SP00587 (Special Provisions for the 2024 Book) **(Bidding on or after: 02~~12~~-01-27~~6~~**
Last updated: 10~~08~~-26~~25~~-26
Requires SP02001, SP02530, SP2560, and SP02810.
Requires SP01050 and SP03010 when protective fence or ornamental protective fence is required.)

SECTION 00587 - BRIDGE RAILS

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00587 of the Standard Specifications modified as follows:

00587.00 Scope - Replace the paragraph that begins "Bridge rails will be …" with the following paragraph:

Bridge rails are classified as concrete or steel according to the predominant Material used in the rail.

(Use the following two paragraphs when protective fencing is included on the Project)

Replace the paragraph beginning "This Work consists of…" with the following:

This Work consists of constructing bridge rails and protective fence of the Material or combination of Materials shown or specified.

(Use the following two paragraphs when ornamental protective screening is included on the Project.)

Add the following to the end of this subsection:

Work also includes ornamental protective screening, of the Material or combination of Materials, as shown or directed.

(Use the following subsection .01 when protective fence or ornamental protective screening is required.)

Add the following subsection:

00587.01 Definitions -

Panel - A Panel is a portion of screening between adjacent posts.

Run - A Run is the length of fence between end posts, intermediate posts and corner posts.

(Use the following subsection .10 when protective fence or ornamental protective screening is required.)

00587.10 Materials - Add the following to the end of this subsection:

Fasteners 02560
Fencing Materials 03010
Resin Bonded Anchor System 00535.10
Structural Steel.....02530

(Add the following paragraph when vinyl coated fabric fencing without exact color matching is required. Indicate the color within the parentheses. Fill in the blank with black, dark green, or brown. Delete all purple parentheses.)

Provide PVC coating of the color (____). Provide coated fencing materials of matching color.

00587.42(a) General - Replace the bullet that begins "Construct expansion joints …" with the following bullet:

- Construct expansion joints that permit freedom of movement. After all other Work is completed, use a sharp chisel to remove all loose or thin shells of concrete likely to spall under movement at expansion joints.

00587.42(b) Fixed Forms - Replace this subsection, except for the subsection number and title, with the following:

Provide forms that are smooth and tight fitting, rigidly held in line and grade, and removed without damage to the concrete. Make form joints in vertical planes. Construct all moldings, panel Work, and bevel strips as shown. Make corners in the finished Work true, sharp and free from cracks, spalls or other defects.

00587.42(c) Slipformed - Replace the paragraph that begins "Concrete rails may be …" with the following paragraph:

Concrete rails may be slipformed if the Plans contain details for slipforming. Before slipforming any permanent rail, meet one or both of the following requirements (1) and (2) as directed:

00587.42(c)(2) Replace the bullet that begins "Provide concrete with …" with the following bullet:

- Furnish concrete with a slump of 1 inch ± 1/2 inch.

00587.43(a) Construction - Replace this subsection, except for the subsection number and title, with the following:

Furnish structural steel tubing, tube or metal thrie beam rail as shown or specified. Fabricate and erect metal rails according to Section 00560. Adjust metal rails before fixing in place to ensure proper matching at abutting joints and correct alignment and Camber throughout their length.

(Use the following subsection .44 when protective fencing is required.)

Add the following subsection:

00587.44 Protective Fence:

(a) Posts and Braces - Set all metal end posts, intermediate end posts, and chain link fence posts as shown.

(b) Chain Link Fence Fabric and Wire - Assemble and install chain link Fence fabric and wire according to 01050.45(c).

(c) Welding - Weld according to AWS D1.1 Structural Welding Code.

(d) Resin Bonded Anchor System - Place posts and fully cure all resin bonded anchors before installation of the screening panels. Install anchors according to Section 00535.

(Use the following paragraph when gates are required)

(e) Gate - Install gates according to 01050.48.

[Option 1 – Use the following option when only one structure requires coating]

(f) Coatings -

(Use the following paragraph when vinyl coated fabric fencing is required.)

Apply coatings from the QPL with approximate top coat color of provided Fencing Material to galvanized or uncoated fasteners and Fencing Material hardware and repair coating damage due to handling and erection according to 00594.60 after installation. Follow all fencing and coating manufacturer recommendations.

(Use the following paragraph when precise top coat color or additional corrosion protection is required. Include SP00593 where top coat color is specified.

