

A Programmatic Section 4(f) Evaluation **cannot be done** using the minor amounts Programmatic Section 4(f) Evaluations if the proposed project involves the construction of a highway at a new location. In addition, the minor amounts Programmatic Section 4(f) Evaluations **cannot be used** if the proposed project requires an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) (i.e. a minor amounts Programmatic Section 4(f) Evaluation can be performed only on projects which qualify as a Categorical Exclusion (CE) or Environmental Assessment (EA) under NEPA).

**NOTE:** The two minor amounts Programmatic Section 4(f) Evaluations **cannot** be used if the project is on **new location** or requires preparation of an **EIS**.

## 2. APPLICABILITY FOR MINOR INVOLVEMENT WITH PUBLIC PARKS, RECREATION LANDS, AND WILDLIFE AND WATERFOWL REFUGES

To qualify for this Programmatic Section 4(f) Evaluation, the following criteria regarding the nature of the property take from the publicly owned public park, recreation lands, or wildlife and waterfowl refuges must be satisfied:

- The public park, recreation lands, or wildlife and waterfowl refuge that is impacted must be located adjacent to the existing highway.
- The amount of land taken from the Section 4(f) site may not exceed the amounts shown in the table below:

Size of Section 4(f) Property	Maximum that can be acquired
< 10 acres	10% of Property
10-100 acres	1 acre
> 100 acres	1% of Property

- The proposed project's proximity impacts on the remaining Section 4(f) property cannot substantially impair the intended use of the property. These proximity impacts would



include, but are not necessarily limited to, noise, air, water quality, wildlife and habitat effects, and esthetic values and/or other relevant factors. This determination regarding the impairment of the Section 4(f) site's intended use must be made by FHWA in coordination with PennDOT and the official(s) with jurisdiction over the Section 4(f) property. The Programmatic Section 4(f) documentation should include details on the proximity impacts to the remaining Section 4(f) property.

The official(s) with jurisdiction over the Section 4(f) property must agree, in writing, (1) with the assessment of the impacts on the Section 4(f) property; and (2) on the mitigation for the Section 4(f) property.

**NOTE:** In most cases, a project that would qualify for the Minor Use of Parks Programmatic could also qualify as a *De Minimis* Use, and/or qualify under the Net Benefit Programmatic. Where this occurs, there would be an advantage to applying *De Minimis* Use, as it would eliminate the need to perform an avoidance alternatives analysis; thereby streamlining the process. It should be further noted that for projects that have a minor use of parkland, but do not qualify for the Minor Use of Parks Programmatic because they require completion of an EIS, they may qualify under the Net Benefit Programmatic, and should be examined as such. The Net Benefit Programmatic is discussed in **Section XII.D: Net Benefit** below. *De Minimis* Use is discussed in **Section XI: De Minimis Section 4(f) Uses**.

PennDOT, on behalf of the FHWA Division Office, maintains a *Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with Public Parks, Recreational Lands and Wildlife and Waterfowl Refuges Checklist* for use for such projects. This checklist is further discussed within **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations**. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

### 3. APPLICABILITY FOR MINOR INVOLVEMENTS WITH HISTORIC SITES

To qualify for this Programmatic Section 4(f) Evaluation, the following criteria regarding the nature of the property acquisition from the historic or archaeological site impacted must be satisfied:

- The historic or archaeological site must be listed in or be eligible for listing in the *National Register of Historic Places* in accordance with the Section 106 process.
- The historic or archaeological site which is impacted must be located adjacent to the existing highway.
- The proposed project cannot require the removal or alteration of historic buildings, structures, or objects on the historic site.
- The project does not require the disturbance or removal of archaeological resources that are important to preserve in place.

- The SHPO must agree in writing that the impact on the Section 4(f) site is a minor impact. A minor impact is defined as either a "No Historic Property Affected" or "No Adverse Effect" finding under Section 106.
- The SHPO must agree in writing, (1) with the assessment of the impacts on the historic or archaeological site; and (2) on the mitigation for the historic or archaeological site.

**NOTE:** This programmatic can be applied to Historic Districts when impacts to its contributing elements are minor (i.e. "No Adverse Effect" or "No Historic Properties Affected"), and the involvement is limited to the use of land, and does not require the removal or alteration of historic buildings, structures, or objects.

PennDOT, on behalf of the FHWA Division Office, maintains a *Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvements with Historic Sites Checklist* for use for such projects. This checklist is further discussed within **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations**. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

**NOTE:** Both the Minor Use of Historic Sites Programmatic and the *De Minimis* Use finding require a "No Adverse Effect" or "No Historic Properties Affected" finding. In addition, the *De Minimis* Use finding requires agreement (in writing) by the official(s) with jurisdiction on the *De Minimis* finding. In Pennsylvania, the SHPO (Pennsylvania Historic and Museum Commission (PHMC)) has concurred in a letter dated March 1, 2006 that when a finding of No Adverse Effect or No Historic Properties Affected is made on a project, they understand and agree that the project would result in a *De Minimis* Use (**Appendix K**). If the SHPO review time clock passes, concurrence on a No Adverse Effect or No Historic Properties Affected determination, and hence a *De Minimis* finding, is granted. Therefore, any project which qualifies for the Minor Use of Historic Sites Programmatic would also qualify as a *De Minimis* Use. There would be an advantage to applying *De Minimis* Use, as it would eliminate the need to perform an avoidance alternatives analysis.

#### 4. AVOIDANCE ALTERNATIVES TO BE CONSIDERED

Even if the proposed highway improvement project qualifies for one of the two minor amounts Programmatic Section 4(f) Evaluations, alternatives that avoid or minimize the use of the Section 4(f) property(s) must be evaluated. The following avoidance alternatives must be evaluated to determine if they are feasible and prudent avoidance alternatives:

- The Do Nothing/No Build Alternative;
- An alternative(s) to improve the highway without using the Section 4(f) property (including, but not limited to, minor alignment shifts, changes in geometric design standards, use of retaining walls and/or other structures, and traffic diversion or other traffic management measures); and

- An alternative(s) to construct an improved facility at a new location without using the Section 4(f) property.

These alternatives need to be developed regardless of whether the Section 4(f) properties impacted are publicly owned parks, recreation lands or wildlife and waterfowl refuges, or historic/archaeological sites.

The Programmatic Section 4(f) checklist must reflect that each of the above alternatives was fully evaluated. If a feasible and prudent alternative exists which totally avoids the use of Section 4(f) properties, this alternative must be selected (assuming the use is not *de minimis* or results in a net benefit).

Essentially, in order to select the alternative that uses the Section 4(f) property(s), the Do Nothing/No-Build Alternative and the alternative(s) that does not use Section 4(f) properties must be found not to be feasible and prudent. This can be based on the alternative not being buildable as a matter of sound engineering judgment, not meeting the project needs, or on a cost or environmental impact of extraordinary magnitude or resulting in truly unusual or unique problems when compared with the proposed use of the Section 4(f) property(s) and the value of the Section 4(f) property.

Project needs are considered not met when one or more of the problems/deficiencies identified in the project area are not met. For example:

- It would not correct the existing or projected capacity deficiencies.
- It would not correct existing safety hazards.
- It would not correct existing deteriorated conditions and maintenance problems.

**NOTE:** Examples of severe social, economic, or environmental impacts, severe disruption of established communities, severe disproportionate impacts to minority or low income populations that are of an extraordinary magnitude or result in truly unusual or unique problems are described below. Please note that these reasons must be characterized as truly unusual, or unique, or of an extraordinary magnitude (individually or collectively) and must substantially outweigh the importance of protecting the Section 4(f) property (e.g. the relative value of the property to the preservation goals of the statute):

- Based on the facts presented in the Section 4(f) document, the alternative would result in substantial adverse community impacts to adjacent homes, businesses, or other improved properties that are of an extraordinary magnitude;
- The new location would result in substantial adverse social, economic, or environmental impacts, including such impacts as extensive severing of productive agricultural lands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, substantial damage to wetlands or other sensitive natural areas;
- The new location would substantially increase costs or create engineering difficulties,

such as an inability to achieve minimum design standards, or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.

These findings need to be supported by circumstances, studies, and consultations on the proposed project. The facts to fully support these conclusions must be presented or be summarized and referenced in the checklist. A recitation of these conclusions without fully supporting them is not permissible. The Programmatic Section 4(f) checklist needs to include the applicable findings and the factual support for these findings. References to technical files or studies may be made in the checklist where appropriate. The referenced materials should be included in the Technical Support Data files.

## **5. MINIMIZATION OF HARM TO THE SECTION 4(f) PROPERTIES**

Once it has been determined that there are no feasible and prudent alternatives that would avoid the Section 4(f) use(s), consideration must be given to measures that would minimize harm, and reasonable measures must be incorporated into the project.

If the proposed project involves the use of a public park, recreation area, or wildlife and waterfowl refuge, one or more of the following mitigation measures could be included in the mitigation plan, if determined to be reasonable and appropriate, for the proposed project:

- Replacement of lands used with lands of reasonably equivalent usefulness and location and of at least comparable value.
- Replacement of facilities impacted by the project such as sidewalks, paths, benches, lights, trees, and other facilities.
- Restoration and landscaping of disturbed areas.
- Incorporation of design features and habitat features where necessary that will not adversely affect the safety of the highway. Some examples of design features are reduction in right-of-way width, modifications to the roadway section, retaining walls, curb and gutter sections, and minor alignment shifts. Some examples of habitat features are construction of new or the enhancement of existing wetlands or other special habitat types.
- Payment of the fair market value of the land taken or improvements to the remaining Section 4(f) site equal to the fair market value of the land taken.
- Such additional or alternative mitigation measures as may be determined necessary based on consultation with the official(s) with jurisdiction over the park, recreation area, or wildlife or waterfowl refuge.

If the proposed project involves the use of an historic or archaeological site, the mitigation plan should include measures necessary to preserve the historic integrity of the property as agreed to by FHWA, the SHPO, and as appropriate, the ACHP in accordance with the Memorandum of Agreement (MOA) or Programmatic Agreement (PA) developed during the Section 106 process (36 CFR 800).

## **B. PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES**

Under FHWA's policy, the restoration, rehabilitation, or maintenance of an historic bridge structure does not constitute a "use" under Section 4(f), and thus, would not require a Section 4(f) Evaluation if the following are true:

- (1) The proposed project would not adversely affect the historic qualities of the historic bridge structure that make it eligible for the *National Register*; and
- (2) The SHPO and ACHP have not objected to this finding.

However, if the proposed project impairs the historic integrity of the historic bridge structure, then a Section 4(f) Evaluation must be performed for the proposed project. As discussed previously, FHWA makes this final determination. A copy of the policy governing this Programmatic is included in **Appendix E**. PennDOT, on behalf of the FHWA Division Office, maintains a *Nationwide/Programmatic Section 4(f) Evaluation for Projects that Necessitate the Use of Historic Bridges Checklist* for use on such projects. This checklist is further discussed within **Section X**. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

**NOTE:** If the project involves only an historic bridge and no other Section 4(f) properties, use the Programmatic for historic bridges, not the Programmatic for minor uses of Section 4(f) properties. If the project has an historic bridge and another Section 4(f) property that falls under a Programmatic, then use the Programmatic for historic bridges and the appropriate Programmatic for the other property. If, in addition to the qualifying historic bridge, the project involves a Section 4(f) property that does not fit another Programmatic, an Individual Section 4(f) Evaluation must be completed to cover all uses. Adverse effects to a bridge that is a contributing element to an Historic District, not individually eligible, are not covered by the Programmatic for historic bridges. (For these cases, consider whether the bridge can be designed in such a manner that the Net Benefit Programmatic may apply.)

### **1. APPLICABILITY**

In order to use the historic bridges Programmatic Section 4(f) Evaluation, the following criteria must be satisfied:

- The bridge is to be replaced or rehabilitated with Federal funds.
- The historic bridge structure is on or eligible for the *National Register of Historic Places*.

- The bridge is not a National Historic Landmark.
- The FHWA Division Administrator determines that the facts of the project match those set forth in the sections of the Programmatic Agreement labeled "Alternatives, Findings and Mitigation".
- Agreement among the FHWA, SHPO, and ACHP (if participating) has been reached through the procedures for Section 106 of the National Historic Preservation Act.

The Programmatic Section 4(f) Evaluation must clearly demonstrate that each of the above criteria was satisfied for the proposed project.

**NOTE:** The Programmatic Section 4(f) for Historic Bridges cannot be used for a project processed as an EIS. The programmatic also cannot be applied when the bridge is a contributing element to an historic district.

**NOTE:** It is recommended that early coordination be conducted with PHMC to determine whether the project can be designed to incorporate context sensitive solutions and other minimization and mitigation measures such that it would result in a No Adverse Effect. If this Section 106 effect finding can be achieved, the project would qualify as a *De Minimis* Use. By applying the *De Minimis* Use finding, performance of an avoidance alternatives analysis would not be required, thereby streamlining the process.

## 2. AVOIDANCE ALTERNATIVES TO BE CONSIDERED

Even if the proposed project qualifies for the Programmatic Section 4(f) Evaluation for an historic bridge structure, alternatives that avoid the use of the historic bridge structure must be evaluated. The following avoidance alternatives must be evaluated to determine if they are feasible and prudent:

- The Do Nothing/No-Build Alternative;
- An alternative(s) to construct a new structure at a different location without affecting the historic integrity of the structure; and
- An alternative(s) to rehabilitate the historic bridge without affecting the historic integrity of the structure.

The Programmatic Section 4(f) checklist must reflect that each of the above alternatives were fully evaluated. If a feasible and prudent alternative exists which totally avoids the use of Section 4(f) properties, this alternative must be selected (assuming the use is not *de minimis* or results in a net benefit).

The following findings regarding each of the above alternatives need to be made:

- a. The **Do Nothing/No-Build Alternative** must be found not to be feasible and prudent based on one or more of the following reasons:

- Maintenance - The Do Nothing/No-Build Alternative does not correct the situation that causes the bridge to be considered structurally deficient or deteriorated. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to cope with the situation.
  - Safety - The Do Nothing/No-Build Alternative does not correct the situation that causes the bridge to be considered deficient. Because of these deficiencies, the bridge poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.
- b. The **alternative(s) to construct a new structure at a different location** without affecting the historic integrity of the structure must be found not to be feasible and prudent based on one or more of the following reasons:
- Terrain - The present bridge structure has already been located at the only feasible and prudent site, i.e., a gap in the land form, the narrowest point of the river canyon, etc. To build a new bridge at another site will result in extraordinary bridge and approach engineering and construction difficulty or costs or extraordinary disruption to established traffic patterns.
  - Severe Social, Economic, or Environmental Effects - Building a new bridge away from the present site would result in severe social, economic, or environmental impacts that substantially outweigh the importance of protecting the Section 4(f) property. Such impacts include extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, and access and damage to wetlands of an extensive nature. These reasons may individually or cumulatively weigh heavily against relocation to a new site.
  - Engineering and Economy - Where difficulty associated with the new location is less extreme than those encountered above, a new site would not be feasible and prudent where cost and engineering difficulties reach extraordinary magnitude. Factors supporting this conclusion include significantly increased roadway and structure costs, serious foundation problems, or extreme difficulty in reaching the new site with construction equipment. Additional design and safety factors to be considered include an ability to achieve minimum design standards or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.
  - Preservation of the Old Bridge - It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built at a new location. This could occur when the historic bridge is beyond rehabilitation for a transportation or an alternative use, when no responsible party can be located to maintain and preserve the bridge, or when a permitting authority requires the removal or demolition of the old bridge.

- c. The **alternative(s) to rehabilitate the historic bridge without affecting the historic integrity** of the structure must be found not to be feasible and prudent based on one or more of the following reasons:
- Structurally Deficient - The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable load requirements without affecting the historic integrity of the bridge.
  - Geometric Deficiencies - The bridge has serious geometric deficiencies and cannot be altered to meet the minimum requirements of the highway system on which it is located without affecting the historic integrity of the bridge. Flexibility in the application of the American Association of State Highway and Transportation Officials geometric standards should be exercised as permitted in 23 CFR 625 during the analysis of this alternative.

These findings need to be supported by circumstances, studies, and consultations on the proposed project. The Programmatic Section 4(f) checklist needs to include the applicable findings and the factual support for these findings. References to technical files or studies may be made on the checklist where appropriate.

### **3. MINIMIZATION OF HARM TO THE SECTION 4(f) PROPERTY**

Once it is determined that avoidance of the historic bridge is not feasible and prudent, minimization must be considered. Minimization of harm is complete for bridges that are being rehabilitated or replaced when the following are satisfied:

- When the bridge is rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.
- When integrity is affected, or the bridge structure is moved or demolished, documentation is made of the bridge by suitable means as developed through consultation with the SHPO and ACHP (if participating).
- The proposed project's mitigation plan includes reasonable measures necessary to minimize harm to the historic bridge structure as agreed to by FHWA, the SHPO, and as appropriate the ACHP in accordance with the Section 106 process (36 CFR 800).
- For bridges that are to be replaced and the existing bridge is made available for an alternative use, a responsible party must agree to maintain and preserve the bridge.



## C. INDEPENDENT BIKEWAY OR WALKWAY CONSTRUCTION PROJECTS

A Programmatic Section 4(f) Evaluation can be applied to bikeway or walkway construction projects. These facilities are provided when bicycle or pedestrian traffic would have normally used a Federal-aid highway route. If the project requires the use of public recreation and park areas established and maintained primarily for active recreation, open space and similar purposes, and all possible planning to minimize harm to the Section 4(f) property has been accomplished as approved by the official(s) with jurisdiction over the Section 4(f) property, a Programmatic Section 4(f) Evaluation can be performed. See **Appendix E** for a copy of the Negative Declaration/Section 4(f) Statement for Independent Bikeway or Walkway Construction Projects. To document the applicability of this Programmatic, a copy of the FHWA May 23, 1977 negative declaration/Section 4(f) statement, along with the approval letter from the official(s) with jurisdiction, should be placed in the individual project file. A completed *Section 4(f) Non-Applicability/No Use checklist* should also be completed and placed in the project file.

For the Programmatic Section 4(f) Evaluation to apply, the following must be true:

- The proposed bikeway or walkway construction project will not affect noise and air quality, or require the displacement of families or businesses.
- Any temporary water quality impacts will be mitigated by erosion control measures during construction.
- Visual impacts will be mitigated by integrating the project into the surrounding conditions.
- There should be no significant or adverse social or economic impacts.
- Recreational potential of the parks or recreational areas should be enhanced, as well as the bikeway or walkway providing an alternative mode of transportation.

The Independent Bikeway or Walkway Programmatic Section 4(f) cannot be used under the following situations:

- The bikeway or walkway would require the use of critical habitat of endangered species.
- The use of land from a publicly owned wildlife or waterfowl refuge is required.
- The use of land from an historic site of national, state, or local significance is required.
- The project has major impacts, adverse effects, or controversy.

As with the other situations qualifying for a Programmatic Section 4(f) Evaluation, the final decision on whether a proposed project is applicable is made by FHWA.

**NOTE:** The Independent Bikeway or Walkway Programmatic Section 4(f) cannot be used for a project processed as an EIS.

## D. NET BENEFIT

**NOTE:** The Net Benefit Programmatic can be used with all of the NEPA processing options – CEs, EAs, and EISs. This is the only Programmatic that can be used with the EIS processing option.

This section addresses the Nationwide Programmatic Section 4(f) Evaluation that can be prepared for federally assisted transportation improvement projects on existing or new alignment that will use Section 4(f) property but will result in a net benefit to this property according to FHWA and the official(s) with jurisdiction over the Section 4(f) property. This net benefit is the result of an overall enhancement to the Section 4(f) property because of use, minimization, and mitigation associated with the project. FHWA will ultimately determine if the project meets the criteria of this Programmatic Evaluation.

The Net Benefit Programmatic states that “a “net benefit” is achieved when the transportation use, the measures to minimize harm and the mitigation incorporated into the project result in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features and attributes that qualify the property for Section 4(f) protection. A project does not achieve a “net benefit” if it will result in a substantial diminishment of the function or value that made the property eligible for Section 4(f) protection.”

This Programmatic can be used for any class of action under NEPA (EIS, EA, or CE). A copy of the policy governing this Programmatic is included in **Appendix E**. PennDOT, on behalf of the FHWA Division Office, maintains a *Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects that have Net Beneficial Use (Net Benefit) Checklist* for use on such projects. This checklist is further discussed within **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations**. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

### 1. APPLICABILITY

In order to qualify for a Net Benefit Programmatic Section 4(f) Evaluation, the following criteria must be satisfied:

- The proposed transportation project uses a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site.
- The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection.

- For historic properties, the project does not require the major alteration of the characteristics that qualify the property for the *National Register of Historic Places* such that the property would no longer retain sufficient integrity to be considered eligible for listing. For archaeological properties, the project does not require the disturbance or removal of the archaeological resources that have been determined important for preservation in-place rather than for the information that can be obtained through data recovery. The determination of a major alteration or the importance to preserve in-place will be based on consultation consistent with 36 CFR 800.
- For historic properties, consistent with 36 CFR 800, there must be agreement reached amongst the SHPO and as appropriate, FHWA, and PennDOT on measures to minimize harm when there is a use of Section 4(f) property. Such measures must be incorporated into the project.
- The official(s) with jurisdiction over the Section 4(f) property agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate, and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property.
- The FHWA Division Administrator determines that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination, and Public Involvement sections of the Programmatic Agreement.

The Programmatic Section 4(f) Evaluation must clearly demonstrate that each of the above criteria was satisfied for the proposed project. If an agreement on net benefit cannot be reached between FHWA and the official(s) with jurisdiction over the Section 4(f) property, the Programmatic **cannot** be used.

**Example:** A bridge is a contributing element to an historic district, and the proposed project involves removal of the bridge. Through coordination with the SHPO, mitigation for construction of the new bridge would include context sensitive design, and by doing so there is overall improvement and enhancement. Therefore, the project would be considered to have a net benefit, and a Net Benefit Programmatic checklist was completed.

**Example:** A pier for a new bridge project would be placed on an island (owned by the Commonwealth) that exists within the waterway. The island contains a wildlife refuge and a small beach. Neither of these resources is utilized often due to the difficulty of getting to the island. Due to the refuge and beach, this island is a Section 4(f) property. Mitigation measures including providing a pedestrian walkway from the bridge to the island and picnic tables at the beach were incorporated into the project. These measures would enhance the recreational opportunities, and therefore were considered to have a net benefit to the resource. As such, a Net Benefit Programmatic checklist was completed for this project.

Examples of the Intended Use of the Net Benefit Programmatic are contained in the Programmatic Section 4(f) Guidelines, which were published in the Federal Register and are contained in **Appendix E**. Additional project situational examples can be found in **Appendix I**.

## 2. AVOIDANCE ALTERNATIVES TO BE CONSIDERED

Even if the proposed project qualifies for a Programmatic Section 4(f) Evaluation for a net benefit to a Section 4(f) property, alternatives that avoid the use of the property must be evaluated. The following avoidance alternatives must be evaluated to determine if they are feasible and prudent:

- The Do Nothing/No-Build Alternative;
- An alternative(s) to improve the highway facility without using the Section 4(f) property (including, but not limited to, minor alignment shifts, changes in geometric design standards, use of retaining walls and/or other structures, and traffic diversion or other traffic management measures); and
- An alternative(s) to construct the highway facility at a new location without using the Section 4(f) property.

These alternatives need to be developed regardless of whether the Section 4(f) properties impacted are publicly owned parks, recreation lands or wildlife and waterfowl refuges, or historic/archaeological sites.

**NOTE:** Section 4(f) does not apply to archaeological sites, which are determined, through consultation with the SHPO and ACHP, to be important chiefly because of what can be learned by data recovery and have minimal value for preservation in place. Most archaeological sites in Pennsylvania fall into this category; therefore, Section 4(f) does not usually apply to archaeological sites.

The Programmatic Section 4(f) Evaluation must demonstrate that each of the above alternatives was fully evaluated. If a feasible and prudent alternative exists which totally avoids the use of Section 4(f) properties, this alternative must be selected.

Essentially, in order to select the alternative that uses the Section 4(f) property(s), the Do Nothing/No-Build Alternative and the alternatives that do not use Section 4(f) properties, must be found not to be feasible and prudent (see *Section IV: What Constitutes a Feasible and Prudent Alternative?*). This can be based on the alternative not being buildable as a matter of sound engineering judgment, not meeting the project needs, or on costs or environmental impacts of extraordinary magnitude or resulting in truly unusual or unique problems that substantially outweighs the importance of protecting the resource when compared with the proposed use of the Section 4(f) property(s). In addition, for projects that qualify for the Net Benefit Programmatic, an alternative can be found not prudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property.

**NOTE:** An avoidance alternative can be found imprudent if it would result in a substantial missed opportunity to benefit a Section 4(f) property. This is in addition to prudence arguments regarding inability to meet project needs and impacts of an extraordinary magnitude. The missed opportunity concept provides more flexibility in the prudent and feasible test for avoidance alternatives; thereby helping to stress the importance of performing environmental stewardship whenever practicable.

Project needs are considered not met when one or more of the problems/deficiencies identified in the project area are not met. For example:

- It would not correct the existing or projected capacity deficiencies.
- It would not correct existing safety hazards.
- It would not correct existing deteriorated conditions and maintenance problems.

These findings need to be supported by circumstances, studies, and consultations on the proposed project. The facts to fully support these conclusions must be presented or be summarized and referenced in the checklist. A recitation of these conclusions without fully supporting them is not permissible. The Programmatic Section 4(f) checklist needs to include the applicable findings and the factual support for these findings. References to technical files or studies may be made in the checklist where appropriate. The referenced materials should be included in the Technical Support Data files.

**NOTE:** Examples of severe social, economic, or environmental impacts, severe disruption of established communities, and severe disproportionate impacts to minority or low income populations that are of an extraordinary magnitude or result in truly unusual or unique problems are described below. Please note that these reasons must be characterized as truly unusual, or unique, or of an extraordinary magnitude (individually or collectively) and must substantially outweigh the importance of protecting the Section 4(f) property (e.g. the relative value of the property to the preservation goals of the statute):

- Based on the facts presented in the Section 4(f) document, the alternative would result in substantial adverse community impacts to adjacent homes, businesses, or other improved properties that are of an extraordinary magnitude;
- The new location would result in substantial adverse social, economic, or environmental impacts, including such impacts as extensive severing of productive agricultural lands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, substantial damage to wetlands or other sensitive natural areas;
- The new location would substantially increase costs or create engineering difficulties, such as an inability to achieve minimum design standards, or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.

### **3. MITIGATION AND MINIMIZATION OF HARM TO THE SECTION 4(f) PROPERTIES**

Once it has been shown that the avoidance alternatives are not feasible and prudent and/or would result in a substantial missed opportunity to benefit the Section 4(f) property, consideration should be given to all possible planning to minimize harm to the Section 4(f) property, and subsequent reasonable mitigation measures necessary to preserve and enhance those features and values of the property that originally qualified it for Section 4(f) protection.

Coordination is needed with the official(s) with jurisdiction regarding mitigation to off-set and enhance the features and values of the property, ultimately resulting in a net benefit. Concurrence in writing is needed from the official(s) with jurisdiction.

If the proposed project involves the use of an historic or archaeological site (warranting preservation in place), the mitigation plan should include measures necessary to preserve the historic integrity of the property as agreed to by FHWA, the SHPO, and as appropriate, the ACHP in accordance with the MOA or PA developed during the Section 106 process (36 CFR 800).

### **4. COORDINATION WITH OFFICIAL(S) WITH JURISDICTION**

In order to apply the Programmatic Section 4(f) Evaluation for projects that have a net benefit to a Section 4(f) property, there must be agreement among FHWA, PennDOT, and the official(s) with jurisdiction over the Section 4(f) property that the use of the property, reasonable measures to minimize harm, and reasonable mitigation will result in a net benefit to the Section 4(f) property. All three parties must agree that 1) a use of the property does not result in a substantial impairment, 2) the project includes all possible planning to minimize harm, and 3) the cumulative result is an overall improvement and enhancement of the Section 4(f) property. Agreement from the official(s) with jurisdiction must be in writing.

## XIII. CONTENT AND FORMAT OF INDIVIDUAL SECTION 4(f) EVALUATIONS

When a project uses land(s) protected by Section 4(f), and one or more of those uses does NOT qualify under the *de minimis* finding, temporary use conditions, or one of the Section 4(f) Programmatic (when applicable as described in **Section XII: Programmatic Section 4(f) Evaluations**), an Individual Section 4(f) Evaluation must be prepared. The following format and content are to be used for Individual Section 4(f) Evaluations.

**NOTE:** The Federal Highway Administration's (FHWA) technical advisory, T6640.8A, October 30, 1987, provides a suggested format for Section 4(f) Evaluations. On September 22, 1997, the Office of Chief Counsel sent a letter to FHWA requesting modification of the format for Section 4(f) Evaluations. On March 23, 1998, FHWA sent a letter to PennDOT Chief Counsel agreeing with the proposed format with a few minor modifications. FHWA's letter is included in **Appendix M** along with a copy of the agreed upon format. The format presented in this Handbook is consistent with the format agreed upon by Chief Counsel and FHWA, and should be used for all Individual Section 4(f) Evaluations in Pennsylvania.

Note that, in accordance with the Section 4(f) regulations, pertinent information from various sections of the Environmental Impact Statement (EIS), Environmental Assessment (EA), Categorical Exclusion Evaluation (CEE), or technical support data files may be summarized in the Individual Section 4(f) Evaluation to reduce repetition. However, be sure to then include a complete reference to the EIS, EA, CEE, or technical support data files.

**The following general outline should be used in preparing an Individual Section 4(f) Evaluation, as applicable:**

- I. Introduction/Description of Proposed Action*
- II. Project Purpose and Need*
- III. Identification and Description of the Section 4(f) Properties*
- IV. Alternatives Analysis*
  - A. Identification and Evaluation of Alternatives That Totally Avoid All Section 4(f) Properties*
  - B. Identification and Evaluation of Other Alternatives Considered*
  - C. Assessment of Least Overall Harm*
    - 1. Shifts/Design Modifications to Avoid the Use of Section 4(f) Properties*
    - 2. All Possible Planning to Minimize Harm to Section 4(f) Properties*
    - 3. Determination of Which Alternative Results in Least Overall Harm*
- V. Coordination with Agencies with Jurisdiction over the Section 4(f) Properties*
- VI. Conclusion (Only Included in the Final Section 4(f) Evaluation)*

**NOTE:** Every project is unique; therefore, there may be situations where slight deviation from this outline is appropriate. Any deviations from this outline should be discussed with FHWA and Chief Counsel prior to preparation of the Draft Section 4(f) Evaluation. This will facilitate review and help avoid unnecessary comments and revisions.

Details regarding the content of each of the sections within the Section 4(f) Evaluation are provided below.

## **A. INTRODUCTION/DESCRIPTION OF PROPOSED ACTION**

This section of the Section 4(f) Evaluation would describe the proposed action in general terms. The specific alternatives (especially the preferred alternative) would not be described at this point. Additionally, the lead/co-lead agencies would be identified and the history of the project would be summarized.

## **B. PROJECT PURPOSE AND NEED**

This section would identify the project needs and summarize the **facts** that led to the determination that these problems exist. The project purpose would then be stated. The needs and purpose statement should be consistent with the National Environmental Policy Act (NEPA) documentation.

**NOTE:** Alternatives and avoidance alternatives/shifts that do not meet the project needs are not considered prudent and can be dismissed. Therefore, a strong, clearly written purpose and need is important to the Section 4(f) Evaluation.

## **C. IDENTIFICATION AND DESCRIPTION OF THE SECTION 4(f) PROPERTIES**

For large/complex projects, such as EISs and some EA projects, the study area is often large, and contains a vast number of Section 4(f) properties. For these projects, it is recommended that a broad-brush “study area” map be generated, illustrating the location of all of the known historic and recreational/refuge sites within the study area. The purpose of this map is to depict the known location of Section 4(f) properties, thereby illustrating the difficulty in avoiding these resources. This map is recommended for EIS and EA projects, but may not be necessary for CE projects, where the study area and the number of Section 4(f) properties are smaller.

Descriptions of the Section 4(f) properties are then provided. Descriptions should only be provided for those properties **used** by one (or more) of the proposed alternatives or avoidance shifts. The historic sites described should include those located within the project area that were evaluated and found to be listed, or eligible for listing, in the *National Register of Historic Places* and are used by one or more alternatives. In addition, all Section 4(f) public parks, recreation areas, and wildlife and waterfowl refuges used by an alternative should be described. Section 4(f) properties should be described for all types of uses, even if the use would be *de minimis* or could result in a net benefit. Include a map of the locations of the Section 4(f)



properties in relation to the project's alternatives and other project area features. Describe in detail the Section 4(f) property, including the following information:

**For Historic Sites:** Describe the properties used by any of the project's alternatives. Include why the property is eligible for listing (do not simply reference the Section 106 Criteria A, B, C, or D), its boundaries, contributing elements (if any exist), and any unusual characteristics of the Section 4(f) property that either reduce or enhance the value of all or part of the historic site (e.g., its location next to a heavily traveled roadway). Inclusion of photographs of the properties used by the proposed project is suggested. Reference the Historic Structures Survey (if one was done), and the Determination of Eligibility Report. The Section 4(f) Evaluation questionnaires included in *Section XVII: Section 4(f) Evaluation Questionnaires* will be useful in writing this section.

**For Public Parks/Recreation Areas/Wildlife and Waterfowl Refuges:** Describe the Section 4(f) park, recreation area, or refuge used by any of the project's alternatives. Include the ownership of the property (City, County, etc.), the function of or available activities on the property (ball playing, swimming, golfing, etc.), a description and location of all existing and planned facilities (ball diamonds, tennis courts, etc.), description of access (pedestrian, vehicular, etc.), a description of the approximate number of users/visitors, and any unusual characteristics that either reduce or enhance the value of all or part of the property. Highlight the major purpose of the property and the determination of significance made by the official(s) with jurisdiction. If the property is a multi-use property (such as State or Federal forest lands, school property where a portion of the property contains ballfields/recreational fields open to the public, etc), discuss any management plans that exist and identify where the recreational activities or refuge areas are in relation to the property boundaries. The Section 4(f) Evaluation questionnaires included in *Section XVII: Section 4(f) Evaluation Questionnaires* will be useful in writing this section.

**NOTE:** Under Section 4(f), State Game Lands are considered multi-use properties. However, Section 2002 of PA Act 120 (see *Section XVI: Pennsylvania Act 120 Requirements* for information on Section 2002) specifically lists State Game Lands as one of the resources to be avoided, if possible. Therefore, a portion of State Game Land that is determined not to be a Section 4(f) property applying multi-use principles (e.g. management plan providing primary use is timbering, property is landlocked and only occasionally used by the public) would still be a Section 2002 property. In order to avoid the preparation of two separate evaluations (one for Section 4(f) and one for Section 2002) State Game Lands are generally treated as a Section 4(f)/Section 2002 property in their entirety. This is specific to State Game Lands in Pennsylvania.

## D. ALTERNATIVES ANALYSIS

The Alternatives Analysis is the most critical part of the Section 4(f) Evaluation. The first step is to examine whether a Feasible and Prudent Total Avoidance Alternative exists (*Section VIII.A: What is a Total Section 4(f) Avoidance Alternative?*). If there is a Feasible and Prudent Total Avoidance Alternative, it must be selected. If a Feasible and Prudent Total Avoidance Alternative does not exist, an Alternatives Analysis and Assessment of Least Overall Harm must

be performed. The decision-making process for determining the proper Section 4(f) approach is outlined in *Section V: Approach to Section 4(f) Decision-Making*.

**NOTE:** For projects where all uses are *de minimis* and/or result in a net benefit, Section 4(f) checklists can be completed and an Individual Section 4(f) Evaluation is not required.









As a lead in to the Alternatives Analysis section, it may be advisable to list all the alternatives that are considered in the Section 4(f) Evaluation. It could then be indicated which alternatives are Total Section 4(f) Avoidance Alternatives, which are alternatives found not to be feasible and prudent, and which are feasible and prudent alternatives that were carried through the Section 4(f) Least Overall Harm Analysis. This will set up the structure of the Alternatives Analysis section for the reader. An example of this would be to include a graphic similar to *Figure XIII-1*.

The Total Avoidance Alternatives would be discussed in the first subsection of the Alternatives Analysis, *Identification and Evaluation of Alternatives That Totally Avoid All Section 4(f) Properties*. All of the remaining alternatives would be discussed in the second subsection of the Alternatives Analysis, *Identification and Evaluation of Other Alternatives Considered*. This second subsection can be further broken down into two subheadings - *Alternatives Considered Prior to Detailed Alternatives Analysis*, and *Alternatives that were Studied in Detail*. These two subheadings would frequently be used for EIS projects, and some EAs, but would often be unnecessary for CE projects and other EAs. The second subsection of the Alternatives Analysis would conclude with which of the alternatives were determined feasible and prudent. These feasible and prudent alternatives would move into the discussion under the third subheading of the Alternatives Analysis, *Assessment of Least Overall Harm*. Under the *Assessment of Least Overall Harm* subheading, avoidance/minimization shifts would be examined, mitigation measures would be evaluated, and the Section 4(f) uses of the various alternatives would then be compared.

### 1. IDENTIFICATION AND EVALUATION OF ALTERNATIVES THAT TOTALLY AVOID ALL SECTION 4(f) PROPERTIES

Identify and describe in detail the location and design of any alternative that totally avoids the use (actual and constructive) of all Section 4(f) properties. Determine whether any of these alternatives are feasible and prudent. **If a Feasible and Prudent Total Section 4(f) Avoidance Alternative exists, it must be selected.** If there is more than one Feasible and Prudent Total Section 4(f) Avoidance Alternative, select one of these alternatives for the project.

**NOTE:** If you have a Preferred Alternative that totally avoids the actual and constructive use of Section 4(f) properties, a Section 4(f) Evaluation may not necessarily need to be prepared. If a Section 4(f) Evaluation is not prepared for the project, a statement should be included in the NEPA document explaining why a Section 4(f) Evaluation was not prepared for the project. (If the Preferred Alternative does not use any Section 4(f) properties, but another alternative that was studied in detail does use Section 4(f) properties, a Section 4(f) Evaluation may be needed. PennDOT and FHWA should discuss whether or not to prepare a Section 4(f) Evaluation during preparation of the Pre-Draft EIS and prior to circulation of the Draft EIS (DEIS)).

<b>Figure XIII-1: Section 4(f) Alternatives Analysis Summary</b>				
	<b>Preliminary Analysis</b>	<b>Detailed Analysis</b>	<b>Least Overall Harm Analysis</b>	<b>Reason for Dismissal and/or Least Overall Harm Analysis</b>
No Build				Dismissed – did not meet the project needs (imprudent)
CMS				Dismissed – did not meet the project needs (imprudent)
Transit				Dismissed – did not meet the project needs (imprudent)
Widen existing				Dismissed – did not meet the project needs (imprudent)
New Alt A				Dismissed – impacts of an extraordinary magnitude (imprudent)
New Alt B				Carried to least overall harm, resulted in more harm than Alt C Mod (conclusion to be made in Final Section 4(f) Evaluation only)
New Alt C				Dismissed – impacts of an extraordinary magnitude (imprudent)
New Alt C Mod				Least Overall Harm Alternative (conclusion to be made in Final Section 4(f) Evaluation only)

If one or more alternatives that totally avoid Section 4(f) properties are identified, but these alternatives are not feasible and prudent, documentation as to why they are not feasible and prudent must be detailed. (See *Section IV: What Constitutes a Feasible and Prudent Alternative?* for more details on feasible and prudent.)

In the **Draft Section 4(f) Evaluation**, the facts supporting that the Total Section 4(f) Avoidance Alternative is not feasible and prudent are presented. A statement can then be made that it does not appear, based on the facts, that the Total Avoidance Alternative is feasible and prudent. (The wording used in the Draft Section 4(f) Evaluation is more a statement of opinion than a distinct conclusion.)

In the **Final Section 4(f) Evaluation**, the facts supporting that the Total Section 4(f) Avoidance Alternative is not feasible and prudent are again presented. A concluding statement is then made that there is no feasible and prudent Total Section 4(f) Avoidance Alternative. (In the Final Section 4(f) Evaluation this is a determination, not just an opinion.)

## 2. IDENTIFICATION AND EVALUATION OF OTHER ALTERNATIVES CONSIDERED

In this subsection, all alternatives that were considered in the NEPA process, but that were not considered to be Total Section 4(f) Avoidance Alternatives, would be discussed. **The goal of this subsection is to identify which alternatives are feasible and prudent alternatives and which are not.**

Those alternatives that are not feasible and prudent would be dropped in this subsection and would not be carried into the *Assessment of Least Overall Harm* subsection of the Section 4(f) Evaluation. Only those alternatives that are feasible and prudent would be carried forward and discussed in the *Assessment of Least Overall Harm*.

For EISs, the number of alternatives studied is generally substantial. In many EISs, a multitude of preliminary alternatives (TSM, Mass Transit, Upgrades, Widening, Off-line Alignments, and combinations of these) are analyzed early on, and many are dismissed early in the process. Others move forward into the Detailed Alternatives Analysis where they are refined, and in many cases options are evaluated which may develop into new alternatives. Because of the complexity of the alternatives development for the two-phase Transportation Project Development Process for EISs, it is suggested (for EISs and more complex EAs) that the *Identification and Evaluation of Other Alternatives Considered* subsection of the Section 4(f) Evaluation be divided into two subheadings:

- a. Alternatives Considered Prior to Detailed Alternatives Analysis*
- b. Alternatives That Were Studied in Detail*

Those alternatives studied in the Preliminary Alternatives Analysis would be discussed under subheading *a. Alternatives Considered Prior to Detailed Alternatives Analysis*. Those that were carried forward into the Detailed Alternatives Analysis would be discussed under subheading *b. Alternatives That Were Studied in Detail*.

**NOTE:** For CEs and less complex EAs, it may not be necessary to divide the discussion under the *Identification and Evaluation of Other Alternatives Considered* subsection into two subheadings.

For each alternative, regardless of which subheading it is presented under, the discussion would begin with a description of the alternative. Include information such as: type of alternative (TSM, Mass Transit, Upgrade, New Alignment, etc.), beginning and end points, typical section (if appropriate), number of lanes with widths and shoulders, location of interchanges, and any other pertinent design features.

Once the alternative is described, detailed facts need to be presented that demonstrate whether or not the alternative is feasible and prudent. Alternatives can be determined not feasible and prudent based on the alternative not being constructible according to sound engineering practices, not meeting the project needs, environmental impacts that reach an extraordinary magnitude, or some combination of the above. Details on determining whether an alternative is, or is not, feasible and prudent can be found in ***Section IV: What Constitutes a Feasible and Prudent Alternative?***.

**NOTE:** If an alternative is feasible and prudent, and if the alternative uses a Section 4(f) property, then the alternative must be carried into the *Assessment of Least Overall Harm* subsection.

In many cases, an alternative(s) will have been shown early in the Transportation Project Development Process to not meet the project needs. If this is the case, the discussion should present facts to support that the project needs are not met, and therefore, that the alternative is not prudent.

**Example:** If an alternative **would not meet the need** of reducing congestion, facts would be presented to support this conclusion. For instance, "A LOS analysis was performed and the alternative to widen the route from two to four lanes would still result in a LOS E on the route in the design year".

In other cases, an alternative may meet the project needs, but may not be constructible as a matter of sound engineering judgment. The facts supporting that an alternative is not constructible as a matter of sound engineering judgment (not feasible) need to be described.

**Example:** If an alternative is **determined not to be feasible** because it cannot be constructed to meet current design standards, the facts to support this must be presented. For instance, "A study was done to determine where a new interchange could be located on a stretch of Interstate. The design manual states that a certain minimum distance is required between interchanges. (State what the distance requirement is.) Based on this design requirement, you determine that you cannot squeeze a new interchange between two existing interchanges. (Give the total distance between the two interchanges.)" Based on engineering facts it is shown that the alternative cannot be built in accordance with sound engineering practices, and is therefore, not feasible.

In yet other cases, an alternative may meet the projects needs and be constructible as a matter of sound engineering judgment, but may result in other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property, or impacts of an extraordinary magnitude. Again, the facts supporting that an alternative would result in other severe problems and/or impacts of an extraordinary magnitude (not prudent) need to be described.

**Example:** If an alternative is **determined not to be prudent because of impacts of an extraordinary magnitude**, the facts to support this need to be presented. For instance, "Alternative X would impact the nesting grounds of a Federally endangered bird, would displace 100 more homes than any other alternative, and would have the greatest impact on productive agricultural lands (15 more acres than any other alternative)." Please note that the case law does not give clear guidelines on how much constitutes "impacts of an extraordinary magnitude". It is important to present as much supporting data as possible and to look at the data in the context of the overall project. Hard facts should be used in this discussion. Do not say "greater" impacts, or "substantial" impacts unless "greater" and "substantial" are quantified. For example, "100 more homes than any other alternative" or "15 more acres of productive agricultural land than any other alternative".

In addition, for each alternative dismissed because of severe problems, unique problems, or impacts reaching an extraordinary magnitude, the Section 4(f) uses associated with that alternative should be analyzed and documented. Discuss both actual, and where appropriate, constructive uses.

- *Identify the actual uses of Section 4(f) properties.* Discuss the impacts on the Section 4(f) property for each alternative (the amount of land to be used, facilities and functions affected, noise, air pollution, visual effects, etc.) If the actual use is considered *de minimis*, this should be explained. (See **Section XI.A: Definition of a De Minimis Use** for detailed information on what constitutes a *de minimis* use.) Where an alternative uses land from more than one Section 4(f) property, a summary table would be useful in comparing the various impacts of the alternatives. Quantify impacts such as, but not limited to, facilities and functions affected, acreage taken, and noise. Qualify impacts such as visual intrusion and note uses that are considered *de minimis*. The Determination of Effects Report should be examined and referenced for important information regarding Section 106 effects. However, it should be noted that the Assessment of Effects for Section 106 purposes does not transcend into the Section 4(f) Evaluation. Whereas Section 106 application of Adverse Effect looks at setting, integrity, and significance for listing in the *National Register of Historic Places*, Section 4(f) prescribes an evaluation of "use". "Use" is defined differently than an Adverse Effect.
- *Identify the constructive uses to Section 4(f) properties.* (See **Section VII.B: Constructive Use** for detailed information on what constitutes constructive use.) Remember, if there is an incorporation of property it is an actual use; constructive use involves proximity impacts only. For historic properties where there is no actual use, constructive use does not have to be considered when a No Historic Properties Affected or No Adverse Effect determination is received from the State Historic Preservation Officer (SHPO). When an Adverse Effect determination is received, constructive use should be considered. Note that an Adverse Effect does not mean there is a constructive use; it only triggers consideration of constructive use. For public parks, recreation areas, or refuges, which are directly adjacent, or in very close proximity to the proposed alternative, constructive use should also be considered. The following should be included in the consideration of constructive use:

- The reason why the property is listed or eligible for listing in the *National Register*, or the purpose of the park/recreation area/refuge (i.e., the functions, values, activities, and qualities of the Section 4(f) property);
- The location of the property compared to the alternative;
- Mapping and photographs illustrating the relationship of the proposed alternative to the Section 4(f) property;
- An analysis of the proximity impacts to the Section 4(f) property (i.e. noise, visual, access, vibration, ecological intrusion, others);
- A description of any mitigation proposed; and
- A conclusion as to whether or not the proximity impacts on the *National Register* eligible or listed property, park, recreation area, or refuge rises to the level of a constructive use. (Mitigation measures are accounted for in reaching a conclusion on whether there is a substantial, permanent impairment that rises to the level of a use.)

**NOTE: Constructive use is not frequently found to occur.** If it appears that there may be a constructive use, the information noted in the bullet points above should be provided to FHWA through the PennDOT Bureau of Design for a formal interpretation. If there is no constructive use the information in the bullet points above should be included in a “Proximity Impact Analysis” Report and placed in the technical support data files rather than in the Section 4(f) Evaluation. A copy of the Proximity Impact Analysis Report should be provided to Chief Counsel and FHWA for use in their review of the Section 4(f) Evaluation. If a constructive use is determined to be present the FHWA Headquarters office will be involved in the Section 4(f) Evaluation.

**NOTE:** In the Section 4(f) Evaluation, state that the analysis of the constructive use is contained in a Proximity Impact Analysis Report contained in the technical support data files.

### 3. ASSESSMENT OF LEAST OVERALL HARM

All alternatives from subsection 2. *Identification and Evaluation of Other Alternatives Considered* that were found feasible and prudent are carried into this subsection. In this subsection, the alternatives that use Section 4(f) properties are compared and the feasible and prudent alternative that results in the least overall harm is identified.

To determine which alternative results in the least overall harm, an evaluation of possible shifts or design modifications to avoid each non-*de minimis* use of a Section 4(f) property needs to be completed for each alternative. Prudent and feasible design modifications are incorporated into the design of the alternatives and are considered in the Least Overall Harm Assessment. In addition, measures that would minimize harm to the non-*de minimis* use of each Section 4(f)

property are evaluated and incorporated as appropriate. Mitigation measures for unavoidable Section 4(f) impacts are also evaluated and considered in the Least Overall Harm Assessment.

An introductory paragraph should be included identifying the alternatives that were found feasible and prudent, but use Section 4(f) properties. Reference back to the *Identification and Evaluation of Other Alternatives Considered* subsection where the alternatives were described along with their uses of Section 4(f) properties.

The following (subsections a and b) describes the activities that take place in the Assessment of Least Overall Harm, concluding with the least overall harm determination (subsection c).

**a. Shifts/Design Modifications to Avoid the Use of Section 4(f) Properties.**

Discuss measures which are available for each alternative to **avoid** each non-*de minimis* use of a Section 4(f) property. This would include minor alignment shifts as well as other design modifications such as retaining walls, steepened slopes, or other measures that would **eliminate** the use of Section 4(f) properties. This evaluation would include a discussion of whether the design modification is or is not feasible and prudent.

**NOTE:** For *de minimis* uses, once consideration of reasonable measures to minimize harm (such as any avoidance, minimization, and mitigation or enhancement measures) are completed as part of the *de minimis* finding, an analysis of avoidance alternatives is not required. Therefore, *de minimis* uses should be cited in this subsection, indicating that because the use was determined to be *de minimis* (a “trifle”), avoidance shifts/modifications do not have to be analyzed.

If there are one or more feasible and prudent design modifications that avoid the use of a Section 4(f) property, one of these design modifications must be incorporated into the alternative. If none of the design modifications are feasible and prudent, the reasons why they are not feasible and prudent must be documented. As discussed previously, facts to support that a particular shift or design modification is not feasible and prudent must be presented.

**NOTE:** Design shifts/modifications should be dismissed as not feasible and prudent if they would not meet the project needs, if they would have other severe problems of a magnitude that would substantially outweigh the importance of protecting the Section 4(f) property or be of extraordinary magnitude, or if they cannot be constructed as a matter of sound engineering judgment. When evaluating design shifts/modifications for prudence/feasibility, it is helpful to identify a common point from which the original alternative and any shifts/modifications diverge and a common point at which they rejoin. The impacts can then be assessed/compared between those common points, thereby assessing the difference between the shift/modification and the original alignment.



**Remember:** A statement of opinion based on the facts presented can be made in the Draft Section 4(f) Evaluation regarding the prudence or feasibility of specific shifts or design modifications; however, the final conclusion that there is no feasible and prudent alternative to the use of a Section 4(f) property(s) is not to be included in the Draft Section 4(f) Evaluation. This final conclusion would be included in the Final Section 4(f) Evaluation or the project approval (i.e. ROD, FONSI, CE approval).

### **b. All Possible Planning to Minimize Harm to Section 4(f) Properties**

If there are no feasible and prudent design modifications that would **avoid** a particular Section 4(f) property, all possible planning to minimize harm to the Section 4(f) property must be incorporated. These measures should consider such things as minor alignment shifts to reduce impacts, retaining structures, reduced facility, noise walls, landscaping, replacement of park land, mitigation measures contained in the Memorandum of Agreement (MOA), and other items that minimize harm to the Section 4(f) properties. Address measures to minimize harm for each Section 4(f) property used by each alternative. Incorporate all reasonable minimization/mitigation measures into the alternative.

**NOTE:** Minimization measures and mitigation are considered in making the *de minimis* finding. If measures to minimize harm have been discussed in the *Identification and Evaluation of Other Alternatives Considered* section for *de minimis* uses, that section can be referenced, otherwise, discussion of the measures to minimize harm must be provided here.

When considering minimization and mitigation measures, it should be determined whether any of the Section 4(f) uses would result in a net benefit to that resource. If so, this should be stated, explaining the reasoning behind the net benefit determination. In order to result in a net benefit, the official(s) with jurisdiction must agree **in writing**, that the use:

- Does not result in a substantial impairment of the activities, features, and attributes of the resource
- Includes all possible planning to minimize harm, including mitigation
- Results in an overall improvement or enhancement of the Section 4(f) property when compared to the future do nothing or avoidance alternative(s).

Additional details on the requirements for making a net benefit determination are included in ***Section XII.D: Net Benefit***.

### **c. Determination of Which Alternative Results in Least Overall Harm**

At this point, every effort has been made to avoid, minimize, and mitigate Section 4(f) impacts for each Section 4(f) property on each alternative. All feasible and prudent design modifications to avoid Section 4(f) properties have been incorporated into the alternatives. Additionally, reasonable minimization and mitigation measures have been incorporated and consultation with

the official(s) with jurisdiction has been conducted. These alternatives can now be compared to determine which results in the least overall harm.

When documenting the reasonableness of measures to minimize harm, the preservation purpose of Section 4(f) should be considered, along with 1) the views of the officials with jurisdiction; 2) whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the 4(f) property and the benefits of the measure to the property; and 3) any impacts or benefits of the measures to communities or environmental resources outside of the 4(f) property.

The alternative that causes the least overall harm should be determined by considering the following factors (See **Section VIII.D: What is an Assessment of Least Harm?** For additional details.):

- The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- The relative severity of the harm to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- The relative significance of each Section 4(f) property;
- The views of the official(s) with jurisdiction over each Section 4(f) property;
- The degree to which each alternative meets the purpose and need for the project;
- The magnitude of any adverse impacts to resources not protected by Section 4(f); and
- Substantial differences in costs among the alternatives.

**NOTE:** *De minimis* uses and uses that result in a net benefit should be included in the final Least Overall Harm Assessment. *De minimis* uses, by nature, do not cause substantial impairment, or an “adverse effect” to the Section 4(f) property. As such, a *de minimis* use should be considered almost negligible (“a trifle”) when assessing harm to Section 4(f) properties. Uses resulting in a net benefit would enhance the Section 4(f) property, and therefore should be considered to have a positive effect on the resource when assessing least overall harm. Because a net benefit is weighed as a positive effect, it is possible that a shift that avoids a Section 4(f) use could result in more harm to that resource than an alternative that uses the resource, if that use is determined to have a net benefit.

For the Draft Section 4(f) Evaluation, all of the data related to the above factors must be included to perform the analysis. However, the final conclusion that a specific alternative results in the least overall harm is not made. This conclusion is to be made only after the Draft Section 4(f) Evaluation has been circulated for comment (45 days) and the comments have been reviewed. This conclusion should be included in the Final Section 4(f) Evaluation or the final project approval (i.e. ROD, FONSI, or CE approval).

## **E. COORDINATION WITH AGENCIES WITH JURISDICTION OVER THE SECTION 4(f) PROPERTIES**

Summarize the coordination efforts with the official(s) with jurisdiction over the Section 4(f) properties. In the Draft Section 4(f) Evaluation, this will include phone calls, emails, meetings, letters, and other correspondence generated in identifying the Section 4(f) properties as well as identifying *de minimis* uses and/or those uses resulting in a net benefit. The Final Section 4(f) Evaluation would additionally include comments received during the circulation period and correspondence generated in resolving any issues.

## **F. CONCLUSION (Only Included in the Final Section 4(f) Evaluation)**

This section should conclude whether there is a Feasible and Prudent alternative to the use of Section 4(f) property – a feasible and prudent Total Section 4(f) Avoidance Alternative. If there is no feasible and prudent alternative which avoids all Section 4(f) properties, this section will conclude that Alternative XX is the feasible and prudent alternative that results in the least overall harm, and that it incorporates all possible planning to minimize harm.

**Remember:** The Draft Section 4(f) Evaluation includes facts supporting whether or not a particular avoidance alternative or design modification would, or would not, be feasible or prudent and makes a statement for each alternative and modification regarding potential feasibility and prudence. However, the final conclusions that "there is no feasible and prudent alternative to the use of Section 4(f) properties and that Alternative XXX incorporates all possible planning to minimize harm" are only made in the Final Section 4(f) Evaluation.

## **G. APPENDIX**

Copies of the correspondence from the official(s) with jurisdiction over the Section 4(f) properties (i.e., SHPO, park authority, municipality, etc.) should be included in the appendix of the Draft Section 4(f) Evaluation. Also, include a copy of the Draft or Executed MOA, if applicable. The appendix of the Final Section 4(f) Evaluation should include all formal comments received on the Draft Section 4(f) Evaluation from the official(s) with jurisdiction over the Section 4(f) properties, Department of the Interior (DOI), US Department of Agriculture (USDA), and the Department of Housing and Urban Development (HUD), if applicable, and others. In addition, any information regarding public and/or consulting party and Section 106 coordination relative to final decisions on conditions of eligibility and effect should be included. This is particularly important to support a *de minimis* finding.

## **H. TECHNICAL SUPPORT DATA FILES**

If constructive use is evaluated for one or more resources, and found not to occur, the information that led to this conclusion should be included in a "Proximity Impacts Analysis" Report and placed in the technical support data files. The Proximity Impact Analysis Report can take the form of a memorandum to the file. The Proximity Impact Analysis Report should be provided to FHWA and Chief Counsel along with the Pre-Draft Section 4(f) Evaluation for use in conducting their reviews.

## XIV. DOCUMENTATION REQUIRED FOR PROGRAMMATIC SECTION 4(f) EVALUATIONS

In an effort to reduce the processing time and to streamline procedures for certain Federal actions, the Pennsylvania Department of Transportation (PennDOT) and the Federal Highway Administration (FHWA) have developed a series of checklists to serve as documentation to support the conclusions required by the Programmatic Section 4(f) Evaluations. Additional guidance is provided in the *Alternative Processing Procedures for Section 4(f) Evaluation Guidance*, which can be found in the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>. The following four Programmatic Section 4(f) Evaluations use these checklists:

1. Minor use of property from public parks, recreation areas, and wildlife and waterfowl refuges;
2. Minor use of historic properties;
3. Use of an historic bridge structure; and
4. Use of a Section 4(f) property that results in a net benefit to the property.

Bikeway or walkway construction projects use the *Section 4(f) Non-Applicability/No Use* checklist.

**NOTE:** Another checklist was developed to address *de minimis* uses to Section 4(f) properties. This checklist is technically not a Programmatic evaluation; rather it was developed to address the statutory provision included in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). See **Section XI: De Minimis Section 4(f) Use** of this handbook for discussions on *de minimis* applicability and documentation.

Each of the checklists is discussed below, and samples of the checklists are included in **Appendix L**. The most up-to-date versions of the checklists can be found in the CE/EA Expert System Help Database at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>. Use of these checklists is recommended; however, a narrative form of documentation can be applied if desired.

Under certain circumstances where enough information on Section 4(f) and alternatives is known and can be presented during a field view, the checklists can be used to obtain in-field Section 4(f) determinations. This can be done by completing the checklist, and preparing all appropriate documentation to support the Section 4(f) finding (including mapping, environmental impact matrixes, letters from official(s) with jurisdiction, etc.) for the field view, and gaining signature by all parties at the field view.

## A. PROGRAMMATIC CHECKLISTS

### 1. NATIONWIDE/PROGRAMMATIC SECTION 4(f) EVALUATION FOR MINOR INVOLVEMENT WITH PUBLIC PARKS, RECREATION LANDS AND WILDLIFE AND WATERFOWL REFUGES

This checklist documents that the project is designed to improve the operational characteristics, safety, and/or physical condition of existing highway facilities on largely the same alignment. (The project must be either an Environmental Assessment (EA) or Categorical Exclusion (CE) to apply this programmatic and checklist.) It also shows that the amount and location of the impact will not impair the use of the remaining Section 4(f) land and that the total amount of land taken does not exceed the predetermined values. An evaluation of avoidance alternatives clearly shows that avoidance of the Section 4(f) property is not feasible and prudent and measures to minimize harm are stated. Written concurrence from the official(s) with jurisdiction should be attached to the checklist.

PennDOT provides a copy of the checklist to the official(s) with jurisdiction and will provide copies to others upon request.

### 2. NATIONWIDE/PROGRAMMATIC SECTION 4(f) EVALUATION FOR MINOR INVOLVEMENTS WITH HISTORIC SITES<sup>1</sup>

This checklist documents that the project is designed to improve the operational characteristics, safety, and/or physical condition of existing highway facilities on largely the same alignment. (The project must be either an EA or CE to apply this programmatic and checklist.) It states that the project does not require the removal or alteration of historic buildings or objects<sup>2</sup> on the historic site or require the disturbance of archaeological resources that are important to preserve in place. It also explains that a “No Adverse Effect” or “No Historic Properties Affected” finding under the Section 106 process is required for this checklist to apply. An evaluation of avoidance alternatives clearly shows that avoidance of the Section 4(f) property is not feasible and prudent and measures to minimize harm are stated.

**NOTE:** When a No Adverse Effect or No Historic Properties Affected determination is made and concurred with by the State Historic Preservation Officer (SHPO), the use is considered *de minimis*. It is preferable to apply *de minimis* use over the Nationwide Programmatic for Minor Involvements with Historic Sites in these situations, since a *de minimis* finding does not require an avoidance alternatives analysis. Since the advent of the *de minimis* provision, it is unlikely that this programmatic will be used very often. Refer to **Section XI: De Minimis Section 4(f) Use** to determine whether a use is *de minimis*.

A copy of the checklist does not need to be provided to the official(s) with jurisdiction or others unless requested.

<sup>1</sup> This programmatic can be applied to Historic Districts when impacts to its contributing elements are minor (i.e. “No Adverse Effect” or “No Historic Properties Affected”), and the involvement is limited to the use of land or non-historic improvements.

<sup>2</sup> Object is defined in 36 CFR 60 in the National Register regulations as “a material thing of functional, aesthetic, cultural, historical, or scientific value that may be, by nature or design, movable yet related to a specific setting or environment”. (i.e. a steamboat, memorial, statue, etc.)

### **3. NATIONWIDE/PROGRAMMATIC SECTION 4(f) EVALUATION FOR PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES**

This checklist documents that the bridge is not a National Historic Landmark. It lists Section 106 information pertaining to the bridge. An evaluation of avoidance alternatives clearly shows that avoidance of the Section 4(f) property is not feasible and prudent and measures to minimize harm are stated. (The project must be either an EA or CE to apply this programmatic and checklist.)

A copy of the checklist does not need to be provided to the official(s) with jurisdiction or others unless requested. This Programmatic cannot be used for bridges that are a contributing element to an Historic District, even if they are also individually eligible.

### **4. NATIONWIDE/PROGRAMMATIC SECTION 4(f) EVALUATION FOR TRANSPORTATION PROJECTS THAT HAVE NET BENEFICIAL USE (NET BENEFIT)**

This checklist documents that the project and/or associated mitigation directly benefits the Section 4(f) property. Information regarding the park, recreation area, wildlife or waterfowl refuge or the historic property is documented. An evaluation of avoidance alternatives clearly shows that avoidance of the Section 4(f) property is not feasible and prudent and measures to minimize harm are stated. Coordination with the official(s) with jurisdiction shows that they agree with the net benefit determination. Written concurrence from the official(s) with jurisdiction must be attached to the checklist.

If the net benefit reasoning can only be applied to one of several Section 4(f) properties used by the project alternative(s), the Net Benefit Programmatic can still be applied but the checklist should not be used as the only documentation. The reasoning for applying net benefit should be included in the Individual Section 4(f) Evaluation, or the Net Benefit checklist should be combined with other appropriate Programmatic Section 4(f) checklists and/or the *De Minimis* checklist.

PennDOT provides a copy of the checklist to the official(s) with jurisdiction and will provide copies to others upon request.

**NOTE:** For all four checklists, supporting documentation including appropriate maps, photographs, coordination letters, additional supporting text, environmental impact matrices, and design plans should be attached. Copies of the correspondence from the official(s) with jurisdiction over the Section 4(f) properties (i.e., SHPO/THPO, park authority, municipality, etc.) should be attached to the Programmatic Section 4(f) checklist. The amount of supporting documentation required should correspond to the level of impacts and the potential for public controversy. Some documentation is advised in order to support the District's decision to HQAD, FHWA, and/or the public.

## B. DOCUMENTATION FOR BIKEWAY OR WALKWAY CONSTRUCTION PROJECTS

For the May 23, 1977 *Negative Declaration/Section 4(f) Statement and Determination for Independent Bikeway or Walkway Construction Projects*, the *Section 4(f) Non-Applicability/No Use* checklist should be completed and placed in the project file along with the statement itself and the approval letter from the official(s) with jurisdiction. This completes the Section 4(f) consideration for these projects.

## C. APPLICATION OF MULTIPLE PROGRAMMATICS

If a project involves multiple Section 4(f) uses, which individually qualify for different Programmatic, these Programmatics can be combined. For example, if a project were to require the replacement of an historic bridge, and require the use of minor amounts of land from a public park, the Programmatic checklist for use of historic bridges and the Programmatic checklist for minor involvements with parks and recreational sites could be used in combination to meet the requirements of Section 4(f). In addition, any of the Programmatic checklists can be combined with the Temporary Use Checklist (as discussed in more detail in *Section VII: Definition of “Use” of Section 4(f) Property*) and/or with the *de minimis* use checklist (see *Section XI: De Minimis Section 4(f) Use*) to serve as documentation.

**NOTE:** If the temporary occupancy occurs within the same Section 4(f) resource where the use occurs, the Temporary Use Checklist does not need to be completed. Instead, the temporary occupancy can be documented within the checklist describing the use of the property.

If a project results in any uses that do not qualify for a Programmatic or other checklist (*de minimis* or temporary use), an Individual Section 4(f) Evaluation must be completed. The Section 4(f) Evaluation would include discussion of all Section 4(f) properties and use of those properties, including any *de minimis* uses, net benefits, and temporary occupancies. The corresponding checklists need not be completed, but the information they would contain should be incorporated into the Individual Section 4(f) Evaluation.

**NOTE:** The Net Benefit Programmatic is the only nationwide Programmatic that can be used for projects processed with an EIS.

# XV. CIRCULATION AND APPROVAL PROCESS

## A. INDIVIDUAL SECTION 4(f) EVALUATIONS

In accordance with 23 CFR 774.7(f), Section 4(f) documentation should be presented in the National Environmental Policy Act (NEPA) document in accordance with 23 CFR 771.105(a) and 771.133. However, if the Section 4(f) documentation cannot be included in the NEPA document, then it shall be presented in a separate document. In Pennsylvania, the Pennsylvania Department of Transportation (PennDOT) and the Federal Highway Administration (FHWA) have agreed that the Draft Section 4(f) Evaluation will be included as a **separate document** bound together with the Draft Environmental Impact Statement (EIS) or Environmental Assessment (EA). For projects classified as Categorical Exclusions (CE), the Draft Section 4(f) Evaluation will be prepared as a separate document and will not be bound together with the CEE. Additional information regarding how to incorporate the Draft and Final Section 4(f) Evaluation with an EA and/or a CEE in the CE/EA Expert System is provided in the CE/EA Expert System Frequently Asked Questions (FAQs). These FAQs can be accessed from the CE/EA Expert System Home Page at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

All Draft Section 4(f) Evaluations, regardless of the NEPA processing option being followed, must be distributed to:

- All official(s) with jurisdiction over Section 4(f) properties used in the project area;
- U.S. Department of the Interior (DOI) (Washington Headquarters Office);
- U.S. Department of Agriculture (USDA) (Forest Supervisor) (only provided if National Forest Lands are involved); and
- U.S. Department of Housing and Urban Development (HUD) (Regional Office) (only provided if the project uses land for/on which HUD funding was utilized).

The Draft Section 4(f) Evaluation is provided to the above listed agencies/officials for a minimum 45-day coordination and comment period. A 45-day comment period is required regardless of the NEPA processing option being followed. If DOI, USDA, HUD, or any of the official(s) with jurisdiction over the Section 4(f) properties submit comments, which raise issues on the Section 4(f) Evaluation, coordination must be undertaken with these agencies to resolve the issues. If reasonable efforts to resolve the issues are made (i.e., issues raised by the agency were examined, options/actions to resolve those issues were studied and discussed with the agency, and those options/actions which were determined to be reasonable/practicable were implemented), the obligation under Section 4(f) to consult with and obtain the agency's comments will have been met. FHWA will make the final determination as to whether all reasonable efforts were made.



**NOTE:** If comments are not provided within 15 days after the comment period deadline expires from DOI, USDA, HUD, and the official(s) with jurisdiction, it can be assumed that there is no objection, and the process can continue (23 CFR 774.5(a)).

The Final Section 4(f) Evaluation must be provided to FHWA Headquarters for a legal sufficiency review. The approval of the Final Section 4(f) Evaluation is not issued until the legal sufficiency review is complete and the Section 4(f) Evaluation is determined to be legally sufficient.

It is observed that the circulation and approval processes for NEPA documents and Section 4(f) Evaluations demonstrate certain similarities and certain differences. Because the Section 4(f) Evaluation is bound together with the EIS or EA, the process can get confusing and complicated. The regulations do not provide detailed information on how to work through this. Over the years, FHWA and PennDOT have worked together to facilitate the NEPA and Section 4(f) circulation and approval processes for the sake of efficiency. The following discusses the typical procedures for circulation and approval of Section 4(f) Evaluations for each of the three NEPA processing options. The number of copies for Draft and Final Section 4(f) Evaluation submissions is as follows:

<b>Number of Individual Section 4(f) Evaluation Copies Required for Distribution</b>		
<b>NEPA Documentation</b>	<b># Draft Copies</b>	<b># Final Copies</b>
<b>EIS</b>	# of copies provided to FHWA Division Office, FHWA HQ, DOI, the Official(s) w/ Jurisdiction, and HUD/USDA (when applicable) should match those of the DEIS, since these are bound together.	# of copies provided to FHWA Division Office, FHWA HQ, DOI, the Official(s) w/ Jurisdiction, and HUD/USDA (when applicable) should match those of the FEIS, since these are bound together.
<b>EA/CEE</b>	FHWA Division = 1 hard copy FHWA HQ = 1 hard copy <sup>1</sup> DOI = 1 hard copy, 12 CD-ROM <sup>2</sup> Official(s) w/ Jurisdiction = 1 hard copy HUD/USDA = 1 hard copy, 1 CD-ROM	FHWA Division = 1 hard copy FHWA HQ = 1 hard copy <sup>1</sup> DOI = 1 hard copy, 6 CD-ROM <sup>2</sup> Official(s) w/ Jurisdiction = 1 hard copy HUD/USDA = 1 hard copy, 1 CD-ROM
<sup>1</sup> The Draft copy to FHWA HQ is provided for conditional legal sufficiency and is done at the discretion of the Division office (this is not mandatory). Actual legal sufficiency is conducted for the Final Section 4(f) Evaluation.  <sup>2</sup> FHWA has started submitting Section 4(f) Evaluations via a web link. Thus, if an electronic version is available, coordinate with BOD and FHWA on officially submitting it to FHWA for distribution to DOI.		

## 1. ENVIRONMENTAL IMPACT STATEMENTS (EIS)

The Draft Section 4(f) Evaluation is included as a separate document bound into the Draft EIS as a "Draft EIS/Draft Section 4(f) Evaluation." Typically, a Pre-Draft EIS/Pre-Draft Section 4(f) Evaluation goes through several levels of review at the PennDOT District, Central Office, and

Legal Counsel. At the discretion of PennDOT, FHWA may be involved in the review of the Pre-Draft EIS/Pre-Draft Section 4(f) Evaluation, but this is not mandatory. In addition, the FHWA Division Office may elect to informally forward a copy to FHWA Headquarters for a preliminary/conditional legal sufficiency review. Conditional legal sufficiency review is optional, and although it could take up to 30 days for the review, receipt of FHWA Headquarters' preliminary perspective early in the process can save time in the long run.

After all comments received on the Pre-Draft EIS/Pre-Draft Section 4(f) Evaluation are addressed, the FHWA Division Office receives the Draft EIS/Draft Section 4(f) Evaluation with a request to circulate the document. Following approval by FHWA Division, the Draft EIS/Draft Section 4(f) Evaluation is circulated. Both Draft EISs and Draft Section 4(f) Evaluations require a minimum 45-day comment period. The Draft EIS/Draft Section 4(f) Evaluation is circulated for at least 45 days to all appropriate agencies and persons required for an EIS, and to all agencies with jurisdiction over the Section 4(f) properties, DOI (Washington), and if applicable, USDA and HUD. FHWA Headquarters receives appropriate copies of the document in keeping with EIS circulation procedures.

**NOTE:** If a constructive use occurs, review by FHWA Headquarters is required.

All comments received during the Draft EIS/Draft Section 4(f) Evaluation comment period must be addressed. If DOI, USDA, HUD, or any of the official(s) with jurisdiction over the Section 4(f) properties submit comments which raise issues on the Section 4(f) Evaluation, coordination must be undertaken with these agencies to resolve the issues. If reasonable efforts to resolve the issues are made (i.e., issues raised by the agency were examined, options/actions to resolve those issues were studied and discussed with the agency, and those options/actions which were determined to be reasonable/practicable were implemented), the obligation under Section 4(f) to consult with and obtain the agency's comments will have been met. FHWA will make the final determination of whether all reasonable efforts were made.

Comments on the Draft Section 4(f) Evaluation are addressed in the Final Section 4(f) Evaluation, which is bound into the Final EIS. The Final EIS/Final Section 4(f) Evaluation is provided to FHWA Headquarters through the FHWA Division Office for a legal sufficiency review, prior to making the Final EIS/Final Section 4(f) Evaluation available. The final Section 4(f) Approval is documented in the Record of Decision (ROD).

**NOTE:** FHWA Headquarters has delegated approval authority for EISs and Draft Section 4(f) Evaluations to the FHWA Division Office. Please note that a legal sufficiency review of the Final Section 4(f) Evaluation document by FHWA Headquarters is still required. Additionally, Section 4(f) Evaluations that include a constructive use would require FHWA Headquarters review. The FHWA Division Office may also elect to request FHWA Headquarters review at their discretion.

## 2. ENVIRONMENTAL ASSESSMENTS (EA)

The Draft Section 4(f) Evaluation is included as a separate document bound into the EA as an "EA/Draft Section 4(f) Evaluation." A Pre-Draft Section 4(f) Evaluation and "draft" of the EA

(there is no official Draft EA document) undergoes several levels of review at the PennDOT District, Central Office, and Legal Counsel before going to the FHWA Division Office for review. At the discretion of PennDOT, FHWA may be involved in the review of the Pre-Draft documents, but this is not mandatory.

All comments received on the draft version of the EA/Draft Section 4(f) Evaluation are addressed, and the EA/Draft Section 4(f) Evaluation is provided to the FHWA Division Office with a request for approval to advertise the EA for availability for public review and comment. Following approval of availability by FHWA Division, the EA/Draft Section 4(f) Evaluation is provided to the appropriate agencies/persons required for an EA, to the agencies with jurisdiction over the Section 4(f) properties, DOI (Washington), and if applicable, USDA and HUD.

The availability/comment period for an EA, as required by the NEPA implementing regulations (23 CFR 771.119) is 30 days; however, a comment period of 45 days is required for Section 4(f) Evaluations. In accordance with the Public Involvement and Public Hearing Procedures in Pennsylvania, the EA/Draft Section 4(f) Evaluation is made available for comment for 45 days to all parties to address the requirements of both regulations when a section 4(f) Evaluation is involved.

Comments received on the EA/Draft Section 4(f) Evaluation during the comment period must be addressed. If any of the official(s) with jurisdiction over the Section 4(f) properties, DOI, USDA, or HUD submit comments, which raise issues on the Section 4(f) Evaluation, coordination must be undertaken with these agencies to resolve the issues. If reasonable efforts to resolve the issues are made (i.e., issues raised by the agency were examined, options/actions to resolve those issues were studied and discussed with the agency, and those options/actions which were determined to be reasonable/practicable were implemented), the obligation under Section 4(f) to consult with and obtain the agency's comments will have been met. FHWA will make the final determination of whether all reasonable efforts were made.

The Final Section 4(f) Evaluation must be provided to FHWA Headquarters through the FHWA Division Office for a legal sufficiency review. The determination of legal sufficiency from FHWA Headquarters is needed before the Finding of No Significant Impact (FONSI) is issued. Information on how to incorporate the Draft and Final Section 4(f) Evaluation with the EA in the CE/EA Expert System is provided in the CE/EA Expert System FAQs. These FAQs can be accessed from the CE/EA Expert System Home Page at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

### **3. CATEGORICAL EXCLUSIONS (CE)**

For projects classified as CEs, the Draft Section 4(f) Evaluation is prepared as a separate document. A pre-Draft Section 4(f) Evaluation would undergo several levels of review at the PennDOT District, Central Office, and Legal Counsel before going to the FHWA Division Office for review. Typically, the review of the CEE and review of the Section 4(f) Evaluation are conducted at the same time even though they are two separate documents. This increases the efficiency of both reviews.

After all comments received on the pre-Draft Section 4(f) Evaluation are addressed, the Draft Section 4(f) Evaluation would be provided to the FHWA Division Office with a request for approval to distribute the document. Following approval by the FHWA Division Office, the Draft Section 4(f) Evaluation is provided to the official(s) with jurisdiction over the Section 4(f) properties, DOI (Washington), and if applicable, USDA and HUD. A 45-day comment period is provided. (A copy of the CEE may be provided along with the Draft Section 4(f) Evaluation for informational purposes.)

Comments received on the Draft Section 4(f) Evaluation during the comment period must be addressed. If any of the official(s) with jurisdiction over the Section 4(f) properties, DOI, USDA, or HUD submit comments which raise issues on the Section 4(f) Evaluation, coordination must be undertaken with these agencies to resolve the issues. If reasonable efforts to resolve the issues are made (i.e., issues raised by the agency were examined, options/actions to resolve those issues were studied and discussed with the agency, and those options/actions which were determined to be reasonable/practicable were implemented), the obligation under Section 4(f) to consult with and obtain the agency's comments will have been met. FHWA will make the final determination of whether all reasonable efforts were made.

The Final Section 4(f) Evaluation is provided to FHWA Headquarters through the FHWA Division Office for the legal sufficiency review. The determination of legal sufficiency from FHWA Headquarters is needed before FHWA Division can issue the final CE approval. Information on how to incorporate the Section 4(f) Evaluation with the CEE in the CE/EA Expert System is provided in the CE/EA Expert System FAQs. These FAQs can be accessed from the CE/EA Expert System Home Page at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>.

## **B. PROGRAMMATIC SECTION 4(f) EVALUATIONS**

Programmatic Section 4(f) Evaluations are essentially pre-approved evaluations. Each Programmatic was published in the *Federal Register* for a 45-day review and comment period, and a legal sufficiency review of the Programmatic was performed. To apply the Programmatic, it simply needs to be demonstrated that a particular project meets the stipulations of the Programmatic. The primary time savings in using/applying a Programmatic Section 4(f) stems from the fact that there is no 45-day circulation and comment period for a Programmatic Section 4(f) Evaluation and no legal sufficiency review is required (because they were already done as part of the development of the programmatic). However, the FHWA Division Office must approve the applicability of the Programmatic.

To apply a Programmatic, documentation must be gathered/prepared that demonstrates that the project meets the stipulations of the Programmatic and that there are no feasible and prudent alternatives to avoid the use of the Section 4(f) property(s) and all possible planning to minimize harm has been included. (See **Sections XII: Programmatic Section 4(f) Evaluations** and **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations** for additional information on available Programmatics and proper documentation.) During this information gathering phase, the official(s) with jurisdiction over the Section 4(f) property(s) in question are contacted and coordination takes place. It is important to come to an agreement with these official(s) and receive agreement from them in writing. Once all the appropriate documentation is compiled, it is presented to the FHWA Division office for review. If the

FHWA Division agrees that the Programmatic is applicable and the documentation is adequate, the Division Administrator approves the Programmatic Section 4(f) Evaluation.

**NOTE:** The Net Benefit Programmatic requires that public involvement activities be conducted in accordance with 23 CFR 771.111. The use of the resource as well as the proposed activities/features/mitigation measures/enhancements being implemented to achieve a net benefit should be disclosed; along with the opportunity to comment.

It should be noted that, of the five Programmatic Section 4(f) evaluations, only the Programmatic for Minor Takes from Public Parks, Recreation Areas, and Wildlife and Waterfowl Refuges, and the Net Benefit Programmatic require that a copy of the documentation be offered to the official(s) with jurisdiction over the Section 4(f) property(s) and other interested parties as part of the normal NEPA practice, or upon request. This is done for informational purposes only following approval by the FHWA Division Office. No formal 45-day comment period is required for Programmatic Section 4(f)s. The Section 4(f) Programmatic checklist(s) should be attached to the NEPA document prior to NEPA approval as a means of documenting that Section 4(f) has been thoroughly examined.

**NOTE:** The Net Benefit Programmatic is the only Programmatic that can be used on a project processed as an EIS.

### C. *DE MINIMIS* USE DOCUMENTATION

For PennDOT projects which result in only *de minimis* Section 4(f) uses, the *de minimis* use(s) can be documented in the *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist*. PennDOT, on behalf of the FHWA Division Office, maintains this checklist for use for such projects. An example checklist can be found in **Appendix L**, and the current version of the checklist can be obtained from the CE/EA Expert System Help database. The CE/EA Expert System is located at <http://www.dot2.state.pa.us/ceea/ceeamain.nsf>. It should be noted that this checklist has been developed by FHWA and PennDOT for use on PennDOT projects. This checklist only applies to PennDOT projects. Additional details regarding *de minimis* use and proper documentation can be found in **Section XI: De Minimis Section 4(f) Use**.

**NOTE:** The *Determination of Section 4(f) De minimis Use/Section 2002 No Adverse Use Checklist* applies to all NEPA documentation (EIS, EA, CE). It also satisfies Pennsylvania Act 120, Section 2002.

**NOTE:** If an individual Section 4(f) Evaluation is required for a project, *de minimis* uses will be discussed in the Section 4(f) Evaluation. A separate checklist is not needed.

*De minimis* use documentation is not subject to the same 45-day comment period as Individual Section 4(f) Evaluations. Instead, coordination requirements are as follows:

Historic Properties	<ol style="list-style-type: none"> <li>1) Written concurrence on the section 106 effects finding.</li> <li>2) Consultation with the Section 106 consulting parties under the Section 106 process.</li> <li>3) Notice to the official(s) with jurisdiction of PennDOT's intent to apply the <i>de minimis</i> finding.</li> </ol>
Publicly Owned Parks, Recreation Areas, and Wildlife and Waterfowl Refuges	<ol style="list-style-type: none"> <li>1) Public notice and opportunity to comment concerning the effects on the protected activities, features, and attributes of the property (through the NEPA process).</li> <li>2) Notice to the official(s) with jurisdiction of PennDOT's intent to apply the <i>de minimis</i> finding.</li> <li>3) Written concurrence from the official(s) with jurisdiction that the project would not adversely affect the protected activities, features, or attributes of the property.</li> </ol>

**NOTE:** When examining Section 4(f) avoidance alternatives, typically FHWA must determine if a Feasible and Prudent Total Avoidance Alternative exists. However, the FHWA *Guidance for Determining De Minimis Impacts to Section 4(f) Resources* states that "...once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any measures to minimize harm (such as any impact avoidance, minimization, mitigation or enhancement measures), results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. Generally speaking, this means that for *de minimis* uses, as alternatives are developed they must be examined to determine whether there are common sense reasons why an alternative might impact a Section 4(f) property in order to eliminate or reduce impacts to other sensitive resource(s). If, in coordination with the official(s) with jurisdiction, it is determined that the use meets the definition of *de minimis* as defined in 23 CFR 774.17., an avoidance alternatives analysis for that resource does not need to be conducted.

## XVI. PENNSYLVANIA ACT 120 REQUIREMENTS

In general terms, Pennsylvania Act 120, specifically Section 2002 of the Act, is the state counterpart to Section 4(f). Specifically, Section 2002 (a)(15) of PA Act 120 - 1970 states that *“No highway, transit line, highway interchange, airport, or other transportation corridor or facility, shall be built or expanded in such a way as to use any land from any recreation area, wildlife and/or waterfowl refuge, historic site, State forest land, State game land, wilderness area or public park unless (i) there is no feasible and prudent alternative to the use of such land, and (ii) such corridor or facility is planned and constructed so as to minimize harm to such recreation area, wildlife and/or waterfowl refuge, historic site, State forest land, State game land, wilderness area, or public park.”* Section 2002(b)(2) indicates that it must be shown that there are no feasible and prudent alternatives to the effects of the project and that all reasonable steps have been taken to minimize the effects.

For transportation projects that have Federal aid, or require a Federal US Department of Transportation (USDOT) action, the Section 4(f) process and its documentation fulfills the requirements of Section 2002. However, for projects that are 100 percent State-funded, and do not require a Federal USDOT action, the requirements of Pennsylvania Act 120, Section 2002 must still be met. This requires that documentation be prepared.

It should be noted that there are currently no court cases in Pennsylvania interpreting the meaning of feasible and prudent in Act 120. Feasible and prudent under Act 120 arguably have a lower standard than under Section 4(f). However, by using the Section 4(f) meaning, compliance with Act 120 will be assured. (A copy of PA Act 120 is included in **Appendix F.**)

**NOTE:** PA Act 120 applies to all transportation projects. Section 4(f) only applies to those projects that involve a USDOT action such as federal-aid funding or point of access approval. (A 100% State-funded project requiring a Point of Access approval would be subject to Section 4(f).) On projects requiring a USDOT action and use of a Section 4(f) property(s), Act 120 reviews and approvals are generally covered by including the Act 120 review agencies in the distribution of the federal environmental document and by publishing the Secretary's finding in the *Pennsylvania Bulletin*. For projects that do not involve USDOT actions, but that use Section 2002 resources, a Section 2002 Evaluation needs to be conducted.

Because Act 120 does not provide a format for Section 2002 documentation, and in essence is the State counterpart to Section 4(f), the Section 4(f) format is used. The project should be examined as though it required a Section 4(f) Evaluation. If the project would have qualified under one of the five Section 4(f) Programmatic (assuming that it required a USDOT action), the appropriate Programmatic checklist(s) should be completed to fulfill the Section 2002 requirements, noting in the title that it is a Section 2002 Evaluation rather than a Section 4(f) Evaluation. (See **Section XII: Programmatic Section 4(f) Evaluations** and **Section XIV: Documentation Required for Programmatic Section 4(f) Evaluations** for additional information regarding the Programmatic and their documentation.) Similarly, if the project would have been deemed to have a *de minimis* use under Section 4(f), the *Determination of Section 4(f) De*

*minimis Use/Section 2002 No Adverse Use Checklist* should be completed. Finally, if a project would have required an Individual Section 4(f) Evaluation, then a complete Section 2002 Evaluation will be required. That document should follow the format for an Individual Section 4(f) Evaluation, as described in **Section XIII: Content and Format of Individual Section 4(f) Evaluations**.

Under Act 120, the Section 2002 Evaluation is submitted to the Bureau of Design for review. It is up to the discretion of either the Bureau of Design or the District to request that Chief Counsel review the evaluation. Comments from the Bureau of Design and Chief Counsel, if requested, are addressed and incorporated into the 2002 Evaluation and the evaluation is then resubmitted to the Bureau of Design for approval. Upon approval by the Director of the Bureau of Design, the document (Section 2002 Evaluation, or the jointly prepared federal environmental document) is transmitted to the Act 120 agencies (see **Appendix G** for list) for a 30-day review period. The Secretary of Transportation must then make the appropriate finding, which is published in the *Pennsylvania Bulletin*.

**NOTE:** Federal-aid projects must still meet the requirements of Act 120. This can be accomplished by adding the Act 120 agencies to the list of parties to whom the jointly prepared federal environmental document is circulated for review.

**NOTE:** Under Section 4(f), State Game Lands are considered multi-use properties. However, Section 2002 of PA Act 120 specifically lists State Game Lands as one of the resources to be avoided, if possible. Therefore, a portion of State Game Land that is determined not to be a Section 4(f) property applying multi-use principles (e.g. management plan providing primary use is timbering, property is landlocked and only occasionally used by the public) may still be identified as a Section 4(f)/Section 2002 property to avoid the preparation of two separate evaluations.



## XVII. SECTION 4(f) EVALUATION QUESTIONNAIRES

This section of the Handbook contains sample questionnaires to be used to guide the identification and evaluation of Section 4(f) properties. The first page of the questionnaire identifies the project and records the contact made, date, and type of property. The subsequent pages are divided into four questionnaires based on the type of property being evaluated:

- Questionnaire I: Public Park
- Questionnaire II: Recreation Area/Multi-Use Facility
- Questionnaire III: Wildlife or Waterfowl Refuge
- Questionnaire IV: Historic or Archaeological Site

These questionnaires were developed to be used as a tool in obtaining all the information necessary to determine whether or not a particular property, or portion of a property, is a Section 4(f) property. Questions covering the documentation typically needed are included in these questionnaires. **Remember, these questionnaires should be used as samples/examples; however, it is possible that additional information may be needed in specific circumstances.**

## SECTION 4(f) PROPERTIES SAMPLE IDENTIFICATION QUESTIONNAIRE

**Project Name:** \_\_\_\_\_

**S.R. & Section No.:** \_\_\_\_\_

**County:** \_\_\_\_\_

**Name/Title of Individual Contacted:** \_\_\_\_\_

**Agency They Represent:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Email address:** \_\_\_\_\_

**Date of Contact:** \_\_\_\_\_

**Type of Property:**

- ☐ Public park (Complete **Questionnaire I**)
- ☐ Recreation area/multi-use facility (Complete **Questionnaire II**)
- ☐ Wildlife or waterfowl refuge (Complete **Questionnaire III**)
- ☐ Historic or archaeological site (Complete **Questionnaire IV**)
- ☐ Other (Complete Questionnaire as Appropriate)

## **QUESTIONNAIRE I: PUBLIC PARKS/RECREATION AREAS**

**Name of Park/Recreation Area:**

**Location of Park/Recreation Area:**

**Is the park/recreation area publicly owned?**

☐ Yes                      By Whom?  
☐ No                        Who Owns the Property?

**Is the area leased for public uses?**                      ☐ Yes                      ☐ No

Who is the area leased to?  
How long is the lease?  
Does lease have a rollover clause?

**Are there any Deed Restrictions or reversionary clauses for the property?**    ☐ Yes    ☐ No

Explain:

**Who maintains the facility?**

**Is the park/recreation area open to the entire public?**    ☐ Yes                      ☐ No  
(not just members of a club, school, housing project etc...)

**Approximately how many people use the park/recreation area?(daily/monthly/yearly)**

**Is the facility important on a**    ☐ Local    ☐ Regional, or    ☐ National level?

**What is the primary purpose of the facility?**

**What public activities (existing and planned) are available on the property?:**

**Describe the location of access roads, parking area, trails, maintenance buildings, recreational facilities, etc. or provide a map/sketch.**

**Is the facility considered a significant park or recreation area by the official(s) with jurisdiction:** ☐ Yes ☐ No

**Is there a Master Plan or Comprehensive Plan for the facility?**

☐ Yes ☐ No **Describe:**

**What are the impacts of the project on the Master Plan or Comprehensive Plan?**

**How would the project impact the park/recreation area? (if known at this time)**

**Describe proposed mitigation.**

**According to the official(s) with jurisdiction, would these impacts substantially impair the activities, features, or attributes of the park/recreation area that qualify the property for protection under Section 4(f)?**

## **QUESTIONNAIRE II: MULTI-USE PROPERTIES**

**Name of facility:**

**Location of facility:**

**Is the facility publicly owned?**

- ☐ Yes      By Whom?  
☐ No      Who owns the property?

