

ROCKFALL BARRIER FENCE

****From Berlin-Montpelier IM 089-1(53)**

xx. DESCRIPTION. This work shall consist of furnishing and installing a light-duty rockfall barrier fence at the locations indicated in the Plans and as directed by the Engineer.

xx. MATERIALS.

(a) General. The rockfall barrier fence shall consist of chain-link mesh with steel posts, wire ropes, steel anchors, concrete foundations, and attachments.

(b) Chain-Link Mesh. Chain-link material shall be 6 gage, minimum, 3 inch chain-link mesh conforming to AASHTO M 181-86 and shall be zinc coated in accordance with ASTM A 392-07, Class 2 Standards.

(c) Posts. Fence posts shall be 9'-6" long W4X13 steel posts. All posts shall be galvanized in accordance with AASHTO M 111M/M 111.

(d) Wire Rope. Wire rope for top and bottom longitudinal support ropes, splice ropes, and anchor tie back ropes shall be galvanized, 3/4 inch diameter, consisting of three strands (seven wires per strand). Wire rope shall have a minimum tensile strength of 25 kips and meet the requirements of Federal Specification FED RR-W-410F or equivalent.

All wire rope shall be galvanized in accordance with ASTM A 641-09A for zinc coated (galvanized) carbon steel wire.

The minimum weight of the coating shall be in accordance with Table 1 of the Standard when tested in accordance with ASTM A 90-09.

The adhesion of the zinc coating to the wire should be such that, when the wire is wrapped six turns around a mandrel of four times the diameter of the wire, it does not flake or crack to such an extent that any zinc can be removed by rubbing with bare fingers.

(e) Post Foundations. Post foundations shall be 10 inch diameter concrete meeting the requirements of Section 541 for Concrete, Class B.

(f) Miscellaneous Materials. Miscellaneous materials such as U-bolts, nuts, wire rope clips, wire ties, etc., shall be supplied by the Contractor.

All miscellaneous materials associated with the rockfall barrier fence shall be hot-dipped galvanized in accordance with AASHTO M 232M/M 232.

(g) Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02.

xx. CONSTRUCTION REQUIREMENTS.

- (a) Chain-Link Mesh. The chain-link material shall be attached to the posts on the side closest to the traveled way using ½ inch thick, 3 inch diameter U-bolts as detailed in the Plans. The chain-link mesh shall be attached to the top and bottom longitudinal support ropes at 12 inch spacing using 12 gauge galvanized wire ties as detailed in the Plans.

Chain-link splice ropes shall be woven into both attaching ends of the chain-link mesh.

Chain-link splices shall be centered on posts.

At splices, chain-link mesh shall overlap sufficiently so that the splice rope can be woven through each hole vertically.

Bottom of chain-link mesh shall be within two inches of the ground surface.

- (b) Wire Rope. Wire rope shall be taut to the satisfaction of the Engineer and Vtrans Geologist.

The top and bottom longitudinal support ropes and their respective anchor tie back ropes shall be one continuous length without the use of splicers.

Wire rope clips should be for right or left; lay wire as appropriate.

Longitudinal support ropes shall be secured to posts with U-bolts. Wire support ropes shall be able to move freely after installation.

- (c) Post Foundations. Foundations shall be poured to a minimum depth of 5 feet below existing ground.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Rockfall Barrier Fence) to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work. Measurement will be along the top of the fence from outside to outside of end posts for each continuous run of fence.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Rockfall Barrier Fence) will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for furnishing, transporting, handling, assembling, and placing the materials specified including U-bolts, wire rope clips, wire ties, wire rope anchors, support rope, anchor tie-back ropes, splice ropes, chain-link mesh, foundations, sleeves, and posts; performing any necessary excavation for post installation; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Rockfall Barrier Fence)	Meter (Linear Foot)