

## ITEM 11607.8301 thru .8305 M - WATER DEBRIS FENCE

### DESCRIPTION

This work consists of furnishing and erecting a fence in the water that will prevent floating or submerged debris from being washed into newly planted wetland areas or onto the shore.

### MATERIALS

**Fence Fabric.** Fence fabric shall conform to the following specifications:

Material:	High density polyethylene (HDPE)
Porosity:	50% ( $\pm$ 3%)
Min. longitudinal tensile strength:	16,000 N/m of width
Min. transverse tensile strength:	3,500 N/m of width
Max. elongation at break (longitudinal):	100%
Min. aperture dimension:	25 mm
Color:	As approved by the Regional Landscape Architect

Tensile strength and elongation to be determined in accordance with ASTM D4595.

For ultraviolet (UV) protection, synthetic fencing materials having a thickness less than 1 mm shall contain at least 2.0% well-dispersed carbon black as determined by ASTM D4218, in addition to any other chemical additives for UV resistance.

**Wood Posts.** Wood posts and braces shall comply with the requirements of §712-14, Stress Graded Timber and Lumber. Wood posts and braces shall have a minimum allowable extreme fiber stress of 11,000 kPa and shall be sound, free from loose knots or decay, and with no through checks on tops or butts. Posts shall be machine peeled to a smooth uniform appearance and free from all inner bark.

All wood posts and braces shall be pressure treated in accordance with the requirements of §708-31, Wood Preservative - Water Borne. Wood shall be stamped or otherwise marked as certified by the American Wood-Preservers' Association. All wood shall be free of chromated copper arsenate surface deposits. Wood with surface deposits shall be washed for at least 5 minutes under running water prior to use. Wash water shall not be allowed to enter wetlands or any other water body.

Unless otherwise specified, any necessary cutting shall be completed prior to pressure treatment. If cutting is permitted and performed after treatment, such cuts and holes shall be swabbed, sprayed, or brushed with two coats of the preservative initially used. Handling and care shall conform to AWWA Standard M4. Wood debris and sawdust shall not be allowed to enter wetlands or any other water body.

Approval of posts for use under this specification will be by the Engineer. Application for such approval must contain the following information:

Species of wood proposed for use.

Type of preservative and minimum retention in kg per cubic meter.

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Pressure preservative treatment method.

**Steel Hardware.** Staples, bolts, nuts, and washers shall meet the requirements of ASTM A307, A563M and F436, respectively. All hardware shall be plated or coated in accordance with the provisions of Type II of §719-01.

The basis for acceptance for all materials will be the manufacturer's certification that the requirements of this specification have been met.

### **CONSTRUCTION DETAILS**

The Contractor shall install the water debris fence along the alignment shown in the contract documents and/or where required by the Regional Landscape Architect. The top edge of the fence fabric shall be set level at 0.3 meters above the mean high water level, and the bottom edge of the fence fabric shall be no more than 0.15 meters above the ground unless specified otherwise or directed otherwise by the engineer.

The water debris fence shall be erected as shown on the plans, in accordance with the manufacturer's instructions, or as directed by the Engineer.

Posts shall be set plumb and driven into the soil to a sufficient depth so that they will not lean more than 15 mm in any direction when exposed to ambient currents or waves. Tops of posts shall not be cut off unless approved by the Engineer. Cut wood shall be field treated with wood preservative in accordance with AWWA Standard M4.

End, corner, and line posts shall be placed at the locations indicated in the contract documents or where directed by the Engineer. Line posts shall be spaced equidistant along the fence line at the spacing required by the contract documents or the Engineer.

Fence fabric shall be attached to posts by heavy duty galvanized steel staples unless specified otherwise or directed otherwise by the engineer.

### **METHOD OF MEASUREMENT**

Fencing shall be measured as the number of linear meters along the top of the fencing from center to center of the end poles installed in accordance with the plans, specifications, and directions of the Engineer.

### **BASIS OF PAYMENT**

The unit price bid per linear meter of fencing shall include the cost of furnishing all labor, materials, tools, and equipment necessary to satisfactorily complete the work, including any necessary grading.

Payment will be made under the following items:

Item 11607.8301 M - Water Debris Fence, 1.8 m Height

Item 11607.8302 M - Water Debris Fence, 2.1 m Height

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Item 11607.8303 M - Water Debris Fence, 2.4 m Height

Item 11607.8304 M - Water Debris Fence, 2.7 m Height

Item 11607.8305 M - Water Debris Fence, 3.0 m Height