

Amend **Section 606 - Guardrail** to read as follows:

**"SECTION 606 - GUARDRAIL**

**606.01 Description.** This work includes installing guardrails according to the contract.

The contract designates the type 3 as beam type guardrail.

The construction of guardrails includes the assembly and erection of component parts at the locations shown in the contract or as specified by the Engineer.

**606.02 Materials.** Materials shall conform to the following:

Reinforcing Steel	709.01
Metal Beam Rail	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

Furnish zinc-coated steel post and zinc-coated steel rail beam for the Type 3 Beam Type Guard Rail. Do not mix the type of steel posts within the project.

When the location of manufacturing plants allows, the Engineer may inspect the plants periodically for compliance with specified manufacturing methods. The Engineer may get samples of materials for laboratory testing for compliance with material quality requirements. This may be the basis for acceptance of manufacturing lots regarding quality.

The condition of materials will be subject to inspection for acceptance before or during incorporation of materials into the work.

**606.03 Construction Requirements.** Repair zinc-coated base metal surfaces that the Contractor exposes, drills, threads, cuts according to 501.03(G)(2) - Repairing of Damaged Zinc-coated Surfaces.

Preserve and protect existing facilities that the Contractor may affect by the guardrail installation. Replace the guardrails that the Contractor damages due to its operation at no cost to the State.

**(A) Beam Type Guard Rail.**

**(1) Posts.** When using a suitable method, the Contractor may drive only steel posts, except those with anchors, into the ground. Maintain an accurate vertical alignment and shall not deform the steel post.

Set the wood and steel posts with anchors plumb in hand or mechanically dug holes. Backfill post holes with acceptable material placed in layers and compact thoroughly.

Set the posts vertically in the ground to the approximate depth shown in the contract. The posts, after backfilling or driving, shall be in accurate alignment with their tops at the required grade.

The Contractor may vary the guardrail post locations shown in the contract to ease clearing utility lines or to produce smooth transitions. Request such variance for acceptance by the Engineer. The Contractor may not vary the guardrail post locations of terminal sections.

When the contract requires additional bolts and holes on posts, drill the additional bolt holes and furnish the bolts for proper installation. Drill, furnish, and install this additional bolts at no cost to the State.

Do not make the additional bolt holes in posts by burning with a torch or other method or device. Manufacture or drill the holes in the posts.

Apply a preservation treatment to the wood posts and blocks according to Section 714 - Structural Timber and Related Materials.

Where field cutting or boring is done after treatment, thoroughly swab, spray, or brush the cuts and holes with two applications of preservatives accepted by the Engineer.

**(2) Rail Elements.** Install the rail elements that results in a smooth, continuous installation. Draw the bolts, except adjustment bolt, tight. Bolts shall be of sufficient length to extend beyond the nuts.

When the contract requires setting the guardrail posts at non-standard spacing, cut the rail elements and drill bolt holes as necessary for proper installation.

Do not make the additional bolt holes by burning with a torch

or other method or device.

The Contractor does not require paint on zinc-coated steel railing.

**(3) Existing Guardrail.** The Contractor shall be responsible for verifying underground facilities such as utilities ducts, cables, and pipes in locations where the Contractor will drive guardrail posts. Repair damages done to the facilities despite the location or if shown in the contract at no cost to the State.

When removing the existing guardrails, backfill and compact the holes with suitable material. Grade and compact the shoulder area before installing the new guardrails and posts.

Reinstallation of guardrail shall be according to Subsection 606.03(A).

When replacing the existing guardrails with new guardrails and posts, do not leave an unprotected opening in the guardrail system of more than 500 linear feet. Also, after each work day, protect the areas not yet completed with physical barriers according to the latest MUTCD.

**606.04 Method of Measurement.** The Engineer will measure guardrail per linear foot. The Engineer will measure from center to center of end posts. When making end connections to masonry or steel structures, the Engineer will measure to the face of such structures.

The Engineer will measure terminal section per each.

**606.05 Basis of Payment.** The Engineer will pay for the accepted guardrail at the contract unit price per linear foot complete in place. The price includes full compensation for grading and compacting the shoulder area; installing physical barrier; furnishing and installing the guardrails; and furnishing labor, materials, tools, equipment, and incidentals necessary to complete the work.

The Engineer will pay for the accepted terminal section at the contract unit price per each complete in place. The price includes full compensation for grading and compacting the shoulder area; installing physical barrier; furnishing and installing the end anchorage and terminal section; and furnishing labor, materials, tools, equipment, and incidentals necessary to complete the work.

The Engineer will make payment under:

**Pay Item**

**Pay Unit**

Guardrail, \_\_\_\_\_

Linear Foot

Terminal Section, Type \_\_\_\_\_

Each"

**END OF SECTION**