PLANS

OF PROPOSED

P.P.C.C. BRIDGE OVER [ ]

ON [ ]

LENGTH	24 368 OUT TO OUT OF ABUTMENT PRECAST BACKWALL PANELS
SUPERSTRUCTURE	TWO SIMPLY SUPPORTED SPANS OF PRECAST PRESTRESSED CONCRETE CHANNEL GIRDERS WITH ASPHALT OVERLAY
SUBSTRUCTURE	TWO PRECAST CONCRETE ABUTMENTS AND ONE INTERMEDIATE BENT WITH STEEL H-PILES
ROADWAY WIDTH	9 600 OUT TO OUT OF GIRDERS
LOCATION	IN R.M. OF

SHEET LEGEND

1. COVER SHEET
2. GENERAL ELEVATION
3. BORING LOGS
4. SITE AND EROSION CONTROL DETAILS
5. ICE BREAKER AND CROSS BRACING DETAILS

STD No. PPCC_PR_9.6_12m_IB_AD05 ASSEMBLY DETAILS
STD No. PPCC_PR_9.6_12m_AD03 ASSEMBLY DETAILS
STD No. PPCC_PR_9.6_12m_IB_SC02 STEEL PILE CAP DETAILS (2 SHEETS)
STD No. PPCC_PR_9.6_12m_IB_BE02 BEARING AND ERECTION DETAILS
STD No. PPCC_PR_12m_RD02 RAILING DETAILS (3 SHEETS)

APPROACH GUARDRAIL DETAILS (TYP. 3 SHEETS) [USE STD IF APPLICABLE, BY TRAFFIC ENG. H. LARSEN]

ROADWAY DETAILS [WHEN REQUIRED, BY OTHERS, TYPICALLY REGION]

REFERENCE DRAWINGS
STD No. PPCC_PR_9.6_12m_PD01 PRECAST PANEL DETAILS (2 SHEETS)
STD No. PPCC_PR_9.6_12m_GD02 PRECAST PRESTRESSED CHANNEL GIRDER DETAILS (5 SHEETS)

DESIGN DATA

SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014

VEHICULAR LIVE LOADING

1. Modified AASHTO HSS-25 Truck
2. AASHTO LRFD "HL-93" Loading

STRUCTURAL CONCRETE

CSA A23.1, Exposure Class C-1 Air content category 1

1. PRECAST PRESTRESSED CONCRETE CHANNEL GIRDERS - f'c = 45 MPa at 28 days, f'ci= 35 MPa at time of de-stressing
2. PRECAST PANELS - f'c = 35 MPa

REINFORCING STEEL

1. PRECAST PRESTRESSED CONCRETE CHANNEL GIRDERS - CAN/CSA-G30.18-M92 Grade 400W black (i.e no epoxy coating)
2. PRECAST PANELS - CAN/CSA-G30.18-M92 Grade 400W black (i.e no epoxy coating)

STRUCTURAL STEEL

1. All Structural Steel shall conform to CAN/CSA G40.21-M92 Grade 300W
2. HSS Tubing for Bridge Rail shall confrom to CAN/CSA- G40.21-M92 Grade 350W

PRESTRESSING STRAND

20-13 ø low relaxation strands, fpu = 1 860 MPa

PILE LOADING

	END PILE BENTS	INTERMEDIATE PILE BENTS
MAXIMUM FACTORED LOAD	kN	kN
FACTORED BEARING RESISTANCE	kN	kN

HYDRAULIC DESIGN DATA

DESIGN DISCHARGE

Q3% = m³/sec
V3% = m/s

SURVEY CONTROL

HORIZONTAL DATUM:	NAD83CSRS
VERTICAL DATUM:	CGVD28
ELLIPSOID:	GRS 1980
GEOID (HT2.0):	_____
UTM:	ZONE ___
SCALE FACTOR:	_._____

