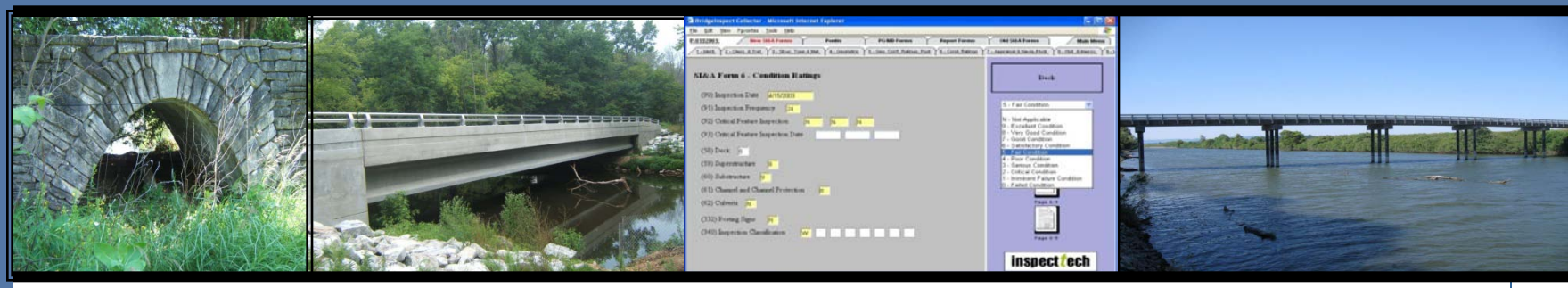


U.S. Fish and Wildlife Service: Risk-Based Inspection and Management Approach

Presented by:
Mike Schellhase
Jeremy Shaffer
Ben Witter

inspecttech

Mission

"... conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people."

Bridge Program

- 726 bridges @159 facilities
  - National Wildlife Refuges
  - National Fish Hatcheries
- 93,000,000 acres
- Service Bridge Inventory:
  - Any structure over 10' long
  - usually erected over water
  - carrying a roadway
  - wide enough to carry vehicles

A variety of stakeholders…

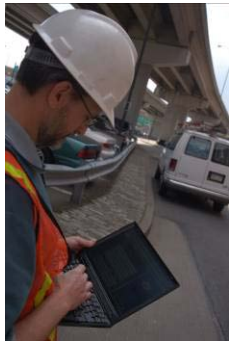
Program Challenges

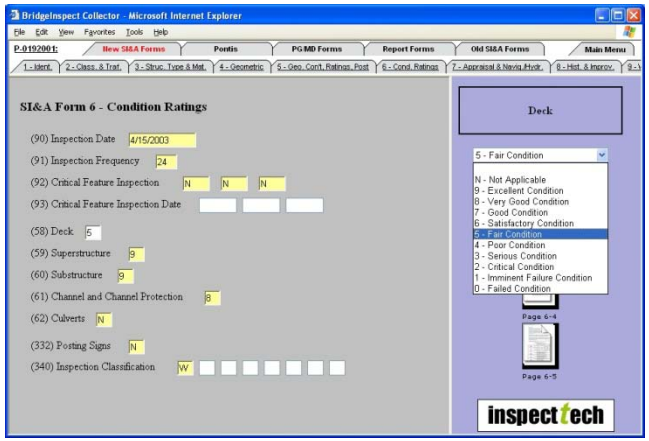
FWS Software System

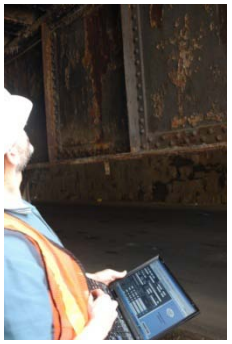
FWS Inspection Software

Goal:

High quality inspections done easier, quicker, and more reliably.





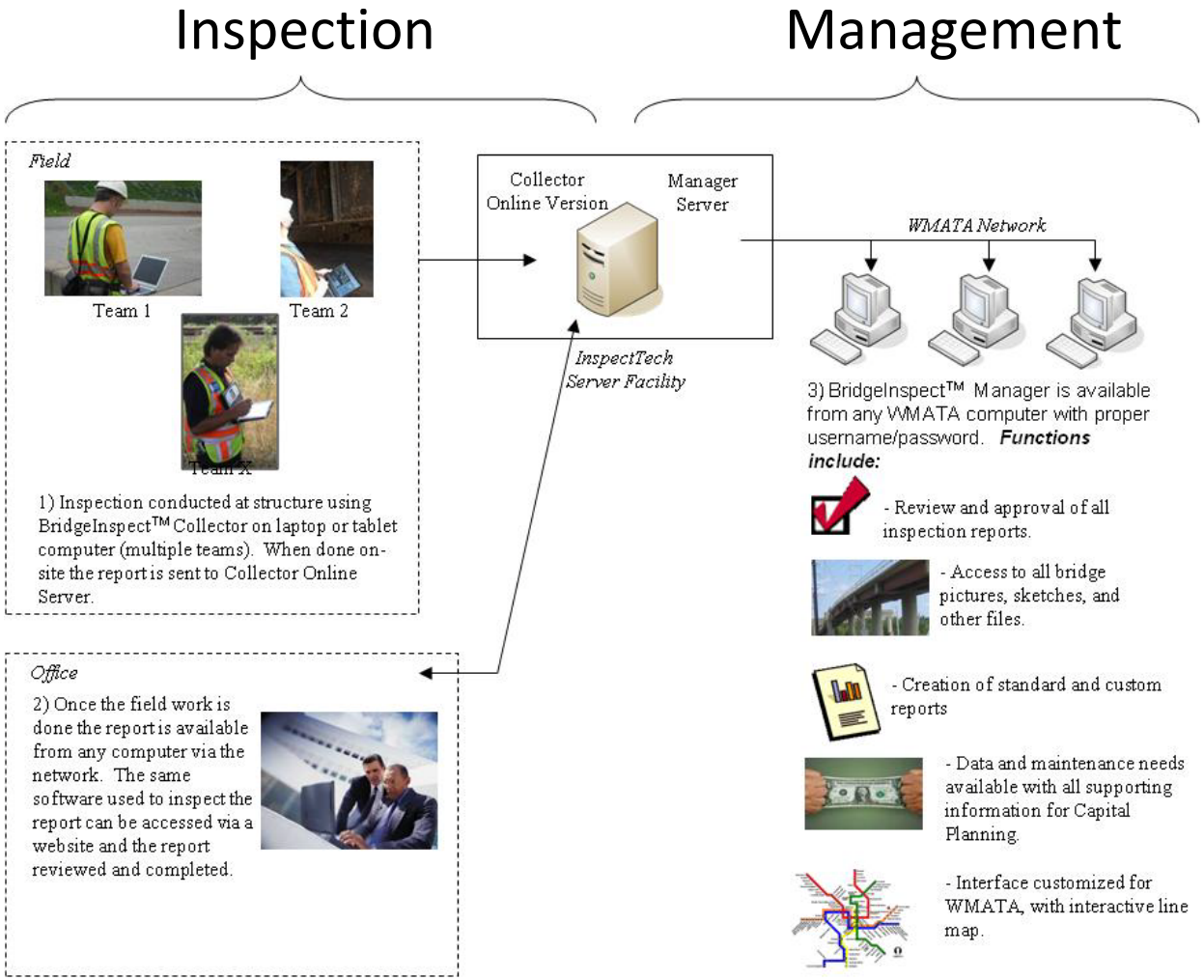


Inspection Software

- All information and reports integrated into one place
- Single point of entry for coding, narrative, pictures, and other attachments
- Laptops and Web Based System
  - Multiple Personnel can work on same report in the field (data merged on server)
  - Laptops and Server easily synchronize data and update necessary program files
- Tab based, interactive form entry for all information
- Built-in Error Checks and manuals

Overview

- Start inspection on laptop/tablet
- Submitted to Web-Server when in office
- Report continued from any computer
- Submitted for review
- Reviewed and approved online
- Able to run reporting and searching on data

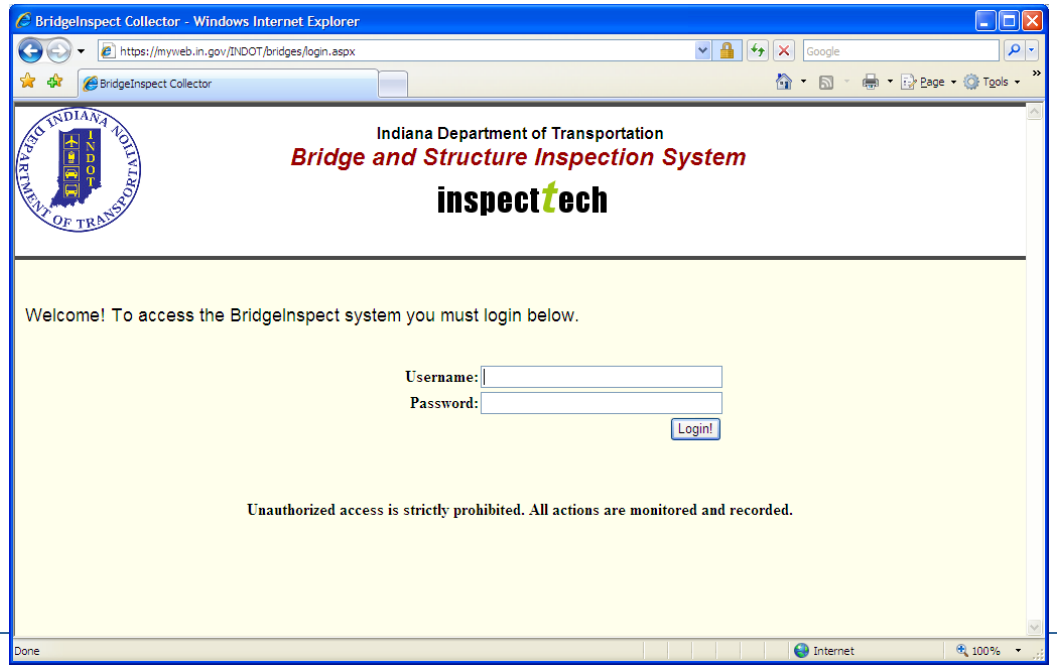


Inspection Software: Major Benefits

- Electronic collection: Reduces errors and eliminates redundant data entry
- Picture Organization
- Integration of Manuals
- Easy incorporation of attachments
- Automatically pre-load past data
- Saves significant time by formatting the report and auto-generating many sections:
  - Table of Contents
  - Cover Page
  - Picture Pages
  - Page Numbering

Familiar Web Based Interface

- Very Easy to Support
- Access from Anywhere
- Usernames drive permissions
- Allow Consultant and County/City Access



BridgeInspect Collector - Windows Internet Explorer

https://myweb.in.gov/INDOT/bridges/index.aspx

BridgeInspect Collector

Indiana Department of Transportation

Bridge and Structure Inspection System

inspecttech

Messages: 0 new (view)

Quick Select: Type asset name here

Main | Administration | Views | Reports | Help

INDOT Central Office : Bill Dittrich (Logout)

In Progress | In Progress on a Laptop | Submitted for Approval | Recently Approved

Inspection Date	Asset Name	Inspector	Feature Intersected	Facility Carried	Location	Status		
01/24/2009	912-45-02543 B	Wayne Skinner	SR 912, RAMPS, & RR	MICHIGAN AVENUE	1.34 W US 12	In progress		
01/24/2009	(933)33-71-07443 NBL	Wayne Skinner	SR 933 NBL	PEDESTRIAN WALK	0.78 N SR 23	In progress		
01/23/2009	I94-21-02188 BEBL	Wayne Skinner	US 20, WILLOW CR & CSX	I-94 EBL	0.9 E I-90	In progress		
01/23/2009	I94-44-02253 JAEB	Wayne Skinner	N & S RR	I-94 EBL	0.45 W US 20	In progress		
01/23/2009	I94-21-02188 BWBL	Wayne Skinner	US 20, WILLOW CR & CSX	I-94 WBL	0.9 E I-90	In progress		
01/23/2009	I94-29-02249 BWBL	Wayne Skinner	CONRAIL	I-94 WBL	1.36 E US 20	In progress		
01/23/2009	I94-29-02249 BEBL	Wayne Skinner	CONRAIL	I-94 EBL	1.36 E US 20	In progress		
01/23/2009	I94-44-02253 AWBL	Wayne Skinner	N & S RR	I-94 WBL	0.45 W US 20	In progress		

