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March 27, 2012

REQUEST FOR QUOTES FOR FENCING WORK AT BROOKWOOD PARK

The Township of Byram has obtained a grant for a project at Brookwood Park, located at 5 Brookwood Road, Block 49 Lot 19. Brookwood Road intersects with Route 206 South in Byram, opposite Waterloo Road.

Part of the project involves chainlink fencing around a wellhouse that is owned and operated by the East Brookwood Property Owners Association but situated within the Township park.

The chainlink fencing currently in place will be removed and disposed of by the Byram Township Department of Public Works. New fencing will be installed by a private contractor.

This RFQ seeks pricing for the new fencing, as summarized here, with more detailed specifications attached:

- New galvanized fencing, 40-foot square, 8-foot-high, with two 5-foot wide double swing gates. The gates will be lockable in the side of the fence that faces the road. The fencing will center on the wellhouse.

The East Brookwood Property Owners Association will supply to the fencing contractor an accurate drawing showing the location of any piping or electrical lines servicing the well, so that the contractor can avoid damaging same.

The Byram Township engineer will mark the fence location on the asphalt surface around the well, to insure that the fencing is installed in the location agreed upon by the Township and the well company.

The deadline for responses to this RFQ is Monday April 16 at noon. Please submit by mail to Township Manager Joseph Sabatini, Township of Byram, 10 Mansfield Drive, Stanhope, NJ 07874 or by email to jsabatini@byramtwp.org.

CHAIN LINK FENCE, 8' HIGH

1. **SCOPE OF WORK**

This specification covers the material and construction requirements for chain link fencing in front of the players' benches.

2. **MATERIALS**

a. **Fabric**

i. **General**

The chain link fence shall be woven into a 2 inch diamond shape mesh, in which the individual pickets are helically woven and interwoven in the form of a continuous chain link mesh.

ii. **Galvanized**

Galvanized after weaving chain link fence shall be 9 (.148") gauge woven of good commercial quality steel wire with a uniform square mesh measuring 2", 1/8" between its parallel sides, galvanized after weaving by the hot dip process to give a minimum of 1.2 ounces of zinc per square foot of wire surface distributed over the entire fabric including the cut ends, as per ASTM A-392 Class 1. The following minimum breaking strength shall apply as per U.S. Government Specifications RR-F-191/1A:

9 (.148") Gauge = 1,200 Pounds

iii. **Height of Fabric**

The height of the fabric shall be the overall dimension from ends of knuckles. The tolerance of the nominal height shall be plus or minus 1 inch.

iv. **Fabric Sizes**

The height, diamond count, size of mesh and wire diameters of chain link fence fabric shall be as given in Table I.

v. **Wire Diameter**

The diameter of the coated wire shall be determined as the average of two readings measured to the nearest 0.001 inch taken at right angles to each other on the straight portion of the parallel sides of the mesh. The tolerance in the diameter of the coated wire shall be plus or minus 0.005 inch.

vi. **Selvage**

Shall be furnished with knuckling on both ends. The fence to have a protection over the knuckling.

vii. **Workmanship**

Chain link fence fabric shall be produced by methods recognized as good commercial practice. The metallic coating shall be applied in a continuous process and shall not be applied to the fabric in roll form. Excessive roughness, blisters, salammoniac spots, frozen joints, bruises, and flaking shall be noted. These and other obvious defects, if present to any considerable extent, may provide a basis for fabric rejection.

viii. **Production, Inspection and Testing**

During the process of manufacturing, the manufacturer shall make such inspections and tests as are needed to maintain the quality of the project so as to be consistently in conformity with this specification. The inspection and tests given herein shall be made regularly during production for all chain link fabric furnished as being in conformity with this specification.

ix. **Inspection**

The chain link fabric shall be visually inspected to determine its conformance with the workmanship design and dimensional requirements of this standard.

x. **Sampling**

One roll from every 50 rolls or fraction thereof shall be selected at random for test purposes, but in no case shall less than two samples be selected from a shipment. The specimens for test purposes shall consist of individual pieces of wire taken from the outside end of the sample rolls.

