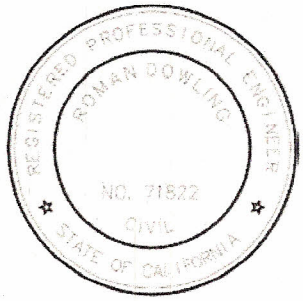
2013 CDBG TENNIS COURT REHABILITATION PROJECT

(JEFFERSON TENNIS COURTS)

Notice Inviting Sealed Proposals (Bids), Bid Form, Contract Forms, General Provisions, Special Provisions, Technical Specifications and State Requirements



Advertised: August 7, 2013 & August 8, 2013

Mandatory Pre Bid Job Walk: Tuesday August 15, 2013 @ 10 am

Bid Due/Opening: Thursday September, 5 2013 @ 2 pm

CITY OF DELANO
1015 ELEVENTH AVENUE
DELANO, CALIFORNIA 93215

AUGUST 2013

2013_REC_001

SECTION 32 31 13

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Fence framework, fabric, and accessories.
2. Excavation for post bases.
3. Concrete foundation for posts and center drop for gates.
4. Manual gates and related hardware.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Fencing:
1. Basis of Measurement: By linear foot (linear meter) to fence height specified, based on specified post spacing.
2. Basis of Payment: Includes posts, rails, tension wire, fabric, accessories, attachments.

B. Post Footings:
1. Basis of Measurement: Included in Fencing.
2. Basis of Payment: Includes excavation, concrete placed, finishing.

C. Gates:
1. Basis of Measurement: Each specified type.
2. Basis of Payment: Includes frame posts, fabric, accessories, hardware.

1.3 REFERENCES

A. ASTM International:
1. ASTM A121 - Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
5. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
6. ASTM A817 - Standard Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcelled Tension Wire.
7. A1011/A1011M-07 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
8. ASTM B429/B429M - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
9. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.

10. ASTM F552 - Standard Terminology relating to Chain Link Fencing.
11. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
12. ASTM F626 - Standard Specification for Fence Fittings.
13. ASTM F668 - Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric.
14. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
15. ASTM F934 - Standard Specification for Standard Colors for Polymer-Coated Chain Link Fence Materials.
16. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
17. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
18. ASTM F1183 - Standard Specification for Aluminum Alloy Chain Link Fence Fabric.
19. ASTM F1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates.
20. ASTM F1345 - Standard Specification for Zinc - 5% Aluminum -Mischmetal Alloy-Coated Steel Chain-Link Fence Fabric.

B. Chain Link Fence Manufacturers Institute:
   1. CLFMI - Product Manual.

1.4 SYSTEM DESCRIPTION

A. Fence Height: As indicated on Drawings.

B. Line Post Spacing: At intervals not exceeding 10 feet.

C. Fence Post and Rail Strength: Conform to ASTM F1043 Heavy Industrial Fence quality.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

C. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.

D. Manufacturer's Installation Instructions: Submit installation requirements, post foundation anchor bolt templates.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines and easements.

C. Operation and Maintenance Data: Procedures for submittals.

1.7 QUALITY ASSURANCE

A. Supply material in accordance with CLFMI - Product Manual.

B. Perform installation in accordance with ASTM F567.

C. Perform Work in accordance City of Delano standard.

D. Maintain one copy of document on site.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum five years documented experience.

1.9 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

C. Identify each package with manufacturer's name.

D. Store fence fabric and accessories in secure and dry place.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:
   1. Anchor Fence Inc.
   2. Cyclone Inc.
   3. Page Aluminized Steel Corp.
   4. Substitutions: Section 01 60 00 - Product Requirements .

2.2 MATERIALS AND COMPONENTS

A. Materials and Components: Conform to CLFMI Product Manual.

B. Fabric Size: CLFMI Heavy Industrial service.

C. Intermediate Posts: Type I round.

D. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round.

2.3 MATERIALS

A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25ksi coating conforming to ASTM F1043 Type A on pipe exterior and interior.

B. Framing (Steel): ASTM A1011/A1011M; hot rolled steel strip, cold formed to pipe configuration, longitudinally welded construction, minimum Grade 50; coating conforming to ASTM F1043 Type B on pipe exterior and interior.

