

STANDARD SPECIFICATIONS

for

HIGHWAY BRIDGES

Adopted by
The American Association of State Highway Officials

SECOND EDITION



Published by the Association

General Offices

1220 National Press Building

Washington, D. C.

1935

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INTRODUCTION

The compilation of these specifications began with the organization, in 1921, of the Committee on Bridges and Structures of the American Association of State Highway Officials. The committee is composed of representatives of the U. S. Bureau of Public Roads and various State highway departments chosen so that the work might be based upon experience with the entire range of conditions in the United States. Accordingly the committee's major objective has been the attainment of a more uniform practice in the design and construction of highway bridges than hitherto existed. To this end the existing range of conditions and practices have been carefully studied in order that the specifications, provisions, and requirements may be adaptable to the widest practicable use.

The committee has held in mind the particular needs of the State highway bridge engineers for complete working specifications. Therefore, the requirements have been made definite, although it is recognized that local or regional conditions may make modifications necessary. The specifications apply to ordinary highway bridges. Unusual span lengths or types require special or supplemental provisions. The specifications applying to steel bridges are for the most part the work of a conference committee of the American Association of State Highway Officials and the American Railway Engineering Association.

These specifications have been used extensively in the compilation of various State specifications, and have served admirably as a common basis of practice for the many independent agencies engaged throughout the country in the highway bridge field. The very general acceptance of the standard types of design loadings has greatly facilitated discussion and engendered cooperative action by organizations concerned with highway traffic control. They first appeared in mimeographed form and the first printed edition is dated 1931. In this second edition errors discovered in the first edition have been corrected and revisions and additions adopted by the committee since 1931 have been incorporated. The most important change is the adoption of stress-grading requirements in the timber specification, thereby eliminating the confusion inherent to the previously adopted specification.

In addition to strictly specification material, it has been the committee's policy to incorporate in the specifications in brief form explanatory and instructive matter considered to be essential to an understanding of the specification requirements and the securing of satisfactory design and construction results. Original investigations have been made of experimental and other data on phases of the subject in respect to which there have been divergences of opinion and practice. Special study, also, has been devoted to those practices which, although widely followed, seemed to have insufficient justification.

Many provisions of these specifications are qualified by the word "preferably" when the committee wishes to express a preference for one of several satisfactory requirements. The expression, "in general," indicates that the committee recognizes that special conditions may exist in some parts of the country which would necessitate a modification of the provisions thus qualified.

The specifications are divided into divisions, sections, subsections, and articles. There are five divisions, as follows:

- I. General Provisions.
- II. Materials.
- III. General Construction.
- IV. Special Construction.
- V. Design.

The divisions consist of sections in which related subjects are grouped. The sections are numbered consecutively within a division. In the subsections, closely related subjects are grouped under an unnumbered heading. The articles are numbered consecutively within a section without regard to subsections, each article number indicating the division, section, and article. As an example, the number 3.4.15 means division 3, section 4, article 15.

Special recognition is accorded Mr. E. F. Kelley, of the Bureau of Public Roads, who was chairman of the committee from its inception in 1921 to 1929, when he resigned because of the exigencies of other duties. The success of the committee activities is due largely to the impartial judgment and the energy which characterized his work as chairman.

The following engineers have served on the committee:

- * E. F. Kelley U. S. Bureau of Public Roads, Washington, D. C., ex-chairman.
- Albin L. Gemeny, U. S. Bureau of Public Roads, Washington, D. C., chairman.
- E. E. Brandow, Department of Highways, Pennsylvania, secretary.
- Charles E. Andrew, Department of Public Works, California.
- J. W. Barnwell, Jr., State Highway Department, South Carolina.
- E. W. Blumenschein, State Highway Commission, Iowa.
- G. F. Burch, Department of Public Works and Buildings, Illinois.
- J. R. Burkey, Department of Highways, Ohio.
- John W. Childs, State Highway Department, New Hampshire.
- William L. Craven, State Highway and Public Works Commission, North Carolina.
- H. R. Creal, State Highway Commission, Kentucky.
- C. N. Crocker, State Highway Board, Georgia.
- L. N. Edwards, U. S. Bureau of Public Roads, Washington, D. C.
- O. J. Eidmann, State Highway Commission, Kansas.
- O. R. Elwell, Department of Highways, Washington.
- L. W. Erickson, Department of Highways and Public Works, Tennessee.
- W. H. Fisher, State Highway Department, Wyoming.
- William R. Glidden, Department of Highways, Virginia.
- Morris Goodkind, State Highway Commission, New Jersey.
- M. J. Hoffman, Department of Highways, Minnesota.
- Walter Hopkins, State Roads Commission, Maryland.
- H. H. Houk, State Highway Department, Alabama.
- L. L. Jemison, State Road Commission, West Virginia.
- Fred Kellam, State Highway Commission, Indiana.

* Resigned.

C. H. Kirch, State Highway Commission, Wisconsin.
N. E. Lant, State Highway Commission, Louisiana.
A. G. Livingston, State Highway Department, Delaware.
C. B. McCullough, State Highway Commission, Oregon.
N. R. Sack, State Highway Commission, Missouri.
* S. B. Slack, State Highway Board, Georgia.
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