Filter Assets: Filter

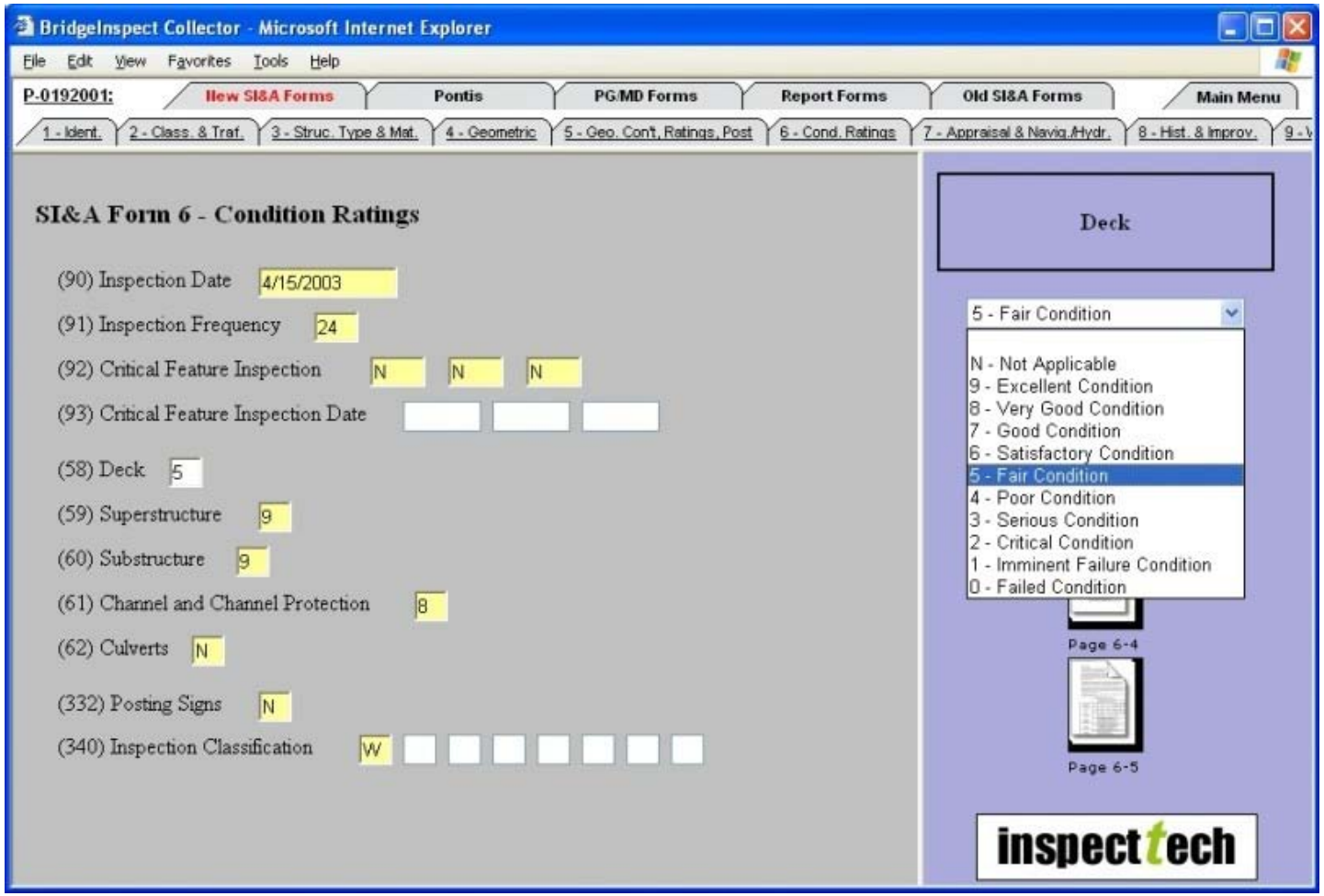
- State of Indiana
  - Border Bridges
  - Crawfordsville
    - (136)34-06-03291
    - (136)34-23-03044
    - (136)34-23-03045
    - (136)34-54-00184 A
    - (231)43-54-01089 A
    - (231)43-54-01096 A
    - (231)43-54-02516 A
    - (231)43-54-05995 A

(136)34-06-03291

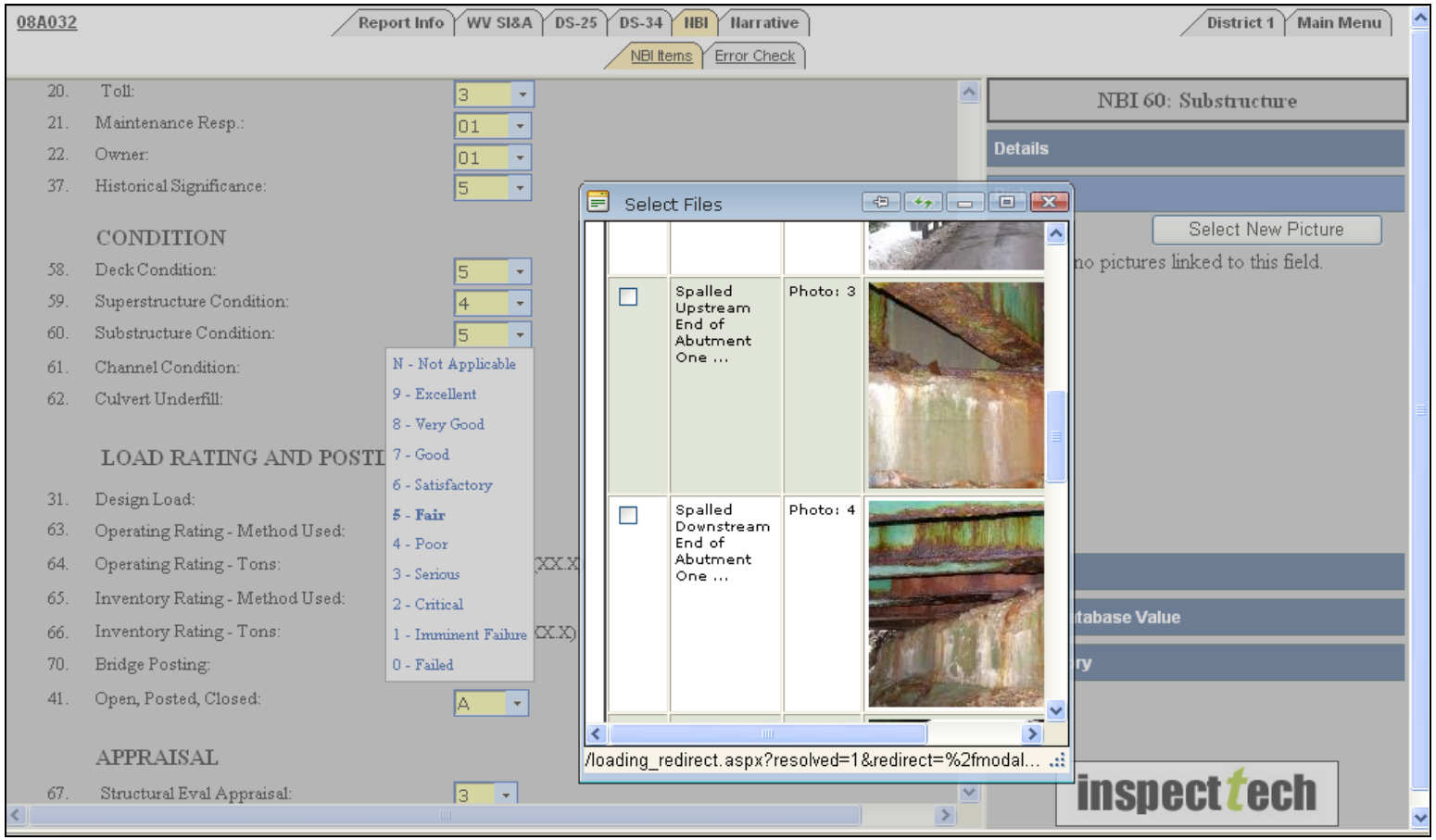
Asset Name: (136)34-06-03291
Code: 26890
Feature Intersected: EMILY GARDNER DITCH
Facility Carried: US 136
Dist. Code: 01 - Crawfordsville
Location: 2.55 W SR 75
Post: 51
Offset: 10