SITE CONTROL POINT DATA

CONTROL POINT #_____
NORTHING: _____.___
EASTING: _____.___
ELEVATION: _____.___
DATE: _____

CONTROL POINT #_____
NORTHING: _____.___
EASTING: _____.___
ELEVATION: _____.___
DATE: _____

CONTROL POINT #_____
NORTHING: _____.___
EASTING: _____.___
ELEVATION: _____.___
DATE: _____

N

TP. -

RGE. -

LOCATION MAP

Not to Scale

MANITOBA TRANSPORTATION AND INFRASTRUCTURE

BRIDGES AND HIGHWAY STRUCTURES

RELEASED FOR CONSTRUCTION BY :

_____
DIRECTOR OF BRIDGES AND HIGHWAY STRUCTURES

DATE _____

ENVIRONMENTAL APPROVALS

☐ MANITOBA ENVIRONMENT ACT LICENCE
DATE : _____
FILE # : _____

☐ FISHERIES AND OCEANS CANADA - AUTHORIZATION OR REVIEW
DATE : _____
FILE # : _____

☐ TRANSPORT CANADA - NAVIGATION ACT
DATE : _____
FILE # : _____

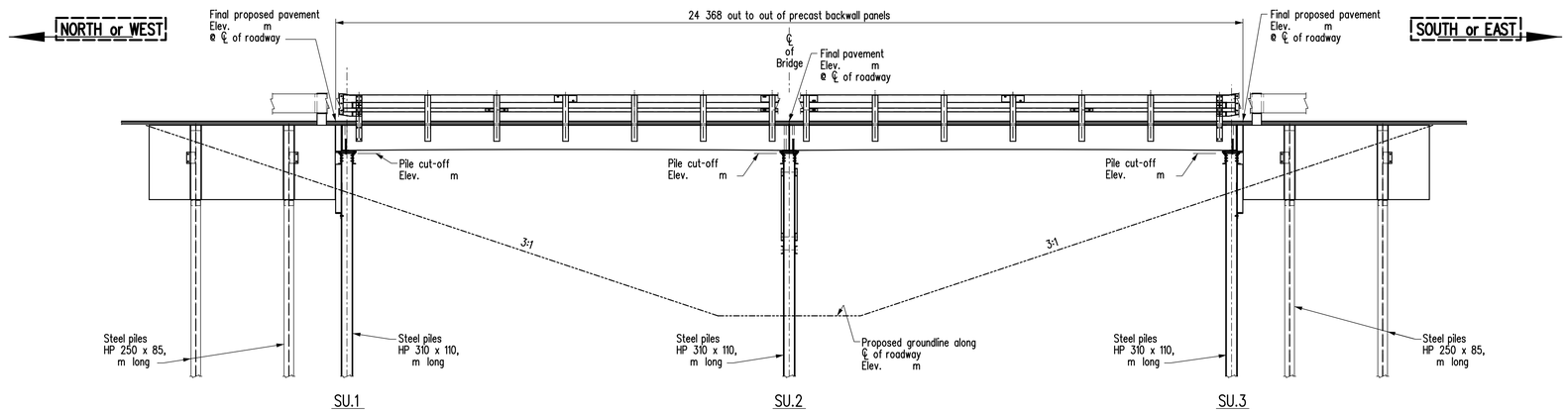
☐ MANITOBA INFRASTRUCTURE ENVIRONMENTAL APPROVAL
DATE : _____
FILE # : _____

