

DRAWING LIST

DRAWING NUMBER	REVISION	DRAWING DESCRIPTION	DATE
20192530-00-3-810	2	DRAWING LIST & COVER SHEET	2021JUL20
20192530-00-3-811	2	STRUCTURAL DETAILS - SHEET 1	2021JUL20
20192530-00-3-812	2	STRUCTURAL DETAILS - SHEET 2	2021JUL20
REFERENCE DRAWING			
20192530-REF-001	2	MISCELLANEOUS DETAILS	2021JUL20
20192530-REF-002	2	GENERAL NOTES	2021JUL20

SURESPAN STRUCTURES LTD.

80' x 16'

ALL STEEL PORTABLE BRIDGE

PLOT DATE: 2021-07-21 1:05:25 AM
 SAVE DATE: 2021-07-21 09:55:58 AM
 DWG PATH: P:\20192530\00_struct\00_structural\20192530-00-3-810.dwg



PERMIT TO PRACTICE
 ASSOCIATED ENGINEERING (B.C.) LTD.
 PERMIT NUMBER: 1000163
 Engineers & Geoscientists BC

#29-QMSO-2021-256

**ASSOCIATED ENGINEERING
 QUALITY MANAGEMENT SIGN-OFF**

Signature: *Mil C. Pucot*

Date: Jul. 21, 2021

REV	DATE	DESIGN	DRAWN	DESCRIPTION
2	2021JUL20	I. SOLTANI	S. ABDELBAQI	RE-ISSUED FOR CONSTRUCTION
1	2021FEB05	I. SOLTANI	H. DUALAN JR	RE-ISSUED FOR CONSTRUCTION
0	2021JAN20	I. SOLTANI	H. DUALAN JR	ISSUED FOR CONSTRUCTION

DRAWING	REVISION	SHEET
20192530-00-3-810	2	/

BRIDGE DELINEATORS, AS REQUIRED BY CONTRACT DOCUMENTS.

DETAIL
8
001

D/FIR SILL FULL LENGTH. MIN. 400 WIDE. (BY OTHERS)

BRIDGE IDENTIFICATION

1/2 ELEVATION 1:50

ESTIMATED WEIGHT PER BOX = 19250 kg.

12192
5 @ 2108 = 10538

CL SYMM.

600

1054

24227

4770

DETAIL
7
001

127x127x6.4x24384 LG. HSS
102x102x6.4x600 LG. HSS

EPOXY-BONDED, ANTI-SKID DECK WEARING SURFACE OR OPTIONAL SCARIFIED SURFACE.

CL SYMM.

PL.15.9x2420x24384 LG.
OPTIONAL L89x89x7.9x24314 LG. AS REQUIRED BY CONTRACT DOCUMENTS

DETAIL
6
001

PL.9.5x975x24314 LG. TYP.
PL.9.5x994x24314 LG. TYP.

PL.25.4x400x2380

PL.12.7x975x2380 END PLATE
2-22 DIA. HOLE FOR 19 DIA. LAGSCREW @ 300 C/C, TYP.

PL.9.5x400x24314 LG. TYP.

8 TYP.

25 DIA. DRAIN HOLES 400 FROM END PLATE, TYP.

DETAIL
3
001

DETAIL
4
001

PL.9.5x730x24314 LG.

A SECTION 1:20

DETAIL
C
001

SHACKLE SLOT

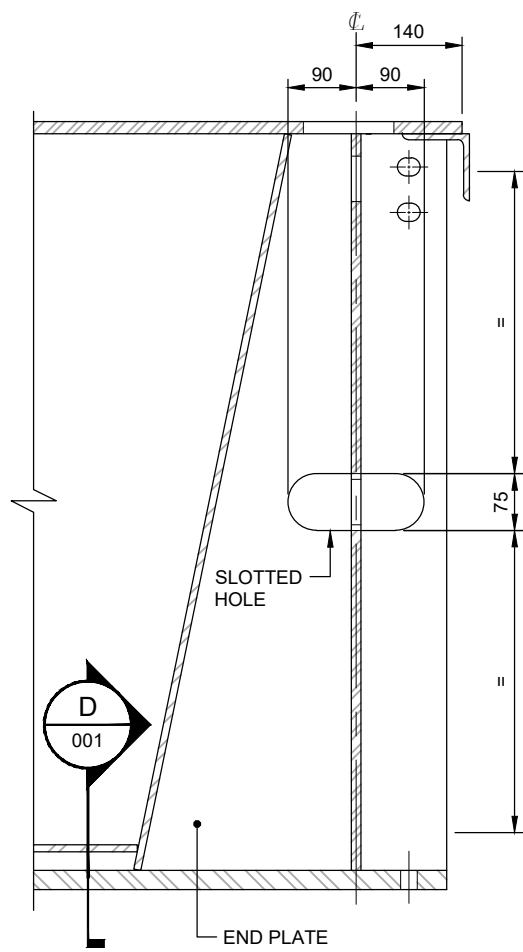
PL.12.7x120x975 c/w 2-30x30 CROPS & 2-60 DIA. HOLES ON CL PLATE.

