

Design Standards Letter

Letter Number: G-1967-34

Letter Date: 10/04/1967

Effective Date: 10/04/1967

Section/Plan No.: None

Subject: Standard Drawings and Special Provisions New or Revised

Body

ALL DIVISION AND DISTRICT ENGINEERS AND CHIEF COUNSELS:

We are attaching hereto several copies of the following listed and described standard drawings and special provisions to be used where applicable for the indicated letting.

Drawing 86.00 - Guard Rail

Due to extensive revisions occurring subsequent to the issuance of General Letter No. 31, 1967, the information furnished on Guard Rail in that letter may be disregarded and the attached sheets 1 and 2 of 4 discarded.

Drawing 86.00 now consists of five sheets and the major areas of revisions are as hereinafter listed.

1. Guard rail with 12' 6" post spacing is no longer used and the punching details for this spacing have been deleted. This is also provided for in the revised special provision later discussed in this letter.
2. A new detail (sheet 5 of 5) has been added covering a bridge anchor section consisting of approximately 25 feet of special guard rail. This will be a pay item as mentioned in the revised special provision later discussed in this letter.
3. Added a drawing for Type C Guard Rail with post spacing of 3' - 1 1/2" and two nested guard rail beams. Type C guard rail is to be used only in exceptional cases such as narrow medians with barrier curbs, where it is impossible to maintain two feet of clearance between the face of an obstacle and the face of the guard rail beam without encroachment over the barrier curb.
4. Type A and Type B guard rail now have 6' 3" post spacing.
5. A 12" long section of beam (back-up plate) is used between the block and the

guard rail beam at all non-splice posts for Type A, Type B, and terminal sections.

6. As a result of the 6' 3" post spacing on terminal sections, two new connectors have been provided.
7. Revised elevation of terminal section to allow height of intermediate posts to be adjusted for slope transition and to require a standard end section at the ground line.
8. Revised end view of terminal anchor post to indicate sloping ground line.
9. Post lengths for Types A and C guard rail are 6' 9" and post length for Type B guard rail is 5' 9". Notations of the plans indicating post lengths will not be necessary.
10. 5/8" post or splice bolt detail revised.
11. Bolt, in lieu of lag screw, now required for fastening beam where wood blocks and steel posts are used.
12. Blocks increased in height to 13 1/4" and bolt hole spacing in posts and blocks adjusted accordingly.
13. Where guard rail is to be anchored to bridges, the minimum guard rail consists of a bridge anchor section, 75 feet of Type A guard rail, and a terminal section.
14. The normal lateral placement of the face of guard rail beam is two feet outside the normal shoulder line except for ramps and directional lanes where the face of the beam is located at the normal shoulder line. Where obstacles occur, a two foot minimum must be maintained between the face of such obstacle and the face of the guard rail beam and encroachment toward and inside the normal shoulder line is permitted. These controls and the recommended methods of maintaining such clearance are illustrated on Sheet 2 of 5.
15. Added details for transition between Type A and Type B guard rail in median. The details provide for a 50:1 taper without post interference.
16. The details for post installations at footings have been expanded to cover footings, structures, or utilities.

Special Provision - Guard Rail

Page one of this special provision has been revised to delete the pay items for Type A and Type B guard rail with 12' 6" post spacing. A pay item has been added for Type C guard rail for use in special cases only as described in paragraph three of Drawing 86.00 revisions.

Also, a pay item for Bridge Anchor Section has been added.

It should be noted that the bridge anchor section is intended for use on new bridges. In all cases, where it is intended to anchor guard rail to existing bridges, the District should contact the Division of Bridges to determine if the standard anchor is adequate or if a special design is warranted. In either case, a special provision covering at least the drilling of the end post and such other items as may be warranted, will be required.

The above revisions should be incorporated in all plans scheduled for the December 14, 1967, and subsequent lettings. The Districts should review such plans and effect the required changes.

Drawings 87.20 and 87.21. These drawings have been revised to: (1) add the words "Federal Highway Admin." to the text of signs for projects utilizing Federal Funds, (2) require that supporting posts be 4" x 4" wood, and (3) raise the height of signs from 6 feet to 7 feet above the ground.

These drawings are being included in applicable projects beginning with the November 2, 1967 Letting.

Drawing 21.95 (Sheet 1 of 3). Section B-B of the Type S-2 inlet has been corrected to show the dimensions D+6" and D+8" to the flow line instead of to the bottom of the structure.

This revision is being included in applicable projects beginning with the November 2, 1967 Letting.

Drawing 21.96 - Type S Pipe Culvert Headwalls. This is a new drawing, consisting of a single sheet, intended for use as an inlet structure for 12-inch through 24-inch pipes where the headwall is located in 6:1 slopes. This inlet is intended primarily for use as a median drainage structure but may also be used within safety zones or 6:1 slopes for cross road drainage if the pipe sizes are applicable. As noted on the drawing, a right angle headwall is used for all installations with the skew being provided for by beveling the pipe, using a pipe elbow, or by turning the right angle headwall and varying the 6:1 slope to fit.

This drawing may be used immediately as the need develops.

Special Provision - Nondiscrimination in Employment.

This special provision has been revised to add a paragraph concerning statements and payrolls for all FA Interstate Contracts. This provision will require the employee's full name, address, and social security number on each payroll in lieu of only on the first payroll on which the employee's name appeared.

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Surveys and Plans