xi. **Breaking Strength**

The break strength of the fabric shall be determined in accordance with the method described in ASTM Designation E8 Tension Testing of Metallic Materials, using one specimen from each sample roll. Specimens to establish conformance to this requirement shall constitute individual pickets from a section of the fence fabric of a sufficient length so as to measure 15 - 18 inches after straightening. The straightened portion of the specimen shall be inside the jaws of the tensile testing machine so that the actual test is performed on the underformed section between the jaws. If fracture takes place, other than between the grips, the test shall be discarded.

xii. **Weight of Zinc Coating**

The weight of zinc coating on the fabric shall be determined in accordance with the method described in ASTM Designation A90, using one piece of wire from the fabric of each sample roll.

xiii. **Length of Specimen**

The specimen tested may be of any continuous length of 12 inches but preferably should be about 24 inches long.

xiv. **Noncompliance**

If any specimen tested fails to meet the requirements of this specification, the roll represented by the specimen shall be rejected and two additional rolls shall be tested, both of which shall meet the requirements in every respect; otherwise, the lot represented by the samples may be rejected.

xv. **Fence, Rails, Posts, Gates and Accessories**

Posts, gate frames, braces, rails, stretcher bars, truss rods, and tension wire shall be of steel. Gate hinges, post caps, barbed wire supporting arms, stretcher bar bands, and other parts shall be of steel, malleable iron, ductile iron or equal except that post tops, rail ends, ties and clips may be of aluminum.

xvi. **Type I Round Post**

Shall be hot dipped galvanized produced to conform with ASTM A-120 standard weight (Schedule 40) except the hydrostatic testing requirement is waived.

xvii. **Zinc Coating**

All steel and iron parts shall be zinc coated by the hot dipped method, using Zinc Grade "A". The weight of zinc coat on Type I rail, post and brace shall have not less than 2.0 ounces per square foot, zinc coating as specified in Section xvi. Zinc weight shall be determined in accordance with ASTM A-90.

xviii. **Gates**

Gates shall be swing, complete with latches, stops, keepers, and hinges.

xix. **Gate Frames**

Shall be constructed of tubular members welded at all corners or assembled with fittings. All steel welds shall be painted with zinc-based paint. Where corner fittings are used, gates shall have truss rods of 5/8 inch minimum nominal diameter to prevent sag or twist. Gate leaves shall have vertical intermediate bracing as required spaced so that no members are more than 8 feet apart. Gate leaves 10 feet or over shall have a horizontal brace or one 5/8 inch minimum diagonal truss rod. Dimensions and weights of gate frames shall be as shown in Table II.

xx. **Gate Fabric**

Shall be the same type as used in the fence construction. The fabric shall be attached securely to the gate frame at intervals not exceeding 15 inches.

xxi. **Gate Hinges**

Shall be of adequate strength for gate and with large bearing surfaces for clamping in position. The hinges shall not twist or turn under the action of the gate. The gates shall be capable of being opened and closed easily by one person.

xxii. **Gate Latches, Stops, and Keepers**

Shall be provided for all gates. Latches shall have a plunger bar arranged to engage the center stop, except that for single gates of openings less than 10 feet wide, a forked latch may be provided. Latches shall be arranged for locking. Center stops shall consist of a device arranged to be set in concrete and to engage a plunger bar of the latch of double gates. No stop is required for single gates. Keepers shall consist of a mechanical device for securing the free end of the gate when in the full open position.

xxiii. **Post Braces**

Shall be provided for each gate, corner, and end post and shall consist of a round tubular brace, 1-5/8 inch diameter, extending to each adjacent line post at approximately mid height of the fabric, and a truss consisting of a rod not less than 3/8 inch diameter from the line post back to the gate, corner, or end post, with a turnbuckle or other equivalent provision for adjustment.

xxiv. **Post Tops**

Shall consist of ornamental tops as specified. The top shall be provided with a hole suitable for the through passage of the top rail. The post tops shall fit over the outside of posts and shall exclude moisture from posts.