END PLATE

PL.25.4x400x2380
FILLER PL.25.4x40

CL LAG SCREW CL LAG SCREW

DETAIL 1:10
END



B SECTION 1:10

PLOT DATE: 2021-07-21 10:02:08 AM
SAVE DATE: 2021-07-21 9:21:18 AM
DWG PATH: p:\2019253000_001\2019253000_structural\20192530-00-3-811.dwg



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SURESPAN STRUCTURES LTD.



80' x 16'
ALL STEEL PORTABLE BRIDGE

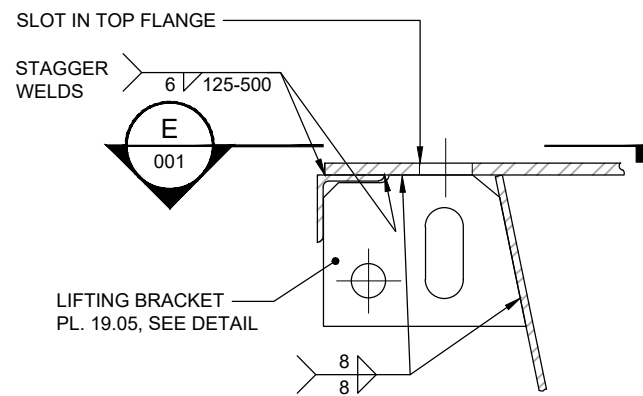
20192530-00

SCALE: AS SHOWN

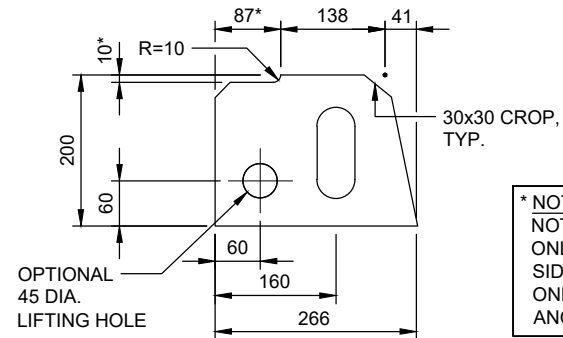
STRUCTURAL
STRUCTURAL DETAILS - SHEET 1

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20192530-00-3-811	2	/

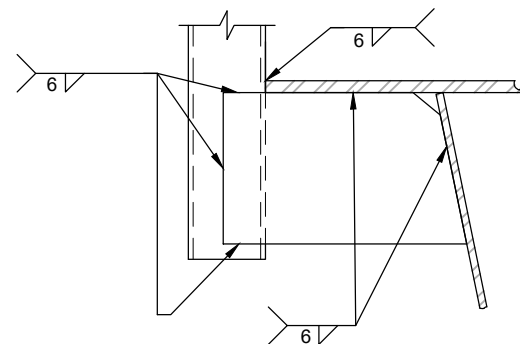


SECTION E 1:10

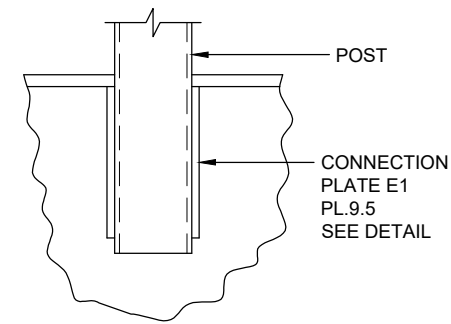


DETAIL LIFTING BRACKET 1:10

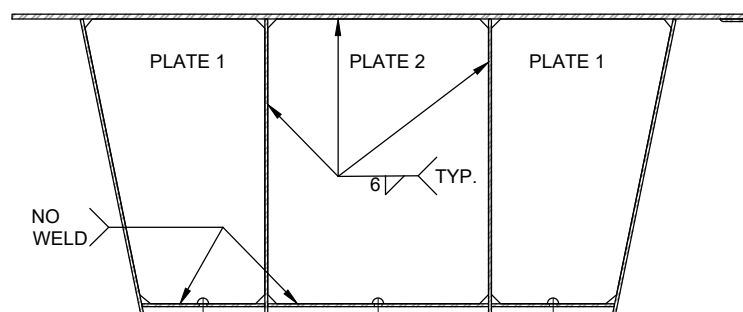
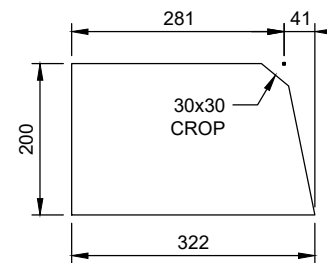
