

SECTION 03115 - CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

- A. Provide chain link fence system where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 SUBMITTALS

- A. General:
 - 1. Product Data: Submit manufacturer's descriptive literature and product specifications for each product. Include data to indicate compliance with the specified requirements.
 - 2. Installation Procedures: Submit manufacturer's recommended installation procedures.
 - 3. Shop Drawings: Submit shop drawings of manufacturer's fence system.

PART 2 PRODUCTS

2.1 GENERAL

- A. Manufacturers: Shall be an active member of the Chain Link Fence Manufacturers Institute.
- B. Products specified are for establishing the type, design, and quality required. Products of equal or better type, design, and quality produced by other manufacturers will be considered provided the request for substitution is submitted prior to the bid.

2.2 MATERIALS

- A. Posts, Rails, and Frames: ASTM F 1083 Schedule 40 hot-dipped galvanized steel pipe, welded construction, minimum yield strength of 30 ksi.
- B. Wire Fabric: ASTM A 392 zinc coated steel chain link fabric.

2.3 COATINGS

- A. Hardware: Hot-dip galvanized to weight required by ASTM A 153/A 153M.
- B. Accessories: Same finish as framing.

2.4 FABRIC

- A. Fabric: 3.5 inch x 5.00 inch diamond mesh interwoven wire, 9 gage thick, top and bottom selvage knuckle end closed.
- B. Provide fabric in one piece widths.

2.5 POSTS, RAILS, AND ASSOCIATED ITEMS

- A. End, Corner, Slope, and Pull Posts: Provide at least the following minimum sizes and weights:
 - 1. Material and Dimensions: Pipe, 2.875" outside diameter.
 - 2. Weight: 5.79 lbs. per lineal foot.
- B. Line Posts: Provide minimum sizes and weights as follows:
 - 1. Material and Dimensions: Pipe, 2.375" outside diameter.

2. Weight: 3.65 lbs. per lineal foot.
- C. Gate Posts: Provide gate posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:
1. 13'-0" wide and under: 4" outside diameter pipe, 9.11 lbs. per lineal foot.
 2. Over 13 feet wide, and up to 18 feet wide: 6.625" outside diameter pipe, 18.97 lbs. per lineal foot.
 3. Over 18 feet wide: 8.625" outside diameter pipe, 28.55 lbs per lineal foot.
- CI. Top Rails:
1. 1.660" outside diameter pipe weighing 1.93 lbs per line ft; or
 2. Provide in manufacturer's longest lengths, with expansion type couplings approximately 6" long for each joint.
 3. Provide means for attaching top rail securely to each gate, corner, pull, slope, and end post.
- CII. Post Brace Assemblies:
1. Provide at end and gate posts, and at both sides of corner, slope, and pull posts, with the horizontal brace located at midheight of the fabric.
 2. 1.660" outside diameter pipe weighing 1.93 lbs per lin ft for horizontal brace.
 3. 3/8" diameter rod with turnbuckle for diagonal truss.
- CIII. Tension Wire: Provide number 7 gage galvanized coiled spring wire at bottom of fabric.
- CIV. Post Tops:
1. Provide steel, designed as weathertight closure cap.
 2. Provide one cap for each post.
 3. Provide caps with openings to permit through passage of top rail.
 4. Provide convertible post tops where barbed wire is not provided to allow installation of barbed wire extension arms.
- CV. Stretcher Bars:
1. Provide onepiece lengths equal to full height of fabric, with a minimum crosssection of 1/4" x 3/4".
 2. Provide one stretcher bar for each gate and end post, and two for each corner, slope, and pull post, except where fabric is woven integrally into the post.
- CVI. Stretcher Bar Bands:
1. Provide steel, spaced not over 15" on centers, to secure stretcher bars to end, corner, pull, slope, and gate posts.
 2. Bands may be used also with special fittings for securing rails to end, corner, pull, slope, and gate posts.

2.6 GATES

- A. General:
1. Fabricate gate perimeter frames of tubular members.
 2. Provide additional horizontal and vertical members to assure proper operation of the gate, and for attachment of fabric, hardware, and accessories.
 3. Space so frame members are not more than 8 feet apart.
 4. Materials and dimension: Pipe, 1.90 outside diameter.
 5. Weight: 2.72 lbs. per lineal foot.
- B. Fabrication:
1. Assemble gate frames by welding with special malleable or pressed steel fittings and rivets for rigid connections.