xxv. **Stretcher Bars**

Shall be 1/4 by 3/4 inch and not be less than 2 inches shorter than nominal height of the fabric with which they are to be used. One stretcher bar shall be provided for each end and gate post, and two for each corner pull post.

xxvi. **Ties or Clips**

Shall be of adequate strength and shall be provided in sufficient number for attaching the fabric to all line posts at intervals not exceeding 10 inches; and not exceeding 12 inches when attached fabric to top rail or wire and to be No. 9 Gauge Vinyl Coated Galvanized Steel Tie Wires.

xxvii. **Bands or Clips**

Shall be of adequate strength and shall be provided in sufficient number for attachment of the fabric and stretcher bars to all terminal posts at intervals not exceeding 10 inches. Tension bands shall be formed from flat or beveled steel and shall have a minimum thickness after galvanizing of 0.125 inch; and a minimum width of 1 inch for posts 4 inches O.D. or less. Brace bands shall be formed from flat or beveled steel and shall have a minimum thickness of 0.125 inch after galvanizing; and a minimum width of 1 inch for posts 4 inches O.D. or less. Standard mill tolerances of 0.005 inch on thickness and a .010 inch on width shall apply – attachment bolts shall be 1/4"x1-1/4" galvanized carriage bolts with nuts.

xxviii. **Tension Wire**

Shall be Marcellled (spiraled or crimped) No. 7 gauge (.177 inch) plus or minus 0.005 inch in diameter.

xxix. **Tension Wire Coating**

Zinc coated tension wire shall be Class III (0.80 oz. of zinc per square foot of uncoated surface). Aluminum-coated tension wire shall have 0.40 oz. of aluminum per square foot of uncoated wire surface.

xxx. **Installation**

Installation of fencing shall meet the requirements of ASTM Designation F-567 (Part 3).

End and gate posts to be set in 12 inch diameter 36 inches deep bell-shaped concrete bases (Class "C" concrete).

Line posts to be set in 10 inch diameter 36 inches deep bell-shaped concrete bases (Class "C" concrete).

xxxi. **Clean-up**

Upon completion, all debris caused by installation of fence to be cleared away by contractor and premises left clean.

TABLE I - FABRIC SIZE				
RECOMMENDED USAGE	HEIGHT OF FABRIC	SIZE OF FABRIC	GAUGE COATED WIRE	NOMINAL DIAMETER COATED WIRE
Standard Industrial: Heavy Residential	48" & 72"	2"	9	0.148"

TABLE II - DIMENSIONS AND WEIGHTS

USE AND SECTION	OUTSIDE DIAMETER INCHES	TYPE I PIPE WEIGHT
End Posts	3.00	Schedule 40
Line Posts for 4' and 6' Fence	2.00	Schedule 40
Top Rail	1.625	SS-20 Slip Joint
Bottom and Intermediate Rail *	1.625	Schedule 40
Post Brace	1.625	Schedule 40
Gate Posts	3.00	Schedule 40

* Bottom rail to be constructed on all fences.

**AMERICAN SOCIETY FOR TESTING
& MATERIALS (ASTM) STANDARDS**

A 90

Tests for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles

A 120

Black and Hot-Dipped Zinc-Coated (Galvanized) Welded & Seamless Steel Pipe for Ordinary Use

A 121

Zinc-Coated (Galvanized) Steel Barbed Wire

A 123

Zinc (Hot Galvanized) Coatings on Products, Fabricated from Rolled, Pressed, and Forged Steel-Shaped, Plates, Bars and Strip

A 392

Zinc-Coated Steel Chain Link Fence Fabric

A 428

Tests for Weight of Coating on Aluminum-Coated Iron or Steel Articles

A 491

Specification for Aluminum-Coated Steel Chain Link Fence Fabric

A 570

Hot Rolled Sheet and Strip, Structural Quality

A 572

High Strength, Low Alloy Columbium Vanadium Steel of Structural Quality

A 585

Aluminum-Coated Steel Barbed Wire

B 6

Specification for Zinc Metal (Slab Zinc)

