

**UPPER BRUSHY CREEK WATER CONTROL AND
IMPROVEMENT DISTRICT**



**TECHNICAL SPECIFICATIONS
FOR CONSTRUCTION OF
FLOOD PREVENTION DAM NO. 8 (TX01368)
PERMANENT FENCING
WILLIAMSON COUNTY, TEXAS**

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Prepared by

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00 01 15 LIST OF DRAWING SHEETS

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END OF SECTION

01 29 01 MEASUREMENT AND BASIS FOR PAYMENT

PART 1 - GENERAL

1.01 PAYMENT FOR MATERIALS AND EQUIPMENT

- A. Provide a bill of sale, invoice, or other documentation warranting that the District has received the materials and equipment free and clear of Liens. Provide documentation of payment for materials and equipment with the next Application for Payment. Remove items from the tabulation of materials and equipment if this documentation is not provided with the next Application for Payment.
- B. Provide evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect the District's interest.
- C. The Work covered by progress payments becomes the property of the District at the time of payment. Contractor's obligations with regard to proper care and maintenance, insurance, and other requirements are not changed by this transfer of ownership until final acceptance in accordance with the General Conditions.
- D. Payment for materials and equipment does not constitute acceptance of the product.

1.02 MEASUREMENT AND BASIS FOR PAYMENTS ON LUMP SUM ITEMS

- A. Measurement for progress payments is the invoice value for stored materials and the earned value for all other cost for constructing each item. Earned value is expressed as the value of the Work completed divided by the total value of installation cost. The total amount paid will be equal to the total lump sum amount for that item.

1.03 MEASUREMENT AND BASIS FOR PAYMENTS ON UNIT PRICE ITEMS

- A. Measure the Work using the unit of measure indicated in this Section for each unit price line item. Payment will be made only for the actual measured unit and/or computed length, area, solid contents, number, and weight unless other provisions are made in the Contract Documents. Payment on a unit price basis will not be made for Work outside dimensions shown in the Contract Documents.
- B. Payment will be made for the actual quantity of Work completed and for materials and equipment stored during the payment period. Payment amount is the Work quantity measured per Paragraph 1.03.A multiplied by the unit price for that line item in the Agreement.

1.04 MEASUREMENT AND BASIS FOR PAYMENT FOR BASE ITEMS

- A. Item BB-01 – Permanent Fencing:
 - 1. MEASUREMENT: Measurement for this item will be by the linear foot (LF).
 - 2. PAYMENT: Payment shall be at the bid unit price per linear foot (LF) of permanent field fence installed as shown on the Drawings. Such payment constitutes full compensation for all labor, material, equipment, and all other items necessary and incidental to the completion of the work. This includes excavation, concrete post footings, woven wire field fence, barbed wire fence, line pipe posts and T-posts, corner

panels, pull panels, termination panels, gate panels, and all other items necessary and incidental to the completion of the work.

B. Item BB-02 – 12-ft Wide Galvanized Mesh Gate:

1. MEASUREMENT: Measurement for this item shall be based on each (EA) gate installed.
2. PAYMENT: Payment shall be at the bid unit price for each (EA) installed gate as shown on the Drawings. Such payment constitutes full compensation for furnishing, transporting, and installing the gates complete in place. This includes excavation, concrete post footings, gate panels, and all other items necessary and incidental to the completion of the work.

C. Item BB-03 – 16-ft Wide Galvanized Mesh Gate:

1. MEASUREMENT: Measurement for this item shall be based on each (EA) gate installed.
2. PAYMENT: Payment shall be at the bid unit price for each (EA) installed gate as shown on the Drawings. Such payment constitutes full compensation for furnishing, transporting, and installing the gates complete in place. This includes excavation, concrete post footings, gate panels, and all other items necessary and incidental to the completion of the work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

32 31 26 WIRE FENCES AND GATES

PART 1 - GENERAL

1.01 SUMMARY

- A. The work shall consist of furnishing and installing field fence, including gates and fittings as shown on the Drawings.

1.02 SUBMITTALS

- A. Required submittals in this Section include:
 - 1. Product Data for each type of product indicated.

PART 2 - PRODUCTS

2.01 WIRE GAUGE

- A. When the size of steel wire is designated by gage number, the diameter shall be as defined for U.S. Steel Wire Gauge.

2.02 FENCING

- A. Fencing material shall conform to the requirements of ASTM A 121 for barbed wire, ASTM A 116 for woven wire, ASTM A 390 for poultry fence or netting, and ASTM A 854 for high-tensile wire. Barbed wire and woven wire shall be class 3 zinc coated as specified in ASTM A 641 unless otherwise specified. High-tensile wire shall have type I zinc coating unless otherwise specified.

