

PART 1 GENERAL

1.1 Related Sections

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

1.2 References

- .1 American Association of State Highway and Transportation Officials (AASHTO)
  - .1 AASHTO M180-2000, Corrugated Sheet Steel Beams for Highway Guardrails.
- .2 American Society for Testing and Materials (ASTM International)
  - .1 ASTM A 307-00, Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
- .3 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-1.28-98, Exterior, Alkyd, House Paint.
  - .2 CAN/CGSB-1.40-M97, Anti-corrosive, Structural Steel Alkyd Primer.
  - .3 CAN/CGSB-1.59-97, Alkyd Exterior Gloss Enamel.
  - .4 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.
  - .5 CGSB 31-GP-107Ma-90, Non-inhibited, Phosphoric Acid Base Metal Conditioner and Rust Remover.
- .4 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-O80 Series-97(February 2000), Wood Preservation.
- .5 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.
- .6 PEI Department of Transportation, Infrastructure and Energy General Provisions and Contract Specifications for Highway Construction (current edition).

### 1.3 Samples

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Engineered stamped shop drawings for crash absorption system.
  - .2 Engineered stamped shop drawings for gate system.
- .2 Inform Departmental Representative Owner at least 4 weeks prior to beginning Work, of proposed sources of guide rail and components.

### 1.4 Waste Management and Disposal

- .1 Separate and recycle waste materials in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
- .2 Collect and separate for disposal paper plastic polystyrene corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Unused paint or coating material must be disposed of at an official hazardous material collections site as approved by Departmental Representative.
- .6 Fold up metal banding, flatten and place in designated area for recycling.
- .7 Do not dispose of unused paint material into sewer system, into streams, lakes, onto ground or in any other location where it will pose a health or environmental hazard.
- .8 Do not dispose of preservative treated wood through incineration.

- .9 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
- .10 Dispose of treated wood, end pieces, wood scraps and sawdust at a sanitary landfill.
- .11 Dispose of unused preservative material at an official hazardous material collections site. Do not dispose of unused preservative material into the sewer system, streams, lakes, on ground or in any other location where they will pose a health or environmental hazard.

## PART 2 PRODUCTS

### 2.1 Materials

- .1 Steel W-beam guide rail as indicated and to following requirements:
  - .1 Steel rail and terminal sections: to AASHTO M180, class A Type 11 zinc coated.
  - .2 Bolts, nuts and washers: to ASTM A 307, hot dip galvanized to CSA G164.
- .2 Organic zinc-rich coating: to CAN/CGSB-1.181.
- .3 Sawn timber posts and offset blocks:
  - .1 Species: Maple, Birch, Beech or Hemlock.
  - .2 Type: pressure treated in accordance with CAN/CSA-O80 Series.
  - .3 Dimensions: 200 x 200 x 2500 mm. .4 Posts shall conform to NBDOT 510 and Drawing 510-1.

## PART 3 Execution

### 3.1 Erection

- .1 Set posts by instrument for alignment, and locations as indicated and as directed by Departmental Representative.
- .2 Excavate post holes to depths as indicated and to diameter of 360 mm plus or minus 20 mm. Compact bottom to provide firm foundation. Set post plumb and square in hole.

- .3 Backfill around posts using excavated material and compact in uniform layers not exceeding 150 mm compacted thickness.
- .4 Cut off tops of posts as indicated, with tops parallel to grade of pavement edge.
- .5 Worker protection: workers must wear appropriate protective equipment, including gloves respirators dust masks long sleeved clothing eye protection protective clothing when handling, drilling, sawing, cutting or sanding preservative treated wood and applying preservative materials.
- .6 Treat cut tops with two coats of approved preservative.
- .7 Construct anchorages to details as indicated. Place and compact backfill for anchors as directed by Departmental Representative.
- .8 Erect steel W-beam components to details as indicated, and in accordance with Nova Scotia Department of Transportation and Infrastructure Renewal Standard Specification. Lap joints in direction of traffic. Tighten nuts to 100 Nm torque. Maximum protrusion of bolt 12 mm beyond nut.

### 3.2 Painting Touch-up

- .1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc-rich paint.

---

END

---