

3. MATERIALS AND FABRICATION

3.1 ALL MATERIALS UTILIZED IN FABRICATION SHALL BE NEW, NOT PREVIOUSLY USED IN ANY APPLICATION

3.2 STRUCTURAL STEEL

- TO CAN/CSA-G40.21M
 - STEEL GIRDER FLANGES AND WEB PLATES GRADE 350AT CATEGORY 3
 - OTHER STEEL PLATE: 350A
 - BRACING (DIAPHRAGMS AND PLAN BRACING): GRADE 350A
 - ANY REQUIRED VARIATIONS REQUIRE MINISTRY APPROVAL.. IF NON WEATHERING STEEL IS APPROVED BY THE MINISTRY, A CORROSION PROTECTION SYSTEM APPROVED BY THE MINISTRY WILL BE REQUIRED
- COMPLETE ALL WELDS IN ACCORDANCE WITH CSA W59. WELD METAL OF PRIMARY TENSION MEMBERS AND FRACTURE CRITICAL MEMBERS SHALL MEET THE CVN TOUGHNESS REQUIREMENTS OF TABLE 10.14 OF CAN/CSA S6
- INSPECT ALL BUTT WELDS BY ULTRASONIC OR X-RAY EXAMINATION IN ACCORDANCE WITH CSA W59
- FABRICATOR TO BE CERTIFIED FOR DIVISION 1 OR 2 IN ACCORDANCE WITH CSA W47.1 THROUGHOUT THE DURATION OF THE PROJECT
- FIELD WELDING BY COMPANY CERTIFIED TO CSA W47.1 DIVISION 1, 2 OR 3
- FABRICATE GIRDERS AS FRACTURE CRITICAL MEMBERS IN ACCORDANCE WITH CAN/CSA-S6-06, AS NOTED ON DESIGN DRAWINGS. STEEL PLATES FOR BOTTOM FLANGES AND WEBS SHALL CONFORM TO THE REQUIREMENTS FOR FRACTURE CRITICAL IN ACCORDANCE WITH CAN/CSA-S6, EXCEPT THAT CHARPY V-NOTCH TESTING RESULTS ARE ONLY REQUIRED ON A PER HEAT FREQUENCY
- MAKE ALL I-GIRDER FLANGE TO WEB WELDS USING SUBMERGED ARC WELDING
- SHOP TRIAL FIT ALL FIELD SPLICES UNLESS CNC EQUIPMENT IS USED

3.3 STRUCTURAL BOLTS:

- ALL BOLTS INCORPORATED INTO STEEL GIRDER CONNECTIONS (BOLTED FIELD SPLICES, DIAPHRAGMS AND BRACING) TO BE ASTM A325 TYPE 3 M22 U.N.O. INSTALLED IN ACCORDANCE WITH CAN/CSA-S6

3.4 GALVANIZING:

- ALL ITEMS SPECIFIED AS GALVANIZED ARE TO BE GALVANIZED TO CSA G164

3.5 BEARINGS:

- TO CAN/CSA-S6: OZONE RESISTING NATURAL RUBBER (NATURAL POLYISOPRENE)
- WHERE EXPANSION JOINTS ARE USED, ENGINEER TO INCLUDE SUFFICIENT INFORMATION TO FACILITATE INSTALLATION AT VARIOUS TEMPERATURES

3.6 TIMBER DECK MATERIALS:

- ALLOWABLE WOOD SPECIES, LUMBER GRADES, GRADING CRITERIA AND REQUIRED DOCUMENTATION SHALL BE AS PER MINISTRY: *BRIDGE TIMBER AND LUMBER MATERIAL STANDARD*

3.8 TIMBER DECK HARDWARE:

- LAG SCREWS, BOLTS, NUTS, WASHERS TO BE ASTM A307 (GALVANIZED)
- DECK NAILING PATTERN TO BE AS SHOWN ON DRAWINGS

3.9 TIMBER PRESERVATIVE TREATMENT:

- ALL TREATED WOOD SHALL BE COASTAL DOUGLAS-FIR, TREATED USING CHROMATE COPPER ARSENATE (CCA) TREATMENT, AND THIRD PARTY INSPECTED, IN ACCORDANCE WITH THE MINISTRY *PROCESS SPECIFICATION FOR CCA TREATMENT OF COASTAL DOUGLAS-FIR WOOD*

4. TRANSPORTATION AND ERECTION OF BRIDGES

4.1 SUPPORT STEEL GIRDERS IN SUCH A WAY THAT THEY SUSTAIN NO DAMAGE DURING TRANSPORTATION. WHEN TRANSPORTING STEEL GIRDERS ON THE FLAT, PROVIDE A TRANSPORTATION PLAN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.

5. STEEL CERTIFICATION AND QUALITY CONTROL

5.1 PROVIDE MILL CERTIFICATES FOR ALL STEEL MATERIAL.

ASSUME NOT TO SCALE
ORIGINAL SIGNED AND SEALED



**MINISTRY OF FORESTS, LANDS AND NATURAL
RESOURCE OPERATIONS**
ENGINEERING BRANCH

SCALE		AS SHOWN		Designed _____ Date: _____ Checked _____ Date: _____ Drawn _____ Date: _____		STANDARD BRIDGE DRAWING	
						TIMBER DECK BRIDGES GENERAL NOTES – SHEET 2	
Rev.	Date	DESCRIPTION	Init			ORIGINAL SIGNED and SEALED BY:	FLNR ENGINEER: DATE
						DESIGN ENGINEER	APPROVED BY: BRIAN CHOW, P.Eng. CHIEF ENGINEER
						DATE	DATE
						FILE No.	DRAWING No.
REVISIONS							STD-EC-020-02