

Section 02821

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SUMMARY

- A. This Section includes the following:
  - 1. Fence framework, fabric, and accessories.
  - 2. Excavation for post bases, concrete foundation for posts and center drop for gates.
  - 3. Manual gates and related hardware.

1.02 MEASUREMENT AND PAYMENT

- A. Payment for fencing shall be on a linear foot basis for height noted. Payment for gates shall be per unit.
- B. Refer to Section 01270 – “Measurement and Payment” for Unit Price Procedures.

1.03 REFERENCES

- A. ANSI/ASTM A 123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- B. ANSI/ASTM F 567 – Standard Practice for Installation of Chain-Link Fence.
- C. ASTM A 116 – Standard Specification for Metallic-Coated, Steel-Woven Wire Fence Fabric.
- D. ASTM A 53 – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- E. ASTM A 153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- F. ASTM A 392 Rev A – Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
- G. ASTM A 428 – Standard Test Method for Weight [Mass] of Coating on Aluminum-Coated Iron or Steel Articles.
- H. ASTM C 94 – Standard Specification for Ready-Mixed Concrete.

- I. ASTM F 668 – Standard Specification for Polyvinyl Chloride (PVC), Polyolefin and Other Polymer-Coated Steel Chain Link Fence Fabric.
  - J. ASTM A 307 – Standard Specification fo Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength
  - K. ASTM A 1011 – Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
  - L. AASHTO M 232 – Standard Specification for Zonc Coating (Hot-Dip) on Iron and Steel Hardware
  - M. Chain Link Fence Manufacturers Institute (CLFMI) - Product Manual.
  - N. Federal Specification RR-F-191 - Fencing, Wire and Post, Metal
- 1.04 SUBMITTALS
- A. Submit under provisions of Section 01330 – “Submittal Procedures”.
  - B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.
  - C. Product Data: Provide data on fabric, posts, accessories, fittings, and hardware that indicates that items match or exceed the quality of existing items.
- 1.05 RELATED REQUIREMENTS
- A. Section 01270 – “Measurement and Payment”
  - B. Section 01330 – “Submittal Procedures”
- 1.06 QUALITY ASSURANCE
- Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three years’ experience.
- 1.07 SYSTEM DESCRIPTION
- A. Fence height shall be as indicated on Plans or as noted to match height of existing.
  - B. Extension arms for barbed wire shall match existing.
  - C. Line post spacing shall not exceed 10 feet, or as shown on Plans.
- 1.08 DELIVER, STORAGE, AND HANDLING (NOT USED)

1.09 PROJECT SITE CONDITIONS

Field Measurements: Verify that field measurements are as indicated on Shop Drawings.

1.10 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S) (NOT USED)

2.02 MATERIALS AND/OR EQUIPMENT

A. Galvanized Fencing

1. Fence fabric shall be No. 9 steel wire, hot galvanized after weaving, to match or exceed existing fence fabric.
2. Framework shall be hot-dipped galvanized with a minimum coating of 2 ounces/sf, or one ounce/sf plus 30 micrograms/square-inch chromate conversion coating.
3. Line posts shall conform to ASTM A 1011.
4. End corner, angle, and pull posts shall conform to ASTM A 1011.
5. Top rails shall be 1.65 x 1.25-inch formed C-section; or 1.6-inch round ASTM A 1011, 1.35 lbs/ft; or 1-5/8-inch outside diameter steel pipe, 2.27 lbs/ft. Top rails shall pass through openings provided for that purpose in post tops.
6. Fabric ties shall be hog rings, galvanized steel wire not less than 9-ga with a zinc coating of not less than 1.2 ounces/sf.
7. Bolts and nuts shall be in conformance with ASTM A 307 and shall be galvanized in accordance with AASHTO M 232.
8. Install horizontal braces fabricated of 1-5/8-inch, 2.27-lb copper bearing steel pipe at all corner, gate, and end posts.
9. Gates shall be either swing or slide as shown on the plans. Swing gates shall be hinged to swing 90 degrees from closed to open or hinged to swing 180 degrees from close to open. Slide gates shall be roller type with no vertical obstructions. All gate leaves shall have intermediate members and diagonal stress rods as required for rigid construction and shall be free from sag or twist. All gates shall be fitted with vertical extension arms or shall have frame end number extended to carry barbed wire. Gate posts for gates shall be 4-inch, 9.1 lb pipe. Gate frames shall be made of 2-inch outside diameter, castings.

Fabric shall be the same as for the fence. Gates shall have malleable iron ball and socket hinges, catches, stops and padlocks with 3 keys each. Posts for single gates shall be the same as end posts.

### PART 3 EXECUTION

#### 3.01 – 3.02 NOT USED

#### 3.03 ERECTION/INSTALLATION APPLICATION AND/OR CONSTRUCTION

- A. Install chain link fence in accordance with the directions of the manufacturer and these Specifications.
- B. Install fence posts at not more than 10-foot centers and at least 36 inches into the ground in a Class B concrete base. Allow concrete to cure for at least 7 days before erecting remainder of fence. Fasten fabric to line posts with wire ties spaced about 14 inches apart and to top rail spaced about 24 inches apart.
- C. Use standard chain link fence stretching equipment to stretch the fabric before tying it to the rails and posts. Repeat the stretching and tying operations about every 100 feet.
- D. Erect gates so they swing or slide in the appropriate direction as shown on Plans. Provide gate stops as required. Secure hardware, adjust, and leave in perfect working order. Adjust hinges and diagonal bracing so that gates shall hang level. Adjust rollers and guides of sliding gates so that gates are level.
- E. At small natural or drainage ditches where it is not practical for the fence to conform to the contour of the ground, span the opening below the fence with wire fastened to stakes of required length. The finished fence shall be plumb, taut, true to line and ground contour. When directed by the Project Manager, stake down the chain link fence at several points between posts.
- F. Where new fence joins an existing fence, set a corner post and brace post at the junction and brace as directed. If the connection is made at other than the corner of the new fence the last span of the old fence shall contain a brace.

#### 3.04 – 3.10 NOT USED

END OF SECTION