

Part 1 - General

1.01 Related Documents:

A) Drawings and general provisions of the contract apply to this section.

1.02 Summary:

- A) This section includes the following:
- 1) Polyvinyl chloride (PVC) fence and gate components.
 - 2) Gate hardware.
 - 3) Reinforcing steel for concrete-filled, reinforced fence posts.
 - 4) Concrete for post footings and for concrete filled reinforced fence posts.
- B) Related sections: The following sections contain requirements that relate to this section.
- 1) Section 02200-Earthwork.
 - 2) Section 03300-Cast-in-Place concrete.

1.03 Definitions:

- A) Posts are the vertical structure support members of the fence.
- B) Rails are the horizontal structural support members of the fence or gate frame.
- C) Gate Uprights are the vertical structural support members of the gate frame.

1.04 Submittals:

- A) General: Submit the following according to the conditions of the contract.
- B) Product Data: In the form of manufacturer's technical data, specifications, and installations for fence, posts, gate uprights, post caps, gates, gate hardware and accessories.
- C) Samples for verification of PVC color in form of 3-inch lengths of actual product to be used in color selection.
- D) Shop Drawings showing fence design.

1.05 Quality Assurance:

- A) Installer Qualifications: Engage an experienced installer who has at least three years experience and has completed at least five PVC fence projects with same material and of similar scope to that indicated for this project with a successful construction record of in-service performance.
- B) Single-Source Responsibility: Obtain PVC fences and gates, including accessories, fittings, and fastenings, from a single source.

1.06 Project Conditions:

A) Field Measurements: Verify layout information for fences and gates shown on the drawings in relation to the property survey and existing structures. Verify dimensions by field measurements.

1.07 Warranty:

A) Manufacturer's Warranty: Lifetime non-prorated limited warranty applies to original homeowner/consumer, or 30-year non-prorated limited warranty applies to commercial applications.

Part 2 - Products

2.01 Fence Materials:

- A) General: Provide PVC fence materials recognized to be of type indicated and tested to show compliance with indicated performances.
- B) Available Manufacturer: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include:
- 1) CertainTeed, 231 Ship Canal Parkway, Buffalo, NY 14218 (800) 333-0569
Contact-Ralph Palmieri
 - 2) Style Name _____
Height _____ minimum
 - 3) Color Match CertainTeed _____

2.02 Polyvinyl Chloride (PVC)

Fence Components:

- A) General: Posts, rails, gate uprights, post caps, and accessories shall be of high impact, Ultra Violet (U.V.) resistant, rigid PVC, and shall comply with ASTM D1784, Class 14344B.
- B) Fence Posts: One piece extruded, of lengths indicated and pre-routed to receive rails at spacing indicated.
- 1) Cross Section: _____ minimum
 - 2) Wall Thickness: _____ minimum
 - 3) Corner Radius: _____ minimum
- C) Rails: One piece extruded, of lengths indicated.

Hollow Extrusions

- 1) Cross Section: _____ minimum
- 2) Wall Thickness: _____ minimum
- 3) Corner Radius: _____ minimum

Ribbed Extrusions

- 1) Cross Section: _____ minimum
- 2) Wall Thickness: _____ minimum
- 3) Corner Radius: _____ minimum

- D) Gate Uprights: One piece extruded, of lengths indicated.
- 1) Cross Section: _____ minimum
 - 2) Wall Thickness: _____ minimum
 - 3) Corner Radius: _____ minimum

- E) Post Caps: Molded, one piece
- 1) Cross Section: Match post or gate upright cross section.
 - 2) Thickness: 0.095" minimum.
 - 3) Configuration: Flat or four-sided pyramid design, with cross section sized as required for installation to top of posts and gate uprights. Form post caps as required for concealed attachment to tops of posts and gate uprights.
- F) Accessories: Manufacturers' standard gate brace, screw caps, rail end reinforcers, and other accessories as required.

2.03 Miscellaneous Materials:

- A) Fasteners and Anchorage: Stainless Steel. Provide sizes as recommended by fence manufacturer.
- B) PVC Cement: As recommended by fence manufacturer.
- C) Rail Plugs: Manufacturer's standard duct tape to prevent seepage at concrete filled posts.