Powder coat Fencing Materials according to Section 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

[End Option 1]

[Option 2 – Use the following option when multiple structures require coating. Indicate structure number(s) to which each paragraph applies. Insert the structure number(s) and delete all purple parentheses.]

(f) Coatings -

(Use the following paragraph when vinyl coated fabric fencing is required.)

For Structure(s) (_____) apply coatings from the QPL with approximate top coat color of provided Fencing Materials to galvanized or uncoated fasteners and Fencing Material hardware and repair coating damage due to handling and erection according to 00594.60 after installation. Follow all fencing and coating manufacturer recommendations.

(Use the following paragraph when precise top coat color or additional corrosion protection is required. Include SP00593 where top coat color is specified.

For Structure(s) (_____) powder coat Fencing Materials according to 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

[End Option 2]

(Use the following subsection .45 when ornamental protective screening is required.)

Add the following subsection:

00587.45 Ornamental Protective Screening -

(a) General - Complete a check assembly for each panel of ornamental protective screening. Include all members except for welded wire mesh panels. Check assemblies based on the specified geometry, alignment and splice locations, proposed order of erection, and similar considerations that affect field erection of screening, as directed. If the check assembly fails to demonstrate that the required accuracy is being obtained, additional check assemblies may be required at no additional cost to the Agency. Acceptance of the check assembly does not relieve the Contractor of the responsibility for assuring accurate fit-up during erection.

The sequence of assembly may start from any location in the Structure and proceed in one or both directions, so long as the preceding requirements are satisfied.

Do not exceed 0.01 foot / foot difference in slope between the longitudinal channels or plates and the bridge rail for any given screening panel. Maintain the vertical alignment of wire mesh and square tubing.

Match-mark connecting parts assembled in the shop for the purpose of reaming holes in field connections, and provide a diagram showing such marks to the Engineer. Before fabrication, field verify required dimensions.

Erect ornamental fence to the lines and grades shown. The overall height of the fence when erected is the height above the grade as shown.

Place posts and fully cure all resin bonded anchors before installation of the screening panels. Install anchors in new concrete according to 00535.40.

(b) Woven Wire Fabric - Assemble and install woven wire fabric according to 01050.44.

(c) Welding - Weld according to AWS D1.1 Structural Welding Code.

(d) Coatings - Hot dip galvanize all steel frames, panels and hardware according to 02530.70 and 02560.40.

(Use the following paragraph when coatings for aesthetics or additional corrosion protection is required. Include SP00593 where top coat color is specified.)

When shown, powder coat ornamental protective screening according to Section 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

(Use the following paragraph when a custom ornamental protective screening requires preassembly due to unique and complex elements.)

(e) Preassembly - When shown, fabricate and preassemble ornamental protective screening components in the shop, and ream holes to specified size while the connections are assembled. Obtain approval for each assembly, including horizontal and vertical curvature, alignment, accuracy of holes, and fit of milled joints before reaming is commenced or before a numerically controlled drilled check assembly is dismantled.

00587.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:~~Replace the paragraph that begins "No measurement of quantities …" with the following paragraph:~~

No measurement of quantities will be made for bridge rails performed under this Section.

~~Add the following to the end of this subsection:~~

The estimated quantity of bridge rail is:

(List rail type as the Pay Item name. Obtain information from the Bridge Designer.)

Structure	Rail Type	Quantity (Foot)
Bridge No. _____		
Bridge No. _____		

(Use the following paragraph when protective fence or ornamental protective screening is required.)

Bridge protective fence or ornamental protective screening will be measured on the length basis. Measurement will be between beginning and ending locations as shown.

(Use the following subsection .90 when Bridge protective fence or Ornamental protective fence is required.)

00587.90 Payment -

(Use the following three paragraphs when Bridge protective fence is required.)

Add the following paragraphs after the paragraph beginning “The accepted quantities…”

Bridge protective fence will be paid for at the Contract unit price, per foot, for the item "____ Foot Type ____ Protective Fence".

The height of the fence is inserted in the first blank. The type of fence is inserted in the second blank.

(Use the following two paragraphs when ornamental protective screening is required.)

Add the following paragraphs after the paragraph beginning “The accepted quantities…”

The accepted quantities of ornamental protective screening will be paid for at the Contract unit price per foot for the item "Ornamental Protective Screening".

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.