Done | Internet | 100%

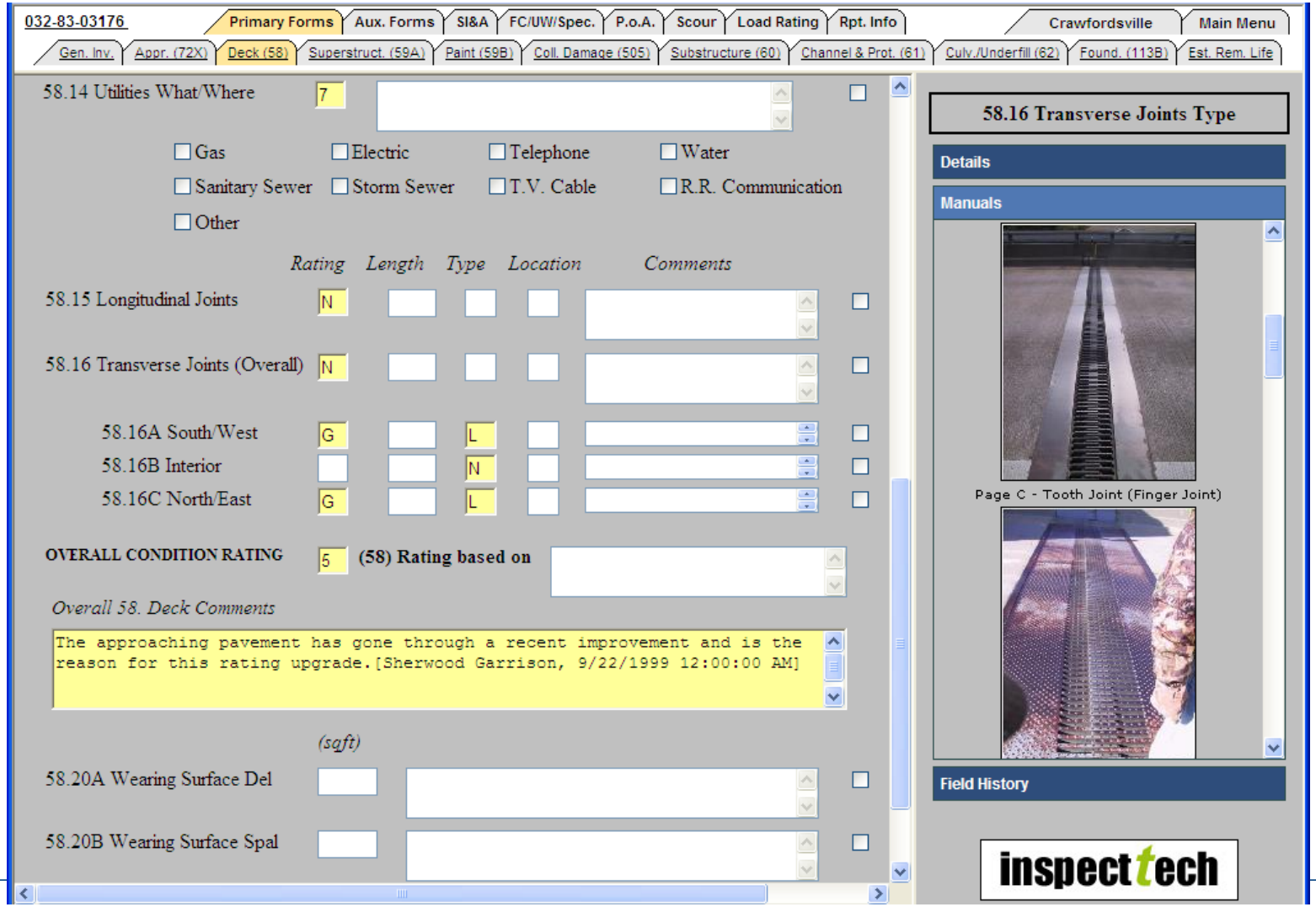
Entry Form


BridgeInspect Collector - Microsoft Internet Explorer
File Edit View Favorites Tools Help
P-0192001:
New SI&A Forms
Pontis
PG/MD Forms
Report Forms
Old SI&A Forms
Main Menu
1 - Ident.
2 - Class. & Traf.
3 - Struc. Type & Mat.
4 - Geometric
5 - Geo. Con't, Ratings, Post
6 - Cond. Ratings
7 - Appraisal & Navig./Hydr.
8 - Hist. & Improv.
SI&A Form 6 - Condition Ratings
(90) Inspection Date 4/15/2003
(91) Inspection Frequency 24
(92) Critical Feature Inspection N N N
(93) Critical Feature Inspection Date
(58) Deck 5
(59) Superstructure 9
(60) Substructure 9
(61) Channel and Channel Protection 8
(62) Culverts N
(332) Posting Signs N
(340) Inspection Classification W
Deck
5 - Fair Condition
N - Not Applicable
9 - Excellent Condition
8 - Very Good Condition
7 - Good Condition
6 - Satisfactory Condition
5 - Fair Condition
4 - Poor Condition
3 - Serious Condition
2 - Critical Condition
1 - Imminent Failure Condition
0 - Failed Condition
Page 6-4
Page 6-5
inspecttech

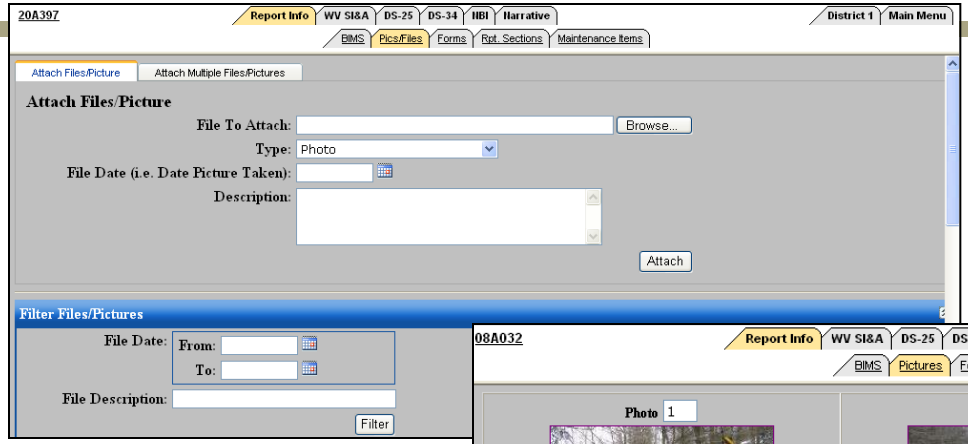
Link Pictures to Specific Fields

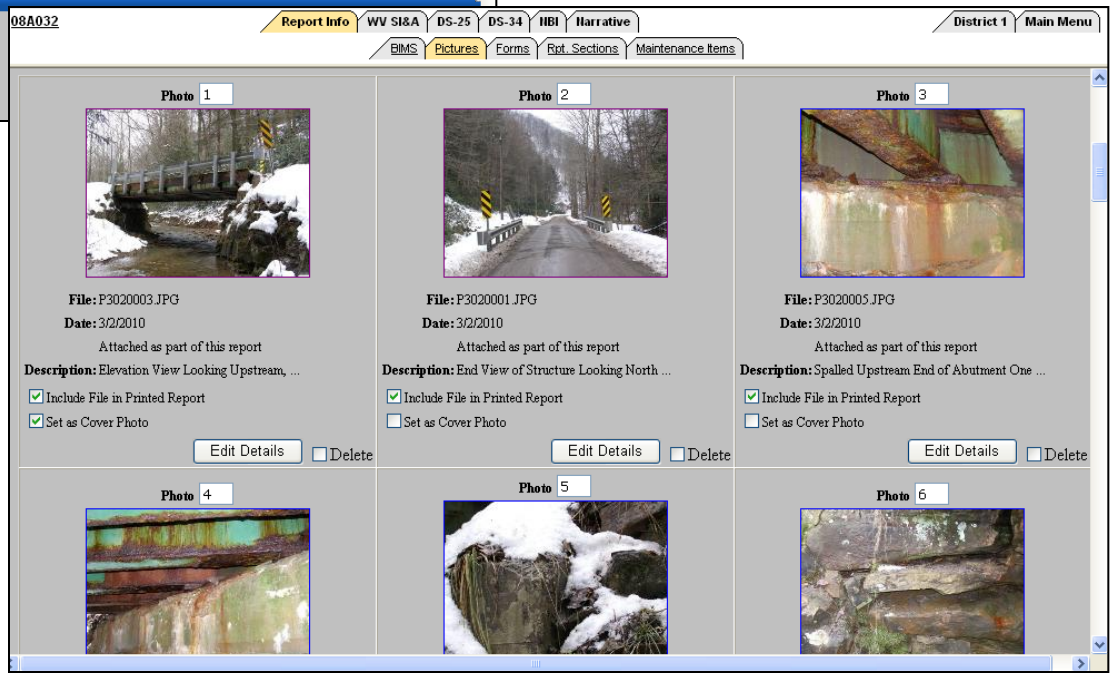


Reference Pictures

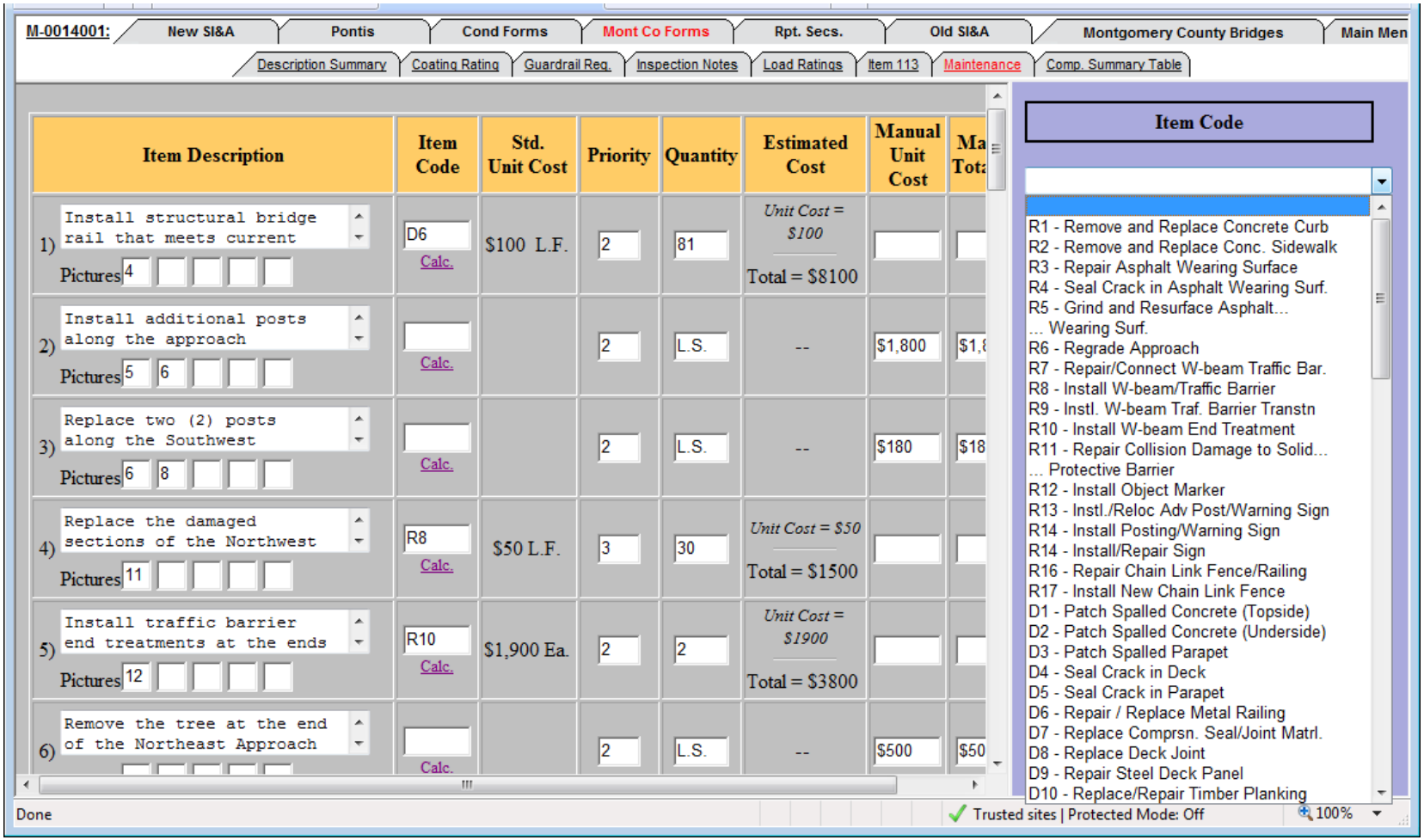


Pictures/Attachments Easy To Add





Software Benefits: Repair Items & Costs



Simple Report Generation

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

STRUCTURAL MAINTENANCE INSPECTION REPORT

Wheaton Parking Garage Bridge

Abutment (Entrance Side)

Inspected By: M. Perez
Date Inspected: 5-13-08 Report Generated: 5-29-08

Condition Rating			Inspection Frequency
N - Not Applicable	5 - Fair Condition	0 - Failed Condition	
9 - Excellent Condition	4 - Poor Condition		
8 - Very Good Condition	3 - Serious Condition		
7 - Good Condition	2 - Critical Condition		
6 - Satisfactory Condition	1 - Imminent Failure Condition		

ITEM	NO.	REMARKS
i. Drains and weep-holes.	4	i)Mud/dirt draining out of 3"D. pipes on east/west side wing walls and breast wall.Collecting up to 2 backets full. Material draining form approach slab.
j. Joints (expansion, construction, cold).	4	j)Backer rod installed between end of span and backwall,therefore blocking visual inspection to any expansion joint.However,joint is leaking water and soil onto bearings causing corrosion and affecting movement See picture #4.
k. Bearings Assemblies (List type and size)	4	k)Pot bearings fix at entrance side.
1. Physical condition.	4	K1)Steel chipping and concentrated loss of section(2%) on exterior surface.up to 50% of device is corroded. Picture #5.
2. Working condition.	4	K2)Working condition is affected by heavy corrosion. Ongoing construction on deck, unable to determine working conditions.
3. Sole Plate.	5	K3)Stable, with some steel exposed due to grout pad deterioration troughout.
l. Exposed / deteriorated re-bars.	6	
m. Concrete Patches.	4	m)Spalled concrete on grout pads. Bearings
n. Grout / masonry pads.	4	1n)As indicated above.grout pads(21x18x5in) are spalling full face and deep up to 1.5" on bearings 2,3.See pictures #8.