2.04 Gate Hardware and Accessories:

- A) General: Provide hardware and accessories for each gate according to the following requirements:
- B) Hinges: Size and material to suit gate size, lift-off type stainless steel and adjustable, offset to permit 120 degree gate opening. Provide one pair of hinges for each gate.
- 1) Stainless Steel
 - 2) Finish: Pre-painted, 2 coats "Polane"
 - 3) Color: Black
- C) Latch: Manufacturers' standard self latching, stainless steel latch. Provide one latch per gate.
- 1) Finish: Match gate hinge finish.
- D) Hardware: Stainless Steel. Provide sizes as recommended by fence manufacturer.
- 1) Finish: Match gate hinge finish.

2.05 Concrete:

- A) Concrete: Provide concrete consisting of portland cement per ASTM C 150, aggregates per ASTM C 33, and potable water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2000 psi. Use at least four sacks of cement per cubic yard, 1-inch maximum size aggregate, 3-inch maximum slump. Use 1/2 inch maximum size aggregate in post where required.
- B) Packages Concrete Mix: Mix dry-packaged normal-weight concrete conforming to ASTM C 387 with clean water to obtain a 2 to 3 inch slump.

2.06 Reinforcement for Filled Posts:

- A) Reinforcing Steel:
- 1) Steel Reinforcing Bars: ASTM A 615. Grade 60 #4 or _____ 1/2". Deformed. Install 2 bars for each post to a length of _____ feet.

Part 3 - Execution

3.01 Installation, General:

- A) Install fence in compliance with manufacturer's written instructions. During installation, PVC components shall be carefully handled and stored to avoid contact with abrasive surfaces. Install components in sequence as recommended by fence manufacturer.
- 1) Install fencing as indicated on the drawings provided.
 - 2) Variations from the installation indicated must be approved.
 - 3) Variations from the fence and gate installation indicated and all costs for removal and replacement will be the responsibility of the contractor.

3.02 Fence Installation:

- A) Excavation: Drill or hand-excavate (using post hole digger) holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.
- 1) If not indicated on drawings, excavate holes for each post to a minimum diameter of _____ inches.
 - 2) Unless otherwise indicated, excavate hole depths not less than 30 inches or to frost line.

B) Posts: Install posts in one piece, plumb and in line. Space a maximum of _____ feet o.c. unless otherwise indicated. Enlarge excavation as required to provide clearance indicated between post and side of excavation.

1) Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations.

a) Unless otherwise indicated, terminate top of concrete footings 3 inches below adjacent grade and trowel to a crown to shed water.

b) Secure posts in position for manufacturers' recommendations until concrete sets.

c) After installation of rails and unless otherwise indicated, install reinforcing in posts in opposing corners of post as shown and fill end and gate posts with concrete to level as indicated. Concrete fill shall completely cover the reinforcing steel and gate hardware fasteners. Consolidate the concrete by striking the post face with a rubber mallet, carefully tamping around the exposed post bottom.

d) Install post caps. Use #8 screws, nylon washers and snap caps.

e) Remove concrete splatters from PVC fence materials with care to avoid scratching.

C) Rails: Install rails in one piece between post and into routed hole fabricated into posts to receive rails where necessary. Stagger rail ends in posts. Except at sloping terrain, install rails level, centered on posts.

1) Prior to installation of rails into posts, insert concealed aluminum channel stiffeners in top and bottom rails.

D) Lock Rings:

1) Nylon Lock Rings inserted into ends of rails to secure in post.

2) At posts to receive concrete fill, plug ends of rails with duct tape to prevent seepage when filling post with concrete.

E) Fence Installation at Sloping Terrain: At sloping terrain rails may be racked (sloped) or stepped to comply with manufacturers' recommendations.

3.03 Gate Installation:

A) Prior to installation of rails into gate upright, apply PVC cement into sockets per manufacturer's recommendations.

B) Assemble gate prior to fence installation to accurately locate hinge and latch post. Align gate horizontal rails with fence horizontal rails.

C) Install gates plumb, level, and secure for full opening without interference according to manufacturer's instructions.

D) Gate Latch Installation. Install gate latch according to manufacturer's instructions. Adjust for smooth, trouble-free operation.

E) Allow minimum 72 hours to let concrete set-up before opening gates.

3.04 Adjusting and Cleaning:

A) Remove all traces of dirt and soiled areas in accordance with manufacturer's recommendations.

3.05 Demonstration:

A) Instruct the owner's personnel on proper operation and maintenance of fence components.