* NOTE:
NOTCH OUT PLATE ONLY ON BOX INTERIOR SIDE LIFTING BRACKET ONLY WHEN ADDING RUB ANGLE.



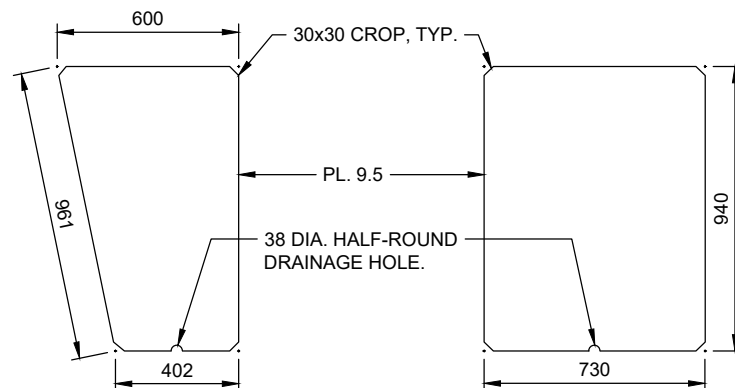
OPTION 1 DETAIL POST CONNECTION 1:10



OPTION 1 DETAIL CONNECTION PLATE E1 1:10



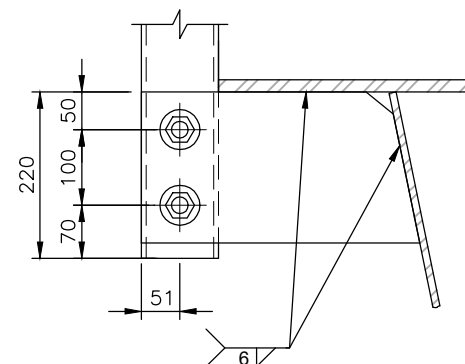
DETAIL PLATE DIAPHRAGM D1 1:25



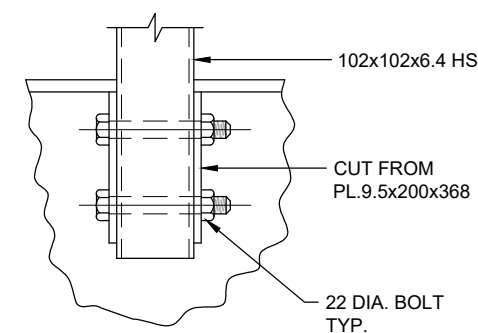
DETAIL PLATE 1 1:25

38 DIA. HALF-ROUND DRAINAGE HOLE.

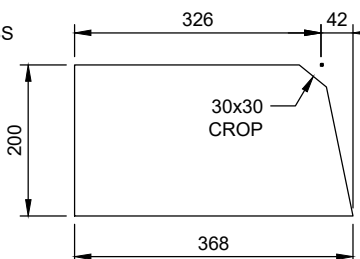
DETAIL PLATE 2 1:25



OPTION 2 DETAIL ALTERNATIVE POST CONNECTION 1:10



OPTION 2 DETAIL CONNECTION PLATE E2 1:10



PLOT DATE: 2021-07-21 10:02:14 AM
SAVE DATE: 2021-07-21 9:21:01 AM SAVED BY: DUALANJ
DWG PATH: p:\2019253000_structural\20192530-00-3-812.dwg



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SURESPAN STRUCTURES LTD.

80' x 16'
ALL STEEL PORTABLE BRIDGE

20192530-00

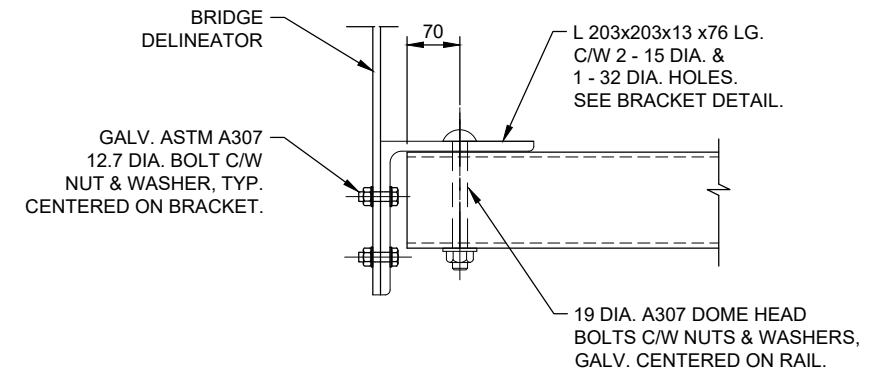
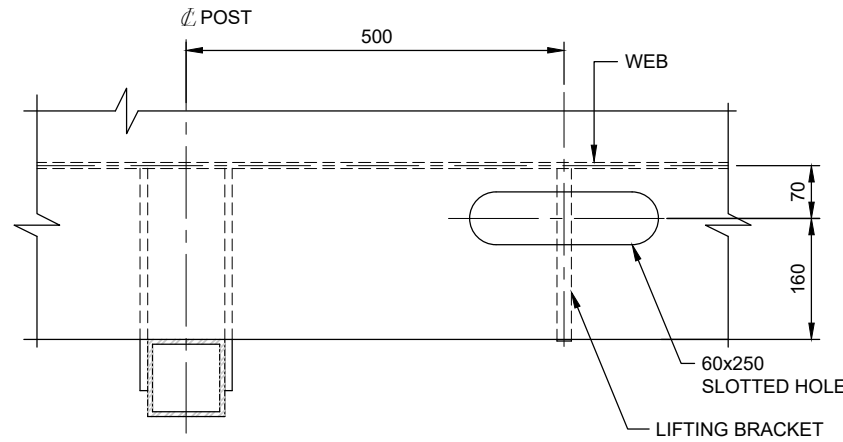
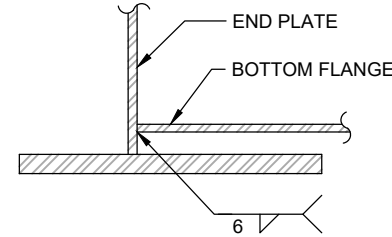
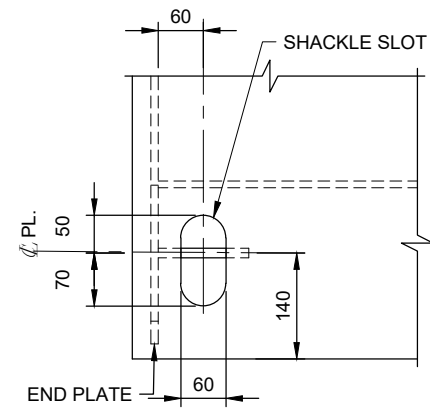
SCALE: AS SHOWN



STRUCTURAL

STRUCTURAL DETAILS - SHEET 2

DRAWING	REVISION	SHEET
20192530-00-3-812	2	/

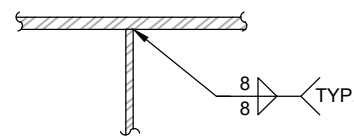


8 DETAIL
DELINEATOR BRACKET ATTACHMENT
1:10

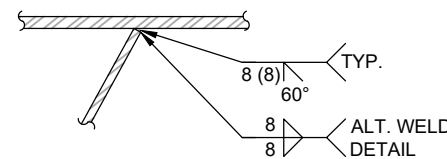
C SECTION
1:10

D SECTION
1:10

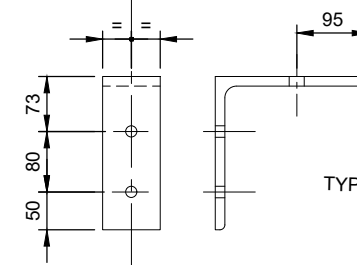
E SECTION
1:10



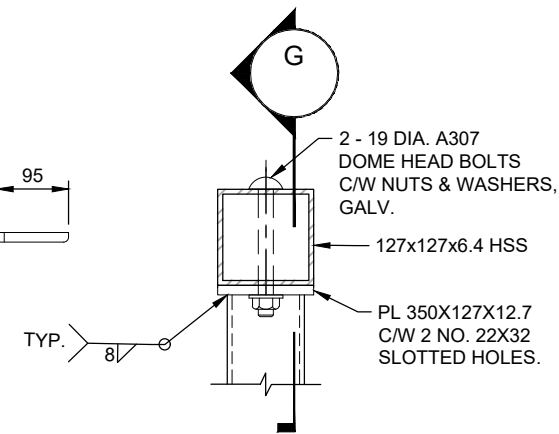
1 DETAIL
1:10



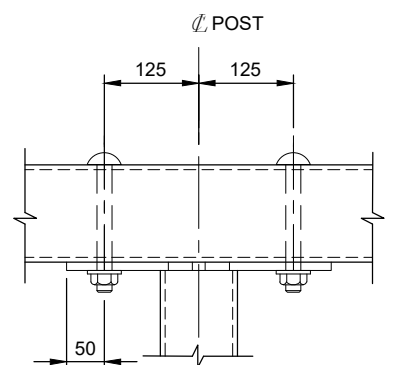
2 DETAIL
1:10



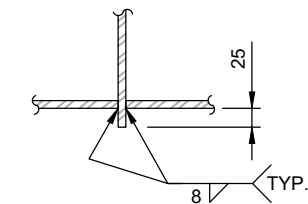
3 DETAIL
BRACKET
1:10



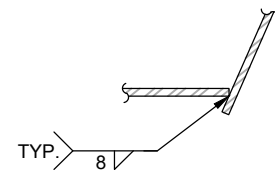
4 DETAIL
ALTERNATE RAIL CONNECTION
1:10



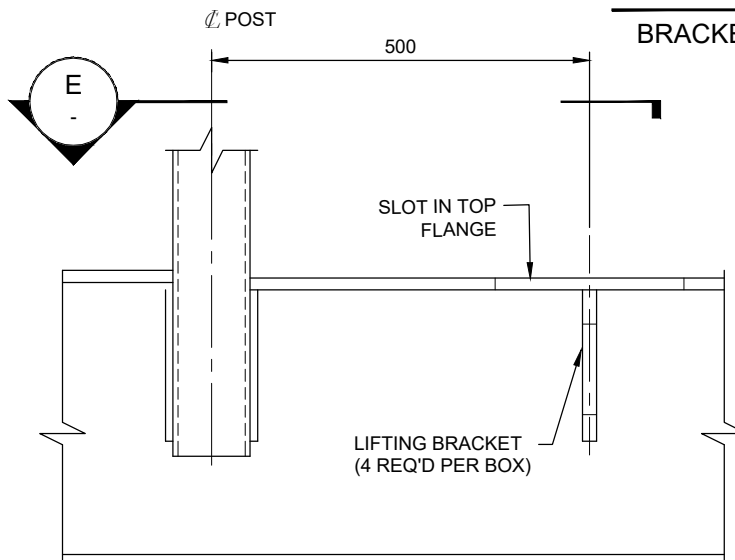
G SECTION
1:10



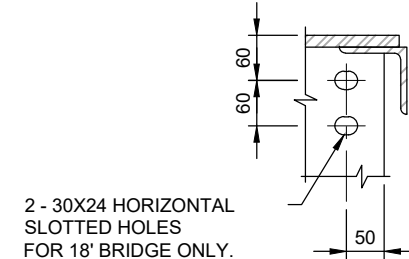
5 DETAIL
1:10



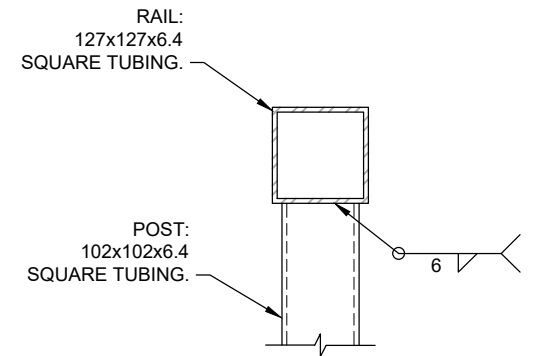
6 DETAIL
1:10



5 DETAIL
1:10



6 DETAIL
1:10



7 DETAIL
RAIL CONNECTION
1:10

PLOT DATE: 2021-07-21 10:02:20 AM
SAVE DATE: 2021-07-21 9:36:02 AM
DRAWN BY: DUALANJ
DWG PATH: p:\2019253000_structural\20192530-ef-001.dwg



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SURESPAN STRUCTURES LTD.