☐ ENVIRONMENTAL REVIEW COMPLETED
DATE : _____
COMPLETED BY (PRINT NAME) : _____

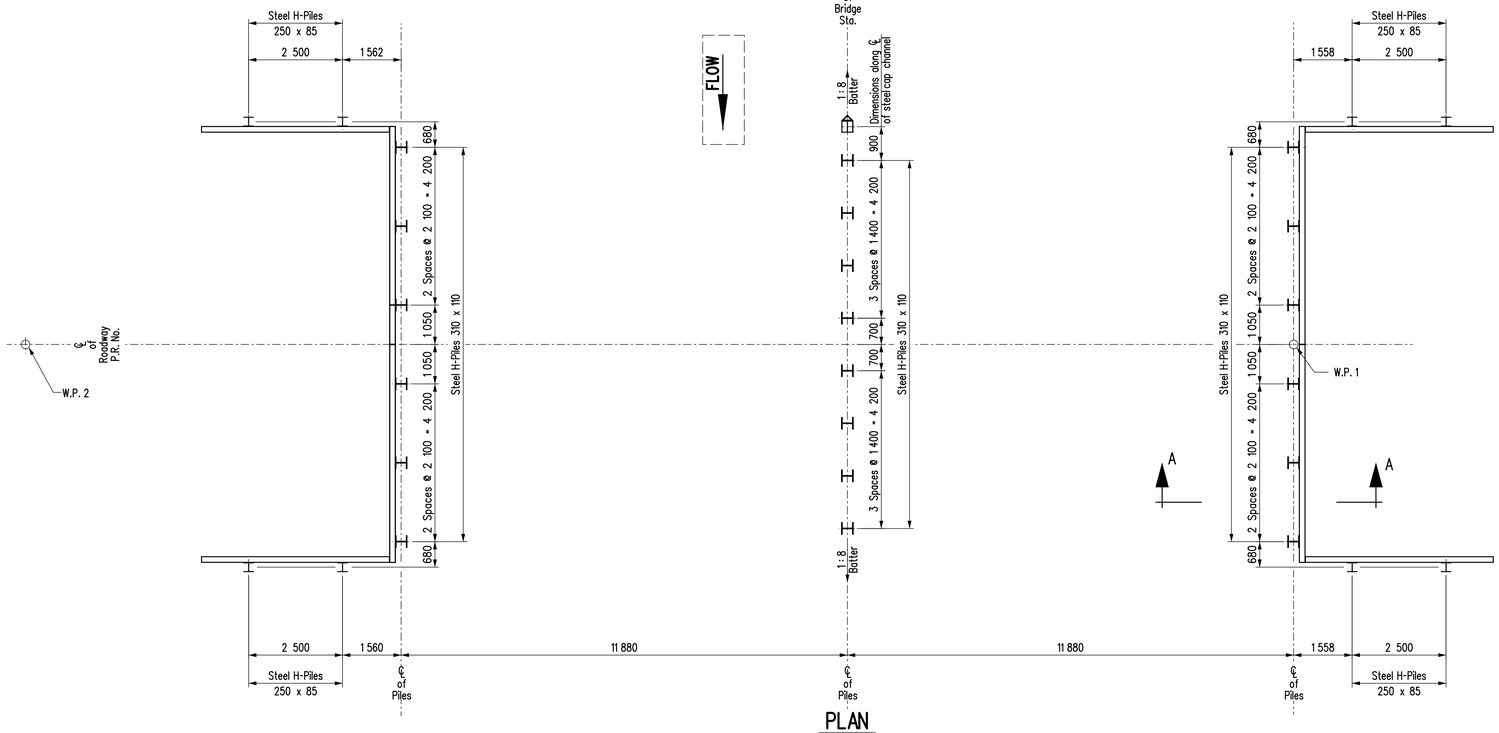
ALL DIMENSIONS ARE IN MILLIMETRES (mm) AND ALL ELEVATIONS AND STATIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.

DRAWN BY: DATE: SHEET No. 1

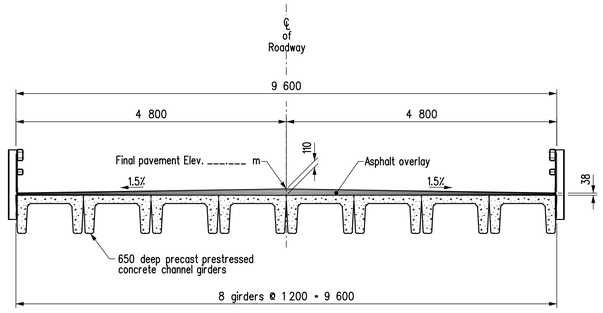
CHECKED BY: DATE: SITE No.



