

## SECTION 620—GUIDE RAIL

**620.1 DESCRIPTION**—This work is construction of new guide rail of the type indicated, re-setting of existing guide rail, and removal of existing guide rail, including all appurtenances and hardware.

**620.2 MATERIAL**—

(a) **Guide Rail.** [Section 1109](#) and [Section 1119](#)

(b) **Other Material.**

- Class A Cement Concrete—[Section 704](#)
- Reinforcement Bars—[Section 709.1](#)

(c) **Certification.** [Section 106.03\(b\)3](#)

**620.3 CONSTRUCTION**—As shown on the [Standard Drawings](#) and as follows:

(a) **New Guide Rail.**

**1. General.** Set posts plumb at the spacing shown. Minor adjustments in spacing may be allowed to clear objects or to fit between fixed ends.

Use bolts that are long enough to extend at least 6 mm (1/4 inch) beyond the nuts. Draw bolts tight, except if required for expansion.

Before installation, apply acceptable galvanizing paint to repair portions of posts to be placed underground. After installation, apply two coats of the galvanizing paint to guide rail or related appurtenances, including threaded portions of fittings, fasteners, and the cut end of bolts, that have been abraded or cut, exposing the base metal.

If guide rail is installed under traffic conditions, conform to the following requirements:

- Perform work only within those areas protected by temporary traffic control devices.
- Attach guide rail on posts driven during the day, before the end of that day.
- Provide satisfactory protection at exposed, unfinished ends of guide rail.

Join new and existing guide rail, if required, as indicated or directed.

Construct concrete parts of guide rail, if required, as specified in the applicable parts of [Section 1001.3](#).

**2. Posts and Offset Brackets.** Drill or punch holes suitable to the type of guide rail indicated. Drive posts mechanically, unless otherwise directed. Do not batter, burr, separate galvanizing from steel, or distort the post. As directed, remove and replace posts bent or otherwise damaged. Install offset brackets, if required.

In areas where random boulders are encountered and the post cannot be driven to grade, remove the post, then drill or excavate a hole of suitable dimensions and depth to place the post at grade. Reset the post and backfill to the ground line, using an acceptable embankment material, thoroughly compacted in 150 mm (6-inch) layers.

In areas where bedrock is encountered, and the post cannot be driven to grade, remove the post, then drill or excavate a hole of suitable dimensions to the required depth. Reset the post and backfill to the ground line, using an acceptable embankment material, thoroughly compacted in 150 mm (6-inch) layers. In isolated locations where only one or two posts are affected, the Nested W-Beam (Type 2-S) Guide rail treatment may be used, as per RC-52M.

**3. Rail Elements.** Do not allow the free end of Types 2-W and 2-WC rail elements to swing free and cantilever from the M8 x 1.25 (5/16-inch) mounting bolt. Rest the free end on temporary M14 x 2 (1/2-inch) support bolts and nuts or temporary drift pins until the M8 x 1.25 (5/16-inch) mounting bolts are torqued.

Splice by lapping in the direction of traffic. Provide full contact between the rail elements in the overlap, between the center and both edges of the element, and between the bracket or post, as the case may be.

Use suitable shop-formed guide rail or rubbing rails on curves having a radius of less than 46 m (150 feet).

**4. Terminal Sections, Post Anchorages, and End Treatments.** Install, where indicated.

**5. Over Underground Structures.** Install, where indicated, using Class A Cement Concrete, reinforcement bars, anchor bolts, nuts, and washers.

**(b) Guide Rail to Bridge Barrier Transition.**

**1. Typical and Alternate Concrete Bridge Barrier Transition.** Install approach end guide rail transition at structure barrier, with or without inlet placement as indicated, as shown on the [Standard Drawings](#).

**2. Thrie-Beam to PA Type 10M Bridge Barrier Transition.** Install approach end guide rail transition at structure barrier, with or without inlet placement as indicated, as shown on the [Standard Drawings](#).

**3. Thrie-Beam to Vertical Wall Bridge Barrier Transition.** Install approach end guide rail transition at structure barrier as shown on the [Standard Drawings](#).

**4. Thrie-Beam to PA Bridge Barrier Transition.** Install approach end guide rail transition at structure barrier as shown on the [Standard Drawings](#).

**(c) Reset Guide Rail.** Carefully remove existing guide rail and reset at locations indicated, as shown on the [Standard Drawings](#).

Repair or replace rail element, posts, hardware, or other materials damaged during this operation.

**(d) Remove Existing Guide Rail.** Remove existing guide rail from locations indicated, then dispose of the material outside the right of way, or stockpile inside the right of way for removal by the Department, as specified or indicated.

**(e) Structure-Mounted Guide Rail.** Install as indicated and as shown on the [Standard Drawings](#).

**620.4 MEASUREMENT AND PAYMENT—**

**(a) Guide Rail.** Meter (Linear Foot)

For the type indicated.

**(b) Terminal Section.** Each

For the type indicated.

**(c) Type 2-S Post Anchorage.** Each

**(d) Type 2-S End Treatment.** Each

**(e) Type 2-W End Treatment.** Each

**(f) Type 2-W End Treatment, Driveways and Openings.** Each

**(g) Reset Guide Rail.** Meter (Linear Foot)

**(h) Structure Mounted Guide Rail.** Meter (Linear Foot)

(i) **Remove Guide Rail.** Meter (Linear Foot)

(j) **Guide Rail to Bridge Barrier Transition.** Each  
For the type indicated.

(k) **Inlet.** [Section 605.4](#)