C. Fabric Wire (Steel): ASTM A392 Class 1 zinc coated steel wire.

D. Concrete: ASTM C94/C94M, Option A; Portland Cement, 2,500 psi strength at 28 days.

2.4 COMPONENTS

A. Line Posts: 2.38 inch diameter.

B. Corner and Terminal Posts: 3.5 inch.

C. Gate Posts: 4.5 inch diameter.

D. Top and Brace Rail: 1.66 inch diameter, plain end, sleeve coupled.

E. Gate Frame: 1.66 inch diameter for welded fabrication.

F. Fabric: 2 inch diamond mesh interwoven wire, 9 gage thick ~~6 gage thick~~, top salvage knuckle end closed, bottom selvage knuckle end closed.

G. Tension Wire: 6 gage thick steel, single strand, marcelled, spiraled or crimped, aluminum-coated tension wire conforming to ASTM A824.

H. Tension Band: 12 gauge, 3/4 inch thick steel.

I. Tension Strap: 12 gauge, 3/4 inch thick steel.

J. Tie Wire: Aluminum alloy steel wire.

2.5 ACCESSORIES

A. Caps: Galvanized pressed steel sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; galvanized steel.

C. Gate Hardware: Center gate stop and drop rod; two 180 degree gate hinges for each leaf and hardware for padlock keyed to match hardware currently used by the City.

~~D. Polyethylene Net~~

~~1. 3.0mm braided polyethylene net with top 6 rows double netting. Hand-knotted Mesh Double Top Six Rows~~

2. 41'-9" long
3. Include deluxe net center strap. White woven polyester. Black powder-coated zinc slide, complete with double-ended snap, with stainless steel double swivel head snap hook .
4. Tapered bottom.
5. Double layered vinyl/polyester headband.
6. Include Vinyl coated steel cable. 47' vinyl-coated 3/16" steel. Cable is looped at both ends.

E. Ground Anchor
1. Install below the court surface at the center point between the two net posts.
2. Anchor shall be 304 3/8" stainless steel rod by 6" long, U-shaped center and ends.
3. Anchor shall be embedded in 6" dia. X 9" concrete, core drilled.

F. Windscreen
1. 3-Ply hem construction with 18 oz. vinyl binding construction and brass grommets every 15". Heat-set treatment for increased stability and opacity. Lay flat and straight on the fence. Windscreen shall come with anti-billow tabs built into the construction.
2. Size: - 9' height
3. Opacity: - 75%
4. Colors: - Dark Green
5. Polypropylene Rope: Used to fasten windscreens to fence by threading rope through windscreen grommets and fence mesh
6. Set 1 foot above finish floor elevation.
7. Set with stainless steel zip ties (ty-raps).

G. Net Post - Removable
1. Regulation External Wind Posts - Steel 2-7/8" Round
2. Constructed of schedule 40 galvanized steel with an electro statically applied enamel finish.
3. Aluminum reel shall be equipped with ratchet guard for smooth and easy adjustment and include removable handle.
4. Grooved post caps.
5. Deadhead cleat.
6. Eyebolts for tying the bottom of the net.
7. Setting pins.
8. Cam-Lock bracket to secure to sleeve.
9. Color: Green.
10. 56" overall length.

H. Net Post Sleeves
1. ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25ksi coating conforming to ASTM F1043 Type A on pipe exterior and interior
2. Inside diameter shall accommodate net post by no more than ¼"
3. 18 inches in length.
4. ¼" thick flip top pedestrian cap with cam-lock penetration.
5. Provide commercial grade master locks for each post, keyed the same.
6. Core drill into existing concrete, twice the sleeve diameter.

2.6 GATES

A. General:
   1. Gate Types, Opening Widths and Directions of Operation: As indicated on Drawings.
   2. Factory assemble gates.
   3. Design gates for operation by one person.

B. Swing Gates:
   1. Fabricate gates to permit 180 degree swing.
   2. Gates Construction: ASTM F900 with welded corners. Use of corner fittings is not permitted.