**Is the area leased for public use or is there a public easement:**      ☐ Yes      ☐ No

Who is area leased to/who holds the easement?

How long is the lease?

Does lease have rollover clause?

What are the terms of the easement?

**Are there any deed restrictions or reversionary clauses for the property?**

- ☐ Yes   ☐ No

Explain:

**Who maintains the property?**

**Is there a management plan for the property?:**      ☐ Yes      ☐ No

**If yes, attach a sketch or map of the multiple-use property and identify the potential Section 4(f) property(ies) on the sketch or map. Describe the Section 4(f) properties:**

**(Note:** If no management plan exists, coordinate with the officials with jurisdiction over the site to determine which portions of the property serve primarily as recreational areas; these portions are Section 4(f) properties.)

**Is the entire property, or parts of the property open to the general public (not just members of a club, school, housing project etc.)**      ☐ Yes      ☐ No

If parts, which parts? Describe?

**Approximately how many people use the property?** (daily/monthly/yearly)

**Is the property important on a**      ☐ Local      ☐ Regional, or      ☐ National level?

**What is the primary purpose of the property?**

**What public activities (existing and planned) are available on the property?**

**Describe the location of access roads, parking areas, trails, maintenance buildings, and recreational facilities on the property, or provide a map/sketch.**

**Is the facility considered significant for recreational purposes by the official(s) with jurisdiction?**      ☐ Yes      ☐ No

**How would the project impact the facility? (if known at this time – describe impact with respect to both recreational and non-recreational portions of the facility)**

**Describe proposed mitigation.**

**According to the official(s) with jurisdiction, would these impacts substantially impair the activities, features, or attributes that qualify the property for protection under Section 4(f)?**

### **QUESTIONNAIRE III: WILDLIFE AND WATERFOWL REFUGES**

**Name of refuge:**

**Location of refuge:**

**Is the refuge publicly owned?**

- ☐ Yes      By Whom?  
☐ No      Who owns the refuge?

**Is the area leased for refuge purposes?**    ☐ Yes    ☐ No

Who is area leased to?

How long is lease?

Does lease have rollover clause?

**Are there any deed restrictions or reversionary clauses for the property?**    ☐ Yes    ☐ No

Explain:

**Who maintains the refuge?**

**Is the refuge open to the general public? (not just members of a club, school, housing project etc. . .)**      ☐ Yes    ☐ No

If no, are there sensitive features associated with the refuge that warrant restricted access?

- ☐ Yes    ☐ No

Explain:

**Approximately how many people visit the refuge?** (daily/monthly/yearly)

**Is the refuge important on a**      ☐ Local      ☐ Regional, or      ☐ National level?

**What is the primary purpose of the refuge?**

**Does the refuge support any state or federal threatened or endangered species?**

☐ Yes ☐ No

Explain if yes:

**What facilities (existing and planned) exist on the refuge?**

**Describe the location of access roads, parking areas, trails, maintenance buildings, other recreational or refuge facilities, or provide a map/sketch:**

**Is the refuge considered significant for wildlife and waterfowl refuge purposes by the officials with jurisdiction?** ☐ Yes ☐ No

**Is there a management plan for the refuge?** ☐ Yes ☐ No

**Describe:**

**Do the project impacts affect the Management Plan for the refuge?** ☐ Yes ☐ No

**Describe:**

**How would the project impact the refuge?**

**Describe proposed mitigation.**

**According to the officials with jurisdiction, would the impacts substantially impair the activities, features, or attributes that qualify the refuge for protection under Section 4(f)?**



## **QUESTIONNAIRE IV: HISTORIC AND ARCHAEOLOGICAL SITES**

**Name of Site:**

**Location of Site:**

**Owner of Site:**

**Is the site listed or eligible for listing in the *National Register of Historic Places*?**

☐ Yes   ☐ No

**Is the site**   ☐   an historic site  
                         ☐   historic district  
                         ☐   archaeological site

**If the site is an archaeological site, is it**   ☐   eligible for preservation in place, or  
   ☐   eligible for the information it contains.

**If the site is an historic site or district, what criterion is it eligible under:**

- ☐ Criterion A   (broad patterns of history)
- ☐ Criterion B   (person significant to past history)
- ☐ Criterion C   (architecture)
- ☐ Criterion D   (information it contains)

**If the site is an historic site, describe any structures, the property boundaries, access, etc.:**

**If the site is an historic district, describe the district, boundaries, and its contributing/non-contributing elements:**

**If the site is an historic site, describe how the site is affected by each alternative - describe property take, access, structure take, etc.:**

**If the site is an historic district, describe how the contributing elements are affected by each alternative - describe property take, access, structure take, etc.:**

**Indicate the effects determinations (no historic properties affected, no adverse effect, adverse effect) for each alternative.**

<u>Alternative</u>	<u>Effect determination</u>
_____	_____
_____	_____
_____	_____

(**NOTE:** Effects under Section 106 do not equate to use under Section 4(f). Effects determinations are not used to identify actual Section 4(f) uses. Effects are used to determine if an actual use is *de minimis*. A *de minimis* Section 4(f) use can be applied to an historic site if a determination of No Adverse Effect or No Historic Properties Affected has been made in accordance with the Section 106 criteria of effect and concurred with by the SHPO/THPO. In addition, effects determinations are useful in determining whether there is a possibility of a constructive use. Constructive use occurs when there is no actual land taken from a Section 4(f) property, but proximity impacts substantially impair the integrity of the property. By definition, a No Adverse Effect or No Historic Properties Affected determination equates to no constructive use (i.e. there would be no substantial impairment to the integrity of the property). An Adverse Effect determination can, but does not necessarily result in a Constructive Use. If there is an Adverse Effect, mitigation, such as noise walls, plantings etc. is considered in the constructive use analysis.)

**Describe proposed mitigation.**

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# **THE TRANSPORTATION PROJECT DEVELOPMENT PROCESS**

## **SECTION 4(f) HANDBOOK**

### **VOLUME II**

August 2008

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# Federal Register

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**Wednesday,  
March 12, 2008**

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## **Part III**

## **Department of Transportation**

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**Federal Highway Administration  
Federal Transit Administration**

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**23 CFR Parts 771 and 774**

**49 CFR Part 622**

**Parks, Recreation Areas, Wildlife and  
Waterfowl Refuges, and Historic Sites;  
Final Rule**

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

### Federal Transit Administration

### 23 CFR Parts 771 and 774

### 49 CFR Part 622

[Docket No. FHWA–2005–22884]

RIN 2125–AF14 and 2132–AA83

### Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites

**AGENCY:** Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), DOT.

**ACTION:** Final rule.

**SUMMARY:** This final rule modifies the procedures for granting Section 4(f) approvals in several ways. First, the final rule clarifies the factors to be considered and the standards to be applied when determining if an alternative for avoiding the use of Section 4(f) property is feasible and prudent. Second, the final rule clarifies the factors to be considered when selecting a project alternative in situations where all alternatives would use some Section 4(f) property. Third, the final rule establishes procedures for determining that the use of a Section 4(f) property has a *de minimis* impact on the property. Fourth, the final rule updates the regulation to recognize statutory and common-sense exceptions for uses that advance Section 4(f)'s preservation purpose, as well as the option of applying a programmatic Section 4(f) evaluation. Fifth, the final rule moves the Section 4(f) regulation out of the agencies' National Environmental Policy Act regulation, "Environmental Impact and Related Procedures," into its own part with a reorganized structure that is easier to use.

**DATES:** *Effective Date:* April 11, 2008.

**FOR FURTHER INFORMATION CONTACT:** For FHWA: Diane Mobley, Office of the Chief Counsel, 202–366–1366, or Lamar Smith, Office of Project Development and Environmental Review, 202–366–8994. For FTA: Joseph Ossi, Office of Planning and Environment, 202–366–1613, or Christopher VanWyk, Office of Chief Counsel, 202–366–1733. Both agencies are located at 1200 New Jersey Avenue, SE., Washington, DC 20590. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., for FHWA, and 9 a.m. to 5:30 p.m., e.t., for FTA, Monday through Friday, except Federal holidays.

### SUPPLEMENTARY INFORMATION:

### Electronic Access

This document, the notice of proposed rulemaking (NPRM) of July 27, 2006, at 71 FR 42611, and all comments received by the U.S. DOT Docket Facility may be viewed through the Federal Docket Management System (FDMS) at <http://www.regulations.gov>. The FDMS is available 24 hours each day, 365 days each year. Electronic submission and retrieval help and guidelines are available under the help section of this Web site.

An electronic copy of this document may be downloaded by using a computer, modem, and suitable communications software, from the Government Printing Office's Electronic Bulletin Board Service at (202) 512–1661. Internet users may reach the Office of the Federal Register's home page at: <http://www.archives.gov> and the Government Printing Office's Web site at: <http://www.access.gpo.gov/nara>.

### Statutory Authority

The principal statutory authority for this rulemaking action is Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) (Pub. L. 109–59, Aug. 10, 2005, 118 Stat. 1144).

### Background

Section 4(f) of the Department of Transportation Act of 1966 (Pub. L. 89–670, 80 Stat. 931)<sup>1</sup> prohibits the use of land of significant publicly owned public parks, recreation areas, wildlife and waterfowl refuges, and land of a historic site for transportation projects unless the Administration (as defined in section 774.17 of this part)<sup>2</sup> determines that there is no feasible and prudent avoidance alternative and that all possible planning to minimize harm has occurred. Early case law strictly interpreted Section 4(f), beginning with the Supreme Court's decision in

*Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1971) (*Overton Park*). In *Overton Park*, the Court articulated a very high standard for compliance with Section 4(f), stating that Congress intended the protection of parkland to be of paramount importance. The Court also made clear that an avoidance alternative must be selected unless it would present "uniquely difficult problems" or require "costs or community disruption of extraordinary magnitude." *Id.* at 411–21, 416.

Courts around the country have applied the *Overton Park* decision, reaching different conclusions as to how various factors may be considered and what weight may be attached to the factors an agency uses to determine whether an avoidance alternative is or is not feasible and prudent. Some courts have interpreted *Overton Park* to mandate the avoidance of Section 4(f) properties at the expense of other important environmental and social resources. Congress amended Section 4(f) in 2005 to address the uncertainty surrounding its application. Section 6009(b) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) (Pub. L. 109–59, Aug. 10, 2005, 119 Stat. 1144) directed the Secretary of Transportation to promulgate regulations clarifying "the factors to be considered and the standards to be applied" in determining the prudence and feasibility of alternatives that avoid the use of Section 4(f) property by transportation projects. The FHWA and FTA published a NPRM on July 27, 2006, at 71 FR 42611. The NPRM requested comments on the factors proposed to be considered and standards proposed to be applied when determining whether an avoidance alternative is feasible and prudent. The NPRM also solicited comments on a new, alternative method of compliance created by SAFETEA–LU section 6009(a) for uses that result in a *de minimis* impact to a Section 4(f) property and on other proposed changes to the Section 4(f) regulation. The comment period remained open until September 25, 2006. All comments, including several comments submitted late, have been fully considered in this final rule.

### Profile of Respondents

The docket received a total of 37 responses to the NPRM. Out of the 37 responses, 17 were submitted by 20 State and regional transportation agencies; 6 responses were submitted by trade associations; 9 responses were submitted by 11 national and local

<sup>1</sup> Section 4(f) of the Department of Transportation Act of 1966 was technically repealed in 1983 when it was codified without substantive change at 49 U.S.C. 303. A provision with the same meaning is found at 23 U.S.C. 138 and applies only to FHWA actions. This regulation continues to refer to Section 4(f) as such because it would create needless confusion to do otherwise; the policies Section 4(f) engendered are widely referred to as "Section 4(f)" matters.

<sup>2</sup> Section 774.14 of this final rule defines "Administration" as "The FHWA or FTA, whichever is making the approval for the transportation program or project at issue. A reference herein to the Administration means the State when the State is functioning as the FHWA or FTA in carrying out responsibilities delegated or assigned to the State in accordance with 23 U.S.C. 325, 326, 327, or other applicable law." All references to the "Administration" in the preamble to this final rule are consistent with this definition.

environmental advocacy groups; 2 responses were from Federal agencies; 1 response was from a State Historic Preservation Officer; and 2 responses were from private individuals. The trade associations submitting comments were: The American Association of State Highway and Transportation Officials, the American Council of Engineering Companies, the American Cultural Resources Association, the American Highway Users Alliance, the American Public Transportation Association, and the American Road and Transportation Builders Association. The Federal agencies submitting comments were the United States Department of the Interior and the Advisory Council on Historic Preservation. The national environmental advocacy organizations submitting comments included the National Recreation and Park Association, The Nature Conservancy, and the National Trust for Historic Preservation, the Rails to Trails Conservancy, the Surface Transportation Policy Project, the Natural Resources Defense Council, and Environmental Defense.

#### Overall Position of Respondents

The majority of comments received in response to the NPRM were generally supportive of the proposed changes. Most comments agreed with the decision to clarify the feasible and prudent test in a manner that will continue a high level of protection of Section 4(f) properties from the impacts of transportation projects. Respondents from all across the board, including State Departments of Transportation (SDOTs) and the private sector, commented positively on the rule's specificity and the flexibility allowed in dealing with various aspects of Section 4(f). Moreover, there was substantial support for the idea that implementation of the proposed regulations would improve transportation decisionmaking and expedite environmental reviews, while

continuing to protect Section 4(f) properties.

On the other hand, several respondents had a generally negative reaction to the proposed regulation. Concerns included that the proposed regulations do not track the actual process the Administration and applicant would follow in writing a Section 4(f) evaluation; that the rule exceeds the requirements of SAFETEA-LU by addressing *de minimis* requirements; that the proposed rule's writing, structure, and organization are very confusing and will cause more litigation; and that the proposed rule will not streamline environmental analysis or adequately protect Section 4(f) properties.

#### General Comments

A general comment noted that the regulation often refers simply to "refuges" while the statute refers to "wildlife and waterfowl refuges." For consistency, we have replaced "refuges" with the statutory terminology throughout the final rule.

Another general comment expressed concern that the final decisionmaking responsibility under the proposed rule rests with the U.S. DOT. We considered this view but concluded that the statute entrusts final decisionmaking responsibility for approving the use of Section 4(f) property with the Secretary of Transportation, who has delegated that responsibility to the modal Administrations within the U.S. DOT.

Another comment asked if this rule would apply to the Federal Aviation Administration (FAA) and the Federal Railroad Administration (FRA). The final rule will apply only to the FHWA and FTA. However, section 6009 of SAFETEA-LU amended 49 U.S.C. 303, which applies to all U.S. DOT agencies including FAA and FRA. The FAA and FRA may choose to adopt or use this rule and other FHWA and FTA guidance on Section 4(f).

Finally, one commenter suggested that "inside metropolitan areas, any 4(f)

related activities, analysis, and decisions should be carried out in the context of the region-wide environmental mitigation element of the metropolitan transportation plan." Reference is made to the transportation planning regulation (23 CFR part 450) published in February 2007. The FHWA and FTA do not agree with this comment. The environmental mitigation discussed in the metropolitan plan generally would not delve into the site-specific impacts of individual projects and the mitigation thereof. That impact assessment will continue to be performed at the project level generally as part of the documentation prepared under the National Environmental Policy Act (NEPA). The discussion in the transportation plan would identify broader environmental mitigation needs and opportunities that individual transportation projects might later take advantage of. For example, as a result of consultation with resource agencies, the plan might identify an expanse of degraded wetlands associated with a troubled body of water that represents a good candidate for establishing a wetlands bank or habitat bank for wildlife and waterfowl. The plan might identify locations where the purchase of development rights would assist in preserving a historic battlefield or historic farmstead. Assessments of each individual project would still be needed to determine the appropriateness of devoting project funds to one of the mitigation activities identified in the plan, to a mitigation bank discussed in the plan, or to new mitigation developed during the NEPA/Section 4(f) process and not mentioned in the plan. We therefore did not make changes in response to this comment.

#### Section-by-Section Analysis of NPRM Comments and the Administration's Response

For ease of reference, the following table is provided which maps the former sections of the rule into the corresponding new sections:

Former section in part 771	New section in part 774
None .....	774.1 Purpose.
771.135(a)(1) .....	774.3 Section 4(f) approvals.
771.135(l) [in part] .....	774.5 Coordination.
771.135(a)(2), (i) [in part], (j), (k), and (o) .....	774.7 Documentation.
771.135(b) [in part], (g)(1) [in part], (l), (m) [in part] and (n) .....	774.9 Timing.
771.135(b) [in part], (c), (d), (e), (g)(1) [in part], (m)(4) and (p) (5)(v) .....	774.11 Applicability.
771.135(f), (g)(2), (h), (p)(5) [in part], and (p)(7) .....	774.13 Exceptions.
771.135(p)(3), (p)(4), (p)(5) [in part] and (p)(6) .....	774.15 Constructive use determinations.
771.107(d) and 771.135(p)(1) and (p)(2) .....	774.17 Definitions.

In this preamble, all references to provisions of 23 CFR part 774 refer to the final rule as presented herein. Several provisions proposed in the NPRM were moved to new sections in response to comments on the NPRM. A reference to an NPRM section will be explicitly labeled as such.

#### *Section 771.127 Record of Decision*

One comment objected to the provision for signing a Record of Decision “no sooner than 30 days after publication of the final environmental impact statement (EIS) notice in the **Federal Register** or 90 days after publication of a notice for the draft EIS, whichever is later.” This sentence was incorporated verbatim from the FHWA and FTA’s existing regulation implementing the National Environmental Policy Act (NEPA), and it is consistent with the NEPA regulations of the Council on Environmental Quality (CEQ), 40 CFR 1506.10(b). Substantive modifications to the FHWA and FTA joint NEPA regulation are outside the scope of this rulemaking. Thus, we have retained the language as proposed in the NPRM.

#### *Section 774.1 Purpose*

This section clarifies the purpose of the regulations, which is to implement 49 U.S.C. 303 and 23 U.S.C. 138 (Section 4(f)). There were no major comments in response to this section. Therefore, we have retained the language as proposed in the NPRM.

#### *Section 774.3 Section 4(f) Approvals*

This section sets forth the determination required by the Administration prior to approving a project that uses Section 4(f) property. Paragraph 774.3(a) is the traditional Section 4(f) approval, similar to the previous rule at paragraph 771.135(a)(1). Paragraph 774.3(b) implements the new provision in section 6009(a) of SAFETEA-LU for making *de minimis* impact determinations in lieu of the traditional analysis. Section 774.3 includes cross-references to the definitions for “use,” “feasible and prudent avoidance alternative,” “*de minimis* impact,” and “all possible planning,” which are located in the definitions section, 774.17.

Paragraph 774.3(c) provides new regulatory direction for how to analyze and select an alternative when it has been determined that no feasible and prudent avoidance alternatives exist and all viable alternatives use some Section 4(f) property. The paragraph provides a list of factors that should be considered in the analysis and selection of an alternative. The factors were drawn

from case law experience and the FHWA “Section 4(f) Policy Paper.”<sup>3</sup> It should be noted that the weight given each factor would necessarily depend on the facts in each particular case, and not every factor would be relevant to every decision. Our intent is to provide the tools that will allow wise transportation decisions that minimize overall harm in these situations, while still providing the special protection afforded by Section 4(f) by requiring the other weighed factors to be severe and not easily mitigated.

Paragraph 774.3(d) provides a clear regulatory basis for programmatic Section 4(f) evaluations, and it distinguishes between the promulgation of new programmatic Section 4(f) evaluations and the application of an existing programmatic Section 4(f) evaluation to a particular project. Paragraph 774.3(e) provides cross-references to the sections of the regulation governing the coordination, documentation, and timing of approvals as a road map for the practitioner.

Many comments were received in response to this section. The majority of comments were generally supportive of the approach proposed in the NPRM, although many offered minor rewording for clarity. Those suggestions are discussed below for each paragraph. Several comments were strongly opposed to the proposed procedural structure. The NPRM proposed different processes for approving uses with *de minimis* and non-*de minimis* impacts to Section 4(f) property, and the proposed rule requires an additional step when approving projects for which all alternatives use some Section 4(f) property. A use with more than *de minimis* impacts would be processed with the traditional two-step inquiry pursuant to paragraph 774.3(a) (a determination that there is no feasible and prudent avoidance alternative, followed by a determination that the action includes all possible planning to minimize harm to the property). A use with *de minimis* impacts would be processed in a single step pursuant to paragraph 774.3(b) (without the need for the development and analysis of avoidance alternatives, and with the planning to minimize harm folded into the development of measures needed to reduce the impacts of the Section 4(f) use to a *de minimis* level). Projects for which all viable alternatives use some Section 4(f) property would be processed in two steps pursuant to

paragraph 774.3(c) (a determination that there is no feasible and prudent avoidance alternative, followed by the selection of an alternative by weighing the factors in paragraph 774.3(c) and a determination, with documentation, that the action includes all possible planning to minimize harm).

The commenters opposed to the structure proposed in the NPRM indicated that the regulation in all situations should first require a determination of which alternative minimizes harm to the Section 4(f) resource(s), followed by a determination of whether that alternative is feasible and prudent and may therefore be selected. Comments stated that in *Overton Park*, the Supreme Court required such a structure for Section 4(f) decisionmaking. We disagree. We have re-read *Overton Park* and considered this concern very carefully, but we do not agree that *Overton Park* stands for the process favored by these commenters or that the process proposed in the NPRM should be restructured. First, the NPRM structure follows the order of the requirements as they appear in the statute. Second, the statute does not require a determination of which alternative minimizes harm, it requires “all possible planning” to minimize harm. It is much more efficient to conduct all possible planning to minimize harm as the last step for the selected alternative than to undertake all possible planning repeatedly for each alternative, including those that are not feasible and prudent, and for a variety of reasons, cannot be selected. Such a process would be very inefficient. Finally, the structure and processes in the final rule are consistent with longstanding FHWA and FTA procedures, with the exception of the procedures for approving the new concept of *de minimis* impacts. For these reasons, we retained the structure proposed in the NPRM.

Another comment strongly recommended the separation of the analysis, coordination, documentation, and timing requirements for *de minimis* impacts and the traditional Section 4(f) evaluation into discrete sections of the regulation. We decided not to make this proposed change because we do not agree that re-structuring the regulation in this manner would make it easier to use. In addition, for those who prefer the suggested structure, the existing joint FHWA/FTA “Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources,” December 13, 2005,<sup>4</sup> already provides a complete

<sup>3</sup> The FHWA “Section 4(f) Policy Paper,” issued March 1, 2005, is available for review online at <http://environment.fhwa.dot.gov/projdev/4fpolicy.htm>. A copy was also placed in the docket for this rulemaking.

<sup>4</sup> <http://www.fhwa.dot.gov/hep/guidedeminimis.htm>.

discussion of the process for determining *de minimis* impacts, separate from any discussion of the requirements for traditional Section 4(f) approvals.

Another comment requested definitions of numerous phrases used in section 774.3; for example, “relative severity of the harm,” “relative significance,” and “the ability to mitigate.” We did not include the requested definitions in the final rule because these words are all used with their common English meanings. The provisions of section 774.3 will be applied to an extensive variety of fact situations, and regulatory definitions would unduly limit the applicability of the provisions to the particular fact situations anticipated in those definitions.

- Section 774.3—One comment suggested that section 774.3, which prohibits the use of Section 4(f) property unless certain determinations are made, should simply refer to “section 4(f) property” instead of “public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site.” We agree that this suggested change improves the readability of the regulation, so we substituted the phrase “Section 4(f) property” and moved the terminology proposed in the NPRM into a new definition of “Section 4(f) property” in section 774.17. The defined term is now used throughout the regulation.

- Paragraph 774.3(a)(1)—Another comment asked that we confirm “that an alternative with a net benefit 4(f) use can be chosen over an alternative with no Section 4(f) use.” If avoidance alternatives are determined not to be feasible and prudent then the use may be approved, whether or not it is a “net benefit.” For FHWA projects, the “Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property,” 70 FR 20618, April 20, 2005, would generally apply to situations envisioned by the commenter. This programmatic Section 4(f) evaluation remains in effect. In cases where application of this programmatic evaluation is appropriate, the criteria for evaluating the existence of a feasible and prudent avoidance alternative is specified in the Findings section of the programmatic evaluation. If, through the application of this programmatic Section 4(f) evaluation, the FHWA determines that there are no feasible and prudent avoidance alternatives, then the alternative with a net benefit to Section 4(f) property can be selected. This

programmatic Section 4(f) evaluation is applicable only to FHWA actions.

- Paragraph 774.3(b)—One comment requested clarification whether an analysis of avoidance alternatives must be conducted when determining that a *de minimis* impact occurs to a Section 4(f) property. An analysis of avoidance alternatives is not necessary for a *de minimis* impact determination, and the NPRM did not propose to require one. Using words taken directly from section 6009(a) of SAFETEA—LU, the NPRM would have allowed a Section 4(f) *de minimis* impact approval when “the use of the property, including any avoidance, minimization, mitigation, or enhancement measures committed to by the applicant, will have a *de minimis* impact \* \* \*.” We agree with the commenter that the term “avoidance” as used in this sentence could cause confusion. The final rule was reworded to clarify that the term “avoidance,” along with other mitigation or enhancement measures, is used in the context of project features or designs that minimize harm to the individual Section 4(f) property and not meant to imply that the applicant must search for alternatives avoiding the Section 4(f) property altogether. In this context, the term “avoidance” could mean a partial change to the alignment to avoid a portion of the Section 4(f) property. The sentence now reads “\* \* \* the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property.” The development and evaluation of alternatives that completely avoid the use of the Section 4(f) property is not required when the Administration intends to make a finding of *de minimis* impact determination. Indeed, to require such an analysis would defeat the purpose of the *de minimis* provision in the statute. However, if the Administration’s intention of making a *de minimis* impact finding is not realized, then a traditional Section 4(f) evaluation, including the development and evaluation of alternatives that completely avoid the use of Section 4(f) property, would be necessary.

- Paragraph 774.3(c)—Two comments criticized the choice of the word “may” referencing the portion of the rule which allows the Administration to approve an alternative that “minimizes overall harm” in light of the enumerated factors. They explain that this articulation leaves the FHWA and FTA with too much discretion. We are concerned that if the words “may

select” were replaced with the suggested “shall select” or “must select,” the provision would require the agencies to actually fund the project, which is not an obligation imposed by Section 4(f). In response to the comments, after “may approve” we added the word “only.” This change clarifies our intent that the FHWA and FTA may only select the alternative that causes the least overall harm.

When there is no feasible and prudent avoidance alternative, many comments suggested various replacements for the phrase “most prudent” as a criterion for choosing among several project alternatives and determining which would cause the least overall harm. After considering the range of proposals and their rationales, we have decided to remove the words “most prudent” from the analysis of overall harm. It appears to cause confusion and it detracts from the purpose of this portion of the rule, which is to provide clear criteria for choosing a course of action when all available alternatives use Section 4(f) property. Deleting the modifier “most prudent” appropriately shifts the focus of the multi-factor inquiry to the requirement of minimizing overall harm.

Several commenters suggested that the proposed weighing of factors in determining the alternative with the least overall harm would not place a “thumb on the scale” in favor of the preservation of the Section 4(f) properties, as required by the statute. The FHWA and FTA agree that a reminder about the preservation purpose of the statute in the balancing of various factors is appropriate. Accordingly, paragraph 774.3(c)(1) now states that the Administration may approve the alternative that causes the least overall harm “in light of the statute’s preservation purpose.” The preservation purpose of Section 4(f) is described in 49 U.S.C. 303(a), which states: “It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.” Virtually identical language appears in 23 U.S.C. 138. This addition does not change the settled principle that where there is no feasible and prudent avoidance alternative, Section 4(f) does not preclude the Administration from selecting any alternative from among those with substantially equal harm. In such instances, the selection will be based primarily on the relative performance of those alternatives with respect to factors (v) “the degree to which each alternative meets the

purpose and need for the project,” (vi) “after reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f),” and (vii) “substantial differences in costs among the alternatives.”

Two comments proposed incorporating by reference the NPRM definition of “feasible and prudent alternative” into paragraph 774.3(c), explaining that this change would ensure consistency in the use of the term, especially in the meaning of “prudent.” We decline to adopt this proposal because the term “feasible and prudent alternative” as used in the definitions and paragraph 774.3(a) signifies an alternative to the use of Section 4(f) property, whereas in paragraph 774.3(c) all alternatives under consideration use some Section 4(f) property and use of the term in this context would be confusing.

Several comments proposed substituting the word “balancing” for the term “considering,” as a more precise way to describe the analytical process described in the NPRM. We have adopted the suggestion to replace the term “considering” with the term “balancing” as a better way to articulate the intent of paragraph 774.3(c). We agree that such an inquiry will necessarily involve a balancing of competing and conflicting considerations given that some of the factors may weigh in favor of one alternative, yet other factors may weigh against it. Mere “consideration” of the factors does not capture this idea—the factors must be weighed against each other. How the various factors listed in paragraph 774.3(c)(1) are balanced and weighed in a given instance is within the discretion of FHWA and FTA, and is subject to the facts and circumstances of the particular project and Section 4(f) properties involved. As previously noted, the FHWA and FTA have inserted a reminder that the preservation purpose of the statute in the balancing of the various factors must be given its proper weight.

Several comments interpreted the balancing test of paragraph 774.3(b) as satisfying the statutory requirement to undertake “all possible planning to minimize harm” to the Section 4(f) property. One comment proposed that we add a statement that performing the analysis pursuant to paragraph 774.3(c) satisfies FHWA’s obligation to undertake all possible planning to minimize harm to Section 4(f) properties. Other comments suggested that paragraph 774.3(c) should expressly state that any alternative selected based on the enumerated factors should include all possible planning to

minimize harm to Section 4(f) property resulting from the use.

Contrary to the interpretation suggested in some comments, we did not intend that engaging in the balancing test alone would fulfill the requirement to undertake “all possible planning to minimize harm” to the Section 4(f) property. The selection of an alternative pursuant to paragraph 774.3(c) is not in itself a Section 4(f) approval and does not complete the evaluation process. After the alternative is selected, the additional step of identifying, adopting, and committing to measures that will minimize the harm to the Section 4(f) property must be documented before Section 4(f) approval can be granted. The extent of effort needed to satisfy the requirement to undertake all possible planning to minimize harm is included in the definitions section, 774.17. When the characteristics of a Section 4(f) property lend themselves to mitigation, and with mitigation the alternative that uses that property would have a lower net impact, the balancing test would weigh these facts and may result in the alternative being selected. We addressed the confusion on this topic by dividing the NPRM paragraphs 774.3(a)(1) and 774.3(b) each into two paragraphs and stating separately in each the requirement to undertake all possible planning to minimize harm. We also slightly reworded the paragraph for additional clarity.

We received a variety of comments regarding the list of factors in paragraph 774.3(c)(1) which the Administration would balance in making the decision on which alternative causes the least overall harm. It is important to keep in mind the situations in which the factors will apply—these factors will only apply after a determination has already been made that there is no feasible and prudent alternative to avoid the use of Section 4(f) property. The point of the analysis is a comprehensive inquiry that balances the net harm to Section 4(f) properties caused by each alternative with all other relevant concerns. One comment provided examples of how the balancing of factors in paragraph 774.3(c) will help transportation agencies arrive at better overall decisions.

We reiterate here the point made above and in the NPRM that this balancing must be done with a “thumb on the scale” in favor of protecting Section 4(f) properties. A scale that takes into account the preservation purpose of the statute must be used to compare the net harm to Section 4(f) properties (factors in paragraphs 774.3(c)(1)(i)–(iv)) with other relevant

concerns (the remaining factors). One commenter asked if this means “an alternative with somewhat more harm to Section 4(f) properties could be selected over one with somewhat lesser harm if the one with lesser harm to Section 4(f) properties would result in more adverse effects to non-Section 4(f) properties/higher costs/lesser ability to satisfy needs, or some combination thereof?” The answer is yes, so long as the difference in overall harm is substantial. Where the factors favoring the selection of the alternative with greater harm to Section 4(f) property do not clearly and substantially outweigh the factors favoring the alternative with less harm to Section 4(f) property, the alternative with less harm to Section 4(f) property must be selected. As the significance of the Section 4(f) property or the degree of harm to the Section 4(f) property increases, another alternative must entail correspondingly greater harm to non-Section 4(f) properties to outweigh the harm to the Section 4(f) property and be selected. Because there is necessarily a degree of judgment involved in these decisions, the Administration must be mindful to carefully document its reasoning.

With respect to the factors in paragraphs 774.3(c)(1)(ii) and (iii), one comment suggested that the determinations of the relative severity of the harm and relative significance of the Section 4(f) properties should be made solely by the officials with jurisdiction over the resource. We did not adopt this suggestion because, in practice, competing views are often expressed when multiple Section 4(f) properties are being evaluated. The park may seem more important to the park official than the historic building beside the park, whereas the SHPO may feel just the opposite. The Administration, after listening to these competing points of view, must ultimately decide. In the statute, Congress chose to entrust the Secretary of Transportation with the final decision.

With respect to the factor in paragraph 774.3(c)(1)(i), “The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property),” one comment suggested that only “legally binding” mitigation (i.e., mitigation committed to in the ROD) should be considered. We do not agree because the purpose of the balancing test is to select an alternative, so there is no legally binding mitigation at that point in the process. However, we expect that mitigation used to offset harm would be a matter of record and the appropriate commitments should be included in the project decision.

Another comment stated that nothing in the regulation requires the adoption of any mitigation relied upon in this factor. This is not true. The new definition of "all possible planning" to minimize harm sets forth specific criteria which will govern whether the identified mitigation must be adopted. Where the availability of adequate mitigation measures is a factor that is relied upon in selecting an alternative, the measures that were identified in the analysis must be incorporated into the project through the CE determination, ROD or FONSI, or by other means. There is additional discussion of this issue in the analysis of section 774.17 below.

Several commenters felt that the only consideration in alternative selection should be minimizing harm to the Section 4(f) properties. Consequently, in their view, the factors in NPRM subparagraphs 774.3(b)(5) through (8), which introduce non-Section 4(f)-related concerns into the selection process, should be eliminated. We have carefully reviewed those comments but decided to keep the first three of these factors, now numbered 774.3(c)(1)(v)–(vii) for the reasons discussed below. The final factor in the NPRM, concerning joint planning, was dropped for other reasons, as discussed below following the discussion of the factors retained.

The factors in 774.3(c)(1)(v)–(vii) were retained in the final rule for several reasons. First, the selection of an alternative in instances where all viable alternatives use some Section 4(f) property must be distinguished from the selection process where there is a viable alternative that avoids using Section 4(f) property. While the caselaw is not entirely consistent, there is ample support for the FHWA and FTA's approach in the courts. The Supreme Court's *Overton Park* decision did not consider this aspect of Section 4(f), as that case turned on the FHWA's failure to document any consideration of feasible and prudent alternatives to the use of the park. Second, since Section 4(f) was enacted in 1966, Congress has identified many other types of environmental resources for protection under Federal law besides Section 4(f) properties; for example, threatened and endangered species, prime farmland, and wetlands of national importance. There is nothing in SAFETEA-LU to suggest that Section 4(f) protection should trump all other concerns when there is no feasible and prudent avoidance alternative. The FHWA and FTA's approach interprets Section 4(f), as amended by SAFETEA-LU, in a way that gives appropriate weight to all of the resources impacted by a proposed

transportation project. Third, 23 U.S.C. 109(h) directs FHWA to make final project decisions "in the best overall public interest, taking into account the need for fast, safe and efficient transportation, public services, and the costs of eliminating such adverse effects and the following: (1) Air, noise, and water pollution; (2) destruction or disruption of man-made and natural resources, aesthetic values, community cohesion and the availability of public facilities and services; (3) adverse employment effects, and tax and property value losses; (4) injurious displacement of people, businesses and farms; and (5) disruption of desirable community and regional growth." FTA law similarly requires that "the preservation and enhancement of the environment and the interest of the community in which the project is located" be considered. (49 U.S.C. 5324(b)(3)(A)(ii)). These statutes support the FHWA and FTA's interpretation of Section 4(f) as allowing the consideration of other significant impacts when it is not possible to avoid using Section 4(f) property. As described in the NPRM preamble, the balancing approach adopted in this rule enables the Administration to take all of these concerns into account by allowing serious problems to outweigh relatively minor Section 4(f) impacts, as well as Section 4(f) impacts that can be satisfactorily mitigated.

One comment pointed out that the list of factors in paragraph 774.3(c)(1) is inconsistent with the lists in the proposed definitions of "all possible planning" and "feasible and prudent alternative" in 774.17, which includes some similar and some additional factors. This disparity, in the commenter's opinion, confused the application of the factors in the overall Section 4(f) analysis. This comment proposed that we combine the multi-factor lists. We considered this comment, but decided not to adopt it. The three lists of factors included in the NPRM apply to three distinct situations. The factors enumerated in the proposed definition of "feasible and prudent alternative" are used to determine whether an alternative that avoids using Section 4(f) property exists. If the analysis concludes that no such avoidance alternative exists, then a different set of factors, those in paragraph 774.3(c), comes into play to guide the Administration in selecting from among the alternatives all of which use some Section 4(f) property. Once an alternative is chosen, if it uses Section 4(f) property, then the Administration has a further obligation to undertake all

possible planning to minimize harm to that property. The third set of factors in the definition of this term is used to determine the appropriate extent of the planning to minimize harm.

With respect to the factor in paragraph 774.3(c)(1)(vii), "[e]xtraordinary differences in costs among the alternatives," some comments suggested that the word "extraordinary" should be deleted, thus allowing any difference in costs to be considered and balanced with all other factors in determining which of the alternatives minimizes overall harm. Since this factor is a comparison of the costs of alternatives under consideration, all of which use Section 4(f) property, the FHWA and FTA agree that the difference in cost would not have to be "extraordinary," but that the magnitude of the difference would determine its appropriate weight when balancing it with the other factors. Consideration of a minor difference in the cost among alternatives in the balancing test would be inappropriate in that there must be a measurable and significant degree of difference. For this reason we are substituting the word "substantial" in place of the word "extraordinary" in this factor. Requiring a substantial cost difference between alternatives emphasizes the importance of devoting funds to minimizing harm to the Section 4(f) property and other important resources more so than if any difference in cost were allowed to influence the choice of alternatives. When deciding whether to consider a cost difference "substantial," in addition to considering the cost as a number in isolation, the FHWA and FTA may consider factors such as the percentage difference in the cost of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the subject project would adversely impact the applicant's ability to fund other transportation projects.

Several comments expressed confusion regarding the factor in NPRM paragraph 773.4(b)(8), "[A]ny history of concurrent planning or development of the proposed transportation project and the Section 4(f) property." Some commenters were concerned about how this factor was related to, and would apply in, the balancing of factors and the ultimate determination of overall harm. Others suggested that the scope of concurrent planning in this context was unclear and others thought the term should be defined in section 774.17. In response to these comments, we have decided to eliminate concurrent



planning as a factor in determining overall harm. Concurrent planning, in which the “concurrent or joint planning or development of the transportation facility and the Section 4(f) resource occurs,” more appropriately relates to the applicability of Section 4(f) requirements to a specific property. Concurrent planning in this context is addressed in paragraph 774.11(i).

Another comment pointed out the lack of reference to the no-action alternative in this paragraph, and asked whether that means it need not be discussed in the evaluation. The no-action alternative should always be considered in a Section 4(f) evaluation and the reasons for not selecting it must be identified.

- Paragraph 774.3(d)—Several comments on the NPRM indicated that programmatic Section 4(f) evaluations are misunderstood by some. In response, we have clarified what is meant by a programmatic Section 4(f) evaluation in paragraph 774.3(d), and have specified the process for the development of a programmatic evaluation as well as the application of an existing programmatic evaluation. The paragraph makes clear that a programmatic Section 4(f) evaluation does not automatically satisfy Section 4(f) for an entire class of projects—rather it establishes a simpler approach to compliance that is tailored to that class of projects. They are not exemptions and individual projects must still be reviewed in accordance with the process established in the programmatic Section 4(f) evaluation.

- Paragraph 774.3(e)—No substantive comments were received on this subsection. We have retained the language as proposed in the NPRM.

#### Section 774.5 Coordination

One general comment recommended the separation of the analysis, coordination, format, and timing requirements for *de minimis* impacts into discrete sections of the regulation. We decided not to make this proposed change because we believe that grouping all of the requirements for coordination, all of the requirements for timing, and all of the requirements for documentation together is a reasonable structure for the regulation and is more consistent with the familiar, former regulation. For practitioners who need more guidance on the *de minimis* impact requirements, the joint FHWA/FTA “Guidance for Determining *De Minimis* Impacts,” December 13, 2005, discusses all of the *de minimis* impact requirements together in one document.

Another general comment suggested that this section should be revised to

explain the coordination of reviews performed under NEPA, Section 4(f), and Section 106 of the National Historic Preservation Act. We did not adopt this suggestion because it is already stated in 23 CFR 771.105(a), which explains that it is the policy of the FHWA and FTA that “[t]o the fullest extent possible, all environmental investigations, reviews, and consultations be coordinated as a single process, and compliance with all applicable environmental requirements be reflected in the environmental document required by this regulation.” A similar statement with regard to the content of environmental documents is found at 23 CFR 771.133.

We received a general comment that clear guidance is needed on the coordination process for Section 4(f) uses with impacts greater than *de minimis*, to ensure that the officials with jurisdiction are fully engaged in the development of avoidance alternatives and the determination of appropriate measures to minimize harm. We agree that coordination with the officials with jurisdiction is important and integral to Section 4(f) compliance, and note that the regulation already includes explicit coordination requirements in paragraph 774.5(a). Additional guidance is included in the FHWA “Section 4(f) Policy Paper,” March 2, 2005, so we did not make any changes in response to this comment.

One general comment requested that we clarify in the preamble to this regulation that the existing Section 4(f) *de minimis* impact guidance, issued on December 13, 2005, remains in effect and is not superseded by these regulations. We agree that the inclusion of requirements for *de minimis* impacts in these regulations was not intended to supersede or replace the existing guidance, but to ensure that the current Section 4(f) regulation is consistent with the Section 4(f) statute, as amended by SAFETEA-LU. The joint FHWA/FTA “Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources,” December 13, 2005, remains in effect, but the Administration may review it and make clarifying revisions some time in the future. The FHWA “Section 4(f) Policy Paper,” March 2, 2005, which was written prior to enactment of the SAFETEA-LU amendment to the Section 4(f) statute, remains in effect except where it could be interpreted to conflict with this regulation, in which case the regulation takes precedence. The FHWA plans to update the “Section 4(f) Policy Paper” to reflect SAFETEA-LU and this final rule.

One comment requested that the regulation address the additional coordination that is needed when the

impacted Section 4(f) property was created or was improved with funds from various programs administered by the U.S. Department of the Interior. Guidance for such coordination is already addressed in the FHWA “Section 4(f) Policy Paper” and in the “Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources.” However, because we agree that this coordination is important, we addressed the comment by adding a new paragraph (d) to section 774.5: “When Federal encumbrances on Section 4(f) property are identified, coordination with the appropriate Federal agency is required to ascertain the agency’s position on the proposed impact, as well as to determine if any other Federal requirements may apply to converting the Section 4(f) land to a different function. Any such requirements must be satisfied, independent of the Section 4(f) approval.”

- Paragraph 774.5(a)—A number of comments focused on the length of the notice and comment period. The NPRM proposed to continue the current 45-day comment period. The comments urged a period ranging from as short as 15 days, up to a maximum of 60 days. Specifically, one comment urged a maximum of 60 days with presumed concurrence if no comment was received within 15 days after the deadline. One comment urged a period of 60 days, but suggested that comments be open to the public and other Federal agencies, and not just to those with jurisdiction over the Section 4(f) property. One comment urged a period of at least 45 days, not to exceed 60 days.

Several commenters reasoned that a period with a maximum of 60 days would be harmonious with the streamlining provisions of section 6002 of SAFETEA-LU and the comment period provided by Section 106 of the National Historic Preservation Act for consultation with State Historic Preservation Officers and the Advisory Council on Historic Preservation. Those urging a provision for presuming concurrence if the comments are not received by various deadlines stated that such a provision is needed because, in the experience of many applicants, comments are routinely submitted many months late. Another commenter thought the requirement for the U.S. Department of the Interior (DOI) to review Section 4(f) evaluations added minimal value to the process and suggested that DOI’s role should be eliminated altogether.

After considering all of the views submitted, we decided to keep the 45-day comment period in the final rule.



This period appears to be a reasonable length of time, in light of the current practice with which all are familiar. We did not eliminate the requirement for a comment period because the statute itself requires coordination with certain agencies, including DOI. However, we decided to adopt a deadline for the receipt of comments by adding the following at the end of paragraph 774.5(a): "If comments are not received within 15 days after the comment deadline, the Administration may assume a lack of objection and proceed with the action." This change addresses the concern that comments are routinely sent late, but it allows flexibility for the Administration to extend the comment period in individual cases upon request.

- Paragraph 774.5(b)—Several comments requested additional requirements for public notice, review, and comment related to *de minimis* impacts to historic properties. In response, the FHWA and FTA decided to accept the wording suggested by one of the commenters. Paragraph 774.5(b)(1)(iii) now says: "Public notice and comment, beyond that required by 36 CFR Part 800, is not required." The regulation is consistent with the provisions of SAFETEA-LU that allow the *de minimis* impact determination to be made based on the process required under section 106 of the National Historic Preservation Act.

Other comments requested additional guidance on public notice, review, and comment related to *de minimis* impacts to parks, recreation areas, and wildlife/waterfowl refuges. One commenter believes that public notice, review, and comment are adequately covered by NEPA and its implementing regulations, and any additional opportunities are unnecessary. We decided to retain the proposed regulatory text on public notice and comment, but to add: "This requirement can be satisfied in conjunction with other public involvement procedures, such as a comment period provided on a NEPA document." SAFETEA-LU requires public notice and the opportunity for public review and comment before the Administration can make a *de minimis* impact determination. Where the NEPA process already provides opportunities for public notice, review, and comment [i.e., for environmental assessments (EAs) and EISs], the same opportunities can be used for projects where the Administration is considering a *de minimis* impact determination. For those actions that do not routinely require public review and comment under NEPA [e.g., categorical exclusions (CEs) and certain reevaluations] a separate public notice and opportunity

for review and comment will be necessary for a *de minimis* impact determination. In these situations, the public notice and opportunity for review and comment should be based on the specifics of the situation and commensurate with the type and location of the Section 4(f) property, impacts, and public interest.

- Paragraph 774.5(b)(1)—Several comments suggested that the concurrence of the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) in a proposed *de minimis* impact determination should be assumed if 30 days pass without written concurrence. We did not adopt this change because the statute explicitly requires written concurrence in the Section 106 determination to support a *de minimis* impact determination. The joint FHWA/FTA "Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources," December 13, 2005, explains the use of Section 106 programmatic agreements (PA) in making *de minimis* impact determinations. It says that when a Section 106 PA explicitly states that an individual Section 106 determination of "no historic property affected" or "no adverse effect," is made in accordance with the PA, it may be relied upon as the basis for *de minimis* impact determination. If the PA specifies that the SHPO or THPO's concurrence in such a determination may be assumed after a specified timeframe, then the SHPO or THPO's signature on the PA itself constitutes the required written concurrence in the Section 106 determination that is necessary for a *de minimis* impact determination. With such a PA, a SHPO or THPO is within its rights asking for a side agreement that would specify conditions under which a nonresponse would not be used as the basis for a *de minimis* impact determination. In any case it is expected that the SHPO or THPO will be apprised of the agency's intention to make a *de minimis* determination under the PA approach and afforded an opportunity to engage in the process on a project-by-project basis, if desirable by either party.

Several comments stated that paragraph 774.5(b)(1) should spell out the written concurrences necessary to support a *de minimis* impact determination for a historic property in order to clarify which concurrences are required. We agree, and the final rule explicitly states which parties must concur, consistent with 49 U.S.C. 303(d)(2)(B) and 23 U.S.C. 138(b)(2)(B).

A number of comments objected to the statement in paragraph 774.5(b)(1) that public notice and comment other

than the Section 106 consultation is not required. These commenters pointed out that the Section 106 regulation (36 CFR part 800) has its own public involvement requirements, which may apply in a particular case. One commenter suggested alternative language to recognize that pertinent requirements of the Section 106 regulation must be met. We adopted the suggested language, and the sentence now says that "public notice and comment, beyond that required by 36 CFR part 800, is not required."

- Paragraph 774.5(b)(2)—Several commenters requested clarification of the sequence of events for coordinating with the official(s) with jurisdiction over parks, recreation areas, and refuges prior to making *de minimis* impact determinations. These commenters proposed revising the regulation to enable the Administration to notify the official(s) with jurisdiction of its intent to make a *de minimis* impact determination at any time during the coordination process, instead of postponing notification until the conclusion of the public review and comment period. The FHWA and FTA decided to adopt this proposed change by moving the clause "following an opportunity for public review and comment" from the beginning of the second sentence and inserting it directly before the concurrence requirement: "Following an opportunity for public review and comment as described in paragraph (b)(2)(i) of this section, the official(s) with jurisdiction over the property must concur in writing \* \* \*." The regulation would still require the Administration to wait until after the public comment process before making a formal request for concurrence, but no specific timeframe is provided for notifying the officials with jurisdiction. The revised paragraph will begin with "The Administration shall inform the official(s) with jurisdiction of its intent \* \* \*." The FHWA and FTA reasoned that it would be beneficial to have the flexibility to notify the official(s) with jurisdiction early in the coordination process to ascertain the position of the officials and so that the preliminary views of such official(s), if available, can be included in the notice provided to the public.

One commenter suggested eliminating the provision that requires the Administration to inform the official(s) with jurisdiction of the intent to make a *de minimis* impact determination based on those officials' concurrence that the project will not adversely affect the Section 4(f) property. The FHWA and FTA decided not to make this

change. The sequence of events leading to the Administration's finding is important and will ensure that the official(s) with jurisdiction understand that their written concurrence is required for the Administration's *de minimis* impact determination and that they agree with any proposed mitigation necessary to the *de minimis* impact determination.

One commenter suggested that the FHWA and FTA add a further provision to the coordination process in paragraph 774.5(b)(2) that would expressly allow the concurrence in the *de minimis* impact determination to be combined with other comments provided by the official(s) on the project. The FHWA and FTA decided to follow this recommendation and incorporated the proposed language: "This concurrence may be combined with other comments on the project provided by the official(s)." Another comment asked for clarification whether the coordination can be accomplished in conjunction with other public involvement procedures, such as a comment period provided on a NEPA document. The FHWA and FTA's NEPA regulation provides for integrated procedures in 23 CFR 771.105 and 771.133, so this point was clarified as suggested. With the clarifications described above, the new provision will help streamline the environmental review process because it will allow the official(s) with jurisdiction to combine comments on the *de minimis* impact proposal with comments submitted on other environmental issues related to the project.

- Paragraph 774.5(c)—One commenter believed that the coordination requirements discussed in section 774.5 did not differentiate between individual and programmatic Section 4(f) evaluations and requested clarification. Programmatic evaluations are differentiated by virtue of being addressed in a separate paragraph, 774.5(c). We have now clarified what is meant by a programmatic evaluation in paragraph 774.3(d), as previously discussed.

Another comment suggested a 60-day comment period be required when there is a use of land from a Section 4(f) property that is covered by a programmatic Section 4(f) evaluation. The comment also suggested that the coordination during the use of a programmatic Section 4(f) evaluation should "be open to the public and not just the official(s) with jurisdiction." Programmatic Section 4(f) evaluations provide procedural options for demonstrating compliance with the statutory requirements of Section 4(f).

The FHWA has issued five nationwide programmatic Section 4(f) evaluations. (FTA has not issued any, but has plans to do so.) Before being adopted, all of the FHWA programmatic evaluations were published in draft form in the **Federal Register** for public review and comment. They were also provided to appropriate Federal agencies for review. Each programmatic evaluation contains specific criteria, consultation requirements, and findings that must be met before the programmatic evaluation may be applied on any given project. A primary benefit to using this prescribed step-by-step approach is a reduction of the time it takes to achieve Section 4(f) approval.

The NPRM did not stipulate any specific comment period or coordination process when programmatic Section 4(f) evaluations are used. When applied to individual projects each of the five approved programmatic evaluations has coordination requirements, but none of them requires a specific comment period.<sup>5</sup> We did not make the changes proposed by the commenter because we believe the imposition of additional comment periods, coordination periods, or public involvement at the time a programmatic evaluation is applied to an individual project would severely limit the effectiveness of this approach.

One commenter expressed concern about the potential lack of public notice or opportunity to comment on the evaluation of certain historic resources, such as bridges, under the relevant programmatic Section 4(f) evaluation, when the project is processed with a NEPA categorical exclusion (CE). It was suggested that, at a minimum, a CE project processed under a programmatic Section 4(f) evaluation should be posted on the applicant's Web site. The public involvement requirements related to categorical exclusions, as well as other classes of actions, are addressed in 23 CFR 771.111. The public involvement requirements for application of a particular programmatic Section 4(f) evaluation are specified in the

<sup>5</sup> Three of the programmatic Section 4(f) evaluations have public involvement requirements. The "Final Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property" requires project-level public involvement activities consistent with 23 CFR 771.111. The "Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites" and the final "Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges" both require coordination with various parties in accordance with 36 CFR part 800, which may include members of the public identified as interested persons, or consulting parties.

programmatic evaluation itself. Hence, the FHWA and FTA concluded that the issue has been adequately addressed and additional requirements are not necessary.

#### Section 774.7 Documentation

This section contains the requirements related to the documentation of the various Section 4(f) analyses and approvals. In the NPRM this section was titled "Format." The title was changed to "Documentation" to more accurately reflect the content of this section.

In response to a general comment that it was difficult to locate the requirements for *de minimis* impact determinations, the section was re-ordered so that it now tracks the order of section 774.3, "Section 4(f) approvals." Thus, paragraph 774.7(a) now addresses the documentation of Section 4(f) evaluations prepared to comply with approvals under 774.3(a); paragraph 774.7(b) contains the format requirements for *de minimis* impact determinations under paragraph 774.3(b); and paragraph 774.7(c) contains the requirements for determinations of the least overall harm under paragraph 774.3(c) when there is no feasible and prudent avoidance alternative. Paragraphs (d)–(f) are additional documentation requirements for particular situations that have no corresponding paragraphs within section 774.3.

Several comments demonstrated confusion over NPRM paragraph 774.7(g) which contained the documentation requirements for programmatic Section 4(f) evaluations. This material was moved to paragraph 774.3(d) in the final rule so that the discussion of approvals using programmatic Section 4(f) evaluations and the documentation requirements are now grouped together. We felt this restructuring was needed to clarify the difference between promulgating a programmatic Section 4(f) evaluation and the subsequent application of the programmatic evaluation to an individual project decision.

Paragraph 774.7(e) in both the NPRM and this final rule contains the requirements for making Section 4(f) approvals for tiered environmental documents. This paragraph received the most comments of any part of section 774.7; substantial parts of the paragraph were re-worded for clarity in response to the comments, as described below.

- Paragraph 774.7(a)—One comment suggested that the last part of the sentence be revised to repeat the exact language from the statute. This section, though, does not set forth the standard

for Section 4(f) approvals, but rather provides the format of the documentation for Section 4(f) approvals. Thus, the language need not exactly duplicate the statutory standard for approvals, which is implemented by section 774.3. We believe that the language used is consistent with the statute but provides direction for project applicants preparing Section 4(f) documents.

Another comment suggested adding the language “or reduce its use significantly” after “that would avoid using the Section 4(f) property.” We did not adopt this change because the language at the end of the paragraph requires a summary of “the results of all possible planning to minimize harm to the Section 4(f) property.” The documentation of “all possible planning to minimize harm” would show, among other things, how any reductions in the use of Section 4(f) property would be accomplished. In addition, the Section 4(f) caselaw is fairly uniform in holding that an alternative that uses Section 4(f) property is not properly considered an “avoidance alternative” under the statute. Incidentally, the words “that would avoid using the Section 4(f) property” which delimited “avoidance alternative” in the NPRM, have now been deleted as redundant.

- Paragraph 774.7(b)—Regarding paragraph 774.7(b), one commenter requested clarification that the mitigation measures suggested in the proposed regulation should be considered only if an applicant has committed to incorporate the measures into the project. The commenter suggested changing the provision to refer to “any avoidance, minimization, mitigation, or enhancement measures committed to by the applicant.” The FHWA and FTA decided not to make this proposed change because the statute requires any measures that are required to be implemented as a condition of approval of a *de minimis* impact determination to be part of the project. An applicant does not have a choice regarding whether to incorporate the measures into a project if the measures were mentioned when the impacts were classified as *de minimis*. Accordingly, the FHWA and FTA determined that the suggested language would be redundant since, as the regulation currently states, the applicant will automatically be required to incorporate these measures.

Another commenter suggested that the determination whether the project impacts are *de minimis* for Section 4(f) purposes should be made before mitigation is applied, not after. This commenter claimed that this regulation

would allow an applicant to illegally characterize the impacts of a project that are greater than *de minimis* impacts as *de minimis* to avoid having the project analyzed, assessed, and evaluated. The FHWA and FTA did not accept this proposal because it violates the governing statute. As amended by section 6009(a) of SAFETEA-LU, Section 4(f) plainly requires that “[t]he Secretary shall consider to be part of a transportation program or project any avoidance, minimization, mitigation, or enhancement measures that are required to be implemented as a condition of approval of the transportation program or project.” 49 U.S.C. 303(d)(1)(C). Mitigation measures must be applied up front, with the determination made after taking such mitigation into account. The proposed language has been retained.

For consistency with paragraph 774.3(b) and the statute, the word “determination” was substituted for “finding” in this paragraph.

- Paragraph 774.7(c)—One commenter pointed out that framing the regulatory provision in terms of what an “applicant” must do is misleading as it implies that, contrary to statute, the applicant has a decision-making role in the Section 4(f) approval process. This commenter proposed rewriting paragraph (c) to reflect the decision-making role of the Administration in the Section 4(f) approval process: “the Administration, in consultation with the applicant, must select. . . .” Section 4(f) assigns the responsibility for evaluating and approving transportation projects to the Secretary of Transportation (who, in turn, has delegated it to the modal administrations within the U.S. DOT). The FHWA and FTA agree with the comment that the Administration, and not the applicant, has the statutory authority to approve an alternative under Section 4(f), but declines to adopt the commenter’s proposed text. Instead, the FHWA and FTA have decided to convey the same idea by using language consistent with paragraph 774.3(c), to which the requirements in paragraph 774.7(c) pertain. The relevant portion of the provision now reads as follows: “the Administration may approve only the alternative that causes the least overall harm in accordance with § 774.3(c).” This language relies heavily on the revised text of paragraph 774.3(c) and appropriately reserves the decision-making role to the Administration.

In a slight variation on the comment discussed above, one commenter objected to the use of the word “applicant” because it fails to recognize the role of most applicants and the Administration as joint lead agencies in preparing the NEPA review of the

project, in accordance with SAFETEA-LU section 6002. The commenter suggested changing the provision to read “the applicant, with approval from the NEPA Lead Agency, must select. \* \* \*” The FHWA and FTA did not follow this recommendation because, whereas the responsibility for document preparation, review, and approval under NEPA is now shared between the Administration and the recipient of Federal funds, the Administration has the exclusive statutory authority to grant Section 4(f) approvals. An applicant’s role under NEPA does not authorize it to make Section 4(f) approvals unless the applicant is a State that has assumed Section 4(f) responsibilities as part of an assumption of environmental responsibility under applicable law, such as 23 U.S.C. 325, 326, or 327.

- Paragraph 774.7(d)—This paragraph requires a legal sufficiency review for certain Section 4(f) approvals. One commenter questioned its need. The Administration has legal responsibility to ensure compliance with applicable environmental laws, regulations, and Executive Orders. Section 4(f) has been extensively interpreted by the Courts, and the application of the law to a specific approval may involve the application of complex legal principles. The Administration’s application of Section 4(f) benefits from the legal sufficiency review. Moreover, Administration attorneys familiar with the judicial interpretations of Section 4(f) law in the Federal Circuit where the project is located perform the legal sufficiency review. Thus, the legal sufficiency review enhances the likelihood that the Administration’s Section 4(f) decisions will be appropriate and will be sustained in Federal court if litigation ensues. Finally, the legal sufficiency review is required by a Department-wide order implementing Section 4(f). See DOT Order 5610.1C. The requirement for a legal sufficiency review is retained.

Paragraph 774.7(d) says: “The Administration shall review all Section 4(f) approvals under §§ 774.3(a) and 774.3(c) for legal sufficiency.” A commenter suggested that the meaning of “legal sufficiency” in the context of a Section 4(f) approval be defined. We decline to define “legal sufficiency” as there are too many variable factors considered in a legal sufficiency review. These include, but are not limited to, the type of Section 4(f) approval under consideration, the law of the Federal Circuit where the project is located, and, most importantly, the facts and circumstances of the particular project. Legal sufficiency reviews assess the Section 4(f) documentation from the

perspective of legal standards, as well as technical adequacy. Because of the inherent differences among document writers and reviewers, the projects, court decisions in the relevant circuit, and other factors, the comments on legal sufficiency for one project may differ in content and format from those for another project with similar issues. This variability makes defining a standard for the review of legal sufficiency impractical.

- Paragraph 774.7(e)—Numerous comments were received about this section, which concerns Section 4(f) approvals of projects developed using tiered environmental impact statements. Most commenters thought it was helpful to clarify the different levels of detail necessary at the different stages, although several negatively commented on the proposal to consider the preliminary first-tier Section 4(f) approval final. Nearly all commenters were confused by some aspect of what the FHWA and FTA intended by authorizing a “preliminary” Section 4(f) approval to be made at the conclusion of the first tier stage and a final Section 4(f) approval at the conclusion of the second-tier stage. One commenter thought we intended to “immunize” the first-tier Section 4(f) approval from reconsideration, even in the event it should subsequently be determined no longer valid during the second tier review. This was not our intent. A variety of revisions were suggested to clarify the intent of this section. All of these suggestions were considered in revising the provision to clarify what is required.

The intent behind this section is that the relationship between the preliminary and final Section 4(f) approval should be analogous to the relationship between a first-tier EIS and a second-tier NEPA document. In the same manner that a second-tier NEPA document can rely on the conclusions of the first-tier EIS (thereby avoiding duplication), the final Section 4(f) approval may rely upon the conclusions reached in the preliminary Section 4(f) approval. However, both the second-tier NEPA document and the final Section 4(f) approval must still take into account any significant new information or relevant details that become known during the second-level review.

If the second-tier NEPA document identifies a new or additional use of Section 4(f) property with greater than *de minimis* impacts, then additional consideration of feasible and prudent avoidance alternatives and of potential measures to minimize harm to Section 4(f) property will be necessary. If the second-tier NEPA document does not

identify any new or greater than expected use of Section 4(f) property, or if there is a new or additional use of Section 4(f) property but its impacts are determined to be *de minimis* under paragraph 774.3(b) of this regulation, then the final Section 4(f) approval shall document the determination that the new or additional use is *de minimis* and may incorporate by reference the documentation developed for the first-tier preliminary approval since the first-tier information remains valid. In this situation, the applicant must consider whether all possible planning to minimize harm (which is defined in section 774.17) has occurred. Additional planning to minimize harm to a Section 4(f) property will often be needed during the second-tier study and can be undertaken without reopening the first-tier decision. Re-evaluation of the preliminary Section 4(f) approval is only needed to the extent that new or more detailed information available at the second-tier stage raises new Section 4(f) concerns not already considered. The final regulation clarifies the requirements for tiered Section 4(f) approvals, consistent with the above discussion.

- Paragraph 774.7(f)—One comment suggested that paragraph 774.7(f) be revised to clarify that including a required Section 4(f) evaluation in the NEPA document is normal practice but is not mandatory. Another comment suggested that such inclusion in the NEPA document should be mandatory. We re-worded this paragraph to clarify our intent, but we do not agree that including the Section 4(f) evaluation in the NEPA document should be mandatory. There are many instances where the timing is off due to late discoveries or other circumstances beyond the control of the applicant. In such cases, processing a stand-alone Section 4(f) evaluation is permissible. Thus, applicants should endeavor to include any required Section 4(f) evaluation within the relevant NEPA document, to the extent possible.

Another comment suggested that paragraph 774.7(b) should explicitly state that the Section 4(f) evaluation may be included in an appendix to the NEPA document, with a summary of the evaluation in the main body of the document. FHWA will allow the Section 4(f) evaluation to be included in an appendix to the NEPA document, so long as the appendices accompany the NEPA document and the distribution and commenting requirements of Section 4(f) will be met. The FHWA and FTA decline to include this provision in the final rule as we believe that guidance, not regulation, is the

appropriate method for addressing the issue. The FHWA and FTA will address it in a future update of the Section 4(f) Policy Paper or the Technical Advisory on preparing and processing environmental documents.

#### Section 774.9 Timing

This section addresses the timing of Section 4(f) approvals within the NEPA process, and after project approval or during construction, where necessary. There were no generally applicable comments on this section. Comments on specific paragraphs are discussed in turn below.

- Paragraph 774.9(a)—One comment asked for clarification that the analysis of possible Section 4(f) uses during project development is really only an evaluation of “potential” uses (i.e., a proposed project does not actually use Section 4(f) property at the time of project development). We agree, and have clarified this point by changing the beginning of the first sentence from “Any use of lands” to “The potential use of lands.” The same comment also suggested changing “shall be evaluated early in the development” within the same sentence to “shall be evaluated as early as practicable in the development,” because potential uses of Section 4(f) property can only be evaluated after a certain minimum level of information about the proposed action and alternatives has been developed. We agree, and we have adopted these proposed edits in this final rule.

- Paragraph 774.9(b)—One comment sought clarification that Section 4(f) approval can be made “in a separate Section 4(f) evaluation” in certain circumstances. We agree, and accordingly added at the beginning of this paragraph “Except as provided in paragraph (c), for \* \* \*.” Paragraph 774.9(c) covers the circumstances where a separate Section 4(f) approval is appropriate.

Another comment sought clarification that an EIS, EA, or CE must always include the actual Section 4(f) approval. Section 4(f) approvals are incorporated and coordinated with the NEPA process, and to the extent practicable, the NEPA document should include all documentation and analysis supporting the Section 4(f) approval. However, the actual approval may be made in the subsequent decision document in order to consider public and interagency comment submitted in response to the NEPA document. The Section 4(f) approval and the supporting information are always available to the public for review upon request. As such,

we have retained the proposed language in the final rule.

- Paragraph 774.9(c)—Two comments pointed out that the introductory clause in NPRM paragraph 774.9(c), “If the Administration determines that Section 4(f) is applicable” repeats one of the numbered subparagraphs—“(2) The Administration determines that Section 4(f) applies to the use of a property.” The redundant language has been deleted.

One comment suggested replacing “final EIS” with “ROD” to ensure consistency with references to a FONSI and a CE in paragraph 774.9(c). Both the FONSI and CE are decision documents, as is the ROD. The FHWA and FTA decided to follow this recommendation. The change helps clarify the timing of the separate Section 4(f) approval required by section 774.9. Paragraph (c) applies only after the NEPA process has been completed and the Administration has already made a Section 4(f) determination in a decision document.

One comment recommended explicitly stating in paragraph 774.9(c)(2) that the identification of a new property subject to Section 4(f) does not require a separate Section 4(f) approval if the “late designation” exception in paragraph 774.13(c) applies. The FHWA and FTA agree with the substance of this comment, though not with the suggested language. Instead, the FHWA and FTA included the phrase “except as provided in § 774.13 of this title” at the end of the introductory sentence of paragraph (c): “a separate Section 4(f) approval will be required, except as provided in § 774.13, if \* \* \*.” The FHWA and FTA believe that the exceptions listed in section 774.13 pertain to all three situations addressed in paragraph (c), not exclusively to the scenario in paragraph (c)(2). Furthermore, exceptions other than paragraph 774.13(c) dealing with “late designation” could potentially apply to the circumstances described in paragraph (c). Consequently, a more general statement concerning exceptions is appropriate.

Another comment asked for clarification in paragraph 774.9(c)(2) that the provision requires a separate Section 4(f) approval when the Administration determines after project approval that Section 4(f) applies to a new use of Section 4(f) property. That was our intent, so we modified paragraph 774.9(c)(2) to state that “Section 4(f) applies to ‘the use of’ a property.”

One comment proposed a slight revision to the provision by substituting “if” instead of “when” before enumerating situations necessitating a

separate Section 4(f) evaluation. In the context of the introductory sentence, the choice of the word “if” better articulates the conditional nature of the applicability of paragraph (c) and is less likely to be misconstrued. We have therefore adopted this suggested change.

One commenter asked for definitions of the phrases “substantial increase in the amount of Section 4(f) property used,” “substantial increase in the adverse impacts to Section 4(f) property,” and “substantial reduction in mitigation measures.” These words were used with their plain English meanings. We think that the meanings of these phrases are self-evident, and they rely upon the context of each particular factual situation to which this paragraph of the regulation is being applied. Therefore, we did not provide definitions of these phrases.

- Paragraph 774.9(d)—Two comments expressed the opinion that new or supplemental environmental documents should always be required if a separate Section 4(f) approval is required after the original environmental document has been processed. The proposed regulation stated that a new or supplemental environmental document “will not necessarily” be required in such instances and that project activities not directly affected by the separate Section 4(f) approval may proceed. Paragraph 774.9(d) of this Section 4(f) regulation deals strictly with Section 4(f) requirements and is not intended to explain when supplementation under NEPA is required. A provision in the joint FHWA/FTA NEPA regulation, located at 23 CFR 771.130, governs when supplementation is required under NEPA. It requires a supplemental EIS “whenever the Administration determines that: (1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or (2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.” The circumstances that necessitate a separate Section 4(f) approval under paragraph 774.9(c) may or may not rise to the level of significance described in 23 CFR 771.130(a). It should also be noted that 23 CFR 771.130(c) provides for the preparation of environmental studies or, if appropriate, an EA to assess the impacts of the changes, new information, or new circumstances and determine whether a supplemental EIS is necessary. The NEPA question must be answered in the context of the

particular new or changed impacts at issue, while the Section 4(f) question depends on the new or changed use of Section 4(f) property at issue. The FHWA and FTA recognize that the changes, new information, or new circumstance requiring a separate Section 4(f) evaluation may also require additional NEPA documentation. Paragraph 774.9(d) now states that when, in accordance with paragraph (c), a separate Section 4(f) approval is required and, in accordance with 23 CFR 771.130, additional NEPA documentation is needed, these documents should be combined for efficiency and comprehensiveness. Further, 23 CFR 771.130(f) provides for a supplemental EIS of “limited scope” when issues of concern affect only a limited portion of the project, and it states that any project activity not directly affected by the supplemental review may proceed. The FHWA and FTA believe that the last sentence in paragraph 774.9(d) is consistent with 23 CFR 771.130(f) and that no change is warranted.

- Paragraph 774.9(e)—Several comments expressed support for the proposal in paragraph 774.9(e) that, when Section 4(f) applies to archeological sites discovered during construction, the Section 4(f) process may be expedited and the evaluation of alternatives may take into account the level of investment already made. One commenter objected to the expedited process and consideration of prior investment. Another stated that this provision is too vague. However, no substantive change was made to the language because this paragraph continues existing policy that has worked well in past applications. Because archeological resources are underground and can occur in unexpected locations, it is not always possible to anticipate their presence prior to construction. Thus, when such resources are uncovered during construction, it is appropriate to take the scientific and historical value of the resource into account in deciding how to expedite the Section 4(f) process. Further elaboration in the regulation would hamper the deliberation necessary when this circumstance arises.

One commenter asked whether a particular applicant can enter into a programmatic agreement with their SHPO setting forth more detailed procedures to comply with Section 4(f) and the National Historic Preservation Act when archeological resources are discovered during construction. We believe that this would be appropriate and desirable as long as the proposed

agreement is reviewed by the Administration through the appropriate field office for consistency with this regulation. Another approach that is encouraged is the inclusion of procedures for identifying and dealing with archaeological resources in the project-level Section 106 Memorandum of Agreement under the National Historic Preservation Act. Another comment sought clarification whether the exception in paragraph 774.13(b) for archeological resources lacking value for preservation in place applies when the archeological resource is discovered during construction. It does, and this has been clarified in the final rule.

#### Section 774.11 Applicability

This section is intended to answer many common questions about when Section 4(f) is applicable. There were no generally applicable comments on this section. Comments on specific paragraphs are discussed in turn below.

- Paragraph 774.11(a)—There were no major comments in response to this paragraph. Therefore, we have retained the language as proposed in the NPRM.

- Paragraph 774.11(b)—Several comments requested clarification on the roles of the various agencies involved in the Section 4(f) evaluation in relation to the provisions of 23 U.S.C. 139, which was created by SAFETEA—LU section 6002, regarding joint lead agencies. Section 4(f) only applies to U.S. DOT agencies, but there are transportation projects for which a non-U.S. DOT agency is the Federal lead agency and a U.S. DOT agency is a cooperating or participating agency. In these cases, only the U.S. DOT agency can make the Section 4(f) approval. For example, a hospital expansion project was proposed in the midwest, utilizing funds from the U.S. Army Corps of Engineers, a non-U.S. DOT agency that was the lead agency under NEPA, and the U.S. Department of Housing and Urban Development, another non-U.S. DOT agency. The FHWA had funding involvement for the relocation of roads within the project area and was a cooperating agency. FHWA was, however, the Federal lead agency for Section 4(f) approvals. To further clarify this point, the word “Federal” was inserted in the first sentence of this paragraph: “When another ‘Federal’ agency is the Federal lead agency for the NEPA process \* \* \*.”

- Paragraphs 774.11(c) and (d)—These paragraphs were proposed to remain substantively unchanged from the previous regulation. Three comments objected to paragraph (c), which presumes that parks, refuges, and recreation areas are significant unless

the official(s) with jurisdiction determine that the entire property is not significant. The FHWA and FTA proposed in paragraph (d) to retain the right to review such determinations of non-significance for reasonableness. One commenter objected to the presumption of significance, stating “if the official with jurisdiction over the property chooses to not make a ruling on significance, we should assume the property is not significant as opposed to assuming it is.” The same commenter felt that the Administration should not be permitted to overturn a non-significance determination. Another commenter proposed adding a public hearing requirement to this paragraph, and the third comment proposed deleting the paragraph (c) on significance altogether because it “guts the statutory standard” to allow the official(s) with jurisdiction over a property to declare it non-significant. After considering these comments, we decided to retain the language as proposed. The statute is limited by its own terms to significant properties “as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site.” 49 U.S.C. 303(c). Therefore, these paragraphs implement a provision of the statute itself and are part of the current Section 4(f) regulations at 23 CFR 771.135(c) and (d). With respect to the presumption of significance in paragraph (c), the FHWA and FTA decided to keep the presumption since it continues to provide the benefit of a doubt in favor of protecting the Section 4(f) property, which has been the FHWA and FTA’s policy on this issue for several decades.

- Paragraph 774.11(e)—Several comments were received on this paragraph, which specifies standards and procedures for determining the applicability of Section 4(f) to historic sites. Two comments asked for a definition of “historic site.” A definition was added to section 774.17, which defines the term as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register.” The term “includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that are included in, or are eligible for inclusion in, the National Register.” This definition is consistent with the definition of “historic property” used in the regulation implementing Section 106 of the National Historic Preservation Act (36 CFR part 800).

Another comment on this paragraph stated that we should not limit historic

sites to those that are eligible for the National Register of Historic Places, but also consider other sites that may be important for historic purposes. We agree with the commenter that it is important to allow for the possibility of protecting sites that are historic but not eligible for the National Register. The proposed text of paragraph 774.11(e)(1) provides for this situation by stating that Section 4(f) applies “only to historic sites on or eligible for the National Register unless the Administration determines that the application of Section 4(f) is otherwise appropriate.” This provision allows the Administration to consider sites that are historically important for protection but are not eligible for the National Register.

Other comments stated that the section did not adequately address “negligible” impacts to large historic districts. We think that changes to the proposed language to address this issue are not warranted. For example, in the case of historic districts, the assessment of effects under Section 106 of the National Historic Preservation Act would be based on the effect to the district as a whole, as opposed to individual impacts on each contributing property. Accordingly, when an assessment of effects on the overall historic district is performed, if the effects on the historic district are truly negligible, then the result of the assessment of effects would be a “no adverse effect” on the historic district. With appropriate concurrences, such finding would qualify the project as having *de minimis* impact and therefore not subject to further consideration under Section 4(f). On the other hand, where contributing elements of a historic district are individually eligible for the National Register, an assessment of the effects on the individual properties that are eligible would also be required. This assessment of effects would be independent of the assessment for the overall historic district and may or may not result in “no adverse effect” and *de minimis* impact determinations.

Paragraph 774.11(e)(2), concerning the application of Section 4(f) to the Interstate Highway System, was moved to this location in the final rule (from paragraph 774.13(j) in the NPRM) so that all provisions governing the applicability to historic sites are in one location. One comment was received on the exemption of the Interstate Highway System. The comment expressed concern over the inclusion of this exemption in the proposed regulation. This exception was included in the NPRM in response to section 6007 of SAFETEA—LU (codified at 23 U.S.C. 103(c)(5)), which states, in pertinent

part, that the Interstate Highway System is not considered to be a historic site subject to Section 4(f), with the exception of those individual elements of the Interstate Highway System formally designated by FHWA for Section 4(f) protection on the basis of national or exceptional historic significance. FHWA implemented this directive through a formal process that designated 132 significant elements of the Interstate Highway System for Section 4(f) protection after considering input from relevant agencies and the public. See 71 FR 76019. While Section 4(f) does not apply to all other segments and features of the Interstate Highway System, Section 4(f) continues to apply to any historic sites located in proximity to an Interstate Highway that are unrelated to the Interstate Highway System. As an example, a highway project will widen and reconfigure an interchange on the Interstate System constructed 50 years ago that has some historic value but is not designated on the list of 132 significant elements. Section 4(f) does not apply to the use of this interchange. However, a historic farm, circa 1850 and on the National Register, also abuts the project. Section 4(f) would apply to the project's use of the historic farm because the farm is not part of the Interstate Highway System and its historic significance is unrelated to the Interstate Highway System.

- Paragraph 774.11(f)—One commenter requested specific procedures to be used for the identification of archaeological resources. The FHWA and FTA decided not to include procedures for identifying archaeological resources in this regulation because it is beyond the scope of this rulemaking. The FHWA and FTA believe that a good faith effort must be made to identify archaeological resources, but specifying procedures to be used in each situation is not appropriate in this regulation.

- Paragraph 774.11(g)—This paragraph of the final rule was added to clarify the applicability of Section 4(f) to Wild and Scenic Rivers. The provision is consistent with longstanding FHWA and FTA policy as set forth in FHWA's Section 4(f) Policy Paper. It was inserted in response to the comments of the U.S. Department of the Interior. The provision limits the applicability of Section 4(f), in accordance with the statutory language, to those portions of Wild and Scenic Rivers that are publicly owned and serve a function protected by Section 4(f). The paragraph states "Section 4(f) applies to those portions of federally designated Wild and Scenic Rivers that are otherwise eligible as historic sites, or that are publicly owned

and function as, or are designated in a management plan as a significant park, recreation area, or wildlife and waterfowl refuge. All other applicable requirements of the National Wild and Scenic Rivers Act must be satisfied, independent of the Section 4(f) approval."

- Paragraphs 774.11(h) and (i)—These paragraphs of section 774.11 concern the applicability of Section 4(f) to properties formally reserved for future transportation projects but temporarily serving a Section 4(f) purpose. One commenter noted that the NPRM had addressed interim Section 4(f) activity on property reserved for transportation use and the concurrent or joint development of parks, recreation areas, or refuges with transportation facilities in the same paragraph. That commenter suggested that these two topics should be separated because the NPRM was confusing. As these issues have been traditionally treated separately, the FHWA and FTA agree with this suggestion, and the topics of interim Section 4(f) activities and joint planning are now addressed in paragraphs 774.11(g) and (h), respectively.

Another commenter was concerned with the term "temporary recreational activity" in the first sentence of this paragraph of the proposed rule, explaining that the word "temporary" could be construed to refer only to uses of relatively short duration. The FHWA and FTA have never imposed any time limit on how long a future transportation corridor can be made available for recreation while it is not yet needed for transportation, and there is no public purpose in limiting the time during which interim recreational activities may be permitted on the future transportation corridor.

The commenter was also concerned that the proposed language did not consider other non-recreational temporary uses of a future transportation corridor, for example as a wildlife or waterfowl refuge. The FHWA and FTA decided to address these comments by clarifying the wording of the section. The language in the final rule says: "[w]hen a property formally reserved for a future transportation facility temporarily functions for park, recreation, or wildlife and waterfowl refuge purposes in the interim, the interim activity, regardless of duration, will not subject that property to Section 4(f)." The temporary activity is not protected under Section 4(f) in this case, regardless of whether the property owner has authorized the interim use of the transportation land or has simply not fenced the property off or taken other measures to prevent trespassing.

Another comment suggested that allowing temporary recreational activity on a reserved transportation corridor is an exception to Section 4(f) and therefore should be moved from section 774.11, "Applicability," to section 774.13, "Exceptions." We think that the proposed paragraph does not set forth an exception to Section 4(f), but rather explains the applicability of Section 4(f) in certain situations. Therefore, this provision was retained in the "Applicability" section.

Another comment addressed the second example of joint planning between two or more agencies with jurisdiction over the transportation project and Section 4(f) property. The comment suggested that a broader range of scenarios of joint planning be addressed in the rule, and suggested the example be revised to indicate that such planning could be done concurrently or in consultation between the agencies. It appears the concern involved the need for formal coordination, though the word "formal" did not appear in the NPRM. Since this paragraph of the rule deals with joint planning of transportation projects and Section 4(f) properties, any instance of concurrent planning would qualify for consideration of whether Section 4(f) applied. The basis for determining the compatibility of jointly-planned transportation projects and Section 4(f) properties, however, depends heavily upon the degree to which the multiple agencies involved have consulted on various aspects of the proposals. The purpose of this provision had been accurately described as:

Section 4(f) is not meant to force upon a community, wishing to establish a less than pristine park affected by a road, the choice between a pristine park and a road. A community faced with this choice might well choose not to establish any park, thus frustrating Section 4(f)'s goal of preserving the natural beauty of the countryside.

See *Sierra Club v. Dept. of Transp.*, 948 F.2d 568, 574–575 (9th Cir. 1991). The consultation that occurs, formal or otherwise, will be examined on a case-by-case basis in light of this purpose to determine if a constructive use occurs when the jointly-planned transportation project is eventually proposed for construction. We have retained the proposed language in the final rule.

#### Section 774.13 Exceptions

This section sets forth various exceptions to the otherwise applicable Section 4(f) requirements. The exceptions either are founded in statute or reflect longstanding FHWA and FTA policies governing when to apply Section 4(f). The exceptions are limited



in number and scope and do not compromise the preservation purpose of the statute, which is to “preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

One comment asked for clarification whether an exception for a project under this regulation would also provide an exemption for the project from compliance with the NEPA and the National Historic Preservation Act. The answer is no. The exceptions in Section 774.13 relate solely to the applicability of, and requirements for, Section 4(f) approval. All other applicable environmental laws must still be addressed.

Several comments favored additional exceptions beyond those proposed by the FHWA and FTA. One such comment suggested that an exception be added for active historic railroads and transit systems, along the lines of the exemption for the Interstate Highway System that was included in section 6007 of SAFETEA-LU. The FHWA and FTA decided not to pursue the suggested exception for several reasons. First and foremost, the FHWA and FTA do not have statutory authority for such an exception, as it was not included in section 6007. Second, there is already an exception in paragraph 774.13(a) for the restoration, rehabilitation, or maintenance of historic transportation facilities when there is no adverse effect on the historic qualities of the facility that caused it to be on or eligible for the National Register. For many FTA-funded maintenance or rehabilitation projects on historic transit systems, such as those in New York, Chicago, and Boston, system-specific programmatic agreements with the relevant SHPO under Section 106 have specified the conditions for a “no adverse effect” determination and, as a logical consequence, the conditions for the Section 4(f) exception noted above. Finally, when the project does result in an adverse effect and the traditional Section 4(f) evaluation process applies, the demonstration that there is no feasible and prudent avoidance alternative that would accomplish the project purpose of keeping the historic transportation facility in operation is usually straightforward. Therefore, the applicant in such a case can focus on how to minimize the harm to historic features of the transportation facility and still accomplish the project’s purpose. Accordingly, the FHWA and FTA do not agree that the creation of a new exception for active, historic railroads and transit systems is necessary or permissible.

Another comment suggested adding an exception for all “local or state transportation projects that have not or will not receive U.S. Department of Transportation funds for construction of the project.” In support of this proposal, the commenter cited a number of court cases holding that Section 4(f) requirements are triggered when a U.S. DOT agency approves a transportation project receiving Federal construction funds but not when the project is locally funded. The FHWA and FTA decided not to incorporate the proposed exception because Federal funding is not the sole determinant of Section 4(f) applicability. Section 4(f) may be implicated in other Administration approval actions not involving the disbursement of U.S. DOT funds when there is sufficient control over the project. For example, the U.S. DOT approval of a new interchange on the Interstate Highway System requiring the use of adjacent parkland may trigger Section 4(f) even if Federal funding is not involved. The overwhelming majority of projects not receiving U.S. DOT funding, including those in the court cases cited by the commenter, do not require any Administration approval at all and therefore would not trigger Section 4(f).

Comments on specific paragraphs within Section 774.13 are discussed in order below.

- Paragraph 774.13(a)—Paragraph 774.13(a) is an exception from the Section 4(f) process for projects involving work on a transportation facility that is itself historic. The FHWA and FTA’s policy for several decades has been that when a project involves a historic facility that is already dedicated to a transportation purpose, and does not adversely affect the historic qualities of that facility, then the project does not “use” the facility within the meaning of Section 4(f). If there is no use under Section 4(f), then its requirements do not apply. This interpretation is consistent with the preservation purpose of Section 4(f) and with caselaw on this issue.

Two comments recommended revising this section to clarify that the exception for restoration, rehabilitation, or maintenance of transportation facilities applies only if the Administration makes a finding of “no adverse effect” in accordance with the consultation process required under Section 106. One comment pointed out that other interested parties besides the official(s) with jurisdiction may be participating in the Section 106 consultation. We agree and revised the paragraph to clarify these points.

- Paragraph 774.13(b)—Paragraph 774.13(b) is an exception from the Section 4(f) process for those archeological sites whose significance lies primarily in the historical or scientific information or data they contain. The exception does not apply when the Administration determines that a site is primarily important for preservation in place (e.g., to preserve a major portion of the resource in place for the purpose of public interpretation), or that the site has value beyond what may be learned by data recovery (e.g., as a result of considerations that may arise when human remains are present). This distinction between the primary values for what can be learned by data recovery versus the primary value for preservation in place has been central to the Administration’s implementation of the statute for archeological sites for several decades.

The intent of the exception is not to narrow unnecessarily the application of Section 4(f) when dealing with archeological sites, but, rather, to apply the protections of Section 4(f) only in situations where the preservation purpose of the statute would be sustained. Frequently, the primary information value of an archeological resource can only be realized through data recovery. In those cases, the primary mandate of Section 4(f)—to investigate every feasible and prudent alternative to avoid the site—would serve no useful purpose. Conversely, where the artifacts would lose essential aspects of the information they might yield if removed from the setting, or if the site is complex and it is not reasonable to expect to be able to recover much of the data resident there, or where technology does not exist to preserve the artifacts once removed from the ground, requiring the applicant to search for a feasible and prudent avoidance alternative is consistent with the statute.

One commenter expressed the view that in light of the 1999 and 2000 amendments to the Section 106 regulations concerning archeological resources, “the outdated approach to archeology reflected in the Section 4(f) regulations is inconsistent with the National Historic Preservation Act (NHPA).” Transportation projects subject to Section 4(f) must also comply with the NHPA, an entirely different statute that also affords certain protection to historic sites. The NHPA has its own very detailed regulations that must be followed. An “adverse effect” to an archeological site under the NHPA is not the same as a “use” of an archeological site under Section 4(f).



The comment did not propose specific revisions to the proposed regulation, but generally recommended that consideration be given to whether an archeological site may have “broader religious or cultural significance to any Indian tribe(s),” and that the Administration should be required to “defer to the SHPO’s or THPO’s views regarding significance.” We carefully considered these suggestions and decided to revise the wording in the final rule in response to the concerns raised. We agree that deference to the expertise of SHPOs and THPOs is warranted in determining whether an archeological site is worthy of preservation in place or is important chiefly for what could be learned through data recovery. Accordingly, the final rule requires that “[t]he official(s) with jurisdiction over the Section 4(f) resource have been consulted and have not objected to the Administration finding \* \* \*” regarding the relative importance of data recovery versus preservation in place.

- Paragraph 774.13(c)—This paragraph is an exception to the requirement for Section 4(f) approval for parks, recreational areas, wildlife and waterfowl refuges, and historic sites that are designated or determined to be significant late in the development of a transportation project. Late designation is not the same thing as a late discovery of a Section 4(f) property. This exception, which has been FHWA and FTA policy for several decades, applies only if a good faith effort was made during the NEPA process to identify all properties eligible for Section 4(f) protection. The purpose of the exception is to provide reasonable finality to the environmental review phase of project development.

Many comments were received on the late-designation exception. One comment asserted that no exception is warranted until construction has begun in order to provide maximum protection to Section 4(f) properties. Another comment objected to the exception in the case of projects “languishing” in project development for long periods of time during which time a resource on the project site might be legitimately designated as a new or significant Section 4(f) property. In this commenter’s view, such projects should not be allowed to proceed without a new Section 4(f) evaluation, even if the property in question was acquired by a transportation agency for transportation purposes prior to the new designation. The commenter suggested limiting the exception by including a “staleness” provision mandating that if a planned transportation project is not constructed

within a specified period of time (three years was suggested) the exception would not apply and a new evaluation under Section 4(f) would be required. At the opposite end of the spectrum, we received comments asserting that project opponents frequently wait until late in project development to assert that properties are eligible for Section 4(f) protection, solely for the purpose of delaying the project. Several modifications were suggested to guard against that possibility. One such proposal suggested broadening this exception so that an applicant would only need to establish the project’s location and complete the NEPA process in order to benefit from the late-designation exception. The comment proposed that the applicant not be required to take the additional step of acquiring the right-of-way for this exception to apply.

The FHWA and FTA decided not to adopt any of the suggested changes to the proposed regulation. The exception is intended to balance competing interests—protecting Section 4(f) properties while facilitating timely project delivery. The exception provides that “the Administration may permit a project to proceed without consideration under Section 4(f) if the property interest in the Section 4(f) land was acquired for transportation purposes prior to the designation or change in the determination of significance and if an adequate effort was made to identify properties protected by Section 4(f) prior to acquisition.” These conditions will ensure that the initial Section 4(f) approval was proper and that the project has progressed far enough to warrant special treatment. The acquisition of right-of-way typically is the last step of project development prior to construction. Conversely, if the right-of-way has not yet been acquired prior to the redesignation or change in significance, then the exception does not apply. Recognizing the variability in development schedules among different transportation projects, we did not include any arbitrary time limits. A “staleness” provision would often delay project implementation unnecessarily and may compromise project plans after considerable investment in engineering design and land acquisition. The regulatory language draws the line at purchase of the property to ensure that, prior to the redesignation or change in significance, the applicant has completed the NEPA process, has made a good faith effort to address Section 4(f) concerns, and has advanced the project beyond preliminary engineering into

actual implementation activities. We also note that if, after the completion of the NEPA process and Section 4(f) approval, the project has to be modified in a way that would use newly designated Section 4(f) property, the applicant would be obligated to conduct a separate Section 4(f) evaluation in accordance with paragraph 774.9(c).

