

SECTION 323113 – FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. PVC-coated steel Exclusion Fencing and Gates.
 - 2. Galvanized steel with wood cap and mesh panel - View Rails
 - 3. Galvanized steel with mesh panel - Guard Rail (Add Alternate)
 - 4. Painted steel service gate posts and hinges (match existing)
- B. Related Sections:
 - 1. Division 3 – Cast in Place Concrete- concrete footers
 - 2. Division 5 – Metal Fabrication

1.2 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Shop Drawings: Show locations, components, materials, dimensions, sizes, weights, finishes of components, installation and operational clearances, gate swings, and details of post anchorage and attachment and bracing.
- C. Samples:
 - 1. PVC-coated steel wire for fabric and polymer coating on framing and accessories.
 - 2. Galvanized steel frame section
 - 3. Wood cap with stain

PART 2 - PRODUCTS

2.1 EXCLUSION FENCE & GATE FRAMING

- A. PVC Coated, Round Posts and Frames : ASTM F 761.
 - 1. Fence Height: as shown on drawings
 - 2. Line, End, Corner, and Pull Posts and Top Rail: As required for Medium Duty fence.
 - 3. Gate Posts, Gates, and Accessories: Comply with ASTM F 654, gate type as indicated, made from Polymer-coated steel metal pipe and tubing for individual gate widths as shown on Drawings with complete with hardware.
- B. Welded Wire Mesh Fabric:
 - 1. Mesh and Wire Size: as shown on drawings
 - 2. PVC-Coated Fabric: ASTM F 668, Class 1 over metallic-coated steel wire. Color: Black complying with ASTM F 934.

2.2 TENSION WIRE AND FITTINGS

- A. PVC-Coated Steel Tension Wire: 0.177-inch diameter, marcelled tension wire complying with ASTM A 824 at locations indicated.
- B. Fittings: Provide fittings and turnbuckles for a complete fence installation, including special fittings for corners. Comply with ASTM F 626.

2.3 CAST-IN-PLACE CONCRETE

- A. General: Comply with ACI 301 for cast-in-place concrete; materials consisting of portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and potable water.
 - 1. Concrete Mixes: Normal-weight concrete with not less than 3000-psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

2.4 POLYMER FINISHES

- A. Supplemental Color Coating: In addition to specified metallic coatings for steel, provide fence components with polymer coating.
- B. Metallic-Coated Steel Tension Wire: PVC-coated wire complying with ASTM F 1664, Class 1.
- C. Metallic-Coated Steel Framing: Comply with ASTM F 1043 for polymer coating applied to exterior surfaces and, except for tubular shapes, to exposed interior surfaces.
- D. Miscellaneous Components: Comply with ASTM F 626 for the following:
 - 1. Fittings.
 - 2. Post and line caps. Cone shape.
 - 3. Tension and brace bands.
 - 4. Tension bars.
 - 5. Tie wires, clips, and fasteners.
- E. Color: Black complying with ASTM F 934.

2.6 GATE HARDWARE

- A. Hardware: PVC coated steel latch shall have provision for padlocking. Hinges shall grip post and frame firmly to prevent slippage. Hinges shall have a load capacity of 1,000 lbs. and allow gate leaf to swing 180 degrees.
- B. Fulcrum latch with padlock hole
- C. Padlock (one per gate as shown on drawings)
- D. Gate cane bolts to hold gate in open position.

2.7 VIEW & GUARD RAIL FENCE

- A, Galvanized Steel Posts and Rails Frames
 - 1. Fence Height: as shown on drawings
 - 2. Posts, Tubes, and Frames: As specified on drawings.
- B, Galvanized Steel Mounting Plates with Studs
 - 1. Size as shown on drawings
- E. Wood Rail
 - 1. White Oak - see Drawings for sizes
 - 2. Stain – see Drawings for stain type – 2 coats
 - 3. Sign Mounting Brackets – see Drawings for dimensions

- F. Mesh Fabric:
 - 1. Mesh and Wire Size: as shown on drawings

2.8 SERVICE GATE POSTS AND HINGES

- A. Painted Steel Posts
 - 1. Gate Post Height: as shown on drawings
 - 2. Posts, Tubes, and Frames: As specified on drawings.
- B. Galvanized Steel Hinges
 - 3. Greaseable Barrell hinges to match existing

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install fencing to comply with ASTM F 567 and more stringent requirements indicated. Do not begin installation before final grading is completed, unless otherwise permitted by Architect.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.
- C. Post Setting: Hand-excavate holes for post foundations in firm, undisturbed or compacted soil.
 - 1. Concrete Footings: Place concrete around posts and vibrate or tamp for consolidation. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured. Set the following post types in concrete footings and protect portion of posts aboveground from concrete splatter:
- E. Gate, Terminal and Line Posts; Using mechanical devices to set line posts per ASTM F 567 is [not] permitted.
- F. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 70 feet.
- G. Line Posts: Space line posts uniformly at 10 feet o.c.
- H. Set posts plumb in concrete having a diameter 4 times the diameter of the post, and 6 inches deeper than the bottom of the post. Forms are not necessary or recommended.
- I. Check each post for vertical and top alignment.
- J. Caps: Install and secure specified post tops
- K. Tension Wires: Install in one piece as indicated spanning between posts, using fittings, special offset fittings, and accessories.
- L. Fabric: Apply fabric to [outside] [inside] of enclosing framework.

- M. Tie Wires: Attach wire to chain-link fabric per ASTM F 626. Tie fabric to line posts at maximum interval of 12 inches o.c. and to braces at maximum interval of 24 inches o.c.
- N. Gates: Install gate posts a minimum of 36 inches into firm soil. Diameter of the footing shall be a minimum of 4 times the diameter of the post. Footing shall be 6 inches deeper than the bottom of the posts, or a minimum of 42 inches. Finish concrete with a slope for all water to drain away from post.
- K. Attach all hardware to gate in such a way that it cannot be removed by unauthorized persons.
- I. Adjust gate as required. Make sure that gate opens smoothly free of binding.
- J. Attach latch and make sure that gate is received by latch in a secure manner

3.2 WELDING

- A. See Section 055000 Metal Fabrication for welding standards

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion

END OF SECTION 323113