2. Use same fabric as used in the fence.
3. Install fabric with stretcher bars at vertical edges as a minimum.
4. Attach stretchers to gate frame at not more than 15" on centers.
5. Attach hardware with rivets or by other means which will provide security against removal and breakage.
6. Provide diagonal crossbracing consisting of 3/8" diameter adjustable length truss rods on gates where required to provide frame rigidity without sag or twist.

C. Gate Hardware: Provide following for each gate:

1. Hinges:
 - a. Provide 1 1/2 pr. of hinges for each leaf over 6 feet in nominal height.
2. Latches:
 - a. Provide forked type or plungerbar type to permit operation from either side of the gate.
 - b. Provide padlock eye as integral part of latch.
3. Keeper: Provide keeper for vehicle gates, which automatically engages the gate leaf and holds it in the open position until manually released.
4. Double Gates: All double gates will be rolling gates unless this is not possible because of location.
 - a. Provide gate stops for double gates consisting of mushroom or flush plate, with anchors.
 - b. Set in concrete to engage the center drop rod or plunger bar.
 - c. Provide locking device and padlock eyes as an integral part of the latch, requiring one padlock for locking both gate leaves.
5. Rolling Gates: Provide manufacturer's standard heavy-duty inverted channel track, ball-bearing hanger sheaves, dual rubber wheels, overhead framing and supports, guides, stays, bracing, hardware, and accessories as required for a complete and proper installation.
6. Accessible Gates: All man gates will be considered accessible gates and must comply with CBC 1133B.2.5.2.
 - a. Kick Plates: 10" high x full width kickplate, secure to chain link mesh on both sides of accessible gates.
 - b. Panic bars and mounting plates: D-6030, by Hoover Fence Company.
 - c. Lock Box: D-6025, by Hoover Fence Company.
 - d. Strike Latch Receiver Bracket: D-6020, by Hoover Fence Company.

2.7 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Wire Ties:
 1. For tying fabric to line posts, use number 9 gage steel wire ties spaced 12" on centers.
 2. For tying fabric to rails and braces, use number 9 gage steel wire ties spaced 15" on centers.
 3. For tying fabric to tension wire, use number 9 gage steel hog rings spaced 18" on centers.
 4. Manufacturer's standard wire ties will be acceptable if of equal strength and durability.
- B. Concrete: 3000 psi concrete. Mix design required submitted and approved by Owner.
 1. All fencing will have a new 6" deep x 12" wide mow strip placed as part of this project.

END OF SECTION 03115 - CHAIN LINK FENCES AND GATES

PART 3 EXECUTION**3.1 SURFACE CONDITIONS**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION**A. General:**

1. Install posts at a maximum spacing of 10 feet on centers.
2. Install corner or slope posts where changes in line or grade exceed a 30 degree deflection.
3. Provide and install fencing, posts, fabric and accessories in accordance with industry standards.
4. Do not, in any case, install fabric or accessories in less than 7 days after placement of concrete.
5. **Chain link fabric shall not exceed the top rail by more than 2".**

B. Excavation:

1. Drill holes for post footings in firm, undisturbed or compacted soil, strictly adhering to the dimensions and spacing shown.
2. Post hole dimensions:
 - a. Provide 36" deep by 10" diameter foundations for line posts for 8 foot fabric height and less.
 - b. 4" dia. posts at 20' gates provide 42" deep by 12" diameter foundation.
 - c. Provide 36" deep by 12" diameter foundations for all other posts.
3. Spread soil from excavations uniformly adjacent to the fence line, or on adjacent areas of the site **if so directed.**
4. When solid rock is encountered near the surface, drill into rock at least 12" for line posts and at least 18" for end, pull, gate, and corner posts. Drill hole at least 1" greater diameter than the largest dimension of the post to be placed.
5. If solid rock is below soil overburden, drill to full depth required, except penetration into rock need not exceed minimum depths specified above.

C. Miscellaneous:

1. Use Ushaped tie wires, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two full turns.
2. Bend ends of wire to minimize hazards to persons and clothing.
3. Fasteners:
 - a. Install nuts for tension band and hardware bolts on side of fence opposite fabric side.
 - b. Peen the ends of bolts to prevent removal of nuts.
4. Repair coatings damaged in the shop or field erection, using a hotapplied repair compound applied in accordance with its manufacturer's recommendations as approved by the Owner.

END OF SECTION 32 3115