Lastly, a comment suggested that the FHWA and FTA should “ensure internal consistency” between this provision and Paragraph 774.15(f)(4), which provides that there is no constructive use if the Section 4(f) designation occurs after either a right-of-way acquisition or adoption of project location through the approval of a final environmental document. We do not agree. The “late designation” exception in paragraph 774.13(c), which applies generally to both actual and constructive use, is distinct from the narrower exception in paragraph 774.15(f)(4), which addresses proximity impacts of a transportation project and applies only to constructive use.

Several comments suggested removing or modifying the sentence at the end of paragraph 774.13(c) that, as worded in the NRPM, would preclude the use of the late-designation exception where a historic property is close to, but less than, 50 years of age. One commenter pointed out that the sentence would perpetuate the false assumption that properties over 50 years old are automatically eligible for the National Register. Another commenter stated that the provision is confusing because there is no parallel in Section 106 of the National Historic Preservation Act, and the sentence could be read to effectively extend Section 4(f) protections to properties that are not necessarily historically significant under Section 106. The commenter also pointed out the potential confusion caused by having an exception to the exception. The FHWA and FTA agree that this sentence was confusing and has modified it to say: “if it is reasonably foreseeable that a property would qualify as eligible for the National Register prior to the start of construction, then the property should be treated as a historic site for the purposes of this section.” The determination whether it is reasonably foreseeable should take into account the possibility that changes in the property beyond the Administration’s control might reduce its eligibility, as well as the sometimes unpredictable nature of construction schedules.

- Paragraph 774.13(d)—Paragraph 774.13(d) is an exception to the requirement for Section 4(f) approval for temporary occupancies of Section 4(f)

property. This exception is limited to situations where the official with jurisdiction over the resource agrees that a minor, temporary occupancy of Section 4(f) property will not result in any permanent adverse impacts and will not interfere with the protected activities, features, or attributes of the property, the property will be fully restored, and the ownership of the property will not change. This exception, which has been part of the Section 4(f) regulation since 1991, is founded on the FHWA and FTA's belief that the statute's preservation purpose is met when the Section 4(f) land, though temporarily occupied, is not permanently incorporated into a transportation facility and is returned to the same or better condition than it was found, with the consent of the official with jurisdiction over the Section 4(f) resource. Some construction-related activities taking place on Section 4(f) property may be so minor in scope and duration that its continued preservation is in no way impeded. Using publicly owned land for construction easements can result in less disruption to the surrounding community and often may result in an enhancement of the protected resource, such as landscaping, installation of new play equipment, or other improvement following construction.

A commenter asked whether a temporary occupancy not falling within this exception could be treated as a use with *de minimis* impact if the Section 4(f) land would be fully restored after construction. The answer is yes, a temporary occupancy that is determined to be a Section 4(f) use may qualify for a *de minimis* impact determination by the Administration if the requirements for such determination are met. This circumstance would arise when one or more of the criteria for the temporary-occupancy exception are not met, but the requirements for a *de minimis* impact determination are met. *De minimis* impact determinations related to temporary occupancies are addressed in more detail in the joint FHWA/FTA "Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources," December 13, 2005.

One comment asserted that excepting "temporary" occupancies of land from the provisions of Section 4(f) would be problematic for "megaprojects" (usually defined as projects with a total estimated cost of more than \$500 million) whose construction period might stretch over a decade or more. Another commenter expressed the opinion that occupation of Section 4(f) properties during such projects should not be considered "temporary" even if

the occupancy period is less than the total time needed for construction. We agree that in some circumstances a very long-term occupancy of Section 4(f) properties, even if shorter in duration than the total time it takes to construct a particular project, could be contrary to the preservation purpose of Section 4(f) and, therefore, constitute a use. However, we did not change the relevant text ("[d]uration must be temporary, *i.e.*, less than the time needed for construction of the project") because the regulation imposes several other stringent conditions that would be difficult to satisfy in the case of a long-term occupancy. These other stringent conditions include the requirement that the occupancy not interfere with the activities, features, and attributes that qualify the property for Section 4(f) protection, and that the official with jurisdiction over the Section 4(f) property concur in its being occupied for this period of time.

Another commenter recommended elimination of the conditions for the "temporary occupancy" of land. These conditions, the commenter argues, create a major burden for determining whether the temporary-occupancy exception applies. Another comment recommended changing the wording in paragraph 774.13(d)(1) from "less than the time needed for construction" to "no greater than the time needed for construction." This change would allow the temporary occupancy of land to continue for the entire duration of construction. After carefully considering all of the comments, we decided that no change to the proposed language of paragraph 774.13(d) was warranted. If an applicant finds the exception burdensome, a traditional Section 4(f) evaluation, programmatic evaluation, or a *de minimis* impact determination are potentially available options. The paragraph is unchanged from the provision that has been in effect since 1991 and has not been controversial, and it strikes a reasonable balance between protecting Section 4(f) resources and advancing transportation projects.

Other comments recommended revising paragraph 774.13(d)(3). One proposed adding the word "significant" to modify the word "interference," and another suggested deleting the words "either a temporary or" so that only permanent interference would be a concern. We considered these comments, but decided not to make any changes. The appropriate question is not whether an interference with the protected activities, features, or attributes of a Section 4(f) property is significant, but whether the

interference, taken together with the requirements of the other criteria in this exception, constitutes a use of Section 4(f) property. The duration of the interference is but one of several criteria that must be satisfied in order for the exception to apply. The criteria must be addressed in consultation with the official(s) with jurisdiction to determine if the temporary-occupancy exception is appropriate. The official with jurisdiction over the property is in the best position to determine whether the temporary occupancy would interfere inappropriately with any of the protected activities, features, or attributes of the property.

Several comments asked for clarification as to whether the condition of a Section 4(f) property after the temporary occupancy must be identical to the condition prior to the temporary occupancy, and one comment proposed an addition to the regulatory text to address the issue. One comment further requested that the regulation state that the restoration after a temporary occupancy must focus on the "protected features, activities, or attributes" of the site. We believe that the proposed text, which states that the land must be "returned to a condition at least as good as that which existed prior to the project" already provides the flexibility requested by these comments. The regulation does not require that the property be restored to a condition identical to its pre-occupancy condition. Often the official(s) with jurisdiction have plans to improve the property in some way and prefer to have the property restored in a manner that is consistent with those plans rather than returning to its pre-occupancy condition. Further, in light of the preservation purpose of Section 4(f), the focus of the restoration should certainly be on the protected features, activities, and attributes that make the property eligible for Section 4(f) protection. Because the proposed regulatory text already covers the issues raised by the comments, we did not make the requested changes.

- Paragraph 774.13(e)—Paragraph 774.13(e) is an exception for park roads and parkway projects under FHWA's Federal Lands Highway Program, 23 U.S.C. 204. Projects under this program are expressly excepted from Section 4(f) requirements within the Section 4(f) statute itself. Several comments were received on this exception. One comment recommended deleting "in accordance with" and substituting the statutory term "under." We agree, and modified the final rule accordingly. Another comment, repeated by several commenters, urged that the exception be

deleted, because parkways should be designed and routed so as to minimize damage to parks, and applying Section 4(f) would ensure that such planning occurs. We agree that park roads and parkways should be carefully designed and routed, and note that the FHWA's program funding these roads is jointly administered with the National Park Service pursuant to an interagency agreement that protects park values. However, by its own terms, the statutory language of Section 4(f) explicitly states that it does not apply to projects "for a park road or a parkway under section 204" of Title 23, United States Code. 49 U.S.C. 303(c); 23 U.S.C. 138(a). Therefore, the Administration is not required to apply Section 4(f) to these projects.

- Paragraph 774.13(f)—Paragraph 774.13(f) is an exception for certain trails, paths, sidewalks, bikeways, and other recreational facilities designed primarily for non-motorized vehicles [all of which are referred to collectively as "trails" in the remainder of the discussion of paragraph 774.13(f)]. Such trails generally serve recreational purposes and therefore represent the kind of resource that Section 4(f) was enacted to protect. When the Administration funds the construction or maintenance of trails, the application of Section 4(f), including the consideration of avoiding the Section 4(f) property, would not advance the preservation purpose of the statute.

One comment was received specifically concerning the construction of Recreational Trail projects. The Recreational Trails Program is an FHWA program that benefits recreation by making funds available to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The statute authorizing the Recreational Trails program (23 U.S.C. 206) limits the circumstances under which trails for motorized vehicles can be constructed and requires that States give consideration to project proposals that benefit the natural environment or that mitigate and minimize the impact to the natural environment. In addition, these projects must comply with NEPA. The comment notes that recreational trails for all-terrain-vehicles (ATVs) and motorcycles can cause significant damage to park properties. The FHWA and FTA acknowledge the validity of this comment, but the authorizing statute at 23 U.S.C. 206(h)(2) specifically excepts Recreational Trail projects from Section 4(f) because they are intended to enhance recreational opportunities. Thus, the FHWA and

FTA have no discretion to apply Section 4(f) to these projects.

Several comments sought other types of clarification concerning trails. The FHWA and FTA have several longstanding, common-sense policies regarding trails which are articulated in the FHWA's Section 4(f) Policy Paper.<sup>6</sup> First, Section 4(f) does not apply to trails that are designated as part of the local transportation system. The reason for this policy is that such trails are not primarily recreational in nature, even though, like most transportation facilities, they may occasionally be used by the public for recreational purposes. A related long-standing FHWA and FTA policy from FHWA's Section 4(f) Policy Paper is that Section 4(f) does not apply to a permanent trail within a transportation corridor if the trail is not limited to a specific location within the right-of-way and the continuity of the trail is maintained following a change to the highway or transit guideway.<sup>7</sup> For example, an FHWA-funded project would widen a 5-mile stretch of roadway that has a parallel sidewalk within its right-of-way. The sidewalk, which is used primarily for recreation, is not tied to any specific location within the right-of-way through an easement, permit, memorandum of agreement, or other legal document. As part of the widening project, the sidewalk would be relocated several hundred feet from its current location, for the length of the project. All existing connections with intersecting sidewalks and paths would be maintained in the new location. The trail exception in paragraph 774.13(f) would apply to this sidewalk. In this example, the preservation purpose of Section 4(f) would not be advanced by requiring a search for alternatives that avoid moving the sidewalk. A third long-standing FHWA and FTA policy on trails concerns Section 7 of the National Trail Systems Act, 16 U.S.C. 1246(g). The National Trail Systems Act includes an exception to Section 4(f) compliance for any segment of a National Scenic Trails and National Historic Trails that is not on or eligible for the National Register. In order to clarify the application of Section 4(f) to trails, the three FHWA and FTA policies described above were incorporated into the final rule in paragraph 774.13(f).

One commenter asked that the trails exception specify that Section 4(f) does not apply to trails that are located

within a transportation corridor by permission of the transportation agency, regardless whether the trail is permanent or temporary. We see no basis for incorporating this suggestion into the final rule. Permanent trails within the transportation right-of-way would be covered by the exception in paragraph 774.13(f)(3) if the trail is not limited to a specific location within the right-of-way, and if the continuity of the trail is maintained after the project. Temporary trails within transportation corridors are already adequately covered by paragraph 774.11(h).

- Paragraph 774.13(g)—Paragraph 774.13(g) is the exception for transportation enhancement projects and mitigation activities. The transportation enhancement activities (TEAs) listed in 23 U.S.C. 101(a)(35) that are eligible for certain FHWA funds include several activities that are intended to enhance Section 4(f) properties. Such TEAs must therefore use the Section 4(f) property, and avoidance of the property would be inconsistent with the authorizing statute in this case. Also, this exception is consistent with past FHWA and FTA practice and caselaw. A use of Section 4(f) property under the statute has long been considered to include only adverse uses—uses that harm or diminish the resource that the statute seeks to protect. Accordingly, this exception is limited to situations in which the official with jurisdiction over the Section 4(f) property agrees that the use will either preserve or enhance an activity, feature, or attribute of the property that qualifies it for protection under Section 4(f).

Two comments were received on the exception for transportation enhancement projects and mitigation activities. One comment suggested that recreational facilities that have previously been improved with transportation enhancement funds should not be subject to Section 4(f). We see no legal basis for incorporating this suggestion into the final rule. The purpose of Section 4(f) is the preservation of Section 4(f) property without regard to the past history of the property. A transportation enhancement project may create, add to, or enhance the Section 4(f) activities, features, or attributes of a Section 4(f) property. The result would be an improved Section 4(f) resource more deserving of Section 4(f) protection not less deserving. That Section 4(f) property would have to be afforded Section 4(f) protection in any subsequent transportation project that might use it.

The other commenter believed this paragraph contradicts a statement in FHWA's "Section 4(f) Policy Paper"

<sup>6</sup> "Section 4(f) Policy Paper," March 1, 2005, Question 14. See <http://environment.fhwa.dot.gov/projdev/4fpolicy.htm>.

<sup>7</sup> "Section 4(f) Policy Paper," March 1, 2005, Question 14. See <http://environment.fhwa.dot.gov/projdev/4fpolicy.htm>.

involving a TEA that does not incorporate land from the Section 4(f) property into a transportation facility. The statement from the "Section 4(f) Policy Paper" cited by the commenter is from Question and Answer (Q&A) 24A. That Q&A illustrates two possible scenarios in which transportation enhancement funds are used for the construction of a walkway or bike path, one scenario resulting in a Section 4(f) use and one not resulting in a Section 4(f) use. The commenter suggested that the written concurrence of the officials with jurisdiction should not be needed for the latter scenario, since no Section 4(f) use would occur. The comment does not appear to suggest that coordination with the officials with jurisdiction would not be necessary at all, but rather it suggests that the required written concurrence of those officials in the second scenario would be unnecessary. Certainly, thorough coordination with the officials with jurisdiction over any Section 4(f) property involved in a project has been a fundamental principle in complying with Section 4(f). When a TEA or mitigation activity is proposed on a Section 4(f) property, the Administration must ensure that the resultant effect on the property is, in the view of the officials with jurisdiction over the property, acceptable and consistent with the officials' existing and planned use of that property. Such coordination and assurances are needed even in situations where no transfer of property to a transportation use is anticipated. While the ultimate decision on whether a Section 4(f) use occurs always rests with the Administration, documentation of the views of the officials with jurisdiction over the Section 4(f) property is needed in the administrative record. Accordingly, the requirement for the written concurrence of the officials with jurisdiction was not removed from the final rule, though the text was revised for greater clarity.

- NPRM Paragraph 774.13(i)—The FHWA and FTA proposed a Section 4(f) exception for the new FTA program that funds "Alternative Transportation in Parks and Public Lands" (49 U.S.C. 5320). Avoidance of parks and public lands seems inconsistent with a program authorized by Congress specifically to provide transportation facilities in parks and public lands. Nevertheless, several comments were strongly opposed to this exception, and none favored it. Considering the lack of support for the proposed exception and the lack of an explicit statutory basis for the exception, we removed it from the final rule.

#### *Section 774.15 Constructive Use*

This section addresses the concept of the constructive use of Section 4(f) property, which can only occur where there is no actual physical taking of the property. One comment asserted that the proposed constructive use regulation is "much more extensive than what exists now." Aside from reorganizing the content, the NPRM only proposed adding to two of the existing examples of when a constructive use occurs, a minor change from the current regulation. Many other comments were received suggesting additional examples, deletions, modifications, and clarifications regarding constructive use. One general comment was that, to improve the readability of the regulation, the definition of constructive use and the list of examples of circumstances not constituting constructive use should be consolidated in Section 774.15, which already contained the bulk of the provisions related to constructive use. We agree and have accordingly moved the definition of constructive use to paragraph 774.15(a) and the list of examples to paragraph 774.15(f). Another comment suggested breaking the several different but related provisions of NPRM paragraph 774.15(a) into separate paragraphs. Briefly, these provisions are: that a traditional Section 4(f) evaluation process is appropriate when there is a constructive use; that the Administration's determination that there is no constructive use need not be documented; and that a constructive use determination will be based on certain specified analyses. We agree that separating these provisions would improve the clarity and readability of the rule, so the final rule addresses these issues in three paragraphs designated (b), (c) and (d), respectively.

Several comments asked that various terms be defined, including "not substantial enough to constitute a constructive use," "substantially impair the activities, features, and attributes," and "substantially diminish." We did not define these terms in the final rule because the words are all used with their common English meanings. The terms will be applied to a variety of fact situations, and narrowing the meaning of any of the terms would limit its applicability to particular fact situations that cannot be anticipated now. In addition, these terms are not new—the same terminology is used in the current regulation, and it has not been controversial or problematic. Additional guidance on the meaning of these terms can be found in FHWA's "Section 4(f) Policy Paper."

Another general comment proposed adding a paragraph to the final rule to clarify that a finding of "adverse effect" under Section 106 of the National Historic Preservation Act (NHPA) does not automatically equate to constructive use under Section 4(f), nor does an adverse effect create a presumption of a constructive use. We agree that the threshold for constructive use under Section 4(f) has generally been higher than the threshold for finding an adverse effect under Section 106 of the NHPA. However, we believe that making this distinction in the Section 4(f) regulation would be inappropriate because the NHPA is an entirely separate statute with its own implementing regulation promulgated by another Federal agency.

Comments on specific paragraphs within Section 774.15 are discussed in order below.

- Paragraph 774.15(a)—Paragraph 774.15(a) contains the definition of "constructive use." The definition was moved here from NPRM Section 774.17 as discussed above.

One comment asked for the word "permanently" to be added to the definition, so that a constructive use could not occur if the substantial impairment is only temporary. We did not adopt this proposal because some "temporary" impacts (for example, the construction impacts of a major, complex project) may last for many years. In addition, we think that the duration of the impacts can already be considered under the existing definition. A constructive use occurs when the proximity impacts are so severe as to substantially diminish the activities, features, or attributes that qualify the property for protection. The duration of a proximity impact is one factor that should be considered in determining if the protected activities, features, or attributes would be substantially diminished.

Another commenter asked that the last sentence of the definition be deleted, as it purportedly discourages findings of constructive use. The sentence says "substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished." An identical sentence appears in the current regulation. We carefully considered this comment, but decided to keep the sentence. It helps to explain what is meant by "substantial impairment." In addition, we believe that the concept of constructive use has been correctly applied since the promulgation of the constructive-use provision in 1991. Findings that a project constructively uses a Section 4(f)

property have been appropriately rare, because, by definition, there is no physical taking of property in these situations, and because the FHWA and FTA support the mitigation of proximity impacts on Section 4(f) properties to the point that a substantial impairment of the protected activities, features or attributes does not often occur.

- Paragraphs 774.15(b), (c), and (d)—A number of comments were received on the constructive-use requirements in paragraphs 774.15(b), (c), and (d), which are separated into distinct paragraphs in the final rule, as previously discussed. Each comment proposed an alternative re-wording purported to explain more clearly how a constructive use should be evaluated or to clarify that a constructive use determination is not required for each nearby Section 4(f) property. These provisions have been in place since 1991 and we think that they are clear and are being applied consistently. Therefore, we decided to adopt only one proposed re-wording and that is in paragraph 774.15(c). The provision was clarified to convey our intent to avoid excessive documentation regarding determinations of no constructive use, and not to avoid determining whether or not a constructive use exists. Paragraph (c) now reads: “The Administration shall determine when there is a constructive use, but the Administration is not required to document each determination that a project would not result in a constructive use of a nearby Section 4(f) property. However, such documentation may be prepared at the discretion of the Administration.” The same commenter also requested a change to require “substantial evidence” as the basis for a constructive use finding. We considered the comment but decided not to make the change because it would introduce a new term that provides little added value. The Administration may decide that a constructive use determination is inappropriate if the evidence of substantial impairment is inadequate.

Another comment expressed concern with the inclusion of the phrase “to the extent it reasonably can” in paragraph 774.15(d), related to basing a determination of constructive use on consultation with the official(s) with jurisdiction over the Section 4(f) property. The FHWA and FTA agree that a determination of constructive use should always be based upon the factors identified, so the phrase “to the extent it reasonably can” was removed from the final rule.

Two comments expressed an opinion that paragraph 774.15(d)(2) would invite a great deal of inappropriate and

irrelevant speculation about what might or could occur to Section 4(f) properties in the future if a project were not built. One suggested that we strike the last sentence, which states “The analysis should also describe and consider the impacts which could reasonably be expected if the proposed project were not implemented, since such impacts should not be attributed to the proposed project.” We disagree and have decided not to make the suggested change. First, the language proposed in the NPRM is not new, and we have not proposed any substantive change from current regulation or practice. We have no reason to believe, based on our experience with Section 4(f) and constructive use, that this consideration, taken together with other considerations, is an invitation to “speculate” about an owner’s future plans regarding a Section 4(f) property. To the contrary, the provision requires an appropriate and relevant consideration that must be grounded in facts. Examples of the basis for reasonable expectations of future impacts include, in appropriate situations: discussions with the property owner, zoning applications, analysis of local development trends, and the existence of conservation easements or other legal protections to preserve the protected features, activities, and attributes of the property. The consideration of reasonably foreseeable non-project impacts is both appropriate and relevant to the decision of whether or not the proximity impacts of the project will cause a substantial impairment of the protected features, activities, or attributes of a Section 4(f) property. Also, including this information in the analysis could be beneficial to the resource by highlighting reasonably foreseeable impacts not caused by the transportation project because it would inform the State or local governmental authorities who are the best position to consider protective actions that are not within the power of the Administration.

- Paragraph 774.15(e)—Comments were received on the list of examples of situations in which a constructive use is presumed to occur. One comment asked for definitions of, and a method to measure, many phrases in the paragraph such as “substantially interferes with use and enjoyment of a noise-sensitive facility,” “substantially diminish the utility of the building,” and “substantially reduces the wildlife use.” These words are all used with their plain English meanings, and they generally describe situations that require judgment and are not conducive

to standardized quantitative analysis. The relevant phrase must be applied to a particular set of facts to provide context. For example, one would need to know how a particular noise-sensitive facility is used by the public and what the layout and design of the facility is in order to make a reasonable judgment whether a proposed transportation project would “substantially interfere with use and enjoyment” of that noise-sensitive facility. We did not make any changes to the regulation in response to this comment.

Another comment suggested removing the examples from the regulation in favor of including or expanding the examples in the FHWA’s “Section 4(f) Policy Paper.” This comment expressed the view that the examples have the potential to lead to more frequent findings that proximity impacts constitute constructive uses. The FHWA and FTA considered this comment but have decided to retain the examples in the Section 4(f) regulation, where they have been codified since 1991 and have not resulted in the problems envisioned by the commenter. Illustrating the concept of constructive use through practical examples has facilitated the application of the concept in fact situations not represented in the examples.

Another comment asked for a clarification that the list of examples in which a noise impact would be considered a constructive use is not an exhaustive list. We agree and restructured the paragraph in the final rule to clarify that these are simply illustrative examples of constructive use and not an exhaustive list. The reorganization of the paragraph also makes the examples easier to follow by separating them into subparagraphs.

Two additional comments specifically focused on the examples of constructive use due to noise. One comment suggested that campgrounds should not be considered Section 4(f) properties because they are essentially multiple use areas. We disagree with this conclusion and therefore reject the suggestion. The FHWA and FTA have always considered publicly owned campgrounds to be recreational areas covered by Section 4(f), and this position is supported by case law. Another commenter suggested that an example be added to clarify that the provision applies not only to man-made facilities such as campgrounds, but also to natural areas where the protection of natural sounds is important. We agree that some Section 4(f) properties may include natural features emitting sounds that are enjoyed by humans, such as the enjoyment of listening to a babbling

brook. When such features are a significant and officially recognized attribute of a park, then the Administration should consider whether the noise increase attributable to the highway or transit project would substantially diminish the continued enjoyment of the natural feature. However, we did not add this example to the regulation because the regulation is necessarily applied on a case-by-case basis and there are already four examples of a constructive use due to noise increases. Another substantially similar example is not desirable, as this narrow distinction can be adequately covered in future FHWA and FTA Section 4(f) guidance.

Another comment suggested rewording the example in paragraph 774.15(e)(2) as follows: "the location of a proposed transportation facility in such proximity that it substantially obstructs or completely eliminates the primary view \* \* \*". The FHWA and FTA decided not to make the proposed change. In some circumstances a substantial impairment could result from a partial obstruction or partial elimination of the primary view of a historic building, depending on the criteria that makes the property eligible for the National Register.

Another comment on this paragraph referred to the noise abatement criteria in FHWA's noise regulation (23 CFR part 772), and expressed the opinion that, for certain types of properties there may be more appropriate measures of noise and unwanted sounds than those used in the noise regulation. The comment suggested that the FHWA and FTA consult with the National Park Service office working on "Soundscapes" for further information. This comment and suggestion were discussed with FHWA highway noise experts, and the FHWA and FTA considered the views of the National Park Service office, as suggested. However, we have concluded that the suggestion is beyond the scope of this rulemaking because it concerns an entirely separate part of Title 23, Code of Federal Regulations, which was not proposed for revision in the NPRM.

Another commenter suggested that the noise threshold for constructive use should be specified as 57 dBA (Category A, Table 1 in 23 CFR part 772). We disagree that a single threshold can be specified due to the varied purposes and functions of different types of Section 4(f) property. The appropriate noise abatement criteria will depend on the activity category of the particular Section 4(f) property. When a Section 4(f) property is determined to be covered under Activity Category A in

Table 1 of 23 CFR part 772, then the applicable noise abatement criteria would include the 57 dBA threshold. Examples of Section 4(f) resources covered under Category A are those for which a quiet setting is essential to their continued function, such as an amphitheater or the gardens of an historic monastery. The vast majority of Section 4(f) properties will not fall under Category A. Regardless of which Category the Administration deems applicable to the Section 4(f) property, a constructive use occurs when the relevant noise criteria cannot be met, if the resulting noise substantially impairs the protected activities, features, and attributes of the Section 4(f) property.

Several comments focused on the example of constructive use due to substantial impairment of aesthetic features. One comment asked that the final rule clarify that for visual and aesthetic effects to constitute a constructive use of an architecturally significant historic property, the site would have to derive its value in substantial part due to its setting. We did not adopt this comment. Historic buildings that are significant due to their architecture, do not as a rule, rely upon their setting. The language proposed ("[locating] a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building") captures the more important criteria—the views of such a building available to the public.

Another comment suggested adding "qualifying wild and scenic rivers" to this paragraph. The Wild and Scenic Rivers Act, 16 U.S.C. 1271–1287, sets forth those rivers in the United States designated as part of the Wild and Scenic River System. Within the System there are wild, scenic, and recreational designations. In determining whether Section 4(f) is applicable to a particular river within the System, one must look at the ownership of the river, how the river is designated, how the river is being used, and the management plan for the relevant portion of the river. Only if the river is publicly owned and is designated as a recreational river under the Wild and Scenic Rivers Act or is designated in the management plan for the river as serving a Section 4(f) purpose would it be considered a Section 4(f) property. A single river may be divided into segments that are separately classified as wild, scenic, or recreational. Only those segments that are classified as serving a purpose protected by Section 4(f), such as recreation, would be subject to Section 4(f). The designation of a river under the

Wild and Scenic Rivers Act does not, by itself, impart the protections of Section 4(f). Section 4(f) protections are imparted only if the section of the river used by the proposed project fits one or more of the categories of properties protected by Section 4(f). For example, if a river is included in the System and is designated as "wild," but is not being used as, or is not designated under a management plan as, a park, recreation area, wildlife or waterfowl refuge and is not an historic site, then Section 4(f) would not apply. In light of these complexities, we believe that simply adding the phrase "qualifying wild and scenic river" could cause confusion and create the potential for the misapplication of Section 4(f). Accordingly, the FHWA and FTA decline to adopt the proposed language. However, we have clarified the applicability of Section 4(f) to Wild and Scenic Rivers by adding paragraph (g) to Section 774.11, which states: "Section 4(f) applies to those portions of federally designated Wild and Scenic Rivers that are otherwise eligible as historic sites, or that are publicly owned and function as or are designated in a management plan as a significant park, recreation area, or wildlife and waterfowl refuge. All other applicable requirements of the Wild and Scenic Rivers Act must be satisfied, independent of the Section 4(f) approval." This language is consistent with long standing FHWA and FTA policy presented in the FHWA's "Section 4(f) Policy Paper."

Several comments were received on the example of a constructive use due to vibration impacts. One commenter noted with approval that the proposed language apparently only considered the vibration impacts of operating a transportation project and not the construction impacts. Another commenter had the opposite view, and proposed that construction impacts be added to the regulation, along with other edits for clarity. We agree that severe construction vibration can substantially impair the use of a Section 4(f) property in the same way as severe operational vibrations. The final rule clarifies that vibration due to construction should be considered, and that vibration should be considered for any mode of transportation project to which this rule applies. Also in the same sentence, we replaced "affect the structural integrity of" with the simpler and clearer "physically damage." Another comment on this section suggested that repair of damage should be mandatory, and that irreparable vibration damage should be considered a use. The comment proposed adding at

the end of the sentence, “unless the damage is repaired and fully restored consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties, i.e., the site must be returned to a condition which is at least as good as that which existed prior to the project.” We clarified the intent of this paragraph with language similar to what was proposed.

- Paragraph 774.15(f)—Many comments were received on paragraph 774.15(f), which provides examples of proximity impacts that are not severe enough to constitute a constructive use. Several comments asserted that the regulation would be easier to use if this list were moved to Section 774.15, Constructive Use, so that all examples regarding possible constructive uses are in one place. We agree, and moved NPRM paragraph 774.13(e) into paragraph 774.15(f) in this final rule. One general comment was that the list should be deleted for fear that the Administration will apply the paragraph as if it were an inclusive list of all possible proximity impacts that are not constructive uses. This fear is unfounded because the language, “examples include,” makes it clear that the list is not all-inclusive. Another comment asked that the examples indicate the requirement that an EA or EIS be prepared. The issue of which NEPA document to prepare depends on whether there are significant impacts expected and is addressed in 23 CFR Part 771. The issue is outside the scope of this regulation. Several comments on this paragraph requested clarification that an adverse effect under Section 106 is not automatically a Section 4(f) constructive use. We agree with this comment. The FHWA “Section 4(f) Policy Paper,” Question 3B, explains that if a project does not physically take (permanently incorporate) historic property but the project causes an adverse effect under Section 106, then one should consider whether the proximity impacts of the project constitute a constructive use. We did not, however, feel that this nuance needed clarification within the regulation itself.

Several comments suggested modifying or deleting the last sentence in paragraph 774.15(f)(4), which disallows the use of a late-designation exception where a historic property is close to, but less than, 50 years of age. In the case of a constructive use, the late-designation exception says that a constructive use does not occur if a property has been acquired for transportation purposes after adequate effort to identify Section 4(f) resources or if the project location has been

established in a final environmental document, and the property is subsequently designated as a Section 4(f) property or is determined to be significant. One commenter points out that the sentence proposed for modification or deletion perpetuates the false assumption that properties over 50 years old are automatically eligible for the National Register. Another commenter states that the provision is confusing because there is no parallel in Section 106, and the sentence could be read to effectively extend Section 4(f) protections to properties that are not necessarily historically significant under Section 106. The FHWA and FTA agree that this sentence could be confusing and have modified the sentence in question to clarify that if it is reasonably foreseeable that a property would qualify as eligible for the National Register prior to the start of construction, then the property should be treated as a historic site for the purposes of this section.

One comment suggested that in paragraph 774.15(f)(6) we include consultation on the appropriateness of any mitigation proposed for proximity impacts in order to ensure that the views of the officials with jurisdiction over the Section 4(f) property regarding the appropriateness of the mitigation and the resulting condition of the Section 4(f) property are considered. We agree, and have made this change. The provision now reads: “Proximity impacts will be mitigated to a condition equivalent to, or better than, that which would occur if the project were not built, as determined after consultation with the official(s) with jurisdiction.”

Another comment requested that we revise this paragraph so that the analysis must include consideration of the condition of the Section 4(f) resource as it existed prior to construction of the transportation project, rather than the condition that would exist if the project were not built. We did not make this change because it is more appropriate to consider the true future no-action scenario than to invent a highly unlikely, hypothetical future in which current conditions are frozen in time. This approach is consistent with NEPA practice, in which the Administration compares the impacts expected under the future build alternatives to the expected future no-action scenario.

We received one comment on the example of a vibration impact not rising to the level of a constructive use of a Section 4(f) property. The comment suggested that the regulatory text should contain detailed, measurable limits for vibration levels based on guidance issued by FTA and guidance issued by

the U.S. Bureau of Mines. (The FHWA does not have equivalent guidance on vibration.) The impact thresholds for vibration are presented in voluminous guidance that provides background on the complex science involved in their development and application. There are different vibration metrics whose appropriateness in a particular situation must be determined by acoustical experts. The background information that would be needed would be highly technical, voluminous, and difficult to properly present in the regulation. The FHWA and FTA does not agree with the notion that a single vibration threshold applicable in all situations could be specified in regulation and has therefore declined to do so.

#### Section 774.17 Definitions

A few comments stated that the definitions should be moved to the beginning of the regulation because the beginning is the more common location. The NPRM explained that the definitions were placed at the end because some of them are lengthy and complex. The final rule includes cross-references to the definitions at key points within the regulatory text. Therefore, we did not adopt the suggestion to move the definitions. Other comments proposed definitions for various words that appear only once in this regulation. Where we felt it was appropriate to add clarification in those instances, it was done where the term appears and not in the definitions section. For example, an explanation of “concurrent planning” was integrated into paragraph 774.11(i). One comment suggested combining the definitions of “all possible planning,” “*de minimis* impact,” and “feasible and prudent alternative” in a separate section of the regulation. We did not adopt this suggestion because it would not have improved a reader’s understanding of these terms.

One commenter felt that including a definition of “transportation facility” would obviate the need for the exception for transportation enhancement activities. The idea likely behind this is that, with most transportation enhancement projects, there is no use of the Section 4(f) property by a transportation facility. The FHWA and FTA decided not to follow this suggestion because an explicit exception for transportation enhancement activities is more definitive and covers a broader range of possible transportation enhancement activities.

Many comments proposed additional definitions of various terms. These proposals were all carefully considered,



but in most cases were not adopted. Many of the proposed definitions are dependent on the context in which they are applied, and therefore do not lend themselves easily to definition. In other cases, the meaning of the term is obvious or the proposed definition is beyond the scope of this rulemaking. For example, we declined to include the definition for the NEPA term “significant impact on the environment,” which is addressed in the NEPA regulations of the Council on Environmental Quality (CEQ). One comment recommended the addition of definitions for all of the following words and phrases: “Relative value,” “matter of sound engineering judgment,” “unreasonable to proceed,” “severe safety or operation problems,” “reasonable mitigation,” “severe social, economic, or environmental impacts,” “severe disruption to established communities,” “severe disproportionate impacts to minority or low income populations,” “severe impacts to environmental resources protected under other Federal statutes,” “operational cost of an extraordinary magnitude,” “unique problems,” and “cumulatively cause unique problems or impacts of extraordinary magnitude.” The FHWA and FTA decided that including definitions for these terms in this final rule was inappropriate or unnecessary as the terms are used in their plain English meaning and likely involve judgments that depend on the context of the specific project, location, and Section 4(f) property.

Comments on specific definitions within Section 774.17 are discussed in order below.

- “Administration”—One comment noted that SAFETEA–LU amended Sections 325, 326, and 327 of Title 23, United States Code to allow the FHWA (and in the case of Section 326, the FTA also) to assign certain specified environmental responsibilities to a State through a written memorandum of understanding (MOU) or agreement. Section 4(f) is one of the assignable responsibilities. When the FHWA or FTA enters into such MOU or agreement, the State will act in lieu of the FHWA or FTA for those responsibilities that are specified in this regulation as Administration responsibilities and that have been assigned to the State through the MOU or agreement. Therefore, the definition of “Administration” was extended to include a State that has been assigned responsibility for certain environmental requirements in accordance with 23 U.S.C. 325, 326, or 327, or other applicable law, to the extent that the

required agreement between the State and FHWA or FTA allows the State to act in place of the FHWA or FTA on Section 4(f) matters.

- “All Possible Planning”—The NPRM proposed a definition of the statutory phrase “all possible planning” to minimize harm when a transportation project uses Section 4(f) property. A number of comments were received proposing various revisions to the regulatory language addressing “all possible planning” in the context of *de minimis* impact determinations. One commenter objected to the use of the word “obviates” because, in the commenter’s opinion, it would imply that the Administration is not required to reduce impacts to the minimum level possible in the approval of a *de minimis* impact determination. Another commenter expressed a concern that paragraph (5) of this definition would relieve the Administration from any “independent obligation” to comply with the “all possible planning to minimize harm” requirement of Section 4(f) when the Administration makes a *de minimis* impact determination. According to this comment, the proposed regulatory text is inconsistent with SAFETEA–LU section 6009 which “explicitly retained” the “all possible planning” requirement with respect to projects with *de minimis* impact on non-historic Section 4(f) properties. Other comments suggested replacing the phrase “subsumes and obviates” with “eliminates” or “is presumed to satisfy” the requirement for all possible planning to minimize harm, in order to convey more clearly the idea that if a *de minimis* impact determination is made, then no separate minimization-of-harm finding is required.

The FHWA and FTA carefully considered these objections and alternative language proposals and has deleted the word “obviates,” and has retained the word “subsumes” in response. The intent of the provision is not to eliminate the Administration’s obligation to minimize harm to affected Section 4(f) properties, but rather to explain that, in a *de minimis* impact situation, the effort to reduce the impacts to *de minimis* levels and “all possible planning” to minimize harm are folded together into a single step. In other words, when a *de minimis* impact determination is approved, either the project already includes measure(s) to minimize harm to which the applicant is committed or the project will have such minor impacts on the Section 4(f) property that the harm to it is negligible without additional measures. The FHWA and FTA believe that the word “subsumes” articulates this intended

meaning better than “presumed to satisfy.”

Lastly, in the FHWA and FTA’s view, paragraph (5) as revised is entirely consistent with the *de minimis* impact provision in SAFETEA–LU section 6009. Contrary to the commenter’s interpretation, 49 U.S.C. 303(d)(1)(B), as amended by SAFETEA–LU, does not impose on the Administration an “independent obligation” to comply with the minimization of harm requirement of Section 4(f). Rather, the purpose of the provision is to ensure that the applicant anticipating a *de minimis* impact determination conducts “all possible planning” to minimize harm when developing and committing to “any avoidance, minimization, mitigation, or enhancement measures” necessary to reduce impacts to *de minimis* levels. Furthermore, paragraph (5) of this definition must be read in conjunction with paragraph 774.3(a)(2) which precisely tracks the statutory language regarding the inclusion of measures to minimize harm, and the definition of “*De Minimis Impact*” in Section 774.17, which is an impact that “will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).”

- “Applicant”—One comment was received on the definition of applicant. The comment notes that while the definition provides for the applicant to work with the Administration to conduct environmental studies and prepare environmental documents, the definition does not provide for the applicant to help prepare decision documents and determinations. While an applicant may in some cases be asked to help prepare decision documents and determinations, the definition was not changed because the applicant does not always do so. In any case, all decisions and determinations required under Section 4(f) are ultimately the responsibility of the Administration, unless the applicant is a State that has been specifically assigned Section 4(f) authority under the aforementioned statutes providing for such assignment.

- “CE”—The proposed rule included definitions for the NEPA terms “EIS” and “EA,” including cross-references to the FHWA and FTA’s NEPA regulations. A definition and cross-reference for the NEPA term “CE” was added for consistency. The definition states: “*CE*. Refers to a Categorical Exclusion, which denotes an action with no individual or cumulative significant environmental effect pursuant to 40 CFR § 1508.4 and § 771.117 of this title.” When deciding whether to issue a CE from NEPA under



the FHWA and FTA NEPA regulations, FHWA and FTA take into account whether there are unusual circumstances.

- “*De Minimis Impact*”—Several comments asked that the proposed definition of *de minimis* impact be expanded not only to describe what a *de minimis* impact is, but also to prescribe the process for making a *de minimis* impact determination. The FHWA and FTA have considered these comments and decided that the definition of *de minimis* impact will not include the procedures for making *de minimis* impact determinations because the regulation describes the process and documentation in paragraphs 774.5(b) and 774.7(b), which are the more appropriate locations.

One comment requested that the definition address the transfer of lands in which there are Federal encumbrances under other statutes. The FHWA and FTA did not make this change because it is an issue unrelated to the definition and is addressed in paragraph 774.5(d). In addition, the joint FHWA/FTA “Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources,” December 13, 2005, explains that Section 4(f) lands with other Federal encumbrances must address and comply with the requirements of the laws associated with those encumbrances.

One comment recommended the elimination of *de minimis* impact determinations from the final rule. The FHWA and FTA retained the option to grant Section 4(f) approvals via a *de minimis* impact determination because Congress amended Section 4(f) in 2005 to allow *de minimis* impact determinations. (SAFETEA—LU, Pub. L. 109–59, sec. 6009(a), 119 Stat. 1144 (2005)).

One comment recommended a change to the proposed language that would allow a temporary adverse effect to be treated as a *de minimis* impact. The FHWA and FTA decided not to include this change because temporary occupancy of Section 4(f) property is already dealt with under paragraph 774.13(d). The final rule provides the flexibility to appropriately address temporary adverse impacts, which may or may not be *de minimis*.

Several comments recommended changes to the definition of a *de minimis* impact for historic sites. One comment stated that the proposed definition of *de minimis* impact for historic sites did not adequately emphasize that the determination of “no adverse effect” or “no historic property affected” must be made in accordance with the requirements of the Section

106 regulation, including consultation. The FHWA and FTA agree and have reworded the definition to emphasize that the Administration must determine, in accordance with the Section 106 regulation, that there is no adverse effect or that no historic property is affected. Another comment recommended language that would allow adverse effects to contributing elements of a historic district to be considered a *de minimis* impact if the historic district, as a whole, is not adversely affected. The FHWA and FTA did not adopt this suggestion because Section 106 policy and regulations define how adverse effects to historic districts are to be considered.

- “EA”—One comment recommended deleting this definition from the regulation because it is defined in the CEQ’s NEPA regulations. The proposed definition is consistent with the CEQ NEPA regulations and is necessary to provide consistency between the FHWA and FTA’s Section 4(f) and NEPA regulations.

- “EIS”—One comment recommended deleting this definition from the regulation because it is defined in the CEQ’s NEPA regulations. The proposed definition is consistent with NEPA and the CEQ NEPA regulations and is necessary to provide consistency between the FHWA and FTA’s Section 4(f) and NEPA regulations. Another comment asked that this definition define the phrase “significant impacts on the environment.” The concept of significant impacts is addressed by CEQ in its NEPA regulations and by various Federal courts in caselaw, and its definition is outside the scope of this rulemaking. The definition of EIS cross-references the NEPA regulations.

- “Feasible and Prudent Avoidance Alternative”—This definition was the primary impetus for this rulemaking. In section 6009(b) of SAFETEA—LU, Congress directed the U.S. DOT to “promulgate regulations that clarify the factors to be considered and the standards to be applied in determining the prudence and feasibility of alternatives” to using Section 4(f) properties for transportation projects. Because these are fact-specific determinations, the NPRM proposed a definition that requires consideration of the totality of the circumstances and the relative significance of the Section 4(f) property. The definition proposed six factors that could support a determination that there is “no feasible and prudent avoidance alternative.” A seventh factor is the accumulation of the other factors, and whether in combination the overall impact is severe.

This definition was the subject of the most comments of any proposed section of the NPRM. The views expressed varied drastically, and a wide variety of revisions were proposed. In general, comments opposed to the proposed definition feared that it was not stringent enough to protect Section 4(f) properties because it involves a balancing test. The definition provided in this final rule addresses this concern by adding the word “substantially” to clarify that the balancing test is weighted in favor of avoiding the use of Section 4(f) properties: “A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.” Another general concern was that the U.S. Supreme Court rejected any type of balancing test in *Overton Park*. After careful consideration, the FHWA and FTA do not agree with this view. In *Overton Park*, the Court instructed that cost, directness of route, and community disruption should not be considered “on an equal footing with the preservation of parkland.” 401 U.S. 402 at 412. The NPRM proposed to define a feasible and prudent avoidance alternative as one that “avoids using Section 4(f) property and does not cause other severe problems of a magnitude that outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation goals of the statute.” This definition is consistent with the decision in *Overton Park* because it requires the Administration to take into consideration the importance of protecting the Section 4(f) property. Avoiding the Section 4(f) property is not on equal footing with other concerns but, as the NPRM noted, the consideration of avoidance alternatives must begin with a “thumb on the scale” on the side of avoiding the Section 4(f) property. 71 FR 42611, 42613 (2006). Therefore, the definition in this final rule is unchanged from that proposed in the NPRM except for the aforementioned addition of “substantial” and a change in reference to “preservation goals” to refer to the “preservation purpose” in order to emphasize that the statute itself in 49 U.S.C. 303(a) establishes as its purpose “that special effort should be made to preserve the natural beauty of the countryside and public parks and

recreation lands, wildlife and waterfowl refuges, and historic sites.”

More specific comments and changes are addressed below. One comment opposed the requirement that balancing be performed with a “thumb on the scale” in favor of the Section 4(f) property. This comment also opposed the requirement that problems with an avoidance alternative be severe and not easily mitigated before that alternative may be rejected as one that is not prudent and feasible. The requirement that balancing be done with a thumb on the scale is at the very heart of *Overton Park*, the only U.S. Supreme Court case interpreting the application of Section 4(f) at this time. Further, in the conference report accompanying SAFETEA-LU, Congress made clear that the U.S. DOT must set forth factors to be considered and the standards to be applied when determining whether an avoidance alternative is prudent and feasible, and that the factors must adhere to the legal standard set forth in *Overton Park*. H.R. Rep. No. 109–203, at 1057–58 (Conf. Rep.).

The precise term that the NPRM proposed to define was “feasible and prudent alternative.” In this final rule, the defined term was changed to “feasible and prudent avoidance alternative.” This change was necessary to clarify that Section 4(f) directs the Administration to search for alternatives that avoid using Section 4(f) property. One comment had suggested that we clarify within the definition of “feasible and prudent alternative” that the feasible and prudent standard applies to all project alternatives, not only avoidance alternatives. Based on this and other comments we took a close look at the definition and the way in which the term “feasible and prudent alternative” was used throughout the NPRM. We found that there were instances in which the use of the term was inconsistent with the definition. This has been corrected throughout the final rule and the definition has been clarified as “feasible and prudent avoidance alternatives,” as previously discussed. In responding to the comment, we point out that Section 4(f) itself speaks of a “feasible and prudent alternative to using that land”, i.e., a feasible and prudent avoidance alternative. (49 U.S.C. 303(c)(1)). As a result, the concept of a feasible and prudent alternative is closely associated with the avoidance of Section 4(f) use.

Several comments suggested that the words “feasible” and “prudent” be split and defined separately in the final rule because the U.S. Supreme Court had discussed each term separately in *Overton Park*. Therefore, each word has

“a separate and distinct meaning,” which could become confused by combining them into “a single concept.” The FHWA and FTA agree that the comment has merit, and have modified the definition to expand upon the meaning of each specific word in a separate paragraph within the definition of “feasible and prudent avoidance alternative.” The two terms were not completely separated into distinct definitions because “feasible” and “prudent” are two factors that, when combined, constitute a single test. In other words, the key is not whether a particular avoidance alternative is feasible or prudent, but rather whether it is feasible and prudent. That being the case, the agencies believe the regulation should reflect this important link between the terms.

Several comments opposed designating “severe impacts to environmental resources protected under other Federal statutes” as a factor in determining prudence. One favored changing the language to require another Federal agency to formally deny a permit under another Federal law before this factor could be considered in rejecting an avoidance alternative. This change was not adopted because there is no indication that Congress intended the Administration to elevate Section 4(f) protection above all other environmental concerns. The FHWA and FTA believe that the factor proposed is a relevant concern for determining the prudence of an avoidance alternative and that the language proposed is adequate. Requiring an applicant to submit permit applications and obtain a formal denial when a regulatory agency has indicated its objections to an avoidance alternative would create additional process and delay that do not necessarily equate to better project development. In addition, there is substantial caselaw supporting the consideration of other environmental concerns.

One comment expressed concern that designating “additional construction, maintenance, or operational costs of an extraordinary magnitude” as a factor in determining prudence does not clarify the issue of how much money should be spent to avoid the use of Section 4(f) property. Other comments questioned the requirement that such costs be “of extraordinary magnitude.” We understand that deciding what amount constitutes a reasonable public expenditure for avoiding the use of a Section 4(f) property may not be simple. Nevertheless, it is not appropriate to set a single dollar amount or even a percentage of total project cost as the

threshold. The decision must take into account multiple factors including the type, function, and significance of the Section 4(f) property. Having multiple factors to weigh, of which cost is but one, should simplify the decision about the prudence of an avoidance alternative. If increased cost alone is the only downside to an avoidance alternative, the preservation purpose of Section 4(f) requires that the increased cost reach an extraordinary magnitude before it would outweigh the protection of Section 4(f) property. Merely a “substantial cost increase” is not enough.

One commenter recommended the deletion of the first two sentences of the definition of “feasible and prudent avoidance alternative” because the commenter felt that measuring the relative value of a Section 4(f) resource would be difficult and that the language is not consistent with paragraph 774.3(a). The FHWA and FTA decided not to delete these sentences because the regulation does not require the measurement of the relative value. Rather, it states that it is appropriate to consider the relative value of the Section 4(f) resource. Also, the FHWA and FTA do not agree that this definition is inconsistent with paragraph 774.3(a) and are following an explicit directive of Congress in providing a definition that elaborates on the meaning of that paragraph.

One comment advocated that a feasible-and-prudent determination should be based only upon whether the alternative causes an extraordinary level of disruption rather than balancing the relative value of the resource and the preservation purpose of the statute against the drawbacks of the avoidance alternative. The FHWA and FTA decided not to change the definition in response to this comment because we continue to believe that it is appropriate to consider the relative value of the Section 4(f) resource and other resources affected by an avoidance alternative in assessing the importance of protecting the Section 4(f) property.

Many comments questioned the proposed provision allowing the accumulation of multiple drawbacks to be considered cumulatively when assessing the prudence of an avoidance alternative. The FHWA and FTA decided to keep this provision because a substantial body of caselaw supports this approach, and because it allows for prudent transportation decisions that consider the totality of the circumstances surrounding each alternative. In some instances, such as where the Section 4(f) property is of relatively low significance, a series of

drawbacks associated with an avoidance alternative may cumulatively be so severe that it would not be prudent to reject the alternative using the low-quality Section 4(f) property.

Several comments expressed concern with the use of the word "severe" in the proposed definition for various reasons, while others supported this terminology. The FHWA and FTA proposed the term "severe" as a way to encompass in simpler language, while still providing stringent protection for Section 4(f) properties, the more complex and often confusing language used in *Overton Park*—i.e., "unique problems or unusual factors" and "extraordinary magnitude." There is case law support for the idea that the Supreme Court did not literally intend that those precise terms must be used. We have reviewed each instance, including the context, where the term "severe" was used in this definition, and decided to retain the term except in NPRM factor 3 (factor 2 in this final rule) which now states: "It results in unacceptable safety or operational problems." In this factor, the term "severe" was replaced with "unacceptable" to better reflect the Administration's knowledge of accepted standards and practices for designing safe and functional transportation projects. In the other instances, "severe" was retained for the reasons stated above.

One comment was concerned that factors i, ii, and vi in the NPRM's definition of "feasible and prudent" are subjective and unnecessary, and that they may be adequately represented in the other factors. This commenter suggested that these three factors be deleted or that guidance be issued as to how they will be applied and by whom. The factors will be applied by the Administration in a manner consistent with this final rule. Additional guidance will be issued in the future if necessary. The first of these factors, whether an alternative can "be built as a matter of sound engineering judgment," defines when an alternative is feasible. This language was first used by the U.S. Supreme Court in *Overton Park* to explain the meaning of "feasible," and was subsequently adopted verbatim by every U.S. Circuit Court that has considered the issue. The FHWA and FTA will leave this factor in the regulatory language because the conference report for SAFETEA-LU states that DOT must adhere to the legal standard set forth in *Overton Park* and this factor was so clearly articulated. Clarifying language was added to the final rule that makes clear the factor defines whether an avoidance

alternative is "feasible". See H.R. Rep. No. 109–203, at 1057–58 (Conf. Rep.).

The second factor of concern to this commenter, whether a project can go forward in a way that meets its purpose and need, is at the heart of why the project is being built. For example, if a primary purpose of the project is to rectify a safety concern, it would not be prudent to choose an avoidance alternative that fails to address the safety issue. The FHWA and FTA will keep this factor because of its importance to meeting the transportation mission of the FHWA and FTA and the clear support in caselaw for eliminating alternatives that do not meet the transportation needs that the project is designed to fulfill. See, e.g., *City of Alexandria v. Slater*, 198 F.3d 862 (D.C. Cir. 1999).

The final factor of concern to this commenter, whether an avoidance alternative causes "unique problems or unusual factors," was included to ensure that the standard in the regulation is consistent with that set forth by the U.S. Supreme Court in *Overton Park*, which suggested that avoidance alternatives that "involve unique problems" could properly be rejected as not prudent.

- "FONSI"—No comments were received on the proposed definition of "FONSI" and it is unchanged in this final rule.

- "Historic Site"—One comment noted that the NPRM seemed to use the terms "historic site" and "historic property" interchangeably and suggested that only one be used and that a definition would be helpful. This final rule consistently uses the statutory term "historic site" and a definition of "historic site" was added to distinguish the term as it is used under Section 4(f) from its use under other statutes. The definition added is consistent with current FHWA and FTA policy and the National Historic Preservation Act. The definition states: "*Historic Site*. For purposes of this part, the term "historic site" includes any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that are included in, or are eligible for inclusion in, the National Register."

- Official(s) with Jurisdiction—One comment stated that the rule fails to provide clear guidance on the instances in which coordination with, or concurrence of, the officials with jurisdiction is required. The final rule

requires coordination with the official(s) with jurisdiction at the following points:

- (1) Prior to making Section 4(f) approvals under paragraphs 774.3(a) and 774.5(a);
- (2) When determining the least overall harm under paragraph 774.3(c);
- (3) When applying certain programmatic Section 4(f) evaluations under paragraph 774.5(c);
- (4) When applying Section 4(f) to properties subject to Federal encumbrances under paragraph 774.5(d);
- (5) When applying Section 4(f) to archeological sites discovered during construction under paragraph 774.9(e);
- (6) When determining if a Section 4(f) property is significant under paragraph 774.11(c);
- (7) When determining the application of Section 4(f) to multiple use properties under paragraph 774.11(d);
- (8) When determining the applicability of Section 4(f) to historic sites under paragraph 774.11(e);
- (9) When determining if there is a constructive use under paragraph 774.15(d);
- (10) When determining if proximity impacts will be mitigated to a condition equivalent to, or better than, that which would occur if the project were not built under paragraph 774.15(f)(6); and
- (11) When evaluating the reasonableness of measure to minimize harm under paragraph 774.3(a)(2) and Section 774.17.

The final rule published today requires the concurrence of the official(s) with jurisdiction at the following points:

- (1) When finding that there are no adverse effects prior to making *de minimis* impact determinations under paragraph 774.5(b);
- (2) When applying the exception for restoration, rehabilitation, or maintenance of historic transportation facilities under paragraph 774.13(a);
- (3) When applying the exception for archeological sites of minimal value for preservation in place under paragraph 774.13(b);
- (4) When applying the exception for temporary occupancies under paragraph 774.13(d); and
- (5) When applying the exception for transportation enhancement projects and mitigation activities under paragraph 774.13(g).

The FHWA and FTA gave careful consideration to the statutory language in determining the appropriate role of other agencies within the procedures for granting Section 4(f) approvals. The statute requires consultation with the U.S. Departments of Agriculture, Housing and Urban Development, and

the Interior, but the ultimate responsibility for approving, or not approving, the use of Section 4(f) property is entrusted to the Administration. Although no other coordination is expressly required by the statute, the FHWA and FTA have decided to require consultation or concurrence at the points listed above with all officials with jurisdiction over the impacted properties in order to ensure that Section 4(f) approvals are granted only after careful consideration of all relevant facts.

One comment questioned the role that designated Tribal Historic Preservation Officers (THPOs) have in the Section 4(f) process. A THPO has jurisdiction over historic sites located on tribal land and is therefore an official with jurisdiction over such historic sites. When a project affects a historic site on tribal land, a recognized THPO would be acting in place of the SHPO, not in addition to the SHPO. However, if in this case the tribe in question has no officially recognized THPO, then the SHPO would be an official with jurisdiction in addition to a representative of the tribal government.

Applicants should be mindful of the interest that many tribes hold in properties of religious and cultural significance off tribal lands. Although the final rule does not designate the THPO as an official with jurisdiction over historic properties located off tribal lands, all interested tribes should be identified and consulted under the National Historic Preservation Act. The National Historic Preservation Act calls for the agency official to acknowledge the special expertise of tribes in assessing the National Register eligibility of historic properties that may possess religious and cultural significance to the tribe.

One comment noted that the definition of "official(s) with jurisdiction" is unclear in the case of federally designated Wild and Scenic Rivers. Suggested language was provided. We agree that this point should be clarified, and have added a Paragraph (c) to the definition of "Official(s) with Jurisdiction" that states: "In the case of portions of Wild and Scenic Rivers to which Section 4(f) applies, the official(s) with jurisdiction are the official(s) of the Federal agency or agencies that own or administer the affected portion of the river corridor in question. For State administered, federally designated rivers [Section 2(a)(ii) of the Wild and Scenic Rivers Act, 16 U.S.C. 1273(a)(ii)], the officials with jurisdiction include both the State agency designated by the respective Governor and the Secretary of the

Interior." Paragraph 774.11(g) explains how Section 4(f) applies to designated Wild and Scenic Rivers, and portions thereof.

- "ROD"—No comments were received on this definition and it is unchanged in this final rule.
- "Section 4(f) Evaluation"—A definition was added for this term to clarify that a Section 4(f) Evaluation is the documentation prepared to evidence the consideration of feasible and prudent avoidance alternatives when the impacts to a Section 4(f) property resulting from its use are not *de minimis*. The documentation may be a stand-alone document or part of a NEPA document, and it may rely upon information contained in technical studies.

- "Section 4(f) Property"—A definition was added that incorporates the statutory language.
- "Use"—One comment recommended that the definition of "use" be changed to clarify that a permanent use occurs when land is acquired for permanent incorporation into a transportation facility. The FHWA and FTA believe the proposed definition, which has been a part of the Section 4(f) regulations for many years, is clear as written and has not been the subject of controversy or confusion in the past. Therefore, the FHWA and FTA decline to make the suggested change.

#### Rulemaking Analyses and Notices

##### *Executive Order 12866 (Regulatory Planning and Review) and DOT Regulatory Policies and Procedures*

We have determined that this action will be a significant regulatory action within the meaning of Executive Order 12866 and will be significant within the meaning of DOT regulatory policies and procedures because of substantial congressional, State and local government, and public interest. Those interests include the receipt of Federal financial support for transportation investments, appropriate compliance with statutory requirements, and balancing of transportation mobility and environmental goals. We anticipate that the direct economic impact of this final rule will be minimal. The clarification of current regulatory requirements is mandated in SAFETEA-LU. We also consider this final rule a means to clarify and reorganize the existing regulatory requirements. These changes will not adversely affect, in a material way, any sector of the economy. In addition, we expect that these changes will not interfere with any action taken or planned by another agency and will not materially alter the budgetary

impact of any entitlements, grants, user fees, or loan programs.

#### *Regulatory Flexibility Act*

In compliance with the Regulatory Flexibility Act (Pub. L. 96-354, 5 U.S.C. 601-612) the agencies have evaluated the effects of this rule on small entities and have determined that the rule will not have a significant economic impact on a substantial number of small entities. This rule does not include any new regulatory burdens that will affect small entities. For this reason, the FHWA and the FTA certify that this action will not have a significant economic impact on a substantial number of small entities.

#### *Unfunded Mandates Reform Act of 1995*

This rule will not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4, March 22, 1995, 109 Stat. 48). This rule will not result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$128.1 million or more in any one year (2 U.S.C. 1532).

#### *Executive Order 13132 (Federalism)*

This rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132, and the FHWA and the FTA have determined that this rule will not have sufficient Federalism implications to warrant the preparation of a Federalism assessment. The agencies have also determined that this rule will not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

#### *Executive Order 12372 (Intergovernmental Review)*

Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction; 20.500 *et seq.*, Federal Transit Capital Investment Grants. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to these programs and were carried out in the development of this rule.

#### *Paperwork Reduction Act*

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501 *et seq.*), Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct, sponsor, or require through regulations. The FHWA and the FTA have determined that this rule does not contain new collection of

information requirements for the purposes of the PRA.

#### *National Environmental Policy Act*

This rule will not have any effect on the quality of the environment under the National Environmental Policy Act of 1969 (42 U.S.C. 4321) and is categorically excluded under 23 CFR 771.117(c)(20). The rule is intended to lessen adverse environmental impacts by standardizing and clarifying compliance for Section 4(f), including the incorporation of clear direction to take into account the overall harm of each alternative.

#### *Executive Order 12630 (Taking of Private Property)*

We have analyzed this rule under Executive Order 12630, Government Actions and Interface with Constitutionally Protected Property Rights. We do not anticipate that this rule will effect a taking of private property or otherwise have taking implications under Executive Order 12630.

#### *Executive Order 12988 (Civil Justice Reform)*

This action meets applicable standards in Sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

#### *Executive Order 13045 (Protection of Children)*

We have analyzed this action under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. We certify that this rule is not an economically significant rule and will not cause an environmental risk to health or safety that may disproportionately affect children.

#### *Executive Order 13175 (Tribal Consultation)*

We have analyzed this rule under Executive Order 13175, dated November 6, 2000, and believe that the rule will not have substantial direct effects on one or more Indian tribes; will not impose substantial direct compliance costs on Indian tribal governments; and will not preempt tribal laws. The rulemaking addresses obligations of Federal funds to States for Federal-aid highway projects and to public transit agencies for capital transit projects and would not impose any direct compliance requirements on Indian tribal governments. While some historic Section 4(f) properties are eligible for Section 4(f) protection because of their

cultural significance to a tribe, the rule does not impose any new consultation or compliance requirements on tribal governments. Therefore, a tribal summary impact statement is not required.

#### *Executive Order 13211 (Energy Effects)*

We have analyzed this action under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use, dated May 18, 2001. We have determined that this rule is not a significant energy action because, although it is a significant regulatory action under Executive Order 12866, the rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required.

#### *Privacy Act*

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78), or you may visit FDMS at <http://www.regulations.gov>.

#### *Regulation Identification Number*

A regulation identification number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RINs contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

#### **List of Subjects**

##### *23 CFR Part 771*

Environmental protection, Grant programs—transportation, Highways and roads, Historic preservation, Mass transportation, Public lands, Recreation areas, Reporting and recordkeeping requirements, Wildlife refuges.

##### *23 CFR Part 774*

Environmental protection, Grant programs—transportation, Highways and roads, Historic preservation, Mass transportation, Public lands, Recreation areas, Reporting and recordkeeping requirements, Wildlife refuges.

#### *49 CFR Part 622*

Environmental impact statements, Grant programs—transportation, Mass transportation, Reporting and recordkeeping requirements.

Issued on: March 4, 2008.

**James D. Ray,**

*Federal Highway Administrator, Acting Administrator.*

**James S. Simpson,**

*Federal Transit Administrator.*

■ For the reasons set forth in the preamble, and under the authority of 23 U.S.C. 103(c), 109, 138, and 49 U.S.C. 303, and the delegations of authority at 49 CFR 1.48(b) and 1.51, the FHWA and FTA hereby amend Chapter I of Title 23 and Chapter VI of Title 49, Code of Federal Regulations, as set forth below:

#### **Title 23—Highways**

#### **PART 771—ENVIRONMENTAL IMPACT AND RELATED PROCEDURES**

■ 1. The authority citation for part 771 continues to read as follows:

**Authority:** 42 U.S.C. 4321 *et seq.*; 23 U.S.C. 109, 110, 128, 138 and 315; 49 U.S.C. 303, 5301(e), 5323(b), and 5324; 40 CFR parts 1500 *et seq.*; 49 CFR 1.48(b) and 1.51.

■ 2. Revise § 771.127(a) to read as follows:

##### **§ 771.127 Record of decision.**

(a) The Administration will complete and sign a record of decision (ROD) no sooner than 30 days after publication of the final EIS notice in the **Federal Register** or 90 days after publication of a notice for the draft EIS, whichever is later. The ROD will present the basis for the decision as specified in 40 CFR 1505.2, summarize any mitigation measures that will be incorporated in the project and document any required Section 4(f) approval in accordance with part 774 of this chapter. Until any required ROD has been signed, no further approvals may be given except for administrative activities taken to secure further project funding and other activities consistent with 40 CFR 1506.1.

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##### **§ 771.135 [Removed]**

■ 3. Remove § 771.135.

■ 4. Add part 774 to read as follows:

#### **PART 774—PARKS, RECREATION AREAS, WILDLIFE AND WATERFOWL REFUGES, AND HISTORIC SITES (SECTION 4(F))**

Sec.

774.1 Purpose.

774.3 Section 4(f) approvals.

- 774.5 Coordination.
- 774.7 Documentation.
- 774.9 Timing.
- 774.11 Applicability.
- 774.13 Exceptions.
- 774.15 Constructive use determinations.
- 774.17 Definitions.

**Authority:** 23 U.S.C. 103(c), 109(h), 138, 325, 326, 327 and 204(h)(2); 49 U.S.C. 303; Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Pub. L. 109–59, Aug. 10, 2005, 119 Stat. 1144); 49 CFR 1.48 and 1.51.

#### **§ 774.1 Purpose.**

The purpose of this part is to implement 23 U.S.C. 138 and 49 U.S.C. 303, which were originally enacted as Section 4(f) of the Department of Transportation Act of 1966 and are still commonly referred to as “Section 4(f).”

#### **§ 774.3 Section 4(f) approvals.**

The Administration may not approve the use, as defined in § 774.17, of Section 4(f) property unless a determination is made under paragraph (a) or (b) of this section.

(a) The Administration determines that:

(1) There is no feasible and prudent avoidance alternative, as defined in § 774.17, to the use of land from the property; and

(2) The action includes all possible planning, as defined in § 774.17, to minimize harm to the property resulting from such use; or

(b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property.

(c) If the analysis in paragraph (a)(1) of this section concludes that there is no feasible and prudent avoidance alternative, then the Administration may approve only the alternative that:

(1) Causes the least overall harm in light of the statute’s preservation purpose. The least overall harm is determined by balancing the following factors:

(i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

(ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

(iii) The relative significance of each Section 4(f) property;

(iv) The views of the official(s) with jurisdiction over each Section 4(f) property;

(v) The degree to which each alternative meets the purpose and need for the project;

(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

(vii) Substantial differences in costs among the alternatives.

(2) The alternative selected must include all possible planning, as defined in § 774.17, to minimize harm to Section 4(f) property.

(d) Programmatic Section 4(f) evaluations are a time-saving procedural alternative to preparing individual Section 4(f) evaluations under paragraph (a) of this section for certain minor uses of Section 4(f) property. Programmatic Section 4(f) evaluations are developed by the Administration based on experience with a specific set of conditions that includes project type, degree of use and impact, and evaluation of avoidance alternatives.<sup>1</sup> An approved programmatic Section 4(f) evaluation may be relied upon to cover a particular project only if the specific conditions in the programmatic evaluation are met

(1) The determination whether a programmatic Section 4(f) evaluation applies to the use of a specific Section 4(f) property shall be documented as specified in the applicable programmatic Section 4(f) evaluation.

(2) The Administration may develop additional programmatic Section 4(f) evaluations. Proposed new or revised programmatic Section 4(f) evaluations will be coordinated with the Department of Interior, Department of Agriculture, and Department of Housing and Urban Development, and published in the **Federal Register** for comment prior to being finalized. New or revised programmatic Section 4(f) evaluations shall be reviewed for legal sufficiency and approved by the Headquarters Office of the Administration.

(e) The coordination requirements in § 774.5 must be completed before the Administration may make Section 4(f) approvals under this section. Requirements for the documentation

<sup>1</sup> FHWA has issued five programmatic Section 4(f) evaluations: (1) Final Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property; (2) Nationwide Section 4(f) Evaluations and Approvals for Federally-Aided Highway Projects With Minor Involvement With Public Parks, Recreation Lands, Wildlife and Waterfowl Refuges, and Historic Sites; (3) Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Historic Sites; (4) Historic Bridges; Programmatic Section 4(f) Evaluation and Approval; and (5) Section 4(f) Statement and Determination for Independent Bikeway or Walkway Construction Projects.

and timing of Section 4(f) approvals are located in §§ 774.7 and 774.9, respectively.

#### **§ 774.5 Coordination.**

(a) Prior to making Section 4(f) approvals under § 774.3(a), the Section 4(f) evaluation shall be provided for coordination and comment to the official(s) with jurisdiction over the Section 4(f) resource and to the Department of the Interior, and as appropriate to the Department of Agriculture and the Department of Housing and Urban Development. The Administration shall provide a minimum of 45 days for receipt of comments. If comments are not received within 15 days after the comment deadline, the Administration may assume a lack of objection and proceed with the action.

(b) Prior to making *de minimis* impact determinations under § 774.3(b), the following coordination shall be undertaken:

(1) For historic properties:

(i) The consulting parties identified in accordance with 36 CFR part 800 must be consulted; and

(ii) The Administration must receive written concurrence from the pertinent State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), and from the Advisory Council on Historic Preservation (ACHP) if participating in the consultation process, in a finding of “no adverse effect” or “no historic properties affected” in accordance with 36 CFR part 800. The Administration shall inform these officials of its intent to make a *de minimis* impact determination based on their concurrence in the finding of “no adverse effect” or “no historic properties affected.”

(iii) Public notice and comment, beyond that required by 36 CFR part 800, is not required.

(2) For parks, recreation areas, and wildlife and waterfowl refuges:

(i) Public notice and an opportunity for public review and comment concerning the effects on the protected activities, features, or attributes of the property must be provided. This requirement can be satisfied in conjunction with other public involvement procedures, such as a comment period provided on a NEPA document.

(ii) The Administration shall inform the official(s) with jurisdiction of its intent to make a *de minimis* impact finding. Following an opportunity for public review and comment as described in paragraph (b)(2)(i) of this section, the official(s) with jurisdiction

over the Section 4(f) resource must concur in writing that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. This concurrence may be combined with other comments on the project provided by the official(s).

(c) The application of a programmatic Section 4(f) evaluation to the use of a specific Section 4(f) property under § 774.3(d)(1) shall be coordinated as specified in the applicable programmatic Section 4(f) evaluation.

(d) When Federal encumbrances on Section 4(f) property are identified, coordination with the appropriate Federal agency is required to ascertain the agency's position on the proposed impact, as well as to determine if any other Federal requirements may apply to converting the Section 4(f) land to a different function. Any such requirements must be satisfied, independent of the Section 4(f) approval.

#### § 774.7 Documentation.

(a) A Section 4(f) evaluation prepared under § 774.3(a) shall include sufficient supporting documentation to demonstrate why there is no feasible and prudent avoidance alternative and shall summarize the results of all possible planning to minimize harm to the Section 4(f) property.

(b) A *de minimis* impact determination under § 774.3(b) shall include sufficient supporting documentation to demonstrate that the impacts, after avoidance, minimization, mitigation, or enhancement measures are taken into account, are *de minimis* as defined in § 774.17; and that the coordination required in § 774.5(b) has been completed.

(c) If there is no feasible and prudent avoidance alternative the Administration may approve only the alternative that causes the least overall harm in accordance with § 774.3(c). This analysis must be documented in the Section 4(f) evaluation.

(d) The Administration shall review all Section 4(f) approvals under §§ 774.3(a) and 774.3(c) for legal sufficiency.

(e) A Section 4(f) approval may involve different levels of detail where the Section 4(f) involvement is addressed in a tiered EIS under § 771.111(g) of this chapter.

(1) When the first-tier, broad-scale EIS is prepared, the detailed information necessary to complete the Section 4(f) approval may not be available at that stage in the development of the action. In such cases, the documentation should address the potential impacts

that a proposed action will have on Section 4(f) property and whether those impacts could have a bearing on the decision to be made. A preliminary Section 4(f) approval may be made at this time as to whether the impacts resulting from the use of a Section 4(f) property are *de minimis* or whether there are feasible and prudent avoidance alternatives. This preliminary approval shall include all possible planning to minimize harm to the extent that the level of detail available at the first-tier EIS stage allows. It is recognized that such planning at this stage may be limited to ensuring that opportunities to minimize harm at subsequent stages in the development process have not been precluded by decisions made at the first-tier stage. This preliminary Section 4(f) approval is then incorporated into the first-tier EIS.

(2) The Section 4(f) approval will be finalized in the second-tier study. If no new Section 4(f) use, other than a *de minimis* impact, is identified in the second-tier study and if all possible planning to minimize harm has occurred, then the second-tier Section 4(f) approval may finalize the preliminary approval by reference to the first-tier documentation. Re-evaluation of the preliminary Section 4(f) approval is only needed to the extent that new or more detailed information available at the second-tier stage raises new Section 4(f) concerns not already considered.

(3) The final Section 4(f) approval may be made in the second-tier CE, EA, final EIS, ROD or FONSI.

(f) In accordance with §§ 771.105(a) and 771.133 of this chapter, the documentation supporting a Section 4(f) approval should be included in the EIS, EA, or for a project classified as a CE, in a separate document. If the Section 4(f) documentation cannot be included in the NEPA document, then it shall be presented in a separate document. The Section 4(f) documentation shall be developed by the applicant in cooperation with the Administration.

#### § 774.9 Timing.

(a) The potential use of land from a Section 4(f) property shall be evaluated as early as practicable in the development of the action when alternatives to the proposed action are under study.

(b) Except as provided in paragraph (c) of this section, for actions processed with EISs the Administration will make the Section 4(f) approval either in the final EIS or in the ROD. Where the Section 4(f) approval is documented in the final EIS, the Administration will summarize the basis for its Section 4(f) approval in the ROD. Actions requiring

the use of Section 4(f) property, and proposed to be processed with a FONSI or classified as a CE, shall not proceed until notification by the Administration of Section 4(f) approval.

(c) After the CE, FONSI, or ROD has been processed, a separate Section 4(f) approval will be required, except as provided in § 774.13, if:

(1) A proposed modification of the alignment or design would require the use of Section 4(f) property; or

(2) The Administration determines that Section 4(f) applies to the use of a property; or

(3) A proposed modification of the alignment, design, or measures to minimize harm (after the original Section 4(f) approval) would result in a substantial increase in the amount of Section 4(f) property used, a substantial increase in the adverse impacts to Section 4(f) property, or a substantial reduction in the measures to minimize harm.

(d) A separate Section 4(f) approval required under paragraph (c) of this section will not necessarily require the preparation of a new or supplemental NEPA document. If a new or supplemental NEPA document is also required under § 771.130 of this chapter, then it should include the documentation supporting the separate Section 4(f) approval. Where a separate Section 4(f) approval is required, any activity not directly affected by the separate Section 4(f) approval can proceed during the analysis, consistent with § 771.130(f) of this chapter.

(e) Section 4(f) may apply to archeological sites discovered during construction, as set forth in § 774.11(f). In such cases, the Section 4(f) process will be expedited and any required evaluation of feasible and prudent avoidance alternatives will take account of the level of investment already made. The review process, including the consultation with other agencies, will be shortened as appropriate.

#### § 774.11 Applicability.

(a) The Administration will determine the applicability of Section 4(f) in accordance with this part.

(b) When another Federal agency is the Federal lead agency for the NEPA process, the Administration shall make any required Section 4(f) approvals unless the Federal lead agency is another U.S. DOT agency.

(c) Consideration under Section 4(f) is not required when the official(s) with jurisdiction over a park, recreation area, or wildlife and waterfowl refuge determine that the property, considered in its entirety, is not significant. In the absence of such a determination, the



Section 4(f) property will be presumed to be significant. The Administration will review a determination that a park, recreation area, or wildlife and waterfowl refuge is not significant to assure its reasonableness.

(d) Where Federal lands or other public land holdings (e.g., State forests) are administered under statutes permitting management for multiple uses, and, in fact, are managed for multiple uses, Section 4(f) applies only to those portions of such lands which function for, or are designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl refuge purposes. The determination of which lands so function or are so designated, and the significance of those lands, shall be made by the official(s) with jurisdiction over the Section 4(f) resource. The Administration will review this determination to assure its reasonableness.

(e) In determining the applicability of Section 4(f) to historic sites, the Administration, in cooperation with the applicant, will consult with the official(s) with jurisdiction to identify all properties on or eligible for the National Register of Historic Places (National Register). The Section 4(f) requirements apply to historic sites on or eligible for the National Register unless the Administration determines that an exception under § 774.13 applies.

(1) The Section 4(f) requirements apply only to historic sites on or eligible for the National Register unless the Administration determines that the application of Section 4(f) is otherwise appropriate.

(2) The Interstate System is not considered to be a historic site subject to Section 4(f), with the exception of those individual elements of the Interstate System formally identified by FHWA for Section 4(f) protection on the basis of national or exceptional historic significance.

(f) Section 4(f) applies to all archeological sites on or eligible for inclusion on the National Register, including those discovered during construction, except as set forth in § 774.13(b).

(g) Section 4(f) applies to those portions of federally designated Wild and Scenic Rivers that are otherwise eligible as historic sites, or that are publicly owned and function as, or are designated in a management plan as, a significant park, recreation area, or wildlife and waterfowl refuge. All other applicable requirements of the Wild and Scenic Rivers Act, 16 U.S.C. 1271–1287,

must be satisfied, independent of the Section 4(f) approval.

(h) When a property formally reserved for a future transportation facility temporarily functions for park, recreation, or wildlife and waterfowl refuge purposes in the interim, the interim activity, regardless of duration, will not subject the property to Section 4(f).

(i) When a property is formally reserved for a future transportation facility before or at the same time a park, recreation area, or wildlife and waterfowl refuge is established and concurrent or joint planning or development of the transportation facility and the Section 4(f) resource occurs, then any resulting impacts of the transportation facility will not be considered a use as defined in § 774.17. Examples of such concurrent or joint planning or development include, but are not limited to:

(1) Designation or donation of property for the specific purpose of such concurrent development by the entity with jurisdiction or ownership of the property for both the potential transportation facility and the Section 4(f) property; or

(2) Designation, donation, planning, or development of property by two or more governmental agencies with jurisdiction for the potential transportation facility and the Section 4(f) property, in consultation with each other.

#### § 774.13 Exceptions.

The Administration has identified various exceptions to the requirement for Section 4(f) approval. These exceptions include, but are not limited to:

(a) Restoration, rehabilitation, or maintenance of transportation facilities that are on or eligible for the National Register when:

(1) The Administration concludes, as a result of the consultation under 36 CFR 800.5, that such work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register, and

(2) The official(s) with jurisdiction over the Section 4(f) resource have not objected to the Administration conclusion in paragraph (a)(1) of this section.

(b) Archeological sites that are on or eligible for the National Register when:

(1) The Administration concludes that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place. This exception applies both to situations where data recovery is undertaken and where the

Administration decides, with agreement of the official(s) with jurisdiction, not to recover the resource; and

(2) The official(s) with jurisdiction over the Section 4(f) resource have been consulted and have not objected to the Administration finding in paragraph (b)(1) of this section.

(c) Designations of park and recreation lands, wildlife and waterfowl refuges, and historic sites that are made, or determinations of significance that are changed, late in the development of a proposed action. With the exception of the treatment of archeological resources in § 774.9(e), the Administration may permit a project to proceed without consideration under Section 4(f) if the property interest in the Section 4(f) land was acquired for transportation purposes prior to the designation or change in the determination of significance and if an adequate effort was made to identify properties protected by Section 4(f) prior to acquisition. However, if it is reasonably foreseeable that a property would qualify as eligible for the National Register prior to the start of construction, then the property should be treated as a historic site for the purposes of this section.

(d) Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f). The following conditions must be satisfied:

(1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;

(2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;

(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

(4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

(e) Park road or parkway projects under 23 U.S.C. 204.

(f) Certain trails, paths, bikeways, and sidewalks, in the following circumstances:

(1) Trail-related projects funded under the Recreational Trails Program, 23 U.S.C. 206(h)(2);



(2) National Historic Trails and the Continental Divide National Scenic Trail, designated under the National Trails System Act, 16 U.S.C. 1241–1251, with the exception of those trail segments that are historic sites as defined in § 774.17;

(3) Trails, paths, bikeways, and sidewalks that occupy a transportation facility right-of-way without limitation to any specific location within that right-of-way, so long as the continuity of the trail, path, bikeway, or sidewalk is maintained; and

(4) Trails, paths, bikeways, and sidewalks that are part of the local transportation system and which function primarily for transportation.

(g) Transportation enhancement projects and mitigation activities, where:

(1) The use of the Section 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for Section 4(f) protection; and

(2) The official(s) with jurisdiction over the Section 4(f) resource agrees in writing to paragraph (g)(1) of this section.

#### **§ 774.15 Constructive use determinations.**

(a) A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

(b) If the project results in a constructive use of a nearby Section 4(f) property, the Administration shall evaluate that use in accordance with § 774.3(a).

(c) The Administration shall determine when there is a constructive use, but the Administration is not required to document each determination that a project would not result in a constructive use of a nearby Section 4(f) property. However, such documentation may be prepared at the discretion of the Administration.

(d) When a constructive use determination is made, it will be based upon the following:

(1) Identification of the current activities, features, or attributes of the property which qualify for protection under Section 4(f) and which may be sensitive to proximity impacts;

(2) An analysis of the proximity impacts of the proposed project on the Section 4(f) property. If any of the

proximity impacts will be mitigated, only the net impact need be considered in this analysis. The analysis should also describe and consider the impacts which could reasonably be expected if the proposed project were not implemented, since such impacts should not be attributed to the proposed project; and

(3) Consultation, on the foregoing identification and analysis, with the official(s) with jurisdiction over the Section 4(f) property.

(e) The Administration has reviewed the following situations and determined that a constructive use occurs when:

(1) The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f), such as:

(i) Hearing the performances at an outdoor amphitheater;

(ii) Sleeping in the sleeping area of a campground;

(iii) Enjoyment of a historic site where a quiet setting is a generally recognized feature or attribute of the site's significance;

(iv) Enjoyment of an urban park where serenity and quiet are significant attributes; or

(v) Viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing.

(2) The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the property. Examples of substantial impairment to visual or esthetic qualities would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building, or substantially detracts from the setting of a Section 4(f) property which derives its value in substantial part due to its setting;

(3) The project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site;

(4) The vibration impact from construction or operation of the project substantially impairs the use of a Section 4(f) property, such as projected vibration levels that are great enough to physically damage a historic building or substantially diminish the utility of the building, unless the damage is repaired and fully restored consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, i.e., the integrity of the contributing

features must be returned to a condition which is substantially similar to that which existed prior to the project; or

(5) The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife and waterfowl refuge adjacent to the project, substantially interferes with the access to a wildlife and waterfowl refuge when such access is necessary for established wildlife migration or critical life cycle processes, or substantially reduces the wildlife use of a wildlife and waterfowl refuge.

(f) The Administration has reviewed the following situations and determined that a constructive use does not occur when:

(1) Compliance with the requirements of 36 CFR 800.5 for proximity impacts of the proposed action, on a site listed on or eligible for the National Register, results in an agreement of "no historic properties affected" or "no adverse effect;"

(2) The impact of projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA noise abatement criteria as contained in Table 1 in part 772 of this chapter, or the projected operational noise levels of the proposed transit project do not exceed the noise impact criteria for a Section 4(f) activity in the FTA guidelines for transit noise and vibration impact assessment;

(3) The projected noise levels exceed the relevant threshold in paragraph (f)(2) of this section because of high existing noise, but the increase in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less);

(4) There are proximity impacts to a Section 4(f) property, but a governmental agency's right-of-way acquisition or adoption of project location, or the Administration's approval of a final environmental document, established the location for the proposed transportation project before the designation, establishment, or change in the significance of the property. However, if it is reasonably foreseeable that a property would qualify as eligible for the National Register prior to the start of construction, then the property should be treated as a historic site for the purposes of this section; or

(5) Overall (combined) proximity impacts caused by a proposed project do not substantially impair the activities, features, or attributes that qualify a property for protection under Section 4(f);

(6) Proximity impacts will be mitigated to a condition equivalent to, or better than, that which would occur if the project were not built, as determined after consultation with the official(s) with jurisdiction;

(7) Change in accessibility will not substantially diminish the utilization of the Section 4(f) property; or

(8) Vibration levels from project construction activities are mitigated, through advance planning and monitoring of the activities, to levels that do not cause a substantial impairment of protected activities, features, or attributes of the Section 4(f) property.

#### § 774.17 Definitions.

The definitions contained in 23 U.S.C. 101(a) are applicable to this part. In addition, the following definitions apply:

**Administration.** The FHWA or FTA, whichever is making the approval for the transportation program or project at issue. A reference herein to the Administration means the State when the State is functioning as the FHWA or FTA in carrying out responsibilities delegated or assigned to the State in accordance with 23 U.S.C. 325, 326, 327, or other applicable law.

**All possible planning.** All possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project.

(1) With regard to public parks, recreation areas, and wildlife and waterfowl refuges, the measures may include (but are not limited to): design modifications or design goals; replacement of land or facilities of comparable value and function; or monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

(2) With regard to historic sites, the measures normally serve to preserve the historic activities, features, or attributes of the site as agreed by the Administration and the official(s) with jurisdiction over the Section 4(f) resource in accordance with the consultation process under 36 CFR part 800.

(3) In evaluating the reasonableness of measures to minimize harm under § 774.3(a)(2), the Administration will consider the preservation purpose of the statute and:

(i) The views of the official(s) with jurisdiction over the Section 4(f) property;

(ii) Whether the cost of the measures is a reasonable public expenditure in

light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property, in accordance with § 771.105(d) of this chapter; and

(iii) Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property.

(4) All possible planning does not require analysis of feasible and prudent avoidance alternatives, since such analysis will have already occurred in the context of searching for feasible and prudent alternatives that avoid Section 4(f) properties altogether under § 774.3(a)(1), or is not necessary in the case of a *de minimis* impact determination under § 774.3(b).

(5) A *de minimis* impact determination under § 774.3(b) subsumes the requirement for all possible planning to minimize harm by reducing the impacts on the Section 4(f) property to a *de minimis* level.

**Applicant.** The Federal, State, or local government authority, proposing a transportation project, that the Administration works with to conduct environmental studies and prepare environmental documents. For transportation actions implemented by the Federal government on Federal lands, the Administration or the Federal land management agency may take on the responsibilities of the applicant described herein.

**CE.** Refers to a Categorical Exclusion, which denotes an action with no individual or cumulative significant environmental effect pursuant to 40 CFR 1508.4 and § 771.117 of this chapter; unusual circumstances are taken into account in making categorical exclusion determinations.

**De minimis impact.** (1) For historic sites, *de minimis* impact means that the Administration has determined, in accordance with 36 CFR part 800 that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question.

(2) For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

**EA.** Refers to an Environmental Assessment, which is a document prepared pursuant to 40 CFR parts 1500–1508 and § 771.119 of this title for a proposed project that is not categorically excluded but for which an EIS is not clearly required.

**EIS.** Refers to an Environmental Impact Statement, which is a document prepared pursuant to NEPA, 40 CFR

parts 1500–1508, and §§ 771.123 and 771.125 of this chapter for a proposed project that is likely to cause significant impacts on the environment.

**Feasible and prudent avoidance alternative.** (1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;

(ii) It results in unacceptable safety or operational problems;

(iii) After reasonable mitigation, it still causes:

(A) Severe social, economic, or environmental impacts;

(B) Severe disruption to established communities;

(C) Severe disproportionate impacts to minority or low income populations; or

(D) Severe impacts to environmental resources protected under other Federal statutes;

(iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;

(v) It causes other unique problems or unusual factors; or

(vi) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

**FONSI.** Refers to a Finding of No Significant Impact prepared pursuant to 40 CFR 1508.13 and § 771.121 of this chapter.

**Historic site.** For purposes of this part, the term “historic site” includes any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that are included in, or are eligible for inclusion in, the National Register.

**Official(s) with jurisdiction.** (1) In the case of historic properties, the official with jurisdiction is the SHPO for the State wherein the property is located or, if the property is located on tribal land,

the THPO. If the property is located on tribal land but the Indian tribe has not assumed the responsibilities of the SHPO as provided for in the National Historic Preservation Act, then a representative designated by such Indian tribe shall be recognized as an official with jurisdiction in addition to the SHPO. When the ACHP is involved in a consultation concerning a property under Section 106 of the NHPA, the ACHP is also an official with jurisdiction over that resource for purposes of this part. When the Section 4(f) property is a National Historic Landmark, the National Park Service is also an official with jurisdiction over that resource for purposes of this part.

(2) In the case of public parks, recreation areas, and wildlife and waterfowl refuges, the official(s) with jurisdiction are the official(s) of the agency or agencies that own or administer the property in question and who are empowered to represent the agency on matters related to the property.

(3) In the case of portions of Wild and Scenic Rivers to which Section 4(f) applies, the official(s) with jurisdiction are the official(s) of the Federal agency or agencies that own or administer the affected portion of the river corridor in question. For State administered, federally designated rivers (section 2(a)(ii) of the Wild and Scenic Rivers Act, 16 U.S.C. 1273(a)(ii)), the officials with jurisdiction include both the State

agency designated by the respective Governor and the Secretary of the Interior.

*ROD.* Refers to a Record of Decision prepared pursuant to 40 CFR 1505.2 and § 771.127 of this chapter.

*Section 4(f) evaluation.* Refers to the documentation prepared to support the granting of a Section 4(f) approval under § 774.3(a), unless preceded by the word “programmatic.” A “programmatic Section 4(f) evaluation” is the documentation prepared pursuant to § 774.3(d) that authorizes subsequent project-level Section 4(f) approvals as described therein.

*Section 4(f) Property.* Section 4(f) property means publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance.

*Use.* Except as set forth in §§ 774.11 and 774.13, a “use” of Section 4(f) property occurs:

(1) When land is permanently incorporated into a transportation facility;

(2) When there is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose as determined by the criteria in § 774.13(d); or

(3) When there is a constructive use of a Section 4(f) property as determined by the criteria in § 774.15.

## Federal Transit Administration

### Title 49—Transportation

#### CHAPTER VI—FEDERAL TRANSIT ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

#### PART 622—ENVIRONMENTAL IMPACT AND RELATED PROCEDURES

■ 5. Revise the authority citation for Subpart A to read as follows:

**Authority:** 42 U.S.C. 4321 *et seq.*; 49 U.S.C. 303, 5301(e), 5323(b), and 5324; Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Pub. L. 109–59, Aug. 10, 2005, 119 Stat. 1144); 40 CFR parts 1500 *et seq.*; 49 CFR 1.51.

■ 6. Revise § 622.101 to read as follows:

#### Subpart A—Environmental Procedures

##### § 622.101 Cross-reference to procedures.

The procedures for complying with the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), and related statutes, regulations, and orders are set forth in part 771 of title 23 of the Code of Federal Regulations. The procedures for complying with 49 U.S.C. 303, commonly known as “Section 4(f),” are set forth in part 774 of title 23 of the Code of Federal Regulations.

[FR Doc. E8–4596 Filed 3–11–08; 8:45 am]

BILLING CODE 4910–22–P

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23 CFR 774  
(June 3, 2008 correction)

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Class E airspace areas extending upward from 700 feet or more above the surface of the earth are published in Paragraph 6005 of FAA Order 7400.9R, signed August 1, 2007, and effective September 15, 2007, which is incorporated by reference in 14 CFR 71.1.

The Class E airspace designations listed in this document will be published subsequently in the Order.

\* \* \* \* \*

Issued in Fort Worth, TX, on May 20, 2008.