ALL STEEL PORTABLE BRIDGE

20192530-00

SCALE: AS SHOWN



STRUCTURAL

MISCELLANEOUS DETAILS

DRAWING	REVISION	SHEET
20192530-REF-001	2	/

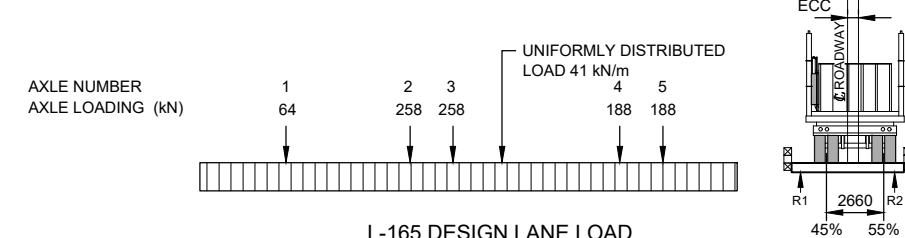
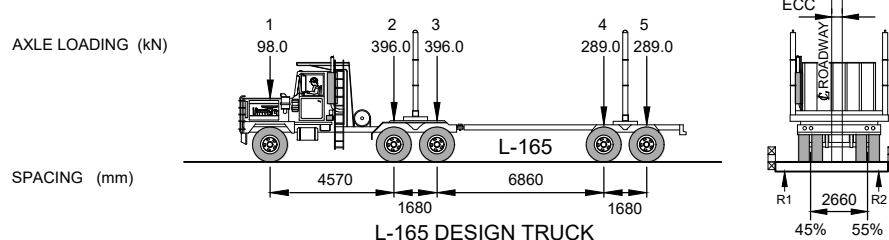
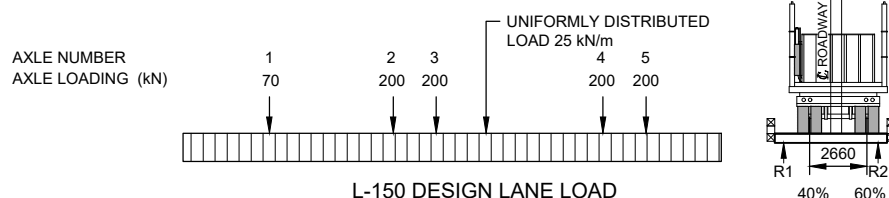
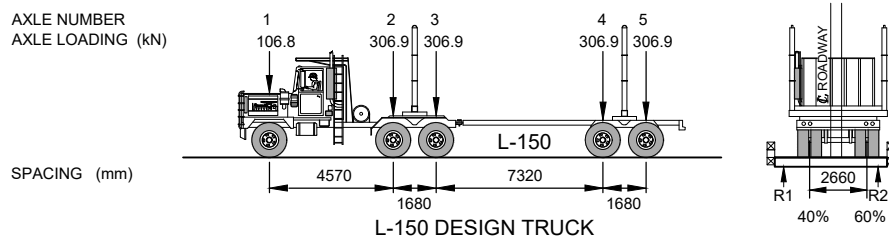
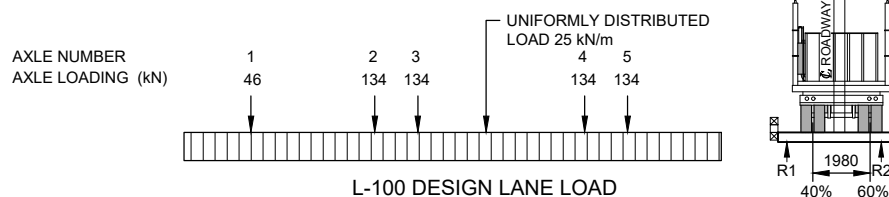
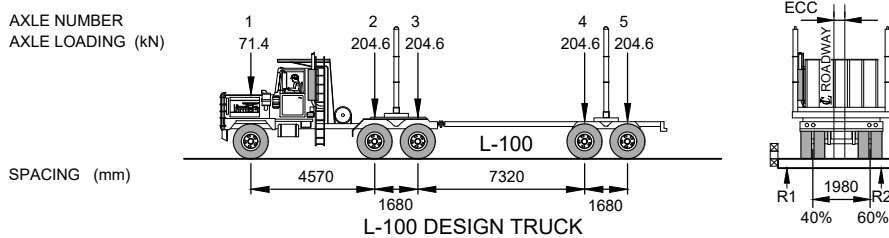
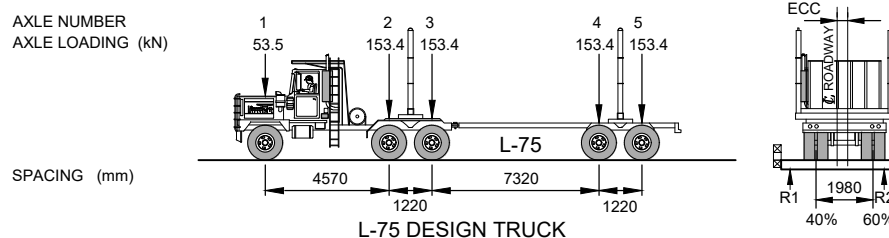
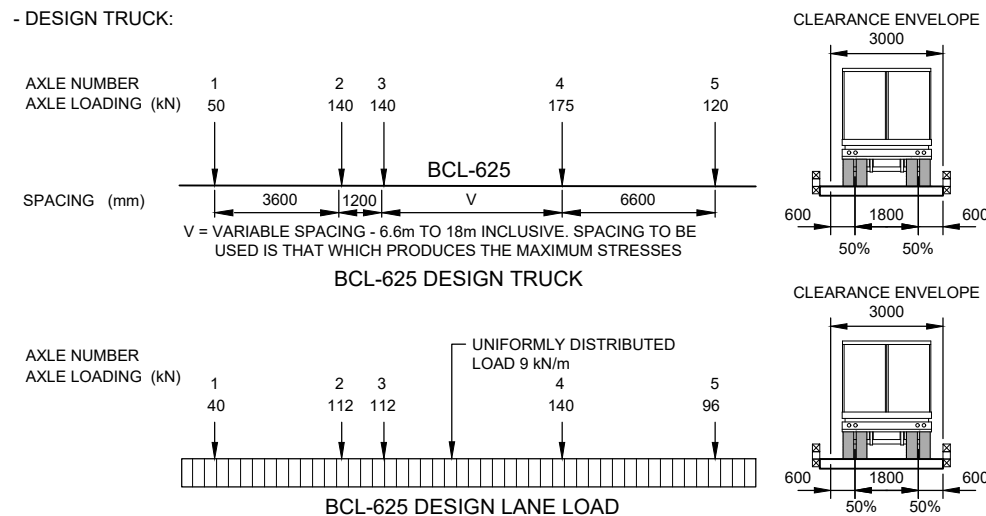
GENERAL

