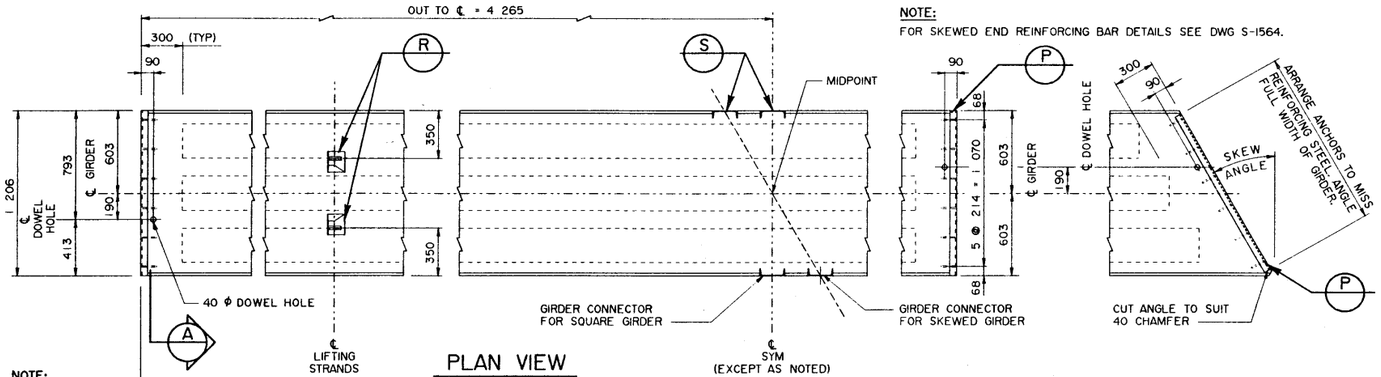
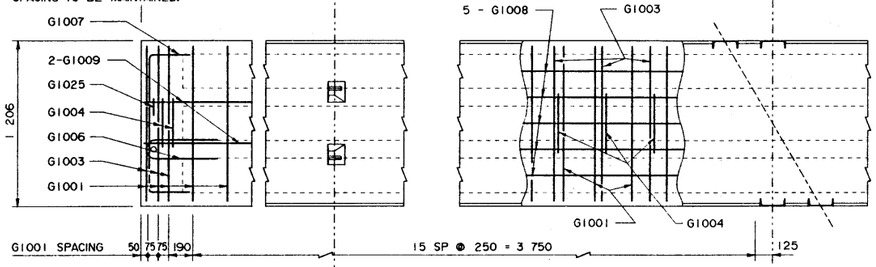


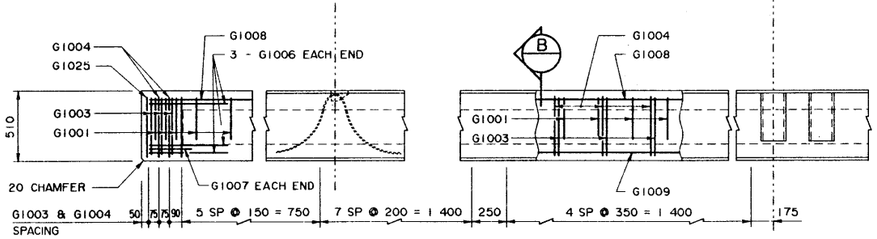
PLAN VIEW
NTS

NOTE:
FOR SKEWED END REINFORCING BAR DETAILS SEE DWG S-1564.

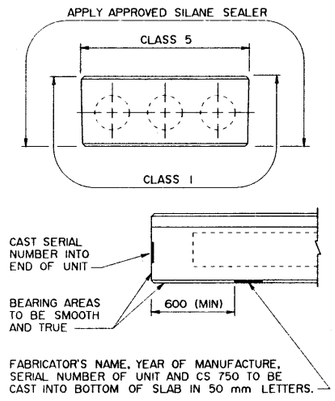
NOTE:
BEND REINFORCING BAR WHERE NECESSARY TO ACCOMMODATE CHANNEL CONNECTORS. STIRRUP SPACING TO BE MAINTAINED.



