

Special Specification 4193

Ornamental Fence



1. DESCRIPTION

Furnish and install ornamental fence and accessories as directed.

2. MATERIALS

Provide new materials conforming to the pertinent requirements of the following Items:

- Item 420, "Concrete Substructures"
- ASTM F2781 Standard Practice for Testing Forced Entry
- ASTM A123/A123M Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- ASTM A307 Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength
- ASTM B117 Practice for Operating Salt Spray (Fog) Apparatus
- ASTM F626 Standard Specification for Fence Fittings
- ASTM F934 Specification for Colors for Polymer-Coated Chain Link Fence Materials
- ASTM F1043 Specification for Strength and Protective Coatings on Steel Industrial Fence Framework
- ASTM F1083 Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
- ASTM F1267 Specification for Metal, Expanded, Steel
- ASTM F2453/F 2453M Standard Specification for Welded Wire Mesh Fence Fabric
- ASCE/SEI 7-05 Minimum Design Loads for Buildings and Other Structures.

2.1. **Fence Material.** The fence will provide anti-climb characteristics. All sections and pieces of the fence material, rails, framing, etc. will be hot galvanized. The galvanizing process must meet ASTM A123/A123M standards. Fence must withstand the effects of gravity loads and the following loads within limits and under conditions indicated according to ASCE: Wind Load 90 mph, Exposure Category C. See detail sheet for fence dimensions and finish. All fence materials and fittings will have the same finish.

2.1.1. **Panel.** The fence panels will be provided so that limited field cutting and finish patch work is required in the field. Supply additional galvanizing material for touching up the fence system on site. Ensure all areas and components of the fence and gates are properly coated.

2.1.2. **Fence Framing.** Comply with ASTM F1043 for framing, including rails and braces; and line, terminal, and corner posts.

2.1.2.1. **Posts and Rails.** Every post and opening in the top of the fence structure will be sealed with a UV stabilized polymer post cap. Provide rail and brace ends for each corner, line, and terminal post.

2.1.3. **Fittings.** Comply with ASTM F626. Tie wires will not be permitted. Install clips and fasteners as directed on shop drawings.

3. QUALITY ASSURANCE

3.1. **Fence Grounding.** Testing Agency's field supervisor must be currently certified by the International Electrical Testing Association (NETA) or an OSHA Nationally Recognized Testing Laboratory (NRTL) program to supervise on-site testing.

- 3.2. Factory representative must provide on-site installation training, support, and oversight to the Contractor at the construction site.

4. SUBMITTALS AND SHOP DRAWINGS

Provide the following.

- Verification of factory-authorized service representative.
- Shop drawings showing layout, dimensions, spacing of components, and anchorage and installation details. Include details for steel fabrication including structural field welding, finishing, and fastening.
- Certificate of compliance for materials and coatings.
- Field quality-control reports.
- Sample: 22 in. by 16 in. minimum size sample of fence panel with posts illustrating design, fabrication workmanship, and selected color coating.
- Manufacturer's warranty in which manufacturer agrees to repair or replace components of security fences and gates that fail in materials or workmanship within specified warranty period.

5. MANUFACTURERS

- "ClearVu Invisible Wall" Cochrane USA, Inc. 3551 Lee Hill Drive, Fredericksburg, VA 22408, Phone: 713-859-2383; <https://www.cochraneglobal.com/clearvu-invisible-wall/>, or
- Approved Equal.

6. CONSTRUCTION

Before fabrication, field verify required dimensions. Stake locations of line posts and terminal posts. Examine area and conditions with installer present. Do not begin installation before final grading is completed and unsatisfactory conditions have been corrected.

Install ornamental fence at locations shown on the plans in accordance with manufacturer's installation instructions and approved shop drawings. Installation should comply with ASTM F2781.

Install fence posts plumb, aligned, and at correct height and spacing. Place concrete around posts and in mow strip to dimensions indicated and vibrate or tamp for consolidation. Hold posts in position during setting with concrete or mechanical devices. Protect aboveground portion of posts from concrete splatter. Post concrete is to be finished at the same elevation as the mow strip and shaped and finished to shed water.

Install terminal end, corner, and gate posts as shown in shop drawings. Line posts should be spaced uniformly as required. Install security bolts for securing the fence panels to the posts.

Install fence panels level, plumb, and secure. Do not install bent, bowed, or otherwise damaged panels. Remove damaged components from the site and replace.

Provide 3% spare materials for all fence components including but not limited to fence panels, posts, and hardware for equipment that is damaged during shipping, storage, installation, or after construction is completed.

Engage a factory-authorized service representative to train Owner's personnel on site to maintain fences.

7. MEASUREMENT

Ornamental Fence will be measured by the foot of fence, complete, and in place.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, "Plans Quantity Measurement." Additional measurement or calculations will be made if adjustments of quantities are required.

8. PAYMENT

The work performed and materials furnished, in accordance with this item and measured as provided under "Measurement," will be paid for at the unit price bid for "Ornamental Fence." This price is full compensation for fabricating, shipping, handling, and installing the ornamental fence, including but not limited to fence panels, posts, fasteners, and other components; for concrete footings of fence posts; and for furnishing labor, tools, equipment, and incidentals.