THINK SAFETY FIRST

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Wheaton Parking Garage Bridge - Abutment (Entrance Side)

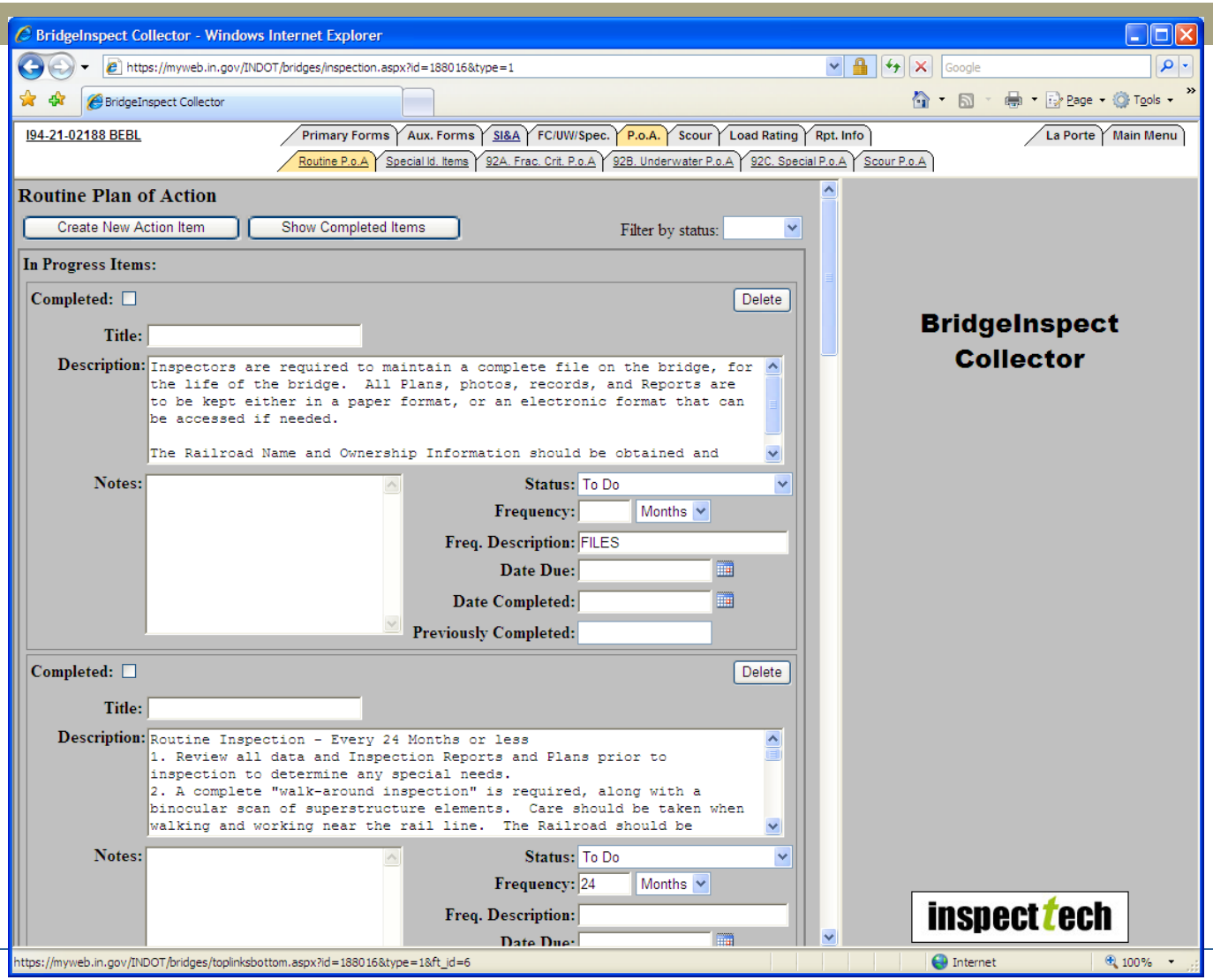
Photo 1

Several vertical oriented cracks on breast wall, open from 0.050" to .125" . and length of 7ft. See description on 1a). Picture 1 shown.

Photo 2

Several vertical oriented cracks on breast wall, open from 0.050" to .125" . and length of 7ft. See description on 1a). Picture 2 shown.

Detailed Plans of Action



Risk-Based Prioritization

Hazard Severity. The hazard severity is an assessme based on the inspector's experience, of the worst potential consequence, as determined by degree of injury or damage, which is possible to occur as a result of an identified deficiency. Hazard severity categories shall be assigned according to the following criteria:

- Catastrophic: May cause death or result in permanent loss-of-use of the structure; replacement of structure would be required.
- Critical: May cause severe bodily injury or temporary loss-of-use of all or a portion of the structure.
- Marginal
- Negligible

Risk-Based Prioritization

Likelihood of Outcome. The likelihood of outcome represents the inspector's subjective estimation of the possibility of a hazard resulting in a negative outcome, based on the inspector's judgment, a qualitative assessment of such factors as location, use, and traffic volume, and assigned using the following criteria as a guide:

- Likely to occur either immediately, or within a short period of time, or prior to the next regularly scheduled inspection.
- Likely to occur eventually.
- Possibly could occur eventually.
- Unlikely to occur in the foreseeable future.

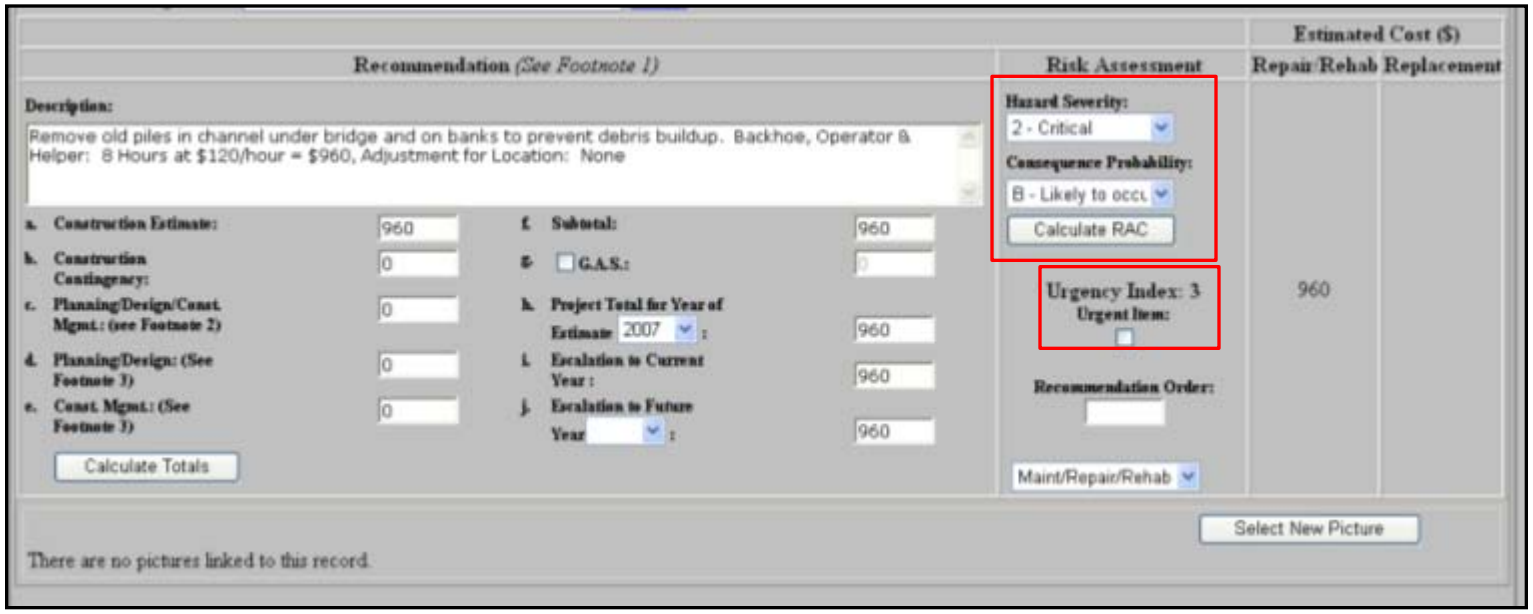
Risk-Based Prioritization

Priority Assessment Code. The PAC is an expression of priority which combines the elements discussed above. Using the matrix shown below, the PAC is expressed as an integer that can be used to help assign repair priorities using 1 as the highest priority and 7 as the lowest priority.

HAZARD SEVERITY	OUTCOME LIKELIHOOD			
	A	B	C	D
I	1	2	3	4
II	2	3	4	5
III	3	4	5	6
IV	4	5	6	7

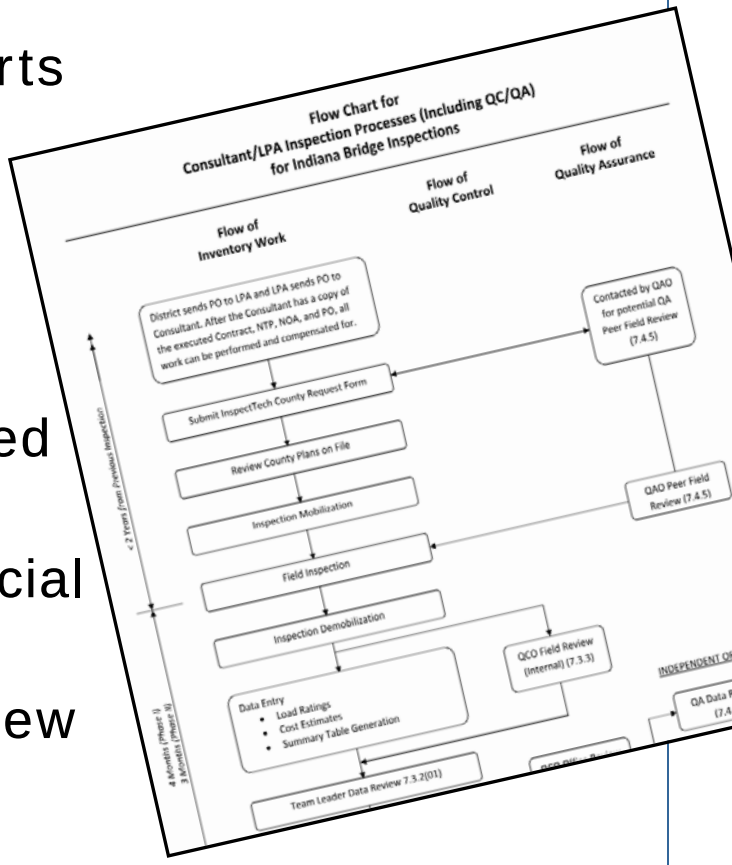
Risk-Based Prioritization

- Identify needs on multiple criteria
- Organize repairs based on vulnerability and cost



Report Review/Approval

- Reports have full lifecycle and accountability
- Tabs clearly show status of reports
- Clearly documented who did the inspection
- What changes were made
- Who reviewed and when
- Ability to set approval chain based on bridge
- Information not entered into official database until it is approved
- Auto-flag certain bridges for review



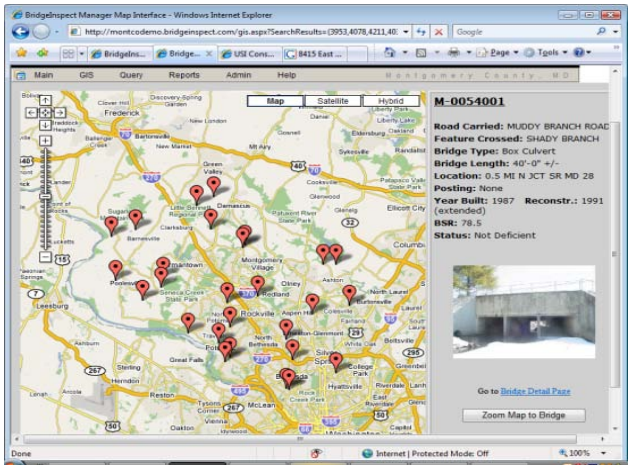
Manager Software System

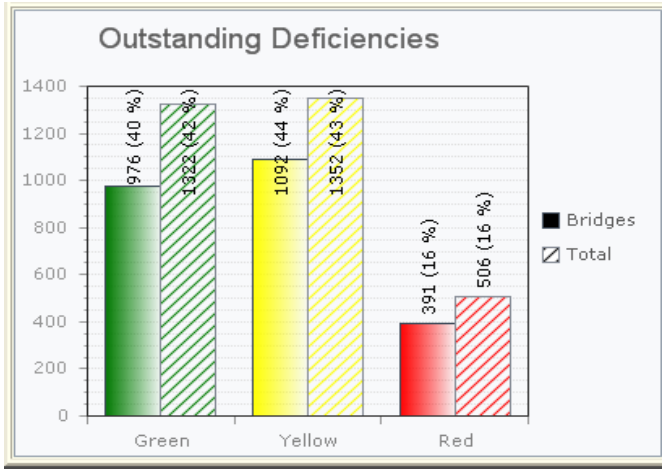
Management Software

All bridge data in a single location with easy to use and powerful modules for past, current, and future info/tasks.

