

Part 1 General

1.1 WORK INCLUDED

- .1 The work under this section consists of the supply of all labour, materials and equipment and incidentals necessary to complete the installation of protection bollards in accordance with the Drawings.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM B209-02a, Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 62-GP-11M-78(R1987), Marking Material, Retroreflective, Enclosed Lens, Adhesive Backing.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit, in advance of the commencement of the work, the manufacturer's certification that the materials supplied meet the specified requirements, and the manufacturer's recommended procedures for installation and instructions for handling.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
 - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 POSTS

- .1 Steel Posts: 150 mm diameter, Schedule 40 galvanized steel pipe, filled with 30 MPa concrete. The steel post shall be set 1500 mm in the concrete and extend 1500 mm above the surface.
- .2 Bollards shall be anchored in a 300 mm dia. sonotube filled with 20 MPa concrete.

2.2 COVERS

- .1 PVC Cover: size to suit the outside diameter of the bollard pipe, Safety color yellow with minimum of one (1) highly reflective band. Acceptable cover: "Bollard guard" by Thermoprene.

Part 3 Execution

3.1 INSTALLATION

- .1 Install bollards in accordance with the Specifications and the drawings. Exact location to install the bollards will be determined in the field by the Engineer.
- .2 Install bollards plumb and in a vertical position.
- .3 Install and secure bollard covers as per the manufacturer's recommendations.
- .4 Protect bollards from damage during the construction period, and any required repairs will be the Contractor's responsibility throughout the warranty period, at no additional cost to the Owner.

3.2 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION