This specification outlines the requirements for the supply and installation of various types of wooden signposts and the placing of signs on these signposts. This specification shall be read in conjunction with applicable Sign and Signpost Installation Details standard drawings as outlined in the TI, Highway Specifications Book.

PART 1 REFERENCES

This specification refers to the following standards, specifications, or publications.

Government of Newfoundland and Labrador, Department of Transportation and Infrastructure (TI), Highway Design and Construction Division, Highway Specifications Book

580 Sign and Signpost Installations

Standard Drawings

Canadian General Standard Board (CGSB)

CAN/CGSB-1.189	Exterior Alkyd Primer for Wood
CAN/CGSB-1.61	Exterior and Interior Marine Alkyd Enamel

CSA Group (CSA)

CSA 080	Wood Preservation

PART 2 GENERAL

2.1 CLASSIFICATION OF SIGNPOST INSTALLATIONS

.1 There are four basic types of signpost installation namely: Type A, Type B, Type C and Type D (see TI, Highway Specifications Book, Standard Drawings Table of Contents for appropriate Sign and Signpost Installation drawings).

.2 Type A and Type B are of various dimensions but are intended to support smaller size signs that require only one vertical member to support the sign.

.3 For Type A and Type B signpost installations, the number following the letter denotes the required height of the sign to be placed on the post, measured in millimetres.

.4 Type C and Type D signpost installations are of various dimensions, but all are intended to support the larger size signs that require two vertical members to support the sign. Type C installations are intended for large

signs of width less than 2400 mm and a height less than 1200 mm. Type D installations are intended for signs wider than 2400 mm and/or higher than 1200 mm.

.5 For Type C and Type D signpost installations, the upper number following the letter denotes the required height of the sign board in millimetre and the lower number denotes the width of the sign board in millimetres (see TI, Highway Specifications Book, Standard Drawings Table of Contents for appropriate Sign and Signpost Installation drawings).

PART 3 PRODUCTS

3.1 GENERAL

.1 The Contractor shall supply all materials required to complete sign and signpost installations in accordance with these specifications.

.2 Nails shall be galvanized nails of length 100 mm.

.3 Wood preservative to be in compliance with CAN/CSA – 080.

.4 Primer paint shall be one coat of white exterior alkaloid primer in accordance with AN/CGSB-1.189, or equivalent.

.5 Finish paint shall be one coat of white marine enamel paint in accordance with CAN/CGSB-1.61, or equivalent.

.6 Lag bolts shall be galvanized lag bolts of length 800 mm and diameter 10 mm with Hex or Square Head only (Carriage Type Head are not to be used on signs).

.7 Washers shall be galvanized flat washers that fit 10 mm diameter lag bolts.

3.2 ADDITIONAL MATERIALS TYPE A INSTALLATIONS

.1 Vertical members shall be 114 mm by 114 mm lumber of length not less than that as calculated for the appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.2 Footings for each post shall consist of six pieces of 38 mm by 89 mm lumber of length not less than 450 mm.

3.3 ADDITIONAL MATERIALS TYPE B INSTALLATIONS

.1 Vertical members shall be 140 mm by 140 mm lumber of length not less than that as calculated by the appropriate Sign and Signpost Installation

drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.2 Footings for each post shall consist of six pieces of 38 mm by 89 mm lumber of length not less than 450 mm.

3.4 ADDITIONAL MATERIALS TYPE C INSTALLATIONS

.1 Vertical members shall be 140 mm by 140 mm lumber.

.2 Footings for each installation shall consist of 2 pieces of 38 mm by 89 mm lumber.

.3 The length of vertical members and footings shall not be less than that as calculated for the appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.4 Cross bracing shall consist of two pieces of 38 mm by 89 mm lumber of sufficient length to provide cross bracing for the installation of the required size.

3.5 ADDITIONAL MATERIALS TYPE D INSTALLATIONS

.1 Vertical members shall be 184 mm by 184 mm lumber.

.2 Footings for each installation shall consist of two pieces of 38 mm by 89 mm lumber.

.3 Cross members for each installation shall consist of two pieces of 89 mm by 89 mm lumber.

.4 The length of vertical members, footings and cross members shall not be less than that as calculated for the appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.5 Cross bracing shall consist of two pieces of 38 mm by 89 mm lumber of sufficient length to provide cross bracing for the installation of the required size.

.6 Nuts, bolts and washers for connecting cross members shall be galvanized. The bolt shall be of length 150 mm and be of diameter not less than 15 mm or greater than 25 mm.

3.6 MATERIALS USED FOR THE INSTALLATION OF SIGNS ONTO SIGNPOSTS

.1 Signs will be placed on signposts with 80 mm by 10 mm lag bolts and washers in accordance with appropriate Sign and Signpost Installation

drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

PART 4 EXECUTION

4.1 GENERAL

.1 Should any piece of lumber become split or cracked during nailing or installing the sign, then the Contractor shall replace the damaged piece with sound lumber at their own expense.

4.2 ASSEMBLY OF TYPES A AND TYPES B

.1 The footings shall be secured to the vertical member at the spacing shown on the drawings.

.2 Each footing shall be nailed near its centre to the vertical member by means of two nails as shown on the drawings.