Prioritization Scheduling Pictures/Sketches GIS

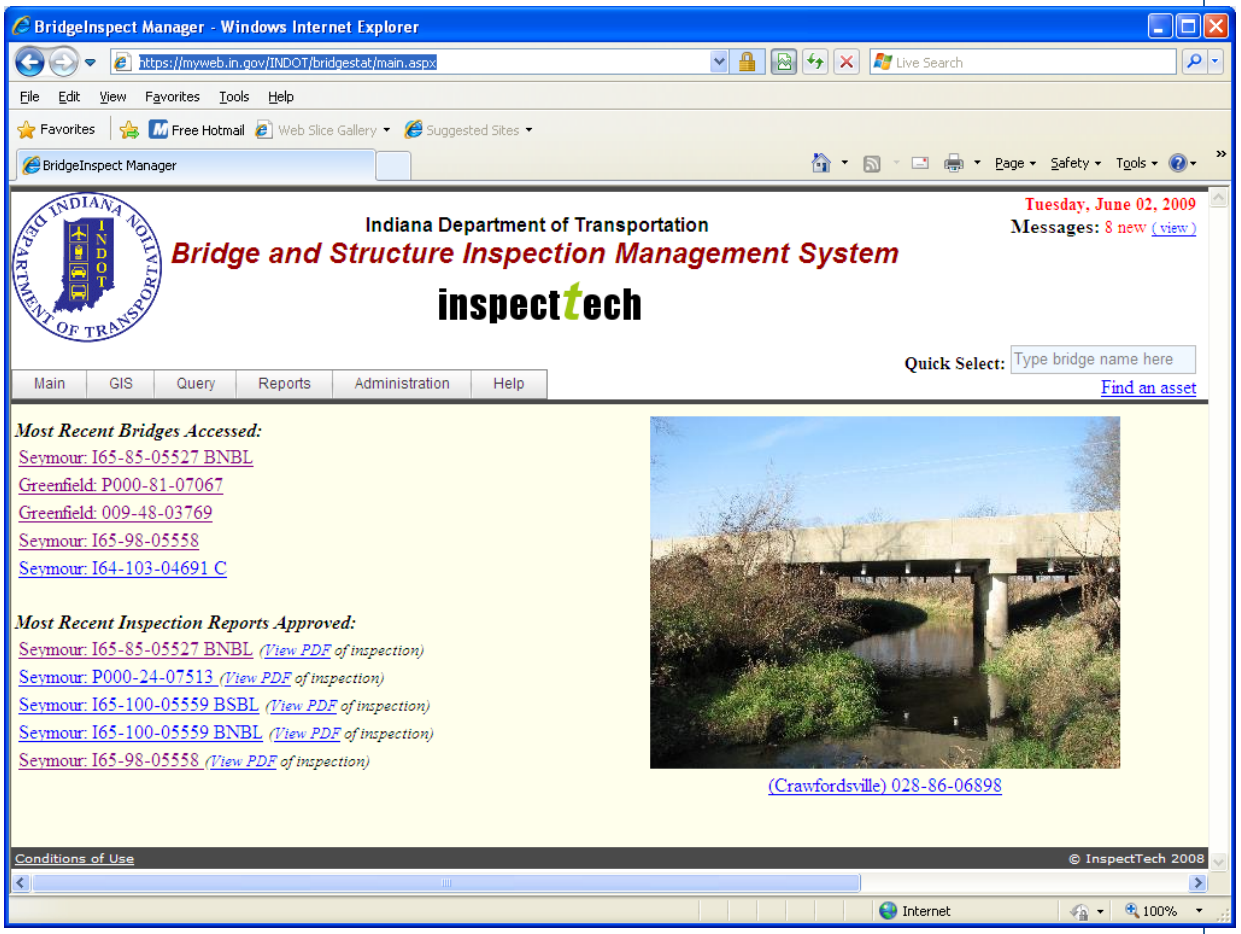
Reporting/Searching Instant Access Cost Estimates





Easy Interface - Web Enabled

- Customized interface for agency's needs
- Accessible securely from anywhere, anytime via Internet



Bridge Detail Page

- Contains links to all current and past information on the bridge
  - Reports, Pictures, Sketches, Maintenance Items
  - Contracts, Load Rating, Letters, etc.
- Link to Bridge Location
- Bridge Notes
- Upcoming inspection dates
- Functionality integrated from other programs
- Users can control default view

Bridge Detail Page

Indiana Department of Transportation

Bridge and Structure Inspection Management System

inspecttech

Tuesday, June 02, 2009
Messages: 8 new (view)

Quick Select: Type bridge name here
Find an asset

Main | GIS | Query | Reports | Administration | Help

Seymour: I65-85-05527 BNBL

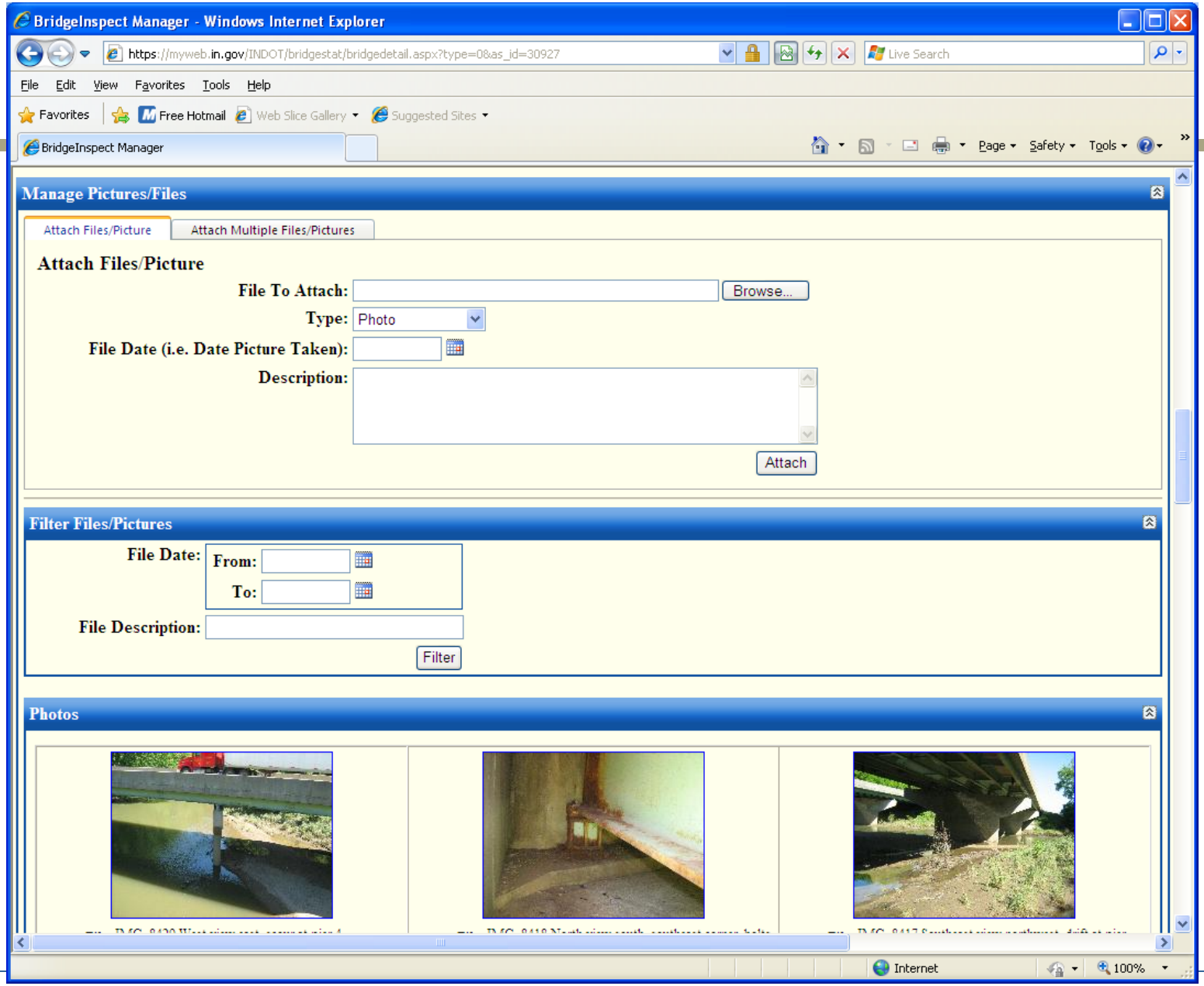
Bridge Number: I65-85-05527 BNBL
NBI Number: 35740
Feature Intersected: SUGAR CREEK
Facility Carried: I-65 NBL
District Code: 05 - Seymour
Location: 3.76 S SR 44
Post: 85
Offset: 80
Name of Structure:
Latitude: 39 - 26. - 06.00
Longitude: 085 - 58. - 54.00

Click here to see the location of the structure.
Click here to change the central database values.
Click here to view audit history for this asset.
Click here to view the central database values report for this asset.