C. Sliding Gates:
   1. Framing and Posts: ASTM F1184, Class 2 for internal rollers.
   2. Rollers for overhead and cantilever sliding gates: Bearing type. Furnish non-sealed bearings with grease fitting for periodic maintenance.
   3. Secure rollers to post or frame without welding.
   4. Fabricate gate leaf frames and tracks of aluminum conforming to ASTM B429/B429M alloy 6063-T6 or as required to meet [performance requirements of ASTM F1184and specified performance requirements.
   5. Frame Members: Minimum 2 inches 0.91 lb/ft aluminum tubing welded assembly forming rigid, one piece unit.
   6. Install fabric securely stretched and held in center of tubing.
   7. Track: Combined, integral track and rail.
   8. Roller Track Assembly: Two swivel types, zinc, die cast trucks having four, sealed lubricant ball bearing wheels minimum 2 inches diameter by 9/16 inches width designed for same reaction load as rail. Provide two side-rolling wheels for each gate leaf to maintain alignment of truck in track.
   9. Fasten trucks to post brackets by minimum 7/8 inch diameter, 1/2 inch shank ball bolts.
   10. Provide galvanized steel guide wheel assemblies consisting of two steel wheels of minimum 4 inch diameter with oil-impregnated bearings for each supporting post.
   11. Attach guide wheel assembly to post so bottom horizontal member rolls between wheels and permitting adjustment to maintain plumb gate frames and proper alignment.
   12. Provide galvanized steel guide rails wheel concrete footing 24 inches wide by 9 inches deep by the full travel length of the fence. Reinforce concrete with two No 4 rebars. Fasten guide rail to the concrete.

2.7 FINISHES

A. Components and Fabric: Galvanized to ASTM A123/A123M for components; ASTM A153/A153M for hardware; ASTM A392 for fabric; 2.0oz/sq ft coating.

B. Hardware: Galvanized to ASTM A153/A153M, 2.0oz/sq ft coating.

C. Accessories: Same finish as framing and fabric.

2.8 SPARE PARTS

~~A. Furnish 3 additional Polyethylene Nets.~~

B. ~~Furnish 120 lineal foot of windscreen, 9 foot high, dark green.~~

C. ~~Furnish 240 lineal foot of polypropylene rope.~~

D. ~~Furnish 60 each stainless steel ty-wraps.~~

E. ~~Furnish 3 pairs of removable net post, one winder post and one end post.~~

F. ~~Furnish 3 each Vinyl coated steel cables, 47' vinyl-coated 3/16" steel.~~

G. ~~Furnish 3 each deluxe net center strap with snap hooks.~~

H. ~~Furnish 6 each commercial grade master locks for each post, keyed the same.~~

PART 3 EXECUTION

3.1 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

B. Set intermediate, terminal, gate posts plumb, in concrete footings with top of footing 2 inches above finish grade]. Slope top of concrete for water runoff.

C. Line Post Footing Depth Below Finish Grade: ASTM F567 3 feet.

D. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567 3.5 feet

E. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.

F. Install top rail through line post tops and splice with 6 inch long rail sleeves.

G. Install center and bottom brace rail on corner gate leaves.

H. Place fabric on outside of posts and rails.

I. Do not stretch fabric until concrete foundation has cured 14 days.

J. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.

K. Position bottom of fabric 2 inches above finished grade.

L. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.

M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

N. Install bottom tension wire stretched taut between terminal posts.

O. Support gates from gate posts. Do not attach hinged side of gate from building wall.

P. Install gate with fabric to match fence. Install three hinges on each gate leaf, latch, catches, drop bolt, foot bolts and sockets, torsion spring retainer, retainer and locking clamp.

Q. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

R. Connect to existing fence at new terminal post.

S. Install posts with 6 inches maximum clear opening from end posts to buildings, fences and other structures.

T. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.

U. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.

V. Extend concrete footings 2 inches above grade, and trowel, forming crown to shed water.

W. Allow footings to cure minimum 7 days before installing fabric and other materials attached to posts. Concrete shall be minimum 5 sacks per cubic yard.

X. Employ and pay for services of an independent State of California Registered Surveyor acceptable to Owner to perform construction staking and final as built plans.

~~3.2 TENNIS NET POST INSTALLATION~~

~~A. When installed, the top of each net post shall not be greater than 3'6" above the court surface.~~ The ~~concrete footings (base) should be a minimum of 3'6" below the court su~~rface.

~~B. The center line distance between posts should be 42'-0" for doubles courts and 33'0" for s~~ingles ~~courts. Post sleeves are recommended because they allow easy removal of the posts~~ for ~~resurfacing, maintenance, post repair and/or replacement, and alternate uses of the court~~.

~~C. Note: It is important to be sure that the posts are centered to the court and at 90 degrees to the side fence lines. Be sure to use a 4' long level when setting the sleeves in the concrete. If the sleeves are not installed straight and true, the posts shall be reinstalled.~~

~~3.~~3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Plumb: 1/4 inch.

C. Maximum Offset From Indicated Position: 1 inch.