

Design Standards Letter

Letter Number: **D-1994-03**

Letter Date: **02/01/1994**

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Section/Plan No.: **D4-09, D8-02, D6-03, D6-04, D6-07, D8-02**

Subject: **Revisions to Sections 4-09 and 8-02, and Figures 6-03.4, 6-04.2, 6-07.1, and 8-02.22**

Body

Enclosed are copies of revisions to the above listed sections and figures of the Design Division's "Policy, Procedure & Design Manual." Following is a summary of the revisions.

Contents, Volume I. Revision date for Section 4-09 has been changed to 2-1-94.

Contents, Chapter 4. Revision date changed to 2-1-94. The contents of Section 4-09 reflect renumbering previous subsection 4-09.1(5) as 4-09.1(6) and adding a new subsection 4-09.1(5) titled "Concrete Approach pavement."

Section 4-09, Miscellaneous. Revision date changed to 2-1-94.

Subsection 4-09.1(2) "reconnaissance" is now "location study."

Subsection 4-09.1(3) "bridge approach slab" is now "concrete approach pavement."

Subsection 4-09.1(4) has been completely rewritten to define bridge approach slab by its current meaning.

Previous subsection 4-09.1(5) has been renumbered as (6) and a new subsection 4-09.1(5) titled "Concrete Approach Pavement" inserted to take its place.

Subsection 4-09.3 has a new sentence added at the end of the first paragraph to require four inch curb height when constructed directly beneath guard rail.

Subsection 4-09.4, "reconnaissance" is now "location study" in two places.

Subsection 4-09.5(11), the restriction of the area disturbed being five acres or more has

been revised to "any land area."

Subsection 4-09.8(14), first paragraph has a new sentence added requiring four inch curb when constructed directly beneath guard rail.

Subsection 4-09.16, "reconnaissance" is now "location study."

Contents, Volume II. Revision date for Section 8-02 has been changed to 2-1-94. Figures 6-03.4, Rigid and Flexible Pavement and Shoulder Details, Medium Duty Pavement. Revision date changed to 2-1-94. A note has been added concerning longitudinal pavement edge drains.

Figures 6-04.2, Types of Shoulder Stabilization, Urban Area: Greater than 20,000 ADT. Revision date changed to 2-1-94. The note has been made into three paragraphs. At the end of the third paragraph, "and rumble strips are not included" has been added.

Figures 6-07.1, Estimate Factors. Revision date changed to 2-1-94. Estimate factors have been added for types IB, IC, LP, and LS mixes. Also, the estimate factors have been revised for asphalt cement and mineral aggregate for plant mix bituminous base and plant mix bituminous pavement. The asphaltic concrete pavement table has been re-arranged so that the asphalt cement and mineral aggregate for each type of mix are listed consecutively.

Section 8-02, Traffic Signals. Revision date changed to 2-1-94. Subsection 8-02.2, "reconnaissance" is now "location study."

Subsection 8-02.6, signal phase/directional movements revised to agree with NEMA scheme. Under "PROTECTED/PERMISSIVE LEFT TURNS", criteria (A), a further restriction is added to the first two that V_o must be greater than 100 VPH.

Subsection 8-02.12, in the last paragraph, preformed pull box size revised to be 30"x 48"x 36" deep.

Subsection 8-02.14(2), sixth paragraph, the last sentence has been deleted. seventh paragraph has also been deleted. Both were unnecessarily repeated. In the example at the end of this subsection, the "Given" data of #6 AWG Power Supply Cable is now #4 AWG. Also, the last equation of the example has been revised to its proper form and values.

Subsection 8-02.14(3), TRAFFIC SIGNAL CABLE AND WIRE, CONTROL - STRANDED CONDUCTORS table, first entry changed from 1c.#12 to 2c.#12.

Subsection 8-02.16 in various places, "mil" and "mils" have been correctly spelled. Also, unit of "K" are revised to "ohm-circular mils per foot." AWG size #0 has been added at the bottom of the CIRCULAR MILS/AWG SIZE table.

**Figures 8-02.22, Wires - Areas and Resistance from National Electric Code.
Revision date changed to 2-1-94.**

This table has been revised to give the resistances rounded to two deciamals as well as correcting the heading from DC RESISTANCE to AC RESISTANCE.

bh/kd

Enclosures