Inspection Due Dates

Next Routine Inspection Due Date: 5/21/2011
Next Underwater Due Date: 11/1/2011

Inspection Reports


BridgeInspect Manager - Windows Internet Explorer
https://myweb.in.gov/INDOT/bridgestat/bridgedetail.aspx?type=0&as_id=30927
Live Search
File Edit View Favorites Tools Help
Favorites
Free Hotmail
Web Slice Gallery
Suggested Sites
BridgeInspect Manager
Page
Safety
Tools
Manage Pictures/Files
Attach Files/Picture
Attach Multiple Files/Pictures
Attach Files/Picture
File To Attach:
Browse...
Type:
Photo
File Date (i.e. Date Picture Taken):
Description:
Attach
Filter Files/Pictures
File Date:
From:
To:
File Description:
Filter
Photos
Internet
100%

BridgeInspect Manager - Windows Internet Explorer

https://myweb.in.gov/INDOT/bridgestat/bridgedetail.aspx?type=0&as_id=30927

File Edit View Favorites Tools Help

Favorites | Free Hotmail | Web Slice Gallery | Suggested Sites

BridgeInspect Manager

Page | Safety | Tools

File: IMG_8407 West view east, northwest wingwall, horizontal crack..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8407 West view east, northwest wingwall, horizontal crack..JPG

Edit Details

File: IMG_8406 Northwest view southeast, west side, debris along pier 4, north side..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8406 Northwest view southeast, west side, debris along pier 4, north side..JPG

Edit Details

File: IMG_8405 Southeast view northwest, northwest corner, slopewall settlement, rust on bearings..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8405 Southeast view northwest, northwest corner, slopewall settlement, rust on bearings..JPG

Edit Details

File: IMG_8404 South view north, hole in slopewall, near beam 7, northeast corner..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8404 South view north, hole in slopewall, near beam 7, northeast corner..JPG

Edit Details

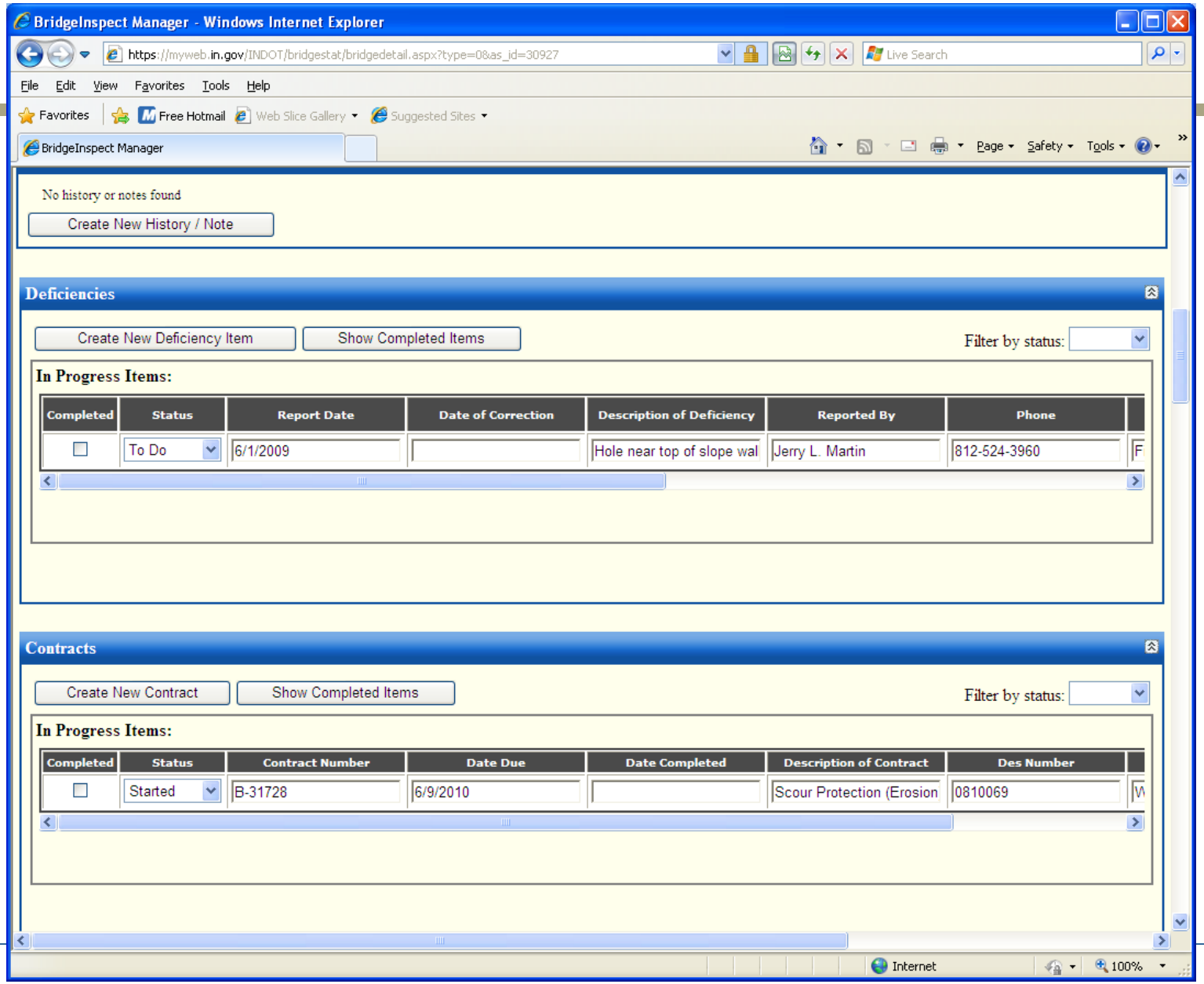
File: IMG_8403 North view southeast, parapet wall west, horizontal cracks in coping, rust on flange, span E..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8403 North view southeast, parapet wall west, horizontal cracks in coping, rust on flange, span ...

Edit Details

File: IMG_8402 East view west, bent 6, expansion joint..JPG
Date: 6/1/2009
Originally attached as part of 5/21/2009 report
Description: IMG_8402 East view west, bent 6, expansion joint..JPG

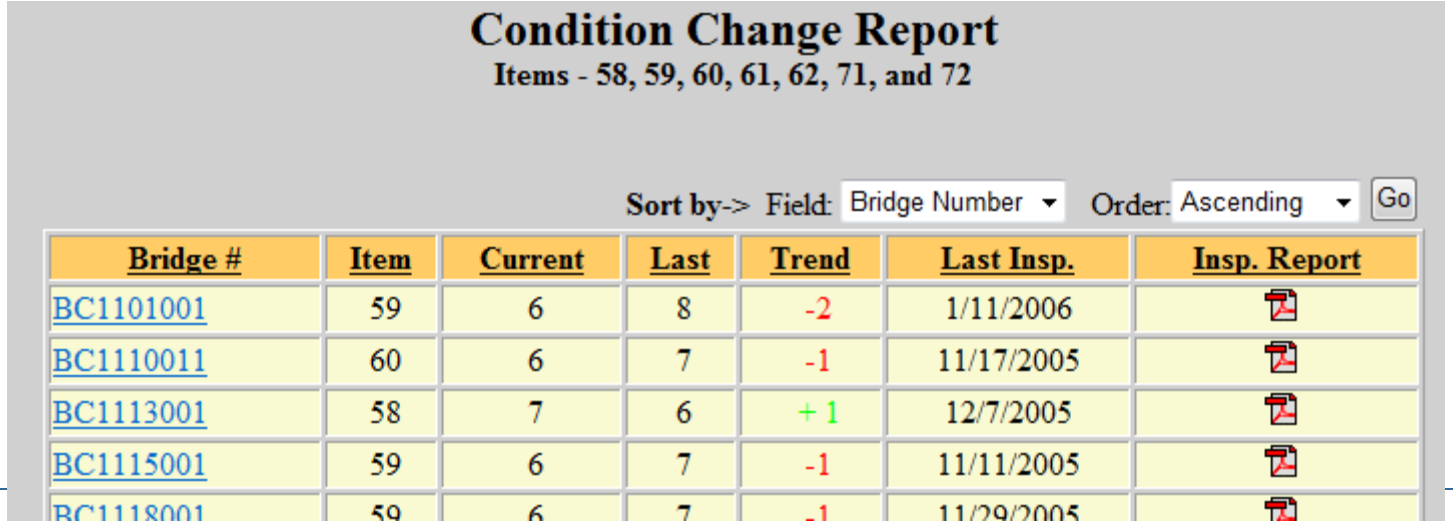
Edit Details

Internet | 100%


BridgeInspect Manager - Windows Internet Explorer
https://myweb.in.gov/INDOT/bridgestat/bridgedetail.aspx?type=0&as_id=30927
Live Search
File Edit View Favorites Tools Help
Favorites
Free Hotmail
Web Slice Gallery
Suggested Sites
BridgeInspect Manager
Page Safety Tools
No history or notes found
Create New History / Note
Deficiencies
Create New Deficiency Item
Show Completed Items
Filter by status:
In Progress Items:
Completed
Status
Report Date
Date of Correction
Description of Deficiency
Reported By
Phone
To Do
6/1/2009
Hole near top of slope wal
Jerry L. Martin
812-524-3960
Contracts
Create New Contract
Show Completed Items
Filter by status:
In Progress Items:
Completed
Status
Contract Number
Date Due
Date Completed
Description of Contract
Des Number
Started
B-31728
6/9/2010
Scour Protection (Erosion
0810069
Internet
100%

Trending Module

- Much cheaper and safer to fix problems when they are just starting
- Software's trending tools allow county/city to quickly find new problems early on
- Able to find changes on NBI and Element Level data



Condition Change Report

Items - 58, 59, 60, 61, 62, 71, and 72

Sort by-> Field: Bridge Number Order: Ascending Go

Bridge #	Item	Current	Last	Trend	Last Insp.	Insp. Report
BC1101001	59	6	8	-2	1/11/2006	
BC1110011	60	6	7	-1	11/17/2005	
BC1113001	58	7	6	+ 1	12/7/2005	
BC1115001	59	6	7	-1	11/11/2005	
BC1118001	59	6	7	-1	11/29/2005	

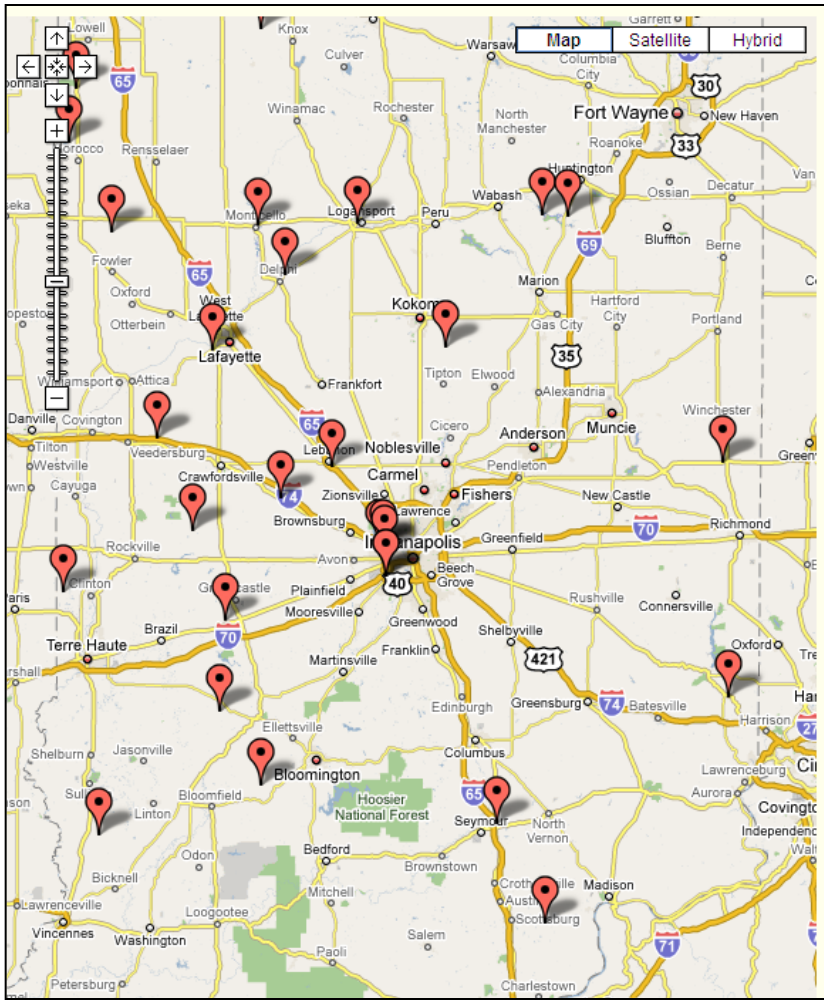
System Reports

- Upcoming Inspections (by type/district)
- Overdue Inspections (by type/district)
- High Priority Deficiencies
- Reports Awaiting Approval
- Quarterly Status Summary
  - Status of each district
  - Compliance details of counties

Searching/Query

- Search across any field within the inspection reports or inventory information
- Fields automatically linked from inspection forms to search pages
- Boolean logic can create simple or very complex nested queries
- Show on screen in table
- Export to Excel
- Plot results onto interactive map
- Very easy to do, no additional programs required.