ELEVATION

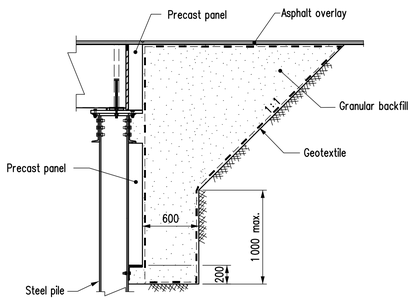


PLAN



CROSS SECTION

Scale 1:50



SECTION A-A

Typical at Su.1
Scale 1:30

NOTES :

re: Backfill Behind Abutment Ballast Walls

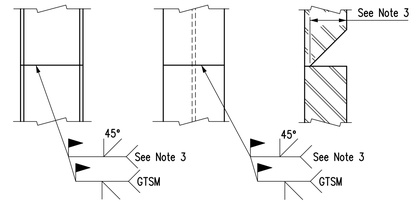
1. Backfill behind ballast wall and wingwall panels shall be Type 1 - Granular backfill supplied and placed in accordance with Bridge Specification 1001 (1). The granular backfill shall be placed and compacted in lifts not exceeding 150 mm.
2. Compaction equipment used within 2 m of ballast walls and wingwalls shall be limited to light vibratory equipment with a mass not exceeding 120 kg unless otherwise approved.
3. Contractor shall place Geotextile around backfill materials as shown. This Geotextile shall also be placed at ends of excavation near wingwalls similar to section and shall be placed on top a minimum of 1 m along top of fill.
4. Steel pile tip to be PRUYN "Hard-Bite" or equivalent.

BILL OF PILES

LOCATION	DESCRIPTION	No. OF PILES	LENGTH	TOTAL LENGTH (m)
SU.1 & SU.3	Steel piles - HP310 x 110 (abutments)	12		0
SU.1 & SU.3	Steel piles - HP250 x 85 (wingwalls)	8		0
				0
SU.2	Steel piles - HP310 x 110 (Intermediate bent)	8		0
SU.2	Steel piles - HP310 x 110 (Intermediate bent) - Ice Breaker Pile	1		0
				0
			TOTAL LENGTH OF PILES (m) =	0

BILL OF PILE TIPS

LOCATION	DESCRIPTION	No. OF PILES
SU.1 & SU.3	Hard-Bite Point HP-77750-B for HP310 x 110 (Abutments)	12
SU.2	Hard-Bite Point HP-77750-B for HP310 x 110 (Intermediate bent) - Excluding Ice Breaker Pile	8



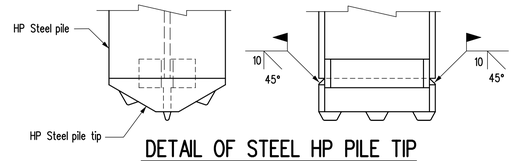
DETAIL OF STEEL HP PILE SPLICE

Not To Scale

NOTES:

re: Welding

1. Low Hydrogen E49XX series electrodes shall be used (-H8 or better).
2. The minimum root pass shall be 6 mm.
3. Preparation for welding requires 13 mm bevel for HP 250 piles and 14 mm bevel for HP 310 piles.
4. Weld both flanges and web as shown. The inside bevelling and welds to be completed first.
5. Before undertaking the back welds, the weld preparation shall be carried out with a carbon Arc-Air gouger.



DETAIL OF STEEL HP PILE TIP

Not to Scale

NOTES :

1. Edges of HP Steel pile tip to be ground on 45° bevel for 10 mm.
2. Low Hydrogen E49XX series electrodes shall be used (-H8 or better).
3. The minimum root pass shall be 6 mm.