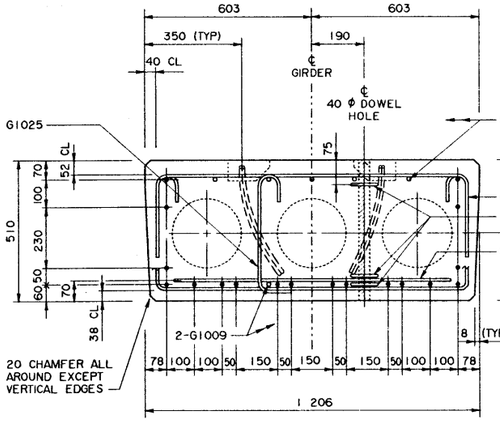
REINFORCEMENT PLAN
NTS



ELEVATION
NTS

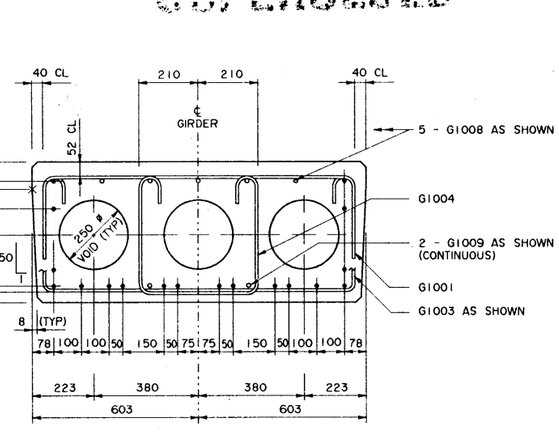


GIRDER FINISHES
(BY FABRICATOR) 1:20

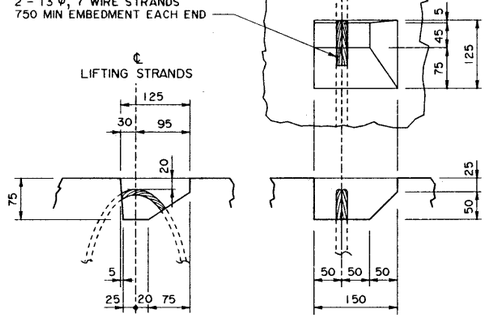


A SECTION
1:10

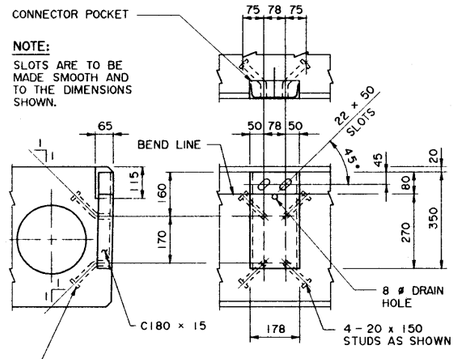
NOTE:
- 18 - 13 ϕ, 7 WIRE STRANDS REQUIRED PER GIRDER



B SECTION
1:10

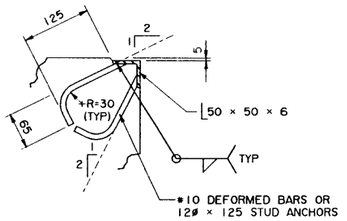


R LIFTING HOOK POCKET
1:5



NOTE: ASSEMBLY TO BE HOT DIP GALVANIZED AFTER FABRICATION.

S GIRDER CONNECTORS
1:10



NOTE:
ASSEMBLY TO BE HOT DIP GALVANIZED AFTER FABRICATION.