**Joseph R. Yadouga,**

*Acting Manager, Operations Support Group,  
ATO Central Service Center.*

[FR Doc. E8-12026 Filed 6-2-08; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

### Federal Transit Administration

### 23 CFR Part 774

RIN 2125-AF14

RIN 2132-AA83

### Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites; Correction

**AGENCIES:** Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Department of Transportation (DOT).

**ACTION:** Correcting amendment.

**SUMMARY:** This rule makes a technical correction to the final regulations, which were published in the **Federal Register** on Wednesday, March 12, 2008, that govern Section 4(f) approvals for the FHWA and the FTA. The amendment contained herein makes no substantive change to the FHWA or the FTA regulations, policies, or procedures. This rule clarifies an ambiguity in the language of the regulatory text caused by a global word change implemented in the Final Rule as a result of comments received in response to the Notice of Proposed Rulemaking.

**DATES:** This rule is effective July 3, 2008.

**FOR FURTHER INFORMATION CONTACT:** For FHWA, Diane Mobley, Office of the Chief Counsel, (202) 366-1366; or Lamar Smith, Office of Project Development and Environmental Review, (202) 366-8994. For FTA, Joseph Ossi, Office of Planning and Environment, (202) 366-1613; or Christopher VanWyk, Office of the Chief

Counsel, (202) 366-1733. Both agencies are located at 1200 New Jersey Avenue, SE., Washington, DC 20590. Office hours for the FHWA are from 7:45 a.m. to 4:15 p.m., e.t., and for the FTA are from 8:30 a.m. to 5 p.m., e.t., Monday through Friday, except Federal holidays.

#### SUPPLEMENTARY INFORMATION:

##### Electronic Access

An electronic copy of this document may be downloaded by using a computer, modem and suitable communications software from the Government Printing Office's Electronic Bulletin Board Service at (202) 512-1661. Internet users may reach the Office of the Federal Register's home page at: <http://www.archives.gov> and the Government Printing Office's Web page at: <http://www.gpoaccess.gov/nara>.

##### Background

This rule makes a technical correction to the regulations that govern Section 4(f) approval procedures for the FHWA and the FTA found at 23 CFR part 774. In its final rule published in the **Federal Register** on March 12, 2008, at 73 FR 13368, the FHWA and FTA replaced the phrase "feasible and prudent project alternative" with the phrase "feasible and prudent avoidance alternative" to clarify that the statute requires a determination whether a feasible and prudent alternative exists that avoids using a Section 4(f) property. This phrase was globally replaced throughout the final rule. However, where this phrase was replaced in section 774.3(c), the new phraseology could be misinterpreted to require consideration of the already rejected, infeasible, or imprudent avoidance alternatives a second time. The preamble and regulatory text of the NPRM, and the preamble of the final rule, make clear that the intent of section 774.3(c) is to provide direction for how to analyze and select an alternative when it has been determined that no feasible and prudent avoidance alternatives exist and all viable alternatives use some Section 4(f) property. In order to correct the error caused by the global phrase change, and to clarify the intent of section 774.3(c) as noted in the preamble to the final rule, the FHWA and FTA have added the phrase "from among the remaining alternatives that use Section 4(f) property" to the regulatory text of section 774.3(c).

##### Rulemaking Analyses and Notice

Under the Administrative Procedure Act (5 U.S.C. 553(b)), an agency may waive the normal notice and comment requirements if it finds, for good cause, that they are impracticable,

unnecessary, or contrary to the public interest. The FHWA and the FTA find that notice and comment for this rule is unnecessary and contrary to the public interest because it will have no substantive impact, is technical in nature, and relates only to management, organization, procedure, and practice. The FHWA and the FTA do not anticipate receiving meaningful comments on it. States, local governments, transit agencies, and their consultants rely upon the environmental regulations corrected by this action. These corrections will reduce confusion for these entities and should not be unnecessarily delayed. Accordingly, for the reasons listed above, the agencies find good cause under 5 U.S.C. 553(b)(3)(B) to waive notice and opportunity for comment.

##### Executive Order 12866 (Regulatory Planning and Review) and DOT Regulatory Policies and Procedures

The FHWA and the FTA have determined that this action is not a significant regulatory action within the meaning of Executive Order 12866 or significant within the meaning of U.S. Department of Transportation regulatory policies and procedures. It is anticipated that the economic impact of this rulemaking will be minimal. This rule only entails minor corrections that will not in any way alter the regulatory effect of 23 CFR part 774. Thus, this final rule will not adversely affect, in a material way, any sector of the economy. In addition, these changes will not interfere with any action taken or planned by another agency and will not materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs.

##### Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96-354, 5 U.S.C. 601-612) the FHWA and the FTA have evaluated the effects of this action on small entities and have determined that the action will not have a significant economic impact on a substantial number of small entities. This final rule will not make any substantive changes to our regulations or in the way that our regulations affect small entities; it merely corrects technical errors. For this reason, the FHWA and the FTA certify that this action will not have a significant economic impact on a substantial number of small entities.

##### Unfunded Mandates Reform Act of 1995

This rule does not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L.

104–4, March 22, 1995, 109 Stat. 48). This rule does not impose any requirements on State, local, or tribal governments, or the private sector and, thus, will not require those entities to expend any funds.

#### Executive Order 13132 (Federalism)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 13132, and the FHWA and the FTA have determined that this action does not have sufficient federalism implications to warrant the preparation of a federalism assessment. The FHWA and the FTA have also determined that this action does not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

#### Executive Order 12372 (Intergovernmental Review)

The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to these programs.

#### Paperwork Reduction Act

This action does not create any new information collection requirements for which a Paperwork Reduction Act submission to the Office of Management and Budget would be needed under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501–3520.

#### National Environmental Policy Act

The FHWA and the FTA have analyzed this action for the purpose of the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347) and have determined that this action will not have any effect on the quality of the environment.

#### Executive Order 13175 (Tribal Consultation)

The FHWA and FTA have analyzed this action under Executive Order 13175, dated November 6, 2000, and concluded that this rule will not have substantial direct effects on one or more Indian tribes; will not impose substantial direct compliance costs on Indian tribal government; and will not preempt tribal law. There are no requirements set forth in this rule that directly affect one or more Indian tribes. Therefore, a tribal summary impact statement is not required.

#### Executive Order 12988 (Civil Justice Reform)

This rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to

minimize litigation, eliminate ambiguity, and reduce burden.

#### Executive Order 13045 (Protection of Children)

Under Executive Order 13045, Protection of Children from Environmental Health and Safety Risks, this final rule is not economically significant and does not involve an environmental risk to health and safety that may disproportionately affect children.

#### Executive Order 12630 (Taking of Private Property)

This final rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

#### Executive Order 13211 (Energy Effects)

This final rule has been analyzed under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. The FHWA and FTA have determined that it is not a significant energy action under that order because it is not a significant regulatory action under Executive Order 12866 and this final rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

#### Regulation Identification Number

A regulation identification number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RINs contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

#### List of Subjects in 23 CFR Part 774

Environmental protection, Grant programs—transportation, Highways and roads, Historic preservation, Public lands, Recreation areas, Reporting and recordkeeping requirements.

Issued on: May 27, 2008.

**James D. Ray,**  
*Acting Federal Highway Administrator.*  
**James S. Simpson,**  
*FTA Administrator.*

■ In consideration of the foregoing, 23 CFR part 774 is amended as set forth below.

#### Federal Highway Administration Title 23—Highways

#### PART 774—PARKS, RECREATION AREAS, WILDLIFE AND WATERFOWL REFUGES, AND HISTORIC SITES (SECTION 4(F))

■ 1. The authority citation for part 774 continues to read as follows:

**Authority:** 23 U.S.C. 103(c), 109(h), 138, 325, 326, 327 and 204(h)(2); 49 U.S.C. 303; Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Pub. L. 109–59, Aug. 10, 2005, 119 Stat. 1144); 49 CFR 1.48 and 1.51.

■ 2. Amend § 774.3 by revising paragraph (c) introductory text to read as follows:

#### § 774.3 Section 4(f) approvals.

\* \* \* \* \*

(c) If the analysis in paragraph (a)(1) of this section concludes that there is no feasible and prudent avoidance alternative, then the Administration may approve, from among the remaining alternatives that use Section 4(f) property, only the alternative that:

\* \* \* \* \*

[FR Doc. E8–12360 Filed 6–2–08; 8:45 am]

BILLING CODE 4910–22–P

#### DEPARTMENT OF HOMELAND SECURITY

#### Coast Guard

#### 33 CFR Part 117

[USCG–2008–0337]

#### Drawbridge Operation Regulation; Arthur Kill, Staten Island, NY and Elizabeth, NJ

**AGENCY:** Coast Guard, DHS.

**ACTION:** Notice of temporary deviation from regulations; request for comments.

**SUMMARY:** The Commander, First Coast Guard District, has issued a new temporary deviation from the regulation governing the operation of the Arthur Kill (AK) Railroad Bridge across Arthur Kill at mile 11.6 between Staten Island, New York and Elizabeth, New Jersey. This deviation is necessary to test a new operating rule for the bridge that will help determine the most equitable and safe solution to facilitate the present and anticipated needs of navigation and rail traffic. This deviation requires the AK Railroad Bridge to remain in the open position but allows the bridge owner/operator to schedule bridge closure periods after consultation with the marine community.



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**APPENDIX B**  
FHWA Section 4(f) Policy Paper,  
March 1, 2005

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# Memorandum

**Sent Via E-mail**

Subject: **ACTION:** Revised FHWA Section 4(f) Policy Paper

Date: March 2, 2005

**Original Signed by:**

From: Cynthia J. Burbank  
Associate Administrator for Planning,  
Environment and Realty

In Reply Refer To:  
HEPE

To: Division Administrators  
Directors of Field Services  
Federal Lands Highway Division Engineers

Attached for your immediate use is the newly revised Federal Highway Administration (FHWA) Section 4(f) Policy Paper. The FHWA issued the first Section 4(f) Policy Paper in September 1987. It was amended in 1989, with the addition of two questions and answers. This Policy Paper provides updated comprehensive guidance on when and how to apply the provisions of Section 4(f) on FHWA projects that propose to use Section 4(f) land or resources.

The information presented in this paper is FHWA's official policy on the applicability of Section 4(f) to various types of land and resources and other Section 4(f) related issues. The paper is divided into three main sections: Introduction, Section 4(f) Evaluation, and Section 4(f) Applicability and includes in Appendices, an Analysis of Case Law and the Section 4(f) Evaluation Diagram. The Introduction replaces and considerably revises the former Section 4(f) Background and Section 4(f) Evaluation sections of the 1989 document. This comprehensive overview provides an organized approach to Section 4(f) and emphasizes key elements of the Section 4(f) process. The Section 4(f) Applicability section is the heart of the Policy Paper. It includes guidance, in question and answer format, on the applicability of Section 4(f) to various situations often encountered in the project development process.

The 1989 paper covered 22 subject areas whereas the new paper covers 30 subject areas with a total of 53 questions and answers. Of the 30 subject areas, 11 are new and include 15 new questions and answers. In total, the paper contains 21 new questions and answers. In addition, many of the questions and answers included in the 1989 paper have been modified, some substantially, while others remain virtually unchanged.



This revision was accomplished jointly with the Office of the Chief Counsel (HCC). FHWA Division Offices, the Office of Chief Counsel, the Resource Center Environment TST and the Office of Planning Environment and Realty were provided an early opportunity to submit questions, comments and identify areas of the 1989 paper that needed clarification and revision. In October, 2004, the Draft Section 4(f) Policy Paper was circulated for comment, to the FHWA Division Offices, Headquarters and the Resource Center; the Office of the Secretary (OST) (and in turn, other Modal Administrations); the Department of the Interior (DOI); the Department of Housing and Urban Development (HUD); and the Department of Agriculture.

Many insightful and constructive comments were received from FHWA, the Departments and other agencies. The comments were considered and incorporated, as appropriate, in the development of this final Policy Paper. In addition, the final version of this document was coordinated with the DOI, including the Fish and Wildlife Service (FWS) and the National Park Service (NPS) regarding those specific properties and resources that fall under their jurisdiction and authority. All outstanding issues have been resolved.

Previous versions of the Policy Paper are no longer applicable. This issuance also rescinds the November 15, 1989, *Memorandum: Alternatives Selection Process for Projects Involving Section 4(f) of the DOT Act*, signed by Ali Sevin, Director of the Office of Environmental Policy, and by the creation of Question and Answer 24, supersedes the August 22, 1994, *Interim Guidance on Applying Section 4(f) On Transportation Enhancement Projects and National Recreation Trails*.

The Office of Project Development and Environmental Review (HEPE) intends to issue periodic updates to this document as new information becomes available or it is otherwise necessary. This document will be posted and maintained at the Project Development Website ([www.environment.fhwa.dot.gov/projdev/4fpolicy.htm](http://www.environment.fhwa.dot.gov/projdev/4fpolicy.htm)) and in the Environmental Guidebook. If you have any questions, comments or would like to contribute to future version of the Policy Paper please contact Lamar Smith at [lamar.smith@fhwa.dot.gov](mailto:lamar.smith@fhwa.dot.gov) or 202-366-8994; or Lance Hanf at [lance.hanf@fhwa.dot.gov](mailto:lance.hanf@fhwa.dot.gov) or 415-744-8272.

Attachment



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

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# FHWA Section 4(f) Policy Paper

**Office of Planning, Environment and Realty**  
**Project Development and Environmental Review**

**March 1, 2005**

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## INTRODUCTION

Section 4(f) was created when the United States Department of Transportation (USDOT) was formed in 1966. It was initially codified at 49 U.S.C. 1653(f) (Section 4(f) of the USDOT Act of 1966) and only applies to USDOT agencies. Later that year, 23 U.S.C. 138 was added with somewhat different language, which applied only to the highway program. In 1983, Section 1653(f) was reworded without substantive change and recodified at 49 U.S.C. 303. In their final forms, these two statutes have no real practical distinction and are still commonly referred to as Section 4(f):

*"It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After the effective date of the Federal-Aid Highway Act of 1968, the Secretary shall not approve any program or project (other than any project for a park road or parkway under section 204 of this title) which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use. In carrying out the national policy declared in this section the Secretary, in cooperation with the Secretary of the Interior and appropriate State and local officials, is authorized to conduct studies as to the most feasible Federal-aid routes for the movement of motor vehicular traffic through or around national parks so as to best serve the needs of the traveling public while preserving the natural beauty of these areas."*

23 U.S.C. 138

The Federal Highway Administration (FHWA) originally issued the *Section 4(f) Policy Paper* in September 1987. There was a minor amendment in 1989 adding two additional questions and answers. This 2005 paper provides updated comprehensive guidance on when and how to apply the provisions of Section 4(f) on FHWA projects that propose to use 4(f) land or resources. The information presented in this paper is not regulatory, but is the official policy of FHWA on the applicability of Section 4(f) to various types of land and resources and other Section 4(f) related issues. The paper creates no private right of action and its guidance is not judicially binding on the FHWA.

Previous versions of this policy paper are no longer applicable. This issuance also rescinds the November 15, 1989, *Memorandum: Alternatives Selection Process for Projects Involving Section 4(f) of the DOT Act*, signed by Ali Sevin, Director of the Office of Environmental Policy, and by the creation of Question and Answer 24, supersedes the August 22, 1994, *Interim Guidance on Applying Section 4(f) On Transportation Enhancement Projects and National Recreation Trails*.

### **Purpose of this Paper**

This paper explains how Section 4(f) applies generally and to specific situations where resources meeting the Section 4(f) criteria may be involved. It is based on court decisions, experience and on policies developed by FHWA and USDOT over the years. This paper serves as a guide for the applicability of Section 4(f) for common project situations often encountered by FHWA Division Offices, State Departments of Transportation and other partners.

For specific projects that do not completely fit the situations or parameters described in this paper, it is advisable to contact the FHWA Division Office. In turn, the Division Office may contact the Washington Headquarters' Office of Project Development and Environmental Review, the Resource Center Environmental Technical Service Team, and/or the Office of the Chief Counsel. For more information on Section 4(f) refer to the Environmental Guidebook ([www.environment.fhwa.dot.gov/guidebook/index.htm](http://www.environment.fhwa.dot.gov/guidebook/index.htm)) and the FHWA Re: NEPA Community of Practice (<http://nepa.fhwa.dot.gov>).

## Important Points

At the outset, a few important points about Section 4(f) must be understood.

- **Section 4(f) Authority and Responsibility:** Section 4(f) applies only to the actions of agencies within the USDOT. While other agencies may have an interest in Section 4(f), the agencies within the USDOT are responsible for applicability determinations, evaluations, findings and overall compliance.
- **Section 4(f) Applicability:** Section 4(f) applies to any significant publicly owned public park, recreation area, or wildlife and waterfowl refuge and any land from an historic site of national, state or local significance.
- **Public Ownership and Public Access Criteria:** Section 4(f) applies to significant publicly owned public parks and recreational areas that are open to the public, and to significant publicly owned wildlife and waterfowl refuges, irrespective of whether these areas are open to the public or not, since the "major purpose" of a refuge may make it necessary for the resource manager to limit public access. When private institutions, organizations or individuals own parks, recreational areas or wildlife and waterfowl refuges, Section 4(f) does not apply to these properties, even if such areas are open to the public. If a governmental body has a permanent proprietary interest in the land (such as fee ownership or easement), it is considered "publicly owned" and thus, Section 4(f) may be applicable. Section 4(f) also applies to all historic sites of national, state or local significance, whether or not these sites are publicly owned or open to the public. Except in unusual circumstances, only historic properties on or eligible for inclusion on the National Register of Historic Places are protected under Section 4(f).
- **Significance Criteria:** A publicly owned park, recreation area or wildlife and waterfowl refuge must be a "significant" resource for Section 4(f) to apply. Pursuant to 23 C.F.R. 771.135 (c), 4(f) resources are presumed to be significant unless the official having jurisdiction over the site concludes that the entire site is not significant. Even if this is done, FHWA must make an independent evaluation to assure that the official's finding of significance or non-significance is reasonable.
- **Feasible and Prudent Criteria:** Numerous legal decisions on Section 4(f) have resulted in a USDOT policy that findings of "no feasible and prudent alternatives" and "all possible planning to minimize harm", must be well documented and supported. A feasible alternative is an alternative that is possible to engineer, design and build. The leading United States Supreme Court case, commonly known as Overton Park, (*Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1971)), held that to find that an alternative (that avoids a 4(f) resource) is not "prudent" one must find that there are unique problems or unusual factors involved with the use of such alternatives. This means that the cost, social, economic and environmental impacts, and/or community disruption resulting from such alternatives reach extraordinary magnitudes. One can use a totality of these circumstances to establish that these unique problems, unusual factors or other impacts reach extraordinary magnitudes. FHWA has incorporated this decision into existing regulations found at 23 C.F.R. 771.135(a)(2).
- **Documentation and Coordination:** The statute does not require the preparation, distribution or circulation of any written document. The statute also does not contain a public comment element. Other than the U.S. Departments of the Interior, Housing and Urban Development and

Agriculture, the statute also does not require or establish any procedures for coordinating with either other agencies or the public. USDOT has developed departmental requirements for documenting Section 4(f) decisions. For example, the requirements of DOT Order 5610.1C and its predecessors have been incorporated into FHWA regulations. FHWA developed procedures for the preparation, circulation and coordination of Section 4(f) documents in two places; 23 Code of Federal Regulations (C.F.R.) Section 771.135, and FHWA's *Technical Advisory, Guidance for Preparing and Processing of Environmental and Section 4(f) Documents: T 6640.8A*. Both of these sources of information are available at the FHWA NEPA Project Development Website: [www.environment.fhwa.dot.gov/projdev/index.htm](http://www.environment.fhwa.dot.gov/projdev/index.htm).

Two purposes of a written Section 4(f) evaluation are to establish an administrative record and to ensure that FHWA has followed the regulatory and statutory requirements. The administrative record is the agency's written record that memorializes the basis for determining that there is no feasible and prudent alternative to the use of the 4(f) resource and demonstrates that FHWA used all possible planning and measures to minimize harm. Likewise, when circulated with the NEPA document, it permits FHWA to obtain comments on avoidance alternatives and measures to minimize harm.

If a Section 4(f) evaluation is legally challenged, it is reviewed in accordance with the Administrative Procedure Act (APA) that provides judicial deference to USDOT actions. Under the APA, the agency's action must be upheld unless it is arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law (5 U.S.C. 706 (2)(A)). The court will review the administrative record to determine whether FHWA complied with the elements of Section 4(f). If an inadequate administrative record is prepared, the court will lack the required Section 4(f) elements to review and, therefore, will be unable to defer to it (this is even truer if no Section 4(f) Evaluation is prepared). While agency decisions are entitled to a presumption of regularity and courts are not empowered to substitute their judgment for that of the agency, courts will carefully review whether the agency followed the applicable requirements.

Therefore, the administrative record should contain the following essential information:

- 1) The applicability or non-applicability of Section 4(f) to a property used by a project;
- 2) The coordination efforts with the officials having jurisdiction over or administering the land (relative to significance of the land, primary use of the land, mitigation measures, etc.);
- 3) The location and design alternatives that would avoid the use altogether or minimize the use and harm to the 4(f) land;
- 4) Analysis of impacts of avoidance and Section 4(f) use alternatives; and
- 5) All measures to minimize harm, such as design variations, landscaping and other mitigation.

The Section 4(f) analysis process is diagramed in Appendix B.

- **Other Laws and Requirements:** There are often concurrent requirements of other Federal agencies when 4(f) lands are involved in highway projects.<sup>1</sup> It should be noted that Section 4(f) has requirements that are independent from obligations found in these other authorities. In the instance where more than one Federal law is applicable to the 4(f) resource, just because the requirements of one law have been complied with, does not necessarily mean that Section 4(f) is

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<sup>1</sup> Examples include: Compatibility determinations for the use of lands in the National Wildlife Refuge System and the National Park System, consistency determinations for the use of public lands managed by the Bureau of Land Management, determinations of direct and adverse effects for Wild and Scenic Rivers under the jurisdiction of such agencies as the U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, and Forest Service, and approval of land conversions covered by the Federal-aid in Fish Restoration and the Federal-Aid in Wildlife Restoration Acts (the Dingell-Johnson and Pittman-Robertson Acts), the Recreational Demonstration Projects and the Federal Property and Administrative Service (Surplus Property) Acts, and Section 6(f) of the Land and Water Conservation Fund Act.

also satisfied. FHWA must demonstrate compliance with all the different requirements of applicable law in addition to its Section 4(f) responsibility.

Project mitigation required by other substantive laws can help FHWA satisfy the requirement that a project include all possible planning to minimize harm to a 4(f) resource if it is used. A good example of this is the terms of the Memorandum of Agreement (MOA) with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) when an historic property is adversely affected (under Section 106 of the National Historic Preservation Act) by a FHWA project. Nevertheless, if more reasonable measures to minimize harm to the 4(f) resource can be taken, simply complying with another statutes mitigation measures is not enough.

## **SECTION 4(f) EVALUATION**

When a project proposes to use resources protected by Section 4(f), a Section 4(f) evaluation must be prepared. The following information provides guidance on the key areas of a Section 4(f) evaluation.

### **Section 4(f) Evaluation Format and Approval**

The Section 4(f) evaluation may be developed and processed as a stand-alone document, as in the case of a categorical exclusion (CE) determination, or incorporated into an environmental assessment (EA) or environmental impact statement (EIS) as a separate section of those documents. The format and content for these evaluation documents are addressed in the FHWA *Technical Advisory T 6640.8a, Guidance for Preparing and Processing of Environmental and Section 4(f) Documents*, October 30, 1987 ([www.environment.fhwa.dot.gov/projdev/impTA6640.htm](http://www.environment.fhwa.dot.gov/projdev/impTA6640.htm)).

The FHWA Division Office or the Federal Lands Highway Division approves all Section 4(f) evaluations. Prior to Division Office approval, all final Section 4(f) evaluations must undergo legal sufficiency review in accordance with 23 C.F.R. 771.135(k). It is advisable and strongly recommended that the Division Office provide copies of the administrative or pre-draft Section 4(f) evaluation to the appropriate legal staff for preliminary review instead of submitting only the pre-final evaluation for legal sufficiency review.

### **Alternatives Analysis**

The intent of the Section 4(f) statute and the policy of the USDOT is to avoid the use of significant public parks, recreation areas, wildlife and waterfowl refuges and historic sites as part of a project, unless there is no feasible and prudent alternative to the use of such land.<sup>2</sup> In order to demonstrate that there is no feasible and prudent alternative to the use of 4(f) land, the evaluation must address both location alternatives and design shifts that totally avoid the 4(f) land. As noted before, supporting information must demonstrate that there are unique problems or unusual factors involved with the alternatives that avoid the use of 4(f) land, such as findings that these alternatives result in costs, environmental impacts or community disruption of extraordinary magnitudes. Likewise, design shifts that cannot totally avoid use but that minimize the impact, must also be employed unless they are not feasible and prudent.

The Section 4(f) evaluation must address the purpose and need of the project. The need must be sufficiently explained and be consistent with the need set forth in any concurrent National Environmental Policy Act (NEPA) documentation. The Section 4(f) evaluation may reference the purpose and need included in a NEPA document, without reiteration, when the evaluation is included as a chapter of the document. Any alternative that is determined to not meet the need of the project, including the no-build alternative, is not a feasible and prudent alternative<sup>3</sup>. The evaluation must include this analysis.

<sup>2</sup> "Significance" of one of these types of properties is presumed unless an official with jurisdiction determines that the entire site is not significant.

<sup>3</sup> *Alaska Center for Environment v. Armbrister*, 131 F.3d 1285, 1288 (9th Cir. 1987); *Arizona Past and Future Foundation v. Lewis*, 722 F.2d 1423, 1428 (9th Cir. 1983); *Hickory Neighborhood Defense League v. Skinner*, 910 F.2d 159, 163 (4th Cir. 1990); *Eagle Foundation, Inc. v. Dole*, 813 F.2d 798, 804 (7th Cir. 1987); *Committee to Preserve Boomer Lake Park v. USDOT*,

It is important to point out that the standard for evaluating alternatives under NEPA and the standard for evaluating alternatives under Section 4(f) are different. In general, under NEPA, FHWA can advance to detailed study any reasonable alternative, among a range of alternatives, as long as there is sufficient information that shows a well-reasoned decision to include that alternative. However, under Section 4(f), if there is a feasible and prudent alternative that avoids the use of a 4(f) resource, among alternatives that use a 4(f) resource, the alternative that must be selected is the one that avoids the 4(f) resource.

Likewise, the test under NEPA, to eliminate a reasonable alternative is based on a number of independent factors or a totality of cumulative factors. However, simply because under NEPA an alternative (that meets the purpose and need) is determined to be unreasonable, does not by definition, mean it is imprudent under the higher substantive test of Section 4(f). Therefore, it is possible for an alternative that was examined but dismissed during the preliminary NEPA alternative screening process to still be a feasible and prudent avoidance alternative under Section 4(f). In other words, there is more room to reject alternatives as unreasonable under NEPA than there is to find those same alternatives are imprudent under Section 4(f).

### **Feasible and Prudent Standard**

The first test under Section 4(f) is to determine which alternatives are feasible and prudent. An alternative is feasible if it is technically possible to design and build that alternative. The second part of the standard involves determining whether an alternative is prudent or not, which is more difficult to define.

An alternative may be rejected as not prudent for any of the following reasons:

- 1) It does not meet the project purpose and need,
- 2) It involves extraordinary operational or safety problems,
- 3) There are unique problems or truly unusual factors present with it,
- 4) It results in unacceptable and severe adverse social, economic or other environmental impacts,
- 5) It would cause extraordinary community disruption,
- 6) It has additional construction costs of an extraordinary magnitude, or
- 7) There is an accumulation of factors that collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes.

Where sufficient analysis demonstrates that a particular alternative is not feasible and prudent, the analysis or consideration of that alternative as a viable alternative comes to an end. If all alternatives use land from 4(f) resources, then an analysis must be performed to determine which alternative results in the least overall harm to the 4(f) resources. If the net harm to 4(f) resources in all the alternatives is equal, then FHWA may select any one of them. In other words, if the project proposes to use similar amounts of similar 4(f) resources, there is no alternative that would cause the least overall harm. In either situation, it is essential that the agency having jurisdiction over the 4(f) resource be consulted.

It should be noted that the net harm analysis is governed by all the possible mitigation that could be done to minimize harm to the 4(f) resource. The net harm should be determined in consultation with the agency having jurisdiction over the resource or, in the case of historic sites, the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate. By including mitigation, impacts on the 4(f) property could be reduced or eliminated. The alternative that results in the least net harm must be selected.

Not all uses of 4(f) resources have the same magnitude of impact and not all 4(f) resources have the same quality. A qualitative evaluation is required. For example, evaluation of the net impact should consider whether the use of the 4(f) property involves:

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4 F.3d 1543, 1550 (10th Cir. 1993); Druid Hills v. FHWA, 772 F.2d 700 (11<sup>th</sup> Cir. 1985); Ringsred v. Dole, 828 F.2d 1300, 1304 (8th Cir. 1987).

- 1) A large taking or a small taking in relation to the overall size of the resource, or
- 2) Shaving an edge of a property as opposed to cutting through its middle, or
- 3) Altering part of the land surrounding an historic building rather than removing the building itself, or
- 4) Examining the key features of the 4(f) resource, or
- 5) An unused portion of a park rather than a highly used portion.

When different alternatives propose to use different 4(f) resources, the importance of the resources must be considered. For example, three marginal acres of a large park may be less important than one acre of a smaller city park. To provide support for these complex evaluations, the officials with jurisdiction over the 4(f) resources should be consulted and their opinions memorialized in the administrative record.

As Congress gave 4(f) resources paramount importance, care should be taken to apply consistent standards throughout the length of any given project. For example, it would be inconsistent to accept a restricted roadway cross section in order to reduce the project costs or to gain a minimal safety benefit, when at other locations on the same project this restricted roadway cross section is rejected as unacceptable in order to avoid a park. This same concept should be applied between projects as well.

### **Examples of the Alternative Selection Process**

One of the most difficult areas of analysis is the evaluation of alternatives, and their impacts on both 4(f) and non-4(f) resources, and then deciding which alternative to select. Issues such as, what role does mitigation play in selecting alternatives, what to do if there are multiple 4(f) properties used and how other important resources in the project vicinity should be considered, make this area of analysis complex. It is essential to document the reasoning for dismissing an alternative as well as the reasoning for selecting an alternative. This documentation will become a key part of the administrative record. To address some of these scenarios, consider the following three project examples. Also, refer to the summary table on Page 7, following this discussion.

On project 1, Alternatives C and D are determined not to be feasible and prudent. While these alternatives may or may not use land from a 4(f) resource, it is immaterial since they simply cannot be built. Thus, no further analysis of C or D is warranted. Since Alternatives A and B are feasible and prudent and because B does not use land from a 4(f) resource, Alternative B must be selected. It is not necessary to determine the relative harm that Alternative A has on the 4(f) resources, because B is a feasible and prudent avoidance alternative.

On project 2, Alternatives C and D are determined not to be feasible and prudent. No further consideration need be given these alternatives. Of the remaining feasible and prudent alternatives, both Alternatives A and B use land from 4(f) resources. FHWA can approve only the feasible and prudent alternative that has the least overall harm to the 4(f) resource. Here, B must be selected since the harm to 4(f) resources is the least. When there are multiple alternatives that use a 4(f) resource, it should be noted that simply because an alternative uses more acreage, that might not be the greatest Section 4(f) use. In conclusion, to determine which alternative has the least harm, one should evaluate the importance of the 4(f) resource, the potential for mitigation and confer with the official(s) with jurisdiction over the 4(f) resource.

On project 3, all the build alternatives use 4(f) resources, such that there are no feasible and prudent alternatives that avoid the 4(f) resources. As all four alternatives use 4(f) land, one needs to evaluate the impacts both to 4(f) and non-4(f) resources to select the prudent and least overall harm alternative. Among the 4 alternatives, A and B have almost equal Section 4(f) net impacts but more impacts than Alternatives C and D, so neither A nor B can be selected. However, between Alternatives C and D, C has more Section 4(f) impacts than D. Therefore, usually one must choose Alternative D as illustrated in the example in project 2 above. There are times; however, that there will be additional important non-Section 4(f) environmental impacts that must go into the equation of what is the prudent alternative. If Alternative C has slightly higher Section 4(f) impacts than Alternative D, but there are additional important environmental impacts associated with Alternative D (that Alternative C does not have), it may be more prudent to choose Alternative C. Examples of non-4(f) resources could be an endangered species or

critical habitat being taken, CERCLA or superfund site problems, the elimination of valuable wetlands, and/or major environmental justice issues. In this instance, the prudent decision is the one that causes the overall least harm to all environmental resources, both 4(f) and non-4(f) resources. Section 4(f) plays a significant role in this decision-making process but in total, the prudent choice here is not the alternative that uses the least amount of 4(f) property. Therefore, Alternative C would be advanced. The courts have accepted this totality of impacts analysis<sup>4</sup>.

Project	Alternative	Feasible and Prudent Alternative?	Uses 4(f) Land?	Relative Net Harm to Section 4(f) Land After Mitigation
1	A	Yes	Yes	NA <sup>a</sup>
	B	Yes	No	None
	C	No	Yes (NA) <sup>b</sup>	NA
	D	No	No (NA) <sup>b</sup>	NA
2	A	Yes	Yes	Greater
	B	Yes	Yes	Lesser
	C	No	Yes (NA) <sup>b</sup>	NA <sup>b</sup>
	D	No	No (NA) <sup>b</sup>	NA <sup>b</sup>
3	A	(NA) <sup>c</sup>	Yes	Equal to B, but more than C or D
	B		Yes	Equal to A but more than C or D
	C		Yes	Harm to 4(f) greater than alt. D, but with less overall impacts to important resources
	D		Yes	Harm to 4(f) less but with more overall impacts

<sup>a</sup> In project 1, there is a feasible and prudent alternative, which does not use Section 4(f) protected property (Alt. B). Any alternative which uses Section 4(f) protected property must be eliminated from further consideration.

<sup>b</sup> Since this alternative is not feasible and prudent, it should be eliminated from further consideration. Whether Section 4(f) land is used and the relative harm to Section 4(f) protected properties are no longer relevant factors.

<sup>c</sup> Since all alternatives use 4 (f) resources, a prudent and feasible avoidance alternatives analysis is not required.

## Measures to Minimize Harm and Mitigation

In addition to determining that there are no feasible and prudent alternatives to avoid the use of 4(f) resources, the project approval process requires the consideration of “all possible planning to minimize harm” on the 4(f) resource. Minimization of harm entails both alternative design modifications that lessen the impact on 4(f) resources and mitigation measures that compensate for residual impacts. Minimization and mitigation measures should be determined through consultation with the official of the agency owning or administering the resource. Neither the Section 4(f) statute nor regulation requires the replacement of 4(f) resources used for highway projects, but this option is appropriate under 23 C.F.R. 710.509 as a mitigation measure for direct project impacts.

Mitigation measures involving public parks, recreation areas, or wildlife and waterfowl refuges may involve a replacement of land and/or facilities of comparable value and function, or monetary

<sup>4</sup> Hickory Neighborhood Defense League v. Skinner, 910 F.2d 159, 163 (4th Cir. 1990); Eagle Foundation, Inc. v. Dole, 813 F.2d 798, 805 (7th Cir. 1987); Louisiana Env. Society, Inc. v. Dole, 707 F.2d 116, 122 (5th Cir. 1983); Committee to Preserve Boomer Lake Park v. USDOT, 4 F.3d 1543, 1550 (10th Cir. 1993).



compensation, which could be used to enhance the remaining land. Mitigation of historic sites usually consists of those measures necessary to preserve the historic integrity of the site and agreed to in accordance with 36 C.F.R. Part 800, by FHWA, the State Historic Preservation Officer (SHPO) or the Tribal Historic Preservation Officer (THPO), and as appropriate, the Advisory Council on Historic Preservation (ACHP). In any case, the cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on the 4(f) resource in accordance with 23 C.F.R. 771.105(d). Section 6(f) of the Land and Water Conservation Fund Act has its own mitigation requirements, but as noted before, these can be part of the 4(f) minimization requirement if the resource cannot be avoided<sup>5</sup>.

## Coordination

Preliminary coordination prior to the circulation of the draft Section 4(f) evaluation should be accomplished with the official(s) of the agency owning or administering the resource, the Department of Interior (DOI) and, as appropriate, the Departments of Agriculture (USDA) and Housing and Urban Development (HUD). The preliminary coordination with DOI and HUD should be either at the appropriate field office or at the regional level. The preliminary coordination with USDA should be with the appropriate National Forest Supervisor. There should be coordination with USDA whenever a project uses land from the National Forest System. Since the Housing and Urban Rural Recovery Act of 1983 repealed the use restrictions for the Neighborhood Facilities Program authorized by Title VII of the HUD Act of 1965 and the Open Space Program authorized by Title VII of the Housing Act of 1961, the number of instances where coordination with HUD should be accomplished has been substantially reduced. Coordination with HUD should occur whenever a project uses a 4(f) resource where HUD funding (other than the above) had been utilized.

If any issues are raised by these agencies resulting from the circulation of the draft Section 4(f) evaluation, follow up coordination must be undertaken to resolve the issues. In most cases the agency's response will indicate a contact point for the follow up coordination. However, case law indicates that if reasonable efforts to resolve the issues are not successful (one of these agencies is not satisfied with the way its concerns were addressed) and the issues were disclosed and received good-faith attention from the decision maker, FHWA has met the procedural obligation under Section 4(f) to consult with and obtain the agency's comments. Section 4(f) does not require more.

## Programmatic Section 4(f) Evaluations

As an alternative to preparing an individual Section 4(f) evaluation, FHWA may, in certain circumstances utilize a programmatic evaluation. Under a programmatic Section 4(f) evaluation, certain conditions are laid out such that, if a project meets the conditions it will satisfy the requirements of Section 4(f) that there is no feasible and prudent alternative and that the project includes all possible planning to minimize harm. These conditions generally relate to the type of project, the severity of impacts to 4(f) property, the evaluation of alternatives, the establishment of a procedure for minimizing harm to the 4(f) resource, adequate coordination with appropriate entities and the NEPA class of action. Programmatic Section 4(f) statements have certain elements in common; (1) they involve projects with typical and limited range of alternatives; and (2) the official having jurisdiction over the land agrees with the use evaluation and the proposed mitigation. Programmatic evaluations can be nationwide, region-wide, or statewide. The development of statewide or regional programmatic evaluations must be coordinated with the Office of Project Development and Environmental Review and the Office of Chief Counsel.

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<sup>5</sup> State and local governments often obtain grants through the Land and Water Conservation Fund Act to acquire or make improvements to parks and recreation areas. Section 6(f) of this Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of the Interior's (DOI) National Park Service. Section 6(f) directs DOI to assure that replacement lands of equal value, location and usefulness are provided as conditions to such conversions. Consequently, where conversions of Section 6(f) lands are proposed for highway projects, replacement lands will be necessary. Regardless of the mitigation proposed, the Section 4(f) evaluation should document the National Park Service's tentative position relative to Section 6(f) conversion.

There are currently four approved Nationwide Programmatic Section 4(f) Evaluations. These evaluations are found at the links provided below to the FHWA Environmental Guidebook and the Project Development Website:

- 1) Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges. This evaluation sets forth the basis for approval that there are no feasible and prudent alternatives to the use of certain historic bridge structures to be replaced or rehabilitated with Federal funds and that the projects include all possible planning to minimize harm resulting from such use.  
([www.environment.fhwa.dot.gov/guidebook/vol2/doc15j.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15j.pdf) and [www.environment.fhwa.dot.gov/projdev/4fbridge.htm](http://www.environment.fhwa.dot.gov/projdev/4fbridge.htm))
- 2) Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges. This programmatic evaluation is applicable for projects that improve existing highways and use minor amounts of publicly owned public parks, recreation lands, or wildlife and waterfowl refuges that are adjacent to existing highways.  
([www.environment.fhwa.dot.gov/guidebook/vol2/doc15g.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15g.pdf) and [www.environment.fhwa.dot.gov/projdev/4fmparks.htm](http://www.environment.fhwa.dot.gov/projdev/4fmparks.htm))
- 3) Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites. This programmatic evaluation has been prepared for projects that improve existing highways and use minor amounts of land (including non-historic improvements thereon) from historic sites that are adjacent to existing highways where the effect is determined not to be adverse.  
([www.environment.fhwa.dot.gov/guidebook/vol2/doc15e.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15e.pdf) and [www.environment.fhwa.dot.gov/projdev/4fmhist.htm](http://www.environment.fhwa.dot.gov/projdev/4fmhist.htm))
- 4) Section 4(f) Statement and Determination for Independent Bikeway or Walkway Construction Projects. This 1977 negative declaration applies to bikeway and/or walkway projects that require the use of land from Section 4(f) resources.  
([www.environment.fhwa.dot.gov/guidebook/vol2/doc15m.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15m.pdf) and [www.environment.fhwa.dot.gov/projdev/4fbikeways.htm](http://www.environment.fhwa.dot.gov/projdev/4fbikeways.htm))

The fact that these programmatic Section 4(f) evaluations are approved does not mean that these types of projects are exempt from or automatically comply with the requirements of Section 4(f). Section 4(f) does, in fact, apply to each of the types of projects addressed by these programmatic evaluations. Furthermore, the programmatic Section 4(f) does not relax the Section 4(f) standards of feasible and prudent and minimization of harm. The FHWA Division Administrator or Division Engineer is responsible for reviewing each individual project to determine that it meets the criteria and procedures of the specific programmatic Section 4(f) evaluation. The FHWA Division Administrator's or Division Engineer's determinations will be thorough and will clearly document the items that have been reviewed. The written analysis and determinations will be combined in a single document, placed in the project record and will be made available to the public upon request. This programmatic evaluation will not change the existing procedures for project compliance with the National Environmental Policy Act (NEPA) or with public involvement requirements.

Programmatic Section 4(f) evaluations streamline the documentation and approval process and amount of interagency coordination that is required for an individual Section 4(f) evaluation. Draft and final evaluations do not need to be prepared and FHWA legal sufficiency review is not required. Interagency coordination is required only with the official(s) with jurisdiction and not with DOI, USDA, or HUD (unless the Federal agency has a specific action to take, such as DOI approval of a conversion of land acquired using Land and Water Conservation Funds).

## **Section 4(f) Applicability**

The following questions and answers provide guidance on the applicability of Section 4(f) to various types of land, resources and project situations. The examples represent FHWA's policy on the situations most often encountered in the project development process. For advice on specific situations or issues not covered in this paper, the FHWA Division Office should be consulted, and if necessary the Division Office can contact the Washington Headquarters Office of Project Development and Environmental Review and/or the Office of the Chief Counsel. An analysis of Section 4(f) case law as it relates to many of the following situations and examples is included in Appendix A, for your information.

### **1. Use of Resources**

**Question A:** What constitutes a "use" of land from a publicly owned public park, public recreation area, wildlife refuge and waterfowl refuge or historic site?

**Answer A:** Section 4(f) "use" is defined and addressed in the FHWA/FTA Regulations at 23 C.F.R. 771.135(p). A "use" occurs when:

- 1) Land from a 4(f) site is permanently incorporated into a transportation facility,
- 2) There is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute's preservationist purposes (23 C.F.R. 771.135(p)(7)), or
- 3) When there is a constructive use of land (23 C.F.R. 771.135(p)(2)).

Land will be considered permanently incorporated into a transportation project when it has been purchased as right-of-way or sufficient property interests have been otherwise acquired for the purpose of project implementation. For example, a "permanent easement" which is required for the purpose of project construction or that grants a future right of access onto 4(f) property, such as for the purpose of routine maintenance by the transportation agency, would be considered a permanent incorporation of land into a transportation facility.

Project activities involving the restoration, rehabilitation or maintenance of highways, bridges or other eligible transportation facilities (23 C.F.R. 771.135(f)) that are on or eligible for the National Register of Historic Places will not "use" land from these 4(f) resources when the project does not adversely effect (under Section 106 of the National Historic Preservation Act) the historic qualities of the facility for which it was determined eligible for the National Register of Historic Places, and the State Historic Preservation Officer has been consulted and does not object to the finding of no historic properties adversely affected (see also Question 4).

**Question B:** How is "constructive use" defined and determined?

**Answer B:** 23 C.F.R. 771.135(p) defines what a constructive use is. FHWA has identified certain project situations where a constructive use will occur and when a constructive use will not occur (see 23 C.F.R. 771.135(p)(4) and (5)). Constructive use is only possible in the absence of permanent incorporation or temporary occupancy of the type that constitutes a use of 4(f) land by a transportation project. Constructive use only occurs in those situations where, including mitigation, the proximity impacts of a project on the 4(f) property are so severe that the activities, features or attributes that qualify the property or resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs when the activities, features or attributes of the 4(f) property are substantially diminished (23 C.F.R. 771.135(p)(2)), which means that the value of the resource in terms of its Section 4(f) significance will be meaningfully reduced or lost. The degree of impact and impairment should be determined in consultation with the officials having jurisdiction over the resource.

An example of such an impact might be the traffic noise resulting from a new or improved highway facility proposed near an amphitheater that substantially interferes with the use and enjoyment of the noise-sensitive resource, and the conditions set forth in 23 C.F.R. 771.135(p) are satisfied. For additional information on noise, please refer to FHWA noise regulations at 23 C.F.R. 772.

Constructive use determinations will be rare<sup>6</sup>. The impacts outlined in 23 C.F.R. 771.135(p)(4), involving projects adjacent to or in the proximity of 4(f) resources should be carefully examined. If it is determined that the proximity impacts do not cause a substantial impairment, FHWA can reasonably conclude that there is no constructive use. FHWA has determined that certain impacts constitute a constructive use and that others do not (see 23 C.F.R. 771.135(p)(4) and (5)). Environmental documents should of course contain the analysis of any potential proximity effects and consider whether or not there is substantial impairment to a 4(f) resource. Except for responding to review comments in environmental documents, which specifically address constructive use, the term "constructive use" need not be used. Where a constructive use determination is likely, the FHWA Division Office must consult with the Headquarters Office of Project Development and Environmental Review during development of the preliminary-draft Section 4(f) evaluation.

**Question C:** When does temporary occupancy of a 4(f) resource result in a 4(f) use?

**Answer C:** In general, Section 4(f) does not apply to the temporary occupancy, including those resulting from a right-of-entry, construction, other temporary easements or short-term arrangements, of a significant publicly owned public park, recreation area or wildlife and waterfowl refuge, or any significant historic site where temporary occupancy of the land is so minimal that it does not constitute a use within the meaning of Section 4(f).

A temporary occupancy will not constitute a use of 4(f) resource when all of the conditions set forth in 23 C.F.R. 771.135(p)(7) are met:

- (1) Duration (of the occupancy) must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- (2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the 4(f) resource are minimal;
- (3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purpose of the resource, on either a temporary or permanent basis;
- (4) The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project; and
- (5) There must be documented agreement of the appropriate Federal, State, or local officials having jurisdiction over the resource regarding the above conditions.

In the situation where a project does not meet all of the above criteria, the temporary occupancy will be considered a use of the 4(f) resource and the appropriate Section 4(f) analysis will be required.

## 2. Public Parks, Public Recreation Areas and Wildlife and Waterfowl Refuges

**Question A:** When is publicly owned land considered to be a park, recreation area or wildlife and waterfowl refuge and who makes this determination?

**Answer A:** Publicly owned land is considered to be a park, recreation area or wildlife and waterfowl refuge when the land has been officially designated as such by a Federal, State or local agency and the officials of these governmental entities, having jurisdiction over the land, determine that one of its major purposes and functions is for park, recreation or as a refuge. Incidental, secondary, occasional or dispersed park, recreational or refuge activities do not constitute a major purpose.

For the most part the "officials having jurisdiction" are the officials of the agency owning or administering the land. There may be instances where the agency owning or administering the land has delegated or

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<sup>6</sup> The FHWA's constructive use policy was formalized in regulation on April 1, 1991, with the addition of paragraph (p) to 23 C.F.R. 771.135. The November 12, 1985, memorandum from Mr. Ali F. Sevin, Director of the Office of Environmental Policy to the Regional Federal Highway Administrators is no longer applicable.

relinquished its authority to another agency, via an agreement on how some of its land will function or be managed. FHWA will review this agreement and determine which agency has authority on how the land functions. If the authority has been delegated or relinquished to another agency, that agency must be contacted to determine the major purpose(s) of the land. Management plans that address or officially designates the major purpose(s) of the property should be reviewed as part of this determination. After consultation, and in the absence of an official designation of purpose and function by the officials having jurisdiction, FHWA will base its decision on its own examination of the actual functions that exist.

The final decision on applicability of Section 4(f) to a particular property or type of land is made by FHWA. In reaching this decision, however, FHWA will rely on the official having jurisdiction over the resource to identify the kinds of activities and functions that take place, and that these activities constitute a major purpose. Documentation of the determination of non-applicability should be included in the environmental document or project record.

**Question B:** How should the significance of public parks, recreation areas and wildlife and waterfowl refuges be determined?

**Answer B:** "Significance" determinations, on publicly owned land considered to be parks, recreation areas or wildlife and waterfowl refuges, pursuant to Answer 2 A above, are made by the Federal, State, or local officials having jurisdiction over the land. As discussed above, the "officials having jurisdiction" are officials of the agency owning or administering the land. For certain types of 4(f) resources, more than one agency may have jurisdiction or interest in the property.

Except for certain multiple-use land holdings, discussed in Question 6, significance determinations must consider the entire property and not just the portion of the property proposed for use by the project. The meaning of the term "significance", for purposes of Section 4(f), should be explained to the officials having jurisdiction. Significance means that in comparing the availability and function of the park, recreational area or wildlife and waterfowl refuge, with the park, recreation or refuge objectives of the community or authority, the resource in question plays an important role in meeting those objectives. Management plans or other official forms of documentation regarding the land, if available and up-to-date, are important in this determination. If a determination from the official with jurisdiction cannot be obtained, and a management plan is not available or does not address significance of the 4(f) land, it will be presumed to be significant until FHWA reviews the determination and reaches a different conclusion. All determinations, whether stated or presumed, are subject to review by FHWA for reasonableness.

**Question C:** Are publicly owned parks and recreation areas, which are significant but not open to the public as a whole, subject to the requirements of Section 4(f)?

**Answer C:** The requirements of Section 4(f) would apply if the entire public park or public recreation area permits visitation by the general public at any time during the normal operating hours of the facility. Section 4(f) would not apply when visitation is permitted to only a select group and not the entire public. Examples of select groups include residents of a public housing project; military and their dependents (see also Question 11 B); students of a school; and students, faculty, and alumni of a college or university. FHWA does, however, strongly encourage the preservation of such parks and recreation areas; even though they may not be open to the general public.

It should be noted that wildlife and waterfowl refuges have not been included in this discussion. The statute uses the modifying term public to parks and recreation areas and, therefore, the "open to the public" requirement only applies to park and recreational area lands. Many wildlife and waterfowl refuges allow public access, while others may not, especially during certain times or seasons of the year. In these cases, the publicly owned resource should be examined by the FHWA Division Office to determine that the primary purpose of the property and resource is for wildlife or waterfowl refuge and not for other non-Section 4(f) activities (see also Question 20).

**Question D:** When does an easement or lease agreement with a governmental body constitute "public ownership"?

**Answer D:** Case law holds that land subject to a public easement in perpetuity can be considered publicly owned land for the purpose the easement exists. Under special circumstances, lease agreements may also constitute a permanent and proprietary interest in the land. Such lease agreements must be determined on a case-by-case basis and such factors as the term of the lease, the understanding of the parties to the lease, cancellation clauses and the like should be considered. Any questions on whether or not the leasehold or other interest constitutes public ownership should be referred to the Federal Highway Administration Division Office, and if necessary the FHWA Division Office should consult with the Washington Headquarters Office of Project Development and Environmental Review and the Office of the Chief Counsel.

### 3. Historic Sites

**Question A:** How is the significance (for Section 4(f) purposes) of historic sites determined?

**Answer A:** Pursuant to the National Historic Preservation Act (NHPA), the FHWA Federal Lands Highway Division (for Federal-lands projects) or FHWA Division in cooperation with the Applicant, i.e. State Department of Transportation (for Federal-aid projects) consults with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and if appropriate, with local officials to determine whether a site is on or eligible for the National Register of Historic Places. In case of doubt or disagreement between FHWA and the SHPO or THPO, a request for a determination of eligibility may be made to the Keeper of the National Register. A third party may also seek the involvement of the Keeper through the Advisory Council on Historic Preservation (ACHP) for a determination of eligibility,

For purposes of Section 4(f), an historic site is significant only if it is on or eligible for the National Register, unless FHWA determines that the application of Section 4(f) is otherwise appropriate. If an historic site is determined not to be on or eligible for the National Register, but an official (such as the Mayor, President of the local historic society, etc.) formally provides information to indicate that the historic site is of local significance, FHWA may determine that it is appropriate to apply Section 4(f) in that case. In the event that Section 4(f) is found inapplicable, the FHWA Division Office should document the basis for not applying Section 4(f). Such documentation might include the reasons why the historic site was not eligible for the National Register.

**Question B:** Does Section 4(f) apply when there is an adverse effect determination under the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (36 C.F.R. 800.5)?

**Answer B:** FHWA's determination of adverse effect under 36 C.F.R. 800.5 ([www.achp.gov/work106.html](http://www.achp.gov/work106.html)) does not mean that Section 4(f) automatically applies, nor should it be presumed that the lack of an adverse effect finding (no historic properties adversely affected) means that Section 4(f) will not apply. When a project permanently incorporates land of an historic site, with or without an adverse affect, Section 4(f) applies. However, if a project does not physically take (permanently incorporate) historic property but causes an adverse effect, one must assess the proximity impacts of the project in terms of the potential for "constructive use" (see also Question 1 B). This analysis must determine if the proximity impact(s) will substantially impair the features or attributes that contribute to the National Register eligibility of the historic site or district. If there is no substantial impairment, notwithstanding an adverse effect determination, there is no constructive use and Section 4(f) requirements do not apply. Substantial impairment should be determined in consultation with the SHPO and/or THPO and thoroughly documented in the project record. The determination of Section 4(f) applicability is ultimately FHWA's decision.

As an example of a situation in which there is a Section 106 adverse effect but no Section 4(f) use, consider a transportation enhancement project where an abandoned National Register listed bus station

will be rehabilitated. Rehabilitation for public use will require consistency with the American with Disabilities Act (ADA). The incorporation of ramps or an elevator will meet the definition of an adverse effect, however, there is no permanent incorporation of land into a transportation facility and all parties agree that the rehabilitation will not substantially impair the property. Therefore, Section 4(f) would not apply.

An example of a Section 4(f) use without a Section 106 adverse effect involves a project on existing alignment, which proposes minor improvements at an intersection. To widen the roadway sufficiently, a small amount of property from an adjacent Section 106 property will be acquired, but the significance of the Section 106 resource is such that the SHPO concurs in FHWA's determination of no adverse effect. However, the use of the property will permanently incorporate property of the historic site into a transportation facility and Section 4(f) will apply. This project situation may be evaluated using the *Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites* ([www.environment.fhwa.dot.gov/guidebook/vol2/doc15e.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15e.pdf)), as long as the class of action is not an EIS.

**Question C:** How does Section 4(f) apply in historic districts on or eligible for National Register?

**Answer C:** Within a National Register (NR) listed or eligible historic district, Section 4(f) applies to the use of those properties that are considered contributing to the eligibility of the historic district, as well as any individually eligible property within the district. It must be noted generally, that properties within the bounds of an historic district are assumed to contribute, unless it is otherwise stated or they are determined not to be. For those properties that are not contributing elements of the district or individually significant, the property and the district as a whole must be carefully evaluated to determine whether or not it could be used without substantial impairment of the features or attributes that contribute to the NR eligibility of the historic district.

The proposed use of non-historic property within an historic district which results in an adverse effect under Section 106 of the NHPA will require further consideration to determine whether or not there may be a constructive use. If the use of a non-historic property or non-contributing element substantially impairs (see Question 2 B) the features or attributes that contribute to the NR eligibility of the historic district, then Section 4(f) would apply. In the absence of an adverse effect determination, Section 4(f) will not apply. Appropriate steps, including consultation with the SHPO and/or THPO, should be taken to establish and document that the property is not historic, that it does not contribute to the National Register eligibility of the historic district and its use would not substantially impair the historic district.

As an example, consider the situation where traffic signals are warranted in a National Register listed or eligible historic district. The locations of the mast arms and control box are severely limited because of the built-up nature of the district. Although no right-of-way will be acquired, it is consistent with the NHPA regulations that there will be an adverse effect on the historic district. However, it may be reasonably determined that no individually eligible property, contributing element, or the historic district as a whole will be substantially impaired; therefore Section 4(f) will not apply.

**Question D:** How should the boundaries of a property eligible for listing on the National Register be determined where a boundary has not been established?

**Answer D:** In this situation, FHWA makes the determination of an historic property's boundary under the regulations implementing Section 106 of the NHPA in consultation with the SHPO and/or the THPO. The identification of historic properties and the determination of boundaries should be undertaken with the assistance of qualified professionals during the very beginning stages of the NEPA process. This process requires the collection, evaluation and presentation of the information to document FHWA's determination of the property boundaries. The determination of eligibility, which would include boundaries of the site, rests with FHWA, but if SHPO, THPO, or other party disagrees with this determination it can



"appeal" FHWA's determination to the Keeper of the National Register in accordance with the provisions of the Section 106 process.

Selection of boundaries is a judgment based on the nature of the property's significance, integrity, setting and landscape features, functions and research value. Most boundary determinations will take into account the modern legal boundaries, historic boundaries (identified in tax maps, deeds, or plats), natural features, cultural features and the distribution of resources as determined by survey and testing for subsurface resources. Legal property boundaries often coincide with the proposed or eligible historic site boundaries, but not always and, therefore, should be individually reviewed for reasonableness. The type of property at issue, be it a historic building, structure, object, site or district and its location in either urban, suburban or rural areas, will require the consideration of various and differing factors. These factors are set out in the *National Park Service Bulletin Defining Boundaries for National Register Properties*. This Bulletin and other information can be found at the following website: [www.cr.nps.gov/nr/publications/bulletins/boundaries](http://www.cr.nps.gov/nr/publications/bulletins/boundaries).

**Question E:** How are National Historic Landmarks treated under Section 4(f)?

**Answer E:** Section 4(f) requirements related to the potential use of a National Historic Landmark (NHL) designated by the Secretary of Interior are essentially the same as they are for any historic property determined under the Section 106 process. Section 110(f) of the NHPA outlines the specific actions that an Agency must take when NHL may be directly and adversely affected by an undertaking. Agencies must, "to the maximum extent possible ... minimize harm" to the NHL affected by an undertaking. While not expressly stated in the Section 4(f) statutory language or regulations, the importance and significance of the NHL should be considered in the FHWA's Section 4(f) analysis.

#### 4. Historic Bridges, Highways and Other Transportation Facilities

**Question A:** How does Section 4(f) apply to historic bridges and highways?

**Answer A:** The Section 4(f) statute places restrictions on the use of land from historic sites for highway improvements but makes no mention of historic bridges or highways, which are already serving as transportation facilities. The Congress clearly did not intend to restrict the rehabilitation, repair or improvement of these facilities. FHWA, therefore, determined that Section 4(f) would apply only when an historic bridge or highway is demolished, or if the historic quality for which the facility was determined to be eligible for the National Register is adversely affected by the proposed improvement. The determination of adverse effect under 36 CFR 800.5 is made by FHWA in consultation with the SHPO and/or THPO. Where FHWA determines that the facility will not be adversely affected the SHPO/THPO must concur with the determination or FHWA must seek further input from the ACHP.

**Question B:** Will Section 4(f) apply to the replacement of an historic bridge that is left in place?

**Answer B:** Section 4(f) does not apply to the replacement of an historic bridge on new location when the historic bridge is left in its original location if its historic value will be maintained, and the proximity impacts of the new bridge do not result in a substantial impairment of the historic bridge. To satisfy the first requirement, FHWA requires the establishment of a mechanism of continued maintenance to avoid the circumstance of harm to the bridge due to neglect.

**Question C:** How do the requirements of Section 4(f) apply to donations pursuant to 23 U.S.C. 144(o) to a State, locality, or responsible private entity?

**Answer C:** 23 U.S.C. 144(o) is a separate requirement related to historic bridges when demolition is proposed. 23 U.S.C. 144(o)(4) requires the State that proposes to demolish an historic bridge for a replacement project using Federal funds (i.e. Section 144 bridge funds) to first make the bridge available for donation to a State, locality or a responsible private entity. This process is commonly known as



“marketing the historic bridge”. The State, locality or responsible entity that accepts the donation must enter into an agreement to maintain the bridge and the features that give it its historic significance, and assume all future legal and financial responsibility for the bridge. Therefore, Section 4(f) will not apply to the bridges that are donated according to requirements of 23 U.S.C. 144(o) as the bridge is not used in the transportation project. The exception found in 23 C.F.R. 771.135(f) also applies, given the maintenance agreement that is required under 23 U.S.C. 144(o).

If the bridge marketing effort is unsuccessful and the bridge is to be demolished, the evaluation must include the finding that there is no feasible and prudent alternative to the use and the project includes all possible planning to minimize harm.

Note: *Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges* ([www.environment.fhwa.dot.gov/guidebook/vol2/doc15j.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15j.pdf)) may be used for projects that require the use of an historic bridge.

**Question D:** Does Section 4(f) apply to other historic transportation facilities?

**Answer D:** Yes, but in the case of restoration, rehabilitation or maintenance of historic transportation facilities (e.g. railroad stations and terminal buildings which are on or eligible for the National Register) Section 4(f) only applies when the facility will be adversely affected (36 C.F.R. 800.5) by the proposed improvement.

## 5. Archaeological Resources

**Question A:** When does Section 4(f) apply to archaeological sites?

**Answer A:** Section 4(f) applies to all archaeological sites that are on or eligible for inclusion on the National Register and that warrant preservation in place. This includes those sites discovered during construction. Section 4(f) does not apply if FHWA, after consultation with the SHPO and/or THPO, determines that the archaeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place (23 CFR 771.135(g)).

**Question B:** How are archeological sites discovered during construction of a project handled?

**Answer B:** For sites discovered during construction, where preservation of the resource in place is warranted, the Section 4(f) process will be expedited. In such cases, the evaluation of feasible and prudent alternatives will take into account the level of investment already made. The review process, including the consultation with other agencies should be shortened, as appropriate. An October 19, 1980, *Memorandum of Understanding with the Heritage Conservation and Recreation Service* (now part of the National Park Service) provides emergency procedures for unanticipated cultural resources discovered during construction. The MOU is available in the FHWA Environmental Guidebook ([www.environment.fhwa.dot.gov/guidebook/vol2/doc10j.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc10j.pdf)). 36 C.F.R. 800.13 addresses the process for considering post-review discoveries under the Section 106 process.

**Question C:** How should the Section 4(f) requirements be applied to archaeological districts?

**Answer C:** Section 4(f) requirements apply to archeological districts in the same way as historic districts, but only where preservation in place is warranted. Section 4(f) would not apply if after consultation with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), FHWA determines that the project would occupy only a part of the archaeological district which is considered a non-contributing element of that district or that the project occupies only a part of the district which is important chiefly because of what can be learned by data recovery and has minimal value for

preservation in place. As with an historic district, if FHWA determines the project will result in an adverse effect on an archaeological district, which is significant for preservation in place, then FHWA must consider whether or not the project impacts will result in a "substantial impairment" and a constructive use determination is warranted.

## 6. Public Multiple-Use Land Holdings

**Question:** Are multiple-use public land holdings (e.g., National Forests, State Forests, Bureau of Land Management lands, etc.) subject to the requirements of Section 4(f)?

**Answer:** Section 4(f) applies to historic properties (those on or eligible for the National Register of Historic Places) located on these multiple-use land holdings and only to those portions of the lands which are designated by statute or identified in the management plans of the administering agency as being primarily for park, recreation, or wildlife and waterfowl refuge purposes, and determined to be significant for such purposes. For example, within a large multiple-use resource, like a National Forest, there can be areas that qualify as 4(f) property (e.g. a campground, picnic area, etc.) while other areas of the property function primarily for purposes other than park, recreation or refuges. Coordination with the official having jurisdiction and examination of the management plan for the area are necessary to determine Section 4(f) applicability.

For public land holdings, which do not have management plans or existing management plans are out-of-date, Section 4(f) applies to those areas that are publicly owned and function primarily for 4(f) purposes. Section 4(f) does not apply to areas of multiple-use lands which function primarily for purposes other than park, recreation or refuges such as for those areas that are used for timber sales or mineral extraction in National Forests.

## 7. Late Designation of 4(f) Resources

**Question:** Are properties in the highway right-of-way that are designated (as park and recreation lands, wildlife and waterfowl refuges, or historic sites) late in the development of a proposed project subject to the requirements of Section 4(f)?

**Answer:** Except for archaeological resources (including those discovered during construction), a project may proceed without consideration under Section 4(f) if that land was purchased for transportation purposes prior to the designation or prior to a change in the determination of significance and if an adequate effort was made to identify properties protected by Section 4(f) prior to the acquisition. The adequacy of effort made to identify properties protected by Section 4(f) should consider the requirements and standards of adequacy that existed at the time of the search. Archaeological resources may be subject to the requirements of Section 4(f) in accordance with Question 5.

## 8. Wild and Scenic Rivers

**Question A:** Are Wild and Scenic Rivers (WSR) subject to Section 4(f)?

**Answer A:** A Wild and Scenic River (WSR) is defined as "a river and the adjacent area within the boundaries of a component of the National Wild and Scenic Rivers System (National System)", pursuant to Section 3(a) and 2(a)(ii) of the National Wild and Scenic Rivers Act (WSRA) (36 C.F.R. 297.3). Significant publicly owned public parks, recreation areas, or significant wildlife and waterfowl refuges and historic sites (on or eligible of the National Register of Historic Places) in a WSR corridor are subject to Section 4(f). Privately owned lands in a WSR corridor are not subject to Section 4(f), except for historic and archeological sites (see Question 5). Publicly owned lands not open to the general public (e.g., military bases and any other areas with similar restricted access) and whose primary purpose is other than 4(f) are not subject to Section 4(f).

Lands in WSR corridors managed for multiple purposes may or may not be subject to Section 4(f) requirements, depending on the manner in which they are administered by the managing agency (see also Question 6). WSRs are managed by four different Federal agencies, including the U.S. Forest Service, the National Park Service, the Fish and Wildlife Service and the Bureau of Land Management. Close examination of the management plan (as required by the WSRA) prior to any use of these lands for transportation purposes is necessary. Section 4(f) would apply to those portions of the land designated in a management plan for recreation or other 4(f) purposes as discussed above. Where the management plan does not identify specific functions, or where there is no plan, FHWA should consult further with the river-administering agency prior to making the Section 4(f) determination.

The WSRA sets forth those rivers in the United States, which are designated as part of the Wild and Scenic River System. Within this system there are wild, scenic and recreational designations. In determining whether Section 4(f) is applicable to these rivers, one must look at how the river is designated, how the river is being used and the management plan over that reach of the river. If the river is designated a recreational river under the Act or is a recreation resource under a management plan, then it would be a 4(f) resource. A single river can be classified as having separate wild, scenic and recreation areas along the entire river. The designation of a river under the WSRA does not in itself invoke Section 4(f) in the absence of 4(f) attributes and qualities. For example, if a river is included in the System and designated as “wild” but is not being used as or designated under a management plan as a park, recreation area, wildlife and waterfowl refuge and is not an historic site, then Section 4(f) would not apply.

Aspects of the FHWA program determined to be a water resources project are subject to Section 7 of the WSRA (16 U.S.C. 1271 et seq.) This requires the river-administering agency to make a determination as to whether there are “direct and adverse effects” to the values of a WSR or congressionally authorized study river. Although Section 7 of the WSRA generally results in more stringent control, Section 4(f) may also apply to bridges that cross a designated WSR.

**Question B:** Are potential rivers and adjoining lands under study (pursuant to Section 5(a) of the Wild and Scenic Rivers Act) 4(f) resources?

**Answer B:** No, unless they are significant publicly owned public parks, recreation areas, and refuges, or significant historic sites in a potential river corridor. However, such rivers are protected under Section 12(a)<sup>7</sup> of the WSRA, which directs all Federal departments and agencies to protect river values in addition to meeting their agency mission. Section 12(a) further recognizes that particular attention should be given to “timber harvesting, road construction, and similar activities, which might be contrary to the purposes of this Act.”

## 9. Fairgrounds

**Question:** Are publicly owned fairgrounds subject to the requirements of Section 4(f)?

**Answer:** Section 4(f) is not applicable to publicly owned fairgrounds that function primarily for commercial purposes (e.g. stock car races, annual fairs, etc.), rather than recreation. When fairgrounds are open to the public and function primarily for public recreation other than an annual fair, Section 4(f) only applies to those portions of land determined significant for recreational purposes.

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<sup>7</sup> “The Secretary of the Interior, the Secretary of Agriculture, and the head of any other Federal department or agency having jurisdiction over any lands which include, border upon, or are adjacent to, any river included within the National Wild and Scenic Rivers System or under consideration for such inclusion, in accordance with section 2(a)(ii), 3(a), or 5(a), shall take such action respecting management policies, regulations, contracts, plans, affecting such lands, following the date of enactment of this sentence, as may be necessary to protect such rivers in accordance with the purposes of this Act.”

## 10. School Playgrounds

**Question:** Are publicly owned school playgrounds subject to the requirements of Section 4(f)?

**Answer:** While the primary purpose of public school playgrounds is for structured physical education classes and recreation for students, these properties may also serve significant public recreational purposes and as such, may be subject to Section 4(f) requirements. When a playground serves only school activities and functions, the playground is not considered subject to Section 4(f). However, when a public school playground is open to the public and serves either organized or substantial “walk-on” recreational purposes, it is subject to the requirements of Section 4(f) if the playground is determined to be significant for recreational purposes (see also Question 2 B). In determining the significance of the playground facilities, there may be more than one official having jurisdiction over the facility. A school official is considered to be the official having jurisdiction of the land during school activities. However, the school board may have authorized the city park and recreation department or a public organization to control the facilities after school hours. The actual function of the playground is the determining factor under these circumstances. Therefore, documentation should be obtained from the officials having jurisdiction over the facility stating whether or not the playground is of local significance for recreational purposes.

## 11. Golf Courses

**Question A:** Are public golf courses subject to Section 4(f), even when fees and reservations are required?

**Answer A:** The applicability of Section 4(f) to a golf course depends on the ownership of the golf course. There are generally three types of golf courses:

- 1) Publicly owned and open to the general public,
- 2) Privately owned and open to the general public and
- 3) Privately owned and for the use of members only.

Section 4(f) would apply only to those golf courses that are publicly owned, open to public and determined to be significant recreational areas (see also Question 2 B). The first type of golf course mentioned above includes those that are owned, operated and managed by a city, county or state for the primary purpose of public recreation. These golf courses meet the basic applicability requirements, as long as they are determined to be significant by the city, county or state official with jurisdiction and FHWA agrees with this determination.

Section 4(f) would not apply to the two types of privately owned and operated golf courses mentioned above, even if they are open to the general public.

The fact that greens-fees or reservations (tee times) are required by the facility does not alter the Section 4(f) applicability to the resource, as long as the standards of public ownership, public access and significance are met. See Question 12 for more information on entrance or user fees.

**Question B:** How are “military” golf courses treated under Section 4(f)?

**Answer B:** Military golf courses are a special type of recreational area. They are publicly owned (by the Federal Government) but are not typically open to the general public. Because the recreational use of these facilities is generally limited to military personnel and their families they are not considered to be public recreational areas and, therefore, Section 4(f) does not apply to them (see Question 2 C).

## 12. User or Entrance Fees

**Question:** Does the charging of an entry or user fee affect Section 4(f) eligibility?

**Answer:** Many eligible 4(f) properties require a fee to enter or use the facility such as State Parks, National Parks, publicly owned ski areas, historic sites and public golf courses. The assessment of a user fee is generally related to the operation and maintenance of the facility and does not in and of itself negate the property's status as a 4(f) resource. Therefore, it does not matter in the determination of Section 4(f) applicability whether or not a fee is charged, as long as the other criteria are satisfied.

Consider a public golf course as an example. As discussed in Question 11, greens-fees are usually if not always required, and these resources are considered 4(f) resources when they are open to the public and determined to be significant. The same rationale should be applied to other 4(f) resources and lands in which an entrance or user fee is required.

### 13. Bodies of Water

**Question:** How does the Section 4(f) apply to publicly owned lakes and rivers?

**Answer:** Lakes are sometimes subject to multiple, even conflicting, activities and do not readily fit into one category or another. When lakes function for park, recreation, or refuge purposes, Section 4(f) would only apply to those portions of water which function primarily for those purposes. Section 4(f) does not apply to areas which function primarily for other purposes. In general, rivers are not subject to the requirements of Section 4(f). Rivers in the National Wild and Scenic Rivers System are subject to the requirements of Section 4(f) in accordance with Questions 8 A and 8 B. Those portions of publicly owned rivers, which are designated as recreational trails are subject to the requirements of Section 4(f). Of course Section 4(f) would also apply to lakes and rivers or portions thereof which are contained within the boundaries of parks, recreational areas, refuges, and historic sites to which Section 4(f) otherwise applies.

### 14. Trails

**Question A:** The National Trails System Act permits the designation of scenic, historic and recreational trails. Are these trails or other designated scenic or recreational trails on publicly owned land subject to the requirements of Section 4(f)?

**Answer A:** Public Law 95-625 provides that, no land or site located along a designated national historic trail or along the Continental Divide National Scenic Trail shall be subject to the provisions of Section 4(f) of the Department of Transportation Act (49 U.S.C. 1653(f)) unless such land or site is deemed to be of historical significance under appropriate historical site criteria, such as those for the National Register of Historic Places. Only lands or sites adjacent to historic trails that are on or eligible for the National Register of Historic Places are subject to Section 4(f). Otherwise (pursuant to Public Law 95-625), national historic trails are exempt from Section 4(f).

**Question B:** Are trails on privately owned land, including land under public easement and designated as scenic or recreational trails subject to the requirements of Section 4(f)?

**Answer B:** Section 4(f) does not apply to trails on privately owned land. Section 4(f) could apply where a public easement that permits public access for recreational purposes exists. In any case, it is FHWA's policy that every reasonable effort should be made to maintain the continuity of existing and designated trails.

**Question C:** Are trails on highway rights-of-way, which are designated as scenic or recreational trails subject to the requirements of Section 4(f)?

**Answer C:** If the trail is simply described as occupying the rights-of-way of the highway and is not limited to any specific location within the right-of-way, a use of land would not occur provided that adjustments or

changes in the alignment of the highway or the trail would not substantially impair the continuity of the trail. In this regard, it would be helpful if all future designations including those made under the National Trails System Act describe the location of the trail only as generally in the right-of-way.

It should be noted that in Title 23, Section 109(m) precludes the approval of any project, which will result in the severance, or destruction of an existing major route for non-motorized transportation traffic unless such project provides a reasonable alternative route or such a route exists.

**Question D:** Does Section 4(f) apply to trails funded under the Recreational Trails Program (RTP)?

**Answer D:** No. The Recreational Trails Program (RTP)<sup>8</sup> is exempt from the requirements of 23 U.S.C. 138 and 49 U.S.C. 303. This allows the USDOT/FHWA to approve RTP projects which are located on land within publicly owned parks or recreation areas without requiring a waiver or other Section 4(f) documentation (23 U.S.C. 206 (h)(2)). The exemption is limited to Section 4(f) and does not apply to other environmental requirements, such as the National Environmental Policy Act (NEPA) or the National Historic Preservation Act (NHPA). More information on the Recreational Trails Program is available at [www.fhwa.dot.gov/environment/rectrails/index.htm](http://www.fhwa.dot.gov/environment/rectrails/index.htm).

## 15. Bikeways

**Question:** Do the requirements of Section 4(f) apply to bikeways?

**Answer:** If the publicly owned bikeway is primarily used for transportation and is an integral part of the local transportation system, the requirements of Section 4(f) would not apply, since it is not a recreational area. Section 4(f) would apply to publicly owned bikeways (or portions thereof) designated or functioning primarily for recreation, unless the official having jurisdiction determines it is not significant for such purpose. During early consultation with the official with jurisdiction it should be determined whether or not a management plan exists that addresses the primary purpose of the bikeway in question.

However, as with recreational trails, if the bikeway is simply described as occupying the highway rights-of-way and is not limited to any specific location within that right-of-way, a use of land would not occur and Section 4(f) would not apply, provided adjustments or changes in the alignment of the highway or bikeway would not substantially impair the continuity of the bikeway. Just as with trails, Title 23 Section 109(m) precludes the approval of any project, which will result in the severance or destruction of an existing major route for non-motorized transportation traffic, unless such project provides a reasonable alternative route or such a route exists.

## 16. Joint Development (Park with Highway Corridor)

**Question:** When a public park, recreation area, or wildlife and waterfowl refuge is established and an area within the 4(f) resource is reserved for highway use prior to, or at the same time the 4(f) resource was established, do the requirements of Section 4(f) apply?

**Answer:** No, the requirements of Section 4(f) do not apply to the subsequent use of the reserved area for its intended highway purpose. This is because the land used for the highway project was reserved from and, therefore, has never been part of the protected 4(f) area. Nor is there a constructive use (23 C.F.R. 771.135(p)(5)(v)) of the 4(f) resource, since it was jointly planned with the highway project. The specific governmental action that must be taken to reserve a highway corridor from the 4(f) resource is a question of state law and local law, but evidence that the reservation was contemporaneous with or prior to the establishment of the 4(f) resource is always required. Subsequent statements of intent to construct a highway project within the 4(f) resource are not sufficient. All measures which have been taken to

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<sup>8</sup>In 1998, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) replaced the National Recreational Trails Funding Program created by the Intermodal Surface Transportation Efficiency Act (ISTEA) with the Recreational /Trails Program (RTP).

jointly develop the highway and the park should be completely documented in the project records. To provide flexibility for the future highway project, state and local transportation agencies are advised to reserve wide corridors.

## 17. Planned 4(f) Resources

**Question:** Do the requirements of Section 4(f) apply to publicly owned properties "planned" for park, recreation area, wildlife refuge, or waterfowl refuge purposes even though they are not presently functioning as such?

**Answer:** Section 4(f) applies when the land is one of the enumerated types of publicly owned lands and the public agency that owns the property has formally designated and determined it to be significant for park, recreation area, wildlife and waterfowl refuge purposes. Evidence of formal designation would be the inclusion of the publicly owned land, and its function as a 4(f) resource, into a city or county Master Plan. A mere expression of interest or desire is not sufficient. When privately held properties of these types are formally designated into a Master Plan, Section 4(f) is not applicable. The key is whether the planned facility is presently publicly owned, formally designated and significant. When this is the case, Section 4(f) would apply.

## 18. Temporary Recreational Occupancy or Uses of Highway Rights-of-way

**Question:** Does Section 4(f) apply to temporary recreational uses of land owned by a State Department of Transportation or other Applicant and designated for transportation purposes?

**Answer:** In situations where land which is owned by a State DOT or other Applicant and designated for future transportation purposes (including highway rights-of-way) is temporarily occupied or being used for either authorized or unauthorized recreational purposes such as for a playground or a trail (bike, snowmobile, hiking, etc.) on property purchased as right-of-way, Section 4(f) does not apply. For authorized temporary occupancy of highway rights-of-way for park or recreation, it is advisable to make clear in a limited occupancy permit, with a reversionary clause that no long-term right is created and the park or recreational activity is a temporary one pending completion of the highway or transportation project.

**Note:** In one recent proposed transportation project, lands designated for transportation purposes and utilized for recreational uses pursuant to a revocable agreement granting temporary use, were found by a court to be 4(f) resources, but this case had unusual facts. Nevertheless, it is important to recognize this decision, even though it is contrary to FHWA policy (see Stewart Park and Reserve Coalition v. Slater, 352 F.3d 545 (2<sup>nd</sup> Cir. 2003), Appendix A, Question 18).

## 19. Tunneling

**Question:** Is tunneling under a publicly owned public park, recreation area, wildlife or waterfowl refuge, or historic site subject to the requirements of Section 4(f)?

**Answer:** Section 4(f) would apply only if the tunneling:

- 1) Disturbs any archaeological sites on or eligible for the National Register of Historic Places which warrant preservation in place, or
- 2) Causes disruption which would permanently harm the purposes for which the park, recreation, wildlife or waterfowl refuge was established, or
- 3) Substantially impairs the historic values of the historic site.

## 20. Wildlife and Waterfowl Refuges

**Question A:** What is a wildlife or waterfowl refuge for purposes of Section 4(f)?

**Answer A:** The terms “wildlife refuge” and “waterfowl refuge” are not defined in the Section 4(f) law or in FHWA's regulations. However, in 1966, the same year Section 4(f) was passed; Congress also passed the National Wildlife Refuge System Act (NWRSA). The NWRSA defines these terms broadly focusing on the preservationist intent of the refuges. The FHWA has considered this in our implementation of Section 4(f) for refuges. For purposes of Section 4(f), a wildlife and waterfowl refuge is publicly owned land (including waters) where the major purpose of such land is the conservation, restoration, or management of endangered species, their habitat, and other wildlife and waterfowl resources. In determining the major purpose of the land, consideration must be given to the following: (1) the authority under which the land was acquired; (2) lands with special national or international designations; (3) the management plan for the land; and/or (4) whether the land has been officially designated by a Federal, State, or local agency having jurisdiction over the land, as an area for which its major purpose and function is the conservation restoration, or management of endangered species, their habitat or wildlife and waterfowl resources. Recreational activities, including hunting and fishing, are consistent with the broader species preservation.

Examples of properties that may function as wildlife or waterfowl refuges include: State or Federal wildlife management areas, a wildlife reserve, preserve or sanctuary, and waterfowl production areas, including wetlands and uplands that are set aside (in a form of public ownership) for refuge purposes. The FHWA must consider the ownership, significance and major purpose of these properties in determining if Section 4(f) should apply. In making these determinations FHWA should review the existing management plans and consult with the Federal, State or local officials having jurisdiction over the property. In some cases, these types of properties will actually be multiple-use public land holdings of the type discussed in Question 6, and should be treated accordingly.

**Question B:** Are “conservation easements” acquired by the United States on private lands considered Section 4(f) wildlife and waterfowl refuges?

**Answer B:** Easements (a form of property ownership, see Question 2 D) acquired by the United States are subject to Section 4(f) as a wildlife and waterfowl refuges when they are part of the National Wildlife Refuge System. Other lands may be subject to Section 4(f) when they meet the definition and criteria specified in Answer A, above. In all cases, FHWA must consider the ownership, significance, and major purpose of these types of properties in determining if Section 4(f) should apply.

## 21. Air Rights

**Question:** Do the requirements of Section 4(f) apply to bridging over a publicly owned public park, recreation area, wildlife or waterfowl refuge, or historic site?

**Answer:** Section 4(f) will apply if piers or other appurtenances are physically located in the park, recreation area, wildlife and waterfowl refuge, or significant historic property. Where the bridge will span the 4(f) resource entirely, the proximity impacts of the bridge on the 4(f) resource should be evaluated to determine if the placement of the bridge will result in a constructive use (see Question 1 B).

## 22. Non-Transportation Use of 4(f) Resources

**Question:** Does the expenditure of Title 23 funds for mitigation or non-transportation activities on a 4(f) resource trigger the requirements of Section 4(f)?



**Answer:** No. Section 4(f) only applies where land is permanently incorporated into a transportation facility and when the primary purpose of the activity on the 4(f) resource is for transportation. If activities are proposed within a 4(f) resource solely for the protection, preservation, or enhancement of the resource and the official with jurisdiction has been consulted and concurs with this finding (in writing) then the provisions of Section 4(f) do not apply.

For example, consider the construction or improvement of any type of recreational facility in a park or recreation area (see Question 24) or the construction of a permanent structural erosion control feature, such as a detention basin. Where these activities are for the enhancement or protection of the 4(f) resource, do not permanently incorporate land into a transportation facility, do not appreciably change the use of the property and the officials having jurisdiction agree, Section 4(f) would not apply.

Another example involves the enhancement, rehabilitation or creation of wetland within a park or other 4(f) resource as part of the mitigation for a transportation project's wetland impacts. Where this work is consistent with the function of the existing park and considered an enhancement of the 4(f) resource by the official having jurisdiction, then Section 4(f) would not apply. In this case the 4(f) land is not permanently incorporated into the transportation facility, even though it is a part of the project as mitigation.

If activities funded with Title 23 funds result in a substantial change in the purpose, function or change the ownership from a 4(f) resource to transportation, then Section 4(f) will apply.

## 23. Scenic Byways

**Question:** How does Section 4(f) apply to scenic byways?

**Answer:** The designation of a road as a scenic byway is not intended to create a park or recreation area within the meaning of 49 U.S.C. 303 or 23 U.S.C. 138. The improvement (reconstruction, rehabilitation, or relocation) of a publicly-owned scenic byway would not come under the purview of Section 4(f) unless the improvement was to otherwise use land from a protected resource.

## 24. Transportation Enhancement Projects

**Question A:** How is Section 4(f) applied to transportation enhancement activity projects?

**Answer A:** A transportation enhancement activity (TEA) is one of twelve specific types of activities set forth by statute at 23 U.S.C. 101(a)(35). TEAs often involve the enhancement of, or improvement to, land that qualifies as a Section 4(f) protected resource. For a 4(f) resource to be used by a TEA, two things must occur, (1) the TEA must involve land of an existing 4(f) resource; and (2) there must be a use of that 4(f) resource as defined by 23 C.F.R. 771.135(p). Therefore, if a TEA permanently incorporates 4(f) land into a transportation facility then there is a use and Section 4(f) will apply.

The following TEAs have the greatest potential for Section 4(f) use:

- Facilities for pedestrians and bicycles
- Acquisition of scenic easements and scenic or historic sites
- Scenic or historic highway programs including tourist and welcome centers
- Historic preservation
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals)
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails)

Conversely, the TEAs below are less likely to be subject to Section 4(f):

- Safety and educational activities for pedestrians and bicyclists
- Landscaping or other scenic beautification
- Control and removal of outdoor advertising
- Archeological planning and research
- Environmental mitigation of highway runoff pollution, reduce vehicle-caused wildlife mortality, maintain habitat connectivity
- Establishment of transportation museums

In both categories above, the question of Section 4(f) use must be evaluated on a case-by-case basis.

To illustrate how Section 4(f) is applicable to a TEA, consider the following two scenarios involving a significant public park:

Scenario 1: A TEA project is proposed for the construction of a new pedestrian or bike facility within a public park. The purpose of the project is primarily to promote a mode of travel and requires a transfer of land from the officials with jurisdiction over the 4(f) resource to the State DOT or local transportation authority. Since this project would involve the “permanent incorporation of 4(f) land into a transportation facility” there is a use of 4(f) land and a Section 4(f) evaluation should be prepared. In this instance, *The Programmatic Section 4(f) Evaluation for Independent Bikeway or Walkway Construction Projects* ([www.environment.fhwa.dot.gov/guidebook/vol2/doc15m.pdf](http://www.environment.fhwa.dot.gov/guidebook/vol2/doc15m.pdf)) would likely apply, depending on the particular circumstances of the project.

Scenario 2: The purpose of a TEA project is to construct, rehabilitate, reconstruct or refurbish an already existing bike path or walkway within a public park. This project relates to surface transportation but the improvement is primarily intended to enhance the park. In this case there is no “permanent incorporation of 4(f) land into a transportation facility” and, therefore, no Section 4(f) use. A Section 4(f) evaluation does not need to be prepared.

Other TEA projects can involve existing transportation facilities such as highways, bridges, and buildings which are expected to have a useful life that is finite and therefore, continually require maintenance or rehabilitation. While 23 C.F.R. 771.135(f) may apply in certain instances, generally speaking, the rehabilitation of a highway, building or bridge relates to surface transportation but does not rise to the level of a Section 4(f) use (see also Question 4).

Archaeological planning and research projects that involve the potential use of a significant archeological property are covered by the provisions of 23 C.F.R. 771.135(g) (see Question 5). Other TEAs may be handled in accordance with this answer. In complex situations the FHWA Division Office should contact the Headquarters Office of Project Development and Environmental Review or the Office of the Chief Counsel for assistance.

**Note:** This answer supersedes the August 22, 1994; *Interim Guidance on Applying Section 4(f) On Transportation Enhancement Projects and National Recreational Trails*.

**Question B:** Is it possible for a TEA to create a 4(f) resource?

**Answer B:** To be eligible for transportation enhancement funding, a proposed activity must relate to surface transportation and not be solely for recreation or other purpose. Also, the development of parks, recreation areas, or wildlife and waterfowl refuges are not designated eligible TEAs. Thus, in most cases, the TEA by itself would not create a 4(f) resource, where one did not previously exist.

That being said, it is possible for transportation enhancement funds to enhance existing 4(f) resources, such as a bikeway or pedestrian facility that is constructed within a park. The use of TEA funds in this case would not alter the future Section 4(f) status of the park and may add Section 4(f) values that would

have to be considered in subsequent projects. See Question 22 for additional discussion of the use of transportation funds within a park or other 4(f) resource for non-transportation purposes.

For more information, see the *FHWA Final Guidance on Transportation Enhancement Activities*; December 17, 1999, and the TE Program Related Questions & Answers; August, 2002, found at the Transportation Enhancement Website ([www.fhwa.dot.gov/environment/te/index.htm](http://www.fhwa.dot.gov/environment/te/index.htm)).

## 25. Museums, Aquariums and Zoos?

**Question:** Does Section 4(f) apply to museums, aquariums and zoos?

**Answer:** Publicly owned museums or aquariums will not normally be considered parks, recreational areas, or wildlife and waterfowl refuges and are, therefore, not subject to Section 4(f) unless they are significant historic properties.

Publicly owned zoos on the other hand, should be evaluated on a case-by-case basis to determine the major purpose of these resources and if they are significant park and/or recreational resources. To the extent that these resources are considered to be significant park or recreational areas, or are significant historic properties, they will be treated as 4(f) resources.

## 26. Tribal Lands and Indian Reservations

**Question:** How are lands owned by Federally Recognized Tribes, and/or Indian Reservations treated for the purposes of Section 4(f)?

**Answer:** Federally recognized Indian Tribes are considered sovereign nations, therefore, lands owned by them are not considered to be “publicly owned” within the meaning of Section 4(f), nor open to the general public, and Section 4(f) does not automatically apply. However, in situations where it is determined that land or resources owned by a Tribal Government or on Indian Reservation functions as a significant park, recreational area (which are open to the general public), a wildlife and waterfowl refuge, or is eligible for the National Register of Historic Places, Section 4(f) would apply.

## 27. Traditional Cultural Properties

**Question:** Are lands that are considered to be traditional cultural properties subject to the provisions of Section 4(f)?

**Answer:** A traditional cultural property or TCP is defined in the 1990 National Register Bulletin # 38 generally as land that may be eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that; (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Land referred to as a TCP is not automatically considered historic property, or treated differently from other historic property. A TCP must also meet the National Register criteria as a site, structure, building, district, or object to be eligible for Section 4(f) protection.

For those TCPs related to an Indian tribe, the Tribal Historic Preservation Officer (THPO) or tribal resource administrator should be consulted in determining whether the TCP is on or eligible for the National Register. For other TCPs the State Historic Preservation Officer (SHPO) should be consulted.

## 28. Cemeteries

**Question A:** Does Section 4(f) apply to cemeteries?

**Answer A:** Cemeteries would only be considered 4(f) properties if they are significant historic resources, i.e., determined to be on or eligible for the National Register of Historic Places.

**Question B:** Does Section 4(f) apply to other lands that contain human remains?

**Answer B:** Lands that contain human remains, such as graveyards, family burial plots, or Native American burial sites and those sites that contain Native American grave goods associated with burials, are not in and of themselves considered to be 4(f) resources. However, these types of lands may also be historic properties included on or eligible for inclusion in the National Register. These sites should not automatically be considered only as archeological resources as many will have value beyond what can be learned by data recovery. If these sites are National Register listed or eligible and also warrant preservation in place, Section 4(f) applies (see Question 5). For more information on the subject of historic cemeteries see, National Register Bulletin #41, *Guidelines for Evaluating and Registering Cemeteries and Burial Places*; 1992.