WORKING POINT COORDINATE TABLE			Site No.
WORKING POINT No.	UTM COORDINATES		WORKING POINT DESCRIPTION
	NORTHING	EASTING	
W.P.1			Centerline of SU.__ bearings and Centerline of proposed roadway
W.P.2			Centerline of proposed roadway approx. 10 m _____ of centerline of SU.__ bearings

REVISIONS		
DATE	BY	DESCRIPTION
DESIGN SEAL		RECORD SEAL

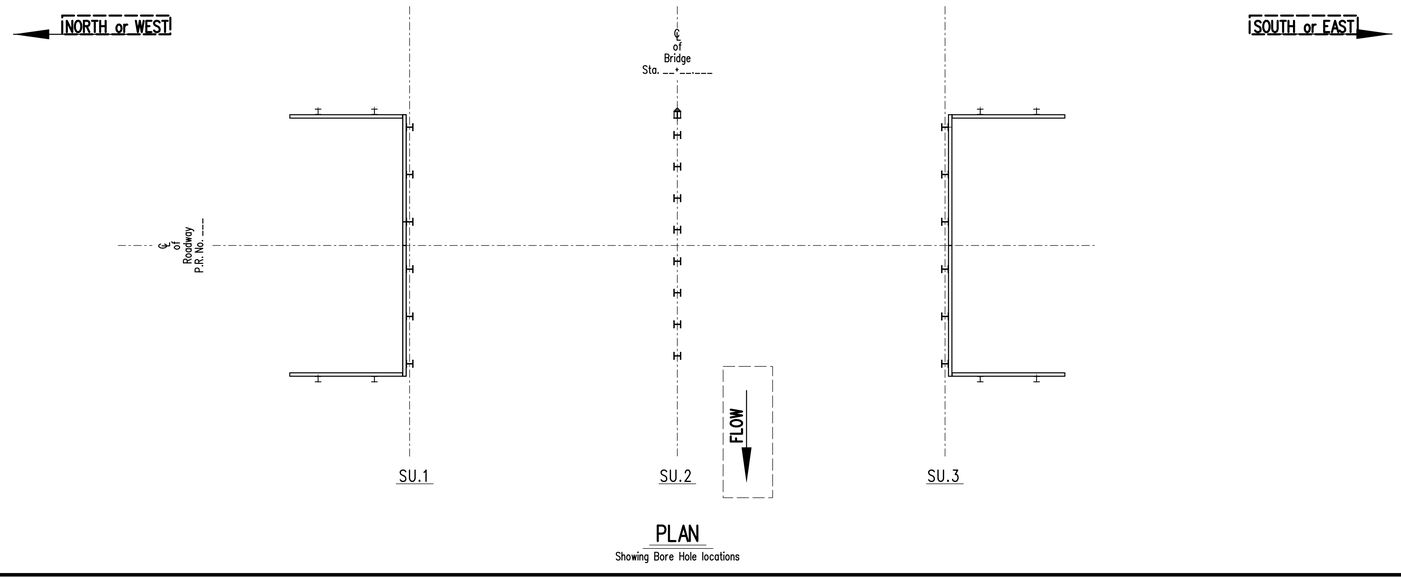
GENERAL ELEVATION

Manitoba
Transportation and Infrastructure
Bridges and Highway Structures

RELEASED FOR CONSTRUCTION
BY: _____
DIRECTOR OF BRIDGES AND HIGHWAY STRUCTURES
DATE _____

DESIGN — BY: A.H.P. — CHECKED: _____
DETAILS — BY: _____ — CHECKED: _____

SCALE: 1 : 75 or as shown
SHEET No. 2
SITE No. _____



PLAN

Showing Bore Hole locations

NOTES - re: Boring Logs

1. The Department provides log boring information shown on the Plans. This information may not be representative of the soil conditions throughout the site. Contractors may peruse all available soil information in the Bridges and Highway Structures Branch located at 6th floor, 215 Garry Street, Winnipeg.