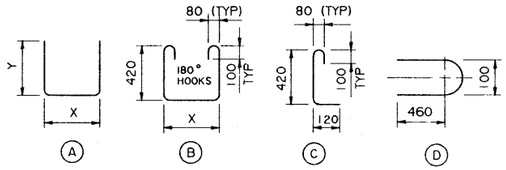
P BUFFER ANGLE
1:5

BAR LIST: FOR SQUARE GIRDER

MARK	SIZE	NO	TYPE	X	Y	LENGTH	MASS
G1001	10	38	A	1 125	300	1 725	51
G1003	10	42	B	1 125		2 220	73
G1004	10	40	B	420		1 520	48
G1006	10	6	D			1 080	5
G1007	10	2	A	1 000	300	1 600	3
G1008	10	5	STR			8 430	33
G1009	10	2	STR			8 330	13
G1025	10	2	C			670	1

TOTAL kg : 227

BAR TYPES
(ALL BAR DIMENSIONS ARE OUT TO OUT)



GENERAL NOTES

- ALL DRAWING REFERENCES ARE TO CURRENT DRAWINGS.

DESIGN

- CAN/CSA-S6-88 SPECIFICATIONS EXCEPT AS MODIFIED BELOW:
  - ALLOWABLE TENSION AT MIDSPAN IS 40% OF MODULUS OF RUPTURE (SEVERE EXPOSURE CONDITIONS).
  - NO TENSION ALLOWED IN DECK SURFACE.
- LOADING:

  LIVE LOAD - CAN/CSA-S6-88; CS-750
  ONE WHEEL LINE PER GIRDER

  DEAD LOAD - GIRDER = 0.93 t/m
  - WEARING SURFACE = 0.24 t/m

MATERIALS

- CONCRETE SHALL CONTAIN SILICA FUME AND BE MADE OF LIGHTWEIGHT COARSE AGGREGATE AND NATURAL SAND FINES. UNIT WEIGHT OF SEMI-LIGHTWEIGHT CONCRETE SHALL BE 1920 kg/m³.
- 28 DAY CONCRETE STRENGTH — 35 MPa
- RELEASE STRENGTH ——— 28 MPa
- PRESTRESSING STEEL SHALL BE 13 ϕ, 7 WIRE LOW RELAXATION STRAND (fpu = 1860 MPa).
- REINFORCING STEEL SHALL BE GRADE 400W (YIELD STRENGTH OF GRADE 300 USED IN DESIGN TO ALLOW TACK WELDING OF SHEAR REINFORCEMENT).

FABRICATION

- GIRDERS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE BRIDGE MATERIALS SPECIFICATION FOR THE MANUFACTURE OF PRESTRESSED CONCRETE BRIDGE UNITS (SPEC B190).
- FORCE IN PRESTRESSING STEEL:
  INITIAL TENSIONING LOAD = 129 kN/STRAND
  DESIGN LOAD AFTER LOSSES = 108 kN/STRAND
- ALL GALVANIZING SHALL CONFORM TO ASTM SPEC A123.
- ⚠1 BEND OR SHIFT REINFORCING WHERE REQUIRED TO CLEAR GIRDER CONNECTORS AND LIFTING HOOK ASSEMBLIES. STIRRUP SPACING IS TO BE MAINTAINED. FOR CONNECTOR AND LIFTING HOOK LOCATIONS SEE DWGS S-1563, S-1564.

ERECTION

- ANY FREE SPACE BETWEEN CONNECTORS SHALL BE FILLED WITH DROP-IN WASHERS.
- CALCULATED MASS OF ONE GIRDER = 8.11 t.

SUPERSEDED ②

REV	DATE	REVISIONS	BY
⚠5			
⚠4			
⚠3			
⚠2	93-12-13	BAR LENGTH REVISED; SECTION B DIMENSIONS	SBD
⚠1	93-08-27	CONNECTOR & LIFTING HOOK LOCATION NOTE	LEA

APPROVED
EXECUTIVE DIRECTOR BRIDGE ENGINEERING
DATE PRELIM

Alberta TRANSPORTATION AND UTILITIES
BRIDGE ENGINEERING BRANCH

PRESTRESSED CONCRETE 8.53 m TYPE SC-510 INTERIOR GIRDER

DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY	FILE	SHEET	DRAWING
LEA	VMV	93-08-19	SBD						1 of 4	S-1562

AT A.U. - RECORDS CENTRE
F3341-96