

ITEM 17203.7006 M - WIRE ROPE ROCK CATCHMENT FENCE (MEDIUM IMPACT) 1.83 METERS IN HEIGHT

ITEM 17203.7008 M - WIRE ROPE ROCK CATCHMENT FENCE (MEDIUM IMPACT) 2.44 METERS IN HEIGHT

ITEM 17203.7010 M - WIRE ROPE ROCK CATCHMENT FENCE (MEDIUM IMPACT) 3.05 METERS IN HEIGHT

ITEM 17203.7012 M - WIRE ROPE ROCK CATCHMENT FENCE (MEDIUM IMPACT) 3.66 METERS IN HEIGHT

DESCRIPTION:

Under this Item, the Contractor shall furnish and install rock catchment fencing and appurtenances as described and shown on Dwgs. No. 1 M through No. 10 M or as directed by the Engineer.

MATERIALS:

1. Provide a fence consisting of a net fabricated from wire rope having a minimum diameter of 8 mm, 7 by 7 construction and a minimum breaking strength of 41 kN. The mesh size of the net shall be 200 mm by 200 mm. The border rope of the net shall have a minimum diameter of 16 mm, 6 by 19 construction, and a minimum breaking strength of 165 kN. The net shall be diagonally woven.
2. Fasten all net braiding with high strength, corrosion resistant clips or other fasteners to produce a permanent, non-movable joint. Damage to the wire rope resulting from the installation of the clips, insofar as it affects the integrity of the system, in the opinion of the Engineer, shall be cause for rejection of the net panel.
3. Cover all nets with chain link mesh fencing material of at least 11 gauge, 50 mm mesh, conforming to AASHTO M181, and zinc coated in accordance with ASTM A392, Class 1. Cut the chain link material to fit each wire rope netting panel. Attach the chain link mesh fencing material to the inside face of the wire rope nets with clips to extend a minimum of 0.9 m beyond the bottom of the fence.
4. Provide and install galvanized net supporting wire rope, of at least 16 mm diameter, 6x19 construction, with a minimum breaking strength of 165 kN.
5. Provide and install one braking element per top and bottom net supporting rope per 6.1 m net section. Position the braking element not more than 0.9 m from the column (Dwg. No. 2 M).
6. Use seam ropes to fasten adjacent wire rope nets and the nets to the net support wire ropes, with at least 1 wrap per 0.4 m. The seam rope shall have a minimum diameter of 8 mm, 7 by 7 construction, and a minimum breaking strength of 41 kN.

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7. All wire ropes for the wire nets, supporting ropes, seam ropes and anchors shall be composed of steel wires individually galvanized before being woven into the ropes.
8. All miscellaneous appurtenances such as wire rope clips, thimbles, bolts, etc., shall be galvanized as supplied by the manufacturer.
9. All steel bolts, nuts and washers shall comply with ASTM A325.
10. The net support columns shall be fabricated from W200 x 71 wide flange members meeting ASTM A36M for preformed steel shapes. The column spacing shall be 6.1 m.
11. Install a tie-back restraining cable to extend from the top of each column in a direction perpendicular to the length of the fence and on the slope side of the fence. Install a braking element in each cable not more than 0.9 m from the column. This cable shall have a minimum diameter of 16 mm, 6x19 construction, and a minimum breaking strength of 165 kN (Dwg. No. 5 M).
12. The anchor cables shall have a minimum diameter of 19 mm, a minimum length of 3 m, a minimum breaking strength of 236 kN and be equipped with heavy duty type thimbles.
13. For a fence whose length is 36.6 m or less, both end columns shall have a lateral restraining cable without the braking element. This cable shall extend from the top of the column at an angle of 60° from the vertical to the ground (Dwg. No. 2M). For a fence which is longer, install lateral restraining cables (Dwg. No. 2M, Detail 2) at every multiple of 36.6 m, or approximately midway for a fence less than 73.2 m.
14. Paint the fence installation where specified, with the appropriate material and color as directed by the Engineer.
15. The rock catchment fence system as obtained from the manufacturer shall have a tested capability of retaining a rock impact of 201 kJ of kinetic energy. The result of demonstration tests shall be furnished as required by the Engineer.

CONSTRUCTION DETAILS:

The appropriate construction details are as specified on attached detail drawings.

METHOD OF MEASUREMENT:

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The quantity to be paid for will be the number of linear meters of fencing, measured from center to center of end posts, properly furnished and installed in accordance with this specification and the direction of the Engineer.

BASIS OF PAYMENT:

The unit price bid per linear meter of this item shall include the cost of furnishing all material, equipment, tools and labor necessary to complete this work.

DISAPPROVED BY EI 10-002