When conducting the Section 4(f) determination for lands that may be Native American burial sites or sites with significance to a Federally Recognized Tribe, consultation with appropriate representatives from the Federally Recognized Tribes with interest in the site is essential.

## 29. Section 4(f) Evaluations in Tiered NEPA Documents

**Question:** How should Section 4(f) be handled in tiered NEPA documents?

**Answer:** This issue is addressed to some degree in 23 C.F.R. 771.135(o)(1). Because the project development process moves from a broad scale examination at the tier-one stage, to a more site specific evaluation in tier-two, does not relieve FHWA from its responsibility to consider feasible and prudent avoidance alternatives to the use of 4(f) resources at the tier-one stage. Where all alternatives in the second tier analysis use a 4(f) resource, it may be appropriate and necessary to reconsider the feasibility and prudence of an avoidance alternative that was eliminated during the tier-one evaluation phase.

## 30. Department of the Interior Handbook on Departmental Review of Section 4(f) Evaluations (2002)

**Question:** What is the official status of the February 2002, *Handbook on Departmental Reviews of Section 4(f) Evaluations*, issued by the Department of the Interior, Office of Environmental Policy and Compliance?

**Answer:** Section 4(f) legislation (23 U.S.C. 138 and 49 U.S.C. 303) identifies the Department of Interior, as well as the Departments of Agriculture and Housing and Urban Development as having a role in Section 4(f) matters. The U.S. Department of Transportation (DOT) is required to consult and cooperate with these Departments in Section 4(f) program and project related matters.

The purpose of the Handbook is to provide guidance to the National Park Service (NPS), U.S. Fish and Wildlife Service (F&WS) and other designated lead bureaus in the preparation of DOI comments on Section 4(f) evaluations prepared by the DOT, pursuant to the authority granted in Titles 23 and 49. The Handbook is an official DOI document and includes departmental opinion related to the applicability of Section 4(f) to lands for which they have jurisdiction and authority. FHWA values the DOI's opinions related to the resources under their jurisdiction, and while the Handbook provides resource information for FHWA to consider, it is not the final authority on Section 4(f) determinations.

Official FHWA policy on the applicability of Section 4(f) to lands that fall within the jurisdiction of the DOI is contained within 23 C.F.R. 771.135 and this *Policy Paper*. FHWA is not legally bound by the Handbook, or the comments provided by the DOI or lead bureaus, however, every attempt should be made to reach agreement during project consultation. In some situations one of the bureaus may be an official having jurisdiction. When unresolved conflicts arise during coordination with the NPS, F&WS or other bureaus related to the applicability of Section 4(f) to certain types of land or resources, it may be necessary for the Division Office to contact the Office of Project Development and Environmental Review for assistance.

## **APPENDIX A** **Analysis of Case Law**

The following analysis provides brief legal notes and citations to some Section 4(f) cases that relate to the subject matter discussed in the question and answer section of the Section 4(f) Policy Paper. This section is provided for informational purposes and as background to the policy addressed in the question and answers. In some instances, case law does not address the specific example in the Policy Paper. Also, there are some examples that have had no case address the subject matter of the question. When you have specific legal questions or need legal advice about Section 4(f) applicability, please contact the Legal Staff of the Office of Chief Counsel within your geographic area. FHWA reserves the right to modify and update this appendix as case law becomes applicable.

### **1. Use of Resources**

**Question A:** What constitutes a “use” of land from a publicly owned public park, recreation area, wildlife refuge, and waterfowl refuge or historic site?

**Legal Note:** A number of cases have discussed “use” and “constructive use” and only a few are mentioned here. Several courts have held that the term “use” is to be construed broadly, not limited to the concept of physical taking, but includes areas that are significantly, adversely affected by the project. Adler v. Lewis, 675 F.2d 1085, 1092 (9<sup>th</sup> Cir. 1982); Concerned Citizens Alliance v. Slater, 176 F.3d 686 (3<sup>rd</sup> Cir. 1999). In Concerned Citizens, it was undisputed that the preferred alignment would “use” an historic district by sending through the district, resulting in visual, traffic, and noise and vibration impacts. The issue in that case was whether the preferred alternative would impose the least harm on the historic district.

In Brooks v. Volpe, 460 F.2d 1193 (9<sup>th</sup> Cir. 1972), the Court held that construction of a segment of Interstate Highway I-90 which would encircle campground areas would result in a “use” due to the indirect impacts to the campground under Section 4(f) expanding the physical use concept to what would later be called constructive use and codified in FHWA's regulations at 23 C.F.R. 771.135(p).

**Question B:** How is “constructive use” defined and determined?

**Legal Note:** Significant adverse indirect impacts, now called “substantial impairment” in FHWA's regulations, can result in a constructive use. D.C. Fed'n of Civic Ass'ns v. Volpe, 459 F.2d 1231 (D.C. Cir. 1971). At the same time, not every change within park boundaries constitutes a “use” of Section 4(f) lands. Coalition on Sensible Transp., Inc. v. Dole, 826 F.2d 60 (D.C. Cir. 1987). No “use” occurs where an action will have only an insignificant effect on the existing use of protected lands. In Geer v. FHWA, 975 F. Supp. 47, 73 (D. Mass. 1997), the court upheld the FHWA's determination of no constructive use, which concluded that the noise and visual impacts were not significant given the existing urban context of the project and existing impacts under the no-build option.

In Davis v. Mineta, 302 F.3d 1104 (10<sup>th</sup> Cir. 2002), construction of a project that would substantially impair the aesthetic attributes associated with the Jordan River Parkway was subject to Section 4(f) due to the disruption of the natural setting and feeling of the Parkway. In that case, noise levels were expected to increase at least ten decibels in the parkway. In Conservation Soc'y of S. Vt. v. Sec'y of Transp., 443 F. Supp. 1320 (D. Vt. 1978), “close proximity” of the proposed highway project to the Lye Brook Wilderness area was deemed a “use” of publicly owned recreation land subject to Section 4(f).

The effects of noise can result in a constructive use. In Allison v. DOT, 908 F.2d 1024, 1028 (D.C. Cir. 1990), the court determined that the FAA erred in considering only the effect on humans using a Section 4(f) state park. However, the court ultimately found that there was no violation of Section 4(f) because the operation of the new airport would not result in a significant increase in the noise level over the level of the current facility. There was a similar result in Sierra Club v. United States Dep't of Transp., 753 F.2d 120 (D.C. Cir. 1985), in which the increase in cumulative noise from the new facility was found not to be significant.

More recently, in City of S. Pasadena v. Slater, 56 F. Supp. 2d 1106 (C.D. Cal. 1999), the plaintiffs argued that the 710 Freeway Project would constructively use historic sites by substantially impairing the aesthetic features or attributes of the sites. They argued that the proximity of the freeway to historic properties resulted in at least two forms of constructive use. First, to the extent that the overall setting of a property is an important contributing element to the historic value of the property, this attribute would be impaired. Second, they argued, the mere proximity of the freeway to the historic properties would result in additional impairments. The Defendant argued that setting was not a major aspect of the qualities that made these specific properties eligible for the National Register. The court found that this determination was simply a conclusion for which no analysis was offered. With regard to proximity, the project would come within 15 feet of an historic district. The court noted that other courts have found that there is a constructive use in situation where there is a greater distance between the project and the section 4(f) resource. (See, for example, Coalition Against Raised Expressways, Inc. v. Dole, 835 F.2d 803 (11<sup>th</sup> Cir 1988) (on-ramp within 43 feet of Section 4(f) structure is a constructive use); Stop H-3 Ass'n v. Coleman, 533 F.2d 434 (9<sup>th</sup> Cir. 1976) construction of six-lane controlled access highway passing within 100-200 feet of Section 4(f) resource is a constructive use). In City of S. Pasadena, the court found serious questions as to whether defendants abused their discretion in finding that the 710 Freeway Project would not result in any constructive uses of eligible historic resources.

**Question C:** When does temporary occupancy of a 4(f) resource result in a 4(f) use?

**Legal Note:** In Coalition On Sensible Transp. Inc. v. Dole, 642 F. Supp. 573, (D. D.C.1986) the project in Montgomery County, Maryland, proposed to widen 16 miles of Interstate 270. Among other violations, plaintiffs argued that the projects impacts to several parklands constituted a use under Section 4(f).

The Section 4(f) statement for this project examined 7 parks and conservation areas. In 4 of the 7 resources, temporary construction easements would be granted for grading and after construction was completed, would be regraded, revegetated and then returned for use as a parkland. The court found that, "the projects temporary impact upon parkland during the construction period does not amount to 'use' within the meaning of section 4(f)." 642 F. Supp. at 596.

Further, since the narrow strips of parkland were in close proximity to the existing highway, and the administrative record established that none of the land was being actively used by park authorities, the court determined that this project would not 'substantially impair the value' of parkland in this case. *Id.* The court also found that even if the project resulted in a Section 4(f) use, Section 4(f) would not have been violated.

(On appeal in Coalition on Sensible Transp. Inc. v. Dole, 826 F.2d 60 (D.C. Cir. 1987), the Court affirmed the lower court's decision for other reasons. The Appeals Court reasoned that since there were other physical uses of other Section 4(f) resources in the project area, the question of temporary occupancy amounting to a use was not necessary).

**Practitioner's note:** The district court case is useful as an example where the temporary occupancy of parkland by a temporary construction easement did not result in a use under Section 4(f).

## 2. Public Parks, Public Recreation Areas, and Wildlife and Waterfowl Refuges

**Question A:** When is publicly owned land considered to be a park, recreation area, or wildlife and waterfowl refuge and who makes this determination?

**Legal Note:** In Kickapoo Valley Stewardship Ass'n. v. U.S. Dept. of Transp., 37 Fed. Appx. 810 (7<sup>th</sup> Cir. 2002) (unpublished), the Court held that Section 4(f) only applies to those lands formally classified as parks, recreation areas, wildlife and waterfowl refuges, or historic sites. The Kickapoo Valley Reserve property was originally planned for an Army Corps of Engineers flood-control project. The dam project was cancelled and an Act of Congress transferred the property to the State of Wisconsin. The legislation specified that the land was to "be preserved in a natural state and developed only to the extent necessary to enhance outdoor recreational and educational opportunities." The Court found that this legislative

language restricting use was not sufficient to designate the Reserve as Section 4(f) land. The Court further found that it was not arbitrary and capricious for USDOT to decide not to consider the Reserve as Section 4(f) land based on the multiple uses of the Reserve, including significant portions being used for agriculture.

In Stewart Park & Reserve Coalition v. Slater, 352 F.3d 545 (2<sup>nd</sup> Cir. 2003), the Court held that Section 4(f) contains no requirement that the public parklands to which it applies must be permanently designated as such. The Court determined that Section 4(f) applied, even though the public lands to be used in the project were originally acquired for transportation purposes (airport expansion and access). Although the land was never permanently designated as parklands, it was available to the public for use as park and recreational area for almost 30 years. (See also Legal Note in 18 of this Appendix)

**Question B:** How should the significance of public parks, recreation areas, and waterfowl and wildlife refuges be determined?

**Legal Note:** Land that is used as a public park is presumed significant for Section 4(f) purposes unless explicitly determined otherwise by the appropriate federal or local officials. Arlington Coalition on Transp. v. Volpe, 458 F.2d 1323 (4<sup>th</sup> Cir. 1972). FHWA reviews the state determination of significance of a public park for reasonableness. Concerned Citizens on I-90 v. Sec. of Transp., 641 F.2d 17 (1<sup>st</sup> Cir. 1981); Geer v. FHWA, 975 F. Supp. 47, 64 (D. Mass. 1997).

## 8. Wild and Scenic Rivers

**Question A:** Are Wild and Scenic Rivers (WSR) subject to Section 4(f)?

**Legal Note:** In Hells Canyon Pres. Council v. Jacoby, 9 F.Supp.2d 1216 (D. Or. 1998), the court found that a consistency determination supported FHWA's CE. Although that case did not involve a Section 4(f) analysis with respect to the river, the court's reliance on the consistency determination in concluding that there would be no significant impact on the wild and scenic river values should apply equally to a Section 4(f) constructive use analysis.

**Practitioner's Note:** When projects may have some arguable constructive use of publicly owned waters or on publicly-owned lands administered for Section 4(f) values, it generally will be helpful to obtain a written consistency determination from the river manager. Such consistency determination may prevent a "constructive use" determination.

## 10. School Playgrounds

**Question:** Are publicly owned school playgrounds subject to the requirements of Section 4(f)?

**Legal Note:** In Piedmont Env'tl. Council v. U.S. Dept. of Transp., 159 F.Supp.2d 260 (W.D. Va. 2001), aff'd in relevant part, 58 Fed. Appx. 20 (4<sup>th</sup> Cir. 2003), the court found that the taking of some land of one school for a bypass constituted Section 4(f) property but that the agency was not arbitrary and capricious in concluding that there were no other feasible and prudent alternatives than taking the land. The court further found that "[b]ecause the defendants concluded that the recreational facilities affected by the noise and visual impacts of the bypass were not noise-sensitive and that differences in elevation and the existing wood buffer would screen the bypass from view, see id. at 35, the Secretary was within the scope of his authority and did not arbitrarily and capriciously conclude that no constructive use would occur."

**Practitioner's Note:** There is both an actual and a constructive use of school property that should be considered. When the project will take a portion or all of school property open for recreational activity, then Section 4(f) must be considered. However, when the project simply comes near such property, the visual and auditory impacts should be analyzed. If the school property is not noise sensitive, then auditory concerns will not translate into a constructive use. If the visual impact can be shielded by vegetation or elevation differences, then visual concerns may not translate into a constructive use.

However, a thorough study of the effects on the school property provides needed support for a conclusion that there is no constructive use.

## 15. Bikeways

**Question:** Do the requirements of Section 4(f) apply to bikeways?

**Legal Note:** In Laguna Greenbelt, Inc. v. U.S. Dept. of Transp., 42 F.3d 517 (9<sup>th</sup> Cir. 1994) the court found that an overpass over a bike trail, a widening of an existing bridge over a bike trail, and the relocation of a bike path within the designated right-of-way for the bike path did not constitute either actual or constructive use of the respective trails.

Calio v. Pa. Dep't of Transp. (No. 00-2163, 3d Circuit, October 10, 2001). This litigation involved a Pennsylvania Department of Transportation (PennDOT) proposal to develop a stretch of abandoned railroad track in suburban Philadelphia as a bicycle and pedestrian trail, using funds from the Congestion Mitigation and Air Quality Improvement Program (CMAQ). 23 U.S.C. 104(b)(2) 217. The proposed trail is a non-National Highway System project subject to an exemption agreement entered into by FHWA and PennDOT in 1992. See 23 U.S.C. 106(b)(2) (1991).

The case involved a single issue: would the trail be used principally for transportation, rather than recreation purposes as required for projects funded from the CMAQ program? The District Court upheld FHWA's determination that the trail project would be principally for transportation, saying it was supported by the administrative record and neither arbitrary nor capricious. The appellate court, in a three-page decision, agreed. Although the Third Circuit decision may not be cited as precedent, the District Court's decision has been published. See Calio v. Pa. Dept. of Transp., 101 F.Supp. 2d 325 (E.D. Pa. 2000).

**Practitioner's Note:** If the project can be constructed so as to preserve the trail, then generally there will not be a "use" of the trail. Thus, an overpass or even the relocation of the trail within the trail's existing right-of-way may avoid a "use" of the trail. Even if a bike path has some recreational purposes, that does not mean it is not

## 16. Joint Development (Park with Highway Corridor)

**Question:** When a public park, recreation area, or wildlife and waterfowl refuge is established and an area within the 4(f) resource is reserved for highway use prior to, or at the same time the 4(f) resource was established, do the requirements of Section 4(f) apply?

**Legal Note:** In Sierra Club v. Dole, 948 F.2d 568 (9<sup>th</sup> Cir. 1991) the 9<sup>th</sup> Circuit reversed the district court's 1987 ruling that the Secretary had failed to comply with Section 4(f) by ruling that a planned bypass road constructively used the McNee Ranch Park. In 1984, the McNee Ranch State Park was transferred to the California Department of Parks and Recreation. This transfer deliberately set aside part of the land that was to form the park, due to the CalTrans belief that this set aside land might be necessary for a future bypass of an area commonly known as "Devil's Slide" on California State Highway Route 1. The Devil's Slide was a 600-foot section of Route 1 that repeatedly was closed due to landslides.

In 1986, the Secretary approved a Final Environmental Impact Statement for the Martini Creek Alternative, but this FEIS did not include a Section 4(f) evaluation for the McNee Ranch Park.

In the 9<sup>th</sup> Circuit, USDOT claimed there was extensive cooperation between CalTrans and the park planners throughout the process of park acquisition and the road alignment. The court also examined the legislative history of Section 4(f) and found Congressional reports that stood for the proposition that Congress thought that the joint planning of roads and parks was desirable.

Additionally, the court stated that,



“[w]here a park and a road are jointly planned on land which previously had neither park or road...no consensus is being upset. The community is not changing its mind about the type of park and road it would have, but is making the determination in the first instance. It is difficult to see how the road would significantly and adversely affect the park.” (948 F.2d 575)

Further, the 9<sup>th</sup> Circuit held that a road does not “constructively use” a park if the road and park were jointly planned. The court also emphasized that this is only applicable when there is constructive not actual use of a parkland.

## 17. Planned 4(f) Resources

**Question:** Do the requirements of Section 4(f) apply to publicly owned properties “planned” for park, recreation area, wildlife refuge, or waterfowl refuge purposes even though they are not presently functioning as such?

**Legal Note:** In Nat’l Wildlife Fed’n v. Coleman, 529 F.2d 359 (5<sup>th</sup> Cir. 1976) plaintiffs contended that FHWA violated Section 4(f) by failing to prepare a Section 4(f) statement for a section of I-10 that planned to transect the habitat of the Mississippi Sandhill Crane, bisect the eastern portion of a proposed refuge for the crane, and traverse Section 16 land held by the State of Mississippi in trust for the Jackson County School District.

The court determined that for Section 4(f) to apply to the lands at issue in this case, they must meet the following two-part test. First, the land to be used by the project must be publicly owned and second, the land must be from one of the enumerated types of publicly owned lands. The court found that the Section 16 land, although publicly owned, was never designated or administered as a wildlife refuge or any other Section 4(f) purpose notwithstanding the fact that the land was used by the Sandhill Crane as a sanctuary. In addition, the court found Section 4(f) was not applicable to the proposed wildlife refuge, because at the time the right of way for the project was acquired, and during the time the plans were approved, estimates and specifications were given, construction awards were given, and when construction began, the land was not publicly owned. A subsequent transfer of the land to the Fish and Wildlife Service did not make Section 4(f) applicable after the fact.

In Davis v. Mineta, 302 F.2d 1104 (10<sup>th</sup> Cir. 2002) two parks were planned within the area of potential effect as part of a highway project within the cities of Draper, Sandy and South Jordan in Salt Lake County, Utah. Here, the Jordan River Parkway was owned by two private landowners and partially by the Utah Department of Natural Resources, Division of Parks and Recreation. This land was designated as parkland on the South Jordan City Parks and Recreation Master Plan. The other property at issue was the Willow Creek Park. This park was planned in the Draper City Master Plan to be parkland but was owned by a private landowner. The 10<sup>th</sup> Circuit found that Willow Creek did not qualify as a Section 4(f) property, due to its private ownership, as did that portion of the Jordan River Parkway not owned by the State of Utah. However, that part which was owned by the State of Utah did qualify as Section 4(f) property due to its public holding.

## 18. Temporary Recreational Occupancy or Uses of Highway Rights-of-Way

**Question:** Does Section 4(f) apply to temporary recreational uses of land owned by a State Department of Transportation or other Applicant and designated for transportation purposes?

**Legal Note:** In Collin County, Tex. v. Homeowners Ass’n For Values Essential to Neighborhoods (HAVEN) 716 F. Supp. 953 (N.D. Texas 1989) HAVEN contended that certain lands should have been viewed as Section 4(f) properties in the Section 4(f) evaluation in the Final Environmental Impact Statement. In this case, the properties at issue were acquired by Dallas County from a private party in 1973 for use as highway right-of-way. Under an agreement between the City of Carrollton and Dallas County, the right-of-way was being used for recreation. Plaintiffs countered that Section 4(f) is inapplicable to temporary uses of highway rights-of-way for recreational activities.

The court concluded that FHWA did not err when the Section 4(f) evaluation determined that these properties were not Section 4(f) resources. Reasoning,

“The properties in this case were acquired from a private owner by Dallas County for right-of-way purposes; they are being used temporarily as a park. Simply because they have an interim use does not change their character: they were purchased as rights-of-way and they will be used as rights-of-way.” 716 F. Supp. at 972

A recent decision, known as the Stewart Airport Case, undercuts the position that land acquired for transportation use cannot become a Section 4(f) resource by permissive interim use. Stewart Park and Reserve Coalition Inc. v. Slater, 352 F.3d 545 (2nd Cir. 2003).

The case involves approximately 1200 acres of some approximately 8600 acres of land acquired for airport use. The proposed use of the 1200 acres was for construction for airport access and highway improvements. The land at issue was never designated as a parkland, but was managed by the state as such, until its use was required for airport and transportation purposes. The airport land was initially an Air Force base and was transferred to the state for use as a commercial airport. The state acquired the adjacent approximate 8600 acres in the 70's for use as airport expansion land and uses consistent with airport use, as per FAA regulations. These lands also included buffer lands. At issue was whether Section 4(f) applied to these adjacent lands.

The state entered into a revocable agreement with the New York State Department of Environmental Conservation to manage the land until needed for airport use. The terms of the formal revocable agreement stated that the agreement could be terminated upon 60 days notice of the land becoming necessary for airport use. The land was managed and used for recreational purposes during the entire agreement period, until the time it became necessary for transportation purposes.

The court held that 30 years of uninterrupted contiguous use of public recreational uses of this land, regardless of the revocable agreement and that fact the lands were originally acquired for transportation purposes, nonetheless, constituted Section 4(f) protected land. Further, the statutory language does not condition protection of land on being permanently designated as such. Additionally, 30 years of use entitled the land in question to Section 4(f) protection as the uninterrupted period could not be characterized as interim.

## 21. Air Rights

**Question:** Do the requirements of Section 4(f) apply to bridging over a publicly owned park, recreation area, wildlife refuge, waterfowl refuge, or historic site?

**Legal Note:** In Citizens for the Scenic Severn River Bridge Inc. v. Skinner, 802 F. Supp 1325 (D. Md. 1991) citizens and opponents of a bridge construction project sought to enjoin state and federal officials from proceeding with construction of a bridge across the Severn River in Anne Arundel County, Maryland. Among other contentions, plaintiffs argued that use of the Severn River was not adequately considered in the Final Section 4(f) statement. However, in the Section 4(f) statement defendants concluded there would be a use of the river, which the court found to be a Section 4(f) resource. The use entailed placement of piers and pilings in the river, possible runoff and removal of the existing bridge. Further, the statement determined that any of the proposed alternatives would have used the river.

Coalition Against A Raised Expressway Inc. v. Dole, 835 F.2d 803 (11<sup>th</sup> Cir. 1988) examined the impacts of an elevated expressway on three Section 4(f) resources in the downtown area of Mobile, Alabama. At issue were a park, a railroad terminal and the city hall. Defendants argued that in light of the location of these properties in the downtown area, the impacts from the expressway would not be substantial so as to amount to a use of these properties. However, the court reasoned that,

“In addition to the noise and air pollution, the raised highway would impact on the protected sites by impairing the view. The highway would cut off the city hall's view of the river and the docks.

Conversely, it would reduce the view from the river of the city hall's architecture. For the park and the railroad terminal, the highway would replace the view of the downtown with the sight of the seventeen-foot concrete pillars holding up the freeway. In addition, the dirt and debris from an elevated freeway would lessen the beauty of the architecture itself.

While the elimination of the view, the increase in noise and air pollution, and the close location of the highway may not individually constitute a use; cumulatively they significantly impair the utility of the properties." 835 F.2d at 812

The court found that the elevated expressway constructively used these Section 4(f) resources.

## 22. Non-Transportation Use of 4(f) Resources

**Question:** Does the expenditure of Title 23 funds for mitigation or non-transportation activities on a 4(f) resource trigger the requirements of Section 4(f)?

In *National Trust for Historic Preservation v. Dole*, 828 F.2d 776 (D.C. Cir. 1987), the court found that installing suicide prevention barriers on an historic bridge was not a *transportation program or project* and therefore Section 4(f) was not triggered. The court looked at the purpose of the project and found that since it was not a project to facilitate transportation - - the movement of vehicles, Section 4(f) did not apply.

### Miscellaneous Section 4(f) Cases With Important Information

For general guidance on the issue of whether or not an avoidance alternative is imprudent and, therefore, may be rejected, relevant case law is below:

If you are in a State within the Fifth, Ninth or Eleventh Circuit Courts of Appeals, a very strict standard is employed to determine whether an alternative is imprudent. See, *Louisiana Environmental Soviet v. Coleman*, 537 F.2d 79 (5th Cir 1976); *Stop H-3 Association v. Brinegar*, 533 F.2d 434 (9th Cir. 1976); *Druid Hills v. FHWA*, 772 F.2d 700 (11th Cir. 1985). To determine whether an alternative is imprudent in these jurisdictions, the Secretary must compare the impacts of the avoidance alternative to the impacts of a typical highway project. Only if these impacts go beyond what might occur in a typical project in a comparable setting can the Secretary find that the avoidance alternative is imprudent.

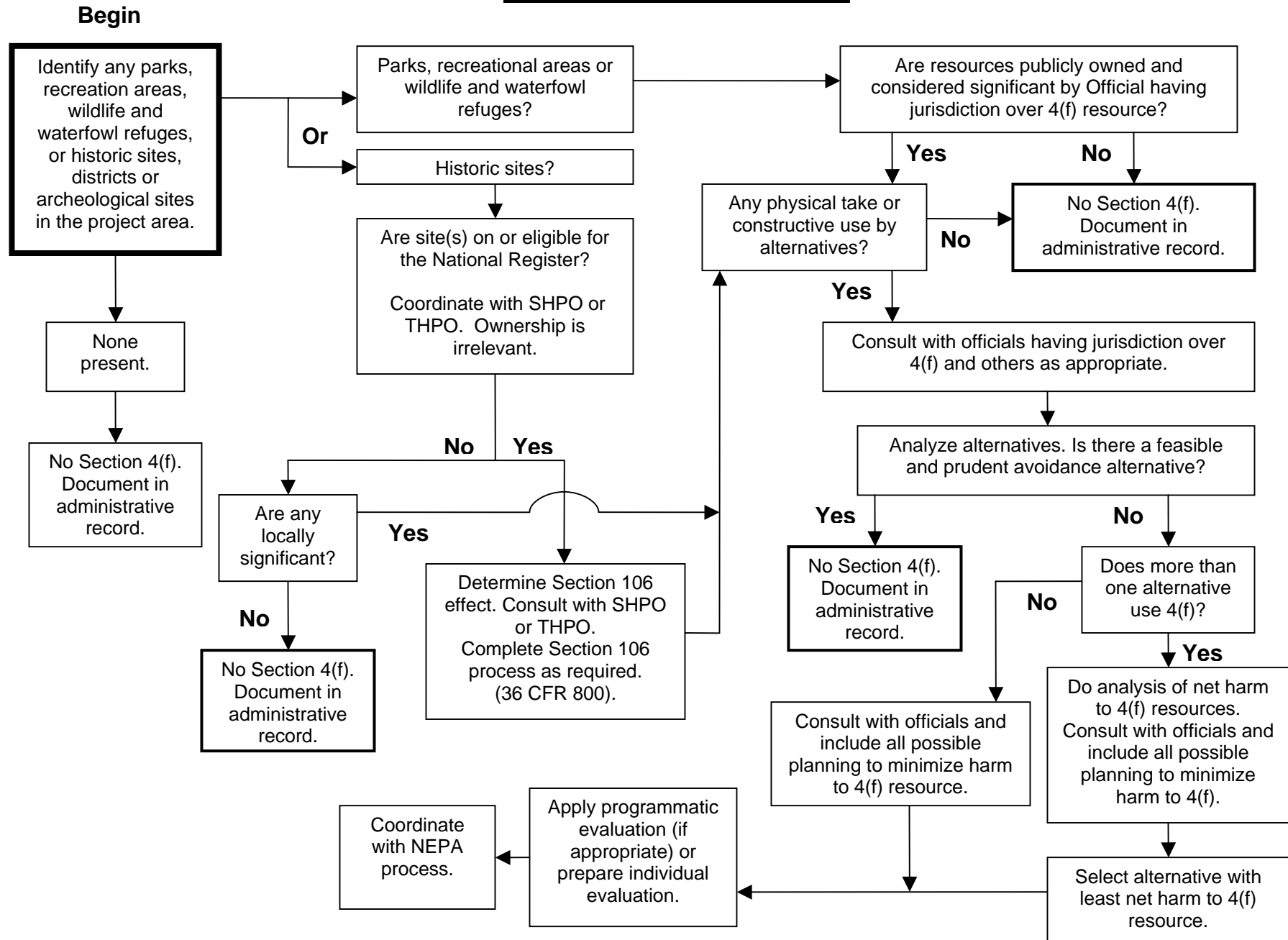
Courts in the Fourth, Seventh and Tenth Circuits have interpreted the requirements less stringently. In these jurisdictions, a balancing test for determining whether an alternative is imprudent has been developed. *Hickory Neighborhood Defense League v. Skinner*, 910 F.2d 159, 163 (4th Cir. 1990); *Eagle Foundation, Inc. v. Dole*, 813 F.2d 798, 804 (7th Cir. 1987); *Committee to Preserve Boomer Lake Park v. USDOT*, 4 F.3d 1543, 1550 (10th Cir. 1993). In these jurisdictions the courts allow the Secretary to weigh the cumulative impacts of the avoidance alternative against the cumulative impacts of the non-avoidance alternative to reach a decision. The impacts to be compared in this type of analysis include other impacts in addition to the impacts on the Section 4(f) resource. The extent of harm that would be caused to the Section 4(f) resource if is not avoided would be taken into consideration under this test.

In the other Federal Circuits the case law is less clear. See *Monroe County Council v. Adams*, 566 F.2d 419 (2nd Cir. 1977) (employed a balancing test without stating it was doing so). The Eighth and the Third Circuits have recently adopted a more flexible standard for "prudent" but only for the limited purpose of determining whether an alternative that minimizes harm can be rejected as "imprudent." See, *Bridgeton v. Slater*, 212 F.3d 448 (8th Cir. 1999)(court refused to employ a rigid "least harm" test in an airport expansion case as this would conflict with Congressional mandate to facilitate airport expansion); *Concerned Citizens Alliance v. Slater*, 176 F.3d 686 (3rd Cir. 1999)(decision found that standard for "prudent and feasible" was not quite as high when applied to alternatives that minimized harm and granted the Secretary "slightly greater leeway" in eliminating options that minimized harm as imprudent).

When addressing the question of which standards apply in your state or district you should consult with the Office of the Chief Counsel's Legal Staff.

## APPENDIX B

### Section 4(f) Evaluation Diagram



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## **APPENDIX C**

### **FHWA Guidance for Determining De Minimis Impacts to Section 4(f) Resources, December 13, 2005**

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# Memorandum

**Sent Via E-mail**

Subject: **ACTION**: Guidance for Determining *De Minimis*  
Impacts to Section 4(f) Resources

Date: December 13, 2005

**Original Signed by:**

From: Cynthia J. Burbank  
Associate Administrator, Planning, Environment  
and Realty, FHWA  
Brigid Hynes-Cherin, Associate Administrator  
for Planning and Environment, FTA

Reply to  
Attn. of:  
HEPE

To: FHWA Division Administrators  
FTA Regional Administrators

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, amended existing Section 4(f) legislation at Section 138 of Title 23 and Section 303 of Title 49, United States Code, to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This is the first substantive revision of Section 4(f) legislation since passage of the U.S. Department of Transportation Act of 1966. This revision provides that once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

Section 6009(c) of SAFETEA-LU requires the U.S. DOT to conduct a study and issue a report on the implementation of the new Section 4(f) provisions. The study will include evaluation of: 1) the implementation processes developed and the resulting efficiencies; 2) the post-construction effectiveness of any impact mitigation and avoidance commitments adopted as part of the projects; and 3) the number of projects determined to have *de minimis* impacts, including information on the location, size, and cost of the projects. The initial study and report will address the first three years of implementation. The Federal Highway Administration (FHWA) Division and Federal Transit Administration (FTA) Regional Offices should maintain a record of the projects for which *de minimis* findings were made and track the progress of those projects in order to facilitate the future evaluation of the post construction effectiveness of any commitments of mitigation made as part of the *de minimis* finding. Additional guidance and information regarding the study and report will be provided in the future.





## Questions and Answers on the Application of the Section 4(f) *De Minimis* Impact Criteria

### Introduction

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amendment to the Section 4(f) requirements allows the U.S. Department of Transportation (DOT) to determine that certain uses of Section 4(f) land will have no adverse effect on the protected resource. When this is the case, and the responsible official(s) with jurisdiction<sup>1</sup> over the resource agrees in writing, compliance with Section 4(f) is greatly simplified, as explained in this guidance.

The *de minimis*<sup>2</sup> impact criteria and associated determination requirements specified in Section 6009(a) of SAFETEA-LU<sup>3</sup> are different for historic sites than for parks, recreation areas, and wildlife and waterfowl refuges. *De minimis* impacts related to historic sites are defined as the determination of either “no adverse effect” or “no historic properties affected” in compliance with Section 106 of the National Historic Preservation Act (NHPA)<sup>4</sup>. *De minimis* impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not “adversely affect the activities, features and attributes” of the Section 4(f) resource.

The following questions and answers provide information and guidance on the process of determining *de minimis* impacts of highway and transit projects that propose the use of Section 4(f) property. A diagram of the determination process for parks, recreation areas, and wildlife and waterfowl refuges is included for illustration following the questions and answers.

### 1. General Information Regarding Application of the *De Minimis* Impact Criteria.

#### **Question A. Are *de minimis* impact findings limited to any particular type of project or National Environmental Policy Act (NEPA) document?**

**Answer:** No. The *de minimis* impact criteria may be applied to any project, as appropriate, regardless of the type of environmental document required by the NEPA process as described in the FHWA and FTA Environmental Impact and Related Procedures<sup>5</sup>.

#### **Question B. What effect does the *de minimis* impact provision have on the application of the existing FHWA nationwide programmatic evaluations?**

**Answer:** Existing FHWA programmatic Section 4(f) evaluations<sup>6</sup> remain in effect and may be applied, as appropriate, to the use of Section 4(f) property by a highway project. However, since FTA does not have its own or share FHWA’s programmatic evaluations, the programmatic option applies only to FHWA projects and to multimodal projects in which FHWA and FTA are co-lead agencies.

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<sup>1</sup> “Official(s) with jurisdiction” means the SHPO, THPO and ACHP, if participating in the consultation, for historic resources, and is defined in Question 3C for other Section 4(f) resources.

<sup>2</sup> Black’s Law Dictionary (8th ed. 1999) defines *de minimis* as 1. Trifling, minimal. 2. (Of a fact or thing) so insignificant that a court may overlook it in deciding an issue or case. 3. *De Minimis Non Curat Lex*, *The law does not concern itself with trifles*.

<sup>3</sup> Section 6009 amends 49 U.S.C. § 303 and 23 U.S.C § 138; see specifically 49 U.S.C. § 303(d) and 23 U.S.C §138(b)

<sup>4</sup> 16 U.S.C. 470f, with implementing regulation at 36 CFR part 800

<sup>5</sup> 23 CFR 771.115

<sup>6</sup> <http://environment.fhwa.dot.gov/projdev/4fnspeval.htm>

**Question C. Is it appropriate to apply the *de minimis* impact criteria to projects that are already in the project development process?**

**Answer:** Yes. The Section 4(f) statutory amendment was effective immediately upon enactment of SAFETEA-LU and the *de minimis* impact criteria may be applied to projects currently in the project development process, where the requirements of a *de minimis* impact finding have been or will be satisfied. The decision to apply the *de minimis* impact criteria to those projects is a matter of agency choice and professional judgment. The factors that should be considered in decisions to apply the *de minimis* impact criteria to projects in the “pipeline” include, but are not limited to: 1) the stage of the NEPA or project development process the project is in; 2) the benefits to the project delivery schedule realized by applying the *de minimis* impact criteria; 3) the impact to the project delivery schedule due to other agency (e.g., SHPO and/or THPO and park authorities) or public concern; 4) the overall benefit to the project realized by the reevaluation of a more viable alternative through a *de minimis* impact finding; 5) the degree and type of controversy and/or public scrutiny related to the project; and 6) the resulting benefits realized to a Section 4(f) resource by the *de minimis* impact finding.

While the *de minimis* impact criteria may be applied to any project meeting the specified requirements, Section 6009(a) of SAFETEA-LU does not require the U.S. DOT to re-open decisions already made concerning Section 4(f) impacts of individual projects. Project sponsors are encouraged to examine projects currently in the environmental process to see if any would benefit from application of the *de minimis* impact criteria, but the decision must be made on a case-by-case basis.

**Question D. Can a *de minimis* impact finding be made for a project as a whole, where multiple Section 4(f) resources are involved?**

**Answer:** No. Where multiple Section 4(f) resources are present in the study area and potentially used by a transportation project, *de minimis* impact findings must be made for the individual Section 4(f) resources. The impacts to Section 4(f) resources and any impact avoidance, minimization, and mitigation or enhancement measures must be considered on an individual resource basis and *de minimis* impact findings made individually for each Section 4(f) resource. However, when there are multiple resources for which *de minimis* impact findings are appropriate, the procedural requirements of Section 4(f) can and should be completed in a single process, document and circulation, so long as it is clear that distinct determinations are being made. Also in these cases, the written concurrence of the official(s) with jurisdiction may be provided for the project as a whole, so as long as the *de minimis* impacts findings have been made on an individual resource basis.

**Question E. What role does mitigation play in the *de minimis* impact finding?**

**Answer:** The *de minimis* impact finding is based on the degree or level of impact including any avoidance, minimization, and mitigation or enhancement measures that are included in the project to address the Section 4(f) use. The expected positive effects of any measures included in a project to mitigate the adverse effects of a Section 4(f) resource must be taken into account when determining whether the impact to the Section 4(f) resource is *de minimis*. The purpose of taking such measures into account is to encourage the incorporation of Section 4(f) protective measures as part of the project<sup>7</sup>. *De minimis* impact findings must be expressly conditioned upon the implementation of any measures that were relied upon to reduce the impact to a *de minimis* level. The implementation of such measures will become the responsibility of the project sponsor, with FHWA or FTA oversight<sup>8</sup>.

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<sup>7</sup> Conference Report of the Committee of Conference on H.R. 3, Report 109-203, page 1057.

<sup>8</sup> 23 CFR 771.109(b)

**Question F. How should the *de minimis* impacts to Section 4(f) resources be considered in the alternative selection process when all feasible and prudent alternatives result in Section 4(f) use?**

**Answer:** For those situations in which multiple Section 4(f) resources will be used by a project and it has been determined that no feasible and prudent avoidance alternatives exist, the *de minimis* impacts of Section 4(f) resources must be factored into the analysis to determine which alternative results in the least overall harm as described in the FHWA Section 4(f) Policy Paper<sup>9</sup>.

In most cases, the *de minimis* impacts will have little or no influence on the determination of overall harm because the activities, features and attributes of the Section 4(f) resources will not be adversely affected. Also, because potential adverse impacts to the Section 4(f) resources will be completely mitigated or enhanced by inclusion of such measures as part of the project in making *de minimis* impact findings, the Section 4(f) benefit should be included in the least harm analysis. Where it is not clear which alternative results in the least overall harm, consultation with the FHWA or FTA Headquarters or the FHWA or FTA Office of the Chief Counsel is recommended.

**Question G. Can a *de minimis* impact finding be made for a “constructive use” of Section 4(f) property?**

**Answer:** No. A *de minimis* impact finding can only be made where the transportation use would not adversely affect the activities, features, and attributes that qualify a property for protection under Section 4(f). Constructive use, by definition, involves impacts to a Section 4(f) resource such that the protected activities, features, and attributes would be substantially impaired<sup>10</sup>. Therefore, a *de minimis* impact finding would not be appropriate where there is a constructive use. Furthermore, if a potential constructive use can be reduced below a substantial impairment, with the inclusion of mitigation measures, then Section 4(f) would not apply.

**Question H. Can a *de minimis* impact finding be made for a “temporary occupancy” of Section 4(f) property?**

**Answer:** Yes. As long as the *de minimis* impact criteria are met, the impacts associated with a temporary occupancy of a Section 4(f) resource could be determined to be *de minimis*. It should be noted, however, that Section 4(f) does not apply to the temporary occupancy of Section 4(f) property when the conditions set forth in the FHWA and FTA Environmental Impact and Related Procedures<sup>11</sup> are satisfied. Therefore, application of the *de minimis* impact provision for these situations should only be considered when the project does not meet the temporary occupancy exception criteria.

**Question I. Who makes the *de minimis* impact findings?**

**Answer:** The FHWA Division Administrator or FTA Regional Administrator makes the *de minimis* impact findings. In the determination, FHWA or FTA shall consider any impact avoidance, minimization, and mitigation or enhancement measures that are included in the project to address the impacts and adverse effects on the Section 4(f) resource. The FHWA Division Administrator or FTA Regional Administrator must consider the facts supporting the determination of a *de minimis* impact, the record that was compiled in the coordination that must precede the determination of *de minimis* impact, the concurrence of the official(s) with jurisdiction, and use his or her own best judgment in making the *de minimis* impact finding. It is ultimately the

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<sup>9</sup> March 1, 2005, pages 6, 7; <http://www.environment.fhwa.dot.gov/projdev/4fpolicy.htm>

<sup>10</sup> 23 CFR 771.135(p)(2)

<sup>11</sup> 23 CFR 771.135(p)(7)

responsibility of the FHWA or FTA to ensure that *de minimis* impact findings and required concurrences are reasonable.

Coordination with the FHWA or FTA Headquarters or the FHWA or FTA Office of the Chief Counsel is not required for routine *de minimis* impact findings but is recommended for controversial projects and complex situations.

## **2. De Minimis Impact Findings for Section 4(f) Uses of Historic Properties.**

### **Question A. What are the requirements for a finding of *de minimis* impact on a historic site?**

**Answer:** A finding of *de minimis* impact on a historic site may be made when:

- 1) The process required by Section 106 of the National Historic Preservation Act<sup>12</sup> results in the determination of "no adverse effect" or "no historic properties affected" with the concurrence of the SHPO and/or THPO, and ACHP if participating in the Section 106 consultation;
- 2) The SHPO and/or THPO, and ACHP if participating in the Section 106 consultation, is informed of FHWA's or FTA's intent to make a *de minimis* impact finding based on their written concurrence in the Section 106 determination; and
- 3) FHWA or FTA has considered the views of any consulting parties participating in the Section 106 consultation.

### **Question B. How should the concurrence of the SHPO and/or THPO, and ACHP if participating in the Section 106 determination, be documented when the concurrence will be the basis for a *de minimis* finding?**

**Answer:** Section 4(f)<sup>13</sup> requires that the SHPO and /or THPO, and ACHP if participating, must concur in writing in the Section 106 determination of "no adverse effect" or "no historic properties affected." The request for concurrence in the Section 106 determination should include a statement informing the SHPO or THPO, and ACHP if participating, that the FHWA or FTA intends to make a *de minimis* finding based upon their concurrence in the Section 106 determination.

Under the Section 106 regulation, concurrence by a SHPO and/or THPO may be assumed if they do not respond within a specified timeframe, but Section 4(f) explicitly requires their written concurrence. It is recommended that transportation officials share this guidance with the SHPOs and THPOs in their States so that these officials fully understand the implication of their concurrence in the Section 106 determinations and the reason for requesting written concurrence.

### **Question C. Certain Section 106 programmatic agreements (PAs) allow the lead agency to assume the concurrence of the SHPO and/or THPO in the determination of "no adverse affect" or "no historic properties affected" if response to a request for concurrence is not received within a period of time specified in the PA. Does such concurrence through non-response, in accordance with a written and signed Section 106 PA, constitute the "written concurrence" needed to make a *de minimis* finding?**

**Answer:** In accordance with the provisions of a written and signed programmatic agreement, if the SHPO and/or THPO does not respond to a request for concurrence in the Section 106

<sup>12</sup> 16 U.S.C. 470f, with implementing regulation at 36 CFR part 800

<sup>13</sup> 49 U.S.C 303(d)(2)

determination within the specified time, the non-response together with the written agreement, will be considered written concurrence in the Section 106 determination that will be the basis of the *de minimis* finding by FHWA or FTA.

FHWA or FTA must inform the SHPOs and THPOs who are parties to such PAs, in writing, that a non-response that would be treated as a concurrence in a “no adverse effect” or “no historic properties affected” determination will also be treated as the written concurrence for purposes of the FHWA or FTA *de minimis* impact finding. It is recommended that this understanding of the parties be documented by either appending the written notice to the existing PA, or by amending the PA itself.

**Question D. For historic properties, will a separate public review process be necessary for the determination of a *de minimis* impact?**

**Answer:** No. Section 6009(a) of SAFETEA-LU requires the U.S. DOT to consult with the parties participating in the Section 106 process but does not require additional public notice or opportunity for review and comment. Documentation of consulting party involvement is recommended. For projects requiring the preparation and distribution of a NEPA document, the information supporting a *de minimis* impact finding will be included in the NEPA documentation and the public will be afforded an opportunity to review and comment during the formal NEPA process.

**3. *De Minimis* Impact Findings for Parks, Recreation Areas, and Wildlife and Waterfowl Refuges**

**Question A. What constitutes a *de minimis* impact with respect to a park, recreation area, or wildlife and waterfowl refuge?**

**Answer:** An impact to a park, recreation area, or wildlife and waterfowl refuge may be determined to be *de minimis* if the transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). Language included in the SAFETEA-LU Conference Report<sup>14</sup> provides additional insight on the meaning of *de minimis* impact.

“The purpose of the language is to clarify that the portions of the resource important to protect, such as playground equipment at a public park, should be distinguished from areas such as parking facilities. While a minor but adverse effect on the use of playground equipment should not be considered a *de minimis* impact under section 4(f), encroachment on the parking lot may be deemed *de minimis*, as long as the public's ability to access and use the site is not reduced.”

This simple example helps to distinguish the activities, features, and attributes of a Section 4(f) resource that are important to protect from those which can be used without resulting adverse effects. Playground equipment in a public park may be central to the recreational value of the park that Section 4(f) is designed to protect. When impacts are proposed to playground equipment or other essential feature, a *de minimis* impact finding will, at a minimum, require a commitment to replace the equipment with similar or better equipment at a time and in a location that results in no adverse effect to the recreational activity. A parking lot encroachment or other similar type of land use, on the other hand, could result in a *de minimis* impact with minimal mitigation, as long as there are no adverse effects on public access and the official(s) with jurisdiction agree.

<sup>14</sup> Conference Report of the Committee of Conference on H.R. 3, Report 109-203, page 1057.

**Question B. What are the requirements for a finding of *de minimis* impact with respect to a park, recreation area, or wildlife and waterfowl refuge?**

**Answer:** The impacts of a transportation project on a park, recreation area, or wildlife and waterfowl refuge that qualifies for Section 4(f) protection may be determined to be *de minimis* if:

- 1) The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
- 2) The official(s) with jurisdiction over the property are informed of FHWA's or FTA's intent to make the *de minimis* impact finding based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); and
- 3) The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource.

**Question C. What officials are considered to be “officials with jurisdiction” over a park, recreation area, or wildlife or waterfowl refuge for the purposes of the *de minimis* impact finding?**

**Answer:** The officials with jurisdiction are the officials of an agency or agencies that own or administer a Section 4(f) property and who are empowered to represent that agency on related matters. In some cases, the agency that owns or administers the land has either delegated or relinquished its authority to another agency. In those cases, FHWA or FTA should review the applicable agreements to determine which agency or agencies have the authority to concur in the assessment of impacts to the property.

**Question D. How should Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) or other U.S. Department of Interior (DOI) grants-in-aid programs be treated in *de minimis* impact findings?**

**Answer:** *De minimis* impact findings will satisfy Section 4(f) requirements only. For projects that propose the use of land from a property or site purchased or improved with funds under the LWCFA, the Federal Aid in Fish Restoration Act (Dingell-Johnson Act), the Federal Aid in Wildlife Act (Pittman-Robertson Act), or other similar law, or the lands are otherwise encumbered with a Federal interest, coordination with the appropriate Federal agency is required to ascertain the agency's position on the land conversion or transfer. Other federal requirements that may apply to the Section 4(f) land should be determined through consultation with the officials with jurisdiction or appropriate DOI or other federal official. These federal agencies may have regulatory or other requirements for converting land to a different use. These requirements are independent of the *de minimis* impact finding and must be satisfied.

**Question E. Is consultation with DOI routinely required for *de minimis* impact findings?**

**Answer:** No. As a routine matter, FHWA and FTA do not need to consult with the DOI on *de minimis* impact findings. Where the Section 4(f) resource involved is owned or administered by the DOI, FHWA or FTA will need the written concurrence of the appropriate DOI official as the official with jurisdiction. If the Section 4(f) resource is encumbered with a Federal interest as a result of a DOI grant, then the answer to Question D applies.

**Question F. Does the concurrence of the official(s) with jurisdiction over the Section 4(f) resource need to be in writing?**

**Answer:** Yes. The concurrence of the official(s) with jurisdiction that the protected activities, features, and attributes of the resource are not adversely affected must be in writing. The written

concurrence can be in the form of a signed letter on agency letterhead, signatures in concurrence blocks on transportation agency documents, agreements provided via e-mail or other method deemed acceptable by the FHWA Division Administrator or FTA Regional Administrator. Obtaining these agreements in writing is consistent with effective practices related to preparing project administrative records.

**Question G. What constitutes compliance with the public notice, review and comment requirements related to *de minimis* impact findings?**

**Answer:** Information supporting a *de minimis* impact finding should be included in the appropriate NEPA document prepared for the project. This information includes, at a minimum, a description of the involved Section 4(f) resource(s), the impact(s) to the resources and any impact avoidance, minimization, and mitigation or enhancement measures that are included in the project as part of the *de minimis* impact finding. The public involvement requirements related to the specific NEPA document and process will, in most cases, be sufficient to satisfy the public notice and comment requirements for the *de minimis* impact finding.

In general, for highway projects, the public notice and comment process related to *de minimis* impact findings will be accomplished through the State DOT's approved public involvement process<sup>15</sup>.

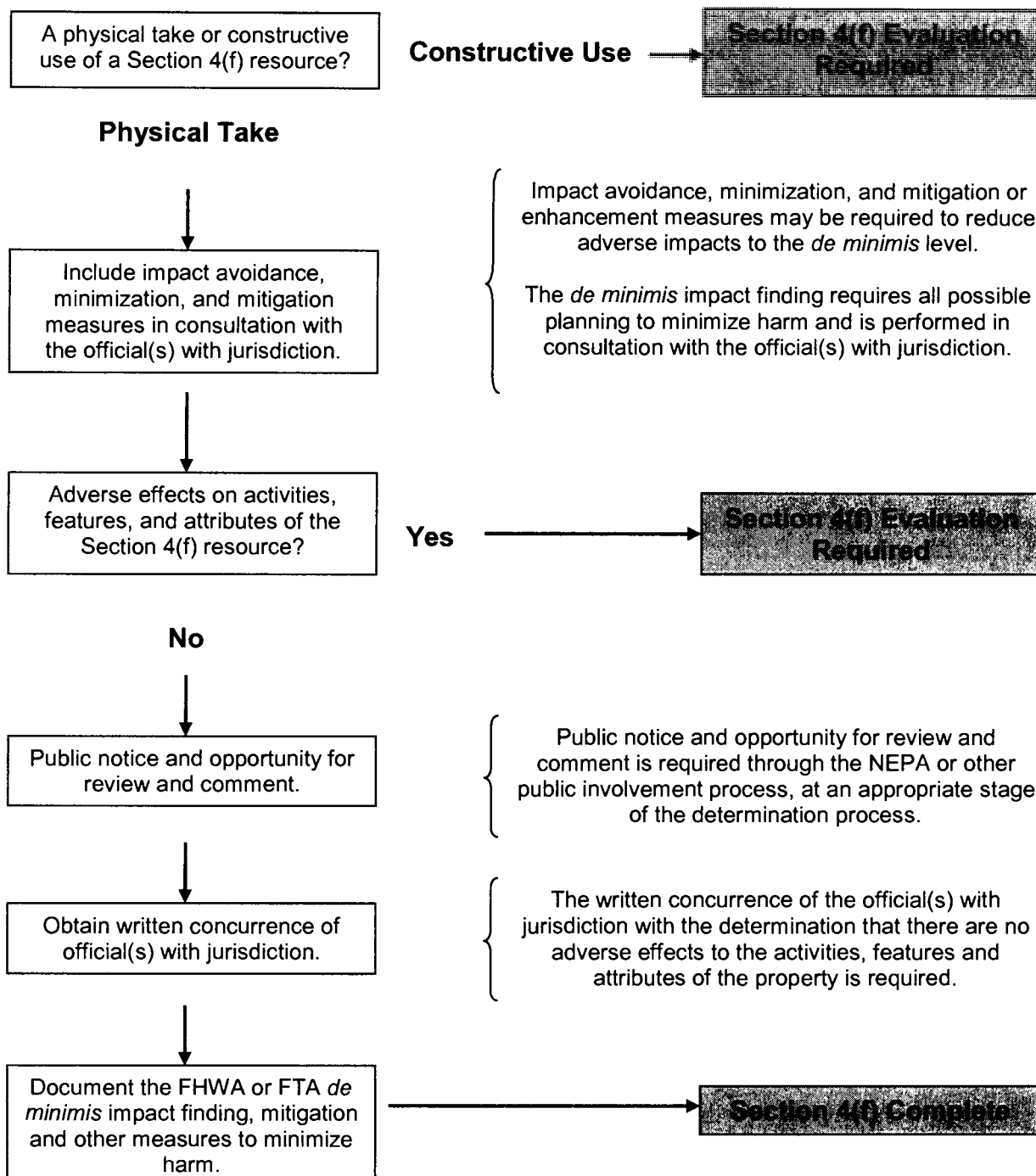
For those actions that do not routinely require public review and comment (e.g., certain categorical exclusions and reevaluations) but for which a *de minimis* impact finding will be made, a separate public notice and opportunity for review and comment will be necessary. In these cases, appropriate public involvement should be based on the specifics of the situation and commensurate with the type and location of the Section 4(f) resource(s), impacts and public interest.

All comments received and responses thereto, shall be documented in the same manner that other comments on the proposed action would be handled. Where public involvement was initiated solely for the purpose of a *de minimis* impact finding, responses or replies to the public comments may not be required, depending on the substantive nature of the comments. All comments and responses shall be documented in the administrative record.

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<sup>15</sup> 23 CFR 771.111(h)(1))

**Suggested Section 4(f) *De Minimis* Impact Determination Process for Parks,  
Recreation Areas, and Wildlife and Waterfowl Refuges**





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## **APPENDIX D**

### **Exceptions to the Interstate Exemptions Guidance**

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**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

Interstate Number	Resource Name	Property Type	Milepost [Range]	Year Construction Completed	Exclusion Criterion	Area(s) of Significance	National Register Criterion (A-D)	Date Listed on National Register OR Determined Eligible	Brief Statement of Significance
<b>ALABAMA</b>									
I-65	Mobile Delta Crossing	Bridge	24.2 - 30.3	1980	2	Engineering			The Mobile Delta Crossing was designed by Howard Needles Tammen and Bergendoff and was constructed in 1980. The bridge crosses the Mobile-Tensaw Delta, which was recently named a National Natural Landmark by Congress. The Mobile Delta Crossing is 32,098 feet in length and covers slightly over 6 miles of bridge structure. The main span is a distinctive tied-arch bridge made of weathering steel that spans 800 feet. One of the few tied-arch bridges in the U.S., this type was chosen for the Mobile Delta Crossing for its ability to span a great distance and for the design's cost effectiveness.
<b>ALASKA</b>									
Alaska Hwy (A-1)	Tanana River Bridge	Bridge	1303	1944	4	Military History, Engineering	A, C	Eligible 5/20/2003	The Tanana River Bridge is associated with the building of the Alaska Highway. It is the only bridge of its type (Subdivided Warren Through Truss) in Alaska.
Alaska Hwy (A-1)	Tok River Bridge	Bridge	1313.9	1944	4	Military History, Engineering	A, C		The Tok River Bridge is associated with the construction of the Alaska Highway from 1942-1944 by the U.S. Army during World War II. The Alaska Highway was built as a land transport route in the event that the Japanese seized shipping lines in the Pacific and to connect and supply a chain of strategic military airfields in all weather conditions. This bridge is one of five truss bridges in the U.S. portion of the Alaska Highway that retain integrity from the World War II period of significance.
Alaska Hwy (A-2)	Robertson River Bridge	Bridge	1353	1944	4	Military History, Engineering	A, C		The Robertson River Bridge is associated with the construction of the Alaska Highway from 1942-1944 by the U.S. Army during World War II. The Alaska Highway was built as a land transport route in the event that the Japanese seized shipping lines in the Pacific and to connect and supply a chain of strategic military airfields in all weather conditions. This bridge is one of five truss bridges in the U.S. portion of the Alaska Highway that retain integrity from the World War II period of significance.
Alaska Hwy (A-2)	Johnson River Bridge	Bridge	1380.5	1944	4	Military History, Engineering	A, C		The Johnson River Bridge is associated with the construction of the Alaska Highway from 1942-1944 by the U.S. Army during World War II. The Alaska Highway was built as a land transport route in the event that the Japanese seized shipping lines in the Pacific and to connect and supply a chain of strategic military airfields in all weather conditions. This bridge is one of five truss bridges in the U.S. portion of the Alaska Highway that retain integrity from the World War II period of significance.
Alaska Hwy (A-2)	Black Veterans Memorial Bridge	Bridge	1399	1944	4	Military History, Engineering	A, C		The Big Gerstle River Bridge was re-named as the Black Veterans Memorial Bridge in 1993 by a bill sponsored by Rep. Bettye Davis of Anchorage. Naming of the bridge, built in 1944, recognizes and commemorates the black soldiers of the U.S. Army Corps of Engineers for their contribution in constructing the Alcan Highway, now known as the Alaska Highway, from 1942-1944 during World War II. The Alaska Highway was built as a land transport route in the event that the Japanese seized shipping lines in the Pacific and to connect and supply a chain of strategic military airfields in all weather conditions. This bridge is one of five truss bridges in the U.S. portion of the Alaska Highway that retain integrity from the World War II period of significance.
<b>ARIZONA</b>									
I-10	Deck Park Tunnel	Tunnel	144.5 - 145.5	1990	2	Engineering, Social history			This section was the last piece of I-10 to be finished, making the I-10 a continuous transcontinental route. The Papago Freeway was built partly as a depressed freeway. It is covered by 19 side-by-side bridges that form the foundation for a 12-hectare urban park. A graceful arched bridge maintains traffic on the historic alignment of Central Avenue and allows pedestrians to cross the freeway. The Margaret T. Hance Park was built on the deck to establish a connection between the neighborhoods bisected by the freeway.
I-15	Virgin River Gorge	Highway Segment	13 - 22	1973	2	Engineering, Environmental movement			I-15 through the Virgin River Gorge is a scenic wonder through a 500 million-year-old gorge. Construction of I-15, which opened in 1973, included re-channeling the Virgin River 12 times. "Somehow," Arizona Highways magazine said in 1988, construction of I-15 "enhanced rather than distracted from nature's handiwork."
<b>ARKANSAS</b>									
I-55	Memphis and Arkansas Bridge	Bridge	Connects West Memphis, AR with Memphis, TN	1950	3	Engineering	C	Listed 2/16/2001	The Memphis and Arkansas Bridge was listed in the National Register on 2/16/01 for its engineering significance. Completed in 1950, it is the only bridge spanning the Mississippi River that was designed exclusively for vehicular traffic. It is a continuous Warren truss, through truss, with verticals. The bridge is a total length of 5,222 feet and was designed by the firm of Modjeski and Masters.
I-40	Hernando DeSoto Bridge	Bridge	Connects West Memphis, AR with Memphis, TN	1973	2	Engineering			Designed by Hazelet and Erdal and the Tennessee State Highway Department, the Hernando DeSoto Bridge crosses the Mississippi River and contains two 900-foot tied steel arch spans and five continuous steel box girder spans. The approaches and connecting ramps to the west consist of continuous, composite pre-stressed concrete I-beams and steel-plate girders. It was named for Hernando DeSoto, European discoverer of the Mississippi River in 1541, but is sometimes called the "M" Bridge, because the bridge features a distinctive "M" shape which was outlined with lights in 1986. Contractors for the bridge included Bethlehem Steel Corporation for the superstructure and Massman Construction Company and Al Johnson Construction Company for the substructure. Sitting on the edge of the New Madrid Seismic zone, the second highest earthquake risk zone in the U.S., the bridge has recently gone through a seismic retrofit costing roughly \$170 million.

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

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<b>CALIFORNIA</b>									
I-80	San Francisco - Oakland Bay Bridge	Bridge	SF 4.8 - 8.9 ALA 0.0 - 1.2	1936	1, 3	Architecture, Engineering	C	Listed 8/13/2001	In 1929, President Herbert Hoover, a Californian and engineer, and California Governor C.C. Young created a commission that concluded the economic need and construction feasibility of the San Francisco - Oakland Bay Bridge despite the obstacles presented by earthquake faults and lack of a solid anchorage on the muddy bottom. Hoover personally expedited War and Navy Department approvals and federal financial support. Contracts for the first construction were awarded in April 1933, and the San Francisco - Oakland Bay Bridge was opened to vehicular traffic on November 12, 1936. Loans for the total cost of \$77.6 million were paid off by tolls within 20 years. "Upon its completion, the Bay Bridge was recognized as the greatest bridge in the world for its length, cost, weight, depth, amount of steel and concrete used, number of piers, and versatility of engineering." ( <a href="http://www.lib.berkeley.edu/news_events/exhibits/bridge/sfobay.html">http://www.lib.berkeley.edu/news_events/exhibits/bridge/sfobay.html</a> ).
I-80	Truckee River Canyon	Highway Segment	NEV 0 - 10	1964	2	Engineering			This stretch of I-80 over Donner Summit, through the Truckee River Canyon, was considered a major engineering triumph for the time. The American Society of Civil Engineers named it one of the two best engineering feats of 1964 (the other was NASA's Cape Kennedy).
I-105	Glenn Anderson (Century) Freeway	Highway Segment	LAN 5 - 18	1993	2	Engineering			The I-105 Glenn Anderson Freeway/Transitway (formerly the Century Freeway) was one of the last of the urban interstates to be built. It has been called Los Angeles County's "first high-tech roadway" because it features the latest in highway technology, including sensors buried in the pavement and links to computers that allow technicians to monitor traffic flow. Meters help regulate traffic on ramps connecting I-105 to four freeways. There are closed-circuit television cameras to alert officials to accidents or other incidents. Green Line light rail trains operate in the median. In addition, after being added to the Interstate Highway System in 1968, this freeway is associated with one of the earliest Environmental/Civil Rights lawsuits in California. The 1972 class action suit and community concerns about the route, which cut through predominantly African American neighborhoods and would displace hundreds of residents, halted construction. The freeway finally opened to traffic in 1993.
I-5	Chicano Park	Park	SD 14 - 14.1	1970	2	Social history			Adjacent to the I-5 right-of-way is a section of Chicano Park, established in 1970 by Chicano activists. Construction of I-5 in 1963 bisected the Barrio Logan neighborhood. Construction of the San Diego-Coronado Bay Bridge in 1969 further disconnected the community and resulted in the displacement of many residents. The bridge's on-ramps and support pylons were decorated with many politically-themed murals created by local activist-artists. FHWA determined the park to be eligible for the National Register by a consensus determination with the California SHPO for its association with an important historical event, the Chicano civil rights movement, as well as its contribution to the arts.
I-8	Pine Valley Creek Bridge	Bridge	SD 41.7	1974	2	Engineering			The Pine Valley Creek Bridge was the first concrete bridge in the U.S. built by the segmental cantilever method. The bridge superstructure was cantilevered out from the piers, segment by segment, until the two cantilevered sections met at mid-span. This was done as an alternative to building a ground-supported formwork for pouring the concrete, as is typical of smaller bridges, because the superstructure of the Pine Valley Creek Bridge is more than 300 feet above the ground at its midpoint. The bridge has a center span of 450 feet, probably the longest box-girder span in the country at the time of its completion, according to the Engineering News Record, July 1, 1971.
I-5	Pit River Bridge	Bridge	SHA 28.1	1941	4	Engineering	C	Eligible 2000	The Pit River Bridge was a major engineering feat because of its height, and it is a very large steel truss. It rests on piers that are hundreds of feet tall, but underwater.
<b>COLORADO</b>									
I-70	Glenwood Canyon	Highway Segment	118.5 - 130.3	1993	2	Engineering, Social history			Environmental concerns halted construction of I-70 through the 2,000-foot-deep Glenwood Canyon in the late 1960s. The innovative design by Joseph Passonneau and Edgardo Contin met the challenge of complying with the AASHTO design standards while protecting the natural beauty of the canyon. The profile of the roadway was reduced by stepping westbound lanes above eastbound lanes, cantilevering roadbeds to reduce visibility of retaining walls, utilizing slender camouflaged columns and piers for the bridges and viaducts, and replanting construction scars with native shrubs and trees.
I-70	Eisenhower-Johnson Memorial Tunnels	Tunnel	213.7	1973 (WB bore); 1979 (EB bore)	2	Engineering	A, C	Eligible 2006	The Eisenhower-Johnson Memorial Tunnel (EJMT) was, for its time, a groundbreaking feat of engineering planning and design. The construction of I-70 and the EJMT through the Rocky Mountains was a major accomplishment toward the completion of the Interstate Highway System. It was the nation's most expensive highway project up to that point and remains the world's longest (at 1.7 miles) and highest (over 11,000 feet) underground thoroughfare. The EJMT stands as one of the great engineering achievements of 20th century highway design.
I-70	Vail Pass	Highway Segment	180 - 195.2	1978	2	Engineering, Environmental design parameters			Construction of Vail Pass set a new standard for environmental sensitivity and mitigation (an early representation of context sensitive solutions). The project was one of the first Colorado highway undertakings to purposefully sculpt cut and fill slopes to fit the unique setting and was landscaped primarily with native flora. It also was the first Colorado project to use precast and cast-in-place segmental bridges, some of the earliest such features in the country.
I-70	Genesee Park Interchange	Bridge	253.5	1970	2	Engineering, Context Sensitive Solutions	C	Eligible 1988	The single-span Genesee Park bridge was the first continuous steel box girder bridge built in Colorado. The structure design eliminated a center pier in order to allow westbound travelers an unobstructed, picturesque view of the Rocky Mountains as they approach the interchange at the top of a hill.
I-70	Twin Tunnels	Tunnel	242.2	1961	2	Engineering, Transportation	C	Eligible 2005	The Twin Tunnels represents the first successful tunneling operation associated with the construction of I-70 and stands as an important early milestone as the highway advanced through Colorado's Rocky Mountains.
I-25	Arkansas River Bridge	Bridge	97.6	1958	2	Engineering	A, C	Eligible 10/1/2001	The Arkansas River Bridge is technologically significant as a long-span example of a steel plate girder structure and represents one of the most important river crossings on I-25. It is distinguished by its cantilevered construction, relatively long spans, and excellent state of preservation.

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I-25	South Platte River Bridge	Bridge	210.5	1951	3	Engineering	A, C	Listed 10/15/2002	The I-25 corridor through central Denver ("Valley Highway") played an important part in the post-World War II development of the city. The original overpasses and underpasses along the Valley Highway, of which the South Platte River Bridge is an example, played an integral role in the highway's function. They marked the first concerted use in Colorado of concrete rigid frame bridges, a technologically important structural configuration developed principally for urban streets. The South Platte River bridge is one of only two major steel spans in the state, and its rarity coupled with its immense size makes it significant.
I-25	Speer Blvd. Underpasses	Bridge	211.5	1952	4	Engineering	A, C	Eligible 10/1/2001	The I-25 corridor through central Denver ("Valley Highway") played an important part in the post-World War II development of the city. The original overpasses and underpasses along the Valley Highway, of which the Speer Blvd. Underpasses are an example, played an integral role in the highway's function. They marked the first concerted use in Colorado of concrete rigid frame bridges, a technologically important structural configuration developed principally for urban streets.
I-25	23rd Avenue Underpass	Bridge	211.2	1952	4	Engineering	A, C	Eligible 10/1/2001	The I-25 corridor through central Denver ("Valley Highway") played an important part in the post-World War II development of the city. The original overpasses and underpasses along the Valley Highway, of which the 23rd Avenue Underpass is an example, played an integral role in the highway's function. They marked the first concerted use in Colorado of concrete rigid frame bridges, a technologically important structural configuration developed principally for urban streets. The 23rd Avenue Underpass retains good physical integrity and embodies this structural type.
<b>CONNECTICUT</b>									
I-84	Morgan G. Bulkeley Bridge	Bridge	62.6 - 62.8	1908	1	Engineering			The Morgan G. Bulkeley Bridge is a nine-span stone arch bridge measuring 1,192 feet in length. It carries what is now I-84 over the Connecticut River between the cities of Hartford and East Hartford, Connecticut. The bridge was designed by the team of Edwin D. Graves, chief engineer, and Edmund M. Wheelwright, architect. An unnamed engineer on the project speculated in 1926 that this bridge would probably be the last monumental stone bridge that would ever be built. This speculation proved to be true.
<b>DELAWARE</b>									
I-295	Delaware Memorial Bridge	Bridge	Connects New Castle, DE, with Pennsville, NJ	1951, 1968	1	Transportation, Engineering, Social history			The Delaware Memorial Bridge over the Delaware River links Delaware and New Jersey via twin suspension spans between New Castle, Delaware, and Pennsville, New Jersey. The world's longest twin suspension bridge, it serves as a major link in the transportation system for the Eastern U.S. The bridge's first span (opened in 1951) carries drivers into New Jersey, and the second (opened in 1968) carries drivers into Delaware. Both spans are 3,650 feet long and look identical, though there are slight differences between them. The bridge is dedicated as a memorial to the military personnel who gave their lives in World War II, Korean War, Vietnam War, and Operation Desert Storm. An annual memorial ceremony is held on Veterans Day at the Bridge War Memorial, which overlooks the Twin Span. The Delaware Memorial Bridge is a self-supporting toll bridge operated by the Delaware River and Bay Authority, a bi-state agency.
<b>FLORIDA</b>									
I-275	Bob Graham/Sunshine Skyway Bridge	Bridge	0.0 - 4.1	1987	2	Engineering			This four-lane pre-stressed concrete cable-stayed bridge was constructed between 1982 and 1987 to replace the previous Sunshine Skyway bridge, which was destroyed when a freighter collided into it in 1980. The new bridge, designed by Figg & Muller Engineering, was awarded the Presidential Design Award from the National Endowment for the Arts in 1988. It is one of the first cable-stayed bridges with the cables attached at the center of the roadway instead of at the outer edges. There are 21 steel cables carrying the weight of the structure. The longest span is 1,200 feet. Large concrete bumpers, called dolphins, are located around the piers to protect them from future freighter impacts. This bridge connects southern Pinellas County with Manatee County. The elegant engineering design of this bridge provides it "exceptional importance". It is included in both Historic Highway Bridges of Florida books as a significant, modern example of bridge engineering.
I-75	Alligator Alley	Highway Segment	19.6 - 49.3	1989	2	Engineering, Transportation, Social history			The I-75 corridor from the tollbooth outside of Naples to the tollbooth west of Andytown was built as the premier environmentally sensitive facility of its time. It included design features that provided for the flow of water through the Everglades and the movement of wildlife across the corridor while providing the motoring public access from the east to the west coast of Florida.
I-75	I-75 Snake Wall	Overlook, Animal Barrier	8.6	1998	2	Conservation, Architecture			The I-75 Snake Wall sits along the edge of the southbound rest stop of I-75 at the north edge of Paynes Prairie, one of Central Florida's most important and sensitive ecosystems. The FDOT designed the wall to provide access to the Paynes Prairie Overlook and to serve as a barrier between rest stop visitors and the animals inhabiting Paynes Prairie, especially the snakes. It is shaped like a serpent with its forked tongue extended. The tongue is a functional part of the barrier. It runs from the head of the Snake Wall toward the roadway to help keep the reptiles away from the interstate roadway as well as the rest area. As a result, the I-75 Snake Wall is a unique piece of functional art and a successful effort at combining ecosystem and roadway management.
I-95	Myrtle Avenue Overpass	Bridge	3.2	1957	2	Engineering	C		The Myrtle Avenue Overpass carries I-95 over Myrtle Avenue and a railroad line in downtown Jacksonville. The main, steel arch span of the overpass is 386 feet long. There are 16 steel girder approach spans that bring the total length to over 1,400 feet in length. This bridge represents Florida's only steel arch, the state's only through arch carrying interstate traffic, and the only arch design serving as a grade separation. It was identified in an update to Florida's historic highway bridge inventory, and, as a result, the FDOT and the Florida SHPO concurred that this bridge represents a significant historic resource for the state.
<b>GEORGIA</b>									
No recommended elements									

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

Interstate Number	Resource Name	Property Type	Milepost [Range]	Year Construction Completed	Exclusion Criterion	Area(s) of Significance	National Register Criterion (A-D)	Date Listed on National Register OR Determined Eligible	Brief Statement of Significance
HAWAII									
H-3	Trans-Koolau Route	Highway Segment	4.2 - 7.9	1997	2	Engineering, Social history, Environmental movement			First planned in 1966, construction of this segment of H-3 was delayed for 30 years because of environmental concerns related to the Endangered Species Act and the National Historic Preservation Act. Among the most innovative engineering elements are the North Halawa Valley Viaduct, Windward Viaduct, and the Harano Tunnel. The North Halawa Valley Viaduct is an approximately 1.2-mile segmental cast-in-place post-tensioned concrete box-girder bridge, which was built by the cantilever construction method. Instrumentation has been included in order to monitor the creep and shrinkage strains in the structure. The Windward Viaduct is 80 to 130 feet above the Haiku Valley and is just over 1 mile in length. Self-launching trusses delivered the pre-cast concrete segments over completed spans for placement in balanced cantilever alignment, eliminating the need for crane access to the valley floor. The Harano Tunnel was constructed through a variety of volcanic geological conditions for nearly 1 mile. H-3 won the 1998 Outstanding Civil Engineering Achievement award from the American Society of Civil Engineers.
IDAHO									
No recommended elements									
ILLINOIS									
I-74	Iowa-Illinois Memorial Bridge	Bridge	Connects Bettendorf, IA with Moline, IL	1936	4	Engineering, Architecture	A, C	Eligible 8/31/94; 10/16/2002 (two nomination forms)	The Iowa-Illinois Memorial Bridge over the Mississippi River was previously determined eligible as an individual structure for the National Register as part of a statewide study of DOT bridges in Iowa. The bridge was found to be eligible under Criterion A "as the largest, most important federal works project in Iowa" and under Criterion C because "it possesses a high degree of technological" importance. The bridge also is significant as a rare bridge type, as the work of an important engineer (Ralph Modjeski), and as one of the "Great River" bridges built over a major river. Additional historical significance is derived from the fact that it was a Depression-era PWA project.
INDIANA									
No recommended elements									
IOWA									
I-74	Iowa-Illinois Memorial Bridge (see entry under Illinois)								
KANSAS									
No recommended elements									
KENTUCKY									
I-64	Cochran Hill Tunnel	Tunnel	9	1974	2	Engineering, Transportation			The Cochran Hill Tunnel, on the east and west sides of I-64, is of exceptional significance to the development of environmentally sensitive design in the area of transportation engineering. These underground tunnels were constructed in 1974 to preserve the National Register site directly above the highway. The site is Cherokee Park, a verdant landscape designed by Frederick Law Olmsted, which is part of the larger Olmstead Park system in Louisville. Kentucky Highway engineers and Vollmer Associates, Inc., in consultation with the general public, developed these environmentally sensitive tunnels to avoid destroying the important Olmstead landscape. These unique, groundbreaking tunnels were the first attempts to ameliorate the effects of highway construction on a Kentucky roadway.
I-64	I-64 Eastbound Rest Area	Rest Area	100	1960s	2	Architecture, Transportation			The best of three remaining 1960s modernist rest areas in Kentucky, the I-64 Eastbound Rest Area is significant in the area of architecture and transportation. This structure possesses exceptional significance and integrity and is one of the last representatives of modern style rest areas in Kentucky. In a design that recalls the architecture of the National Park Service's Mission 66 comfort stations and visitor centers, this rest area employs modern materials and design. I-64 Eastbound Rest Area is a one-story circular building, covered by a radial folded plate roof that creates a deep overhang for a walkway. The primary cladding materials are spandrel panels and textured pre-cast concrete walls. Transom windows and single light plate glass windows provide natural light on the interior. A mosaic wall mural located on the interior illustrates a map of Kentucky highlighting tourist destinations and principal cities in the state.
I-24	Whitehaven (Anderson-Smith House)	House, Rest Area, & Welcome Center	7	c. 1850	3	Social history	C	Listed 1984	The Anderson-Smith House is significant architecturally as a mid-nineteenth century house remodeled in the Colonial Revival period. In 1983, the mansion was restored and incorporated into the I-24 system as a rest area and welcome center. According to the nomination, it is the only historic house restored as a rest area on the Interstate Highway System by the early 1980s.
LOUISIANA									
I-310	Hale Boggs Memorial Bridge	Bridge	6 - 7	1983	2	Engineering			The Luling-Destrehan Bridge, also known as the Hale Boggs Memorial Bridge, carries I-310 over the Mississippi River, west of New Orleans. Built in 1983 at a cost of \$185 million, it is the first major steel cable-stayed bridge built in the U.S. Its total length is 2,744 feet, with a main span length of 1,235 feet. The American Society of Civil Engineers named the Hale Boggs Bridge as the Outstanding Civil Engineering Achievement for 1984.
I-10	Calcasieu River Bridge	Bridge	28	1952	4	Transportation	A	Eligible 2006	The Calcasieu River Bridge was constructed as a high rise to allow vehicular traffic to cross the Calcasieu River without being stopped by marine traffic. Before completion of this bridge, vehicular traffic was stopped at least 435 times per month for the Willow Drive Bridge to open and allow marine traffic to travel on the Calcasieu River. Riverine traffic was increasing due to the growing petrochemical industry and vehicular traffic was increasing due to the growing motor freight industry and the popularity of cars. This bridge became part of the Interstate Highway System when I-10 was constructed.
MAINE									
No recommended elements									

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

Interstate Number	Resource Name	Property Type	Milepost [Range]	Year Construction Completed	Exclusion Criterion	Area(s) of Significance	National Register Criterion (A-D)	Date Listed on National Register OR Determined Eligible	Brief Statement of Significance
<b>MARYLAND</b>									
I-68	Sideling Hill	Roadway, visitor's center, pedestrian bridge and walkway	74.5 - 73.5	1991	2	Engineering, Geology, Social history			Construction of the highway segment of I-68 in western Maryland that includes the crossing of Sideling Hill required the removal of 3.44 million cubic meters of sedimentary rock, revealing 350 million years of geological history. Elements include an exhibition and tourist center with geological displays and a pedestrian bridge and walkway for close inspection of the mountain cut and geologic layers. The pedestrian bridge is a voided slab with a "Leaping Stag" substructure covered in concrete. According to the Maryland Geological Survey, at Sideling Hill "almost 810 feet of strata in a tightly folded syncline are exposed in this road cut."
I-95	Fort McHenry Tunnel	Tunnel	4.8 - 6.1	1985	2	Engineering			The Fort McHenry Tunnel was the final link of I-95 and is the longest and widest vehicular tunnel ever built using the immersed tube method. It also is the first tunnel in the world to have sections with both horizontal and vertical curvature. Construction was accomplished by prefabricating the tunnel sections, floating them into Baltimore Harbor, and sinking them into place. It received the 1986 Outstanding Civil Engineering Achievement award from the American Society of Civil Engineers.
I-895	Baltimore Harbor Tunnel	Tunnel	2.4 - 3.8	1957	2	Engineering, Transportation			The Baltimore Harbor Tunnel is a component of the 17-mile long Harbor Tunnel Thruway and is part of a system of approach roads and ramps connecting the major north-to-south highways of the region in which it is located. Completion of this transportation project in November 1957 was an important step in the elimination of natural barriers to commerce and transportation in a major urban area. The Thruway was the first freeway for northeast corridor traffic through the Baltimore area and a major step in elimination of the so-called "Baltimore Bottleneck," which had increasingly become a major transportation problem since the 1940s. This was the longest twin tube trench type tunnel in the world when completed. Its construction was heralded as a major engineering feat of interest to engineers across the country. Prefabricated tunnel sections were sunk in an open trench dredged from the Baltimore Harbor bottom and then joined underwater. Excavation of the trench began in 1955, and the tunnel opened to traffic on November 29, 1957.
<b>MASSACHUSETTS</b>									
I-93	Zakim Bridge	Bridge	18.6	2003	2	Engineering, Transportation			The Leonard P. Zakim - Bunker Hill Bridge, crown jewel of Boston's Central Artery/Tunnel Project (the Big Dig), is the widest cable-stayed bridge in the world. Developed by HNTB Corporation and Figg Bridge Engineers from the original design idea of Christian Menn, the bridge carries I-93 over the Charles River and serves as the northern gateway into Boston. It is the first asymmetrical cable-stayed bridge in North America, the first to use an ungrouted cable stay system, the first to combine a steel main span with concrete back spans, and the first to use a composite concrete tower with a high-performance steel inner core, among other innovations. The bridge's exceptional engineering qualities contributed to its selection by the American Society of Civil Engineers as the Outstanding Civil Engineering Achievement of 2004, and its dramatic visual character has already made the bridge a new symbol of Boston's civic pride.
I-95	Whittier Bridge	Bridge	86.2	1954	4	Engineering, Transportation	A, C		The Whittier Bridge is a double-barreled 3-span continuous steel "swinging" through/deck truss structure originally built to carry a relocated section of US-1 over the Merrimack River between Amesbury and Newburyport in Massachusetts. The central span is arched, and the highway deck is suspended from the lower chords by steel cables. The relocation of US-1 was intended to take the heavy through traffic formerly carried by US-1 over an aging drawbridge in downtown Newburyport. The present, high-level fixed bridge and its relocated approach highways were later taken into the Interstate Highway System as part of I-95.
I-95	Central Avenue Bridge	Bridge	36.1	1953	4	Community planning, Engineering, Transportation	A, C		The double-barreled Central Avenue Bridge originally was built to carry Boston's Southern Circumferential Highway (ST 128) over a local street in Needham, Massachusetts. It is one of the best-preserved surviving bridges dating from the 1940s/50s reconstruction of this, the first limited-access circumferential highway in the U.S. The Central Avenue Bridge's concrete rigid frame structural type is uncommon in Massachusetts; its stone-faced abutments and median wall, and its modestly ornamented steel railings, are typical of the "Fifties Modern" aesthetic of its time.
<b>MICHIGAN</b>									
I-94	Blue Water Bridge	Bridge	Connects Port Huron, MI with Sarnia, ON	1938	1	Engineering			The Blue Water Bridge is a major international crossing over the St. Clair River that opened in 1938, linking Port Huron, Michigan and Sarnia in Ontario, Canada. This steel cantilever through truss bridge has a main span of 871 feet, anchor arms 326 feet long, and approaches consisting of deck girder spans and two deck truss spans adjoining the anchor arms on both the U.S. and Canadian sides. The bridge was designed by the well-known Pennsylvania firm of Modjeski and Masters.
I-94 I-69	Blue Water Bridge (2nd Span)	Bridge	Connects Port Huron, MI with Sarnia, ON	1997	2	Engineering			Jointly owned and maintained by the U.S. and Canada, this second span for the Blue Water Bridge was constructed to alleviate congestion at the nation's second busiest border crossing. The bridge is 6,109 feet long and is a continuous tied arch bridge over the St. Clair River. This construction design was chosen because it blends in with the original span, yet stands out on its own.
I-75	Landscaped Median	Median	292 - 295	1962	2	Landscape Architecture			A three-mile corridor located between Gaylord and Indian River is significant for the extraordinarily wide median designed to maximize scenic vistas. This stretch of interstate won an award for most beautiful highway from Parade Magazine.
I-75	Rouge River Bridge	Bridge	43	1967	2	Engineering			The Rouge River Bridge is significant for its vertical clearance of 101.7 feet. In this location, a drawbridge would cause unacceptable delays and safety conflicts for both motorists and water traffic. As a result, a new solution had to be created to allow both vehicular and water traffic to pass in this area. The height of the Rouge River Bridge provides unimpeded clearance for ships underneath and a roadway for vehicular traffic to cross the river.



**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

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I-75	Zilwaukee Bridge over the Saginaw River	Bridge	153 - 154	1988	2	Engineering			The Zilwaukee Bridge was a massive and controversial project that included a major construction accident. The 26-span bridge runs 8,085 feet with a vertical clearance of 119.8 feet, replacing a ca. 1960 bascule bridge. The Zilwaukee Bridge was designed to relieve traffic congestion along the freeway crossing that resulted from repeated openings of the original drawbridge for lake freighter traffic serving industrial sites along the river. It also is a substantial example of cutting-edge technology, as it used a balanced cantilevered construction method and interior cables to support the structure. In addition, because of the size of the bridge, portions were fabricated on site in a specially built facility.
I-696	Oak Park Pedestrian Plazas	Pedestrian Bridge	12, 13	1987	2	Social history			Wide landscaped plazas across this more recent expressway provide a safe and relatively secluded crossing for pedestrians. The plaza crossing is particularly important for members of Oak Park's Orthodox Jewish community, which rely on them for their walk to and from Temple on the Sabbath and High Holy Days.
I-496	Snow Road Bridge	Bridge	2	1969	2	Engineering			The Snow Road Bridge has a unique "V" center pier, one of three type-452 highway bridges in the state. It retains a high degree of historic physical integrity, as it retains all of its original major elements.
I-75	International Bridge	Bridge	Connects Sault Ste. Marie, MI with Sault Ste. Marie, ON	1962	2	Engineering			The International Bridge on I-75 is one of Michigan's five monumental bridges. It was designed by the firm of Steinman, Boyton, Gronquist, and London of New York and cost 20 million dollars. This bridge was an ambitious project because it crossed two navigation canals and the St. Mary's River. It also is noted for the sag between the two through arch spans, which was employed because under-bridge clearance was not a concern in that area.
I-75	Straits of Mackinac	Bridge	339 - 344	1958	2	Engineering			After several decades of planning, effort, and resistance from ferry operations, the Straits of Mackinac Bridge was the first bridge to span the 5 miles of water between the Upper and Lower Peninsula of Michigan. The bridge is one of the longest suspension bridges of its type and was the longest at the time of its formal completion in 1958. The major construction achievement of 1954 was the erection of the bridge's six principal piers, including those for the two towers, the anchorages, and the backstay spans. Enormous steel caissons were sunk into the mud under the straits and then driven to bedrock.
I-75	Sigler Road	Bridge	23	1954	4	Engineering	A, C		This structure, which maintains a high level of historical physical integrity, particularly in its retention of original guardrails, is outstanding for its length and number of spans. It is a significant early example of a concrete T-beam bridge (used for greater under-bridge clearance) in the state.
I-75	Dunbar Road	Bridge	12	1955	4	Engineering	A, C		This structure is an intact representative one of 37 concrete T-beam, elliptical arch bridges and grade separations constructed for the Detroit-Toledo Expressway by June 1956. The Detroit-Toledo Expressway was constructed as part of the state highway department's emphasis on major, long distance transportation line improvement and expressway development in the period following World War II. The state highway department first issued standard plans for concrete T-beam bridges during the 1913-1914 two-year planning period, but the design was used sparingly until the development of the Interstate Highway System in the 1950s and 1960s. The bridge retains its R-4 railings.
I-75	Conrail RR and River Raisin	Bridge	13	1955	4	Engineering	A, C		This structure was the largest constructed for the Detroit-Toledo Expressway. This bridge is significant in the state for its width, length, and large number of spans.
I-94	M-10 John C. Lodge Expressway Interchange	Bridge	215	1953	4	Engineering	A, C		The M-10/I-94 interchange is significant as the first full freeway-to-freeway interchange in the U.S. The entire interchange is included because the interface of state trunk line resources cannot be cleaved from interstate resources when assessing its historical significance. The interchange was completed prior to the I-94 designation.
<b>MINNESOTA</b>									
I-94	Lowry Tunnel (Minneapolis)	Tunnel	232.4 - 232.7	1971	2	Engineering, Social history			The Lowry Tunnel was perhaps an early transportation solution to avoiding huge impacts to a neighborhood. Builders used an underground refrigeration system to stabilize the soils that supported the Basilica of St. Mary, Hennepin Avenue Methodist Church, and other historic structures in the area to prevent movement or damage.
I-94	Minnesota Road Research Project (Ostego)	Road bed	196.7 - 200.1	1993	2	Engineering			The Minnesota Road Research Project (Mn/ROAD) is the world's largest and most comprehensive outdoor laboratory, distinctive for its electronic sensor network embedded within 6 miles of test pavements. Located 40 miles from Minneapolis/St. Paul, its design incorporates 4,572 electronic sensors. Its network includes an extensive data collection system that provides opportunities to study how heavy commercial truck traffic and the annual freeze/thaw cycle affects pavement materials and designs. Mn/ROAD consists of two road segments that run parallel to I-94 near Otsego, Minnesota. The mainline section is a 3.5 mile stretch of interstate that carries an average of 26,400 vehicles per day. The low-volume roadway is a 2.5 mile closed loop where controlled weight and traffic volumes simulate conditions on rural roads.

