

PART 1 - GENERAL

- 1.1 Source Sampling .1 At least four (4) weeks prior to commencing work, inform Departmental Representative of proposed sources of guide rail and components, and provide access for sampling.
- 1.2 References .1 AASHTO M180-2012, Corrugated Steel Sheet Beams for Highway Guardrail.
- .2 ASTM A307-2012, Carbon Steel Bolts, Studs and Threaded Rods, 60000 PSI Strength.
- .3 ASTM A123-2013, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .4 CSA O80-2012, Wood Preservation.

PART 2 - PRODUCTS

- 2.1 Materials .1 Steel W-beam guide rail:
- .1 Steel rail and terminal sections: to AASHTO M180, Class A, Type 1 zinc coated, 3.5 mm thickness.
- .2 Bolts, nuts and washers: to ASTM A307, hot dip galvanized to ASTM A123.
- .2 Timber post and offset block:
- .1 Well seasoned, straight and sound, free from loose knots or other defects, dressed four sides.
- .2 Acceptable species of wood: Jack Pine or Eastern Hemlock.
- .3 Treat posts and blocks to CSA O80, pressure preserved wood for highway construction table 1 and its references. Standard minimum retention of CCA preservative 6.4 kg/m<sup>3</sup>.
- .4 Reflector strips shall be scotchlite delineator 50 mm x 300 mm on metal backing.
-

PART 3 - EXECUTION

- 3.1 Erection
- .1 Remove and dispose of existing guide rails and posts off site.
  - .2 Install posts plumb at locations and to depths indicated or directed by Departmental Representative.
  - .3 When excavation is required, auger post holes and compact bottom to provide firm foundation. Set post plumb and square in hole, backfill in 150 mm layers and compact each layer before placing succeeding layer.
  - .4 Cut off tops of posts to elevations indicated.
  - .5 Treat cut tops with two (2) coats of same type of wood preservative used to pressure treat posts.
  - .6 Erect steel W-beam components to details indicated. Lap joints in direction of traffic. Tighten nuts to 100 N.m torque. Maximum protrusion of bolt 6 mm beyond nut.
  - .7 Once the W-beam rail is properly installed, place new reflective strips immediately under the rail on every third post on curves and on each end post, and every fifth post on tangent or straight run.
    - .1 Place white reflector facing the approaching traffic in the immediately adjacent driving lane and yellow reflector on the opposite side of the same post facing traffic in the other direction.
- 3.2 Touch-up
- .1 Clean damaged surfaces with brush removing loose and cracked coatings. Apply two (2) coats of organic zinc-rich paint to damaged areas in accordance with manufacturer's instructions.