2. The following abbreviations apply to bore hole information:
   - Qu - Laboratory unconfined compressive strength in kPa
   - SPT (N) - Number of blows per 300 mm - Standard Penetration Test
   - USC - Unified Soil Classification
   - M.C. - Moisture Content

3. All stations, elevations, offsets and depths as shown are in meters. All dimensions are in millimeters.

4. All bore hole locations shown in plan view are approximate.

5. Elevations on boring logs are not to scale.

REVISIONS		
DATE	BY	DESCRIPTION

DESIGN SEAL	RECORD SEAL

BORING LOGS

Manitoba

Transportation and Infrastructure

Bridges and Highway Structures

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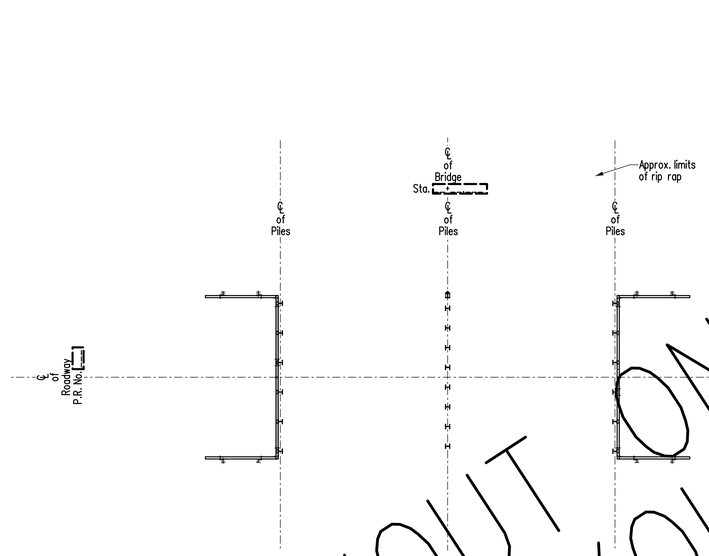
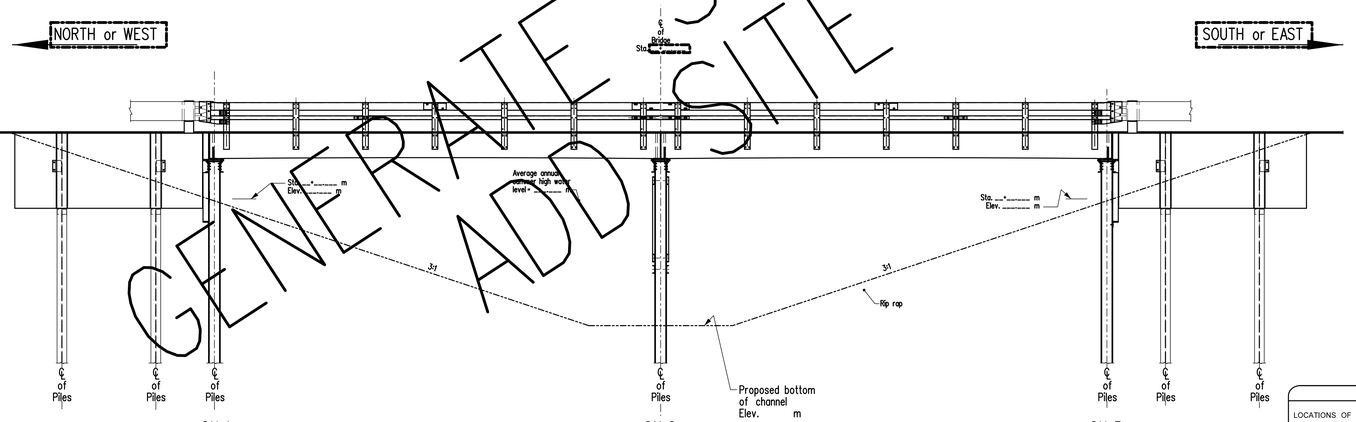
DIRECTOR OF BRIDGES AND HIGHWAY STRUCTURES

