

PART 1 - GENERAL

1.1 REFERENCES

- .1 Section 31 09 16.01 - Pile Driving Template.
- .2 Section 31 63 19.13 - Rock Sockets for Piles.
- .3 Section 31 61 13 - Pile Foundation, General Requirements.
- .4 Section 05 50 00 - Metal Fabrications.

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product data: submit manufacturer's printed product literature, specifications and datasheet.
- .3 Submit shop drawings and indicate: tip reinforcement. Each drawing stamped and signed by professional engineer registered or licensed in Province of Newfoundland and Labrador, Canada.
- .4 Quality Assurance: test reports: Prior to fabrication, and, if requested, provide Departmental Representative with two copies of steel producer's certificates in accordance with ASTM A252. Provide one Charpy V-notch test required per heat and results reported to Departmental Representative by manufacturer.
- .5 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

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1.3 MEASUREMENT FOR
PAYMENT

- .1 Steel piles (socketed): Measurement of the socketed steel pipe piles will be by the linear metre (LM) of piling installed. Include all labour, plant and equipment (casings, grouting, reinforcing steel, clean-out, drilling, camera inspection, etc.). Supply length (as indicated on the drawings) not installed will be paid at the supply cost of materials only.
- .2 Sockets measured under Section 31 63 19.13 - Rock Sockets for Piles

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Steel pipe: rolled and welded of sizes and wall thicknesses indicated, machine cut ends to API SPEC 5L, A572 Grade 50.
- .2 Pipe material to have following minimum properties:
 - .1 Yield strength: 345 MPa.
 - .2 Weldable steel: to ASTM A106/ASTM A106M carbon equivalent less than 0.55%.
- .3 Pipe chemical composition: to ASTM A252.
- .4 Pipe allowable tolerances:
 - .1 Deviation from straight line, specified diameter, wall thickness and out-of-roundness on body of pipe and at pipe ends to conform to API SPEC 5L.
 - .2 Pipe to be checked for deviations before leaving mill.
- .5 Pile tip reinforcement: to CSAG40.20/G40.21, Grade 300W.
- .6 Splices: to CSA-G40.20/G40.21, Grade 300W.
- .7 Steel wales: to CSAG40.20/G40.21, Grade 300W.
- .8 Welding electrodes: to CSA W48 series.
- .9 Concrete: in accordance with Section 03 30 00 - Cast-in-Place Concrete.
- .10 Reinforcing steel: in accordance with Section

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03 20 00 - Concrete Reinforcing, sizes and
details as indicated.

PART 3 - EXECUTION

3.1 FABRICATION

- .1 Fabricate full length piles to eliminate splicing during installation wherever possible.
- .2 Submit details of planned use of pile material stock to Departmental Representative for approval prior to start of fabrication.
- .3 Allowable tolerance on axial alignment to be 0.25% as measured by 3 m straight edge.
- .4 Allowable deviation from straight line over total length of fabricated pile to be 20 mm.
- .5 Install pile tip reinforcement as indicated.
- .6 Repair defective welds as approved by Departmental Representative.
 - .1 Repairs: to CSA W59.
 - .2 Unauthorized weld repairs may be rejected.

3.2 GENERAL

- .1 Perform internal visual inspection of steel pipe, joints and base prior to placing of concrete.
- .2 Ensure pipe inside is free from foreign matter.
- .3 Clean out pipe pile to bedrock before placing of reinforcement or concrete.
- .4 Assemble and install reinforcement cages as indicated.
- .5 Install concrete in accordance with Section 03 30 00 - Cast-in-Place Concrete and Section 03 37 26 - Underwater Placed Concrete.
- .6 Fill steel pipe pile with concrete or grout using methods to limit free fall and to prevent segregation. Ensure adequate vibration to completely fill cross section of pipe.