- FOR INSTALLATION BY OTHERS; NO RESPONSIBILITY CAN BE ACCEPTED FOR WORK BY OTHERS.
- DEFINITIONS
 - MINISTRY REFERS TO THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS & RURAL DEVELOPMENT BRITISH COLUMBIA.
- THE PROVISION OF FABRICATION AND FIELD INSPECTION SERVICES OF THIS BRIDGE IS NOT INCLUDED IN THE SCOPE OF SERVICES BEING PROVIDED BY ASSOCIATED ENGINEERING (B.C.) LTD. IN ACCORDANCE WITH ENGINEERS AND GEOSCIENTISTS BC GUIDELINES, ASSOCIATED ENGINEERING (B.C.) LTD. RECOMMENDS THE COMPLETION OF THESE SERVICES.
- THESE DRAWINGS APPLY TO THE BRIDGE WITH SERIAL NUMBER NOTED ON THESE DRAWINGS AND APPLY ONLY TO THAT SINGLE STRUCTURE. FABRICATION OF ADDITIONAL BRIDGES BASED ON THIS DESIGN IS PROHIBITED WITHOUT THE EXPRESS PERMISSION FROM ASSOCIATED ENGINEERING. ASSOCIATED ENGINEERING ACCEPTS NO LIABILITY FOR PROHIBITED APPLICATION OF THE CONTENT OF THESE DRAWINGS.
- FABRICATION & CONSTRUCTION TO PROJECT SPECIFICATIONS.
- THIS ASSIGNMENT ONLY COVERS THE DETAILED DESIGN OF BRIDGE COMPONENTS SHOWN IN THE DRAWINGS.
- ANY DESIGN CHANGES SHALL REQUIRE PRIOR WRITTEN APPROVAL FROM ASSOCIATED ENGINEERING (B.C.) LTD.
- BRIDGE SUBSTRUCTURE INCLUDING BEARINGS AND EARTH RETENTION DESIGNED BY OTHERS.
- CONTRACTOR / PURCHASER RESPONSIBLE FOR ENSURING THE DESIGN SATISFIES THE PROJECT SPECIFICATIONS.
- DRAWINGS SEALED FOR SELFWEIGHT AND SPECIFIED LOADS ONLY.
- THESE BRIDGES CAN BE WIDENED TO 18' (5.486m) BY INSTALLING A 2' (0.61m) DECK WIDENING PLATE AS SHOWN ON AE DRAWING 20192530-REF-004 AND -005