4.3 ASSEMBLY OF TYPES C

.1 The footings, cross bracing and vertical members shall be assembled and secured at the spacing shown on the drawings.

.2 Each piece of footing and cross bracing shall be secured to the vertical member with four nails, that is, two nails in each joint.

4.4 ASSEMBLY OF TYPES D

.1 The length of vertical members, footings and cross members shall not be less than that as calculated for the appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.2 Cross bracing shall consist of two pieces of 38 mm by 89 mm lumber of sufficient length to provide cross bracing for the installation of the required size.

.3 Nuts, bolts and washers for connecting cross members shall be galvanized. The bolt shall be of length 150 mm and be of diameter not less than 15 mm or greater than 25 mm.

.4 Each joint shall be secured with a nut, bolt and washer. The head of the bolt shall be placed at the front of the installation. The head shall be counter sunk so that the top of the bolt is flush with the front of the installation.

.5 Each piece of footing and cross bracing shall be secured with four nails, that is, with two nails at each joint.

4.5 INSTALLATION

.1 The Owner will stake the locations where signpost installations are to be installed and designate the sign number of the signpost installation that is required for each location.

.2 The Contractor shall place signpost installations at these locations only of the required size and type for the sign as specified on the Contract drawings.

.3 The Contractor shall excavate holes for the footings, such that when installed the installation is at least the required minimum depth in the ground.

.4 Signpost installations shall be placed with the vertical axis plumb and with at least the required minimum depth in the ground. The vertical post edge nearest the road shall be 2500 mm from the edge of the shoulder as illustrated on the appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.5 Footings shall be backfilled with material approved by the Owner. Backfill material shall not contain stones larger than 150 mm in any one dimension.

.6 Backfill material shall be placed in layers not greater than 150 mm in thickness. Each layer shall be thoroughly compacted before the successive layer is placed. Dry granular backfill shall be moistened before tamping.

.7 Backfill material around the signpost installations shall be brought up level with the surrounding ground and surplus excavated material together with surplus backfill material shall be disposed of on the sides of fills or as directed by the Owner.

.8 The Contractor shall be responsible for placing each sign on the correct posts and at the location specified by the Owner, taking care to ensure that each sign is placed undamaged, horizontally level and attached to the posts and cross members with 80 mm by 10 mm galvanized lag bolts and galvanized washers. Nails cannot be substituted for this job.

.9 Sign board size, signpost type and the location of each will be specified on the Contract drawings by the Owner.

4.6 ADDITIONAL INSTALLATION REQUIREMENTS FOR TYPES A AND TYPES B

.1 Types A and Types B signpost installations shall be placed so that at least 1250 mm of the vertical member is in the ground. They shall be installed so that the face of the post that is to take the sign is perpendicular to the direction of traffic unless otherwise directed by the Owner.

4.7 ADDITIONAL INSTALLATION REQUIREMENTS FOR TYPES C AND TYPES D

.1 Types C and Types D signpost installations shall be placed so that both vertical members are at least 1500 mm in the ground.

.2 Special care should be taken with the placing of Types D and the larger Types C signpost installations so as to minimize specular glare.

.3 On straight stretches of roadway, Types C and Types D signpost installations shall be set with the horizontal axis at an angle of 93 degrees with the traffic lane that the proposed sign will serve, or as directed by the Owner.

.4 On horizontal curves, Types C and Types D installations shall be set with the horizontal axis at an angle of 93 degrees with a straight line between the sign and the point at which the sign is read, or as directed by the Owner.

4.8 ADDITIONAL INSTRUCTIONS FOR THE SIGN BOARD

.1 Types A and Types B signposts, the sign board will be mounted flush with the top of the signposts.

.2 On Types C and Types D signposts, the sign board will be mounted with the top of the sign board 100 mm above the top of the signpost.

.3 On Types A and Types B signposts, the top and bottom lag bolts must be placed 100 mm from the top and bottom edges of the sign board. Refer to appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.4 On Types C and Types D signposts, lag bolts must be placed 250 mm down from the top edge of the sign board and follow down the sign board at a maximum spacing of 600 mm apart with the lowest lag bolt placed approximately 100 mm above the bottom edge of the sign board (for each post). Refer to appropriate Sign and Signpost Installation drawings as listed in the TI, Highway Specifications Book, Standard Drawings Table of Contents.

.5 The Contractor is advised that care must be taken when installing the sign board to see that all lag bolts are seated into the frame and without the washers indenting the reflective sheeting of the sign. Care must be taken to see that damage to the sign while installing it to the post is minimal.

4.9 REMOVAL

.1 The sign and signpost shall be removed by the local area government.

PART 5 PAYMENT

5.1 MEASUREMENT FOR PAYMENT

.1 Measurement for payment will be by means of the number of each type of signpost installed as noted in the Contract Documentsation ~~place at the specified locations~~.

.2 Signs not included in these documents shall be paid for by the each.

5.2 BASIS OF PAYMENT

.1 Payment at the contract price for sign and signpost installation of a particular type shall be compensation in full for all labour, handling, materials and equipment used, assembly and installation, painting, excavating and backfilling of a hole for the footing including compaction of the backfill, installing the sign board and the disposal of all surplus material in accordance with this specification, including the ongoing maintenance of signs.