

Design Standards Letter

Letter Number: D-1998-08

Letter Date: 10/01/1998

Effective Date: 10/01/1998

Section/Plan No.: D2-01, D4-03, D4-08, D4-09, D5-03, D6-05, D6-07, D8-04, D9-10, D2-01.4, D2-01.9, D4-02.13, D4-02.14, D4-04.1, D8-01.1, D8-02.22

**Subject: Sections 2-01, 4-03, 4-08, 4-09, 5-03, 6-05, 6-07, 8-04, and 9-10
Figures 2-01.4, 2-01.9, 4-02.13, 4-02.14, 4-04.1, 8-01.1, and 8-02.22**

Body

The name of the *Policy, Procedure and Design Manual* has changed to the *Project Development Manual*, effective immediately. New spine and cover inserts for hard copy manuals will be forthcoming.

Enclosed are English and Metric revisions to the Design Division's *Project Development Manual* for the above noted sections and figures. Revisions are summarized as follows:

Contents, Volume I. Revision date changed to 10-1-98 for the Contents sheet and Sections 2-01, 4-03, 4-08, and 4-09.

Table of Contents, Chapter II. Revision date changed to 10-1-98.

Re-number Figure 2-01.10 to 2-01.9, due to the deletion of the Breakaway Cable Terminals (BCT) Details and Grading Layout.

Section 2-01, Conceptual Study. Revision date changed to 10-1-98.

Revised Subsection 2-01.4, to clarify the submittal and approval of 4R reports. When Part II of the 4R form is completed, non-paving costs are also prepared for each alternative provided in the rehabilitation report. When submitting design exceptions, also submit the non-paving costs, in addition to Parts I and II. Upon receipt and division approval of the design exceptions, the Design Division will submit the 4R report, approved exceptions, rehabilitation analysis, and all costs (paving and non-paving) to FHWA for approval. After FHWA approval, the district will be sent an approval letter with all approved documents.

Revised Subsection 2-01.7 to refer to Subsection 6-05.10.

Revised Subsection 2-01.8, to clarify Bridge design exceptions. A process to follow for design exceptions initiated by Bridge Division has been added to the end of the third

paragraph.

Revised Subsection 2-01.9 clarifying 4R conceptual study report submittal and approval.

Figure 2-01.4. Revision date changed to 10-1-98.

Revised item (7) to refer to Subsection 6-05.10.

Figure 2-01.9. Revision date changed to 10-1-98.

This figure was renumbered due to the deletion of Figure 2-01.9, Breakaway Cable Terminal (BCT) Details and Grading Layout.

Figure 4-02.13 and 4-02.14. Revision date changed to 10-1-98.

These two figures were revised to correctly refer to the Director, rather than Chief Engineer. Also changed the date of the Commission delegation.

Section 4-03, Plans-Specifications-Estimates. Revision date changed to 10-1-98.

Revised Subsections 4-03.14 (1) (a) and (b) to eliminate reference to fixed prices for these items of work.

In Subsection 4-03.16 (1), added last two sentences stating that effective for the January letting, plans must be in the same units (i.e., all English or metric units).

Figure 4-04.1. Revision date changed to 10-1-98.

Corrected typo on sheet 2 of 4, note (2) B. Note should read 1.2 m inside shoulders, to match the English version.

Section 4-08, Grading. Revision date changed to 10-1-98.

Added second paragraph to Subsection 4-08.3 (2) (b) stating that if Linear Grading, Class 2, is specified on the plans, the designer should also show on the 2B sheet the estimated volume of material to be placed or removed by this work. Linear grading is still paid for in units of meters or stations, but by providing volumetric estimates, the contractor will be able to more accurately bid this item of work.

Section 4-09, Miscellaneous. Revision date changed to 10-1-98.

Added second paragraph to Subsection 4-09.4 (2) (a) to explain interceptor berms. Standard Plan 806.10, Temporary Erosion Control Measures, sheet 4 of 5, shows interceptor berms as transverse berms. A standard plan revision will change the name to interceptor berms.

Added last three sentences in Subsection 4-09.7 pertaining to 3-strand guard cable. In specific, 3-strand guard cable can be used in lieu of guardrail on new construction projects at

locations outside of the clear zone in areas where it is desirable to protect possible errant vehicles from traversing steep, high fills.

Corrected typo in Subsection 4-09.7 (13), third sentence. Guardrail quantities should be estimated in 3810 mm increments, not 3180 mm.

In Subsection 4-09.21 (1), second bullet, added last two sentences stating that the designer should include all basic application data (explained in previous sentences in this bullet) on the plans. Doing so enables the contractor to more accurately prepare a bid.

Contents, Volume II. Revision date changed to 10-1-98 for the Contents sheet and Sections 5-03, 6-05, 6-07, 8-04, and 9-10.

Section 5-03, Preparation of Bridge Survey Report. Revision date changed to 10-1-98.

Revised Subsection 5-03.9 (2) to specify preferred ratios. In addition to the three ground profiles, it's desired the proposed profile grade also be shown on the 105 S1.

Section 6-05, 3R/4R Projects. Revision date changed to 10-1-98.

Revised Subsection 6-05.10 extensively.

Added Subsection 6-05.11, 3-Strand Guard Cable. This new subsection details the applications and design criteria for 3-strand guard cable.

Added Subsection 6-05.13, Scrub Seal Treatment. This new subsection details the process of scrub seal treatment and application criteria. It is important to note that this treatment is **only** applicable to traveled ways with ADT less than 7500 and pavements in sound condition.

PLEASE REVIEW THE REVISIONS IN THE SECTION CAREFULLY.

Section 6-07, Bituminous Construction Materials. Revision date changed to 10-1-98.

Corrected typo in Table 6-07.1 for Heavy Duty, Full depth asphalt, Surface mixtures. The asphalt binder changed to correct designation of PG 70-22, instead of incorrect PG 70-28.

Table of Contents, Chapter VII. Revision date changed to 10-1-98.

Removed Subsections 8-04.9 (1) and (2).

Figure 8-01.11. Revision date changed to 10-1-98.

In metric Table 8-01.1, revised AC resistance value for 120 mm² conductor to 0.20 Ω/1000 m.

Figure 8-02.22. Revision date changed to 10-1-98.

Changed metric and English Tables 8-02.1 to match the respective Tables 8-01.1.

Section 8-04, Traffic Control Plans. Revision date changed to 10-1-98.

In Subsection 8-04.9, added last two sentences stating that Type B crashworthy end terminals are considered crash cushions and that site restrictions should determine the type of crash cushion to be used.

Removed Subsection 8-04.9 (1) and incorporated Subsection 8-04.9 (2) into Subsection 8-04.9.

Extensively revised Subsection 8-04.10 with additional criteria for two-lane, two-way operation. **PLEASE REVIEW THIS SUBSECTION CAREFULLY.**

Table of Contents, Chapter IX. Revision date changed to 10-1-98.

Revised headings in Section 9-10 as a result of the metrication of the section.

Section 9-10, Non-Hydraulic Aspects of Drainage Design. Revision date changed to 10-1-98.

This section has been metricated.

In Subsection 9-10.13 (2), created second paragraph detailing fill heights over box culverts. In most cases, single fill heights are sufficient. For longer culverts, additional fill heights may be used, generally no more than two or three. When using multiple fill heights, consideration should be given to future traveled way widening.

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