BRIDGE DESIGN

- TO CAN/CSA-S6-14 (MODIFIED) AND THE MINISTRY'S STANDARD DRAWINGS STD-E-090-01 TO 02.
- LOADING:
 - THESE BRIDGES ARE DESIGNED TO SUPPORT THE FOLLOWING LIVE LOADS:
 - BCL-625 (63,710 KG G.V.W.) IN ACCORDANCE WITH MINISTRY STANDARD DRAWING STD-EC-000-01
 - BCFS L-75 (68,040 KG G.V.W.) IN ACCORDANCE WITH "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL", 1999
 - BCFS L-100 (90,680 KG G.V.W.) IN ACCORDANCE WITH MINISTRY STANDARD DRAWING STD-EC-000-01
 - BCFS L-150 (136,090 KG G.V.W.) IN ACCORDANCE WITH MINISTRY STANDARD DRAWING STD-EC-000-02
 - BCFS L-165 (149,700 KG G.V.W.) IN ACCORDANCE WITH MINISTRY STANDARD DRAWING STD-EC-000-02

DESIGN TRUCK:



- FATIGUE:
 - BCL-625 TRUCK FOR BCL-625 DESIGN LOADING;
 - BCFS L-75 TRUCK FOR BCFS L-75 DESIGN LOADING;
 - BCFS L-100 TRUCK FOR BCFS L-100 DESIGN LOADING;
 - BCFS L-150 TRUCK FOR BCFS L-150 DESIGN LOADING;
 - BCFS L-150 TRUCK FOR BCFS L-165 DESIGN LOADING
- MAXIMUM LIVE LOAD DEFLECTION: SPAN/350
 - BCL-625 TRUCK FOR BCL-625 DESIGN LOADING;
 - BCFS L-75 TRUCK FOR BCFS L-75 DESIGN LOADING;
 - BCFS L-100 TRUCK FOR BCFS L-100 DESIGN LOADING;
 - BCFS L-150 TRUCK FOR BCFS L-150 DESIGN LOADING;
 - BCFS L-150 TRUCK FOR BCFS L-165 DESIGN LOADING

- GUARDRAIL DELINEATES DECK EDGE ONLY.

DECK WIDENING PLATE

- DECK WIDENING PLATE ASSUMED TO BE A NON-TRAFFICED AREA.
- LOADING: ACCIDENTAL WHEEL LOADING IN A NON-TRAFFICED AREA FROM SINGLE LINE OF WHEELS.
- ULS LIVE LOAD FACTOR 1.3

FABRICATION

- NAME PLATE: ALL BRIDGES SHALL HAVE THEIR STRUCTURE NUMBER, DATE OF FABRICATION, LOAD RATING AND MANUFACTURER'S NAME PERMANENTLY MARKED ON AT LEAST ONE SIDE OF THE STRUCTURE ON AN ALUMINUM PLAQUE WITH MIN. HEIGHT OF LETTERS 10 mm.
- STEEL FABRICATION: FABRICATOR TO BE CERTIFIED FOR DIVISION 1 OR 2 IN ACCORDANCE WITH CSA W47.1
- STEEL: CSA G40.21M
 - GRADE 350AT CAT 3 (STEEL PLATE)
 - GRADE 350A (ROLLED SECTIONS)
 - GRADE 350W (TUBE)
- BOLTS: ASTM F3125 GRADE A325 TYPE 3 U.N.O.
- ROUND BAR: ASTM A36
- WELDING:
 - COMPLETE ALL WELDS IN ACCORDANCE WITH CSA W59.
 - ALL BUTT WELDS TO BE INSPECTED BY ULTRASONIC EXAMINATION IN ACCORDANCE WITH CSA W59.
 - WELD METAL SHALL MEET THE CVN TOUGHNESS REQUIREMENTS OF CSA-S6 FOR PRIMARY TENSION MEMBERS FOR A MINIMUM SERVICE TEMPERATURE OF < -40° C.
- DECK & WIDENING PLATE WEARING SURFACE: SURFACE PREPARATION SANDBLAST TO SPC-SP6, COATING AMERLOCK 400 (OR EQUIVALENT EPOXY COATING APPROVED BY ENGINEER) C/W 16 GRIT SAND TO PROVIDE ANTI-SKID WEARING SURFACE, IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- OPTIONAL DECK SURFACE : SCARIFIED
- PAINT:
 - PAINT RAILS AND GUARDRAIL POSTS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

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20192530-00

SCALE: N/A



STRUCTURAL

GENERAL NOTES

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