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

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I-35	Mesaba Avenue to 26th Avenue East (Duluth)	Highway Segment	256.2 - 259.6	1992	2	Social history			The project was designed to reconnect downtown Duluth to the Lake Superior waterfront while removing abandoned warehouses, rubble heaps, and rusted machinery. This was accomplished by relocating a rail yard, including five separate railroads; constructing four cut-and-cover tunnels built over a 13-block span; removal and relocation of 144,000 cubic yards of rock that created 6.3 acres of new public land along the shoreline (including the use of 10,000 cubic yards to build a 5-foot-high, 15-foot-wide, and 1,200-foot-long trout spawning reef in Lake Superior); the Lakewalk - a shoreline hike-and-bike trail extending from Lake Place to Leif Erikson Park (creating for the first time a recreational activity area along the lakefront); and a 580-foot-long Image Wall along the outside wall of Lake Place, made of 1.27 million ceramic tiles and depicting 73 different images and scenes of Lake Superior maritime activity. The tops of the tunnels were utilized to create the 2.5-acre Lake Place, recreate Leif Erikson Park and its famous rose garden (featuring the planting of over 2,000 plants of 99 different varieties), and the Jay Cooke Park. Also, the Brewery Historic District Tunnel allowed the preservation of the Fitger Brewery Complex and other historic structures. The project included ornamental fixtures, carefully selected and arranged landscaping, and an aesthetically pleasing retaining wall. Construction of the freeway was an enhancement to the Duluth inner city, reconnecting it to Lake Superior.
<b>MISSISSIPPI</b>									
No recommended elements									
<b>MISSOURI</b>									
No recommended elements									
<b>MONTANA</b>									
No recommended elements									
<b>NEBRASKA</b>									
I-80	Overland Trail ruts at Sutherland eastbound rest area	Rest area	159.6	1968	1	Archeological, Events			Nebraska Department of Roads (NDOR) files indicate that in 1967 department engineers were cautioned to control grading operations to ensure minimum damage to the Overland Trail. Further coordination on the trail resulted in the acquisition of additional right-of-way to preserve Oregon Trail ruts. The tenant on this ground was not in sympathy with NDOR's effort and mentioned plowing up the area. The area containing the ruts was preserved and plaques identified as 'Crossing the Overland Trail' and 'The Great Platte River Road' were developed in cooperation with the Nebraska Historical Society and placed in the rest area.
I-80	Nebraska's 500 Mile Sculpture Garden	Rest area	61.37, 132.55, 193.75, 270.94, 314.93, 355.23, 381.29, 425.08	1976	2	Art, Community involvement			This sculpture project was conceived in 1973 as a project of the Nebraska American Bicentennial Commission and was dedicated in 1976. The purposes of the project were to celebrate the nation's bicentennial by providing Nebraskans and visitors access to some of the best sculptures of the time outside of museum walls and to contribute to Nebraska's cultural heritage. It also provided Nebraskans an opportunity to meet and work with the sculptors. It is known as "Nebraska's 500 Mile Sculpture Garden" because the eight works are spaced at rest areas along the state's length of I-80. The project solicited proposals nationally and selected artists represented the breadth of contemporary design in the 1970s. The project was significant for a number of reasons: (1) it was conceived at a time before the concept of placing art in public settings was an accepted norm; (2) it was ahead of its time in conceiving of a statewide project using a transportation system as its venue; and (3) it used community buy-in as a way of ensuring that the projects were successful. Sometimes controversial in the Nebraska press, the project received national acclaim.
<b>NEVADA</b>									
No recommended elements									
<b>NEW HAMPSHIRE</b>									
I-93	Franconia Notch Parkway	Highway Segment	102.9 - 111.5	1987	2	Engineering, Transportation, Conservation, Social history			A four-lane highway extending I-93 through Franconia Notch that would meet the existing AASHTO standards would have radically altered the scenic beauty of Franconia Notch in the White Mountains, the site of the Old Man of the Mountain, a National Natural Landmark as well as the symbol of the State of New Hampshire. A special provision of the Federal-Aid Highway Act of 1973 permitted this segment of I-93 to be designed and built as a two-lane highway section. It also represents the accommodation of and access to Franconia Notch State Park recreational facilities and natural resources in the highway design and utilization of a multi-disciplinary team approach to create an early exemplar of context sensitive solutions. It remains the only two-lane highway in the entire Interstate Highway System.
I-93	Robert Prowse Memorial Bridge	Bridge	12.4	1964	2	Engineering			The Robert Prowse Bridge achieves exceptional significance under Criterion Consideration G for its innovative engineering design by NHDOT's nationally recognized engineer, Robert Prowse. Its steel rigid frame is composed of five frames or bents designed to function as a series of parallel two-hinged rigid frames. Its design utilizes steel cutting and innovative welding technology to create each frame as a sculptural shape reflecting its internal stresses and to bring together a few large structural elements. The bridge reflects the post-World War II initiative for highway bridge designers to produce connections through welding rather than riveting technology. This technology was rapidly adopted for the production of long bridge stringers, permitting the construction of continuous stringer bridges rather than utilizing built-up plate girders. Prowse verified assumptions and complex calculations by using the Beggs deformeter to test models of his structure. The bridge was the first known example of all-welded steel rigid frame technology used along the Interstate Highway System or on primary road systems in the U.S.

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<b>NEW JERSEY</b>									
I-95	George Washington Bridge	Bridge	Connects Fort Lee, NJ with Manhattan Island, NY	1931, 1963	1	Engineering			The George Washington Bridge is a suspension bridge with a 3,500-foot-long main span now carrying I-95 over the Hudson River. It was designed by Othmar Ammann, and the suspension system was built by John A. Roebling and Sons. Le Courbusier, a pioneer of the modern architecture movement, wrote: "The George Washington Bridge over the Hudson is the most beautiful bridge in the world." It has been designated an ASCE Landmark by the American Society of Civil Engineers, and its expansion received the 1963 ASCE Outstanding Civil Engineering Achievement award.
I-278	Goethals Bridge	Bridge	Connects Elizabeth, NJ with Staten Island, NY	1928	1	Engineering, Events			The Goethals Bridge was designed by J.A.L. Waddell with Othmar Ammann and was intended by the Port Authority of New York and New Jersey to alleviate the congested ferry system to Staten Island, as well as provide the first link for vehicular traffic between Staten Island and the New Jersey mainland. It was the first bridge constructed by the Port Authority of New York and New Jersey under a joint agreement to improve the port operations of both states and has an unusual 135-foot-span height to accommodate shipping traffic. The bridge, which crosses the Arthur Kill (Staten Island Sound), consists of a high 672-foot-long span formed by a cantilever steel through truss and long elevated steel girder approaches supported by concrete piers, with a total length of one mile.
I-76	Walt Whitman Bridge	Bridge	Connects Philadelphia, PA with Gloucester, NJ	1957	1	Engineering, Events			The Walt Whitman Bridge over the Delaware River is one of the last bridges designed by Othmar Ammann, who applied the design standards that characterized post World War II suspension bridges, e.g., deep stiffening trusses and streamlined towers. Firms associated with the bridge include 1) Ammann and Whitney, 2) Modjeski and Masters, 3) Bethlehem Steel, and 4) American Bridge Company/United States Steel. It was named the "Most Beautiful Structure of Steel of 1957" by the American Institute of Steel Construction. It was incorporated into the Interstate Highway System in 1956 while still under construction and became one of the first newly constructed Interstate Highway System bridges.
I-676	Ben Franklin Bridge	Bridge	Connects Philadelphia, PA with Camden, NJ	1926	1	Engineering, Events			When completed in 1926, the Camden-Philadelphia Bridge, as it was originally known, ranked as the longest suspension bridge in the world. The handsome structure, designed by Ralph Modjeski and architect Paul Certe, was the single most influential structure in the subsequent development of Camden and the surrounding area. The span remains as one of the finest and best-preserved important suspension bridges in the country and is one of Modjeski's most significant works. It carries traffic over the Delaware River.
I-78	Holland Tunnel	Tunnel	Connects Jersey City, NJ with Manhattan Island, NY	1927	1	Engineering, Transportation	A, C	Listed 11/4/1993	The Holland Tunnel was the world's first long underwater mechanically ventilated vehicular tunnel, and when it opened it was the longest underwater tunnel in the world, with its north tube 8,558 feet long and its south tube 8,371 feet long. It carries traffic under the Hudson River and is a National Historic Landmark.
I-295	Delaware Memorial Bridge (see entry under Delaware)								
I-280	William A. Stickel Bridge	Bridge	14.6	1949	4	Engineering, Events	A, C		The Stickel Bridge is significant for its mechanical systems and role in transportation planning in New Jersey. The primary operational challenge of the tower-drive-type vertical lift bridge is synchronizing the independent motors located in each tower. The bridge used new amplydine technology developed by General Electric (GE) just prior to World War II to engineer this synchronization and has retained the original electrical-mechanical equipment provided by GE. Movable bridges have been an important part of transportation planning in New Jersey due to the state's many navigable waterways in developed areas. The Stickel Bridge played a significant part in New Jersey's post-World War II transportation planning.
<b>NEW MEXICO</b>									
I-25	Nogal Canyon Bridges	Bridge	107	1968	2	Transportation history			Nogal Canyon Bridges on I-25, between Socorro and Truth or Consequences, features two parallel Warren deck truss bridges 114.6 meters in length, soaring over Nogal Canyon. The bridges permitted the interstate to avoid the extreme grade of the canyon, bypassing the once meandering corridor of the El Camino Real and U.S. 85 highways. This segment bypasses the old highway, cutting off a historically circuitous route through what was once called "the Valley of Death", and is therefore important in the history of transportation in the state.
<b>NEW YORK</b>									
I-95	George Washington Bridge (see entry under New Jersey)								
I-87 I-287	Tappan Zee Bridge	Bridge	21 - 26	1955	1	Engineering			The Tappan Zee Bridge is significant in engineering history for its use of prefabricated buoyant caissons supports.
I-678	Bronx-Whitestone Bridge	Bridge	12 - 13	1939	1	1939 World's Fair, Tourism and recreation development, Engineering design			The Bronx-Whitestone Bridge was constructed in an astonishing 23 months to accommodate automobile traffic for the 1939 New York World's Fair in Flushing Meadow Park. Designed by Othmar Ammann, the bridge served as the gateway to the fair's "World of Tomorrow." Construction of the bridge also made the development of two major recreation areas possible: Ferry Point Park in the Bronx and Francis Lewis Park in Queens.
I-278	Goethals Bridge (see entry under New Jersey)								
I-278	Triborough Bridge	Bridge	26 - 29	1936	1	Engineering			The Triborough Bridge is significant for its complex design incorporating four bridge spans and 13,500 feet of viaducts originally connecting three boroughs and two islands in New York City. The bridge also is significant for having been designed by renowned bridge engineer Othmar Ammann. It has been designated an ASCE Landmark by the American Society of Civil Engineers.
I-95	Trans-Manhattan Expressway Connector Ramp	Elevated Highway	0.5 - 0.6	1939	1	Engineering	C	Eligible 6/2003	The Trans-Manhattan Expressway Connector Ramp was determined eligible for the National Register in 2003 by the NYSDOT because it is a work of a master, has high artistic value, and demonstrates individuality or variation of features within bridge type. It was designed by Aymar Embury II and is a multi-span, concrete arch-deck with unique form-liner detail that simulates a brick appearance to the concrete. It represents a significant variation of an uncommon bridge type.

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

Interstate Number	Resource Name	Property Type	Milepost [Range]	Year Construction Completed	Exclusion Criterion	Area(s) of Significance	National Register Criterion (A-D)	Date Listed on National Register OR Determined Eligible	Brief Statement of Significance
I-478	Brooklyn-Battery Tunnel	Tunnel	0 - 2	1950	1	Engineering			The Brooklyn-Battery Tunnel is the longest continuous underwater vehicular tunnel in North America and the longest continuous underwater vehicular tunnel in the world.
I-495	Queens-Midtown Tunnel	Tunnel	0 - 1	1940	1	Engineering, New Deal public works projects			The Queens-Midtown Tunnel was one of the largest public works projects of the New Deal era and represented the most advanced tunnel engineering techniques of its day.
I-190	Grand Island Bridges	Bridge	14 - 16, 21 - 22	1935	1	Engineering			The Grand Island Bridges are significant for their engineering design and as part of the New Deal era funding programs with the Niagara Frontier Authority.
I-278	Thaddeus Kosciuszko Bridge	Bridge	21 - 22	1939	1	Engineering design, Commemoration of the American Revolution			The Thaddeus Kosciuszko Bridge is significant for its unique design combining a through truss spanning 5,536 feet with 103-foot-long support spans linking Brooklyn and Queens. The bridge is named in honor of Thaddeus Kosciuszko, a Polish general in the American Revolutionary War. Two of the bridge towers are surmounted with a Polish eagle and an American eagle.
I-90	Route 64 Bridge over I-90	Bridge	27 - 28	1952	1	Engineering			The Route 64 Bridge is significant as an unusual example of reinforced concrete arch construction on the NY State Thruway system.
I-190	Queenston-Lewiston Bridge	Bridge	Connects Lewiston, NY with Queenston, ON	1965	2	Engineering			The Queenston-Lewiston Bridge, which crosses the Niagara River, was the longest fixed-end steel arch bridge in the world at the time of construction. It is the fourth busiest border crossing between the U.S. and Canada.
I-278	Verrazano Narrows Bridge	Bridge	8 - 10	1964	2	Engineering			Designed by Othmar Ammann, the Verrazano Narrows Bridge was the world's longest suspension bridge at the time it was completed. It received the 1965 Outstanding Civil Engineering Achievement award from the American Society of Civil Engineers.
I-81	Barge Canal Bridge	Bridge	100 - 103	1959	2	Engineering			The I-81 Bridge crossing Oneida Lake in Onondaga County is significant as the longest post-tensioned concrete bridge in the western hemisphere at the time of completion.
I-495	Long Island Expressway Viaduct	Bridge	3 - 4	1940, 1969	2	Engineering			The Long Island Expressway Viaduct spans 3,856 feet from Maspeth Avenue to the Brooklyn-Queens Expressway. The bridge was originally constructed at grade (1940) and later rebuilt (1969) as a double deck structure due to space constraints, in particular an adjacent cemetery.
I-295	Grand Central Parkway Interchange	Highway Segment	0 - 0.4	1963	2	Engineering			This four-layered, cantilevered interchange is significant as a one-of-a-kind structure for New York City and a possible precedent-setting design for the Interstate Highway System as a whole.
I-78	Holland Tunnel (see entry under New Jersey)								
I-278	Brooklyn-Queens Expressway Esplanade	Highway Segment	16 - 17	1954	3	Engineering	A, C	Listed 1/12/1965	This 8-block, 3-level cantilevered structure is significant as an innovative solution for constructing a modern highway while preserving the integrity of Brooklyn Heights neighborhood and preserving area views of Manhattan. The esplanade contributes to the Brooklyn Heights National Historic Landmark District.
I-87	Major Deegan Expressway	Highway Segment	0 - 9	1956	4	Engineering			The Major Deegan Expressway, later incorporated in the Interstate Highway System, is unique for its "parkway" elements consisting of stone walls, bridges, parks, and the Albany Crescent.
I-278	Brooklyn Queens Expressway Corridor	Highway Segment	17 - 22	1950	4	Engineering, Social history			Running between Brooklyn Heights and the Thaddeus Kosciuszko Bridge, this corridor along the Brooklyn-Queens Expressway is significant for the design of its bridges, roadside features, and park development. The Brooklyn-Queens Expressway contains a unique collection of Art Deco-style, multi-flange beam and column capped bridges and stone or brick-lined retaining walls. Robert Moses mitigated the impact of the expressway by building small neighborhood parks in vacant spaces left by buildings demolished for roadway construction and using brick facing on concrete abutments in an attempt to blend the expressway into the urban landscape.
I-95	Cross Bronx Expressway Corridor	Highway Segment	0 - 7	1955	4	Engineering, Social history			The Cross Bronx Expressway is significant for its association with the public works programs of Robert Moses, the substantial engineering challenge of putting a major expressway through a dense urban neighborhood surmounted by the project, and the use of innovative mitigation measures for the neighborhood expressway. The corridor consists of stone-lined cut sections, tunnels, and viaducts to accommodate natural and man-made features, and has many pedestrian overpasses and underpasses. The edges of the expressway are lined with playgrounds, malls, and parks to buffer the highway from the surrounding neighborhoods.
I-278	Gowanus Expressway Viaduct	Bridge	11 - 15	1941	4	Engineering, Social history			The Gowanus Expressway Viaduct, running for 18,472 feet from 65th Street to the Prospect Expressway, is significant as a massive cantilevered roadway adaptively reused from an original 1941 elevated subway and widened in 1961 to accommodate six lanes while retaining the original subway supports. It also is important for local history in the changing planning paradigms in favor of the automobile with the road construction dividing neighborhoods on a large scale.
<b>NORTH CAROLINA</b>									
I-240	Great Smoky Mountain Park Bridge	Bridge	4	1950	4	Engineering	C	Eligible 3/2003	The Great Smoky Mountain Park Bridge was one of the NC State Highway Commission's earliest, high-profile urban bridge projects in the post World War II era. At the time of its construction, the bridge was one of the longest applications of continuous design principles yet attempted by the state bridge unit. It was one of the largest and most technically challenging projects taken on by the unit's engineers during the period. The Great Smoky Mountain Park Bridge is the only Art Moderne style highway bridge dating to before 1961 in North Carolina.
<b>NORTH DAKOTA</b>									
No recommended elements									

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

Interstate Number	Resource Name	Property Type	Milepost [Range]	Year Construction Completed	Exclusion Criterion	Area(s) of Significance	National Register Criterion (A-D)	Date Listed on National Register OR Determined Eligible	Brief Statement of Significance
<b>OHIO</b>									
I-80	Cuyahoga River Bridges	Bridge	176.9	1999	2	Engineering, Aesthetics			The Ohio Turnpike's set of bridges over the Cuyahoga River is a pair of 2,664-foot long bridges. The bridges span the Cuyahoga River Valley with a contextual design to match the historic features of the valley including the towpath.
I-70	Welcome to Ohio Arch	Structure	0.2	1968	2	Aesthetics, Communication			The Welcome to Ohio Arch is a steel arch that spans I-70 at the Ohio/Indiana State Line. This structure was constructed in 1968. The structure was designed to carry welcome and departure signs. This structure was intended to be one of 10 similar structures to be placed at the state lines. However, due to public opposition and funding issues, this is the only one that was constructed.
<b>OKLAHOMA</b>									
I-44	Glass House Restaurant	Rest Area	288	1957	2	Architecture			The Glass House Restaurant structure actually spans the Will Rogers Turnpike (I-44) and may be accessed by patrons traveling in either direction. Originally built by Conoco, it is owned by the Turnpike Authority and leased to the concession. Several sources indicate that it was the first restaurant facility constructed over a public highway in the U.S., and that it was considered the largest McDonalds restaurant in the world until recently surpassed by those in Moscow, Peking, and Orlando. Overhead restaurants are a rare property type found on the Interstate Highway System, and the Glass House Restaurant is an excellent example of roadside architecture designed in the Late Modern style. Character defining features include: vertical sunshade louvers on one side, natural stone facing, large glass curtain wall construction, and a concrete arch structure for the central span and roof.
<b>OREGON</b>									
I-84	Historic Columbia River Highway	Highway Segment	22 - 82	1922	1, 3	Engineering	A, C	Listed 12/12/1983	The Historic Columbia River Highway is a National Register listed resource and has been designated an ASCE Landmark by the American Society of Civil Engineers. It includes multiple structures and corridors that wind in and out of the I-84 right-of-way. Portions also are designated as a National Historic Landmark.
I-84	Toothrock Tunnel	Tunnel	41.3	1937	1	Engineering	A, C	Listed 12/12/1983	The Toothrock Tunnel is part of the Historic Columbia River Highway National Historic Landmark.
I-405	Fremont Bridge	Bridge	3.3	1973	2	Engineering			The Fremont Bridge is eligible under Criteria Consideration G. It is a stiffened steel tied arch with an orthotropic upper deck. When constructed in 1973, the 902-foot long main span was floated into place on the river and hydraulically lifted 170 feet into place, making it the largest lift ever made. It also features the longest single span length in the state.
I-5	Columbia River Bridge (northbound)	Bridge	Connects Portland, OR with Vancouver, WA	1917	3	Engineering	A, C	Listed 7/16/1982	The Columbia River Bridge (northbound) was a major engineering and financial accomplishment, being the first highway bridge across the Columbia River to connect Oregon and Washington. The main span is a through truss vertical lift designed by Harrington, Howard, and Ash. The 10 spans of the bridge range in length from 266 to 531 feet and are of the Pennsylvania-Petit type. This is one of a pair of bridges crossing the Columbia River on I-5 connecting Vancouver, Washington, and Portland, Oregon, that are significant for their engineering. The second bridge, which now carries southbound traffic, was built on the west side of the original span in 1958.
I-82	Columbia River Bridge (Umatilla) (eastbound)	Bridge	0.4	1955	4	Engineering	C	Eligible 1/25/2001	The Columbia River Bridge at Umatilla (eastbound) is a five-span continuous Warren through truss design. The configuration of the span is unusual in the fact that it takes advantage of a submerged island near the middle of the Columbia River. With its two 600-foot spans, each constructed using the cantilever method, this is the only bridge in the state having two spans constructed using that method.
I-84	Sandy River Bridge (eastbound)	Bridge	17.7	1949	4	Engineering	C	Eligible 5/18/2005	The Sandy River Bridge (eastbound) is significant as a representative example of its type from this era.
I-84	Jordan Road Bridge (eastbound)	Bridge	17.8	1946	4	Engineering	C	Eligible 5/18/2005	The Jordan Road Bridge (eastbound) is significant as a representative example of its type from this era.
I-84	Jordan Road Bridge (westbound)	Bridge	17.8	1946	4	Engineering	C	Eligible 5/18/2005	The Jordan Road Bridge (westbound) is significant as a representative example of its type from this era.
<b>PENNSYLVANIA</b>									
I-376	Penn Lincoln Parkway - East	Highway Segment	3 - 10	1953	1	Transportation, Engineering			The Penn Lincoln Parkway - East, based upon the plans of Robert Moses, was constructed between 1946 and 1953. When dedicated on June 5, 1953, the parkway extended from U.S. 22 at Churchill to Bates Street, in Pittsburgh. The first modern expressway in the Pittsburgh area, the Penn Lincoln Parkway - East encompassed significant planning and integration with existing transportation systems, while attempting to limit dislocation of existing development and incorporate scenic viewsheds and landscape elements.
I-70 I-76	Pennsylvania Turnpike, Carlisle to Irwin	Highway Segment	67 - 226	1940	1	Transportation, Government, Engineering			The Pennsylvania Turnpike was constructed between 1938 and 1940 along the abandoned right-of-way of the South Penn Railroad and is recognized for the engineering standards utilized in its design and construction. The Pennsylvania Turnpike was the first long distance, high speed, limited access superhighway in the U.S. The Pennsylvania Turnpike also is recognized for its financing system, which became the model for subsequent toll road construction. In addition, the turnpike was a significant New Deal era public works project in Pennsylvania.
I-76	Walt Whitman Bridge (see entry under New Jersey)								
I-676	Ben Franklin Bridge (see entry under New Jersey)								
I-279	Fort Pitt Bridge and Tunnel	Bridge, Tunnel	5 - 6	1959, 1960	2	Engineering			The Fort Pitt Bridge was designed by George S. Richardson and was constructed between 1956 and 1959. The Fort Pitt Bridge is recognized as the world's first double deck, tied bow truss bridge. The Fort Pitt Tunnel was constructed between 1957 and 1960 and was a vital link on the Penn Lincoln Parkway, along with the Fort Pitt Bridge. The tunnel and bridge are noted as innovative solutions to complex engineering obstacles.

**Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System**

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RHODE ISLAND									
I-195	Washington Bridge	Bridge	1.6 - 1.8	1930	3	Transportation, Engineering	A, C	Eligible 1989	The Washington Bridge is a Classical Revival style, 12-span open-spandrel concrete arch structure with a masonry façade constructed in 1930. It has a span length of 1,864 feet and it carries I-195 eastbound traffic over the Seekonk River in the City of Providence and the Town of East Providence, Rhode Island. The structure is of state-level significance and was determined eligible for listing in the National Register by the Keeper of the National Register as part of the Rhode Island Historic Bridge Inventory Thematic Nomination in 1989.
SOUTH CAROLINA									
No recommended elements									
SOUTH DAKOTA									
I-90 I-29	Tipi Structure	Structure in rest area	I-90: 1, 98/99, 264, 362/363, 412 I-29: 26, 250	1968	2	Cultural, Aesthetic value			Large concrete tipi structures mark rest areas along I-90 and I-29. South Dakota architect Ward Whitwam, FAIA (Fellow of the American Institute of Architects), designed these tipi structures in the 1960s. The first two were constructed in the late 1960s at rest areas near Salem and Wasta. The remaining tipi structures were constructed in the 1970s. The tipi structures are found along I-90 at the Northern Hills Rest Area, Cheyenne River Rest Area, Lewis and Clark Rest Area, and Valley Springs Rest Area. The tipi structures along I-29 are found at the Homestead Rest Area and the Glacial Lakes Rest Area. These distinctive tipi structures are unique to South Dakota.
TENNESSEE									
I-40	Hernando DeSoto Bridge (see entry under Arkansas)								
I-55	Memphis and Arkansas Bridge (see entry under Arkansas)								
TEXAS									
I-40	Bridge 25-242-0275-13-001	Bridge	171	1932	4	Engineering	C		The I-40 frontage road bridge is located on the alignment of US 66 in Wheeler County. The bridge crosses the former roadbed of the I & G Railroad. The bridge is significant for its type and railing. It is one of only a few known examples of a bridge in Texas with a concrete encased steel I-beam configuration and is noteworthy for its Type D railing.
I-10	Bridge 06-186-0140-03-021	Bridge	291	1933	4	Engineering	C		The I-10 frontage road bridge over Tunis Creek in Pecos County is a good example of a standard plan reinforced concrete girder bridge designed by the Texas State Highway Department in the 1930s. The bridge is one of the longest examples of its type in the state.
I-35	Bridge 09-014-0015-06-055	Bridge	290	1935	4	Engineering	C		The I-35 frontage road bridge over the Lampasas River in Bell County is significant as a distinctive example of fabricated girder construction. The bridge represents an innovative design response to a difficult site crossing and is one of only three known examples of a two-girder span configuration in Texas.
I-35	Bridge 22-142-0017-08-030	Bridge	79	1929	4	Engineering	C		The I-35 frontage road bridge over Cibolo Creek in LaSalle County is a good example of an early State Highway Department standard plan concrete girder bridge. It is one of the longest (99 feet) examples of its type and period.
I-20	Bridge 23-068-0314-05-018	Bridge	364	1934	4	Engineering	C		The I-20 North frontage road bridge over the south fork of Palo Pinto Creek is located in Eastland County. It is a good representative of State Highway Department design in the 1930s. The bridge's combination concrete girder and steel superstructure system and solid panel approach walls distinguish this bridge from other standard design structures of the period.
I-20	Bridge 23-068-0314-05-020	Bridge	363	1934	4	Engineering	C		The I-20 South frontage road bridge over Bear Creek in Eastland County is a good representation of a reinforced concrete girder bridge designed by the State Highway Department in the 1930s. The bridge is principally distinguished for its curved concrete approach walls.
UTAH									
No recommended elements									
VERMONT									
I-91	Historic Crown Point Road	Underpass	42.6	1965	1	Transportation, Engineering			The Crown Point Road pedestrian underpasses on I-91 were constructed in 1965 to commemorate and protect the location of a historic military road, which is of corduroy construction at this location. Underpasses go under both northbound and southbound lanes, which are separated by wide median. The Crown Point Road was considered a major engineering feat when first constructed in 1759-60 by General Amherst for transporting troops and supplies to the shores of Lake Champlain to fight the French/Indians. The SHPO is reviewing a MPDF for the military road which has dates ranging from 1759 to 1779.
I-89	Vietnam Veteran's Rest Area	Rest area/Memorial/Museum	8.8	2005	2	Architecture, Culture, Social history (memorial)			Since October 30, 1982, a memorial to Vermont Vietnam Veterans has existed here, where veterans meet and hand out coffee and refreshments to travelers and educate the public. One exit south is the White River Jct. Veterans Hospital. In 1990s veterans were able to stop the closing of this rest area when many others were closed. In 2005, a new rest area was opened to memorialize veterans and the war in a more permanent way. Tim Smith of Timothy Smith Associates of Bennington, Vermont, did the design work so the architecture, landscaping, and even the grasses for the living greenhouse septic treatment system are native to southeast Asia. The rest area has a museum to the Vietnam War and memorials inside and outside. The unique architecture, layout, self-contained brown water system, and continuous utilization of this location by Vietnam Veterans is nationally important for a significant sub-group of American society and is an ideal symbol of American Culture and Values.



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I-91	Steel Rigid-Frame Bridge	Bridge	138.7	1970	2	Engineering			This type of bridge is very rare on interstates in New England. In Vermont, two are on I-91; one each on northbound and southbound lanes carrying the interstate over Rte. 9 in Lyndon, Vermont. As of inspection on 01/12/05, structurally both bridges are in very good condition. Engineering-wise, this style was an experiment in 1960 and 1970 to determine if steel construction could take the variable weight loadings of an interstate environment. It was designed by a New York City firm, Blauvelt Engineering Co., and received a merit award from the American Institute of Steel Construction in 1974. The overall length of the bridges is 227 feet, 6 inches.
<b>VIRGINIA</b>									
No recommended elements									
<b>WASHINGTON</b>									
I-90	Mount Baker Ridge Tunnels	Tunnel	3.8	1940, 1993	1, 3	Engineering, Architecture	D	Listed 7/16/1982	The structure is exceptional in engineering for both the material it was driven through (unstable clay) and the form it took (twin bore). The tunnel ranks as the world's largest diameter soft earth tunnel. It was part of the Lake Washington Floating Bridge/Lacey V. Murrow Memorial Bridge project. The tunnel portals feature a striking modernistic style. The twin bores are 1,440 feet in length and were rehabilitated in 1993. They are included in the Historic American Engineering Record (HAER No. WA-109). Note that in its National Register listing, the NRIS incorrectly identifies its location as east of 'WA 90', instead of 'I-90'.
I-90	Lake Keechelus Snowshed Bridge	Snowshed bridge	58	1951	1, 3	Engineering	A, C	Listed 5/24/1995	The Lake Keechelus Snowshed Bridge is listed on the National Register as part of the Bridges of Washington State Multiple Property Submission. It also is included in the Historic American Engineering Record (HAER No. WA-110.)
I-5	Lake Washington Ship Canal Bridge	Bridge	169.6	1962	2	Engineering, Social history			The Lake Washington Ship Canal Bridge crossing Lake Washington was completed in 1962 and essentially served as the world's largest elevated parking lot when the World's Fair came to Seattle in 1962 (a.k.a., Century 21 Exposition). Ultimately, it was not used for the fair because the feeling was it would take away customers from downtown Seattle. It had a lower level, through truss, and deck truss. In terms of engineering, it was the first bridge to use computers in its design. The giant 4,429-foot bridge was completed in the fall of 1961; at the time, the largest ever built in the Northwest. It is a Warren steel truss double-deck bridge, which carries eight lanes of traffic on the upper deck and four reversible lanes of traffic on the lower deck.
I-90	Snoqualmie Pass West	Highway Segment	50 - 51.5	1971-1981	2	Engineering, Environmental issues			This interstate corridor was designed within some of the most stringent environmental requirements in the country and contains some of the most innovative structures on the Interstate Highway System. Environmental requirements resulted in an elevated roadway constructed with minimal disruption to the forest. The Denny Creek Viaduct consists of a 3,620-foot-long post-tensioned segmented concrete box-girder bridge west of Snoqualmie Pass, which is significant for its engineering and design compatibility with its mountainous setting. The structure was the first concrete box girder in Washington designed to allow access to the interior of the box girder, where specially designed bearings and seismic restrainers are situated. The 700-foot-long Franklin Falls Bridge, a steel-girder structure, is supported by the first piers in the state designed to deflect and withstand avalanches. Its unpainted steel girders were the first "weathering" girders used in the state for the purpose of blending the bridge into its natural surroundings.
I-82	Fred G. Redmon Bridge	Bridge	23.9 - 24.1	1969	2	Engineering			The Fred G. Redmon Bridge on I-82 over Selah Creek between Ellensburg and Yakima was built in 1971 and is significant for its engineering. At the time it was constructed in 1971, the twin-arch bridge was the longest concrete arch bridge in North America. Together, the two arches form the highest bridge in the state of Washington. The bridge is 1,337 feet long and rises 325 feet above the canyon floor. The arch spans (excluding approach spans) are 549 feet long.
I-82	Columbia River Bridge (Umatilla) (westbound)	Bridge	132.3	1987	2	Engineering			The newer I-82 bridge over the Columbia River at Umatilla (companion to the 1955 Umatilla bridge) was built in 1987 and is exceptionally important in the area of engineering. This second bridge was completed adjacent and east of the 1955 bridge. Today, the newer bridge carries all westbound traffic while the 1955 bridge carries eastbound lanes. It is a cantilevered concrete box with two main spans.
I-5	Freeway Park	Park	165.7	1976	2	Landscape Architecture, Social history			Freeway Park on I-5 in Seattle is a park built partially over the interstate to utilize and reconnect the landscape at the Convention Center. It was built between 1972 and 1976 and was designed by Lawrence Halprin, an important landscape architect of the 20th century. It is a 5-acre park built on an overpass above I-5 between Seneca and University Streets. Halprin designed waterfalls and fountains to mute the noise of the eight-lane freeway below. It re-established a pedestrian connection between neighborhoods that were bifurcated when I-5 was built in the 1960s.
I-90	Columbia River Bridge (Vantage)	Bridge	137	1962	2	Engineering			The Columbia River Bridge at Vantage is important for its engineering, reflected in its four-lane, 520-foot steel through-arch. Its steel-girder and Warren deck-truss approach spans bring the structure's total length to 2,504 feet. Since completed, the bridge has provided a vital regional link in the Interstate Highway System. Its graceful tied arch design, with predominant parabolic top chord, was an unusually sensitive, aesthetically appropriate response to the dramatic landscape of surrounding mountains. Its color scheme, painted a sandy tan, matches the desert environment, also unusual for the times. Built in 1962, the bridge could be viewed as an early response to what would become generally known as the "Environmental Movement."

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I-90	Lake Washington	Highway Segment	3.4 - 8.9	1992	2	Engineering, Social history			This segment includes LIDs, tunnels, concrete floating pontoon bridges, and concrete box girder bridges connecting Seattle with Mercer Island and communities east of Lake Washington. Significant features include: 1) the Lacey V. Murrow Memorial Bridge, which is a floating concrete-pontoon bridge that is 8,981 feet long and carries the eastbound lanes of I-90 across Lake Washington (the original two-way, four-lane toll bridge, built in 1940, was the first floating reinforced concrete pontoon bridge in the world; however, it sank in a storm on November 25, 1990, while it was undergoing repair); 2) the Homer M. Hadley Memorial Bridge, which is a floating concrete-pontoon bridge that is 9,559 feet long and carries the westbound lanes of I-90 across Lake Washington; 3) the twin Mount Baker Ridge Tunnels (see previous entry); 4) the Luther Burbank LID, which is a landscaped park over the interstate; and 5) the East Channel - Lake Washington Bridges, which are concrete continuous box girder and beam structures connecting Mercer Island with the eastern lake shore communities.
I-5	Olympia Freeway	Highway Segment	104.2 - 109.2	1988	2	Engineering, Social history			This segment of I-5 contains several award-winning bridges, most notably the Capitol Blvd. Undercrossing, which converted a 1956 pier-supported deck to an elegant deck arch (1989 and 1990 awards from the National Society of Professional Engineers, American Institute of Steel Construction, and the James F. Lincoln Arc Welding Foundation). Also in this segment is the Sleater Kinney Undercrossing (1989 winner of an award from the Prestressed Concrete Institute) and the Boulevard Road Undercrossing (a precedent-setting winner of the Washington Precast Concrete Industry's Award for Excellence in 1987). The other bridges, sign bridges, lighting, sound walls, and landscaping also are important design components.
I-5	Toutle River Bridges	Bridge	51.7	1969	2	Engineering, Social history			Slightly offset due to their skewed crossing of the Toutle River, these two matching steel through-arches are the only ones of their type in Washington. Vertical ties are complemented by diagonal tension members, with overhead cross-lateral bracing. The resulting design is one of exceptional aesthetic quality. Surviving Mount St. Helen's eruption debris flows carrying houses, trees, and other large objects, the bridges underwent structural modifications anticipating future cataclysmic events. The structures remain significant for their association with the 1980 eruption of Mount St. Helens.
I-705	Tacoma Downtown	Highway Segment	0.3 - 1.1	1988, 2003	2	Engineering, Social history			Construction of I-705 in 1987-1988, providing access from I-5 to downtown Tacoma and Schuster Parkway beyond, was a critical element in the cultural and economic revitalization of the city's urban commercial and industrial centers. Consisting of 12 elevated structures comprised primarily of post-tensioned concrete box girders, the interstate and numerous sweeping overcrossings and undercrossings stand in dynamic contrast to the dense concentration of historic-era buildings along adjacent city streets. The crown jewel of this segment is the 2003 Chihuly Bridge of Glass, a steel girder structure supporting stacked cases of glass sculptures by the renowned artist Dale Chihuly, a Tacoma native. His blue "Ice" sculptures rise high above the bridge deck, clearly visible to the drivers on I-705 below, reminding visitors of the bridge's role in connecting the recently constructed Museum of Glass in the revitalized industrial waterfront with the modern Washington State History Museum, University of Washington-Tacoma campus, and nearby commercial district.
I-5	Columbia River Bridge (northbound) (see entry under Oregon)								
I-82	Columbia River Bridge (Umatilla) (eastbound) (see entry under Oregon)								
WASHINGTON, DC									
No recommended elements									
WEST VIRGINIA									
I-70	Fort Henry Bridge	Bridge	0.4	1955	4	Engineering, Transportation	A, C		Opened to traffic with fanfare in September 1955, the Fort Henry Bridge is a tied-arch design with a main span of 580 feet. Built at a cost of \$6,800,000, the bridge represented a great leap forward for road transportation in the Wheeling area. It was part of a larger transportation plan for US 40 prepared by the engineering firm of Howard, Needles, Tammen, and Bergendoff. At the time of construction, the bridge was only the second tied arch over the Ohio River.
I-64 I-77	Yeager Bridge (southbound)	Bridge	94.5	1954	4	Engineering, Transportation	A, C		The Yeager Bridge, at 2,167 total feet in length, is a tied-arch design carrying the West Virginia Turnpike over the Kanawha River. Designed by Howard, Needles, Tammen, and Bergendoff in 1952, the bridge opened to traffic in 1954. There were 76 bridges along the original 88 miles of the turnpike between Charleston and Princeton.
I-77	Charlton Bridge (southbound)	Bridge	17.5	1954	4	Engineering, Transportation	A, C		Built to carry the West Virginia Turnpike over the gorge of the Bluestone River, the Charlton Bridge is a deck truss design spanning 1,342 feet. Built to the designs of Howard, Needles, Tammen, and Bergendoff, the bridge bears the name of posthumous Medal of Honor recipient Cornelius C. Charlton. The turnpike's major bridges were all named after modern military heroes.
WISCONSIN									
No recommended elements									
WYOMING									
I-80	Lincoln Statue	Sculpture in rest area	337	1959, 1969	2	Art			The Lincoln Monument at the I-80 summit lies southeast of Laramie and west of Cheyenne on I-80 at the edge of a rest area. It stands at a summit near Sherman Hill and marks the highest point on I-80, about 8,640 feet above sea level. It was originally commissioned in 1959 and was placed along the Lincoln Transcontinental Highway. It was moved to its present site in 1969 when I-80 was constructed. The bronze bust of Abraham Lincoln was sculpted by Robert Russin and is 12.5-feet high atop a 30-foot tall granite pedestal. The artwork represents Lincoln's determination to create dependable transcontinental transportation and the difficulties inherent in crossing the Continental Divide. It is exceptionally significant because it is one of the few pieces of art along the entire Interstate Highway System.



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## **Appendix E**

# **Programmatic Agreements**

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clearly document the items that have been reviewed. The written analysis and determinations will be combined in a single document and placed in the project record and will be made available to the public upon request. This programmatic evaluation will not change the existing procedures for project compliance with the National Environmental Policy Act (NEPA) or with public involvement requirements.

#### *Applicability*

This programmatic Section 4(f) evaluation may be applied by FHWA only to projects meeting the following criteria:

1. The proposed project is designed to improve the operational characteristics, safety, and/or physical condition of existing highway facilities on essentially the same alignment. This includes "4R" work (resurfacing, restoration, rehabilitation, and reconstruction); safety improvements, such as shoulder widening and the correction of substandard curves and intersections; traffic operation improvements, such as signalization, channelization, and turning or climbing lanes; bicycle and pedestrian facilities; bridge replacements on essentially the same alignment; and the construction of additional lanes. This programmatic Section 4(f) evaluation does not apply to the construction of a highway on a new location.

2. The Section 4(f) lands are publicly owned public parks, recreation lands, or wildlife and waterfowl refuges located adjacent to the existing highway.

3. The amount and location of the land to be used shall not impair the use of the remaining Section 4(f) land, in whole or in part, for its intended purpose. This determination is to be made by the FHWA in concurrence with the officials having jurisdiction over the Section 4(f) lands, and will be documented in relation to the size, use, and/or other characteristics deemed relevant.

The total amount of land to be acquired from any Section 4(f) site shall not exceed the values in the following Table:

Total size of section 4(f) site	Maximum to be acquired
< 10 acres.....	10 percent of site
10 acres-100 acres.....	1 acre
> 100 acres.....	1 percent of site

4. The proximity impacts of the project on the remaining Section 4(f) land shall not impair the use of such land for its intended purpose. This determination is to be made by the FHWA in concurrence with the officials having jurisdiction over the Section 4(f)

lands, and will be documented with regard to noise, air and water pollution, wildlife and habitat effects, aesthetic values, and/or other impacts deemed relevant.

5. The officials having jurisdiction over the Section 4(f) lands must agree, in writing, with the assessment of the impacts of the proposed project on, and the proposed mitigation for, the Section 4(f) lands.

6. For projects using land from a site purchased or improved with funds under the Land and Water Conservation Fund Act, the Federal Aid in Fish Restoration Act (Dingell-Johnson Act), the Federal Aid in Wildlife Act (Pittman-Robertson Act), or similar laws, or the lands are otherwise encumbered with a Federal interest (e.g., former Federal surplus property), coordination with the appropriate Federal agency is required to ascertain in the agency's position on the land conversion or transfer. The programmatic Section 4(f) evaluation does not apply if the agency objects to the land conversion or transfer.

7. This programmatic evaluation does not apply to projects for which an environmental impact statement (EIS) is prepared, unless the use of Section 4(f) lands is discovered after the approval of the final EIS. Should any of the above criteria not be met, this programmatic Section 4(f) evaluation cannot be used, and an individual Section 4(f) evaluation must be prepared.

#### *Alternatives*

The following alternatives avoid any use of the public park land, recreational area, or wildlife and waterfowl refuge:

1. Do nothing.
2. Improve the highway without using the adjacent public park recreational land, or wildlife and waterfowl refuge.
3. Build an improved facility on new location without using the public park, recreation land, or wildlife or waterfowl refuge.

This list is intended to be all-inclusive. The programmatic Section 4(f) evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document. The project record must clearly demonstrate that each of the above alternatives was fully evaluated before the FHWA Division Administrator concluded that the programmatic Section 4(f) evaluation applied to the project.

#### *Findings*

In order for this programmatic Section 4(f) evaluation to be applied to a project, each of the following findings must be supported by the circumstances, studies, and consultations on the project:

#### **Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges**

This programmatic Section 4(f) evaluation has been prepared for projects which improve existing highways and use minor amounts of publicly owned public parks, recreation lands, or wildlife and waterfowl refuges that are adjacent to existing highways. This programmatic Section 4(f) evaluation satisfies the requirements of Section 4(f) for all projects that meet the applicability criteria listed below. No individual Section 4(f) evaluations need be prepared for such projects.

(Note.—A similar programmatic Section 4(f) evaluation has been prepared for projects which use minor amounts of land from historic sites).

The FHWA Division Administrator is responsible for reviewing each individual project to determine that it meets the criteria and procedures of this programmatic Section 4(f) evaluation. The Division Administrator's determinations will be thorough and will

1. *Do Nothing Alternative.* The Do Nothing Alternative is not feasible and prudent because: (a) It would not correct existing or projected capacity deficiencies; or (b) it would not correct existing safety hazards; or (c) it would not correct existing deteriorated conditions and maintenance problems; and (d) not providing such correction would constitute a cost or community impact of extraordinary magnitude, or would result in truly unusual or unique problems, when compared with the proposed use of the Section 4(f) lands.

2. *Improvement Without Using the Adjacent Section 4(f) Lands.* It is not feasible and prudent to avoid Section 4(f) lands by roadway design or transportation system management techniques (including, but not limited to, minor alignment shifts, changes in geometric design standards, use of retaining walls and/or other structures, and traffic diversions or other traffic management measures) because implementing such measures would result in: (a) Substantial adverse community impacts to adjacent homes, businesses or other improved properties; or (b) substantially increased roadway or structure cost; or (c) unique engineering, traffic, maintenance, or safety problems; or (d) substantial adverse social, economic, or environmental impacts; or (e) the project not meeting identified transportation needs; and (f) the impacts, costs, or problems would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of American Association of State Highway and Transportation Officials (AASHTO) geometric standards should be exercised, as permitted in 23 CFR Part 625, during the analysis of this alternative.

3. *Alternatives on New Location.* It is not feasible and prudent to avoid Section 4(f) lands by constructing on new alignment because (a) the new location would not solve existing transportation, safety, or maintenance problems; or (b) the new location would result in substantial adverse social, economic, or environmental impacts (including such impacts as extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, substantial damage to wetlands or other sensitive natural areas, or greater impacts to other Section 4(f) lands); or (c) the new location would substantially increase costs or engineering difficulties (such as an inability to achieve minimum design standards, or to meet

the requirements of various permitting agencies such as those involved with navigation, pollution, and the environment); and (d) such problems, impacts, costs, or difficulties would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of AASHTO geometric standards should be exercised, as permitted in 23 CFR Part 625, during the analysis of this alternative.

#### *Measures to Minimize Harm*

This programmatic Section 4(f) evaluation and approval may be used only for projects where the FHWA Division Administrator, in accordance with this evaluation, ensures that the proposed action includes all possible planning to minimize harm. This has occurred when the officials having jurisdiction over the Section 4(f) property have agreed, in writing, with the assessment of impacts resulting from the use of the Section 4(f) property and with the mitigation measures to be provided. Mitigation measures shall include one or more of the following:

1. Replacement of lands used with lands of reasonably equivalent usefulness and location and of at least comparable value.
2. Replacement of facilities impacted by the project including sidewalks, paths, benches, lights, trees, and other facilities.
3. Restoration and landscaping of disturbed areas.
4. Incorporation of design features (e.g., reduction in right-of-way width, modifications to the roadway section, retaining walls, curb and gutter sections, and minor alignment shifts); and habitat features (e.g., construction of new, or enhancement of existing, wetlands or other special habitat types); where necessary to reduce or minimize impacts to the Section 4(f) property. Such features should be designed in a manner that will not adversely affect the safety of the highway facility. Flexibility in the application of AASHTO geometric standards should be exercised, as permitted in 23 CFR Part 625, during such design.
5. Payment of the fair market value of the land and improvements taken or improvements to the remaining Section 4(f) site equal to the fair market value of the land and improvements taken.
6. Such additional or alternative mitigation measures as may be determined necessary based on consultation with the officials having jurisdiction over the parkland, recreation area, or wildlife or waterfowl refuge.

If the project uses Section 4(f) lands that are encumbered with a Federal interest (see *Applicability*), coordination is required with the appropriate agency to ascertain what special measures to minimize harm, or other requirements, may be necessary under that agency's regulations. To the extent possible, commitments to accomplish such special measures and/or requirements shall be included in the project record.

#### *Coordination*

Each project will require coordination in the early stages of project development with the Federal, State and/or local agency officials having jurisdiction over the Section 4(f) lands. In the case of non-Federal Section 4(f) lands, the official with jurisdiction will be asked to identify any Federal encumbrances. Where such encumbrances exist, coordination will be required with the Federal agency responsible for the encumbrance.

For the interests of the Department of Interior, Federal agency coordination will be initiated with the Regional Directors of the U.S. Fish and Wildlife Service, the National Park Service, and the Bureau of Reclamation; the State Directors of the Bureau of Land Management; and the Area Directors of the Bureau of Indian Affairs. In the case of Indian lands, there will also be coordination with appropriate Indian Tribal officials.

Before applying this programmatic evaluation to projects requiring an individual bridge permit, the Division Administrator shall coordinate with the U.S. Coast Guard District Commander.

Copies of the final written analysis and determinations required under this programmatic Section 4(f) evaluation shall be provided to the officials having jurisdiction over the involved Section 4(f) area and to other parties upon request.

#### *Approval Procedure*

This programmatic Section 4(f) approval applies only after the FHWA Division Administrator has:

1. Determined that the project meets the applicability criteria set forth above;
2. Determined that all of the alternatives set forth in the Findings section have been fully evaluated;
3. Determined that the findings in this document (which conclude that there are no feasible and prudent alternatives to the use of the publicly owned public park, recreation area, or wildlife or waterfowl refuge) are clearly applicable to the project;

**Final Nationwide Section 4(f)  
Evaluation and Approval for Federally-  
Aided Highway Projects With Minor  
Involvements With Historic Sites**

This programmatic Section 4(f) evaluation has been prepared for projects which improve existing highways and use minor amounts of land (including non-historic improvements thereon) from historic sites that are adjacent to existing highways. This programmatic Section 4(f) evaluation satisfies the requirements of Section 4(f) for all projects that meet the applicability criteria listed below. No individual Section 4(f) evaluations need be prepared for such projects. (Note: a similar programmatic Section 4(f) evaluation has been prepared for projects which use minor amounts of publicly owned public parks, recreation lands, or wildlife and waterfowl refuges).

The FHWA Division Administrator is responsible for reviewing each individual project to determine that it meets the criteria and procedures of this programmatic Section 4(f) evaluation. The Division Administrator's determination will be thorough and will clearly document the items that have been reviewed. The written analysis and determinations will be combined in a single document and placed in the project record and will be made available to the public upon request. This programmatic evaluation will not change the existing procedures for project compliance with the National Environmental Policy Act (NEPA) or with public involvement requirements.

**Applicability.**

This programmatic Section 4(f) evaluation may be applied by FHWA only to projects meeting the following criteria:

1. The proposed project is designed to improve the operational characteristics, safety, and/or physical condition of

existing highway facilities on essentially the same alignment. This includes "4R" work (resurfacing, restoration, rehabilitation, and reconstruction); safety improvements, such as shoulder widening and the correction of substandard curves and intersections; traffic operation improvements, such as signalization, channelization, and turning or climbing lanes; bicycle and pedestrian facilities; bridge replacements on essentially the same alignment; and the construction of additional lanes. This programmatic Section 4(f) evaluation does not apply to the construction of a highway on a new location.

2. The historic site involved is located adjacent to the existing highway.

3. The project does not require the removal or alteration of historic buildings, structures or objects on the historic site.

4. The project does not require the disturbance or removal of archeological resources that are important to preserve in place rather than to recover for archeological research. The determination of the importance to preserve in place will be based on consultation with the State Historic Preservation Officer (SHPO) and, if appropriate, the Advisory Council on Historic Preservation (ACHP).

5. The impact on the Section 4(f) site resulting from the use of the land must be considered minor. The word minor is narrowly defined as having either a "no effect" or "no adverse effect" (when applying the requirements of section 106 of the National Historic Preservation Act and 36 CFR Part 800) on the qualities which qualified the site for listing or eligibility on the National Register of Historic Places. The ACHP must not object to the determination of "no adverse effect."

6. The SHPO must agree, in writing, with the assessment of the impacts of the proposed project on and the proposed mitigation for the historic sites.

7. This programmatic evaluation does not apply to projects for which an environmental impact statement (EIS) is prepared, unless the use of Section 4(f) lands is discovered after the approval of the final EIS.

Should any of the above criteria not be met, this programmatic Section 4(f) evaluation cannot be used, and an individual Section 4(f) evaluation must be prepared.

**Alternatives**

The following alternatives avoid any use of the historic site.

1. Do nothing.

2. Improve the highway without using the adjacent historic site.

3. Build an improved facility on new location without using the historic site.

This list is intended to be all-inclusive. The programmatic Section 4(f) evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document. The project record must clearly demonstrate that each of the above alternatives was fully evaluated before the FHWA Division Administrator concluded that the programmatic Section 4(f) evaluation applied to the project.

**Findings**

In order for this programmatic Section 4(f) evaluation to be applied to a project, each of the following findings must be supported by the circumstances, studies, and consultations on the project:

1. *Do Nothing Alternative.* The Do Nothing Alternative is not feasible and prudent because: (a) It would not correct existing or projected capacity deficiencies or (b) it would not correct existing safety hazards; or (c) it would not correct existing deteriorated conditions and maintenance problems; and (d) not providing such correction would constitute a cost or community impact of extraordinary magnitude, or would result in truly unusual or unique problems, when compared with the proposed use of the Section 4(f) lands.

2. *Improvement Without Using the Adjacent Section 4(f) Lands.* It is not feasible and prudent to avoid Section 4(f) lands by roadway design or transportation system management techniques (including, but not limited to, minor alignment shifts, changes in geometric design standards, use of retaining walls and/or other structures, and traffic diversions or other traffic management measures) because implementing such measures would result in: (a) Substantial adverse community impacts to adjacent homes, businesses or other improved properties; or (b) substantially increased roadway or structure cost; or (c) unique engineering, traffic, maintenance, or safety problems; or (d) substantial adverse social, economic, or environmental impacts; or (e) the project not meeting identified transportation needs; and (f) the impacts, costs, or problems would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of American Association of State Highway and Transportation Officials (AASHTO) geometric design standards should be exercised, as

permitted in 23 CFR Part 625, during the analysis of this alternative.

3. *Alternatives on New Location.* It is not feasible and prudent to avoid Section 4(f) lands by constructing on new alignment because (a) the new location would not solve existing transportation, safety, or maintenance problems; or (b) the new location would result in substantial adverse social, economic, or environmental impacts (including such impacts as extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of established travel patterns, substantial damage to wetlands or other sensitive natural areas, or greater impacts to other Section 4(f) lands); or (c) the new location would substantially increase costs or engineering difficulties (such as an inability to achieve minimum design standards, or to meet the requirements of various permitting agencies such as those involved with navigation, pollution, and the environment); and (d) such problems, impacts, costs, or difficulties would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of AASHTO geometric standards should be exercised, as permitted in 23 CFR Part 625, during the analysis of this alternative.

#### *Measures to Minimize Harm*

This programmatic Section 4(f) evaluation and approval may be used only for projects where the FHWA Division Administrator, in accordance with this evaluation, ensures that the proposed action includes all possible planning to minimize harm. Measures to minimize harm will consist of those measures necessary to preserve the historic integrity of the site and agreed to, in accordance with 36 CFR Part 800 by the FHWA, the SHPO, and as appropriate, the ACHP.

#### *Coordination*

The use of this programmatic evaluation and approval is conditioned upon the satisfactory completion of coordination with the SHPO, the ACHP, and interested persons as called for in 36 CFR Part 800. Coordination with interested persons, such as the local government, the property owner, a local historical society, or an Indian tribe, can facilitate in the evaluation of the historic resource values and mitigation proposals and is therefore highly encouraged.

For historic sites encumbered with Federal interests, coordination is

required with the Federal agencies responsible for the encumbrances.

Before applying this programmatic evaluation to projects requiring an individual bridge permit, the Division Administrator shall coordinate with the U.S. Coast Guard District Commander.

#### *Approval Procedure*

This programmatic Section 4(f) approval applies only after the FHWA Division Administrator has:

1. Determined that the project meets the applicability criteria set forth above;
2. Determined that all of the alternatives set forth in the Findings section have been fully evaluated;
3. Determined that the findings in this document (which conclude that there are no feasible and prudent alternatives to the use of land from or non-historic improvements on the historic site) are clearly applicable to the project;
4. Determined that the project complies with the Measures to Minimize Harm section of this document;
5. Determined that the coordination called for in this programmatic evaluation has been successfully completed;
6. Assured that the measures to minimize harm will be incorporated in the project; and
7. Documented the project file clearly identifying the basis for the above determinations and assurances.

Issued on: December 23, 1986.

Ali F. Sevin,

*Director, Office of Environmental Policy,  
Federal Highway Administration.*

[FR Doc. 87-19391 Filed 8-18-87; 8:45 am]

BILLING CODE 4910-22-M

**Department of Transportation, Federal Highway Administration—Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges**

This statement sets forth the basis for a programmatic Section 4(f) approval that there are no feasible and prudent alternatives to the use of certain historic bridge structures to be replaced or rehabilitated with Federal funds and that the projects include all possible planning to minimize harm resulting from such use. This approval is made pursuant to Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303, and Section 18(a) of the Federal-Aid Highway Act of 1968, 23 U.S.C. 138

**Use**

The historic bridges covered by this programmatic Section 4(f) evaluation are unique because they are historic, yet also part of either a Federal-aid highway system or a State or local highway system that has continued to evolve over the years. Even though these structures are on or eligible for inclusion on the National Register of Historic Places, they must perform as an integral part of a modern transportation system. When they do not or cannot, they must be rehabilitated or replaced in order to assure public safety while maintaining system continuity and integrity. For the purpose of this programmatic Section 4(f) evaluation, a proposed action will "use" a bridge that is on or eligible for inclusion on the National Register of Historic Places when the action will impair the historic integrity of the bridge

either by rehabilitation or demolition. Rehabilitation that does not impair the historic integrity of the bridge as determined by procedures implementing the National Historic Preservation Act of 1966, as amended (NHPA), is not subject to Section 4(f).

**Applicability**

This programmatic Section 4(f) evaluation may be applied by the Federal Highway Administration (FHWA) to projects which meet the following criteria:

1. The bridge is to be replaced or rehabilitated with Federal funds.
2. The project will require the use of a historic bridge structure which is on or is eligible for listing on the National Register of Historic Places.
3. The bridge is not a National Historic Landmark.
4. The FHWA Division Administrator determines that the facts of the project match those set forth in the sections of this document labeled Alternatives, Findings, and Mitigation.
5. Agreement among the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) has been reached through procedures pursuant to Section 106 of the NHPA.

**Alternatives**

The following alternatives avoid any use of the historic bridge:

1. Do nothing.
2. Build a new structure at a different location without affecting the historic integrity of the old bridge, as determined by procedures implementing the NHPA.
3. Rehabilitate the historic bridge without affecting the historic integrity of the structure, as determined by procedures implementing the NHPA.

This list is intended to be all-inclusive. The programmatic Section 4(f) evaluation does not apply if a reasonable alternative is identified that is not discussed in this document. The project record must clearly demonstrate that each of the above alternatives was fully evaluated and it must further demonstrate that all applicability criteria listed above were met before the FHWA Division Administrator concluded that the programmatic Section 4(f) evaluation applied to the project.

**Findings**

In order for this programmatic Section 4(f) evaluation to be applied to a project, each of the following findings must be supported by the circumstances, studies, and consultations on the project:



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1. *Do Nothing.* The do nothing alternative has been studied. The do nothing alternative ignores the basic transportation need. For the following reasons this alternative is not feasible and prudent:

a. *Maintenance*—The do nothing alternative does not correct the situation that causes the bridge to be considered structurally deficient or deteriorated. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to cope with the situation.

b. *Safety*—The do nothing alternative does not correct the situation that causes the bridge to be considered deficient. Because of these deficiencies, the bridge poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.

2. *Build on new Location Without Using the Old Bridge.* Investigations have been conducted to construct a bridge on a new location or parallel to the old bridge (allowing for a one-way couplet), but, for one or more of the following reasons, this alternative is not feasible and prudent:

a. *Terrain*—The present bridge structure has already been located at the only feasible and prudent site, i.e., a gap in the land form, the narrowest point of the river canyon, etc. To build a new bridge at another site will result in extraordinary bridge and approach engineering and construction difficulty or costs or extraordinary disruption to established traffic patterns.

b. *Adverse Social, Economic, or Environmental Effects*—Building a new bridge away from the present site would result in social, economic, or environmental impact of extraordinary magnitude. Such impacts as extensive severing of productive farmlands, displacement of a significant number of families or businesses, serious disruption of established travel patterns, and access and damage to wetlands may individually or cumulatively weigh heavily against relocation to a new site.

c. *Engineering and Economy*—Where difficulty associated with the new location is less extreme than those encountered above, a new site would not be feasible and prudent where cost and engineering difficulties reach extraordinary magnitude. Factors supporting this conclusion include significantly increased roadway and structure costs, serious foundation problems, or extreme difficulty in reaching the new site with construction equipment. Additional design and safety factors to be considered include an ability to achieve minimum design

standards or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.

d. *Preservation of Old Bridge*—It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built at a new location. This could occur when the historic bridge is beyond rehabilitation for a transportation or an alternative use, when no responsible party can be located to maintain and preserve the bridge, or when a permitting authority, such as the Coast Guard requires removal or demolition of the old bridge.

3. *Rehabilitation Without Affecting the Historic Integrity of the Bridge.* Studies have been conducted of rehabilitation measures, but, for one or more of the following reasons, this alternative is not feasible and prudent:

a. The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable load requirements without affecting the historic integrity of the bridge.

b. The bridge is seriously deficient geometrically and cannot be widened to meet the minimum required capacity of the highway system on which it is located without affecting the historic integrity of the bridge. Flexibility in the application of the American Association of State Highway and Transportation Officials geometric standards should be exercised as permitted in 23 CFR Part 625 during the analysis of this alternative.

#### Measures to Minimize Harm

This programmatic Section 4(f) evaluation and approval may be used only for projects where the FHWA Division Administrator, in accordance with this evaluation, ensures that the proposed action includes all possible planning to minimize harm. This has occurred when:

1. For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements;

2. For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge;

3. For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a

responsible party agrees to maintain and preserve the bridge; and

4. For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project. This programmatic Section 4(f) evaluation does not apply to projects where such an agreement cannot be reached.

#### Procedures

This programmatic Section 4(f) evaluation applies only when the FHWA Division Administrator:

1. Determines that the project meets the applicability criteria set forth above;

2. Determines that all of the alternatives set forth in the Findings section have been fully evaluated;

3. Determines that use of the findings in this document that there are no feasible and prudent alternatives to the use of the historic bridge is clearly applicable;

4. Determines that the project complies with the Measures to Minimize Harm section of this document;

5. Assures that implementation of the measures to minimize harm is completed; and

6. Documents the project file that the programmatic Section 4(f) evaluation applies to the project on which it is to be used.

#### Coordination

Pursuant to Section 4(f), this statement has been coordinated with the Departments of the Interior, Agriculture, and Housing and Urban Development.

Issued on: July 5, 1983.

Ali F. Sevin,  
Director, Office of Environmental Policy,  
Federal Highway Administration.

[FR Doc. 83-22946 Filed 8-10-83; 8:45 am]

BILLING CODE 4910-22-M

UNITED STATES GOVERNMENT

# Memorandum

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

DATE: May 23, 1977

SUBJECT: Negative Declaration/Section 4(f) Statement  
for Independent Bikeway or Walkway Construction  
Projects

In reply  
refer to: HEV-11

RECEIVED  
REG. 4 F.H.W.A.

FROM : Federal Highway Administrator

MAY 31 1977

TO : Regional Federal Highway Administrators,  
Regions 1-10, and  
Regional Engineer, Region 15

In order to reduce processing time and delays, we have prepared a negative declaration/Section 4(f) statement and determination (copy attached) to cover those independent bikeway and pedestrian walkway projects (FHPM 6-1-1-1) which require the use of recreation and park areas. This approved document should be distributed to Division Offices and State highway agencies for their use.

A draft of the negative declaration/Section 4(f) statement was published in the Federal Register (42 F.R. 15394) on March 21, 1977, inviting interested persons to comment. No major adverse comments were received during this commenting period. The majority of letters received were favorable and recommended approval of the document.

This environmental document will not relieve the Division Administrator from reviewing the impacts, mitigation measures, location, and design of individual bikeways. If there are any unusual circumstances (major impacts or controversy), a separate Section 4(f) statement and environmental document (EIS or negative declaration) should be considered for the individual project. It is likely that most projects which do not involve Section 4(f) properties would be nonmajor actions and would not require a formal environmental document.

It is also important to obtain approval from the official having specific jurisdiction over the Section 4(f) property that the project is acceptable and consistent with the designated use of the property, and that the location and design have been accomplished in a manner that will not cause harm to the property. A copy of the negative declaration/Section 4(f) statement, along with the approval letter from the official, should be placed in the individual project file.

If you have any question concerning the subject document, please contact the Environmental Review Branch, (202) 426-0106, in the Office of Environmental Policy.

  
W. M. Cox

For William M. Cox

**Final Negative Declaration/Section 4(f) Statement  
and Determination for Independent Bikeway  
or Walkway Construction Projects**

**Background**

There is a growing interest in bicycling and walking for commuting, for recreation, and for other trip purposes. Where this activity occurs on high-speed roadways, both safety and efficiency can be impaired because of the mixture of motorized and nonmotorized modes of travel. Construction of bikeways or pedestrian walkways can promote safety and will assist in retaining the motor vehicle carrying capacity of the highway while enhancing bicycle capacity.

The United States Congress recognized the importance of bicycle and pedestrian travel by including special provisions for these modes in the Federal-Aid Highway Act of 1973, Public Law 93-87. Section 124 of this Act (amended Title 23, U.S. Code, by adding Section 217) contained the following principal provisions:

- (1) Federal funds available for the construction of preferential facilities to serve pedestrians and bicyclists are those apportioned in accordance with paragraphs (1), (2), (3), and (6) of Section 104(b), 23 U.S.C., and those authorized for Forest highways, Forest development roads and trails, public land development roads and trails, park roads and trails, parkways, Indian reservation roads, and public land highways.
- (2) Not more than \$40 million (amended to \$45 million by Section 134 of the Federal-Aid Highway Act of 1976) apportioned in any fiscal year for purposes described in the preceding paragraph may be obligated for bicycle projects and pedestrian walkways.
- (3) No State shall obligate more than \$2 million (amended to \$2.5 million by Section 134 of the Federal-Aid Highway Act of 1976) of Federal-aid funds for such projects in any fiscal year.
- (4) Such projects shall be located and designed pursuant to an overall plan which will provide due consideration for safety and contiguous routes.

The funding limitations described in (2) and (3) above are applicable only to independent bikeway or walkway construction projects.

### Project Description

Independent bikeway or walkway construction projects are those highway construction projects which provide bicycle or pedestrian facilities in contrast to a project whose primary purpose is to serve motorized vehicles. The requirements for qualification of proposed bikeway or walkway facilities as independent bikeway or walkway construction projects are contained in Volume 6, Chapter 1, Section 1, Subsection 1, of the Federal-Aid Highway Program Manual, codified as Part 652 of Chapter 1 of Title 23 of the Code of Federal Regulations (CFR).

The bikeways and walkways will be designed and constructed in a manner suitable to the site conditions and the anticipated extent of usage. In general, a bikeway will be designed with an alignment and profile suitable for bicycle use with a surface that will be reasonably durable that incorporates drainage as necessary, and that is of a width appropriate for the planned one-way or two-way use.

The facilities will be accessible to the users or will form a segment located and designed pursuant to an overall plan.

Projects may include the acquisition of land outside the right-of-way, provided the facility will accommodate traffic which would have normally used a Federal-aid highway route, disregarding any legal prohibitions on the use of the route by cyclists or pedestrians.

It is required that a public agency be responsible for maintenance of the federally funded bikeway or walkway. No motorized vehicles will be permitted on the facilities except those for maintenance purposes and snowmobiles where State or local regulations permit.

### Application

This negative declaration/preliminary Section 4(f) document is only applicable for independent bikeway or walkway construction projects which require the use of recreation and park areas established and maintained primarily for active recreation, open space, and similar purposes. Additionally, this document is applicable only when the official having specific jurisdiction over the Section 4(f) property has given his approval in writing that the project is acceptable and consistent with the designated use of the property and that all possible planning to minimize harm has been accomplished in the location and design of the bikeway or walkway facility. This document does not apply if the project would require the use of critical habitat of endangered species.

This document does not cover the use of any land from a publicly owned wildlife or waterfowl refuge or any land from a historic site of national, State, or local significance. It also does not cover those projects where there are unusual circumstances (major impacts, adverse effects, or controversy). A separate Section 4(f) statement and environmental document must be prepared in these categories.

This document does not cover bicycle or pedestrian facilities that are incidental items of construction in conjunction with highway improvements having the primary purpose of serving motor vehicular traffic.

### Summary

The primary purpose for the development of independent bikeway and walkway projects is to provide a facility for traffic which would have normally used a Federal-aid highway route. In some cases, the bikeway and walkway projects can serve a dual function by also providing for recreational use. Where this situation occurs, artificially routing a bikeway or walkway around a compatible park area is not a prudent alternative because it would decrease the recreational value of the bikeway or walkway.

The written approval of the official having specific jurisdiction over the Section 4(f) property and construction authorization by FHWA will confirm that all possible planning to minimize harm has been accomplished in the location and design of the bikeway or walkway facility.

Noise and air quality will not be affected by bicycles. There would be increase in the noise level if snowmobiles are permitted. However, this would likely occur at a time when other uses of the recreational facilities will be minimal.

Temporary impacts on water quality will be minimal. Erosion control measures will be used through the construction period. A certain amount of land will be removed from other uses. The type of land and uses will vary from project to project. However, due to the narrow cross-section of the bikeways and walkways, a minimal amount of land will be required for the individual projects. The projects will be blended into the existing terrain to reduce any visual impacts.

Displacement of families and businesses will not be required.

No significant adverse social or economic impacts are anticipated. There will be beneficial impacts such as the enhancement of the recreational potential of the parks and the provision of an alternate mode of transportation for the commuter.

### Comments and Coordination

A draft of this negative declaration/Section 4(f) statement was published in the Federal Register (42 F.R. 15394), March 21, 1977, inviting interested persons to comment. The majority of the letters received were favorable and recommended approval of the document.

The document was also circulated to the Departments of the Interior (DOI), Housing and Urban Development (HUD), and Agriculture. Comments were received from DOI and HUD and are included in the appendix along with our responses.

Individual projects will be coordinated at the earliest feasible time with all responsible local officials, including the State Outdoor Recreation Liaison Officer. The use of properties acquired or developed with Federal monies from the Land and Water Conservation Fund will also be coordinated with the Bureau of Outdoor Recreation of DOI.

If HUD Community Development Block Grant Funds are used in conjunction with Federal Highway Administration Funds, HUD environmental review procedures set forth in 24 CFR, Section 58, are applicable.

### Determination

Based on the above and on the scope of these bikeway and walkway projects, it is determined that they will not have a significant effect upon the quality of the human environment. It is also our determination that (1) there is no feasible and prudent alternative to the use of Section 4(f) lands, and (2) the conditions for approval will insure that the bikeway proposals will include all possible planning to minimize harm resulting from such use.

May 23, 1977

DATE

For

  
William M. Cox  
Federal Highway Administrator

## **APPENDIX**



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, D.C. 20410

FEB 15 1977

OFFICE OF THE ASSISTANT SECRETARY  
FOR COMMUNITY PLANNING AND DEVELOPMENT

IN REPLY REFER TO:  
CSR

Your reference:  
HEV-11

Mr. Michael Lash.  
Director of  
Environmental Policy  
Department of Transportation  
Federal Highway Administration  
Nassif Building - Room 3234  
Washington, D. C. 20590

Dear Mr. Lash: *for Ke*

Thank you for providing this Office with the opportunity to review and comment on the proposed draft negative declaration/Section 4(f) for the construction of independent bikeways and pedestrian walkways. While your negative declaration proposal will reduce processing time, we propose for your consideration the following recommendations:

1. Under the caption Application insert the following before the last sentence in the first paragraph:  
The project must be in accord with a unified and officially coordinated program for the development of open space land as part of local and areawide comprehensive planning. (1)
2. Under the caption Application add the following to the second paragraph: If unusual natural or man-made conditions exist in the proposed project area which might be deleteriously affected by the proposed bikeway or pedestrian walkway, then a Section 4(f) and an environmental impact statement shall be prepared for the project. (2)

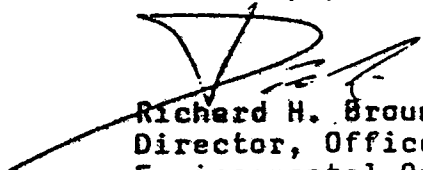


2

3. Under the caption Coordination, second paragraph add the following: If HUD Community Development Block Grant (CDBG) funds are used by applicants in conjunction with Section 124 funds, HUD environmental review procedures set forth in 24 CFR Section 58 are applicable. (Copy attached) The CDBG program permits the use of funds for the construction of certain public works in conjunction with recreational purposes.

(3)

Sincerely yours,



Richard H. Brown  
Director, Office of  
Environmental Quality

Attachment

**Responses to the Department of Housing  
and Urban Development Letter of  
February 15, 1977**

- (1) We do not believe it is necessary to add this sentence to the Application section since this is already a Federal-aid qualification requirement. (See 23 CFR, Part 652.)
- (2) This provision has been added to the Application section.
- (3) The Coordination section has been expanded to include this situation.



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

In reply refer to:  
(ER-77/105)

MAR 21 1977

Dear Mr. Lash:

This is in response to your February, 1977 request for the Department of the Interior's comments on the proposed Negative Declaration/Section 4(f) statement for Independent Bikeway or Walkway Construction Projects.

We are pleased that the proposed document responds to a number of the comments made in our letter of June 25, 1976, on the Bikeway Demonstration Program. We note that the present document is not applicable to the use of land from a publicly owned wildlife or waterfowl refuge or any land from a historic site, nor is it applicable if the project would require the use of critical habitat of endangered species. We note further that the document applies only to the use of recreation and park areas established and maintained primarily for active recreation, open space, and similar purposes.

We concur with these limitations on the application of the proposed Negative Declaration/Section 4(f) statement. However, we wish to again express our opinion that the proposed document not be applicable to:

(1)

1. Significant wetlands;
2. Unique ecological areas set aside for the preservation, interpretation, or scientific study of plant and animal communities, e.g., Registered Natural Landmarks and Registered Environmental Education Landmarks.



-2-

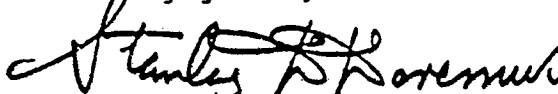
3. Play areas for small children (tot lots, etc.); and
4. Small park areas where the bikeway or walkway may use a significant portion of the available space (vest-pocket parks, etc.).

We are also pleased that the document makes provision for early coordination with all responsible local officials, including the State Outdoor Recreation Liaison Officer, and the Bureau of Outdoor Recreation (BOR) when Land and Water Conservation Fund grants are involved. We suggest, however, that you may wish to coordinate all projects of this type with the appropriate Regional Office of BOR for the technical assistance they can provide on bikeways and walkways. (2)

According to our calculations, a funding level of \$45,000,000 for these bikeways and walkways would amount to somewhere between 1,800 and 4,500 miles of trail per year. This would directly remove from all other use (including use by flora and fauna) roughly 1,000 to 6,800 acres per year. This impact should be addressed in the proposed negative declaration. (3)

Thank you for the opportunity to review this proposed document.

Sincerely yours,



Deputy Assistant Secretary of the Interior

Mr. Michael Lash  
Director of Environmental Policy  
U.S. Department of Transportation  
Federal Highway Administration  
Washington, D. C. 20590

**Responses to the Department of the Interior  
Letter of March 21, 1977**

- (1) We believe the Application section is adequate to cover those cases where there are unusual circumstances such as major impacts or adverse effects. The key point is that the official having specific jurisdiction over the Section 4(f) property has to agree that the project is acceptable and consistent with the designated use of the property, and that the location and design have been accomplished in a manner that will not cause harm to the property.**
- (2) The FHWA Division Administrator and the local officials will have the option of requesting additional coordination with the Bureau of Outdoor Recreation on all bikeway and walkway projects.**
- (3) The use of land for the bikeways and walkways has been addressed in the Summary section. However, it should be understood that this document is for individual projects and was not prepared to address the impacts of the entire bikeway program.**

20618

Federal Register / Vol. 70, No. 75 / Wednesday, April 20, 2005 / Notices

Division, APP-600, 800 Independence Avenue, SW., Washington, DC 20591. Federal Aviation Administration, Western-Pacific Region, Airports Division, Room 3012, 15000 Aviation Boulevard, Hawthorne, California 90261.

Mike Covalt, Airport Manager, City of Flagstaff, Flagstaff Pulliam Airport, 6200 South Pulliam Drive, Flagstaff, Arizona 86001.

Questions may be directed to the individual named above under the heading **FOR FURTHER INFORMATION CONTACT**.

Issued in Hawthorne, California, on April 7, 2005.

**Mia Paredes Ratcliff,**

*Acting Manager, Airports Division, AWP-600, Western-Pacific Region.*

[FR Doc. 05-7828 Filed 4-19-05; 8:45 am]

**BILLING CODE 4910-13-M**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

[Summary Notice No. PE-2005-23]

#### Petitions for Exemption; Summary of Petitions Received

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of petitions for exemption received and of dispositions of prior petitions.

**SUMMARY:** Pursuant to FAA's rulemaking provisions governing the application, processing, and disposition of petitions for exemption part 11 of Title 14, Code of Federal Regulations (14 CFR), this notice contains a summary of certain petitions seeking relief from specified requirements of 14 CFR, dispositions of certain petitions previously received, and corrections. The purpose of this notice is to improve the public's awareness of, and participation in, this aspect of FAA's regulatory activities. Neither publication of this notice nor the inclusion or omission of information in the summary is intended to affect the legal status of any petition or its final disposition.

**DATES:** Comments on petitions received must identify the petition docket number involved and must be received on or before May 5, 2005.

**ADDRESSES:** You may submit comments (identified by DOT DMS Docket Number FAA-200X-XXXXX) by any of the following methods:

- Web Site: <http://dms.dot.gov>. Follow the instructions for submitting comments on the DOT electronic docket site.

- Fax: 1-202-493-2251.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.

**Docket:** For access to the docket to read background documents or comments received, go to <http://dms.dot.gov> at any time or to Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Tim Adams (202) 267-8033, Sandy Buchanan-Sumter (202) 267-7271, Office of Rulemaking (ARM-1), Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591.

This notice is published pursuant to 14 CFR 11.85 and 11.91.

Issued in Washington, DC, on April 12, 2005.

**Anthony F. Fazio,**

*Director, Office of Rulemaking.*

#### Petitions for Exemption

**Docket No.:** FAA-2004-19468.

**Petitioner:** Flight Level Aviation, Inc.

**Section of 14 CFR Affected:** 14 CFR 61.56(i)(1).

**Description of Relief Sought:** To allow Flight Level Aviation, Inc., to use a flight simulator or flight training device that is not used in accordance with an approved course conducted by a training center certificated under part 142 of this chapter.

[FR Doc. 05-7825 Filed 4-19-05; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

[FHWA Docket No. FHWA-2002-13290]

#### Final Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property

**AGENCY:** Federal Highway Administration (FHWA), DOT.

**ACTION:** Notice.

**SUMMARY:** The FHWA is issuing this approved final nationwide programmatic Section 4(f) evaluation (programmatic evaluation) for use in certain Federal (Federal-aid or Federal Lands Highway) transportation improvement projects where the use of publicly owned property from a Section 4(f) park, recreation area, or wildlife and waterfowl refuge or property from a historic site results in a net benefit to the Section 4(f) property. The application of this programmatic evaluation is intended to promote environmental stewardship by encouraging the development of measures that enhance Section 4(f) properties and to streamline the Section 4(f) process by reducing the time it takes to prepare, review and circulate a draft and final individual Section 4(f) Evaluation (individual evaluation) that documents compliance with Section 4(f) requirements. This programmatic evaluation provides a procedural option for demonstrating compliance with the statutory requirements of Section 4(f) and is an addition to the existing nationwide programmatic evaluations, all of which remain in effect. This programmatic evaluation can be applied to specific project situations that fit the criteria contained in the *Applicability* section. To fully realize the streamlining benefits of this programmatic evaluation, the FHWA and the Applicant (defined later) are encouraged to initiate coordination with the official(s) with jurisdiction (defined later) over a Section 4(f) property as early as possible and practicable to facilitate the assessment of benefits and harm to a Section 4(f) property.

**EFFECTIVE DATE:** April 20, 2005.

**FOR FURTHER INFORMATION CONTACT:** Mr. Lamar S. Smith, Office of Project Development and Environmental Review, HEPE, (202) 366-8994 and Ms. Diane Mobley, Office of the Chief Counsel, HCC-30, (202) 366-1366. FHWA office hours are from 7:45 a.m. to 4:15 p.m. e.t., Monday through Friday, except Federal holidays. The offices are located at 400 Seventh Street, SW., Washington, DC 20590.

#### SUPPLEMENTARY INFORMATION:

##### Electronic Access

An electronic copy of this notice may be downloaded using a computer, modem, and suitable communications software from the Government Printing Office's Electronic Bulletin Board Service at (202) 512-1661. Internet users may reach the Office of the Federal Register's home page at <http://www.archives.gov> and the Government Printing Office's Web site at <http://www.gpo.gov>

[www.access.gpo.gov](http://www.access.gpo.gov). An electronic version of the programmatic evaluation may be downloaded at the FHWA Web site: <http://www.environment.fhwa.dot.gov/guidebook/gbwhatsnew.htm>.

#### Contents of Preamble

- Background on the Nationwide Section 4(f) Evaluation and Determination.
- Description of Action.
- Why Issue a New Nationwide Section 4(f) Evaluation?
- Actions Taken to Date.
- Comments and Responses on the Draft Nationwide Section 4(f) Evaluation and Determination.
- Examples.

#### Background on the Nationwide Section 4(f) Evaluation and Determination

The FTA initially anticipated participating in this proposed programmatic evaluation as reflected in the draft Nationwide Section 4(f) Evaluation and Proposed Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property published at 67 FR 77551, on December 18, 2002. The FTA currently utilizes no programmatic evaluation and relies on individual evaluations to satisfy the requirements of Section 4(f) for transit projects that use Section 4(f) properties. Upon further transit program and policy review, the FTA has elected not to participate in this programmatic evaluation and will continue to perform individual Section 4(f) evaluations in all cases.

Proposed federally funded highway projects that would use property from significant publicly owned public parks, recreation areas, or wildlife and waterfowl refuges or from significant historic sites are subject to Section 4(f) of the U.S. Department of Transportation Act of 1966 (Public Law 89-670, 80 Stat. 931, October 15, 1966), a provision now codified in title 49, United States Code, Section 303. Section 4(f) prohibits such use unless the FHWA determines that: (1) There is no feasible and prudent avoidance alternative; and (2) that the project includes all possible planning to minimize harm to the Section 4(f) property. These efforts are normally documented in an individual evaluation or one of four existing nationwide programmatic evaluations. For some FHWA projects, it may be possible to utilize one or more programmatic evaluations that were developed for specific circumstances.<sup>1</sup>

<sup>1</sup> Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects

Court decisions, particularly in the 1970s, resulted in strict interpretations of Section 4(f) requirements. Many of these early decisions resulted from large projects that impacted Section 4(f) properties during the peak of Interstate highway construction and expansion. In recent years, however, some courts have provided a more flexible interpretation, responding to the reduction in the severity of impacts and a transportation program that is currently focused more on system preservation and modernization than on expansion.

Programmatic evaluations reduce the processing time and effort necessary to document the analysis and illustrate that the Section 4(f) requirements have been met. Each of the programmatic evaluations contains specific and limiting applicability criteria and findings. For projects that do not meet the specified applicability criteria, the FHWA must prepare and circulate for comment, a draft individual evaluation, which is subject to internal legal sufficiency review prior to approval and circulation of a final individual Section 4(f) evaluation.

#### Description of Action

This programmatic evaluation facilitates compliance with Section 4(f) requirements for those situations in which there is agreement among the FHWA, the Applicant and the official(s) with jurisdiction over the Section 4(f) property that the transportation use of Section 4(f) property, the measures to minimize harm and the mitigation incorporated into the project will result in a net benefit to the Section 4(f) property. If an agreement on net benefit cannot be reached among the FHWA, the Applicant and the official(s) with jurisdiction over the Section 4(f) property, then this programmatic evaluation cannot be used. This programmatic evaluation may be used, when applicable, for a project of any

With Minor Involvements With Public Parks, Recreational Lands, and Wildlife and Waterfowl Refuges, Issued December 23, 1986, Published in **Federal Register**, August 19, 1987, and can be found at 52 FR 31111.

Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Historic Sites, Issued December 23, 1986, Published in **Federal Register**, August 19, 1987, and can be found at 52 FR 31118. Department of Transportation, Federal Highway Administration—Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges, Issued July 5, 1983, Published in **Federal Register**, August 22, 1983, and can be found at 48 FR 38135.

Negative Declaration/Section 4(f) Statement for Independent Bikeway or Walkway Construction Projects, FHWA Memorandum, May 23, 1977, and can be found at <http://www.environment.fhwa.dot.gov/projdev/4fbikeways.htm>.

class of action as defined in 23 CFR 771.115 of the FHWA Environmental Impact and Related Procedures (National Environmental Policy Act (NEPA) regulations).

#### Why Issue a New Nationwide Programmatic Section 4(f) Evaluation?

Individual evaluations are approved after extensive internal review and interagency coordination. The internal process consists of a review of both a draft and final evaluation by the FHWA Division Office and, in some cases, the FHWA Headquarters Office. In addition, each final individual evaluation undergoes a separate review by the FHWA Office of Chief Counsel to ensure legal sufficiency. Interagency coordination is undertaken on all individual evaluations with the official(s) with jurisdiction over the Section 4(f) property and with the DOI. A draft individual Section 4(f) evaluation is provided for coordination and comment for a minimum of 45 days and a final individual Section 4(f) evaluation is prepared to support the FHWA Section 4(f) determination. In addition, the U.S. Departments of Agriculture (USDA) and Housing and Urban Development (HUD) are consulted on those projects involving a Section 4(f) property for which they have program responsibilities.

The process associated with individual evaluation documentation, review and consultation is time consuming. The process is appropriate for projects that have the potential to substantially impair, through use, the activities, features or attributes that qualify the property for Section 4(f) protection. For other projects, where the use of Section 4(f) property is minor and/or does not result in a substantial impairment of specific qualities that make a property eligible for Section 4(f) protection, the project is still subject to the same thorough and time-consuming process of evaluation, unless it qualifies for a simplified review under one of the existing programmatic evaluations. This programmatic evaluation is intended to address those projects where there is agreement among the FHWA, the Applicant and the official(s) with jurisdiction that, (1) a use of property does not result in a substantial impairment; (2) the project includes all possible planning to minimize harm, including mitigation; and (3) that the cumulative result is an overall improvement and enhancement of the Section 4(f) property.

An understanding of the intent of this programmatic evaluation, applicability requirements and the meaning of net benefit is a prerequisite to agreement.

Where conflict arises in reaching agreement with the official(s) with jurisdiction, the FHWA should assess the nature of the disagreement to determine whether it is procedural or substantive (related to the applicability criteria of the actual project action) before deciding not to use this programmatic evaluation. If substantive disagreement persists, then this programmatic evaluation cannot be used.

As established in this programmatic evaluation, the Administration will review the specific facts of a project, compare them to the applicability requirements of the programmatic evaluation and determine if it is applicable. When applicable, appropriate supporting documentation will be placed in the project file and/or referenced in the appropriate environmental document. Since this programmatic evaluation was reviewed and determined to be legally sufficient according to the requirements of 23 CFR 771.135(k), the utilization of this programmatic evaluation on specific projects will not require legal sufficiency review under 23 CFR 771.135(k). Similarly, interagency coordination is streamlined, as described in this programmatic evaluation, by consulting only with the official(s) with jurisdiction, and not with DOI, USDA, or HUD, except when those agencies have an official responsibility related to the property or where conversion of the 4(f) property to highway use is encumbered such that, specific subsequent agency action will be required (e.g., lands acquired with Land and Water Conservation Fund Act (LWCF) assistance, 16 U.S.C. 460l(8)(f)(3)). It is estimated that these streamlining steps will reduce processing and approval time for certain projects by 3 to 6 months. Of equal importance is the extent of internal review and interagency coordination, which will be commensurate with the severity of impacts and the potential for enhancement of the Section 4(f) property.

#### Actions Taken to Date

The draft Nationwide Section 4(f) Evaluation and Proposed Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property was published on December 18, 2002, at 67 FR 77551, requesting public and agency comment (FHWA Docket No. FHWA-2002-13290). The proposed programmatic evaluation was provided specifically to the DOI, the USDA, HUD and the Advisory Council on Historic Preservation (ACHP).

After careful analysis of all comments received, the FHWA has decided to finalize and approve this programmatic evaluation. Minor changes have been made in this final programmatic evaluation to add clarity and incorporate suggested improvements from insightful comments. This decision is based upon the belief that the programmatic evaluation will assure full compliance with the statute while enhancing Section 4(f) properties and reducing duplicative administrative processes for eligible projects. The decision is consistent with congressional streamlining initiatives.

#### Comments and Responses on the Draft Nationwide Programmatic Section 4(f) Evaluation

The following discussion is a summary of comments received on the draft programmatic evaluation. Responses are provided on how the FHWA considered and addressed the concerns and/or issues raised.

Comments were received from 18 entities, including Federal agencies, two national transportation organizations, one national environmental organization, eight State transportation agencies, one transit agency, two State resource agencies, and two private consulting firms. Commenters included the Department of the Interior (DOI), and the National Park Service (NPS), the American Highway Users Alliance (AHUA), the American Association of State Highway and Transportation Officials (AASHTO), the Sierra Club, the State of California Department of Transportation (CALTRANS), the Maryland State Highway Administration (MDSHA), the Pennsylvania Department of Transportation (PennDOT), the New York State Department of Transportation (NYSDOT), the Missouri Department of Transportation (MODOT), the Texas Department of Transportation (TXDOT), the Wisconsin Department of Transportation (WIDOT), the Washington State Department of Transportation (WSDOT), the Central Puget Sound Regional Transit Authority (Sound Transit), the State of Alabama Historical Commission (AHC), the Wyoming Game and Fish Department (WGF) through its Office of Federal Land Policy, Transportation Environmental Management Inc. (TEM) and the HR Green Company (HR Green). In addition, the FTA provided comments and recommendations for consideration prior to its decision not to be a participant in the programmatic evaluation.

Many comments were general in nature and are summarized and

addressed collectively under the following general comment headings: General Comments, Net Benefit, Official(s) with Jurisdiction, and Section 106 Integration. Many comments included recommendations related to a specific section of the programmatic evaluation which are addressed in the section-by-section analysis.

A number of the specific comments received, focused on the overall reform of Section 4(f) and suggested that this programmatic evaluation does not do enough to reform and streamline existing Section 4(f) requirements. All comments and recommendations have been read and considered by the FHWA. These concerns are beyond the scope of this effort and have not been addressed in this document.

#### General Comments

Comments received demonstrated a need for additional definition of terms used in the final programmatic evaluation. Definitions were added for: "Administration", "Applicant", "net-benefit" and "officials with jurisdiction."

"Administration" refers to the Federal Highway Administration, FHWA Division Administrator or Division Engineer.

"Applicant" refers to the State Highway Agency or State Department of Transportation, or local governmental agency acting through the State Highway Agency or State Department of Transportation.

A "net benefit" is achieved when the transportation use, the measures to minimize harm and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property taking into consideration the activities, features and attributes that qualify the property for Section 4(f) protection. A project does not achieve a "net benefit" if it will result in a substantial diminishment of specific functions or values that made the property eligible for Section 4(f) protection.

"Official(s) with jurisdiction" over Section 4(f) property (typically) include: for a park, the Federal, State or local park authorities or agencies that own and/or manage the park; for a refuge, the Federal, State or local wildlife or waterfowl refuge owners and managers; and for historic sites, the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), whichever has jurisdiction under Section 106 of the National Historic Preservation Act (16 U.S.C. 470f).



Many commenters expressed overall support for the programmatic evaluation. They generally recognized and noted the potential benefits of the programmatic evaluation in streamlining the procedural requirements of Section 4(f), such as reducing paperwork and internal review, while at the same time, encouraging enhancement of Section 4(f) properties and promoting environmental stewardship.

The guiding principle regarding the use of the programmatic evaluation is that there must be a "net benefit" to the Section 4(f) property. The ability of the FHWA, the Applicant and the official(s) with jurisdiction to reach agreement with respect to the impacts, measures to minimize harm, mitigation and that a net benefit will result is inherent in the decision of whether or not the programmatic evaluation is applicable. "Negotiations" in this regard, should be no more complicated or require skills other than those required for normal project development and Section 4(f) consultations related to impacts, measures to minimize harm and mitigation.

A situation where the necessary agreement or determination of applicability is substantially difficult to achieve or make may be an indication that an individual Section 4(f) evaluation is appropriate in that case. On the other hand, this situation may be an indication that one or more of the participants lack understanding of the intent of the programmatic evaluation or the individual applicability requirements. As stated above, an understanding of the intent of the applicability and net benefit requirements is a prerequisite to agreement. Where conflict arises in coordinating agreement with the officials with jurisdiction, the FHWA should assess the nature of the disagreement to see if it is procedural or substantive before deciding not to use this programmatic evaluation.

The FHWA is committed to providing additional guidance, if needed, on a case-by-case basis to ensure that misunderstanding about the intent of the programmatic evaluation is not an impediment to its use.

Although only a few comments received can be characterized as negative or in general opposition to this programmatic evaluation, many commenters requested clarification and/or refinement of the language used.