Export Results to Map



039-06-04115 B

Bridge Number: 039-06-04115 B
NBI Number: 13290
Feature Intersected: I-65
Facility Carried: SR 39
District Code: 01 - Crawfordsville
Location: 0.9 S SR 32
Post: 63
Offset: 74
Name of Structure:
Latitude: 40 - 02. - 06.00
Longitude: 086 - 28. - 18.00

Go to Bridge Detail Page

Zoom Map to Bridge

BridgeInspect Manager - Windows Internet Explorer

https://myweb.in.gov/INDOT/bridgestat/gis_orig.aspx?sq_id=677

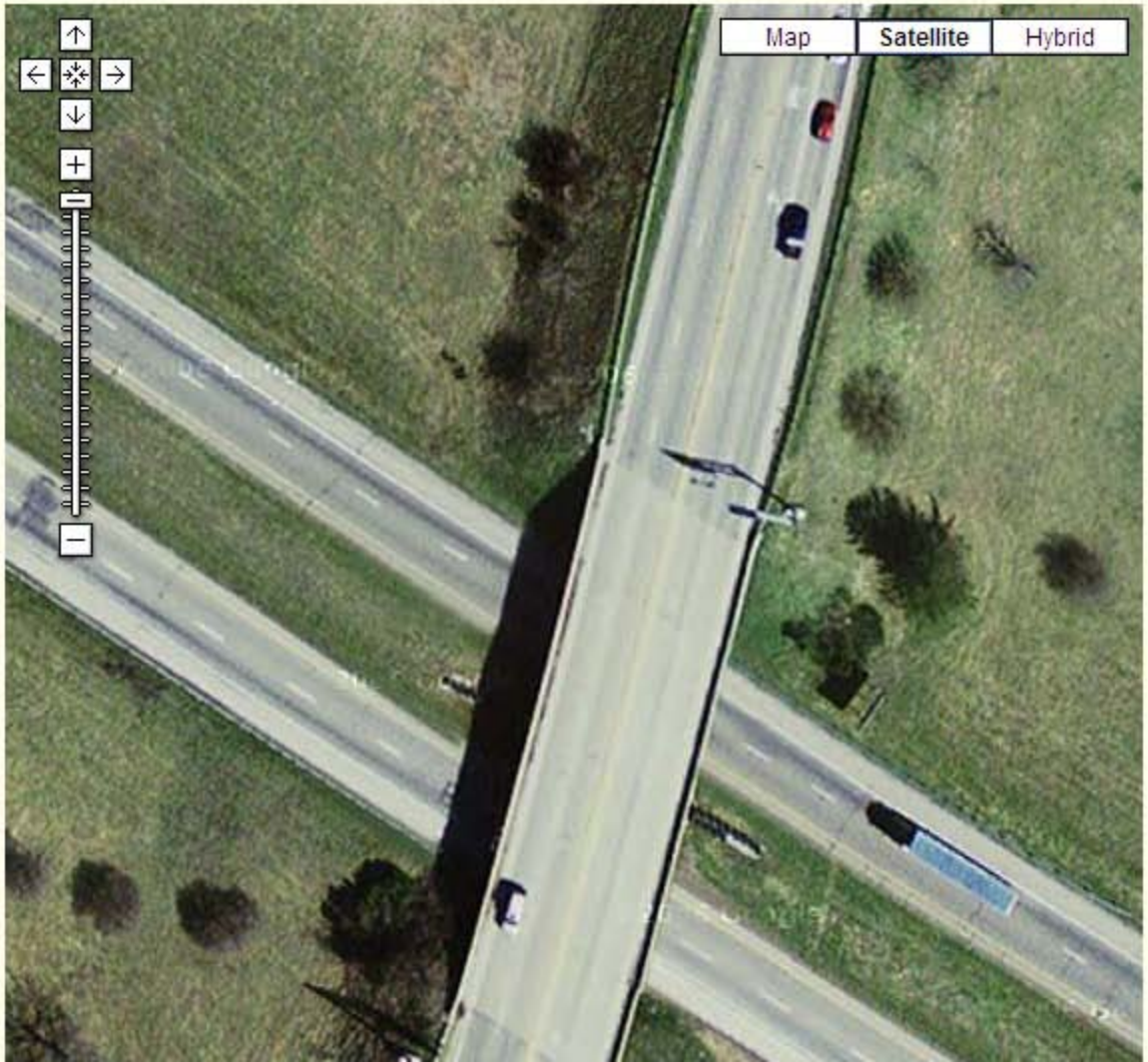
File Edit View Favorites Tools Help

Favorites | Free Hotmail | Web Slice Gallery | Suggested Sites

BridgeInspect Manager

Page

Main | GIS | Query | Reports | Administration | Help

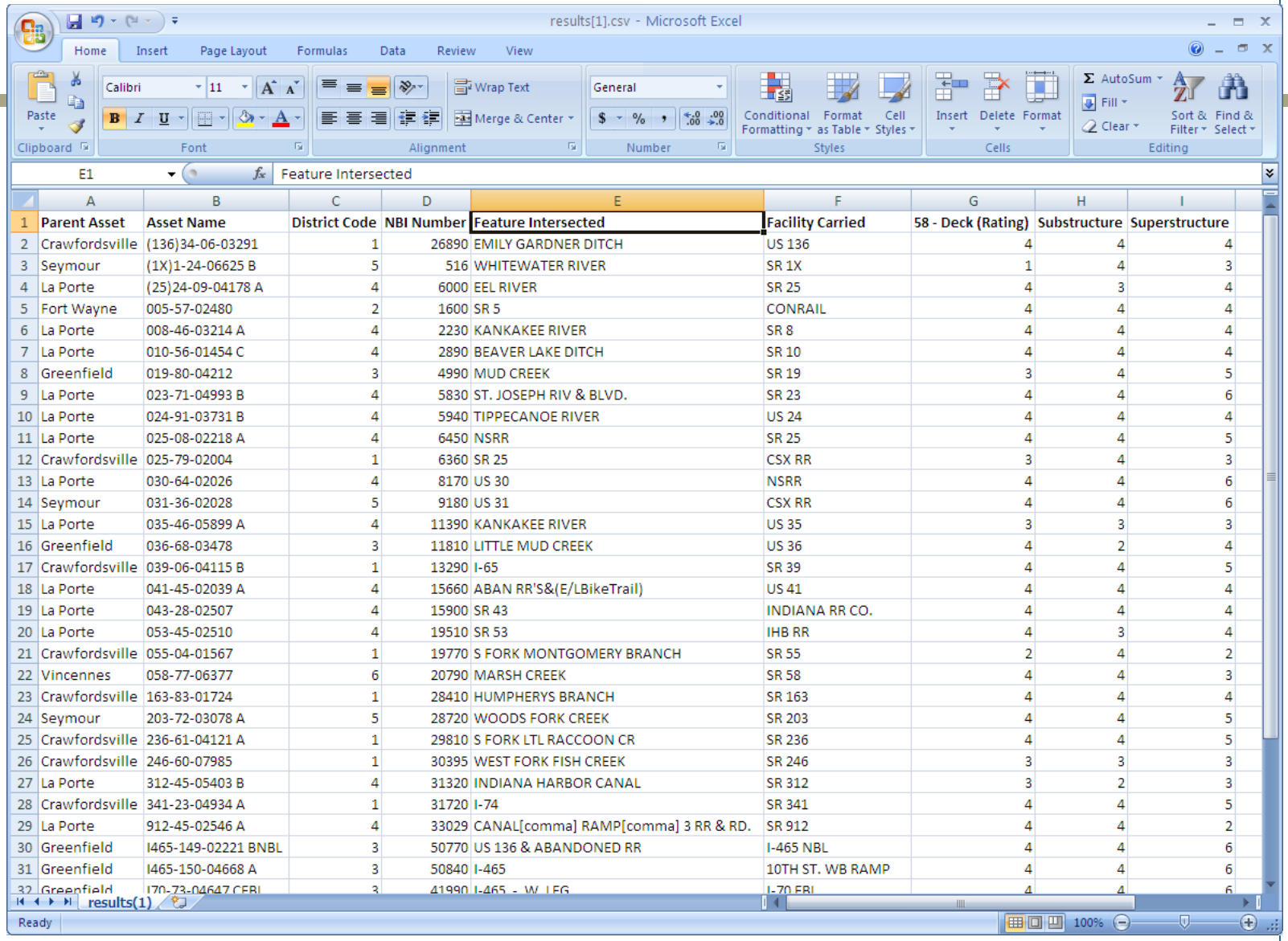


039-06-04115 B

Bridge Number: 039-06-04115 B
NBI Number: 13290
Feature Intersected: I-65
Facility Carried: SR 39
District Code: 01 - Crawfordsville
Location: 0.9 S SR 32
Post: 63
Offset: 74
Name of Structure:
Latitude: 40 - 02. - 06.00
Longitude: 086 - 28. - 18.00

Advanced Views

- Satellite View
- Interactive StreetView



results[1].csv - Microsoft Excel

Home | Insert | Page Layout | Formulas | Data | Review | View

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E1 | Feature Intersected

	A	B	C	D	E	F	G	H	I
1	Parent Asset	Asset Name	District Code	NBI Number	Feature Intersected	Facility Carried	58 - Deck (Rating)	Substructure	Superstructure
2	Crawfordsville	(136)34-06-03291	1	26890	EMILY GARDNER DITCH	US 136	4	4	4
3	Seymour	(1X)1-24-06625 B	5	516	WHITEWATER RIVER	SR 1X	1	4	3
4	La Porte	(25)24-09-04178 A	4	6000	EEL RIVER	SR 25	4	3	4
5	Fort Wayne	005-57-02480	2	1600	SR 5	CONRAIL	4	4	4
6	La Porte	008-46-03214 A	4	2230	KANKAKEE RIVER	SR 8	4	4	4
7	La Porte	010-56-01454 C	4	2890	BEAVER LAKE DITCH	SR 10	4	4	4
8	Greenfield	019-80-04212	3	4990	MUD CREEK	SR 19	3	4	5
9	La Porte	023-71-04993 B	4	5830	ST. JOSEPH RIV & BLVD.	SR 23	4	4	6
10	La Porte	024-91-03731 B	4	5940	TIPPECANOE RIVER	US 24	4	4	4
11	La Porte	025-08-02218 A	4	6450	NSRR	SR 25	4	4	5
12	Crawfordsville	025-79-02004	1	6360	SR 25	CSX RR	3	4	3
13	La Porte	030-64-02026	4	8170	US 30	NSRR	4	4	6
14	Seymour	031-36-02028	5	9180	US 31	CSX RR	4	4	6
15	La Porte	035-46-05899 A	4	11390	KANKAKEE RIVER	US 35	3	3	3
16	Greenfield	036-68-03478	3	11810	LITTLE MUD CREEK	US 36	4	2	4
17	Crawfordsville	039-06-04115 B	1	13290	I-65	SR 39	4	4	5
18	La Porte	041-45-02039 A	4	15660	ABAN RR'S&(E/LBikeTrail)	US 41	4	4	4
19	La Porte	043-28-02507	4	15900	SR 43	INDIANA RR CO.	4	4	4
20	La Porte	053-45-02510	4	19510	SR 53	IHB RR	4	3	4
21	Crawfordsville	055-04-01567	1	19770	S FORK MONTGOMERY BRANCH	SR 55	2	4	2
22	Vincennes	058-77-06377	6	20790	MARSH CREEK	SR 58	4	4	3
23	Crawfordsville	163-83-01724	1	28410	HUMPHERYS BRANCH	SR 163	4	4	4
24	Seymour	203-72-03078 A	5	28720	WOODS FORK CREEK	SR 203	4	4	5
25	Crawfordsville	236-61-04121 A	1	29810	S FORK LTL RACCOON CR	SR 236	4	4	5
26	Crawfordsville	246-60-07985	1	30395	WEST FORK FISH CREEK	SR 246	3	3	3
27	La Porte	312-45-05403 B	4	31320	INDIANA HARBOR CANAL	SR 312	3	2	3
28	Crawfordsville	341-23-04934 A	1	31720	I-74	SR 341	4	4	5
29	La Porte	912-45-02546 A	4	33029	CANAL[comma] RAMP[comma] 3 RR & RD.	SR 912	4	4	2
30	Greenfield	I465-149-02221 BNBL	3	50770	US 136 & ABANDONED RR	I-465 NBL	4	4	6
31	Greenfield	I465-150-04668 A	3	50840	I-465	10TH ST. WB RAMP	4	4	6
32	Greenfield	I70-73-04647 CEBL	3	41990	I-465 - W. LEG	I-70 EBL	4	4	6

results(1)