DATE _____

DESIGN	BY: _____	SCALE: 1 : 100	SHEET No. 3
	CHECKED: _____		
DETAILS	BY: _____	or as shown	SITE No. _____
	CHECKED: _____		

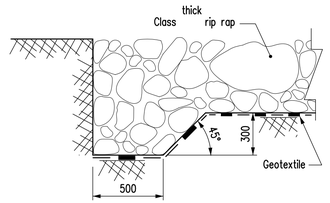


PLAN

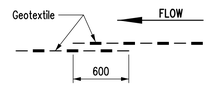


ELEVATION

Scale 1:75



EDGE TREATMENT



OVERLAPPING DETAILS

RIP RAP DETAILS

Not To Scale

NOTES:

1. All geotextile shall be Non-Woven Geotextile, Class I (Heavy Duty) from the Manitoba Transportation and Infrastructure's Approved Product List.
2. Geotextile shall be placed under all rip rap, overlapping 600mm in direction of flow.

NOTE:

Existing pile bents to be removed by Bridge Contractor.

UTILITY DISCLAIMER:

LOCATIONS OF UTILITIES AS SHOWN ARE BASED ON READILY AVAILABLE INFORMATION. NO GUARANTEE IS GIVEN THAT ALL UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONTRACTOR SHALL CONFIRM THE EXISTENCE AND LOCATION OF UTILITIES BY OBTAINING FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

REVISIONS		
DATE	BY	DESCRIPTION

DESIGN SEAL	RECORD SEAL

SITE AND EROSION CONTROL DETAILS

Manitoba
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Bridges and Highway Structures

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BY: _____
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DATE _____

DESIGN	BY:	SCALE: 1:200 or as shown	SHEET No. 4
	CHECKED:		
DETAILS	BY:		SITE No.
	CHECKED:		

NORTH or WEST

SOUTH or EAST

BILL OF MISCELLANEOUS METAL — 9 600 ROADWAY WIDTH - 2 SPAN

MARK No.	No.	DESCRIPTION	CORROSION PROTECTION	SIZE	LENGTH	REMARKS	COMPONENT MASS	MASS PER UNIT	TOTAL MASS
IP1	2	Plate	Shop Primed	PL277x20	350	See Ice Breaker Details		15.221	30.44
IP2		Plate	Shop Primed	PL277x20	Varies	See Ice Breaker Details		#VALUE!	#VALUE!
IU1	1	Ice Breaker Unit	Shop Primed						#VALUE!
		Each unit fabricated from:							
		1 - Angle		L203x203x13	Varies	As detailed	#VALUE!	#VALUE!	
		1- Stiffener Steel Plate		100x13	Varies	Fitted stiffeners as detailed			
								#VALUE!	
CB1	2	Channel	Shop Primed	C200x21	Varies			#VALUE!	#VALUE!
CB2	4	Channel	Shop Primed	C200x21	Varies			#VALUE!	#VALUE!
								TOTAL MASS (kg) =	#VALUE!

NOTES:

1. All material noted in the above Bill shall be hot dip galvanized after fabrication in accordance with ASTM A123, A153 & A143 for a minimum net retention of 610 g/m^2 unless otherwise stated in the specified material ASTM standards. The fabricator and galvanizer shall safeguard against embrittlement using recommended practices from applicable standards.
2. Seal all welds prior to galvanizing.
3. Apply Galvaloy to all field welds and areas where galvanizing has been damaged.
4. All bolts and threaded rod in the above Bill shall be Imperial thread.

