

PART 1 - GENERAL

1.1 RELATED
SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.2 REFERENCES

- .1 American Association of State Highway and Transportation Officials (AASHTO)
 - .1 AASHTO M180-12, Standard Specification for Corrugated Sheet Steel Beams for Highway Guardrails.
- .2 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A307-12, Standard Specification for Carbon Steel Bolts Studs and Threaded Rod, 60 000 PSI Tensile Strength.
- .3 ASTM A123/A123M-13, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .4 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-O80 Series-08(R2012), Wood Preservation.

1.3 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Inform Departmental Representative 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 21 - 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.

1.4 WASTE
MANAGEMENT AND
DISPOSAL
(Cont'd)

- .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.

1.5 MEASUREMENT FOR
PAYMENT

- .1 Guide Rail: Measure supply and erection of roadside steel W-beam guide rail including posts and necessary hardware in lin. meters (LM) of guide rail installed and measured from outer terminal ends of steel W-beam guide rail. Include the cost of all plant, labour, equipment and materials required to complete work as specified on accompanying drawings.

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 M180-78, class A Type 1 zinc coated.

2.1 MATERIALS
(Cont'd)

- .1 (Cont'd)
- .2 Bolts, nuts and washers: to ASTM A307, hot dip galvanized to ASTM A123/A123M (CSA G-164M).
- .2 Organic zinc-rich coating: to CAN/CGSB-1.181.
- .3 Sawn timber posts and offset blocks:
 - .1 Species: Hemlock or Douglas Fir.
 - .2 Type: pressure treated in accordance with CAN/CSA-O80 Series.
 - .3 Grade: No 1 Structural Grade.
 - .4 Dimensions: as indicated 200 mm x 200 mm x 2440 mm.

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 concrete apron edge.
- .5 Worker protection: workers must wear 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 Construct anchorages to details as indicated. Place and compact backfill for anchors as directed by Departmental Representative.
- .7 Erect steel W-beam components to details as indicated. Lap joints in direction of traffic. Tighten nuts to 100 N.m torque. Maximum protrusion of bolt 12 mm beyond nut.
- .8 Install terminal sections at each end of the guide rail shown on plan.