REPORT OF COMMITTEE ON ROADSIDE DEVELOPMENT

H J NEALE, *Chairman*

SUMMARY [1]

The annual report of the Committee on Roadside Development is a complete record of activities during 1941. The Committee, in cooperation with the State highway departments and other agencies, has concentrated on the development of improved earth cross-section grading as a part of regular highway construction. On this foundation, economical methods of establishing vegetation to protect bare soil on shoulders, gutters and slopes can be applied effectively on all new highways. This record of experience is offered for application not only to roadsides and highways but also to airfields, cantonments, and other war developments

A decade of roadside improvement experience shows the need for flexibility in highway design to meet wide variations in traffic use, topography, and soils. Classification charts in the report show how smooth, moderate, and rough topography should control cross-section design.

The need is stressed for right-of-way acquisition supplemented by roadside control measures to include adequate setback lines for buildings and structures, limited and controlled access, and provision for off-roadway parking. There is pressing need for appropriate legislation covering these essential requirements for the safe and efficient operation of a modern highway system

Effective protection of bare soil is founded on the improved earth cross-section developed in roadside practice. The need for immediate vegetative protection of bare cuts and fills as a part of construction is emphasized. Methods of ground surface protection are described in relation to flat, moderate, and steep slopes under the varied climatic conditions of the cool-humid, warm-humid, and dry regions. Mulching with local materials alone, or in combination with seeding, sodding, or planting is the most effective and economical method developed for the immediate protection of bare soil.

A special study on drainage facilities is included in the report The design of drainage channels is based upon analysis of peak rates of runoff from watersheds with varying types of surfaces. Gutter sections designed to carry peak runoff without eroding or overflowing will greatly reduce future costs of highway maintenance.

The record shows the need for large-scale methods of establishing grass turf on highway shoulders, gutters, and slopes. Methods used to date have been based upon the seeding of lawn types of grasses mainly adapted to the cool-humid region. Sprigging and sodding methods have been largely confined to grasses of the warm-humid region, and to grasses of the dry region for which sources of grass seed are not available. Effective seeding or sodding depends upon cooperation of soil and landscape engineers in ground preparation during original construction of highways or airfields.

Lists of grasses used in the cool-humid, warm-humid, and dry regions are tabulated, together with methods of classification of soils based on texture. Soil texture is a major control factor in the establishment of turf on road shoulders and airfields.

The report includes an analysis of tests made on turf for protection of gutters and slopes. Significant research information is given on the growth of certain turf grasses, particularly Kentucky bluegrass, as related to soil fertility. A series of charts shows the results obtained by different rates of seeding and fertilizing.

[1] For complete report see the special bulletin of the Highway Research Board "Report on Roadside Development 1941"

Best turf production resulted from a combination of 2 to 3 lbs. of seed with 40 lbs. of 10-6-4 fertilizer per 1,000 square feet.

In the purchase of seed and fertilizer materials, the need is emphasized for uniform specifications among the States on germination, purity, noxious weed content and tolerances for grass seeds, and the necessity for the States to agree on a few standard fertilizer mixes. Such cooperation will enable seed and fertilizer men to supply more efficiently the needs of all public agencies

The Committee wishes to emphasize the need for the planning of highway and roadside development programs in preparation for the resumption of public works necessary for full-time employment in the post-war period. State-wide highway planning surveys should include plans for use of roadside and adjacent lands for auxiliary fields, and for rest, recreation, water supply, and other needs of modern highway traffic.

The Report of the Committee includes an Appendix covering the organization of the various project committees, the 1941 activities of the Coordinating Executive Committee, and a suggested program for 1942 emphasizing the application of roadside improvement experience to the war effort through incorporation of basic operations in war-time construction specifications. A list of typical grassing specification items for war and post-war needs is included.

The complete reports of the Committee have been published in a separate bulletin entitled "Report on Roadside Development 1941." This publication contains the following reports and special papers:

(1) Foreword—By C N. Conner, Chairman of Design Department
(2) General Report of Committee—By H. J Neale, Chairman
(3) Project Committee Report on Highway Types and Roadside Areas—W. H Simonson, Chairman
(4) Project Committee Report on Right-of-Way and Roadside Control (Zoning)—H R. Pomeroy, Chairman
(5) Project Committee Report on Erosion—F. A Aust and F. H Brant, Chairmen
(6) Special Paper, "Design of Roadside Drainage Channels"—Carl Izzard, Public Roads Administration.
(7) Project Committee Report on Ecology—"Grass Ground Covers for Highway Areas"—G B. Gordon, Chairman
(8) Special Paper, "Turf for Protection of Gutters and Slopes"—Dr J Monteith, Jr, U S Department of Agriculture
(9) Project Committee Report on Roadside Development Economics—H. J Schnitzius, Chairman.
(10) Project Committee Report on Education and Public Relations—P H Elwood, Chairman.
(11) Special Paper, "Roadside Development, Assets and Liabilities"—T. R Kendall, Editor, Contractors and Engineering Monthly.
(12) Appendix.