B 117

Salt Spray (Fog) Testing

D 1735

Water (Fog) Testing

E 8

Tension Testing of Metallic Materials

F 552

Standard Definitions of Terms Related to Chain Link Fencing

F 567

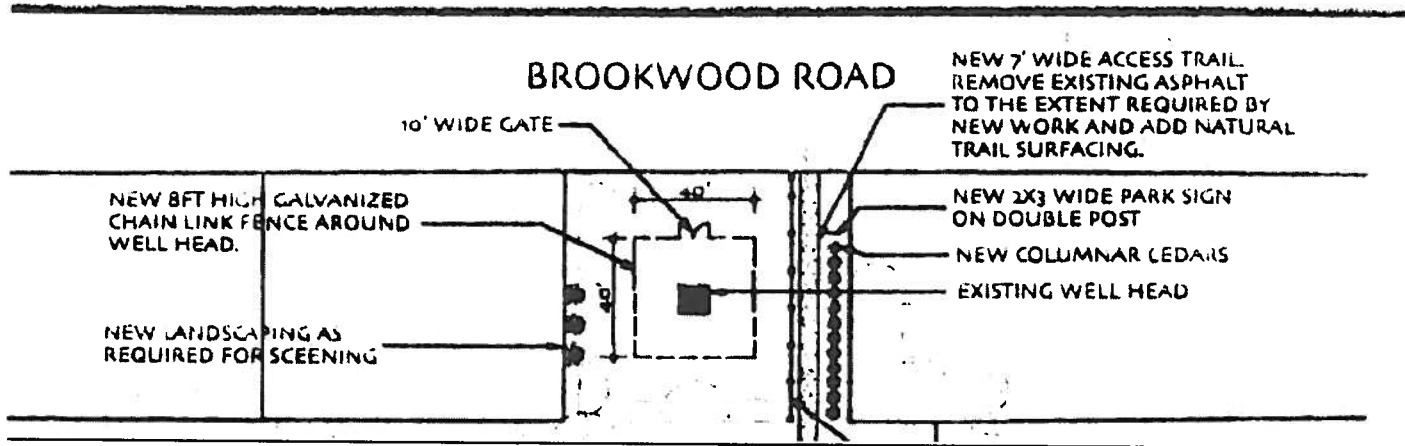
Installation of Chain Link Fence

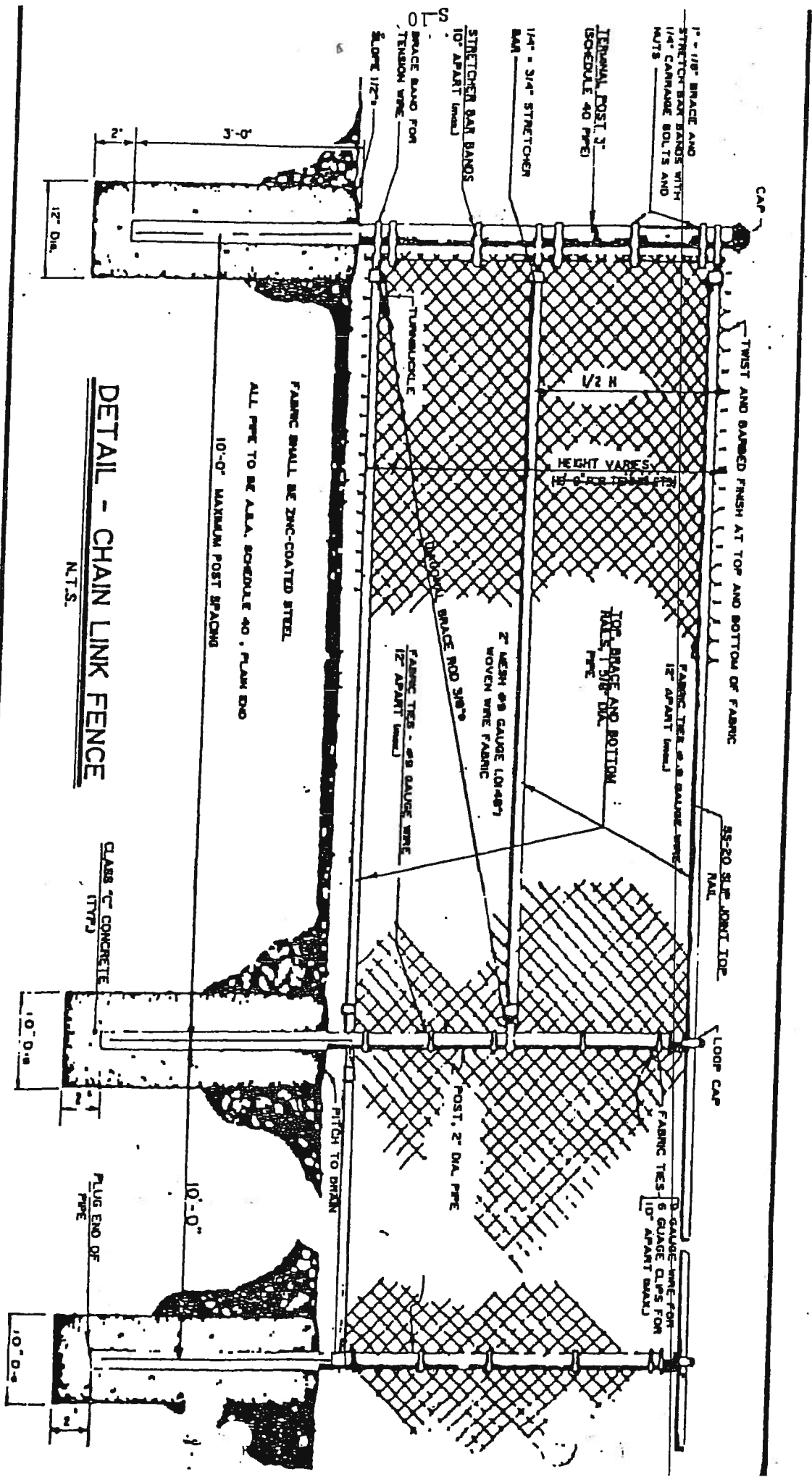
F 573

Residential Zinc-Coated Steel Chain Link Fence Fabric

INSERT DIAGRAM

Quotes for new galvanized fencing (40 ft square), 8 feet high, with two 5 foot wide double swing gates. The gates will be lockable in the center on the side of the fence that faces the road. The fencing will center the well house. The Township will remove the existing fencing.





1" - 1/8" BRACE AND STRETCHER BANDS WITH 1/4" CARBIDE BOLTS AND NUTS