The Sierra Club generally objected to the programmatic evaluation because in its view, it contradicts judicial interpretations of Section 4(f), derails the regulatory safeguards and

circumvents the 4(f) mandate that special effort be taken to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Sierra Club also suggested that FHWA has provided no evidence that the new programmatic evaluation will result in any tangible benefits to areas currently protected under Section 4(f) and the streamlining approach may severely reduce the number of protected natural areas and historic sites.

This programmatic evaluation is not a waiver or relaxation of any of the Section 4(f) standards or judicial interpretations of the legislative requirements. All existing Section 4(f) legislative provisions remain intact. In addition, the use of the programmatic evaluation will allow an increase in environmental stewardship opportunities resulting in greater protection and enhancement of Section 4(f) protected properties.

The requirement for a documented agreement of the resulting net benefit to a Section 4(f) property will safeguard the preservation provisions of Section 4(f) law by ensuring that there will be an enhancement of the functions and values that originally qualified the property for Section 4(f) protection. There is no less protection afforded by this programmatic evaluation than with an individual evaluation and its application will allow a more efficient process of the regulatory requirements.

The DOI was neutral regarding the advantages of the programmatic evaluation and recommended that FHWA expand on and clarify what "net benefits" to a Section 4(f) property means, especially with regard to resources under its jurisdiction. The DOI also noted that that without further clarification the programmatic may not satisfy the statutory mandate to consult with DOI on Section 4(f) issues. In response to this and other similar comments, we have clarified the definition of "net benefit" in the final programmatic.

The PennDOT commented that the programmatic would provide some time savings in processes but that it would be limited. The NYSDOT and the TEM offered similar comments regarding limited benefit, suggesting that the procedure for utilizing a programmatic evaluation is the same as that required for an individual evaluation.

The intent of this programmatic evaluation is to address administrative burden when it is in the interest of all parties involved to take an action where a use of Section 4(f) property will result in an enhancement of that property.

There may be a limited history of experience with this programmatic evaluation; however, there are many examples of "missed opportunities" to benefit or enhance an existing property where a transportation use was imminent.

This programmatic evaluation constitutes an approved evaluation for which the FHWA need only to demonstrate compliance with the criteria contained in the programmatic evaluation. The independent review by the DOI and the USDA or HUD official(s) of the draft and final individual Section 4(f) evaluations and the legal sufficiency review by the FHWA necessary for an individual evaluation are not required for this or other programmatic evaluations. In many instances the time necessary to conduct these regulatory internal reviews for individual Section 4(f) evaluations are not apparent to the parties not directly involved in the evaluation process. Procedurally, the time savings may be limited to 3 to 6 months in normal project development; however, the overall benefit is enough to encourage its use and will result in efforts that enhance Section 4(f) properties while avoiding some procedural steps.

The Sierra Club commented that the proposed changes do not "streamline" the Section 4(f) procedural requirements. As an example, the Sierra Club noted that the programmatic evaluation cannot be utilized if a feasible and prudent alternative exists and when a project has no prudent and feasible alternative, the agency with jurisdiction must agree to mitigation measures to ensure the proposed action results in a net benefit. The Sierra Club further opined that under this scenario, the programmatic evaluation expands FHWA's discretion and the review process, without full consideration of benefits or losses to Section 4(f) areas.

As stated above, the programmatic evaluation does not waive any of the existing Section 4(f) requirements including the determination that there are no feasible and prudent avoidance alternatives to the Section 4(f) use of the property, and that the project includes all possible measures to minimize harm to the Section 4(f) property. The savings that are being sought through use of the programmatic evaluation come from eliminating internal reviews within the FHWA and the case-by-case coordination with the DOI and other Federal agencies currently required for individual evaluations. Coordination, consultation and agreement with the officials with jurisdiction are essential components of compliance.

There is an important distinction to be made in understanding the programmatic evaluation and how the agreement of net benefit is reached, documented, and approved by the Administration. Comments received from the Sierra Club and others appear to have interpreted the FHWA as the "official with jurisdiction." This is not the case. For clarification, the definition of "official(s) with jurisdiction" was added to the final programmatic evaluation. The Sierra Club's concerns regarding the expansion of agency discretion are unfounded, given that the FHWA must reach an agreement with the official(s) with jurisdiction over the Section 4(f) property in order for the programmatic evaluation to apply. If anything, the role of the officials with jurisdiction is enhanced due to their required participation and agreement on achieving a net benefit.

The MDSHA and the AHC commented that the official(s) with jurisdiction over Section 4(f) property may be the SHPO or THPO and recommended changes to *Applicability*, Item Number 5 to denote that official(s) with jurisdiction may include the SHPO or THPO.

The definition of "officials with jurisdiction" has been clarified as to the role of the SHPO or THPO as the official in the case of historic properties. As previously noted, there may be instances where a Section 4(f) property has more than one official with jurisdiction.

The Sierra Club expressed concern that without a coherent set of criteria to measure the impact of the project on the Section 4(f) area itself, the proposed changes alter the FHWA's role in parkland and historic site preservation by placing undue weight on external factors.

The role of the FHWA throughout the history of Section 4(f) has been to protect and preserve specific defined properties. That role or responsibility does not change with this programmatic evaluation; indeed, protection of Section 4(f) properties is enhanced, by providing an incentive to improve the property and a less cumbersome mechanism when agreement on net benefit can be reached.

The FHWA retains the responsibility for determining the applicability of Section 4(f) and of this programmatic evaluation, which is dependent on agreement of net benefit. The FHWA will give deference to the official(s) with jurisdiction to assist in determining whether the project will "substantially diminish" the function or values for which Section 4(f) was found to be applicable to the property, and all

parties involved must reach agreement as to whether a proposed project will result in a "net benefit" to the property. If agreement is not reached, this programmatic evaluation will not apply.

The programmatic evaluation also does not include impact criteria as part of the applicability standards. This was done intentionally to allow the official(s) with jurisdiction, the FHWA and the Applicant flexibility in determining the measures appropriate to each individual property necessary to generate a net benefit. Deference is given to officials with jurisdiction, who have special expertise in the property, to determine positive outcomes where there will be a use of the property by a transportation project.

Through the review of all the comments, it was noted that some questions or confusion might be attributable to the inconsistent use of the terms Section 4(f) "land", "property" and "resource" throughout Section 4(f) regulations, guidance, documents and even the statute itself. For this final programmatic evaluation, the term "property" has been used as consistently as possible, when not quoted from or directly related to the language of an existing document.

#### Net Benefit

Several commenters asked for further clarification on what constitutes a "net benefit" and who makes that determination.

The DOI suggested that the term "net benefits" is subjective and could potentially lead to counterproductive proposals. DOI recommended that the definition of "net benefit" to Section 4(f) property be expanded and clarified.

Both the ACH and the MDSHA questioned how and by whom the determination of "net benefit" would be made. Several commenters also recommended that criteria be developed to ensure that people with knowledge about the property have key roles in the determination of net benefit.

There is a wide range of what will constitute a net benefit, which will vary depending on the property and the project situation. In other words, net benefit determination is property and project specific, rather than generally subjective, and the development of criteria would serve to restrict the ability to develop mutually agreeable net benefits. For this reason the FHWA, the Applicant and the official(s) with jurisdiction must work collaboratively to define and agree upon what is reasonable and required to achieve a net benefit to a particular Section 4(f) property, on a case-by-case basis. Each of the participants plays an important

role in this joint determination to ensure that individual resource experts will be involved. Net benefit is a joint decision, but it is only one of the prerequisites to application of this programmatic evaluation. Consistent with the responsibilities and authorities provided by Section 4(f) itself, the FHWA will determine whether the proposed action satisfies the applicability criteria for the use of this programmatic evaluation.

The AASHTO recognized one major difference in this programmatic evaluation compared to the existing programmatic evaluations related to historic properties considered under the National Historic Preservation Act. In some cases, this programmatic evaluation could apply where a Section 106 "adverse effect" finding has been made. The AASHTO, however, expressed some concern that it would apply only if the project had a net benefit on each individual historic property affected by the project and recommended that the programmatic evaluation allow the net "benefit" finding to be made for the project as whole rather than each individual property affected by a project. Similarly the NYSDOT recommended revising the net benefit finding to apply to the project as a whole, as a change more likely to promote environmental stewardship.

As noted earlier, this programmatic evaluation does not allow for the waiver or relaxation of existing Section 4(f) standards or the judicial interpretation of the legislative requirements. As such, each Section 4(f) protected property must continue to be considered individually as is currently required for any project or Section 4(f) evaluation. Generally speaking, impacts and benefits to individual Section 4(f) properties must be considered when applying the Applicability criteria. An individual Section 4(f) property, such as an historic district or park complex, might have multiple components. The net benefit must be achieved for an individual Section 4(f) property and for the functions and values that qualified that property for Section 4(f) protection. Although a historic district may experience a net benefit and be appropriately covered by this programmatic evaluation, each property within the historic district that is individually eligible for the National Register and is used by the project must be considered separately under this programmatic evaluation, if it applies, or in an individual Section 4(f) evaluation.

There can be impacts to the functions and values of the Section 4(f) property,

but these impacts cannot reach a level of “substantial diminishment” as determined by the FHWA. This determination will be made in consultation with the official(s) with jurisdiction. For instance, there may be general agreement among the FHWA, the Applicant and the official(s) with jurisdiction that an overall enhancement to a Section 4(f) property is achievable. However, if the official with jurisdiction believes that the functions and values that made the property eligible for Section 4(f) protection will be substantially diminished upon completion of the project, then the FHWA must find that the programmatic evaluation is not applicable and that the protected property requires the preparation of an individual Section 4(f) evaluation.

The AASHTO recommended that the net benefit finding take into account the likely future condition of the historic property if the transportation project is not implemented, *e.g.*, the potential for demolition of the historic property by a private landowner.

The revised definition of net benefit included in the final programmatic evaluation addresses this comment, in part. This determination relies on a comparison of Section 4(f) functions and values of the property without the transportation project and use to determine net benefit.

The WIDOT commented that agreements on what constitutes “net benefit” could be difficult to reach among the stakeholders involved.

The WIDOT recognized the potential difficulties that may occur when working out the details sufficiently enough that all officials with jurisdiction are satisfied that a net benefit will result. Because the range of what constitutes a net benefit will vary from property to property, by the official(s) with jurisdiction, and by the policies of both the FHWA and the Applicant, creative measures used to achieve net benefits on a project level should be developed and shared with the larger environmental and transportation community in the form of “Best Practices.” The flexibility inherent within the language of the programmatic evaluation provides official(s) with jurisdiction an opportunity and incentive to participate in efforts that maintain and achieve benefits to Section 4(f) properties under their protection. The Applicant and the FHWA are encouraged to communicate the beneficial qualities of the programmatic evaluation with the official(s) with jurisdiction in order to maximize its potential benefit to the Section 4(f) property.

Several commenters noted that the use of the term “net benefit” is inconsistent throughout the programmatic evaluation. It was unclear whether there merely needs to be a net benefit, or does the project have to preserve, rehabilitate, enhance, and have a net benefit. It was further noted that in some situations, it would be difficult to argue that the project does all four even though it may have an overall net benefit.

From these comments and others, the FHWA recognizes the need to clarify the term “net benefit.” Therefore, as noted above, the definition of net benefit has been modified and simplified for consistency in the final programmatic evaluation. This definition clarifies that the resulting Section 4(f) functions and values of the property are “better,” overall, than if the project did not use the Section 4(f) property. The “net benefit” determination may be based on a number of approaches to mitigate and minimize harm as long as there is an overall enhancement or betterment from the future do-nothing or avoidance condition.

As previously discussed, further instruction has been provided in this programmatic evaluation on how the net benefit is determined and by whom it is determined.

The NPS expressed concern with the definition of “net benefit” and objected to the inclusion of the “substantial diminishment” requirement without providing standards for measuring what is or is not substantial.

The subjectivity of individual values and functions of a significant Section 4(f) property demonstrate the variability of impacts, mitigation, and net benefits, thus, providing guidance or strict criteria on this determination may be viewed as overly prescriptive. There is similar subjectivity and context in determining “substantial diminishment.” For these reasons, it is important to consider the insight of the official(s) with jurisdiction when it comes to deciding “net benefit” and/or “substantial diminishment” and the officials with jurisdiction are in the best position to assist in these determinations. Therefore, some deference should be given to the officials with jurisdiction when determining if the project will “substantially diminish” the activities, features or attributes that qualify the property for Section 4(f) protection. And this determination is essential to deciding if there is a “net benefit.” If agreement on net benefit cannot be reached, this programmatic evaluation will not apply to the property.

## Officials With Jurisdiction

Addressing park, recreational, wildlife and waterfowl resources and cultural, historic, and tribal properties within a single nationwide programmatic evaluation has created some confusion when discussing coordination with appropriate individuals or official(s) with jurisdiction. Several comments were received that reflect a general concern about the definition and intended role of the official(s) with jurisdiction.

For example, the AHC asked that the programmatic evaluation clarify who has official jurisdiction over Section 4(f) property and whether it must take the SHPO’s advice into consideration.

A substantial effort has been made to clarify language in the final programmatic evaluation. Consistent with existing Section 4(f) regulations and guidance, whichever of the SHPO and/or THPO has responsibility under the Section 106 regulations is considered the official with jurisdiction over an historic property. The FHWA must seek and consider the opinion of the SHPO when determining effect under the Section 106 regulations and would likewise, under Section 4(f), seek the opinion of the SHPO as an official with jurisdiction when determining whether a net benefit will result from the Section 4(f) use of an historic site. In an example of an historic park owned by a municipality that was purchased with funding from the Land and Water Conservation Funds Act, the officials with jurisdiction would be the municipal parks department and the SHPO. All officials with jurisdiction must agree with a net benefit determination to a Section 4(f) property for this programmatic evaluation to apply. Coordination with the NPS would also be required in this case, relative to its responsibilities under the LWCF, to assist in determining appropriate and acceptable mitigation for the project’s Section 4(f) use.

## Section 106 Integration

Several commenters expressed a desire to improve the integration of Section 4(f) requirements with those of the Section 106 process. The NYSDOT commented that the programmatic evaluation would do little or nothing to streamline the Section 4(f) process with respect to an historic property. The TEM recommended that the programmatic evaluation “adopt” the conclusion of the Section 106 process such that, if a project has been found to have no effect, no adverse effect, or results in a MOU that addresses adverse effects, it should

be exempt from Section 4(f) requirements on that basis.

The current laws and regulations continue to apply. The FHWA has, to the extent consistent with both laws, combined the common elements of the two processes for this programmatic evaluation. Much of the coordination required, the assessment of impacts, and mitigation is basically the same whether intended to comply with NEPA, Section 106 or Section 4(f). An integrated approach that satisfies multiple requirements is consistent with existing FHWA policy to use the NEPA process as the "umbrella" under which all environmental and related laws and regulations are addressed. It is within the unique requirements of Section 4(f) that this programmatic evaluation will provide relief in the preparation of a single evaluation rather than a draft and a final, the elimination of certain internal FHWA reviews, and the elimination of project-by-project review by the DOI and the USDA, and the HUD, all of which are now required for an individual Section 4(f) evaluation.

#### Section-by-Section Analysis

Revisions were made to several sections of the programmatic evaluation based upon either suggestions or comments received. The substantive changes not discussed above are considered in this Section-by-Section Analysis.

#### Preamble

In response to comments, the Preamble has been revised to improve its consistency with the main body of the programmatic evaluation and to respond to the comments received.

#### Examples

Several comments were received on the examples provided in the draft to illustrate application and implementation of the programmatic evaluation. These examples have been rewritten to provide further clarity on the use of the programmatic evaluation.

The TXDOT commented on the example of a renovated historic railroad station with the opinion that such renovation, if completed in compliance with the Secretary of Interior's Standards and Guidelines, should result in a "no adverse effect" determination, and thus, no 4(f) analysis would be required.

In specific instances, where the purpose of a project was to improve an existing transportation facility, the observation of the TXDOT would be correct (as provided in 23 CFR 771.135(f)). However, for situations not covered by 23 CFR 771.135(f), the

FHWA's determination of "no adverse effect," as defined by the regulations implementing the NHPA, and its subsequent concurrence by the SHPO, would not necessarily eliminate the need for a Section 4(f) evaluation. The programmatic evaluation provides additional flexibility in addressing adverse impacts and Section 106 "adverse effects" to historic property, where, notwithstanding these impacts, there results an overall enhancement of the Section 4(f) property. In the example cited above, if the Applicant or the FHWA developed plans to renovate the historic railroad station in such a way that the functions and values of the station were enhanced yet the design still did not meet the Secretary of Interior's Standards and Guidelines (e.g., due to changes necessary to comply with the Americans with Disabilities Act), the project might still qualify for this programmatic evaluation. The example has been rewritten for clarity.

The MDSHA commented on the example where a Section 106 adverse effect determination was rendered; that it was not clear how the programmatic evaluation could be applied as the official with jurisdiction would be contradicting itself by agreeing that the action had a beneficial effect.

This result would depend upon the enhancement and mitigation provided and, in the end, how the officials with jurisdiction view the results of that mitigation and enhancement. The FHWA may determine that a project has an adverse effect as defined in the Section 106 regulation on a particular function or value of a Section 4(f) property, but for the programmatic evaluation to apply there cannot be a "substantial diminishment" of the activities, features, and attributes that qualify the property for Section 4(f) protection. Not every adverse effect rises to the level of substantial diminishment. For instance, the removal or moving of one contributing component of a historic district may result in an improvement to the access or continuity of the overall property. An example would be the creation of a pedestrian promenade within the historic district that recreates a lost element of the district and improves its economic vitality. Additionally, the Section 106 process does not consider the future do-nothing alternative, yet within this programmatic evaluation the future do-nothing is considered when determining net benefit. Therefore, the SHPO, without conflict, may concur with an adverse effect determination under Section 106, but may agree that the proposed project has a net benefit and

will not result in substantial diminishment of the property under this programmatic evaluation.

When the FHWA utilizes this programmatic evaluation, documentation should be requested from the official(s) with jurisdiction that a net benefit will result from implementation of the project and that there is no substantial diminishment of protected activities, features or attributes of the protected property. This agreement may be incorporated into the Section 106 Agreement or other correspondence related to the Section 106 consultation process where the Section 4(f) protected property is historic, however, it should be clear that the Section 4(f) related request is separate and distinct from Section 106 consultation. If a historic property also meets other Section 4(f) criteria (*i.e.*, historic park) and there are multiple officials with jurisdiction, they also have a role in determining net benefit.

In response to the comments received concerning needed guidance and in recognition of the need to further clarify the intended use of this programmatic evaluation, the examples from the draft were rewritten and new examples were added.

#### Introduction

Referring to the last sentence of the Introduction, the NPS commented that the listing of these few programs in the proposed programmatic evaluation might lead to the incorrect interpretation that the list is all-inclusive rather than a sampling.

Not to mislead any intending user of the programmatic evaluation, the partial listing has been removed and the portion of the all-inclusive discussion stating, "any other applicable Federal environmental requirements" was retained.

#### Applicability

The WIDOT commented that the proposed programmatic evaluation is limited in its scope and will apply only to a small subset of projects.

Initially, utilization of the programmatic evaluation may be limited, but over time it is anticipated that it will have increased use as Applicants, the official(s) with jurisdiction, and the FHWA learn how to incorporate actions beneficial to Section 4(f) properties into transportation projects and realize the reduction in regulatory and internal review times that will result from the application of this programmatic evaluation.

The TXDOT and others requested clarification of language found in

Applicability, Item Numbers 4 and 5, which contain discussions of the roles of "all parties" and "other appropriate parties." It was suggested that this be clarified to avoid the appearance of subjectively defining these categories on a case-by-case basis and recommend referencing Section 106 language for "consulting parties."

The concern expressed in this comment is recognized and the recommendation has been adopted in part. The language has been reworded to eliminate "other appropriate parties." This change respects the distinction between Section 4(f) and 36 CFR part 800.

The NPS commented that the success of existing "minor involvement" programmatic Section 4(f) evaluations has been due to the following factors, (1) they are restricted to improvements on essentially the existing alignment, (2) the maximum acreage limitations are defined, and (3) they do not apply to projects for which an EIS is prepared.

The essence of this programmatic evaluation is distinct from the existing "minor uses" programmatic evaluations in that its application is dependent on a resulting positive outcome instead of a minor use. For this reason its application is appropriate and allowable in conjunction with both existing and new alignments. The maximum-acreage-allowable criterion was specified in the programmatic evaluation for minor uses of parks, recreation areas and wildlife and waterfowl refuges to assist in defining minor use in spatial terms. The amount of property used is not an appropriate factor in determining the net benefit and may inappropriately limit application of this evaluation in some cases. Therefore, the application of this programmatic will remain the same so as not to reduce its potential effectiveness and application.

Since this programmatic evaluation can provide the impetus necessary to develop creative measures of avoidance, minimization, and enhancement for impacts to protected Section 4(f) properties, it is appropriate for use with all environmental class of actions, including EISs, in which the applicability criteria is satisfied.

The NPS and DOI noted that the programmatic evaluation does not clearly define the role of agencies holding a contractual or real estate interest in the subject property.

We do not believe it is necessary to specify a criterion that singles out the NPS or any other agency in determining applicability of the programmatic evaluation. Such an encumbrance would not be affected by FHWA's Section 4(f) determination. Where the

NPS or another agency has the "last word", under another statute, that responsibility remains intact. A sentence was added to the final programmatic evaluation requiring coordination with the appropriate agency, where such encumbrances exist, to clarify the process.

For Section 4(f) properties, other than privately owned historic resources, the FHWA and the Applicant shall pursue with due diligence, during early stages of project development, determination of whether or not the property in question received a LWCF grant. If the Applicant or the FHWA have concerns about whether a park area might have received a LWCF grant they should contact one of the National Park Service field offices or State Agency, as listed in the "Contact List" on the following Web site: <http://www.nps.gov/ncrc/programs/lwcf/protect.html>.

Administrators have databases of grant-assisted sites that will help them to determine whether Fund protections apply; also some States have their own grant programs that afford similar protection. Additional information and addresses for National Park Service Offices and State Liaison Officers for the Land and Water Conservation Fund can be found at the following Web site: <http://www.nps.gov/ncrc/programs/lwcf/protect.html>.

The NEPA documentation, project file or Section 4(f) documentation shall include evidence of the determination.

The DOI suggested that "National Historic Landmarks" should be explicitly identified as National Register eligible property and that additional stipulations to address situations that involve National Natural Landmarks be added.

Since there is no distinction between National Historic Landmarks and other National Register eligible properties where Section 4(f) is concerned, the draft language is retained. Also, the programmatic evaluation would apply to those National Natural Landmarks that met the statutory definition of a Section 4(f) protected property.

The NPS also expressed concern that the FHWA will have the "sole responsibility" for determining whether a public park area will receive a net benefit. The programmatic evaluation requires the FHWA to reach agreement with the officials with jurisdiction; therefore, FHWA will never have the "sole responsibility" for determining net benefit.

As stated above, the language in the final programmatic evaluation addresses the concerns of the NPS. If agreement is not reached among the FHWA, the Applicant and official(s) with

jurisdiction, then the programmatic evaluation cannot be used. If, for example, the NPS requires full replacement of federally encumbered property pursuant to LWCF, then that obligation will continue to require at least full replacement of the impacted land as determined under that statute whether or not there is a net benefit finding. This holds true for any necessary provision, whether Federal or State, that relates to the impacts of a Section 4(f) property. This is why early consultation and input from all appropriate official(s) with jurisdiction is necessary and required.

The MDSHA commented on an apparent discrepancy between one of the examples and the *Applicability* section. The MDSHA notes that the *Applicability* section states that the programmatic evaluation may be applied if, among other things, the project does not require the demolition or major alteration of the characteristics that qualify the property for the NRHP. Yet the example of the reconstructed, deteriorated historic feature was deemed appropriate, even given the adverse effect determination.

Changes have been made to the *Applicability* section to address this concern. Additionally, the example has been rewritten for clarity. There is no discrepancy as the example is for a reconstruction of a contributing element, which the SHPO, as the official with jurisdiction, deems to be a net benefit to the property when compared to the do-nothing alternative, which leaves the wall in a deteriorated condition. Even though the FHWA could determine and the SHPO concur that the removal and reconstruction of the wall would be an adverse effect under Section 106, the SHPO or THPO could find that the project results in an overall benefit. The programmatic evaluation allows for impacts of some of the functions and/or values of the property as long as there is a collective improvement and there is no substantial diminishment to those functions and values that originally qualified the property for protection.

Relating this back to the example at hand, even though the wall is considered an important function or value in determining Section 106 significance of the historic property, the reconstruction of the wall is neither considered a substantial diminishment nor a major alteration but rather an improvement over its existing condition, the anticipated condition of the future no-build and the condition of the historic site itself, thereby qualifying as a net benefit.

The MDSHA commented on *Applicability*, Item Number 4, and identified a perceived duplication of Section 106 and Section 4(f) efforts. The MDSHA asked whether an adverse effect on an historic property is obviated by a net benefit to the resource such that, there will not be a need for a Section 106 MOA. The CALTRANS added that the SHPO's or THPO's written determination of no adverse effect under Section 106 should suffice as evidence of written agreement under *Applicability*, Item Number 5 to eliminate the need for additional efforts on the part of the SHPO or THPO.

Where required by 36 CFR part 800, an MOA or Programmatic Agreement would be a prerequisite for Section 4(f) approval under this programmatic evaluation similar to the Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites and the Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges. The conditions and measures to achieve a net benefit may be established in the MOA. However, the MOA, or any additional or separate documentation, must clearly record that agreement has been reached among the officials with jurisdiction, the FHWA and the Applicant and all appropriate documentation must be retained for the project record consistent with NEPA project documentation retention practices and policies.

In summation, any written agreement developed as part of the Section 106 process can suffice for the *Applicability* criteria of this programmatic evaluation if such agreements (typically MOAs) include an agreement by the officials with jurisdiction that the project results in a net benefit to a protected Section 4(f) property. However, all the officials with jurisdiction may not want to be party to a Section 106 agreement and other Section 106 parties not necessarily the "officials with jurisdiction."

Regarding *Applicability*, Item Number 4, the AHC commented that "such measures" are "vague and weak" and recommended that this be a stronger, more specific statement.

The language in *Applicability*, Item Number 4 is consistent with existing programmatic evaluations and is retained with minor editorial changes in the final version. The language allows for flexibility that makes the programmatic evaluation as viable a procedural option as possible while being as responsive to the expert opinions of the official(s) with jurisdiction and the varied qualities of the properties they manage.

The NYSDOT commented on the "substantial diminishment" requirement related to determining "net benefit" in the *Applicability* section. It suggested that the requirement is contrary to the concept of "net benefit", weakens the concept and narrows the opportunity to effectively benefit the resource.

Programmatic evaluations by their nature are limited to projects that meet a specific set of facts and applicability requirements. A project that will result in a substantial diminishment of any of the functions or values that originally qualified the property for Section 4(f) protection should be evaluated using an individual evaluation. The wording of this programmatic evaluation is designed to ensure that a net benefit is achieved without substantial diminishment of the functions or values (features or attributes) that make the property eligible for Section 4(f) protection. Still, there is flexibility in determining what function or values are keys to the properties' eligibility for protection and what constitutes a substantial diminishment of those functions and values.

#### Alternatives

The AHC commented that it is difficult to discern how the programmatic evaluation helps the FHWA when it comes to its avoidance alternatives analysis and the PennDOT recognized that the programmatic evaluation limits the alternatives that must be analyzed and documented.

The PennDOT is correct; the avoidance alternatives that must be considered are all-inclusive. This approach is consistent with the existing programmatic evaluations.

The DOI suggested that the "Do Nothing Alternative" be replaced with the term "No Action Alternative," in accordance with NEPA guidance.

To avoid confusion, the term "Do Nothing Alternative" will be retained, as it is consistent with the other programmatic evaluations.

The PennDOT recommended that the "qualitative importance or value" of each Section 4(f) resource should be considered in determining whether or not an avoidance alternative is feasible and prudent. It further recommended that for historic properties, the condition and ownership should be considered as well.

The programmatic addresses those situations where the transportation use results in an overall enhancement of the property as agreed to by the official(s) with jurisdiction, the FHWA and the Applicant. The ability to benefit the property must be factored into the

feasible and prudent determination. The consideration of the avoidance alternative comes from the Section 4(f) statutory requirements, which have not changed. The Section 4(f) legislation addresses historic properties regardless of ownership of the property.

#### Findings

The DOI recommended revising the first sentence to indicate that to apply the programmatic evaluation to a project, the required no-action and avoidance alternatives must be found not feasible and prudent through a written determination.

The wording has been changed to reflect the comment.

The DOI suggested inserting the phrase "jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat," before the phrase "substantial damage to wetlands". The suggested language has been incorporated.

The NYSDOT commented on the proposed language, "An accumulation of these kinds of problems must be of extraordinary magnitude when compared to the proposed use of the Section 4(f) land to determine that (the avoidance) alternative is not feasible and prudent." It was suggested that this approach would seem more valid in the context of a full 4(f) evaluation where there is a net negative effect to a historic property, than in a programmatic evaluation context where the "net" effect is positive.

This language is consistent with existing Section 4(f) implementation policy and has been incorporated in essence. The first condition of Section 4(f) use is the determination that no feasible and prudent avoidance alternatives exist. The programmatic evaluation must include this determination in order to facilitate compliance with the statute and regulations. This programmatic evaluation identifies the variables that must be considered when making the determination of feasible and prudent. Application of this programmatic evaluation is optional and an individual evaluation may be prepared at the discretion of the Administration in those cases where it is appropriate.

The AHC asked about how the evidence of no feasible and prudent alternative will be collected and distributed.

Appropriate evidence that no feasible and prudent alternative to the use of Section 4(f) property exists must be a part of the FHWA's administrative record for the project. This supporting

information and determination will be documented in the appropriate NEPA document or project record consistent with current Section 4(f) policy, guidance and the requirements of this programmatic evaluation.

The AHC also asked about what would constitute a "substantial increase in cost" and suggested that we include an approximate figure or at least a percentage.

The FHWA, in consultation with the Applicant, will determine what is considered a substantial increase. The language is identical to that used in previous programmatic evaluations.

The AHC commented that Findings 2(e) seem to be intended to play one resource improvement against another's adverse effect.

The statement found in Findings 2(e) is not intended to play one property against another. The purpose of the statement is to give appropriate consideration and weight to the beneficial measures of the project when determining whether an alternative is prudent and feasible.

In regard to item number 2(e), the NPS questioned whether "a missed opportunity" to benefit a Section 4(f) property has any relevance in determining whether or not an alternative is feasible and prudent.

Section 4(f) established a two-fold emphasis for the Secretary of Transportation: to protect and to enhance significant resources identified for special consideration. To date, programmatic evaluations have focused on projects with minor impacts to these protected properties. This programmatic evaluation is designed to allow the FHWA, the Applicant and official(s) with jurisdiction over the Section 4(f) properties, to look for opportunities where transportation actions can enhance Section 4(f) properties, even where there is a use of some property. Because a net benefit on a property can only be determined when all parties agree, the programmatic evaluation will only be used when it is deemed appropriate and in the best interests of the protected property. To ensure that 2(e) is not abused or equated to a low bar, we included language to clarify that for a project to qualify for 2(e) there must be a substantial missed opportunity to benefit a Section 4(f) property.

#### **Mitigation and Measures To Minimize Harm**

Several commenters indicated a confusion regarding the wording of this section and offered suggestions. The principal reason is the combination of "Measures to Minimize Harm" and

"Mitigation Measures." When put together, commenters read it as "Measures to Minimize Harm and Measures to Minimize Mitigation". Obviously this is not the intent; however, to rectify this misunderstanding the language has been changed to read: "Mitigation and Measures to Minimize Harm." Although, measures to minimize harm are considered mitigation, this language is consistent with the Section 4(f) statute.

#### **Coordination**

The NPS recommended that the programmatic evaluation require that all projects be coordinated with the appropriate DOI bureaus.

As noted earlier, for those projects where an agency or bureau of DOI is an official with jurisdiction, or where the LWCF applies, coordination will be necessary as a procedure in meeting the applicability requirements and approval of this programmatic evaluation.

Another comment questioned the statement regarding the need for the FHWA to coordinate with the United States Coast Guard (USCG) before applying the programmatic evaluation to projects requiring a Section 9 Bridge permit.

When the proposed programmatic evaluation was issued, the USCG was still a part of the USDOT and therefore it had Section 4(f) responsibilities. Since that time, the USCG has been relocated to the U.S. Department of Homeland Security, eliminating its Section 4(f) responsibility. However, the USCG still has responsibility related to issuance of Section 9 Bridge permits. Wording has been changed to remove coordination with the USCG relative to Section 4(f) compliance.

The WIDOT noted that the constructive consultation of transportation officials, the officials with jurisdiction and resource agency staff is encouraged.

Consultation is not only encouraged, it is required. For this programmatic evaluation to be successful, good coordination and consultation are imperative.

#### **Public Involvement**

There were no substantive comments regarding this section and no changes have been made.

#### **Approval Procedure**

The AHC asked, relative to the last sentence of Item Number 6, if the Advisory Council on Historic Preservation agreed to review all programmatic evaluations.

The last sentence in Item Number 6 of the *Approval Procedures* in the draft programmatic should have been a separate paragraph. The purpose of the statement in the draft was to indicate that the ACHP and other agencies had been given the opportunity to review and comment on the draft. Furthermore, the FHWA consulted with the ACHP, the DOI and the NPS prior to finalizing the programmatic evaluation. To avoid confusion, this statement has been removed from the final programmatic evaluation.

#### **Examples of Intended Use**

One example of a net benefit to a historic property would be the reconstruction of a deteriorated or lost historic feature (such as a rock wall or auxiliary building) where mitigation related to Section 106 consultation includes the reconstruction of the feature in a slightly different location because of the design requirements of a needed improvement to the adjacent transportation facility. Consultation pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) would likely result in an "adverse effect" determination. However, the SHPO, the FHWA, and the Applicant all agree that the reconstruction would enhance those qualities for which the property was determined eligible, even with the removal and replacement of the historically associated feature. In this case, the existing FHWA Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites would not be applicable, but if SHPO, as the official with jurisdiction, agrees that the impacts do not reach a level of substantial diminishment, the FHWA may determine that this programmatic evaluation would be applicable if the evaluation finds that the use of the property is prudent.

A second example involves a partial or even total relocation of a Section 4(f) property (such as a community park) to a location within the community that would have a greater value and use to that community. In this case, the existing nationwide minor use programmatic could not be used because the take of land would exceed the limitation included in it and would impair the use of the remaining Section 4(f) land. Again, this programmatic evaluation would be applicable if the officials with jurisdiction agree that the partial (or total) relocation would be a net benefit to the park and that the relocation does not result in the substantial diminishment of the activities, feature or attributes for which



the park is protected under Section 4(f). For instance, this programmatic evaluation can apply where the officials with jurisdiction identify a net benefit due to existing inadequate or unsafe access conditions to a park which presently minimizes the use of the park and the partial relocation can provide safe access; or in a situation where a park has minimal public use due to changes in adjacent land use and where the officials with jurisdiction agree that the total relocation will be of greater park or recreational value to the community.

A final example is the rehabilitation of an historic railroad station to maintain its major historic elements and to permit its continued use as a historic transportation facility. In some cases, such rehabilitation, even with considerable sensitivity to the historic character of the resource, cannot be accomplished without a Section 106 adverse effect determination, and neither the regulatory provision at 23 CFR 771.135(f) related to historic transportation facilities nor the historic site programmatic could be used. The adverse effect may be caused, for example, by modifications to provide access for the disabled or by interior reconfiguration to provide retail space to keep the station economically viable as a transportation facility. The SHPO, as the official with jurisdiction, may concur with the FHWA determination of "adverse effect," but may also recognize the net benefits of the restoration of the station and the assurance of its continued use may greatly outweigh the adverse effect, *i.e.*, not substantially diminish the qualities for which the property was determined eligible.

There will be situations when this programmatic evaluation would not apply. For example, the owner of an individually eligible historic building has abandoned the building so that it is likely to continue to deteriorate. The transportation agency proposes to demolish the building for a transportation improvement, and agrees to record the building in accordance with the standards set by the Historic American Building Survey (HABS) prior to its demolition. In the project design year (20 years hence) without the project, the building may be effectively demolished through neglect. In the design year of the project, the building will be demolished but a record of the building will be made. Although having the record of the demolished building is an improvement over not having such a record, it is not a net benefit to the resource, as the resource will no longer exist. Therefore, this programmatic evaluation would not apply because it

requires that there be a resource to which a net benefit would result. In this case, an individual Section 4(f) evaluation would be needed. On the other hand, if the same abandoned historic building (contributing component) lies within a large commercial historic district, where the officials with jurisdiction (*i.e.*, the SHPO) concur with an "adverse effect" determination pursuant to Section 106 consultation, but determine that the removal of the building with appropriate mitigation will have a net benefit to the historic district as the use of the resource (historic district) by the transportation project will improve access or parking which will likely improve the economic viability of the majority of the historic district, thus determining that the use will not rise to the level of "substantial diminishment" of the qualities of the resource. In such a situation, this programmatic evaluation might be applied.

The FHWA recognizes and appreciates the effort of all parties who provided comments for consideration in the development and finalization of this programmatic evaluation.

**Authority:** 49 U.S.C. 303; 23 U.S.C. 138; 49 CFR 1.48.

Issued on: April 13, 2005.

**Mary E. Peters,**

*Federal Highway Administrator.*

The text of the FHWA Programmatic Section 4(f) Evaluation and Approval for Transportation Projects That Have a Net Benefit to a Section 4(f) Property is as follows:

U.S. Department of Transportation  
Federal Highway Administration  
(FHWA)  
FINAL

**Programmatic Section 4(f) Evaluation and Approval for Transportation Projects That Have a Net Benefit to a Section 4(f) Property**

This nationwide programmatic Section 4(f) evaluation (programmatic evaluation) has been prepared for certain federally assisted transportation improvement projects on existing or new alignments that will use property of a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic property, which in the view of the Administration and official(s) with jurisdiction over the Section 4(f) property, the use of the Section 4(f) property will result in a net benefit to the Section 4(f) property. Definitions:

"Administration" refers to the Federal Highway Division Administrator or Division Engineer (as appropriate).

"Applicant" refers to a State Highway Agency or State Department of

Transportation, local governmental agency acting through the State Highway Agency or State Department of Transportation.

A "net benefit" is achieved when the transportation use, the measures to minimize harm and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features and attributes that qualify the property for Section 4(f) protection. A project does not achieve a "net benefit" if it will result in a substantial diminishment of the function or value that made the property eligible for Section 4(f) protection.

"Official(s) with jurisdiction" over Section 4(f) property (typically) include: for a park, the Federal, State or local park authorities or agencies that own and/or manage the park; for a refuge, the Federal, State or local wildlife or waterfowl refuge owners and managers; and for historic sites, the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), whichever has jurisdiction under Section 106 of the National Historic Preservation Act (16 U.S.C. 470f).

**Applicability**

The Administration is responsible for review of each transportation project for which this programmatic evaluation is contemplated to determine that it meets the criteria and procedures of this programmatic evaluation. The information and determination will be included in the applicable National Environmental Policy Act (NEPA) documentation and administrative record. This programmatic evaluation will not change any existing procedures for NEPA compliance, public involvement, or any other applicable Federal environmental requirement.

This programmatic evaluation satisfies the requirements of Section 4(f) for projects meeting the applicability criteria listed below. An individual Section 4(f) evaluation will not need to be prepared for such projects:

1. The proposed transportation project uses a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site.
2. The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection.
3. For historic properties, the project does not require the major alteration of



the characteristics that qualify the property for the National Register of Historic Places (NRHP) such that the property would no longer retain sufficient integrity to be considered eligible for listing. For archeological properties, the project does not require the disturbance or removal of the archaeological resources that have been determined important for preservation in-place rather than for the information that can be obtained through data recovery. The determination of a major alteration or the importance to preserve in-place will be based on consultation consistent with 36 CFR part 800.

4. For historic properties, consistent with 36 CFR part 800, there must be agreement reached amongst the SHPO and/or THPO, as appropriate, the FHWA and the Applicant on measures to minimize harm when there is a use of Section 4(f) property. Such measures must be incorporated into the project.

5. The official(s) with jurisdiction over the Section 4(f) property agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property.

6. The Administration determines that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination, and Public Involvement sections of this programmatic evaluation.

This programmatic evaluation can be applied to any project regardless of class of action under NEPA.

#### Alternatives

To demonstrate that there are no feasible and prudent alternatives to the use of Section 4(f) property, the programmatic evaluation analysis must address alternatives that avoid the Section 4(f) property. The following alternatives avoid the use of the Section 4(f) property:

1. Do nothing.
2. Improve the transportation facility in a manner that addresses the project's purpose and need without a use of the Section 4(f) property.
3. Build the transportation facility at a location that does not require use of the Section 4(f) property.

This list is intended to be all-inclusive. The programmatic evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document. The project record must clearly demonstrate that each of the above alternatives was fully

evaluated before the Administration can conclude that the programmatic evaluation can be applied to the project.

#### Findings

For this programmatic evaluation to be utilized on a project there must be a finding, given the present condition of the Section 4(f) property, that the do-nothing and avoidance alternatives described in the Alternatives section above are not feasible and prudent. The findings (1, 2, and 3. below) must be supported by the circumstances, studies, consultations, and other relevant information and included in the administrative record for the project. This supporting information and determination will be documented in the appropriate NEPA document and/or project record consistent with current Section 4(f) policy and guidance.

To support the finding, adverse factors associated with the no-build and avoidance alternatives, such as environmental impacts, safety and geometric problems, decreased transportation service, increased costs, and any other factors may be considered collectively. One or an accumulation of these kinds of factors must be of extraordinary magnitude when compared to the proposed use of the Section 4(f) property to determine that an alternative is not feasible and prudent. The net impact of the do-nothing or build alternatives must also consider the function and value of the Section 4(f) property before and after project implementation as well as the physical and/or functional relationship of the Section 4(f) property to the surrounding area or community.

##### 1. Do-Nothing Alternative.

The Do-Nothing Alternative is not feasible and prudent because it would neither address nor correct the transportation need cited as the NEPA purpose and need, which necessitated the proposed project.

##### 2. Improve the transportation facility in a manner that addresses purpose and need without use of the Section 4(f) property.

It is not feasible and prudent to avoid Section 4(f) property by using engineering design or transportation system management techniques, such as minor location shifts, changes in engineering design standards, use of retaining walls and/or other structures and traffic diversions or other traffic management measures if implementing such measures would result in any of the following:

- (a) Substantial adverse community impacts to adjacent homes, businesses or other improved properties; or

(b) Substantially increased transportation facility or structure cost; or

- (c) Unique engineering, traffic, maintenance or safety problems; or
- (d) Substantial adverse social, economic or environmental impacts; or
- (e) A substantial missed opportunity to benefit a Section 4(f) property; or
- (f) Identified transportation needs not being met; and

(g) Impacts, costs or problems would be truly unusual, unique or of extraordinary magnitude when compared with the proposed use of Section 4(f) property after taking into account measures to minimize harm and mitigate for adverse uses, and enhance the functions and value of the Section 4(f) property.

Flexibility in the use of applicable design standards is encouraged during the analysis of these feasible and prudent alternatives.

##### 3. Build a new facility at a new location without a use of the Section 4(f) property.

It is not feasible and prudent to avoid Section 4(f) property by constructing at a new location if:

- (a) The new location would not address or correct the problems cited as the NEPA purpose and need, which necessitated the proposed project; or
- (b) The new location would result in substantial adverse social, economic or environmental impacts (including such impacts as extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of community cohesion, jeopardize the continued existence of any endangered or threatened species or resulting in the destruction or adverse modification of their designated critical habitat, substantial damage to wetlands or other sensitive natural areas, or greater impacts to other Section 4(f) properties); or

(c) The new location would substantially increase costs or cause substantial engineering difficulties (such as an inability to achieve minimum design standards or to meet the requirements of various permitting agencies such as those involved with navigation, pollution, or the environment); and

- (d) Such problems, impacts, costs, or difficulties would be truly unusual or unique or of extraordinary magnitude when compared with the proposed use of the Section 4(f) property after taking into account proposed measures to minimize harm, mitigation for adverse use, and the enhancement of the Section 4(f) property's functions and value.

Flexibility in the use of applicable design standards is encouraged during the analysis of feasible and prudent alternatives.

#### Mitigation and Measures To Minimize Harm

This programmatic evaluation and approval may be used only for projects where the Administration, in accordance with this evaluation, ensures that the proposed action includes all possible planning to minimize harm, includes appropriate mitigation measures, and that the official(s) with jurisdiction agree in writing.

#### Coordination

In early stages of project development, each project will require coordination with the Federal, State, and/or local agency official(s) with jurisdiction over the Section 4(f) property. For non-Federal Section 4(f) properties, *i.e.*, State or local properties, the official(s) with jurisdiction will be asked to identify any Federal encumbrances. When encumbrances exist, coordination will be required with the Federal agency responsible for such encumbrances.

Copies of the final written report required under this programmatic evaluation shall be offered to the official(s) with jurisdiction over the Section 4(f) property, to other interested parties as part of the normal NEPA project documentation distribution practices and policies or upon request.

#### Public Involvement

The project shall include public involvement activities that are consistent with the specific requirements of 23 CFR 771.111, Early coordination, public involvement and project development. For a project where one or more public meetings or hearings are held, information on the proposed use of the Section 4(f) property shall be communicated at the public meeting(s) or hearing(s).

#### Approval Procedure

This programmatic evaluation approval applies only after the Administration has:

1. Determined that the project meets the applicability criteria set forth in *Applicability* section;
2. Determined that all of the alternatives set forth in the *Findings* section have been fully evaluated;
3. Determined that the findings in the programmatic evaluation (which conclude that the alternative recommended is the only feasible and prudent alternative) result in a clear net benefit to the Section 4(f) property;

4. Determined that the project complies with the *Mitigation and Measures to Minimize Harm* section of this document;

5. Determined that the coordination and public involvement efforts required by this programmatic evaluation have been successfully completed and necessary written agreements have been obtained; and

6. Documented the information that clearly identifies the basis for the above determinations and assurances.

[FR Doc. 05-7812 Filed 4-19-05; 8:45 am]

BILLING CODE 4910-22-P

#### DEPARTMENT OF TRANSPORTATION

##### Federal Motor Carrier Safety Administration

[Docket No. FMCSA-2005-20930 (PDA-31(F))]

##### Application by American Trucking Associations, Inc. for a Preemption Determination as to District of Columbia Requirements for Highway Routing of Certain Hazardous Materials

**AGENCY:** Federal Motor Carrier Safety Administration (FMCSA), United States Department of Transportation (DOT).

**ACTION:** Public notice and invitation to comment.

**SUMMARY:** FMCSA invites interested parties to submit comments on an application by The American Trucking Associations, Inc. for an administrative determination as to whether Federal hazardous materials transportation law preempts highway routing requirements of the District of Columbia in restricting transportation of certain hazardous materials.

**DATES:** Comments received on or before June 6, 2005, and rebuttal comments received on or before July 19, 2005, will be considered before an administrative ruling is issued. Rebuttal comments may discuss only those issues raised by comments received during the initial comment period and may not discuss new issues.

**ADDRESSES:** You may submit comments, identified by DOT DMS Docket Number FMCSA-2005-20930, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Agency Web site: <http://dms.dot.gov>. Follow the instructions for submitting comments on the DOT electronic docket site.
- Fax: 1-202-493-2251.

- *Mail:* Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001. Please submit three copies of written comments.

- *Hand Delivery:* Submit three copies of written comments to Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**Instructions:** Comments must refer to Docket Number FMCSA-2005-20930. All comments received will be posted without change to <http://dms.dot.gov>, including any personal information provided. For detailed instructions on submitting comments, see the "Public Participation" heading of the **SUPPLEMENTARY INFORMATION** section of this document. For a summary of DOT's Privacy Act Statement or information on how to obtain a complete copy of DOT's Privacy Act Statement please see the "Privacy Act" heading of the **SUPPLEMENTARY INFORMATION** section.

**Docket:** For access to the docket to read the application or comments received, go to <http://dms.dot.gov> at any time or to Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 am and 5 pm, Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Mr. William Quade, Chief, Hazardous Materials Division (MC-ECH), (202) 366-2172; Federal Motor Carrier Safety Administration, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590-0001. Office hours are from 7:45 a.m. to 4:15 p.m., *e.t.*, Monday through Friday, except Federal holidays.

#### SUPPLEMENTARY INFORMATION:

##### Public Participation

A copy of each comment must also be sent to Richard Moskowitz, Assistant General Counsel, American Trucking Associations, 2200 Mill Road, Alexandria, VA 22314. Certification of sending a copy to Mr. Moskowitz must accompany your comments. (The following format is suggested: "I certify copies of this comment have been sent to Mr. Moskowitz at the address specified in the **Federal Register**.")

The DMS is available 24 hours each day, 365 days each year. You can get electronic submission and retrieval help and guidelines under the "help" section of the DMS Web site. If you want us to notify you of receiving your comments, please include a self-addressed, stamped envelope or postcard or print the acknowledgement page displaying after receipt of on-line comments.

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## **Appendix F**

### **PA Act 120, 71 PS § 512**

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## " ACT 120 "

### PENNSYLVANIA STATUTES

\*\*\* THIS DOCUMENT IS CURRENT THROUGH THE 1997 SUPPLEMENT (1996  
SESSIONS) \*\*\*

#### TITLE 71. STATE GOVERNMENT PENNSYLVANIA STATUTES

##### I. THE ADMINISTRATIVE CODES AND RELATED PROVISIONS CHAPTER 2. THE ADMINISTRATIVE CODE OF 1929

#### ARTICLE XX. POWERS AND DUTIES OF THE DEPARTMENT OF TRANSPORTATION

71 P.S. § 512 (1997)

NOTICE: As to suspension of subsection (e) of this section where it relates to practice or procedure in the Supreme Court, Superior Court or the Commonwealth Court, or to practice or procedure in a trial court or government unit when an appeal has been or is being taken to, or review has been or is being sought in, one of such appellate courts, see Pa.R.A.P., Rule 5101(c), 42 Pa.C.S.

[P.S.] § 512. (Adm. Code § 2002). Powers and duties of the department

(a) The Department of Transportation in accord with appropriations made by the General Assembly, and grants of funds from Federal, State, regional, local or private agencies, shall have the power, and its duty shall be:

(1) To develop and maintain a continuing, comprehensive and coordinated transportation planning process;

(2) To develop programs designed to foster efficient and economical public transportation services in the State;

(3) To prepare plans for the preservation and improvement of the commuter railroad system;

(4) To develop plans for more efficient public transportation service by motor bus operation;

(5) To prepare and develop plans and programs for all modes of urban transportation, including in addition to commuter rail and motor bus, rapid rail, trolley coach, surface rail, corridor rail, and other innovative modes of urban transportation;

(6) To coordinate the transportation activities of the department with those of other public agencies and authorities;

(7) To cooperate with interstate commissions and authorities, State departments, councils, boards, commissions, authorities and other State agencies, with political subdivisions of the Commonwealth, with appropriate Federal agencies, public agencies in other states, and with interested private individuals and organizations in the coordination of plans and policies for the development of ground, air and water commerce and facilities;

71 P.S. § 512 (1997)

(8) To mark, build, rebuild, relocate, fix the width of, construct, repair, and maintain State designated highways and transportation facilities and rights of way;

§ (9) To undertake the powers and duties formerly performed by the Department of Community Affairs under the act of January 22, 1968 (Act No. 8), known as the "Pennsylvania Urban Mass Transportation Assistance Law of 1967," and the powers and duties formerly performed by the Department of Community Affairs and the Department of Commerce under the act of January 22, 1968 (Act No. 7), known as "The Pennsylvania Transportation Assistance Authority Act of 1967."

(10) To have exclusive authority and jurisdiction over all State designated highways;

(11) To superintend, supervise and control the work of constructing, reconstructing, maintaining and repairing State designated highways, and other transportation facilities and rights of way;

(12) To enter into contracts for designing, constructing, repairing, or maintaining, State designated highways, and other transportation facilities and rights of way, airports or any parts thereof, as may now or hereafter be provided by law;

(13) To prepare and submit every even-numbered year prior to the first day of September, to the State Transportation Commission for its consideration, a program which it recommends to be undertaken by the Department of Transportation during the twelve fiscal years next ensuing. Each two years thereafter, the Department of Transportation, taking into consideration the recommendations of the State Transportation Commission, and other relevant information, shall review, revise, adjust and extend its construction program for two years.

Copies of construction programs shall be supplied to the members of the General Assembly and shall be open to the public for inspection and shall be made available to interested persons. The priority of improvement shall be based upon relative need and sufficiency ratings maintained by the department.

(14) To appear or intervene as a party, when the secretary deems it appropriate, before the Public Utility Commission when transportation problems are being considered by the commission.

(15) To consult with appropriate officials as designated by the chief administrative officer of the Department of Agriculture, the Department of Environmental Resources, the Department of Community Affairs, the Department of Health and the Fish Commission regarding the environmental hazards and the agricultural, conservation, sanitary, recreation and social considerations that may arise by reason of the location, design, construction or reconstruction of any transportation or air facility.

No highway, transit line, highway interchange, airport, or other transportation corridor or facility, shall be built or expanded in such a way as to use any land from any recreation area, wildlife and/or waterfowl refuge, historic site, State forest land, State game land, wilderness areas or public park unless: (i) there is no feasible and prudent alternative to the use of such land, and (ii) such corridor or facility is planned and constructed so as to

71 P.S. § 512 (1997)

minimize harm to such recreation area, wildlife and/or waterfowl refuge, historic site, State forest land, State game land, wilderness area, or public park.

(16) To represent the transportation interests of the Commonwealth including any of its agencies or instrumentalities at the direction of the Governor, or when the secretary deems it appropriate before any Federal agency or commission which determines national or regional transportation rates, routes or policy.

(17) To acquire, by purchase, lease, eminent domain proceedings, gift or otherwise, so as to restore or replace, for just compensation, from a railroad, or in the event any such railroad is subject to a proceeding under the Bankruptcy Law, by a direction from the court having jurisdiction in such bankruptcy proceedings to the trustee or trustees or the debtor to offer to convey to the State, for just compensation, all of its right, title, and interest free and clear of all encumbrances, in any right-of-way, tract and other related real and personal property on any branch line or other railroad within the State which has been damaged or destroyed within the period between January 1, 1972 and December 31, 1972 as a result of natural disaster or suspended by action of its owners or operator and which have not been scheduled for restoration or replacement under a Federal loan program and provided that there is demonstrated a valid need for the establishment or reestablishment of railroad service in the affected area.

(18) To sell or lease any right-of-way, track, and other related real and personal property on any branch line or other railroad within the State which has been damaged or destroyed within the period between January 1, 1972 and December 31, 1972 as a result of natural disaster or suspended by action of its owners or operators which has been acquired for restoration or replacement, so as to provide for the operation of restored or replaced railroad lines with regional and local public bodies and agencies and private corporations with the technical capability to carry out the proposed railroad service.

(19) To compile, maintain and forward to the Federal Highway Administration data on all bridges in the Commonwealth carrying public highways which are twenty or more feet in length, without regard to ownership. In carrying out this duty, the department is authorized to and directed to inspect those bridges owned by municipalities and counties which do not conduct the required biennial inspection, to post the inspected bridges with the required information and to collect all nonreimbursed costs from those municipalities and counties under section 2001.5. No action shall be commenced by the department until the department has notified in writing those municipalities and counties sixty (60) days prior to the required bridge inspection due date of its intention to inspect those bridges which are not inspected by said date. The notice shall include a statement that the department will deduct the nonreimbursed cost of the inspection performed by the department from the respective municipal or county individual allocation under the act of May 21, 1931 (P.L. 149, No. 105), known as "The Liquid Fuels Tax Act," and the act of June 1, 1956 (1955 P.L. 1944, No. 655), referred to as the Liquid Fuels Tax Municipal Allocation Law.

(b) Upon the submission of the preliminary plan or design to the Department of Transportation for any transportation route or program requiring the acquisition of new or additional right-of-way, the Department of Transportation



71 P.S. § 512 (1997)

except in cases involving complaint proceedings under the jurisdiction of the Public Utility Commission shall have the power and its duty shall be to follow the hearing procedures now or hereafter required by the Federal Government for Federal-aid transportation programs pursuant to Titles 23 and 49 of the United States Code as amended and the regulations and procedures thereunder even though the transportation route or program does not contemplate the use of or actually employ Federal funds. At the hearings required by this subsection the Department of Transportation shall consider the following effects of the transportation route or program:

- (1) Residential and neighborhood character and location;
- (2) Conservation including air, erosion, sedimentation, wildlife and general ecology of the area;
- (3) Noise, and air and water pollution;
- (4) Multiple use of space;
- (5) Replacement housing;
- (6) Displacement of families and businesses;
- (7) Recreation and parks;
- (8) Aesthetics;
- (9) Public health and safety;
- (10) Fast, safe and efficient transportation;
- (11) Civil defense;
- (12) Economic activity;
- (13) Employment;
- (14) Fire protection;
- (15) Public utilities;
- (16) Religious institutions;
- (17) Conduct and financing of government including the effect on the local tax base and social service costs;
- (18) Natural and historic landmarks;
- (19) Property values;
- (20) Education, including the disruption of school district operations;
- (21) Engineering, right-of-way and construction costs of the project and related facilities;

71 P.S. § 512 (1997)

(v) relocation or replacement of the facilities of an occupant of property abutting the highway or other transportation facility occasioned by any alteration, construction, change, relocation or replacement described in the foregoing subclauses (i), (ii) and (iii).

Revenue derived from any lease of land originally acquired for highway purposes shall be deposited in the Motor License Fund.

§ (d) The secretary shall have the power to promulgate such reasonable rules and regulations as he deems necessary to carry out the provisions of this section.

(e) Any person aggrieved by findings made or actions taken under clause (15) of subsection (a) or subsection (b) shall have the right to appeal to the Court. This appeal shall be the sole and exclusive judicial remedy available to contest any such findings or actions.

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# **Appendix G**

## **PennDOT Directive 4300-88-29, Act 120 Agency Review**

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4300-88-29

OS-735 (12-78)

COMMONWEALTH OF PENNSYLVANIA  
Department of Transportation  
Harrisburg  
March 3, 1988



SUBJECT: Act 120 Agency Review

TO: District Engineer, Dist. 1-0 District Engineer, Dist. 8-0  
District Engineer, Dist. 2-0 District Engineer, Dist. 9-0  
District Engineer, Dist. 3-0 District Engineer, Dist. 10-0  
District Engineer, Dist. 4-0 District Engineer, Dist. 11-0  
District Engineer, Dist. 5-0 District Engineer, Dist. 12-0  
District Engineer, Dist. 6-0

FROM: Fred W. Bowser, P.E.  
Director  
Bureau of Design

A handwritten signature in cursive script that reads "Fred W. Bowser".

#### EXECUTIVE SUMMARY

This directive describes the agency coordination procedures required for highway project development activities by Act 120 and identifies the agency contacts. It supersedes strike off letter D-20-81, "Act 120 Agency Review" of February 23, 1981. It is applicable to 100% state-funded projects and Federally-aided projects.

It should be noted that sending copies of environmental documents to the Act 120 Review agencies as prescribed in this directive only satisfies the coordination requirements of Act 120. Copies of environmental documents shall also be sent to the state and federal agencies as required by other directives (i.e. Categorical Exclusion Procedures Strike-off letter, etc.).

#### PROCEDURES

##### Projects Qualifying for Categorical Exclusion Approval

All projects qualifying for a Level 1 Categorical Exclusion approval do not require any Act 120 Agency Review. Strike-off letter 4300-87-101, "Categorical Exclusion Procedures for Highway Project Development", defines Level 1.

Projects qualifying for Level 2, 3 or 4 Categorical Exclusion approval require Act 120 Agency review when one (1) or more following conditions are met:

- 1) The project (Federally-aided) requires a Section 4(f) Evaluation and a Section 2002 Evaluation.
- 2) The project (100% State-funded) requires a Section 2002 Evaluation.
- 3) The project requires a public hearing.

When Act 120 Agency Review is required because the project (Federally-aided) required a Categorical Exclusion Evaluation (CEE)/Section 4(f) Evaluation/Section 2002 Evaluation, the Originating Office shall send one (1) copy\* of this document to each agency listed in Exhibit A after the FHWA approves this document for circulation.

The letter transmitting this document shall specify a thirty (30) day review period. This procedure also applies to projects (Federally-aided) qualifying for the Nationwide Programmatic Section 4(f) Evaluations for Minor Section 4(f) Involvements.

When Act 120 Agency Review is required because the project (100% State-funded) requires a CEE/Section 2002 Evaluation, the Originating Office shall send one (1) copy of this document to the Act 120 Agencies after the Director of the Bureau of Design approves this document for circulation. The letter transmitting this document shall specify a thirty (30) day review period.

When Act 120 Agency Review is required because the project involves a public hearing, the Originating Office shall send one (1) copy of the CEE to the Act 120 Agencies. This document shall be submitted to these agencies at the time the first public hearing ad is placed in the newspaper. The hearing ad shall be placed after the environmental document is approved. The cover letter transmitting this document to the agencies shall invite them to make presentation at the hearing and to submit their comments within ten (10) days after the hearing.

When Act 120 Agency Review is required because the project involves a Section 4(f) Evaluation, a Section 2002 Evaluation and a public hearing, the Originating Office shall submit one (1) copy of the document to these agencies at the time the first public hearing ad is placed in the newspaper. The hearing ad shall be placed after the environmental document is approved. The cover letter transmitting this document to the agencies shall invite them to make a presentation at the hearing and to submit their comments within ten (10) days of the hearing.

#### Projects Requiring an Environmental Assessment/Finding of No Significant Impact

Federally-aided projects requiring an Environmental Assessment always require Act 120 Agency Review. The Originating Office shall send one (1) copy of the Environmental Assessment to each agency in Exhibit A when it is made available for public and agency review.

#### Projects Requiring an Environmental Evaluation Report

Projects 100% State-funded requiring approval of an Environmental Evaluation Report (EER) require Act 120 Agency Review when one (1) or more of the following conditions are met:

- 1) The project requires a Section 2002 Evaluation.

\* Exception: In all cases, DER Secretary's Office of Policy shall receive three (3) copies.

2) The project requires a public hearing.

When Act 120 Agency review is required because the project requires a EER/Section 2002 Evaluation, the Originating Office shall send one (1) copy of this document to the Act 120 Agencies after the Director of the Bureau of Design approves the document for circulation. The letter transmitting this document shall specify a thirty (30) day review period.

When Act 120 Agency review is required because the project involves a public hearing, the Originating Office shall send one (1) copy of the EER or EER/Section 2002 Evaluation to the Act 120 Agencies. This document shall be submitted to these agencies at the time the first public hearing ad is placed in the newspaper. The hearing ad shall be placed after the environmental document is approved. The cover letter transmitting this document to the agencies shall invite them to make a presentation at the hearing and to submit their comments within ten (10) days after the hearing.

When Act 120 Agency Review is required because the project involves a EER/Section 2002 Evaluation and a public hearing, the Originating Office shall submit one (1) copy of the document to these agencies at the time the first public hearing ad is placed in the newspaper. The hearing ad shall be placed after the environmental document is approved. The hearing ad shall be placed after the environmental document is approved. The cover letter transmitting this document to the agencies shall invite them to make a presentation at the hearing and to submit their comments within ten (10) days after the hearing.

If you have any questions regarding this directive, please contact Mr. John J. Faiella or Mr. Wayne W. Kober of my staff at network 447-5023.

Attachment



4320/JJF/WWK/js

cc: R.W. Newsome, Jr., 506 Finance Bldg.  
M.A. Marks, FHWA  
D.A. Zazworsky, P.E., Rm. 1220  
W.R. Moyer, P.E., Rm. 1212  
T. Teneyck, P.E.  
M.M. Ryan, P.E., Rm. 1004  
W.E. Bortree, P.E., Rm. 105  
J. Grier, Rm. 1214  
F. Strouse, HIA  
M.G. Patel, P.E., Rm. 1120  
W.J. Clements, P.E., Rm. 509  
G.E. Balbach, P.E., Rm. 1109  
J.J. Faiella, P.E., Rm. 1113  
J.W. Smith, P.E., Rm. 1113  
D.A. Schreiber, P.E., Rm. 1113  
B.A. McCoola, P.E., Rm. 1113  
J.L. Christ, Rm. 1113  
W.W. Kober, Rm. 1113  
All Consultants  
PA Turnpike Commission

Exhibit A

Act 120 Review Agency Contacts

Pennsylvania Department of Agriculture  
Chief, Farmland Preservation Division  
2301 North Cameron Street  
Harrisburg, Pa. 17110

Pennsylvania Fish Commission  
Environmental Services Division  
450 Robinson Lane  
Bellefonte, Pa. 16823-9616

Pennsylvania Department of Environmental Resources  
Secretary's Office of Policy  
P.O. 2063  
Harrisburg, Pa. 17120

Governor's Office of Policy and Planning  
Office of Policy Development  
506 Finance Building  
Harrisburg, Pa. 17120 (3 copies of Documents)

Pennsylvania Department of Community Affairs

Southeast Regional Office  
Regional Director  
908 Philadelphia State Office Building  
Broad and Spring Garden Streets  
Philadelphia, Pa. 19130

Northeast Regional Office  
Regional Director  
360 Scranton State Office Building  
100 Lackawanna Avenue  
Scranton, Pa. 18503

Central Regional Office  
Regional Director  
374 Forum Building  
Harrisburg, Pa. 17120

Southwest Regional Office  
Regional Director  
413 Pittsburgh State Office Building  
300 Liberty Avenue  
Pittsburgh, Pa. 15222

Northwest Regional Office  
Regional Director  
Third Floor, Carlisle Building  
824 Peach Street  
Erie, Pa. 16501

4320/JJF/WWK/js

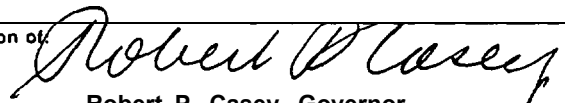
cc: R.W. Newsome, Jr., 506 Finance Bldg.  
M.A. Marks, FHWA  
D.A. Zazworsky, P.E., Rm. 1220  
W.R. Moyer, P.E., Rm. 1212  
T. Teneyck, P.E.  
M.M. Ryan, P.E., Rm. 1004  
W.E. Bortree, P.E., Rm. 105  
J. Grier, Rm. 1214  
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M.G. Patel, P.E., Rm. 1120  
W.J. Clements, P.E., Rm. 509  
G.E. Balbach, P.E., Rm. 1109  
J.J. Faiella, P.E., Rm. 1113  
J.W. Smith, P.E., Rm. 1113  
D.A. Schreiber, P.E., Rm. 1113  
B.A. McCoola, P.E., Rm. 1113  
J.L. Christ, Rm. 1113  
W.W. Kober, Rm. 1113  
All Consultants  
PA Turnpike Commission

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**Appendix H**  
**Executive Order: Interagency River Island Task**  
**Force, October 17, 1990**

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**Commonwealth of Pennsylvania**  
**GOVERNOR'S OFFICE**  
**EXECUTIVE ORDER**

Subject:		Interagency River Island Task Force		Number:	1990-7
Date:	October 17, 1990	Distribution:	B	By Direction of:	 Robert P. Casey, Governor

- WHEREAS, the rivers and streams of Pennsylvania contain numerous islands **which** have never passed into private ownership and continue to be owned by the Commonwealth; and
- WHEREAS, the General Assembly has directed that **no** applications for land patents will be accepted for Islands in navigable rivers or in streams declared by law to be public highways, and that these islands shall remain in Commonwealth ownership; and
- WHEREAS, the unpatented islands owned by the Commonwealth provide critical habitats for wildlife and plants, offer exceptional opportunities for public recreation, and possess important aesthetic values; and
- WHEREAS, these islands are public natural resources of great value which are common property **of** all the people, including generations yet to come; and
- WHEREAS, Article I, Section 27 of the Pennsylvania Constitution directs that the Commonwealth, as trustee of all public natural resources, shall conserve and maintain these resources for the **benefit** of all the people; and
- WHEREAS, the unpatented Islands of the Commonwealth are vulnerable to unauthorized private use and despoliation, and cannot be adequately protected unless responsibility for their management is clearly assigned; and
- WHEREAS, the Department of Environmental Resources has the authority to hold and manage lands in connection with the operation of Pennsylvania's State parks and State forests, the administration of the Pennsylvania Scenic Rivers System, and the construction and maintenance of dams and flood control projects, and is further responsible *for* the regulation of water obstructions and encroachments in the watercourses and floodways of the Commonwealth.

NOW, THEREFORE, I, Robert P. Casey, Governor of the Commonwealth of Pennsylvania, by virtue of the authority vested in me by the Constitution of the Commonwealth of **Pennsylvania** and other laws, do hereby establish the **interagency River Island Task Force**, consisting of representatives from the Department **of** Environmental Resources, the Pennsylvania Game Commission, and the Pennsylvania Fish Commission, which will coordinate action to be taken by these agencies to implement this order: and be it further

RESOLVED, That In furtherance of the purposes and policies of the Pennsylvania Constitution, Article I, Section 27, the Pennsylvania Public Lands Act, The Administrative Code of 1929, and other laws, do hereby order and direct that the **Department of Environmental Resources** is hereby designated as the lead agency and that the following steps shall be taken:

1. The Department of Environmental Resources shall be responsible for the administration of the unappropriated or unpatented islands in the **navigable** rivers and in streams declared by law to be public highways, except as that responsibility may be delegated as set forth below.

2. The Department of Environmental Resources, in conjunction with the Pennsylvania Game Commission and the Pennsylvania Fish Commission, shall undertake an inventory of all unpatented islands in the navigable rivers and in streams declared by law to be **public** highways.

3. The Department of Environmental Resources may, in accordance **with** law, manage and control any islands under its jurisdiction as Pennsylvania's State park or State forest lands for any or all of the purposes for which such lands are held, or in connection **with** the administration of the Pennsylvania Scenic Rivers System or the construction or maintenance of dams or projects for flood control or water conservation, or for any other lawful purpose consistent with the public trust **responsibilities** imposed by Article I, Section 27 of the Pennsylvania Constitution.

4. The Department of Environmental Resources, in the interest of efficiency of administration and in accordance with Section 501 of the Administrative Code, may transfer administrative **jurisdiction** and control over any island or islands to the Pennsylvania Game **Commission**, the Pennsylvania Fish Commission, or any other Commonwealth agency having land management authority, to be managed by that agency in a manner consistent with its statutory **mission** and with the Commonwealth's public trust responsibilities.

5. The Department of Environmental Resources, or any other agency to which administrative jurisdiction and control has been transferred pursuant to this order, may take any action authorized by law, **including** appropriate legal action, to protect the unpatented islands, prevent their **un-**authorized use, or otherwise implement the terms of **this** order; and be it further

RESOLVED, That nothing in this order shall affect the use or administration of islands which previously passed into private ownership by virtue of valid patents, and which may now be privately or publicly owned.



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# **Appendix I**

## **Case Studies**

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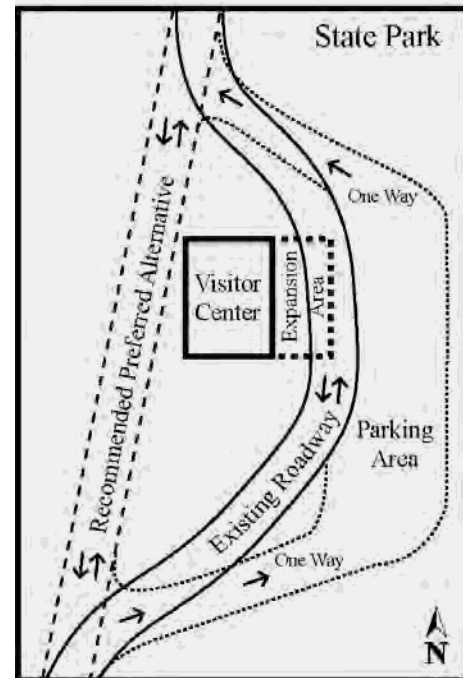
## Case Study 1

### Objectives

To gain an understanding of Net Benefit as it relates to a publicly owned park, recreation area, or wildlife or waterfowl refuge.

### Key Points

A state route through a heavily used, 500-acre state park does not meet current design criteria. The shoulders of the roadway are substandard and its vertical and horizontal geometry are poor. The road currently passes between the park's visitor center and the visitor center's parking lot. This means that visitors must use a pedestrian cross walk, which causes traffic back-ups. In order to bring the roadway up to current standards, and to improve safety for park visitors, the recommended preferred alternative would move the roadway to the opposite side of the visitor's center. Five acres of parkland right-of-way would be acquired from a wooded area of the park for the new roadway. Alternatives that would avoid the park property were analyzed and found not to be prudent and feasible. Park officials are very excited about the roadway relocation. It would allow them to expand their visitor's center to the east and improve the safety of the parking area and pedestrian access to the visitor center. As part of this project, PennDOT will ensure that proper access is maintained to the parking area. The visitor center and existing roadway would remain open through construction, maintaining park access. The park officials submitted a written letter stating that the project would result in a net benefit to the park because the project would improve vehicle and pedestrian access to the park, the safety of the pedestrian would be improved, and the visitor's center would be able to expand closer to the parking lot. The park officials also indicated in writing that the project would not result in the substantial diminishment of the activities, features, or attributes for which the park is protected under Section 4(f).



### Documentation

In this case the *Nationwide/Programmatic Section 4(f) for Transportation Projects that have Net Beneficial Use (Net Benefit) Checklist* should be completed. The park officials (official(s) with jurisdiction) need to have agreed **in writing** that the project would result in a net benefit to the park. Also, it must be demonstrated that there is no feasible and prudent alternative to the use of the Section 4(f) property.

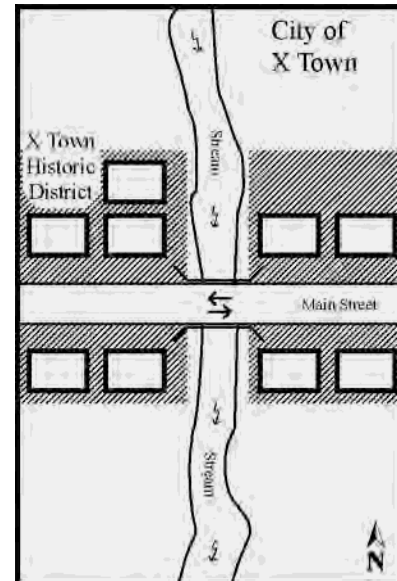
## Case Study 2

### Objectives

To gain an understanding of Net Benefit as it relates to a historic site (historic district).

### Key Points

A deteriorating bridge in the City of Xtown that does not meet current design criteria is slated to be replaced. The bridge is located on the main street of Xtown's downtown shopping district and is used by many pedestrians. The concrete box beam bridge was built in 1921 but has no distinguishable features and was determined ineligible for the National Register. The bridge however, is considered a contributing element to the Xtown Historic District. The bridge cannot be rehabilitated without losing its historic integrity as a contributing element to the Historic District. The new bridge is going to be placed on existing alignment and designed using sensitive features specific to the historical characteristics that the district is eligible for, such as historic lighting and concrete treatments. These features would complement the Historic District. A sidewalk will be included on the bridge. The Pennsylvania Historical and Museum Commission (PHMC) has determined that removing the bridge would have an adverse effect on the Historic District under Section 106, but because the new bridge was designed with features that are sympathetic to and compatible with the Historic District, it would actually create a net benefit for the Historic District.



### Documentation

In this case the *Nationwide/Programmatic Section 4(f) for Transportation Projects that have Net Beneficial Use (Net Benefit) Checklist* should be completed. The PHMC (official with jurisdiction) needs to have agreed **in writing** that the project would result in a net benefit to the Xtown Historic District. Also, it must be demonstrated that there is no feasible and prudent alternative to the use of Section 4(f) property.

### Case Study 3

#### Objectives

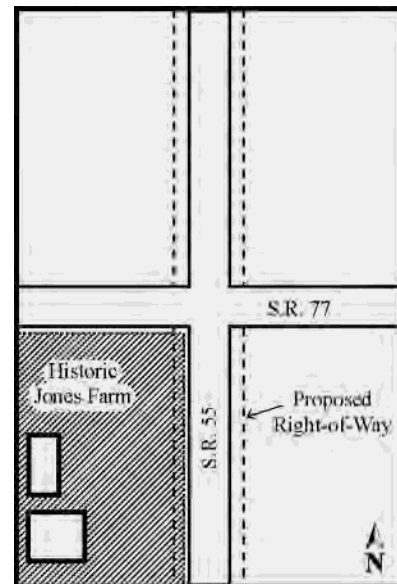
To gain an understanding of *de minimis* as it relates to a historic site.

#### Key Points

The project is to improve the intersection of S.R. 55 and S.R. 77. Minimal new right-of-way will be acquired from the four quadrants of the intersection and along the north and south approaches of S.R. 55. The Jones Farm, a 400 acre National Register eligible property is adjacent to the southwest quadrant of the intersection. The project would acquire 0.5 acre from the historic farm property. The Pennsylvania Historical and Museum Commission (PHMC) concurred in writing with PennDOT's determination of no adverse effect.

#### Documentation

In this case the *Determination of Section 4(f) De Minimis Use/Section 2002 No Adverse Use Checklist* should be completed. The undertaking does not adversely affect the function/qualities of the Section 4(f)/2002 resource on a permanent or temporary basis and the PHMC (official(s) with jurisdiction) have agreed that there is no adverse effect as a result of the project. Coordination must be undertaken with the consulting parties as part of the *de minimis* finding.



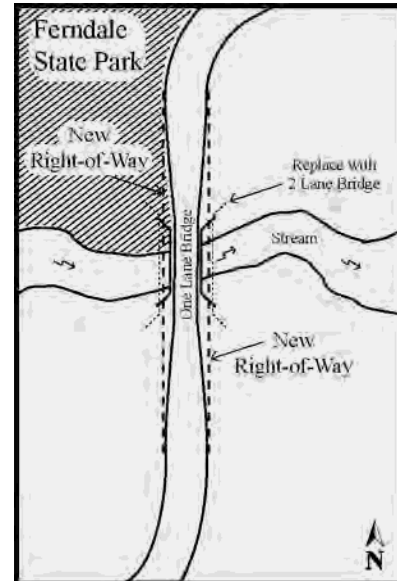
## Case Study 4

### Objectives

To gain an understanding of using both the *De Minimis* Checklist and a Nationwide/Programmatic Section 4(f) Evaluation Checklist.

### Key Points

A one-lane bridge was built in 1932 and is individually eligible for the National Register. This bridge needs to be replaced because of deterioration. The bridge will be replaced with a two lane structure, so some approach roadway work is necessary. The Pennsylvania Historical and Museum Commission (PHMC) has concurred in writing with PennDOT's determination of an adverse effect to the bridge. The northwest quadrant adjacent to the bridge is part of the 600-acre Ferndale State Park. The portion of the park located in the project area contains a portion of a popular hiking/biking trail. Approximately 0.7 acre of new permanent right-of-way will be acquired from the parkland, and the impacted trail will be relocated as part of the project. The park officials (official(s) with jurisdiction) have agreed in writing that the project will not adversely affect the activities, features, or attributes that qualify the park for protection under Section 4(f).



### Documentation

In this case the *Determination of Section 4(f) De Minimis Use/Section 2002 No Adverse Use Checklist* should be completed for the park use. The undertaking will not adversely affect the activities, features, or attributes of the Section 4(f) resource on a permanent or temporary basis and the park officials (official(s) with jurisdiction) have agreed **in writing**. The public was notified of the project by way of a notice in the local newspaper, and their comments were addressed. The *Nationwide/Programmatic Section 4(f) for Projects that Necessitate the Use of a Historic Bridge Checklist* should be completed for the use of the bridge. The Net Benefit Checklist could not be used because this project would require the major alteration of the characteristics (i.e. demolition) that qualify the bridge for the National Register of Historic Places such that the property would no longer retain sufficient integrity to be considered eligible for listing.

## Case Study 5

### Objectives

To gain an understanding of where a Section 4(f) use could occur for an island within a stream and how that determination and documentation is performed.

### Key Points

A highway on new alignment is being considered to provide a bypass to a local town. One of the alternatives being studied would cross a river and would require placement of a pier on an island located in the center of the river. After performing research, it is determined that the island is not privately owned, and is therefore owned by the Commonwealth. The land is administered by DCNR, who allows camping on the island. The river is used by rafting companies and private boaters, who often camp on the island during multi-day boating trips. Based on this assessment, the island is publicly-owned, open to the public, and serves a major recreational function. As such, it is considered to be a Section 4(f) property. Placement of a pier on this property would result in an actual 4(f) use.

### Documentation

Documentation for this use would be highly dependent upon the specifics of the use. If the pier were placed in an area of the island where camping does not occur due to poor terrain, limited access, etc, it is possible that based on coordination with DCNR (the official with jurisdiction), the use could be *de minimis*. In order to be *de minimis*, public comment would need to be gathered and comments addressed, and DCNR would have to agree in writing that the use would not adversely affect the activities, features, and attributes that qualify the island for 4(f) protection. Under other circumstances, it is possible that if the construction of the bridge were done in such a way as to allow for improvements to the island and increased access to the island and its amenities, the project could result in a net benefit. Similar to the *de minimis* finding, this determination would require that DCNR agree in writing that the project resulted in net benefit. The final determination for both decisions would be made by FHWA. Because the project would require an EIS, it would not qualify for the minor use of parks programmatic. If it could not be determined that the impacts were *de minimis* or resulted in a net benefit, an Individual Section 4(f) Evaluation would need to be prepared.



## Case Study 6

### Objectives

To gain an understanding of Temporary Occupancy as it relates to a PFBC designated water trail.

### Key Points

A project crosses the Conodoquinet Creek Water Trail, which is on the PFBC designated water trail list. The structure is being replaced and requires that a temporary causeway must be constructed. Two scenarios are being considered. Under Scenario 1, the piers/abutments will be reconstructed on the same location. Under Scenario 2, the piers/abutments will be constructed on new alignment within the limits of the water trail.

### Documentation

Under Scenario 1, it is determined that the conditions under 23 CFR 774.13(d) will be met. As such, this project would result in a temporary occupancy that does not result in a Section 4(f) use. The Temporary Occupancy Checklist should be completed.

Scenario 2 could result in a Section 4(f) use. Coordination with the PFBC should be conducted to determine the effect to the recreational use of the water trail. Consideration should be given to whether the use would be considered *de minimis* during this consultation. If the requirements for a *de minimis* finding can be met, the *De Minimis* Checklist should be completed.

Note: Where a temporary causeway is constructed, or where the path of the trail is affected (temporarily closed, altered, etc), the use of aids to navigation should be considered in coordination with the PFBC to ensure the safety of recreational boaters. If the recreational function of the waterway cannot be maintained to a degree so as to meet the requirements under 23 CFR 774.13(d), a Section 4(f) use would result, and the Temporary Occupancy Checklist cannot be used.

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## **Appendix J**

### **Section 106 Information**

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## A service of the National Park Service

DISTRIBUTED BY INTERAGENCY RESOURCES DIVISION, WASHINGTON, D. C.

### WHAT ARE THE NATIONAL REGISTER CRITERIA?

The National Register of Historic Places is the nation's roster of properties important in the history, architectural history, archeology, engineering, and culture of the United States, its States and regions, and its communities. The National Register is maintained by the National Park Service, and expanded through nominations by individuals, organizations, State and local governments, and Federal agencies.

The National Register criteria identify the range of resources and kinds of significance that will qualify properties for listing in the National Register. They are applied to each nomination in order to determine whether the nominated property qualifies. The criteria are also applied by Federal agencies, State Historic Preservation Officers (SHPO's) and the National Register staff to unevaluated properties that may be affected by Federal agency actions, to determine whether they are eligible for consideration during agency planning. (See "What is Section 106 Review?"). Local historic preservation commissions and chief elected officials in Certified Local Governments use them in commenting on nominations to the Register, and many local governments have used them as the basis for their own evaluation systems.

#### Some Introductory Questions

**What kinds of properties can be included in the National Register?** The National Register includes buildings and structures such as houses, commercial buildings, and bridges. It also includes sites such as battlefields, parks, and archeological sites. It includes districts — groups of buildings, structures, or sites that make up a coherent whole, such as a neighborhood or an industrial complex. Finally, it includes objects — not portable museum objects, but large properties such as fountains and monuments.

**What kinds of significance must properties have in order to be registered?** Properties important in history, prehistory, architectural history, engineering history, archeology, or culture may be listed in the National Register. In other words, a property associated with the history of a community may be listed, and so can a prehistoric archeological site, an example of a type of architecture, landscape architecture, or an engineering process, or a place of continuing but traditional cultural importance to a community (e.g., a place associated with an American Indian tradition or a well-preserved rural landscape).

**What level of significance must a property have in order to be registered?** The National Register includes properties determined to have significance at the national, State, and local

levels. In other words although the Register is "National," it is designed to include properties of importance to the people of the nation where they live, in their communities, not just great national landmarks. A general store, your community's park, its mainstreet, or its Indian mound, may be just as eligible for inclusion in the National Register as Independence Hall or Gettysburg Battlefield.

The National Register criteria are designed to guide the Keeper of the National Register, State Historic Preservation Officers, Federal agencies, local governments, preservation organizations, and members of the general public in evaluating properties for entry in the National Register. Decisions concerning the significance and integrity of historic properties can be made only when the criteria are applied within related historical contexts.

### **The Criteria**

**Criterion A:** A property may be registered if it is associated with events that have made a significant contribution to the broad patterns of our history.

This means that a property can be registered if it is associated with a particular event — for example, the founding of a community, a battle, or an invention — significant in history at the national, State, or local level. It also means that a property can be registered if it is associated with a series of events or processes that have been significant parts of "broad patterns" of national, State, or local history. Examples of the latter might be the economic growth or decline of a community during a particular period, the development of a transportation communication system, a pattern of agricultural land use, or a period of prehistoric environmental or cultural change.

**Criterion B:** A property may be registered if it is associated with the lives of persons significant in our past.

This criterion means that a property can be registered if it is associated with an individual important in history at the national, State, or local level. Examples include the founder of a community, an important writer or inventor, a political figure, or a community leader.

**Criterion C:** This is a complex criterion with several subparts.

The first subpart provides that a property may be registered if it embodies the distinctive characteristics of a type, period, or method of construction.

This means that a property may be registered if it is a good example of a particular kind of architectural style, a kind of engineering, a kind of landscape architecture, or the informal ("vernacular") forms of construction used in a region during a particular period.

The second subpart provides that a property may be registered if it represents the work of a master.

This allows the registration of properties designed or built by master architects, engineers, landscape architects, or builders. The individual responsible for the property does not necessarily have to be known by name; sometimes the work of a master builder or artisan can

recognized in the vernacular architecture of a region, or even in the prehistoric archeological record, when the name of the individual has long been lost.

The third subpart provides that a property may be registered if it possesses high artistic values.

Such a property might be a building that includes fine murals or stonework, or finely designed landscape, or a site containing particularly impressive prehistoric rock art.

The final subpart provides that a property may be registered if it represents a significant and distinguishable entity whose components may lack individual distinction.

This criteria exception recognizes districts. A district may be significant as a whole even though it may be composed of elements — sites, buildings, structures and objects — that would not qualify individually. The identity of districts results from the grouping of their features and from their interrelationships. For example, a group of warehouses, which do not individually look very significant, may be important as a group because of their collective representation of an architectural style, their collective use of space, or their collective association with a community's industrial development.

**Criterion D:** A property may be registered if it has yielded, or may be likely to yield, information important in prehistory or history.

This criterion is usually applied to archeological sites and districts, representing either historic or prehistoric time periods. It could also be applied to a building, structure, district, or object that could yield important information in architectural history, engineering history, or another field. Information may be important if it can bear on a particularly significant research question about the past, or if it is likely to be useful in addressing research questions that may be developed by archeologists or others in the future.

### **The Criteria Considerations**

The Criteria Considerations are partial exceptions to, or limitations on, the eligibility of properties for the National Register.

**Criteria Consideration A** provides that a religious property is not eligible for the National Register unless it derives primary significance from architectural or artistic distinction or historical importance. Thus a church may not be registered unless it has architectural or artistic value, or is associated with historically important events or processes. The site of a religious rite cannot be registered unless the site, the rite, or both are associated with broader cultural patterns of historical significance.

**Criteria Consideration B** provides that a building or structure removed from its original location is not eligible for the National Register unless it is significant primarily for its architectural value or it is the surviving structure most importantly associated with a historic person or event. This consideration recognizes that the original locations of most historic properties contribute to their significance, so that their relocation may effectively sever them from their significant associations. A structure significant for its architecture without reference to its surroundings may be eligible for the National Register even if it has been moved, however, and

if there is no other building to represent a particular important event or person, a relocated building may be registered.

**Criteria Consideration C** provides that a birthplace or grave is not eligible for the National Register, unless it is that of a historical figure of outstanding importance and there is no other appropriate site or building directly associated with his or her productive life. Thus the birthplace or grave of a community's founder is ordinarily not eligible, but if there is no other place where the founder can be remembered, the birthplace or grave may be registered.

**Criteria Consideration D** provides that cemeteries are not eligible for the National Register, unless they derive their primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events. This consideration excludes many ordinary cemeteries, but many cemeteries are included in the Register. A cemetery containing the remains of many historically important people may be registered, as may one whose tombstones or mortuary architecture are particularly distinctive, or one where particular historical events have occurred. Prehistoric and early historic cemeteries are usually eligible because of their age and their association with events reflective of important historical processes.

**Criteria Consideration E** provides that a reconstructed building is not eligible for the National Register, except under certain exceptional circumstances. A reconstructed building can be registered if the reconstruction is historically accurate, if the building is presented in a dignified manner as part of a restoration master plan, and if no other, original building or structure survives that has the same association. In other words, "stage set" reconstructions of historic places, such as "ghost towns" created out of whole cloth where no historic town ever existed, cannot be placed in the National Register, but buildings or structures can be registered if they are the only properties representing a particular event, person, period, or type of construction.

**Criteria Consideration F** provides that properties that are primarily commemorative in intent cannot be registered, unless design, age, tradition, or symbolic value invest such properties with their own historical significance. Thus the statue of a town's founder cannot be placed on the National Register, unless it is an extremely good example of an artistic or architectural tradition, or associated with traditions or events that give it its own significance, apart from that of the founder.

**Criteria Consideration G** forbids the registration of properties achieving significance within the past 50 years unless such properties are of exceptional importance. Fifty years is a general estimate of the period of time necessary for the development of the historical perspective necessary to evaluate significance. Properties associated with the Depression are now becoming eligible for the National Register, for example, and more and more attention is being given to properties associated with World War II. Properties associated with space exploration are now being listed in the Register even though they are less than 50 years old, because of the exceptional importance of the events with which they are associated.



### Integrity

Besides meeting one or more of the National Register Criteria, a property must also have **integrity of location, design, setting, materials, workmanship, feeling and association** in order to be eligible for the National Register. This means, in effect, that if a property has been seriously compromised by unsympathetic alterations, it may not be eligible for the National Register.

Integrity must be judged with reference to the particular Criterion or Criteria under which a property is thought to be eligible. For example, if a property may be eligible for the information it contains (Criterion D), its "feeling" and "association" may be irrelevant, and it may not need to retain integrity in these areas. It must also be recognized that alterations to a property may themselves have historical or architectural significance, reflecting changing perceptions of style, changing construction techniques, or changing social and cultural processes.

