



<b>To:</b>  <b>SUPERSEDED BY EI 94-033</b> <b>EFFECTIVE 9/9/94</b>		<b>ENGINEERING INSTRUCTION</b> <i>New York State Department of Transportation</i>	<b>94-25</b>  Supersedes: <b>EI 83-5</b>
<b>Title: SPECIFICATION FOR SNOW AND PEDESTRIAN FENCING ON BRIDGES. IT HAS TWO PAY ITEMS, 16607.0630 AND 16607.0631</b>			
<b>Distribution:</b> <input checked="" type="checkbox"/> Central Office(30) <input type="checkbox"/> Local Gov.(31) <input checked="" type="checkbox"/> Regions(32) <input type="checkbox"/> Contractors/AGC(39) <input checked="" type="checkbox"/> Consultants(34) <input type="checkbox"/> _____ ( )	<b>Approved:</b>  <hr/> A. M. Shirole, Deputy Chief Engineer Structures Division		7/13/94 Date

The attached specification is effective July 14, 1994. It can be used immediately, but must be used on projects whose letting date is December 15, 1994 and beyond. The specification has two pay items. They are:

1. 16607.0630 - Pedestrian Fencing On Bridges.
2. 16607.0631 - Snow Fencing On Bridges.

Two pay items are used because of the difference in costs and to track the use of each type of fencing.

Specification 16607.0611 - PROTECTIVE SCREENING-BRIDGES is disapproved for use in projects let on and after December 15, 1994.

Items 16607.0630 and 16607.0631 differ from Item 16607.0611 in that they increase the options for fence and post coatings. In addition, the "new" specification is in metric.

If you have any questions regarding this E.I., contact Larry Johanson of this office at (518) 457-2459.

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 HIGHWAY/UTILITIES SECTION

ITEM NO. 16607.0630 - PEDESTRIAN FENCING FOR BRIDGESITEM NO. 16607.0631 - SNOW FENCING FOR BRIDGESDESCRIPTION:

The work shall consist of furnishing and installing fencings including all hardware and construction systems necessary to complete the work. Fencing shall be installed according to the details and at the locations indicated on the Contract Plans.

MATERIALS:

Materials used for this work shall conform to the following requirements:

<u>PART</u>	<u>REQUIREMENTS</u>
Vinyl Coated Steel Fence Fabric	710-03
Steel Fence Fabric (Aluminum Coated)	710-04
Posts, Rails, Braces, and Fittings	710-10.3
Plastic Coated Posts, Rails, Braces, and Fittings	710-12
Angles and Plates	ASTM A 36
Steel "T" and Wide Flange Sections	ASTM A 36
U-Bolts	ASTM A307
Nuts and Bolts	ASTM A307 and ASTM A325
Pipe Supports	ASTM A 53
Anchor Bolts	ASTM A449

All material, except aluminum coated fence fabric and plastic coated posts, rails, braces and fittings, shall be galvanized unless otherwise indicated on the Contract Plans or in the Proposal. Unless otherwise specified, galvanizing shall be in accordance with the requirements of Subsection 719-01, type as applicable. The type of posts, rails, braces, and fittings will be designated on the Contract Plans or in the Proposal.

Top and bottom edges of the fence fabric shall be "knuckled" (wire ends bent back upon themselves to eliminate sharp wire ends).

Unless otherwise noted on the Plans:

1. Posts shall be a nominal 64 mm size (73 mm O.D.). Minimum weight per foot shall be 2.62 kg for Schedule 40 Pipe and 2.10 kg for Class B Steel Tubing.
2. Top and Bottom rails shall be a nominal 32 mm size (42 mm O.D.) Minimum weight per foot shall be 1.03 kg for Schedule 40 Pipe and .83 kg for Class B Steel Tubing.
3. Pipe supports shall be 38 mm nominal size Schedule 80 Pipe.

CONSTRUCTION DETAILS:

Fence fabric shall be firmly attached to the posts, rails, and braces. All fencing shall be stretched taut and be installed to the required elevations.

The posts shall be fastened to the structure in accordance with the details indicated on the Contract Plans. Posts shall be set so that straight sections are truly vertical.

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All the top rails shall pass through the base of the post caps. Both the top and bottom rails shall provide continuous support for the fencing from end-to-end of the fence fabric. Sections of both rails shall be joined with sleeve couplings. At expansion joints in the structure, expansion sleeves shall be used. Top rails shall be securely fastened to terminal posts by means of rail end connectors approved by the Engineer.

Horizontal braces shall be provided at all terminal posts, midway between the top and bottom rails, and shall extend from the terminal post to the first adjacent intermediate post. Braces shall be securely fastened to the intermediate posts by brace ends and brace bands. Braces shall be securely fastened to the terminal posts by rail end connectors, approved by the Engineer. Braces shall be made from the same material as the top and bottom rails.

All welding shall meet the requirements of Section 7, Welding, of the New York State Steel Construction Manual.

Field welding shall be allowed only where indicated on the Contract Plans, or where ordered by the Engineer. Remove galvanizing in the area of the weld, prior to welding.

All finished surfaces of welds, and surfaces from which the galvanizing has been removed, shall be repaired in accordance with the requirements of Subsection 719-01. All galvanizing repair shall be done at no additional cost.

Unless otherwise noted on the plans:

1. The fabric shall be securely fastened to all terminal posts by 6 mm x 19 mm tension bars with 11 gauge pressed steel bands spaced approximately 360 mm apart.
2. Fabric shall be attached to top and bottom rails with 6 gauge tie wires at 600 mm centers.
3. The fabric shall be securely fastened to all vertical posts by 6 gauge aluminum ties at 300 mm centers.
4. Whenever fencing is cut to fit, the exposed ends, shall be coated as dictated by galvanizing repair procedures in subsection 719-01 of the standard specifications.

METHOD OF MEASUREMENT:

Measurement will be taken as the number of linear meters of fencing installed.

Measurement will be taken along the bottom of the bottom rail, center-to-center of terminal posts.

BASIS OF PAYMENT:

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