2.03 STAYS, FASTENERS, AND TENSION WIRE

- A. Stays and fasteners shall conform to the requirements of the appropriate ASTM for the fencing material specified unless otherwise specified. Tension wires shall have a tensile strength not less than 58,000 pounds per square inch. Stays, fasteners and tension wire shall have class 3 zinc coating as specified in ASTM A641 unless otherwise specified.

2.04 STEEL FENCE POSTS AND BRACES

- A. Steel fence posts and braces shall conform to the requirements of ASTM A702 for steel fence posts and ASTM A53 for bracing pipes. Posts with punched tabs for fastening the wires shall not be installed.

2.05 PANEL GATES

- A. Panel gates shall be the specified types, sizes, and quality and shall include the necessary fittings required for installation. Gates shall be of rigid construction free from sag or twist. The fittings shall consist of not less than two hinges and one latch or galvanized chain for

fastening. Latches shall be of such design that a padlock may be used for locking. All fittings shall not be of lesser quality than the gate manufacturer's standard.

2.06 GALVANIZING

- A. All iron and steel fencing material, except as otherwise specified on the Drawings, shall be zinc coated by the hot dip process meeting the requirements of ASTM A 123 for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products, or as otherwise specified on the Drawings. Clips, bolts, and other small hardware may be protected by electro-deposited zinc or cadmium coating.

PART 3 - EXECUTION

3.01 SETTING POSTS

- A. Steel line T-posts shall be driven unless otherwise specified.
- B. Holes for installing fence posts shall be at least 6 inches larger than the diameter or side dimension of the posts.
- C. Concrete backfill around posts shall be rodded into place in layers not thicker than 12 inches and shall completely fill the posthole to the surface of the ground.
- D. Concrete backfill shall be crowned-up around posts at the ground surface.
- E. No stress shall be applied to posts set in concrete for a period of not less than 24 hours following the development of a firm set of the concrete.

3.02 CORNER ASSEMBLY

- A. Unless otherwise specified, corner assemblies shall be installed at all points where the fence alignment changes 5 degrees or more.

3.03 END PANELS

- A. End panels shall be built at gates and fence ends.

3.04 PULL POST ASSEMBLY

- A. Pull post assembly (bracing within a section of straight fence) shall be installed at the following locations:
 - 1. In straight fence sections, at intervals not to exceed 630 feet.
 - 2. At any point where the vertical angle described by two adjacent reaches of wire is upward and exceeds 10 degrees.
 - 3. At the beginning and end of each curved fence section.

3.05 ATTACHING FENCING TO POSTS

- A. The fencing shall be stretched and attached to posts as follows:
1. The fencing wire or netting shall be placed on the side of the post opposite the area being protected except for installation along curved sections.
 2. The fencing wire or netting shall be placed on the outside for installation along curved sections.
 3. The fencing wire or netting shall be fastened to each end post, corner post, and pull post by wrapping each horizontal strand around the post and tying it back on itself with not less than three tightly wound wraps.
 4. The fencing wire or netting shall be fastened to steel line posts with either two turns of 14 gauge galvanized steel or iron wire or in accordance with recommendations provided by the post's manufacturer.
 5. Wire shall be spliced by means of a Western Union splice or by suitable splice sleeves applied with a tool designed for that purpose. The Western Union splice shall have no less than eight wraps of each end about the other. All wraps shall be tightly wound and closely spaced. Splices made with splice sleeves shall have a tensile strength no less than 80 percent of the strength of the wire being spliced.

3.06 CROSSINGS AT DEPRESSIONS AND WATERCOURSES

1. Where fencing is installed parallel to the ground surface, the line posts subject to upward pull shall be anchored by setting such posts in concrete. The locations where this anchorage is required will be designated by the Engineer.
2. If the fence wire or netting is installed parallel to the ground surface, the line posts subject to uplift shall be anchored by means of extra embedment or by special anchors as detailed on the drawings.
3. If the fence wire is installed with the top wire straight and parallel to the ground surface on either side of the depression, extra length posts shall be used to allow normal post embedment. Unless otherwise specified, excess space between the bottom of the fence and the ground shall be closed with extra strands of barbed wire or with netting.

PART 4 - MEASUREMENT AND PAYMENT

- 4.01 See Section 01.29.01 - Measurement and Basis for Payment.

END OF SECTION