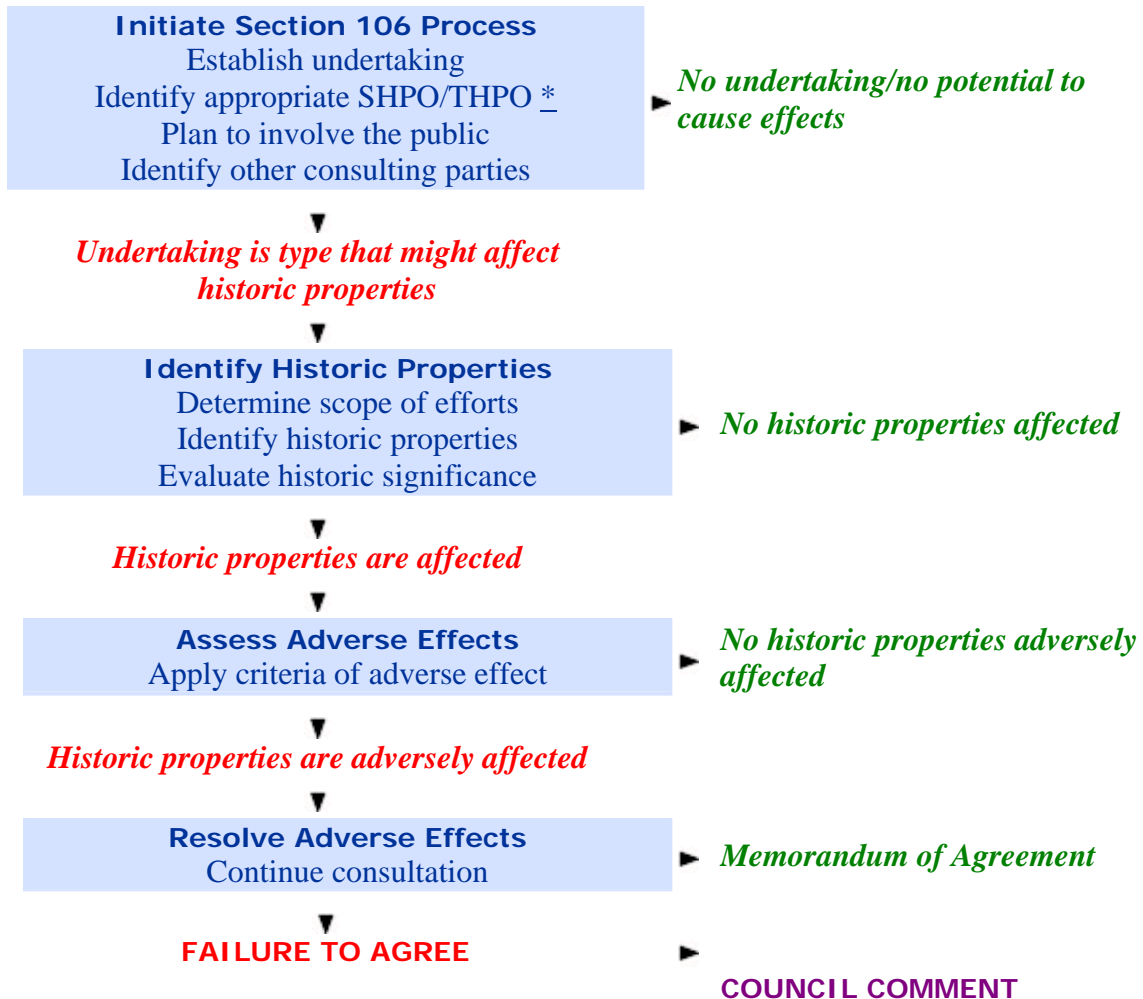
### For Further Information

For a copy of "How to Apply the National Register Criteria" and other information on the National Register, contact:

The National Register of Historic Places  
Interagency Resources Division  
National Park Service  
P.O. Box 37127  
Washington, DC 20013-7127

Prepared by Patricia L. Parker, National Park Service, May 1987

## Section 106 Process



Extensive guidance on Section 106 is provided in the Advisory Council on Historic Preservation website at <http://www.achp.gov/usersguide.html>

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**Appendix K**

**March 1, 2006 PHMC De Minimis Letter and  
Sample Letter of De Minimis Concurrence/Intent  
for Parks**

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U. S. DEPARTMENT  
OF TRANSPORTATION

Pennsylvania Division

228 Walnut Street, Room 508  
Harrisburg, PA 17101-1720

Federal Highway  
Administration

MAR - 1 2006

In reply refer to:  
HEV-PA.1

SAFETEA-LU  
Section 6009  
De Minimis Section 4(f)

Jean Cutler  
PA Historical & Museum Commission  
Commonwealth Keystone Building  
400 North Street, 2<sup>ND</sup> Floor  
Harrisburg, PA 17120-0093

Dear Ms. Cutler:

This letter was prepared in response to the FHWA December 13, 2005 Guidance regarding Section 6009 (a) of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity: A Legacy for Users (SAFETEA-LU) Act Pub. L. 109-59. Section 6009 allows increased flexibility with respect to minor transportation impacts to Section 4(f) related properties, including historic properties. It simplifies the processing and approval of federally funded transportation projects that have a *de minimis* impact on lands protected by Section 4(f). For historic properties, a finding of *de minimis* impact on a historic site may be made by the FHWA when Section 106 consultation results in the written concurrence of the SHPO with the determination of "no adverse effect" or "no historic properties affected".

The 2005 SAFETEA-LU Act has no new Section 106 implications other than written SHPO concurrence with *de minimus* findings. It does require FHWA to notify the SHPO of all active projects involving no historic properties affected (no effect) and no adverse effect findings resulting in *de minimis* 4(f) use where NEPA clearance has not yet been issued.



The December Guidance offers two specific points of relevant direction:

**Question B. How should the concurrence of the SHPO and/or THPO, and ACHP if participating in the Section 106 determination, be documented when the concurrence will be the basis for a *de minimis* finding?**

**Answer:** Section 4(f) [13] requires that the SHPO and /or THPO, and ACHP if participating, must concur in writing in the Section 106 determination of "no adverse effect" or "no historic properties affected." The request for concurrence in the Section 106 determination should include a statement informing the SHPO or THPO, and ACHP if participating, that the FHWA or FTA intends to make a *de minimis* finding based upon their concurrence in the Section 106 determination.

Under the Section 106 regulation, concurrence by a SHPO and/or THPO may be assumed if they do not respond within a specified timeframe, but Section 4(f) explicitly requires their written concurrence. It is recommended that transportation officials share this guidance with the SHPOs and THPOs in their States so that these officials fully understand the implication of their concurrence in the Section 106 determinations and the reason for requesting written concurrence.

**Question C. Certain Section 106 programmatic agreements (PAs) allow the lead agency to assume the concurrence of the SHPO and/or THPO in the determination of "no adverse affect" or "no historic properties affected" if response to a request for concurrence is not received within a period of time specified in the PA. Does such concurrence through non-response, in accordance with a written and signed Section 106 PA, constitute the "written concurrence" needed to make a *de minimis* finding?**

**Answer:** In accordance with the provisions of a written and signed programmatic agreement, if the SHPO and/or THPO does not respond to a request for concurrence in the Section 106 determination within the specified time, the non-response together with the written agreement, will be considered written concurrence in the Section 106 determination that will be the basis of the *de minimis* finding by FHWA or FTA.

FHWA or FTA must inform the SHPOs and THPOs who are parties to such PAs, in writing, that a non-response that would be treated as a concurrence in a "no adverse effect" or "no

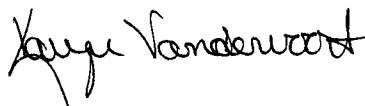


historic properties affected" determination will also be treated as the written concurrence for purposes of the FHWA or FTA *de minimis* impact finding. It is recommended that this understanding of the parties be documented by either appending the written notice to the existing PA, or by amending the PA itself.

According to 2005 Guidance, by transmittal of this letter, the FHWA is notifying your office of our intent to apply the Section 4(f) *de minimis* 4(f) use for those projects where a determination of no historic properties affected (no effect), or no adverse effect have been concurred in by your office or when your office has not replied within the appropriate timeframe with written concurrence.

By the following signature, the SHPO acknowledges it has been notified of the intent of the FHWA to make a *de minimis* findings on these projects.

Sincerely yours,



for James A. Cheatham  
Division Administrator



Representative, State Historic Preservation Office

3/1/06

Date





June 26, 2006

Pennsylvania Department of Conservation and Natural Resources  
Bureau of Forestry  
Forest District #13  
258 Sizerville Road  
Emporium, PA 15834

ATTENTION: Jeanne Wambaugh, District Forest Manager

REFERENCE: PennDOT Bridge Replacement Projects  
Wykoff Run Road Bridges Over Laurel Draft and White Oak Draft  
SR 2001, Sections A05 and A06  
Cameron County, Pennsylvania  
PA Act 120, Section 2002 No Adverse Use Finding  
MT Job # 4942-03 and 4942-04

Dear Ms. Wambaugh:

The Pennsylvania Department of Transportation (PennDOT) is currently performing an environmental analysis for the replacement of the two bridges within the Elk State Forest along Wykoff Run Road. These include the bridge over Laurel Draft (SR 2001, Section A05) and the bridge over White Oak Draft (SR 2001, Section A06) (see Attachment A and Attachment B, respectively). Both of these bridges are located within the Quehanna Wild Area of Elk State Forest in Cameron County, Pennsylvania.

The bridges will be replaced with precast box culverts on existing alignment. Small amounts of right-of-way will be required to widen the bridges to meet current PennDOT design criteria. Copies of the proposed bridge designs are enclosed (see Attachment C and Attachment D, respectively). These designs depict the area of required right-of-way, and associated temporary construction easements. The replacement of the bridge over Laurel Draft would require acquisition of approximately 0.18-acre of new right-of-way and about 0.17-acre of land for a temporary construction easement. The replacement of the bridge over White Oak Draft would require acquisition of approximately 0.12-acre of new right-of-way and about 0.29-acre of land for a temporary construction easement.

Under PA Act 120 of 1970 the Elk State Forest is considered a "Section 2002 resource". Section 2002 of PA Act 120 requires that studies be done to avoid, minimize, and mitigate for impacts to recreation areas, wildlife and/or waterfowl refuges, historic sites, State forest land, State game land, wilderness areas or public parks. Both bridge replacement projects would require minimal property acquisition, and would help maintain access within and throughout the State forest for users. In

addition, the Quehanna Trail, located at the Laurel Draft site, would be maintained during and after construction. As such, these projects would not adversely affect the activities, features, and attributes that qualify Elk State Forest for protection under Section 2002 of Act 120. Based on this assessment, PennDOT intends to make a "Section 2002 No Adverse Use" finding.

In order to make the Section 2002 No Adverse Use finding, we require your written concurrence that both of these projects would not adversely affect the activities, features, and attributes of Elk State Forest and the Quehanna Wild Area. To acknowledge that you have been notified of our intent to apply the Section 2002 No Adverse Use finding, and your agreement that the activities, features, and attributes of the State Forest will not be adversely affected, please sign in the area below, and return the signed copy in the self-addressed, stamped envelope provided.

Should you have any questions, we would be happy to meet with you on site or at your office at your earliest convenience. If you would be interested in meeting, or would like additional information, please feel free to contact me at 717-540-6040, or Richard Ward, PennDOT District 2-0 Assistant Environmental Manager at 814-765-0674.

Sincerely,

McCormick Taylor, Inc.

Camille A. Otto  
Environmental Planner

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District Forest Manager, DCNR

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Date

Enclosures as noted

Cc: Richard Ward, PennDOT District 2-0  
Jennie Granger, McCormick Taylor, Inc.

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## **Appendix L**

### **Sample PennDOT Checklists**

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The CE/EA Expert System Help Database contains the most up-to-date versions of the checklists along with current guidance.

<http://www.dot2.state.pa.us/ceea/ceeamain.nsf>

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use  
Section 2002 No Adverse Use**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

☐ EIS

☐ EA

☐ CE

☐ EER

☐ ED

**IDENTIFICATION OF SECTION 4(f)/2002 PROPERTY(s):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**NAME AND TITLE OF OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:**

**NAME AND TITLE OF CONTACT PERSON IF DIFFERENT THAN ABOVE:**

**APPLICABILITY DETERMINATION for public parks, recreation areas, wildlife and/or waterfowl refuges, State forest land, and State game land:**

1. Does the project involve a minor take of land from the Section 4(f) property? ☐ YES ☐ NO

Identify the total acreage of the property: \_\_\_\_\_

Describe the use of land from the property (identify amount of the property to be used, including temporary and permanent acquisition):

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use  
Section 2002 No Adverse Use**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

2. Does the project adversely affect the qualities, activities, features, or attributes of the resource that qualify it for protection under Section 4(f) or Section 2002? ☐ YES ☐ NO

Describe the affect to the qualities, activities, features, or attributes of the resource that qualify it for protection:

3. Has the official with jurisdiction over the property concurred in writing with the FHWA's and/or PennDOT's determination that the project will not adversely affect the property? ☐ YES ☐ NO

If Yes, identify the official with jurisdiction and date of concurrence and attach written concurrence: \_\_\_\_\_

4. Has the official with jurisdiction over the property been informed of FHWA's and/or PennDOT's intent to make a de minimis/no adverse use finding? ☐ YES ☐ NO

If Yes, attach correspondence.

5. Has the public been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the resource? ☐ YES ☐ NO

Identify opportunity for public comment:

**APPLICABILITY DETERMINATION for historic properties:**

1. Does the project result in a "No Adverse Effect" or a "No Historic Properties Affected" determination on the historic property as defined by Section 106 of the National Historic Preservation Act and its regulations? ☐ YES ☐ NO

Identify the effects determination for the resource: \_\_\_\_\_



**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use  
Section 2002 No Adverse Use**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

Describe the use of land from the property (identify amount of the property to be used, including temporary and permanent acquisition):

2. Has the SHPO, THPO, and/or ACHP, if participating in the Section 106 consultation, concurred in writing with the effects determination? ☐ YES ☐ NO

If Yes, identify date of concurrence and attach written concurrence: \_\_\_\_\_  
(*Note: On March 1, 2006 the SHPO concurred that a "No Historic Properties Affected" and a "No Adverse Effect" finding under Section 106 is equivalent to de minimis. Receipt of the SHPO's concurrence with the FHWA's finding, or a non-response after the specified time qualifies as the necessary correspondence from the official with jurisdiction over Section 106 properties.*)

3. Has the SHPO, THPO, and/or ACHP, if participating in the Section 106 consultation, been informed of FHWA's and/or PennDOT's intent to make a de minimis impact/no adverse use finding based on their written concurrence in the Section 106 determination? ☐ YES ☐ NO

If Yes, attach correspondence.  
(*Note: In a letter dated March 1, 2006, PHMC documented their written understanding that PennDOT will make a de minimis finding for historic resources where a Section 106 effects determination of No Adverse Effect or No Historic Properties Affected is made. Therefore, individual notices of the intent to apply the de minimis finding for historic resources are no longer required in Pennsylvania if the SHPO is the official with jurisdiction.*)

4. Have the views of the consulting parties participating in the Section 106 consultation been considered? (Attach relevant correspondence and any necessary responses to consulting party comments) ☐ YES ☐ NO

**ALTERNATIVES ANALYSIS:**

1. After comparing the magnitude of impacts, explain why it is sensible to use the Section 4(f)/2002 property (Indicate those that apply and describe as appropriate):

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use  
Section 2002 No Adverse Use**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

☐ Impacts to other environmental/cultural/social resources would occur.  
Explain:

☐ Project complexity would increase resulting in greater construction and maintenance costs.  
Explain:

☐ Other.  
Explain:

2. Summarize the measures taken to minimize harm. This would include, if applicable, design shifts to minimize impacts, use of retaining walls, and other mitigation measures.

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use  
Section 2002 No Adverse Use**

<b>County</b>	<b>State Route</b>	<b>Section</b>
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<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
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3. Summarize the impacts to other Section 2002 resources that would occur if the use of the public park, recreation area, wildlife or waterfowl refuge, or historic site was avoided. Other Section 2002 resources include the following:

(1) residential and neighborhood character and location, (2) conservation including air, erosion, sedimentation, wildlife and general ecology of area, (3) noise, and air and water pollution, (4) multiple use of space, (5) replacement housing, (6) displacement of families and business, (7) aesthetics, (8) public health and safety, (9) fast, safe and efficient transportation, (10) civil defenses, (11) economic activity, (12) employment, (13) fire protection, (14) public utilities, (15) religious institutions, (16) conduct and financing of government including the effect on the local tax base and social service costs, (17) property values, (18) education, including the disruption of school district operations, (19) engineering, right-of-way and construction costs of the project and related facilities, (20) maintenance and operating costs of the project and related facilities, and (21) operation and use of existing transportation routes and programs during construction and after completion.

**SUMMARY AND DETERMINATION:**

The project involves a *de minimis/no adverse use* on the Section 4(f)/2002 property as evidenced by a No Adverse Effect or No Historic Properties Affected finding from the SHPO/THPO or as evidenced through the minimization of harm to a park, recreation land, or wildlife and waterfowl refuge as a result of mitigation to or avoidance of impacts to the qualifying characteristics and/or the functions of the resource. Based on the scope of the undertaking; the fact that the undertaking does not adversely affect the function/qualities of the Section 4(f)/2002 property on a permanent or temporary basis; and with agreement from the official with jurisdiction, the proposed action constitutes a *de minimis/no adverse use* and the alternatives analysis is considered satisfied.

**Pennsylvania Department of Transportation**  
**On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) De minimis Use**  
**Section 2002 No Adverse Use**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
Name and Organization of Preparer _____		Date: _____
Project Manager _____		Date: _____
Environmental Manager _____		Date: _____
PennDOT, BOD _____		Date: _____
FHWA _____		Date: _____

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation  
for Projects that Necessitate the Use of Historic Bridges**

County	State Route	Section
Project Name	FPN	MPMS
<input type="checkbox"/> EA	<input type="checkbox"/> CE	<input type="checkbox"/> EER
		<input checked="" type="checkbox"/> ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(s):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**APPLICABILITY DETERMINATION (check the appropriate activity describing the undertaking):**

1. Will the bridge be replaced or rehabilitated with Federal funds? ☐ YES ☐ NO
2. Will the project require the use of a historic bridge structure which is on or is eligible for listing or listed on the National Register of Historic Places? ☐ YES ☐ NO
3. Has the bridge been determined to be a National Historic Landmark?  
(If Yes, this programmatic does not apply) ☐ YES ☐ NO
4. Has a Memorandum of Agreement/Programmatic Agreement been executed pursuant to 36 CFR 800.5? ☐ YES ☐ NO
5. Are any Section 4(f) properties other than the historic bridge used by the project? ☐ YES ☐ NO  
(If yes, check the situation that applies below)  
☐ a. The project only involves/uses Section 4(f) property(s) that qualify under one of the Nationwide/Programmatic Section 4(f) criteria or under the de minimis, temporary use, or non-applicability checklists. (**Note:** See Alternative Procedures Guidance (h). If applicable, identify the other property(s) here and attach the forms together)

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation  
for Projects that Necessitate the Use of Historic Bridges**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

- ☐ b. The project involves one or more use(s) of Section 4(f) property(s) that do NOT qualify under one of the Nationwide/Programmatic Section 4(f) criteria or under the de minimis, temporary use, or non-applicability checklists. (*Note*: An Individual Section 4(f) Evaluation is required)

6. Are there other Section 4(f) properties in the project area that will not be used by the undertaking? List the properties: ☐ YES ☐ NO

**ALTERNATIVES CONSIDERED/FINDINGS:**

1. Has the **Do Nothing Alternative** been determined to ignore the basic transportation need and not be feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO

☐ **Maintenance** – The do nothing alternative does not correct the situation that causes the bridge to be considered structurally deficient or deteriorated. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate.

☐ **Safety** – The do nothing alternative does not correct the situation that causes the bridge to be considered deficient. Because of these deficiencies, the bridge poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.

☐ **Other:**

2. Have investigations been conducted to construct a bridge on a new location/alignment or parallel to the old bridge? ☐ YES ☐ NO

Has it been determined that for one or more of the following reasons, building on new location/alignment without using the old bridge is not feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation  
for Projects that Necessitate the Use of Historic Bridges**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

- ☐ **Terrain** – A new bridge at another site will result in extraordinary bridge and approach engineering and construction difficulty or cost or extraordinary disruption to established traffic patterns.
- ☐ **Adverse Social, Economic, or Environmental Effects** – A new bridge away from the present site would result in social, or environmental impact of extraordinary magnitude.
- ☐ **Engineering and Economy** – Cost and engineering difficulties reach extraordinary magnitude. Factors supporting this conclusion include significantly increased roadway and structure costs, serious foundation problems, or extreme difficulty in reaching the new site with construction equipment. Additional design and safety factors considered include minimum design standards or requirements of various permits such as involved with navigation, pollution, and the environment.
- ☐ **Preservation of Old Bridge** – It is not feasible and prudent to preserve the existing bridge at the existing location or a new location. This could occur when the bridge is beyond rehabilitation for a transportation or an alternative use, or when no responsible party can be located to maintain and preserve the bridge through the Bridge Marketing Plan, or when a permitting authority requires removal or demolition of the old bridge.

3. Have rehabilitation measures been studied? ☐ YES ☐ NO

Has it been determined that for one or more of the following reasons, rehabilitation without affecting the historic integrity of the bridge is not feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO

- ☐ **Structurally Deficient** - The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable load requirements without affecting the historic integrity of the bridge.
- ☐ **Geometrically Deficient** - The bridge is seriously deficient geometrically and cannot be widened (horizontally and/or vertically) to meet the minimum required capacity of the highway system on which it is located without affecting the historic integrity of the bridge.
- ☐ **Approach(es) Geometrically Deficient** – The approach(es) is seriously deficient due to horizontal or vertical curves that do not meet the minimum design criteria.

**MEASURES TO MINIMIZE HARM:**

1. Does the project include all possible planning to minimize harm? ☐ YES ☐ NO  
Because (Indicate all that apply. A minimum of one must be selected to be applicable):

- ☐ a. For bridges that are to be **rehabilitated**, the historic integrity of the bridge will be preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation  
for Projects that Necessitate the Use of Historic Bridges**

**County** \_\_\_\_\_ **State Route** \_\_\_\_\_ **Section** \_\_\_\_\_

**Project Name** \_\_\_\_\_ **FPN** \_\_\_\_\_ **MPMS** \_\_\_\_\_

☐ b. For bridges that are to be **rehabilitated** to the point that the historic integrity is affected or that are to be **replaced**, adequate records will be made of the bridge through Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation.

☐ c. For bridges that are to be **replaced**, the existing bridge will be made available for alternative use (ie PennDOT's Historic Bridge Marketing program), provided a responsible party agrees to maintain and preserve the bridge.

2. Are the measures to minimize harm from the Section 106 Memorandum Of Agreement/Programmatic Agreement incorporated into the project?  
(attach executed MOA/PA)

☐ YES ☐ NO

**DETERMINATION OF APPLICABILITY:**

The applicability of the Programmatic Section 4(f) has been based on the contents of this form and other supporting documentation, as necessary, including field view(s) conducted on:

**SUMMARY AND APPROVAL:**

The subject project meets all of the applicability criteria set forth in the Programmatic Section 4(f) Evaluation issued on August 22, 1983. All alternatives set forth in the subject programmatic have been fully evaluated and the findings made are clearly applicable to this project. There are **no feasible and prudent alternatives** to the use of the historic bridge.

The project includes all possible planning to minimize harm. FHWA will assure that the measures to minimize harm are incorporated into the project through its oversight of the federal-aid highway program. PennDOT will include the measures to minimize harm as environmental commitments in the applicable NEPA document for the project. PennDOT will also provide a copy of this evaluation to other parties upon request.

All supporting documentation is attached or referenced.

The project and its use of the historic bridge, fall within and satisfy all of the criteria as set forth in the Department of Transportation, Federal Highway Administration – *Nationwide/Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges*, dated August 22, 1983.

Name and Organization of Preparer \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

Environmental Manager \_\_\_\_\_ Date: \_\_\_\_\_

PennDOT, BOD \_\_\_\_\_ Date: \_\_\_\_\_

FHWA \_\_\_\_\_ Date: \_\_\_\_\_



**Pennsylvania Department of Transportation**  
**On Behalf of the Federal Highway Administration – Pennsylvania Division Office**  
**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvements**  
**with Historic Sites**

County	State Route	Section
Project Name	FPN	MPMS
<input type="checkbox"/> EA	<input type="checkbox"/> CE	<input type="checkbox"/> EER
		<input checked="" type="checkbox"/> ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(s):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**APPLICABILITY DETERMINATION:**

1. Is the proposed project designed to improve the operational characteristics, safety, and/or physical condition of the existing highway facility on essentially the same alignment? ☐ YES ☐ NO
2. Is the scope of the project one of the following? (Check all that apply) ☐ YES ☐ NO
  - ☐ a. 4R (resurfacing, restoration, rehabilitation, and reconstruction).
  - ☐ b. Safety improvement (e.g. shoulder widening, correction of substandard curves & intersections).
  - ☐ c. Traffic operation improvement (e.g. signalization, channelization, turning or climbing lanes).
  - ☐ d. Bicycle and pedestrian facilities.
  - ☐ e. Bridge replacement, where the bridge is not historic.
  - ☐ f. Addition of lanes.
3. Is the site located adjacent to the existing highway? ☐ YES ☐ NO

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvements  
with Historic Sites**

County	State Route	Section
Project Name	FPN	MPMS
4. Does the project require removal or adverse alteration of historic buildings, structures, or objects on the historic site or of a contributing element within a historic district? (If YES, meaning the project requires removal or adverse alteration, this Programmatic Section 4(f) does not apply.)		<input type="checkbox"/> YES <input type="checkbox"/> NO
5. Does the project require disturbance or removal of archaeological resources that are important for preservation in place? (If YES, meaning the project requires removal of a resource important to preserve in place, this Programmatic Section 4(f) does not apply.)		<input type="checkbox"/> YES <input type="checkbox"/> NO
6. Has the project been determined to fall within one of the below categories in accordance with Section 106? (Indicate which applies):		<input type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/> No Historic Properties Affected [36 CFR 800.4(d)(1)]/Stipulation C.1, C.2, and D.2 of MPPA*		
<input type="checkbox"/> No Adverse Effect [36 CFR 800.5(b)]/Stipulation D.3 of MPPA*		

*\*refers to Minor Project Programmatic Agreement, 1996*

**ALTERNATIVES CONSIDERED/FINDINGS:**

- Has the Do Nothing Alternative been documented NOT to be feasible and prudent? Because (Indicate all that apply. A minimum of one Conclusion must be selected to be applicable):
 

☐ YES    ☐ NO

☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)

☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)
- Have improvements which avoid (do not use) adjacent Section 4(f) property(s) been considered?
 

☐ YES    ☐ NO
- Has it been determined that the Avoidance Alternative(s) through roadway design or transportation management system techniques is not feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable):
 

☐ YES    ☐ NO

☐ The alternative cannot be constructed in accordance with sound engineering practices. (Not feasible)

☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvements  
with Historic Sites**

**County** \_\_\_\_\_ **State Route** \_\_\_\_\_ **Section** \_\_\_\_\_

**Project Name** \_\_\_\_\_ **FPN** \_\_\_\_\_ **MPMS** \_\_\_\_\_

☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)

4. Has it been determined that the Avoidance Alternative(s) on new alignment is not feasible and prudent? Because (Indicate all that apply: A minimum of one must be selected to be applicable): ☐ YES ☐ NO

☐ The alternative cannot be constructed in accordance with sound engineering practices. (Not feasible)

☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)

☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)

**MEASURES TO MINIMIZE HARM:**

1. Does the project include all possible planning to minimize harm? ☐ YES ☐ NO  
(Briefly describe the Mitigation Measures below):

2. Has the Determination of Effects been successfully coordinated per 36 CFR 800 and/or the MPPA? (i.e., is there a fully executed MOA/PA or Stipulation C/D determination? If YES, attach the MOA/PA/Stipulation C/D determination) ☐ YES ☐ NO

**DETERMINATION OF APPLICABILITY:**

The applicability of the Programmatic Section 4(f) has been based on the contents of this form and other supporting documentation, as necessary, including field views(s) conducted on

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvements  
with Historic Sites**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

**SUMMARY AND APPROVAL:**

The project meets all of the applicability criteria set forth in the Final Nationwide/Programmatic Section 4(f) Evaluation issued on August 19, 1987. All alternatives set forth in the programmatic have been evaluated and the findings made are clearly applicable to this project. There are **no feasible and prudent alternatives** to the use of the Section 4(f) property.

The project includes all possible planning to minimize harm. FHWA will assure that the measures to minimize harm are incorporated into the project through its oversight of the federal-aid highway program.

PennDOT will include the measures to minimize harm as environmental commitments in the applicable NEPA document for the project. PennDOT will also provide a copy of this evaluation to other parties upon request.

This project and its involvement with the Section 4(f) property(s), fall within and satisfy all of the criteria as set forth in the Final *Nationwide/Programmatic Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Historic Sites*, dated August 19, 1987.

Name and Organization of Preparer _____	Date: _____
Project Manager _____	Date: _____
Environmental Manager _____	Date: _____
PennDOT, BOD _____	Date: _____
FHWA _____	Date: _____

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with  
Public Parks, Recreation Lands and Wildlife and Waterfowl Refuges**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

☐ EA

☐ CE

☐ EER

☐ ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(s):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**NAME AND TITLE OF OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:**

**NAME AND TITLE OF CONTACT PERSON IF DIFFERENT THAN ABOVE:**

**APPLICABILITY DETERMINATION (check the appropriate activity describing the undertaking):**

1. Is the proposed project designed to improve the operational characteristics, safety, and/or physical condition of the existing highway facility on essentially the same alignment? ☐ YES ☐ NO
2. Is the scope of the project one or more of the following? ☐ YES ☐ NO
  - ☐ a. 4R (resurfacing, restoration, rehabilitation, and construction)
  - ☐ b. Safety improvement (e.g. shoulder widening, correction of substandard curves & intersections)
  - ☐ c. Traffic operation improvement (e.g. signalization, channelization, turning or climbing lanes)
  - ☐ d. Bicycle and pedestrian facilities
  - ☐ e. Bridge replacement
  - ☐ f. Addition of lanes

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with  
Public Parks, Recreation Lands and Wildlife and Waterfowl Refuges**

County	State Route	Section
Project Name	FPN	MPMS
3.	Is the land to be affected publicly owned?	<input type="checkbox"/> YES <input type="checkbox"/> NO
	Is the land located adjacent to the existing highway?	<input type="checkbox"/> YES <input type="checkbox"/> NO
4.	Does the amount and location of the land to be used impair the use of the remaining Section 4(f) property, in whole or in part, for its intended purpose?	<input type="checkbox"/> YES <input type="checkbox"/> NO
5.	Has the official with jurisdiction over the Section 4(f) property concurred in the above statement in writing? (as evidenced by the signature on this form or the attached)	<input type="checkbox"/> YES <input type="checkbox"/> NO
	Does this documentation from the official with jurisdiction address the size, use, and/or other relevant characteristics of the property?	<input type="checkbox"/> YES <input type="checkbox"/> NO
6.	The total size of the Section 4(f) site is	acre
	The amount to be permanently acquired is	acre
	If applicable, the amount of land to be returned to the property is	acre
	[(resulting in          acre net <input type="checkbox"/> increase / <input type="checkbox"/> decrease (check one))]	
7.	Does the size of "take" fall within one of the below categories? (If No, this programmatic is not applicable to the undertaking. If Yes, indicate which applies):	<input type="checkbox"/> YES <input type="checkbox"/> NO
	<input type="checkbox"/> Total site = < 10 acres and area taken ≤ 10% of total site	
	<input type="checkbox"/> Total site = 10 -100 acres and area taken ≤ 1 acre	
	<input type="checkbox"/> Total site = > 100 acres and area taken ≤ 1% of total site	
8.	Based on a preliminary assessment, does it appear that the proximity impacts of the project on the remaining Section 4(f) property would substantially impair the use of such property for its intended purpose? If yes, consult with FHWA.	<input type="checkbox"/> YES <input type="checkbox"/> NO
9.	If No in #8 above, does the documentation relative to this issue address impacts to noise, air, and water pollution, wildlife and habitat effects, aesthetic values, and/or other impacts deemed relevant to the qualities of the park, recreation land, or wildlife and waterfowl refuge?	<input type="checkbox"/> YES <input type="checkbox"/> NO
10.	Has the official with jurisdiction over the Section 4(f) property agreed in writing with the assessment of impacts and proposed mitigation? (attach correspondence)	<input type="checkbox"/> YES <input type="checkbox"/> NO
11.	Have Federal funds [LWCF/6(f)] been used in the acquisition of, or for any improvements to, the Section 4(f) property?	<input type="checkbox"/> YES <input type="checkbox"/> NO

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with  
Public Parks, Recreation Lands and Wildlife and Waterfowl Refuges**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
If Federal funds have been used in the purchase of, or for any improvements to, the Section 4(f)/Section 6(f) property, has the appropriate Federal agency been coordinated with?		<input type="checkbox"/> YES <input type="checkbox"/> NO
Is the Federal agency in agreement with the land conversion or transfer?		<input type="checkbox"/> YES <input type="checkbox"/> NO
12. Does the project only involve/use Section 4(f) property(s) that qualify under any of the Nationwide/Programmatic Section 4(f) criteria or the de minimis, temporary use, or non-applicability checklists?		<input type="checkbox"/> YES <input type="checkbox"/> NO

*(Note: The project could include other Section 4(f) property(s) that qualify under another Nationwide/Programmatic Section 4(f) or the de minimis, temporary use, or non-applicability checklist (See Alternative Procedures Guidance (h)). If applicable, identify the other property(s) here and attach the forms together)*

Other 4(f) properties involved:

**ALTERNATIVES CONSIDERED/FINDINGS:**

- Has the Do Nothing Alternative been documented NOT to be feasible and prudent? Because (Indicate all that apply. A minimum of one conclusion must be selected to be applicable):
 

☐ YES    ☐ NO

☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)  
  
☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)
- Have improvements which avoid (do not use) the adjacent Section 4(f) property(s) been considered?
 

☐ YES    ☐ NO
- Has it been determined that it is not feasible and prudent to avoid Section 4(f) property(s) by construction on new location/alignment?
 

☐ YES    ☐ NO

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with  
Public Parks, Recreation Lands and Wildlife and Waterfowl Refuges**

**County** \_\_\_\_\_ **State Route** \_\_\_\_\_ **Section** \_\_\_\_\_

**Project Name** \_\_\_\_\_ **FPN** \_\_\_\_\_ **MPMS** \_\_\_\_\_

Because (Indicate all that apply. A minimum of one must be selected to be applicable):

- ☐ The alternative cannot be constructed in accordance with sound engineering practices.  
(Not feasible)
- ☐ It would not solve existing transportation, safety, or maintenance problems  
(i.e. project needs). (Not prudent)
- ☐ It would result in substantial adverse social, economic, or environmental impacts,  
and/or costs which would be truly unusual or unique, or of extraordinary magnitude  
when compared with the proposed use of Section 4(f) property(s). (Not prudent)

4. Has it been determined that it is not feasible and prudent to avoid Section 4(f)  
property(s) by roadway design, or transportation management techniques? ☐ YES ☐ NO

Because (Indicate all that apply. A minimum of one must be selected to be applicable):

- ☐ The alternative cannot be constructed in accordance with sound engineering practices.  
(Not feasible)
- ☐ It would not solve existing transportation, safety, or maintenance problems  
(i.e. project needs). (Not prudent)
- ☐ It would result in substantial adverse social, economic, or environmental impacts,  
and/or costs which would be truly unusual or unique, or of extraordinary magnitude  
when compared with the proposed use of Section 4(f) property(s). (Not prudent)

**MEASURES TO MINIMIZE HARM:**

1. Does the project include all possible planning to minimize harm? ☐ YES ☐ NO

Mitigation measures include one or more of the following: ☐ YES ☐ NO  
(Indicate all that apply or attach description of measures. A minimum of  
one must be selected to be applicable):

- ☐ Replacement of lands used with lands of reasonably equivalent usefulness and location, and at  
least comparable value.
- ☐ Replacement of facilities impacted by the project including sidewalks, paths, benches, lights,  
trees, and other facilities.
- ☐ Restoration and landscaping of disturbed areas.
- ☐ Incorporation of design features or habitat features.
- ☐ Payment of the fair market value of the land and implements taken or improvements to the  
remaining Section 4(f) site equal to the fair market value of the land and implements taken.



**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Minor Involvement with  
Public Parks, Recreation Lands and Wildlife and Waterfowl Refuges**

**County** \_\_\_\_\_ **State Route** \_\_\_\_\_ **Section** \_\_\_\_\_

**Project Name** \_\_\_\_\_ **FPN** \_\_\_\_\_ **MPMS** \_\_\_\_\_

☐ Other agreed to measure(s) (please describe): \_\_\_\_\_

**DETERMINATION OF APPLICABILITY:**

The applicability of the Programmatic Section 4(f) has been based on the contents of this form and other supporting documentation, as necessary, including field view(s) conducted on:

**SUMMARY AND APPROVAL:**

The project meets all of the applicability criteria set forth in the Final Nationwide Section 4(f) Evaluation issued on December 23, 1986. All alternatives set forth in the programmatic have been evaluated and the findings made are clearly applicable to this project. There are **no feasible and prudent alternatives** to the use of the Section 4(f) property.

The project includes all possible planning to minimize harm. FHWA will assure that the measures to minimize harm are incorporated into the project through its oversight of the federal-aid highway program. PennDOT will include the measures to minimize harm as environmental commitments in the applicable NEPA document for the project. PennDOT will also provide a copy of this evaluation to other parties upon request.

This project and its involvement with the Section 4(f) property, fall within and satisfy all of the criteria as set forth in the Final *Nationwide/Programmatic Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects With Minor Involvements With Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges*, dated December 23, 1986.

Official with Jurisdiction \_\_\_\_\_ Date: \_\_\_\_\_  
(optional: other documentation such as attached letters or meeting minutes may be used in replacement of signing this page) Check here if other documentation is attached. ☐

Name and Organization of Preparer \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

Environmental Manager \_\_\_\_\_ Date: \_\_\_\_\_

PennDOT, BOD \_\_\_\_\_ Date: \_\_\_\_\_

FHWA \_\_\_\_\_ Date: \_\_\_\_\_

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects  
that have Net Beneficial Use (Net Benefit)**

**County** **State Route** **Section**

**Project Name** **FPN** **MPMS**

☐ EIS

☐ EA

☐ CE

☐ EER

☐ ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(s):**

**FOR PARKS, IDENTIFY KEY COMPONENTS OF ANY SECTION 4(f) MANAGEMENT PLAN  
(if exists):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**NAME AND TITLE OF OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:**

**NAME AND TITLE OF CONTACT PERSON IF DIFFERENT THAN ABOVE:**

**APPLICABILITY DETERMINATION:**

1. The scope of the project will use one or more of the following Section 4(f) property(s): (check)

☐ a. Publicly-owned Park, Recreation Area, Wildlife or Waterfowl Refuge

☐ b. Historic Property

**Pennsylvania Department of Transportation**  
**On Behalf of the Federal Highway Administration – Pennsylvania Division Office**  
**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects**  
**that have Net Beneficial Use (Net Benefit)**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

2. Does this project and/or associated mitigation directly benefit the Section 4(f) property being “used”?

☐ YES    ☐ NO

**Parks, Recreation Area, Wildlife or Waterfowl Refuge**

3. Does the project require major alteration of the characteristics of the Section 4(f) property? (Refer to Management Plan if applicable):

☐ YES    ☐ NO

4. Have all appropriate measures to minimize harm and subsequent mitigation that preserves and enhances those activities, features, and attributes of the Section 4(f) property that originally qualified the resource for Section 4(f) protection been incorporated into the project’s design?

☐ YES    ☐ NO

List the mitigation/minimization measures that enhance the Section 4(f) property that have been incorporated into the project’s design.

5. Has the official with jurisdiction over the Section 4(f) property concurred (or conditionally concurred) in the above statement in writing? (as evidenced by their signature on this form or attached correspondence)

☐ YES    ☐ NO

**Historic Properties**

**Structures or above ground features**

6. Does the project require major alteration of the characteristics that qualify the property for the National Register of Historic Places such that the property would no longer retain sufficient integrity to be considered eligible for listing?

☐ YES    ☐ NO

**Archaeology**

7. Does the project require the disturbance or removal of archaeological resources that have been determined important for preservation in-place rather than for information that can be obtained through data recovery?

☐ YES    ☐ NO

8. Has the official with jurisdiction (SHPO/THPO) concurred (or conditionally concurred) with a signed MOA/PA, signature on this form or other correspondence? (attach)

☐ YES    ☐ NO

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects  
that have Net Beneficial Use (Net Benefit)**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

**ALTERNATIVES CONSIDERED/FINDINGS:**

1. Has the Do Nothing/No-Build Alternative been documented and found not to be feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO
  - ☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)
  - ☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)
  
2. Has a Build Alternative on new location been documented to avoid the use of the Section 4(f) property but been found not to be feasible and prudent? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO
  - ☐ The alternative cannot be constructed in accordance with sound engineering practices. (Not feasible)
  - ☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)
  - ☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)
  - ☐ It would result in a substantial missed opportunity to benefit a Section 4(f) property. (Not prudent)
  
3. Has it been determined that the Build Alternative can not be modified to include a feasible and prudent alteration in order to avoid the use a Section 4(f) property by using engineering design or transportation system management techniques such as minor location shifts, changes in engineering design standards, use of retaining walls and/or other structures and traffic diversion or other traffic management measures? Because (Indicate all that apply. A minimum of one must be selected to be applicable): ☐ YES ☐ NO
  - ☐ The alternative cannot be constructed in accordance with sound engineering practices. (Not feasible)
  - ☐ It would not solve existing transportation, safety, or maintenance problems (i.e. project needs). (Not prudent)
  - ☐ It would result in substantial adverse social, economic, or environmental impacts, and/or costs which would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) property(s). (Not prudent)
  - ☐ It would result in a substantial missed opportunity to benefit a Section 4(f) property. (Not prudent)

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects  
that have Net Beneficial Use (Net Benefit)**

<b>County</b>	<b>State Route</b>	<b>Section</b>
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<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
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**MITIGATION AND MEASURES TO MINIMIZE HARM:**

1. Mitigation measures include one or more of the following (Indicate all that apply):

- ☐ Replacement of lands used with lands of reasonably equivalent usefulness and location, and of comparable value.
- ☐ Replacement of facilities impacted by the project including sidewalks, paths, benches, lights, trees, and other facilities.
- ☐ Restoration and landscaping of disturbed areas.
- ☐ Special design features. (Briefly describe).
  
- ☐ Improvements to the remaining Section 4(f) property equal to the fair market value of the lands.
- ☐ Other measures (List the minimization/mitigation measures that enhance the resource).

**COORDINATION:**

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| 1. Has the proposed project been coordinated with the Federal, State, and/or local official having jurisdiction over the Section 4(f) property?   | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| 2. Land encumbered by other Federal actions or coordination with the Federal Agency responsible for encumbrance has been completed?<br>[Land and Water Conservation Fund Act, 16, USC, 460/(8)(f)(3), i.e., Section 6(f)] | <input type="checkbox"/> YES | <input type="checkbox"/> NO |

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects  
that have Net Beneficial Use (Net Benefit)**

County	State Route	Section
Project Name	FPN	MPMS
<p>3. The official(s) with jurisdiction agrees that: (Check all that apply and attach documentation)</p> <p><input type="checkbox"/> a. The use of the property does not result in a substantial diminishment of the function, value, or qualities that made the property eligible for Section 4(f) protection.</p> <p><input type="checkbox"/> b. The project includes all possible planning to minimize harm, including mitigation.</p> <p><input type="checkbox"/> c. The net result is an overall improvement and enhancement of the Section 4(f) property when compared to the future do-nothing alternative and the present condition of the Section 4(f) property.</p>		
<p>4. Have public involvement activities occurred, consistent with the specific requirements of 23 CFR 771.111, “early coordination, public involvement and project development”?</p>	<p><input type="checkbox"/> YES    <input type="checkbox"/> NO</p>	
<p>5. For a project where one or more public meetings or hearings were held, was information on the proposed use of and mitigation to the Section 4(f) property communicated at the public meeting(s) or hearing(s)? (<b>Attach documentation</b>)</p>	<p><input type="checkbox"/> YES    <input type="checkbox"/> NO</p>	
<p>6. Is there significant public opposition to the proposed use of or mitigation to the Section 4(f) property?</p>	<p><input type="checkbox"/> YES    <input type="checkbox"/> NO</p>	
<p>7. The PA SHPO, park owner, or otherwise the Official with Jurisdiction</p> <p><input type="checkbox"/> concurs: _____</p> <p style="margin-left: 100px;">name</p> <p style="margin-left: 600px;">date</p> <p><input type="checkbox"/> conditionally concurs: _____</p> <p style="margin-left: 100px;">name</p> <p style="margin-left: 600px;">date</p>		

contingent upon the following commitments:

**Pennsylvania Department of Transportation**  
**On Behalf of the Federal Highway Administration – Pennsylvania Division Office**  
**Nationwide/Programmatic Section 4(f) Evaluation for Transportation Projects**  
**that have Net Beneficial Use (Net Benefit)**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>

**REMARKS:**

**DETERMINATION OF APPLICABILITY:**

The applicability of the Programmatic Section 4(f) has been based on the contents of this form and other supporting documentation, as necessary, including field view(s) conducted on:

**SUMMARY AND APPROVAL:**

The project meets all of the applicability criteria set forth in the Final Nationwide Section 4(f) Evaluation issued on April 20, 2005. All alternatives set forth in the programmatic have been evaluated and the findings made are clearly applicable to this project. There is a **net benefit to the Section 4(f) property** after taking into account avoidance and minimization of harm to the Section 4(f) property.

The project includes all possible planning to minimize harm. FHWA will assure that the measures to minimize harm and provide a net benefit to the Section 4(f) property are incorporated into the project through its oversight of the federal-aid highway program. PennDOT will include the measures that minimize harm and provide a net benefit as environmental commitments in the applicable NEPA document for the project. PennDOT will also provide a copy of this evaluation to other parties upon request. This project and its involvement with the Section 4(f) property, fall within and satisfy all of the criteria as set forth in the Final *Nationwide/Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects that have a Net Benefit to a Section 4(f) Property* dated April 20, 2005.

Name and Organization of Preparer \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

Environmental Manager \_\_\_\_\_ Date: \_\_\_\_\_

PennDOT, BOD \_\_\_\_\_ Date: \_\_\_\_\_

FHWA \_\_\_\_\_ Date: \_\_\_\_\_

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) Applicability Involving Temporary Use (Occupancy)**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
<input type="checkbox"/> EIS	<input type="checkbox"/> EA	<input type="checkbox"/> CE
	<input type="checkbox"/> EER	<input type="checkbox"/> ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(S):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

*(Note: describe the temporary use including size, location, activity, etc)*

**NAME AND TITLE OF OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:**

*(Note: historic sites fall to the jurisdiction of PHMC, BHP)*

**NAME AND TITLE OF CONTACT PERSON IF DIFFERENT THAN ABOVE:**

**APPLICABILITY DETERMINATION:**

1. Based on adequate documentation, including mapping, are the following true? (attach or reference)
  - a. The project does not change the ownership or result in the retention of long-term or indefinite interests in the land for transportation purposes. ☐ YES ☐ NO
  - b. The project involves no permanent right-of-way acquisition; however, will improve or enhance the functions or qualities of the Section 4(f) property (for example, stream restoration or drainage easement improvements in a park or TE Projects such as streetscape plantings). ☐ YES ☐ NO
2. Is there documentation that the officials with jurisdiction over the Section 4(f) property agree that the temporary occupancy would *(Note: Any "NO" response indicates that additional coordination is required.)*: ☐ YES ☐ NO



**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Determination of Section 4(f) Applicability Involving Temporary Use**

County	State Route	Section
Project Name	FPN	MPMS
a. Be of short duration and less than the time needed for construction of the project.		<input type="checkbox"/> YES <input type="checkbox"/> NO
b. Not result in any temporary or permanent adverse change to or interference with the activities, features, or attributes which are important to the purposes or functions that qualify the property for protection under Section 4(f).		<input type="checkbox"/> YES <input type="checkbox"/> NO
c. Be minor in that the nature and magnitude of the changes to the Section 4(f) property will be minimal.		<input type="checkbox"/> YES <input type="checkbox"/> NO
d. Be fully restored to a condition at least as good as that which existed prior to the project.		<input type="checkbox"/> YES <input type="checkbox"/> NO

**SUMMARY AND DETERMINATION:**

PennDOT will provide a copy of this evaluation to the officials with jurisdiction over the Section 4(f) property and to other parties, as requested, and maintain this documentation with the project files.

**The temporary occupancy of Section 4(f) property does not constitute a use within the meaning of Section 4(f).**

Concurrence by official with jurisdiction over the Section 4(f) property:

Official with Jurisdiction \_\_\_\_\_ Date: \_\_\_\_\_  
(optional: other documentation such as attached letters or meeting minutes may be used in replacement of signing this page<sup>1</sup>) Check here if other documentation is attached. ☐

Name and Organization of Preparer \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

Environmental Manager \_\_\_\_\_ Date: \_\_\_\_\_

PennDOT, BOD \_\_\_\_\_ Date: \_\_\_\_\_

FHWA \_\_\_\_\_ Date: \_\_\_\_\_

<sup>1</sup> Documentation of the SHPO's concurrence is acceptable with the No Effect or No Adverse Effect finding as long as the temporary use/occupancy was described in the Effects submission.

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Section 4(f) Non-Applicability/No Use**

<b>County</b>	<b>State Route</b>	<b>Section</b>
<b>Project Name</b>	<b>FPN</b>	<b>MPMS</b>
<input type="checkbox"/> EIS	<input type="checkbox"/> EA	<input type="checkbox"/> CE
<input type="checkbox"/> EER	<input type="checkbox"/> EER	<input type="checkbox"/> ED

**IDENTIFICATION OF SECTION 4(f) PROPERTY(s):**

**BRIEF DESCRIPTION OF PROJECT SCOPE:**

**NAME AND TITLE OF OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:**

**NAME AND TITLE OF CONTACT PERSON IF DIFFERENT THAN ABOVE:**

**APPLICABILITY DETERMINATION:**

Does one of the following apply? (Indicate all that apply): ☐ YES   ☐ NO

- ☐ 1. The project involves a Section 4(f) property but results in no permanent incorporation or conversion of land into a transportation facility (for example, a Transportation Enhancement project or adjacent to a Betterment project<sup>1</sup>) or does not result in a constructive use as determined by FHWA.
  
- ☐ 2. The project involves one or more archaeological sites that have been determined not to be important for preservation in place in accordance with 36 CFR § 800. (eligible under more than Criterion D).

---

<sup>1</sup> PennDOT has the autonomy to decide the applicability of Section 4(f) protection. However, per the Alternative Processing Procedures for Section 4(f) Evaluations, [*Determination of Use (c) applicability decisions*], PennDOT is advised to consult with FHWA with questionable circumstances by completing the appropriate forms or through other means of correspondence.

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Section 4(f) Non-Applicability/No Use**

County	State Route	Section
Project Name	FPN	MPMS
<input type="checkbox"/> *3. The project is a Bike or Walkway project sponsored by the officials with jurisdiction over the Section 4(f) property [Negative Declaration applies]. <b>Note:</b> does not require FHWA signature, see Alternative Processing Procedures Guidance.		
<input type="checkbox"/> *4. The project involves land within the boundaries (not necessarily from the edge) of an Historic District but the land to be used does not contribute to the characteristics that make <b>the District eligible for the</b> National Register or has been determined to be part of a non-contributing parcel.		
<input type="checkbox"/> *5. The project involves a minor (sliver) take from a non-contributing element along the boundary of an Historic District and the undertaking does not adversely effect any contributing features or parcels.		
<input type="checkbox"/> *6. The project involves a multiple-use facility (State, Federal, National Forest, large municipal-owned land, etc) but does not impact an area that functions specifically as a Section 4(f) property.		
<input type="checkbox"/> 7. The project area includes Section 4(f) properties but the undertaking itself does not involve (use) a Section 4(f) property on a temporary or permanent basis. List the Section 4(f) property(s) below and attach documentation or mapping:		
<input type="checkbox"/> *8. The project involves an aerial crossing of a Section 4(f) property, but it does not impact the qualifying characteristics of the property, or it does not result in the conversion of land into a transportation facility, such as placement of a bridge pier into a historic railroad yard.		
<input type="checkbox"/> *9. The project involves activities within the existing transportation right-of-way and would not result in proximity impacts that would substantially impair the features, activities, or attributes that make the property eligible for protection under Section 4(f).		
<input type="checkbox"/> *10. The project involves underground activities such as tie-backs, horizontal borings, etc. and does not impact the qualifying characteristics of the Section 4(f) property or involve archaeology that warrants preservation in place.		
<input type="checkbox"/> *11. The project involves the restoration, rehabilitation, or maintenance of transportation facilities that are on or eligible for the National Register and would not adversely affect the historic qualities of the facility that caused it to be on or eligible for listing.		
<input type="checkbox"/> *12. The project involves a transportation enhancement or is a mitigation project where the use of the Section 4(f) property is solely for the purpose of preserving or enhancing the activities, features, or attributes that qualify the property for Section 4(f) protection.		

Remarks:

\*Requires concurrence by the official with jurisdiction over the Section 4(f) property.

**Pennsylvania Department of Transportation  
On Behalf of the Federal Highway Administration – Pennsylvania Division Office**

**Section 4(f) Non-Applicability/No Use**

**County** \_\_\_\_\_ **State Route** \_\_\_\_\_ **Section** \_\_\_\_\_

**Project Name** \_\_\_\_\_ **FPN** \_\_\_\_\_ **MPMS** \_\_\_\_\_

**SUMMARY AND DETERMINATION:**

The proposed action will not involve temporary or permanent construction easement and/or staging in a Section 4(f) property, therefore the proposed action does not constitute a use within the meaning of Section 4(f).

Section 4(f) Property: \_\_\_\_\_ Date: \_\_\_\_\_

Official with Jurisdiction \_\_\_\_\_ Date: \_\_\_\_\_  
(optional: other documentation such as attached letters or meeting minutes may be used in replacement of signing this page) Check here if other documentation is attached. ☐

Name and Organization of Preparer \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager \_\_\_\_\_ Date: \_\_\_\_\_

Environmental Manager \_\_\_\_\_ Date: \_\_\_\_\_

PennDOT, BOD \_\_\_\_\_ Date: \_\_\_\_\_

FHWA \_\_\_\_\_ Date: \_\_\_\_\_

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**Appendix M**  
**Modified Format for Section 4(f) Evaluations as**  
**Agreed Upon by FHWA and Office of Chief**  
**Counsel**

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U. S. DEPARTMENT  
OF TRANSPORTATION

Region 3  
Pennsylvania Division

228 Walnut Street, Room 558  
Harrisburg, PA 17101-1720

Federal Highway  
Administration

MAR 23 1998

IN REPLY REFER TO:

HRP-PA.2

Section 4(f) Evaluation Format

Mr. Michael M. Ryan, P.E.  
Deputy Secretary for Highway Administration  
Pennsylvania Department of Transportation  
Harrisburg, Pennsylvania

Dear Mr. Ryan:

In December 1997, PennDOT's Office of Chief Counsel had written requesting that PennDOT be permitted to adopt an alternative format for Section 4(f) Evaluations. This format is slightly different from that presented in FHWA Technical Advisory 6640.8a. We have discussed the alternative format with our Regional Counsel and have concluded the alternative format is substantially similar to that presented in the Technical Advisory. Following review of the proposed format and discussion with your staff, the previously proposed format has been modified to the enclosed format outline. We concur that the modified format offers a more logical flow of facts, especially in those situations when total 4(f) avoidance alignments do not appear to be feasible or prudent.

The enclosed outline should be employed on all Section 4(f) documents which are initiated subsequent to this letter. Section 4(f) evaluations prepared in accordance with the existing Technical Advisory format will be accepted for review if their preparation was completed prior to this letter. At the end of a year's trial, we should meet to jointly evaluate the modified format and make any adjustments if warranted.

I would like to take this opportunity to compliment the work of Sue McDonald, Kenda McCrory, John Hrubovcak and Diane Nulton, and the rest of the Section 4(f) Handbook Task Force for their work in developing the Handbook.

Sincerely yours,

Ronald W. Carmichael  
Division Administrator

Enclosure



**BASIC OUTLINE**  
**FOR SECTION 4(F) EVALUATIONS**

**I. Introduction**

**II. Description of the purpose and need of project** of the project consistent with (and referencing) the NEPA document

**III. Identify Section 4(f) properties which are potentially used by the alternatives of the project**

Describe each Section 4(f) resource which would be used by any alternative under consideration. The information described in the Technical Advisory Section IX(A)(2) should be provided for each resource, if applicable.

**IV. Alternatives Analysis**

**a. Identify and evaluate alternatives that totally avoid all Section 4(f) properties**

Identify and describe in detail the location and design of any alternatives that totally avoids the use of Section 4(f) resources. Include an analysis of whether the total avoidance alternative is a feasible and prudent alternative. If the alternative appears not to be a feasible and prudent alternative, include detailed reasons. Do not include a conclusion that there are no feasible and prudent alternatives to the use of Section 4(f) properties in the draft Section 4(f) Evaluation. This conclusion is included only in the final Section 4(f) Evaluation.

**b. Identify and evaluate other alternatives considered**  
**1. Alternatives considered prior to detailed alternatives analysis**

Identify and describe in detail the location and design of any alternatives (that are not total avoidance alternatives because these alternatives were discussed in section IV(a)) that were considered early in the project development process, but were dismissed prior to the detailed alternatives analysis for not meeting the project needs or for resulting in impacts reaching an extra-ordinary magnitude. For each alternative, explain in detail why the alternative does not meet the project needs and/or what the extra-ordinary impacts associated with the alternative are.

In addition, for each alternative, the description of these alternatives will include a discussion of the impacts on the Section 4(f) resources for the alternative (e.g. the amount of land to be used, facilities and functions affected, noise, air pollution, visual, etc.). Impacts (such as facilities and function affected, noise, etc.) which can be quantified should be quantified. Other impacts (such as visual intrusion) which cannot be quantified should be described.

**2. Alternatives that use Section 4(f) properties that were studied in detail**

Describe in detail the alternatives that use Section 4(f) resources. Detailed discussions of alternatives contained in the NEPA document need not be repeated in the Section 4(f) portion of the document, but should be referenced and summarized.

The description of these alternatives will include a discussion of the impacts on the Section 4(f) resources for the alternative (e.g. the amount of land to be used, facilities and functions affected, noise, air pollution, visual, etc.). Impacts (such as facilities and function affected, noise, etc.) which can be quantified should be quantified. Other impacts (such as visual intrusion) which cannot be quantified should be described.

For each alternative that does not meet the project needs or results in impacts reaching an extra-ordinary magnitude, explain in detail why the project does not meet the project needs and/or what the extra-ordinary impacts associated with the alternative are.

**c. Assessment of Least Harm**

**1. Identify and evaluate shifts to avoid or minimize the use of Section 4(f) properties**

Identify and evaluate design shifts to either side of each Section 4(f) property used by a feasible and prudent alternative. Where an alternative would use land from more than one Section 4(f) property, the analysis needs to evaluate shifts which avoid each and all properties. If shifts to avoid the use of the Section 4(f) property are not feasible or prudent, shifts should be evaluated to

minimize the use of the Section 4(f) property. The design shifts should be in the immediate area of the property and consider minor alignment shifts, a reduced facility, retaining structures, etc., individually or in combination, as appropriate.

2. **Describe measures to minimize harm (i.e. noise walls, vegetation, replacement of parkland) to Section 4(f) resources impacted**

Discuss all possible measures which are available to minimize the impacts of the alternatives on the Section 4(f) resources. Detailed discussions of mitigation measures in the NEPA document may be referenced and appropriately summarized, rather than repeated.

3. **Determination of which alternative results in the least harm**

For the draft and final Section 4(f) Evaluations, set forth the data needed on each alternative to balance the alternatives to determine which alternative results in the least total harm to all of the Section 4(f) resources. If appropriate, use a summary table to compare the various impacts of the alternatives. However, do not reach a conclusion as to which alternative results in the least harm in the draft Section 4(f) Evaluation. This conclusion will be made in the final Section 4(f) Evaluation.

V. **Coordination**

Discuss the results of preliminary coordination with the public official having jurisdiction over the Section 4(f) property and with regional (or local) offices of DOI and, as appropriate, the Regional Office of HUD, the U.S. Department of Agriculture, and the Forest Supervisor of the affected National Forest. Generally, the coordination should include discussion of significance and primary use of the property.

VI. **Appendix**

Copies of correspondence between the agencies with jurisdiction over the Section 4(f) properties and the MOA.

## **VII. Technical Files**

Document the constructive use analysis for historic properties which have an "adverse effect" under Section 106 or parks that are located immediately adjacent to an alternative.

## **PART 1** **Program Development**

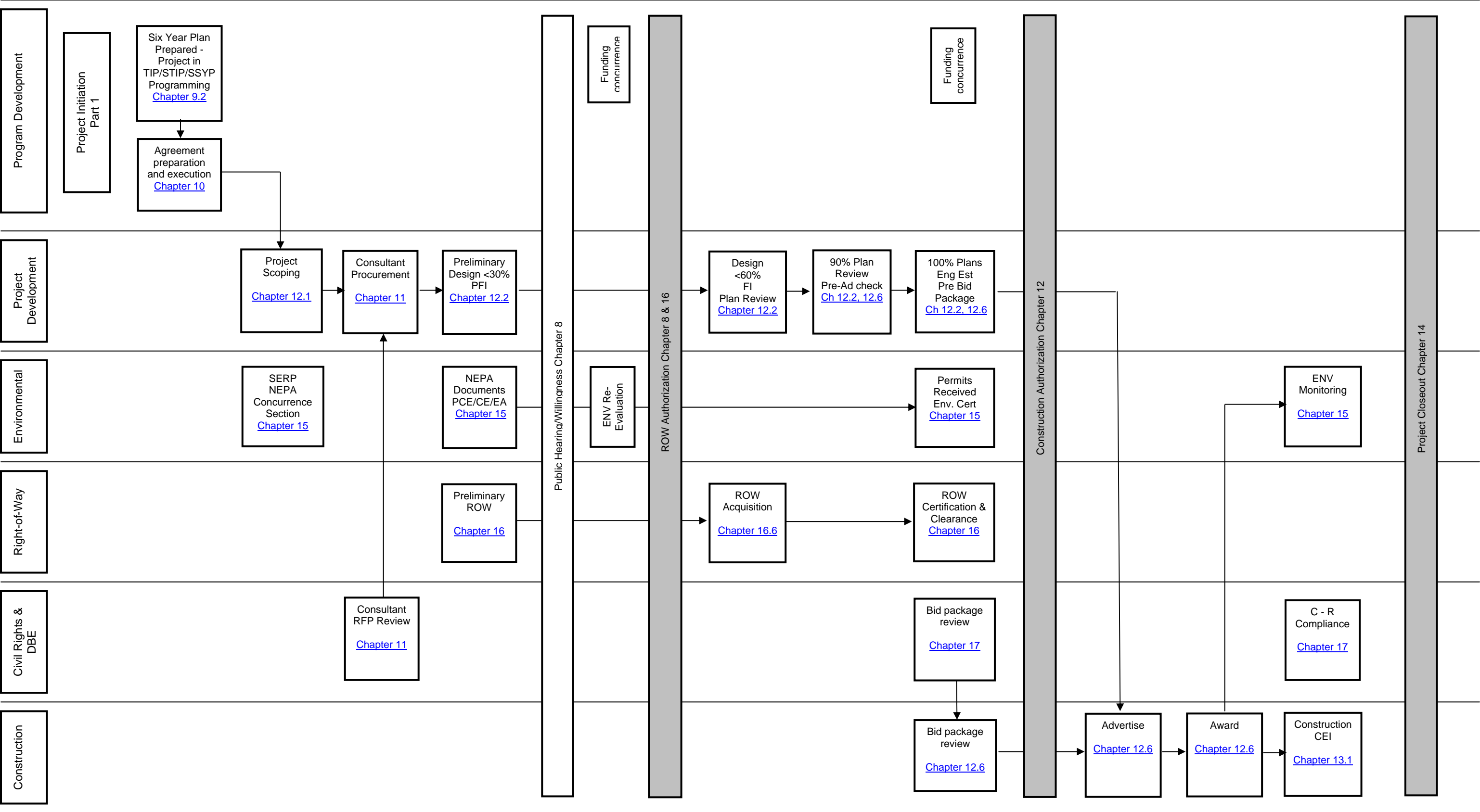
### **Chapter 9**

Project Development  
Overview / Summary

# Locally Administered Projects (LAP) Manual

CHAPTER 9 - PROJECT DEVELOPMENT OVERVIEW/SUMMARY; Figure 9-1

Locally Administered Projects Development Process - Federal Funds, Typical



## CHAPTER 9 - PROJECT DEVELOPMENT OVERVIEW/SUMMARY

This chapter includes the following topics

[9.1 Project Development Summary](#)

[9.2 Project Authorizations](#)

[9.3 Project Development Process](#)

[9.4 VDOT Project Oversight](#)

[9.4.1 Communications](#)

[9.4.2 VDOT Risk and Project Oversight](#)

[Appendix 9-A Federal-Aid and State-Aid Checklists](#)

[Appendix 9-B Local Government Administered Projects; Oversight Levels](#)

[Appendix 9-C Project Risk and VDOT Oversight Evaluation](#)

## 9.1 PROJECT DEVELOPMENT INTRODUCTION

VDOT, as required by federal law, is responsible for oversight of federal-aid transportation projects in the Commonwealth. Accordingly, VDOT is responsible for and becomes accountable to the FHWA for the proper use of federal-aid highway funds. This responsibility is further emphasized in the [VDOT-FHWA 2007 SAFETEA-LU Program Efficiencies Agreement](#).

In order to administer any transportation project funded through VDOT allocations, LPAs must generally enter into a Project Administration Agreement (PAA) with VDOT. Project Administration consists of project development and project delivery phases; with project design and right of way acquisition performed during the project development phase and construction, construction administration, and project close-out performed within the project delivery phase. VDOT's project development (PDP) process [flow chart](#) outlines the activities which may take place concurrently from project scoping through construction advertisement. The PDP flow chart is an excellent reference guide that can be of assistance to LPAs administering projects. **However, the LPA is not required to follow VDOT's PDP process.** This manual identifies minimum activities which must be completed for LPA administered projects.

## 9.2 PROJECT AUTHORIZATIONS

Prior to beginning reimbursable work, the project and each project phase (Preliminary Engineering, Right of Way Acquisition, Advertisement, and Award) must be formally authorized (approved) by the FHWA to be eligible for reimbursement. This authorization **MUST** be received prior to beginning any work to be reimbursed with federal aid.

State-aid projects which are not developed as eligible for federal aid will receive a single funding authorization and individual phase authorizations are not necessary.



Requirements to obtain federal authorization approval:

### **Preliminary Engineering**

- Agreement Executed
- Project phase(s) included in the STIP/TIP
- Allocations must be programmed

### **Right of Way**

- Project included in STIP/TIP
- Allocations programmed
- Approved environmental document,
- Public involvement process complete,
- Right of Way Estimate Provided (see [12.3.4.2](#) for guidance)
- Right of Way plans Provided
- Environmental reevaluation completed

### **Construction Advertisement and Award (two authorizations)**

- Project included STIP/TIP
- Allocations programmed and funding verified,
- An approved environmental NEPA document and all identified environmental commitments have been included into the plans and proposals.
- All permits have been obtained.
- All design is in accordance with appropriate design criteria.
- All Right of Way is clear or will be clear prior to project execution, in accordance with the Uniform Relocation Act
- All Utility and Railroad relocations and certifications have been included appropriately, or satisfactory arrangements have been made.
- Public Involvement requirements have been met.
- All appropriate federal-aid project information, including Minimum Wage Rates, EEO provisions, and the federal 1273 form has been included.

- Hazardous wastes have been identified where appropriate and provisions are provided within the proposal for their safe disposal.

### 9.3 PROJECT DEVELOPMENT PROCESS

[Figure 9-1](#) provides a generalized flow-chart for the Locally Administered Project Development Process. It provides links to chapters in this Manual that further describe the processes identified on the flow-chart.

[Appendix 9-A](#) contains federal-aid and state-aid Locally Administered Project checklists for determining which primary requirements need to be addressed during project administration. The LPA Project Manager and VDOT's Project Coordinator are required to jointly review and prepare the checklist for federal aid projects soon after the project administration agreement is executed by VDOT. The federal aid checklist is required to be completed and kept on file for future review.

The following provides a summary of these processes and emphasizes those necessary for a federal-aid project.

#### Programming and Funding

- The LPA staff, working with the VDOT Residency and the County Board of Supervisors or Urban Program Managers and City/Town Council, selects projects to be programmed in the SYIP. The SYIP serves as the framework for allocation of Federal-aid funds to projects. The first year of the SSYP serves as the active program year and the subsequent years outline funding that is planned, however all funding is subject to appropriation by the CTB. See [Chapter 8](#) for additional details.
- The SYIP also includes a number of federal fund program areas that are not necessarily programmed at the LPA level or through formula allocations, but could be used for a locally administered project. These program areas include Highway Safety, Rail Safety, Safe Routes to Schools, High Risk Rural Roads,

Forest Highway-Regional STP, CMAQ, and Public Lands as well as other Federal discretionary funds.

- Often local governments identify transportation projects within their own Capital Improvement Program and will supplement local funding with state programs intended to support and encourage local participation in the local highway improvement program. These projects are essentially local projects and are not necessarily included in the SYIP. State funding programs used to support this include Coal Severance, Revenue Sharing, and Access (Economic Development, Airport and Recreational) programs.

#### Agreement Preparation and Execution

- Before an agreement is prepared, the LPA is required to submit a [RtA](#) form for most projects. The RtA serves as the LPA's request and VDOT's concurrence for LPA administration of a project. The Project Administration Agreement (PAA) establishes funding and specific obligations unique to a project. Additional information regarding the preparation of project administration agreements is detailed in [Chapter 10](#).

#### Consultant Procurement

- If the LPA does not have in-house design staff, it will need to acquire design consulting services. These services must be procured in accordance with the Virginia Public Procurement Act and/or applicable federal requirements. Consultant procurement requirements are outlined in [Chapter 11](#).

#### Project Scoping

- LPA staff and VDOT staff participate in a scoping process where major aspects of the project are determined including alignments, structures and bridges, environmental requirements, permits, right of way and utility needs/conflicts. In addition, specific design requirements and project limits are determined. Project scoping documentation is completed and LPA

staff and the VDOT Project Coordinator concur with subsequent steps.

The project scoping process is further detailed in [Chapter 12](#).

## Environmental Review Processes

- For most LAPs, the LPA is responsible for preparation and completion of federal environmental documentation, although VDOT is required to approve these for FHWA. The process begins with the LPA performing early coordination with State agencies and determining the necessary environmental assessments and, with VDOT's concurrence, the level of NEPA documentation associated with the project. The LPA is responsible for the preparation of all required documents, reports and supporting materials in order to meet NEPA requirements; however, VDOT retains final approval authority for the NEPA "document." In addition, the LPA is responsible for obtaining any necessary environmental permits that may be applicable to the project. The Environmental review process is discussed in detail in [Chapter 15](#).

## Preliminary Design

- The LPA is responsible for assuring that the project is designed in conformance with local, AASHTO, VDOT, and federal design standards, as applicable. For complex projects, the LPA is generally required to submit preliminary design plans at approximately 30 percent, 60 percent and 90 percent design stage. The 30 percent submittal normally takes place concurrently with the Preliminary Field Inspection (PFI) while the 60 percent submittal normally is concurrent with the Field Inspection (FI) and submittal of Right of Way Plans. For less complex projects or for highly experienced LPAs, VDOT's project development oversight can be minimized and fewer design review submittals or project progress meetings may be necessary. [Chapter 12](#) discusses the design process in detail.

## Public Involvement/Public Hearings

- The LPA is responsible for determining the level of public participation required in conformance with State and FHWA laws and regulations, as applicable. At or about the 30 percent design stage, the LPA is required to provide the public an opportunity to review and comment on the design proposal for the project. [Chapter 12](#) discusses Public Involvement requirements.

### Right of Way Authorization and Certification

- Prior to the LPA initiating any acquisition of Right of Way for federal-aid projects, federal Authorization must be obtained. All right of way acquisition and relocation must be accomplished in accordance with the [Uniform Relocation Assistance and Real property Acquisition Act of 1970 and amendments](#). The VDOT Project Coordinator will coordinate with appropriate VDOT staff to obtain ROW authorization. Prior to advertisement for federal-aid projects, the LPA must provide a certification statement for their Right of Way process. [Chapter 16](#) provides greater detail on the Right of Way Acquisition process.

### Utilities

- The LPA is responsible for identifying and/or relocating utilities that are in conflict with the project in conformance with Federal requirements. Volume 2 of VDOT's Right of Way and Utilities Manual provides a detailed discussion of the requirements. A copy of the manual can be obtained from the VDOT Project Coordinator. See [Chapter 16](#) for additional details.

### Plans, Specifications, and Estimates (PS&E) Review/Approval

- The PS&E package includes all items necessary to obtain federal authorization to advertise for bids. The LPA is responsible for the preparation of all advertisement and bid documents, which includes special provisions, construction plans, and the engineer's estimate. The LPA must also submit Right of Way and Environmental Clearances prior to advertisement. VDOT is responsible for the review of these documents

and providing the LPA with necessary guidance leading to conformance with state and federal requirements. [Chapter 12](#) provides details of PS&E submittal requirements.

### Construction Authorization

- Federal Authorization must first be obtained prior to advertisement. LPAs must not advertise projects until federal authorization is received. [Chapter 12](#) provides greater detail on the Federal Construction Authorization process.

### Civil Rights

- Bid proposals for federal-aid projects are reviewed by the Civil Rights Division for compliance with federal requirements as well as the establishment of DBE goals. [Chapter 17](#) provides a broad discussion of VDOT's Civil Rights process and requirements.

### Advertisement/Award

- The LPA is responsible for the proper advertisement of bids for the project. VDOT's project coordinator can provide assistance to the LPA in this process; however, it is the LPAs responsibility to meet both Virginia Public Procurement Act requirements and Federal requirements. [Chapter 12](#) provides an expanded discussion of the advertisement and award process.

### Construction

- The LPA is responsible for assuring that the project is built in accordance with the contract documents and specifications as approved by VDOT. Construction administration and CEI can be performed by in-house staff or by contract. However, a professional engineer must oversee the construction of the project. The LPA must also provide a local government employee to be in responsible charge of the project. These may or may not be the same person. Environmental monitoring of the project to assure

that all federal environmental commitments associated with NEPA documentation must be included within the scope of construction activities. Local governments are solely responsible for regulatory compliance with all environmental laws and permit conditions, regardless of funding source. The LPA is also responsible for assuring contractor compliance with Civil Rights requirements of the project. Construction Administration is further discussed in [Chapter 13](#), while Environmental Monitoring and Civil Rights Compliance are contained in [Chapters 15](#) and [17](#), respectively.

## 9.4 VDOT PROJECT OVERSIGHT

### 9.4.1 Communications

The effective delivery of transportation projects requires clear and effective communication between the LPA Project manager and VDOT's Project Coordinator. A communications plan should be discussed near the beginning of the project. A "formal" plan is not necessary, but there should be a clear understanding regarding the frequency of communication. LPA project managers are encouraged to contact VDOT Project Coordinators whenever there is a need for clarification of VDOT expectations or federal-aid requirements. Regular progress meetings should be scheduled and held. It is during the progress meetings that the LPA's staff and VDOT's oversight staff can discuss items of concern that may have been observed and remedies developed. The meetings also serve as an opportunity for VDOT staff to communicate project expectations to the LPA and its representatives. Constant and effective communication reduces the inherent risk that exists with all transportation projects.

Unforeseen issues may come up during the development or construction of a project. **The LPA should never hesitate to contact the VDOT project coordinator as potential problems are identified.** Early coordination can help ensure projects stay on schedule. In many cases similar conflicts may have been

previously addressed by VDOT staff and a solution for addressing it may be close at hand.

#### **9.4.2 VDOT Risk and Project Oversight**

Soon after the LPA has received concurrence to administer the project, the VDOT PC should determine the level of VDOT oversight which will be required. The level of VDOT involvement and oversight is determined by a range of factors including, but not limited to, project complexity, highway system, project funding, and LPA experience. Federal-aid increases project risk as there are additional project requirements that an LPA may not necessarily be familiar or experienced with. Additionally, FHWA holds VDOT accountable for project delivery, with the possibility of financial non-participation for significant issues of noncompliance. In contrast, risks to VDOT on state-aid projects, particularly those in localities maintaining their own system, is minimal. VDOT's oversight can be focused on those activities that directly impact VDOT, such as design review and construction administration for roads that will be maintained by VDOT. Principles governing VDOT's oversight expectations are outlined in [Appendix 9-B](#).

The exact level of VDOT involvement is determined by the VDOT Project Coordinator in consultation with other VDOT staff and the LPA, and will directly impact VDOT costs to the project. In order to assist in this determination, VDOT has developed a risk assessment method that may be used by the VDOT Project Coordinator to establish an expected level of oversight. Use of this method will result in a score that provides a generalized analysis of project oversight and is described below. This method is described further in [Appendix 9-C](#).

Since non federal-aid projects will be certified by local governments using the State-aid Certification, this risk assessment method is primarily applicable to federal-aid projects. However, the risk assessment method provides a foundation for VDOT



oversight of plan review and construction oversight of State-aid projects which will be maintained by VDOT. More detailed discussion of project oversight during construction is found in [Chapter 12](#).

VDOT will charge oversight costs to the project. An estimate of VDOT charges, to include general oversight activities necessary, will be provided to the LPA during the preparation of the Project Administration Agreement and will be refined soon after the scoping process. Oversight costs will include, but are not limited to, providing guidance, reviewing plans and documents, attending coordination meetings, providing authorization approvals, and other project associated activities. As a general rule, oversight costs for federal-aid projects that do not require unique project support by VDOT staff, range between 3 percent and 5 percent of the construction estimate for Project Development (PE and RW phases) and 1 percent to 3 percent of the construction estimate for Project Development (CN phase). These percentages are only guidelines and should be used for preliminary estimating purposes by the LPA and VDOT. VDOT will provide a detailed project billing report upon request by the LPA.

## **Appendix 9-A**

### **Federal-aid and State-aid Checklists**

## Federal-aid Project Checklist

<b>Required</b>	<b>Complete</b>	<b>Task Name</b>	<b>Chapter Reference</b>
		<b>Project Programming and Initiation</b>	
<input type="checkbox"/>	<input type="checkbox"/>	Project and Funding in STIP and TIP (where applicable)	
<input type="checkbox"/>	<input type="checkbox"/>	Local Government Resolution (Urban Localities)	
<input type="checkbox"/>	<input type="checkbox"/>	Request to Administer Form	
<input type="checkbox"/>	<input type="checkbox"/>	Project Administration Agreement (updated when total reimbursable costs change and prior to Construction)	
<input type="checkbox"/>	<input type="checkbox"/>	<i>PE Phase Authorized</i>	
<input type="checkbox"/>	<input type="checkbox"/>	PCES Estimates Updated every 90 days during project development	
<input type="checkbox"/>	<input type="checkbox"/>	Project Scoping Report	
<input type="checkbox"/>	<input type="checkbox"/>	EQ-429/State Environmental Review Process (SERP) for projects ≥ \$500,000	
<input type="checkbox"/>	<input type="checkbox"/>	Consultant Selection; Pre-Award Audit	
<input type="checkbox"/>	<input type="checkbox"/>	NEPA Level of Documentation Concurrence	
<input type="checkbox"/>	<input type="checkbox"/>	NEPA Documentation	
<input type="checkbox"/>	<input type="checkbox"/>	Bridge “touch-down” points approved (when applicable)	
<input type="checkbox"/>	<input type="checkbox"/>	30% Plan Submittal	
<input type="checkbox"/>	<input type="checkbox"/>	Design Exception/Variance Requests	
<input type="checkbox"/>	<input type="checkbox"/>	Value Engineering for Projects over \$5 M	
<input type="checkbox"/>	<input type="checkbox"/>	60% Plan Submittal	
<input type="checkbox"/>	<input type="checkbox"/>	Right of Way Plan Review	
<input type="checkbox"/>	<input type="checkbox"/>	Public Hearing/Posting of Willingness	
<input type="checkbox"/>	<input type="checkbox"/>	Design and Public Hearing Resolution	
<input type="checkbox"/>	<input type="checkbox"/>	NEPA R/W Reevaluation	
<input type="checkbox"/>	<input type="checkbox"/>	Project RW listed in STIP and estimates are current	
<input type="checkbox"/>	<input type="checkbox"/>	<i>Right of Way Authorization</i>	
<input type="checkbox"/>	<input type="checkbox"/>	Submit Final RW Plans, Cost Estimate including breakdown of Utilities, and Title Sheet	
<input type="checkbox"/>	<input type="checkbox"/>	Complete RW and Utilities Checklist, RW-301	
<input type="checkbox"/>	<input type="checkbox"/>	LPA performs final QA/QC on plans prior to submittal to VDOT for Advertisement Authorization	
<input type="checkbox"/>	<input type="checkbox"/>	Environmental Re-evaluation at PS&E (EQ-200); Environmental Certification (EQ-103)	
<input type="checkbox"/>	<input type="checkbox"/>	<i>Advertisement/Construction Authorization</i>	
<input type="checkbox"/>	<input type="checkbox"/>	RW Acquisition completed	
<input type="checkbox"/>	<input type="checkbox"/>	Utility relocation completed	
<input type="checkbox"/>	<input type="checkbox"/>	Water quality permits/finalize coordination with environmental regulatory agencies	
<input type="checkbox"/>	<input type="checkbox"/>	Project Construction listed in STIP and estimates are current	
<input type="checkbox"/>	<input type="checkbox"/>	Final Plan, Specifications and Estimates Submitted for VDOT approval DBE Goals	
<input type="checkbox"/>	<input type="checkbox"/>	IFB and Contract Documents	
<input type="checkbox"/>	<input type="checkbox"/>	Publicly Advertise Project/Federal-aid Contracts must use VDOT Pre-qualified vendors	
<input type="checkbox"/>	<input type="checkbox"/>	Public Opening of Bid/Bid Tabulations/Evaluation of DBE Goals (good faith efforts)	
<input type="checkbox"/>	<input type="checkbox"/>	Federal Criteria for Award Certification (see Appx 12.6B)	

<input type="checkbox"/>	<input type="checkbox"/>	Contract Award Information submitted to VDOT for concurrence to award	
<input type="checkbox"/>	<input type="checkbox"/>	Concurrence to award by CTB or Commissioner	
<input type="checkbox"/>	<input type="checkbox"/>	<i>Award Authorization</i>	
<input type="checkbox"/>	<input type="checkbox"/>	City/State Agreement or Modification of Project Agreement	
<input type="checkbox"/>	<input type="checkbox"/>	Include Project in Dashboard	
<input type="checkbox"/>	<input type="checkbox"/>	Preconstruction conference	
<input type="checkbox"/>	<input type="checkbox"/>	Materials Certifications /Project Records	
<input type="checkbox"/>	<input type="checkbox"/>	DBE/OJT Documentation	
<input type="checkbox"/>	<input type="checkbox"/>	Change Orders submitted for approval	
<input type="checkbox"/>	<input type="checkbox"/>	Final Inspection Reports	
<input type="checkbox"/>	<input type="checkbox"/>	Notification of Project Completion	
<input type="checkbox"/>	<input type="checkbox"/>	Final Acceptance Inspection	
<input type="checkbox"/>	<input type="checkbox"/>	C-5 submitted/Project Closed	
<input type="checkbox"/>	<input type="checkbox"/>	Final Invoice	

VDOT Project Coordinator: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

LPA Project Manager: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Once the checklist has been completed a copy shall be filed with the Project File**

## State-aid Project Checklist

<b>Required</b>	<b>Complete</b>	<b>Task Name</b>	<b>Chapter Reference</b>
<input type="checkbox"/>	<input type="checkbox"/>	Local Government Resolution (Urban Localities)	
<input type="checkbox"/>	<input type="checkbox"/>	Request to Administer Form	
<input type="checkbox"/>	<input type="checkbox"/>	Project Administration Agreement (updated when total reimbursable costs change and prior to Construction)	
		<i>Project State Authorization</i>	
<input type="checkbox"/>	<input type="checkbox"/>	EQ-429 / State Environmental Review Process (SERP); construction projects $\geq$ \$500,000 )	
<input type="checkbox"/>	<input type="checkbox"/>	Plan Submittals for VDOT maintained highways	
<input type="checkbox"/>	<input type="checkbox"/>	Design Exception Requests	
<input type="checkbox"/>	<input type="checkbox"/>	Value Engineering for Projects over \$5 M	
<input type="checkbox"/>	<input type="checkbox"/>	Right of Way Plan Review for sufficient R/W for VDOT maintained highways	
<input type="checkbox"/>	<input type="checkbox"/>	RW Acquisition completed	
<input type="checkbox"/>	<input type="checkbox"/>	Utility relocation completed	
<input type="checkbox"/>	<input type="checkbox"/>	Submission of Project State-aid Certification Form	
<input type="checkbox"/>	<input type="checkbox"/>	Contract Award Information submitted to VDOT for concurrence to award	
<input type="checkbox"/>	<input type="checkbox"/>	Concurrence to award by CTB or Commissioner	
		<i>Award Authorization</i>	
<input type="checkbox"/>	<input type="checkbox"/>	City/State Agreement or Modification of Project Agreement	
<input type="checkbox"/>	<input type="checkbox"/>	Include Project in Dashboard - SYIP / SSYP Projects	
<input type="checkbox"/>	<input type="checkbox"/>	Materials Certifications /Project Records – VDOT maintained projects	
<input type="checkbox"/>	<input type="checkbox"/>	Final Inspection Reports, VDOT Maintained	
<input type="checkbox"/>	<input type="checkbox"/>	Notification of Project Completion	
<input type="checkbox"/>	<input type="checkbox"/>	Final Acceptance Inspection, VDOT Maintained	
<input type="checkbox"/>	<input type="checkbox"/>	C-5 submitted / Project Closed	
<input type="checkbox"/>	<input type="checkbox"/>	Final Invoice	

VDOT Project Coordinator: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

LPA Project Manager: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## **Appendix 9-B**

### **Local Government Administered Projects; Oversight Levels**

## **Principles governing requirements/expectations for Local Governments**

### **I Federal - Aid (NHS/FO)**

- *Relatively rare with LPAs.*
- *All VDOT-approved documents/procedures must be met.*

### **II Federal - Aid (non-NHS)**

- *VDOT ensures compliance with federal requirements (e.g. Civil Rights, Buy America, ADA, NEPA, etc.) throughout project.*
- *Flexibilities available, but those flexibilities must be documented and approved by VDOT.*
- *FHWA will review/approve the revised Manual for LPAs.*
- *Post-project compliance reviews supplement oversight during project development.*

### **III State - Aid/VDOT maintained**

- *VDOT provides oversight to ensure a safe and quality project is completed and focuses efforts on long-term liabilities to VDOT.*
- *LPA is responsible for all phases of project development/delivery, with minimal oversight from VDOT.*
- *The responsibility of other activities lies with the Local Government and receives minimal oversight from VDOT.*
- *Local Governments will certify their compliance with all applicable laws/regulations.*
- *VDOT will conduct random post-project compliance reviews.*
- *Provides for focused oversight and optimal resource management on those activities most impacting VDOT.*

### **IV State - Aid/Locally maintained**

- *VDOT has a responsibility to ensure the funds are used for their intended purpose and oversight during project development/delivery is limited.*
- *LPA is solely responsible for all phases of project development/delivery.*
- *Local Governments have vested interest in their own highway system and are accountable to their constituents.*
- *Local Governments will be provided maximum flexibility to administer projects in manner that best fits their needs.*
- *Local Governments are already required to meet federal and state laws and regulations and are responsible to regulatory agencies.*
- *VDOT oversight/support limited to technical support, financial reporting, and performance measures.*
- *Local Governments will certify their compliance with all applicable laws/regulations.*
- *VDOT will conduct random post-project compliance reviews.*
- *Provides for focused oversight and optimal resource management on those activities most impacting VDOT.*

## **Appendix 9-C**

### **Project Risk and VDOT Oversight Evaluation**



VDOT's project risk and oversight assessment method requires the VDOT Project Coordinator to identify applicable project elements from Table 1, below, which affect the level of risk. By summing the weighted values for each selected element, a risk factor is determined. That risk factor correlates to an anticipated level of oversight found in Table 2

Element	Value (factor)	Check Elements That Apply	Total Factor per Element
Federal Oversight	20		
National Highway System	20		
Funding			
Federal Funded (non-Enhancement)	15		
State Funded	10		
Federal Enhancement (Impacts R/W)	7		
Federal Enhancement (Off R/W)	1		
Completed Project Maintenance			
State Maintained Project	10		
LPA Maintained Project	2		
Project Category *			
Category I	2		
Category II	5		
Category III, IV, V	10		
LPA Experience Administering Project			
Low Level	15		
Intermediate Level	10		
High Level	5		
<b>Factor Total</b>			

**Table 1 – Project Risk Assessment**  
\* See VDOT Construction Oversight Guide, Appendix B, for Category Definitions

Level of Oversight	Range of Factor Total	
High (H)	> 45	
Moderate (M)	25-55	
Low (L)	< 35	

**Table 2 – Oversight Assessment**

In general terms, the following table illustrates the characteristics of projects at the three levels of oversight.

<b>Oversight Level</b>	<b>Impact/Probability</b>
High (H)	Significant impact on infrastructure due to non-compliance - Significant effects to quality of construction, cost and schedule; High risk of non-compliance resulting in loss of funding or regulatory agency action
Moderate (M)	Moderate impact on infrastructure due to non-compliance - Moderate effects to quality of construction, cost and schedule; Moderate probability of non-compliance
Low (L)	Minimal impact on infrastructure due to non-compliance - Minimal effects to quality of construction, cost and schedule; Low probability of non-compliance

Actual activities associated with each oversight level vary with the unique characteristics of each project. These can include such considerations as unusually complex project features; sensitive environmental or socio-economic issues; and the LPA project manager's experience with similar transportation projects.

The following table is an example of oversight activities for federal-aid projects; many of these may not be applicable to State-aid projects. The VDOT Project Coordinator and the LPAs Project manager should develop more specific oversight activities and their frequency based on specific project needs and conditions.

<b>Oversight Level</b>	<b>Minimum Oversight Activities</b>
Low	<ul style="list-style-type: none"> <li>• Kickoff (scoping) meeting attendance</li> <li>• Plan development coordination meeting</li> <li>• Final plan review</li> <li>• Pre-construction meeting attendance</li> <li>• Random site visits during construction</li> <li>• Final acceptance inspection</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Kickoff (scoping) meeting attendance</li> <li>• Plan development coordination meeting</li> <li>• 30 percent plan review</li> <li>• Public hearing attendance</li> <li>• Final plan review</li> <li>• Pre-advertisement contract review</li> <li>• Pre-award bid review</li> <li>• Monthly to quarterly site visits during construction</li> <li>• Final acceptance inspection</li> </ul>

High	<ul style="list-style-type: none"> <li>• Kickoff (scoping) meeting attendance</li> <li>• Monitor consultant procurement process</li> <li>• Environmental coordination meeting</li> <li>• Plan development coordination meeting</li> <li>• Right-of Way coordination meeting</li> <li>• 30 percent plan review</li> <li>• Public hearing attendance</li> <li>• 60 percent plan review</li> <li>• 90 percent plan review</li> <li>• Bid document review</li> <li>• Pre-award bid review</li> <li>• Pre-construction meeting attendance</li> <li>• Weekly to monthly to quarterly site visits during construction</li> <li>• Final acceptance inspection</li> </ul>
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The LPA and VDOT's Project Coordinator may increase or decrease the level of oversight for a particular project based upon the LPAs performance on previous projects and results of VDOT compliance reviews. As VDOT's confidence in the LPAs ability to administer projects increases, the level of oversight may be reduced. However, oversight may be increased due to any number of factors including the LPA assuming responsibility for more complex projects. LPA experience becomes an important factor in oversight and risk - the more experience the LPA gains, VDOT will typically reduce its level of oversight.

Additional discussion regarding project oversight and monitoring during construction is found in the [Construction Administration chapter](#).