Ready | 100%

Query Results

- Queries can be saved for later use
- Organized by user and category
- Can be retrieved and edited
- Columns can be showed as values or definitions
- Additional non-queried columns can be easily added

Paint Prioritization Example

COMPONENTS

	% Rating 1	% Rating 2	% Rating 3	% Rating 4	Total
Girders	90	10	0	0	1.1
Fascias	95	5	0	0	1.05
Bearings	80	20	0	0	1.2
Edges	95	5	0	0	1.05
End Dam	100	0	0	0	1
Deck Pans (☐Galv ☑Paint)	85	15	0	0	1.15
Railings					
				Overall Rating	1.09

Prioritized Reports By Component

DECKS - OCR

Sorted by Overall Condition Rating utilizing all four condition states

Criteria selected for this report includes:

Turnpike District(s): 8
Mile 0.00 **to** 175.00
Parkway Area(s):

Top of Deck (DTD)

Overall Condition Rating Parameters (OCR)				Overall Condition Rating Parameters 3 and 4 only (OCRa)			
1	2	3	4	1a	2a	3a	4a
1	2	8	10	0	0	0	10

Underdeck Bare (DUB)

Overall Condition Rating Parameters (OCR)				Overall Condition Rating Parameters 3 and 4 only (OCRa)			
1	2	3	4	1a	2a	3a	4a
1	2	8	10	0	0	0	10

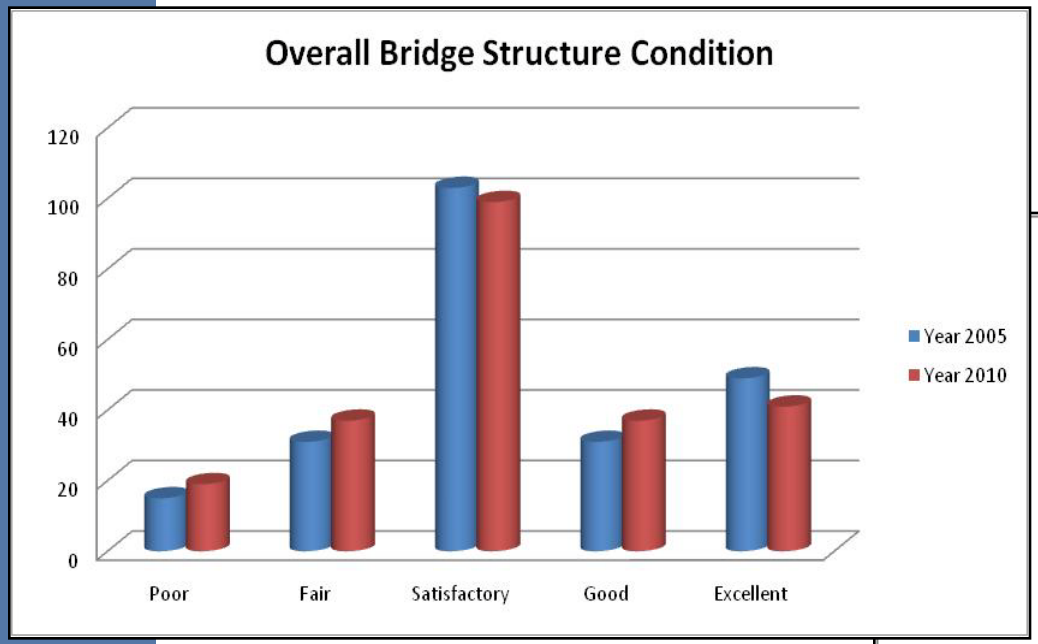
Underdeck with Pans (DUWP)

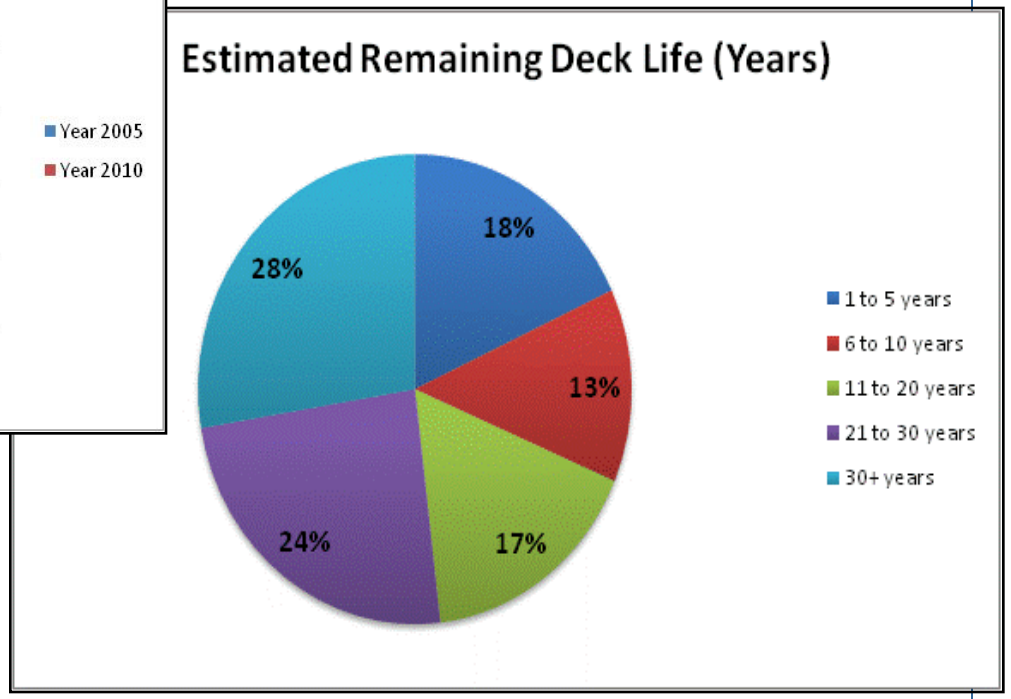
Overall Condition Rating Parameters (OCR)				Overall Condition Rating Parameters 3 and 4 only (OCRa)			
1	2	3	4	1a	2a	3a	4a
1	2	8	10	0	0	0	10

Dist/ Area	(Div)	Milepost	Description	Top Deck Type AO	NS	LMC	Decks - Top Deck OCR	OCRa	OCR	OCRa	Total	Decks - Underdeck Bare OCR	OCRa	Total	Decks - Under w/Pans OCR	OCRa	Total	Latest Inspection
1) 8	(T)	MP 117.67NI		0	0	0	7.5	0	4	0	12376	1	0	416	1	0	11960	
2) 8		MP W109.16		0	0	0	6.51	0.48	3.32	0.32	32768	1.02	0	1024	1	0	31744	
3) 8		MP W112.85		0	0	0	5.24	0	2.49	0	24835	1	0	809	1	0	24026	
4) 8		MP W116.10		0	0	0	4.94	0	2.29	0	99468	1	0	9362	1	0	90106	
5) 8		MP W108.91		0	0	0	4.83	0	2.1	0	24855	1.12	0	688	1	0	24167	
6) 8	(T)	MP 117.67NO		0	0	0	3.66	0	1.44	0	17995	1	0	1220	1	0	16775	
7) 8		MP W108.79A		0	0	0	3.62	0	1.38	0	20109	1.03	0	606	1.01	0	19503	
8) 8	(T)	MP 105.56SO		0	0	0	3.48	0	1.25	0	11310	1.07	0	9998	1	0	1312	
9) 8		MP W112.97		0	0	0	3.47	0	1.31	0	25080	1	0	836	1.02	0	24244	
10) 8	(T)	MP 117.67SI		0	0	0	3.44	0	1.29	0	16422	1	0	952	1	0	15470	
11) 8		MP W109.34		0	0	0	3.23	0	1.12	0	18688	1.03	0	584	1	0	18104	
12) 8		MP W112.72B		0	0	0	3.05	0	1.02	0	13815	1.01	0	1842	1	0	11973	
13) 8		MP E106.15A		0	0	0	3.03	0	1	0	43719	1.02	0	2238	1	0	41481	
14) 8	(T)	MP 105.56NT		0	0	0	3.02	0	1.01	0	11505	1	0	585	1	0	10920	
15) 8		MP W112.72C		0	0	0	3.02	0	1	0	8051	1.01	0	388	1	0	7663	
16) 8		MP W112.67		0	0	0	3.02	0	1	0	11189	1.01	0	3698	1.01	0	10819	

Top Deck Type: AO (Asphalt Overlay), NS (No Surfacing), LMC (Latex Modified Concrete);
OCR: Overall Condition Rating (includes all 4 condition states); OCRa: Overall Condition Rating (includes only Condition States 3 and 4);
Decks Top Deck: OCR (Overall Condition Rating for Top of Deck only in all 4 Condition States), OCRa (Overall Condition Rating for Top of Deck only in Condition States 3 and 4);

Easily Generate Graphical Output





Organized Maintenance Needs

3	of the bridge.	1	R9	4	$1500/Ea.	$3,200
					Total Bridge Repair Cost:	**$18,000**

P-30
Last Inspected:
5/7/2009

	Description	Priority Code	Item Code	Quantity	Manual Unit Cost	Manual Total Cost
1	Install chain link fencing to prevent access to bridge parapets and to divert pedestrian pathway towards center of bridge.	1	R17	500	$25/L.F.	$12,500
2	Replace the damaged W-beam guardrail at the west approach.	1	R8	24	$50/L.F.	$1,200
					Total Bridge Repair Cost:	**$13,700**

P-37
Last Inspected:
7/3/2007

	Description	Priority Code	Item Code	Quantity	Manual Unit Cost	Manual Total Cost
1	Repair approach settlement at bridge abutments.	1	R6	1	/L.S.	$1,000
					Total Bridge Repair Cost:	**$1,000**

P-41
Last Inspected:
4/30/2009

	Description	Priority Code	Item Code	Quantity	Manual Unit Cost	Manual Total Cost
1	Clean and paint all structural steel at and below the bridge deck of the Approach Bridge.	1	SUP9	1 LS	$200,000	$200,000
2	Clean and paint the steel truss members, aluminum fence railing, handrailing, etc. above and below the bridge deck of the Truss Bridge.	1	SUP9	1 LS	$100,000	$100,000
3	Replace the structural tube supporting the railing on the Approach Bridge.	1		130 LF	$150	$19,500
4	Replace corroded nuts and bolts of the double angle connection at the west end of the Approach Bridge.	1	R19	1 LS	$2,000	$2,000
5	Replace the scuppers on the Truss Bridge.	1		1 LS	$10,000	$10,000
					Total Bridge Repair Cost:	**$331,500**

Test Bridge
Last Inspected:
2/16/2005

	Description	Priority Code	Item Code	Quantity	Manual Unit Cost	Manual Total Cost
1	Some descriptionsl;fsld;f;k	1	R10	2	100	$200
					Total Bridge Repair Cost:	**$200**

Total Repair Costs for All Bridges: $1,363,114

Summary

Exceptional Results

- Strong core system that is widely adopted
- One-stop location for all structure data
- Very easy to learn for users, little training required
- Significantly improved sharing of information
- Greatly simplifies office work in preparing a report
- Helps prevent some of the most common errors
- Provided consistent high quality, format for inspection reports
- Instant access to all information on structures
- Provides for effective management tools
- Proven and supported system continues to be developed

Questions