TERMINAL POST 3" (SCHEDULE 40 PIPE)

1/4" - 3/4" STRETCHER BAND

STRETCHER BAND BANDS 10" APART (MIN.)

BRACE BAND FOR TENSION WIRE 5/16" - 1/2"

CAP

TWIST AND Banded FINISH AT TOP AND BOTTOM OF FABRIC

HEIGHT VARIES 1/2 H

12" - 6" DIA. PIPE

TOP BRACE AND BOTTOM RAIL 2" DIA. PIPE

FABRIC TIES #9 GAUGE WIRE 12" APART (MIN.)

5/16" DIA. NAIL

LOOP CAP

6 GAUGE WIRE FOR 5 GAUGE CLIPS FOR 10" APART BANDS

2" MESH #9 GAUGE (10487) WOVEN WIRE FABRIC

FABRIC TIES - #9 GAUGE WIRE 12" APART (MIN.)

POST, 2" DIA. PIPE

PITCH TO DRAIN

FABRIC SHALL BE ZINC-COATED STEEL

ALL PIPE TO BE A.S.A. SCHEDULE 40, FLAM DKO

10'-0" MAXIMUM POST SPACING

DETAIL - CHAIN LINK FENCE

N.T.S.

CLASS 'C' CONCRETE (1177)

PLUG END OF PIPE

12" DIA.

10'-0"

10'-0"

10'-0"