FLOW

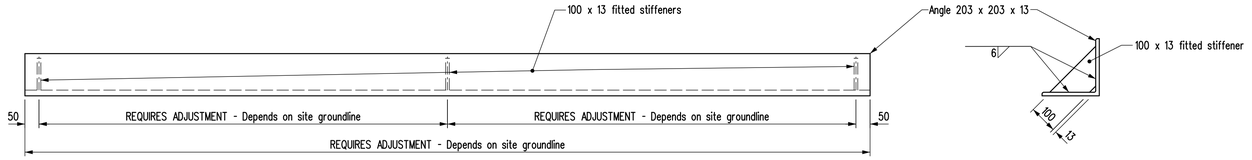
CROSS SECTION

END VIEW

INTERMEDIATE PILE BENTS SU.__

Showing cross bracing and ice breaker at intermediate pile bent
Bridge superstructure not shown for clarity

Scale 1:__

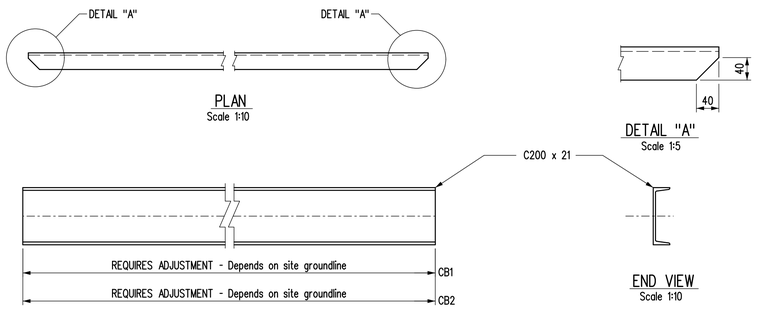


REAR VIEW

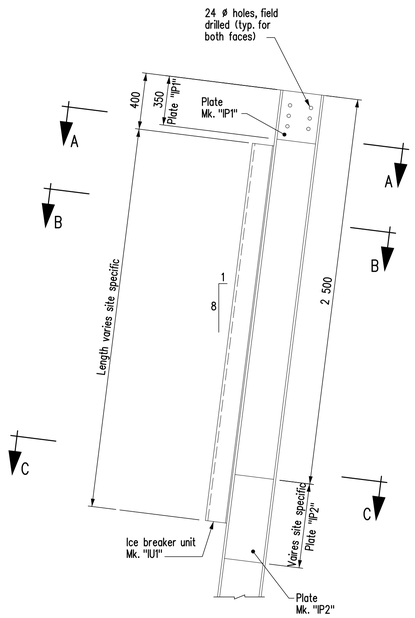
END VIEW

ICE BREAKER UNIT MK. "IU1"

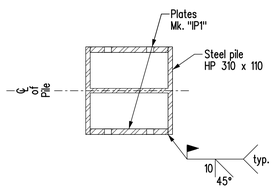
Scale 1 : 10



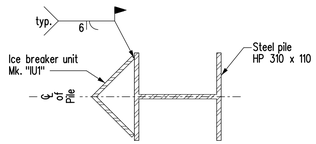
CROSS BRACES Mk. "CB1" & "CB2"



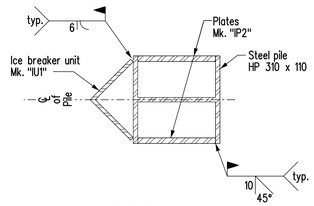
PART SECTION
Scale 1:20



SECTION A-A
Scale 1:10



SECTION B-B
Scale 1:10



SECTION C-C
Scale 1:10

ICE BREAKER ASSEMBLY DETAILS

Showing SU.__ ice breaker
Steel plate and channel not shown for clarity

REVISIONS		
DATE	BY	DESCRIPTION
DESIGN SEAL		RECORD SEAL

ICE BREAKER DETAILS

Manitoba
Transportation and Infrastructure
Bridges and Highway Structures

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DIRECTOR OF BRIDGES AND HIGHWAY STRUCTURES
DATE _____

DESIGN — BY: A.H.P. — CHECKED: _____
DETAILS — BY: _____ — CHECKED: _____

SCALE: _____ SHEET No. _____
SITE No. _____