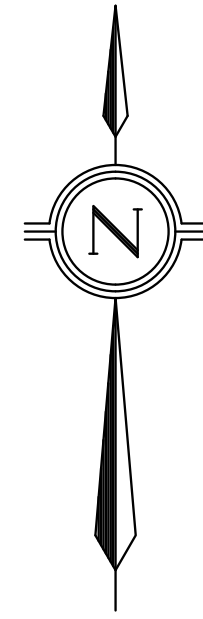


# Municipality Of Huron Shores POTOMAC RIVER - BRIDGE REPLACEMENT

Iron Bridge, ON



KEY PLAN  
N.T.S.

## PROJECT DRAWING LIST

CIVIL		
DRAWING No.	DESCRIPTION	REV.
C1	CHIBLOW LAKE ROAD - PLAN AND PROFILE	0
C2	TEMPORARY DETOUR - PLAN AND PROFILE	0
C3	TYPICAL SECTIONS & DETAILS	0
C4	BOREHOLE LOCATIONS AND SOIL STRATA	0
REMOVALS & TEMPORARY BRIDGE		
DRAWING No.	DESCRIPTION	REV.
TB1	TEMPORARY BRIDGE - PLAN AND SECTION	0
R2	DEMOLITION - EXISTING CONDITION AND REMOVALS	0
STRUCTURAL		
DRAWING No.	DESCRIPTION	REV.
S1	GENERAL ARRANGEMENTS - PLAN, SECTION & ELEVATION	0
S2	FDN. LAYOUT AND PILE DATA	0
S3	NORTH AND SOUTH ABUTMENTS - PLAN & SECTION	0
S3.1	NORTH AND SOUTH ABUTMENTS - ELEVATION & REINFORCING	0
S4	BRIDGE DECK - REINFORCING - PLAN AND SECTION	0
S5	NORTH & SOUTH APPROACH SLABS & CONCRETE BALLAST WALL	0
S6	WINGWALLS - PLAN, SECTIONS AND DETAILS	0
S6.1	WINGWALLS - REINFORCING	0
S7	STRUCTURAL - BRIDGE GIRDERS - PLAN, SECTIONS & DETAILS	0
S8	BRIDGE GUARDRAILS - PLAN, SECTIONS & DETAILS	0
S9	STANDARD DETAILS	0

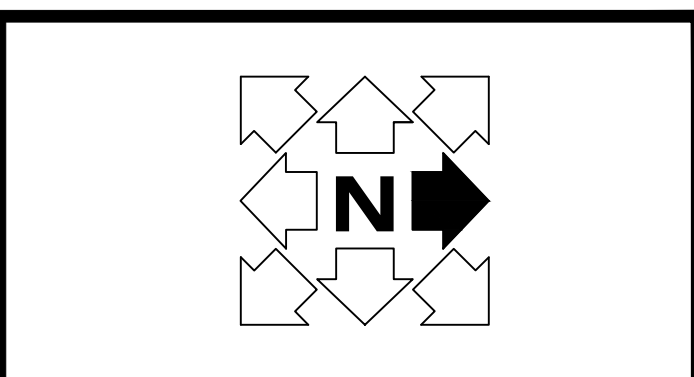
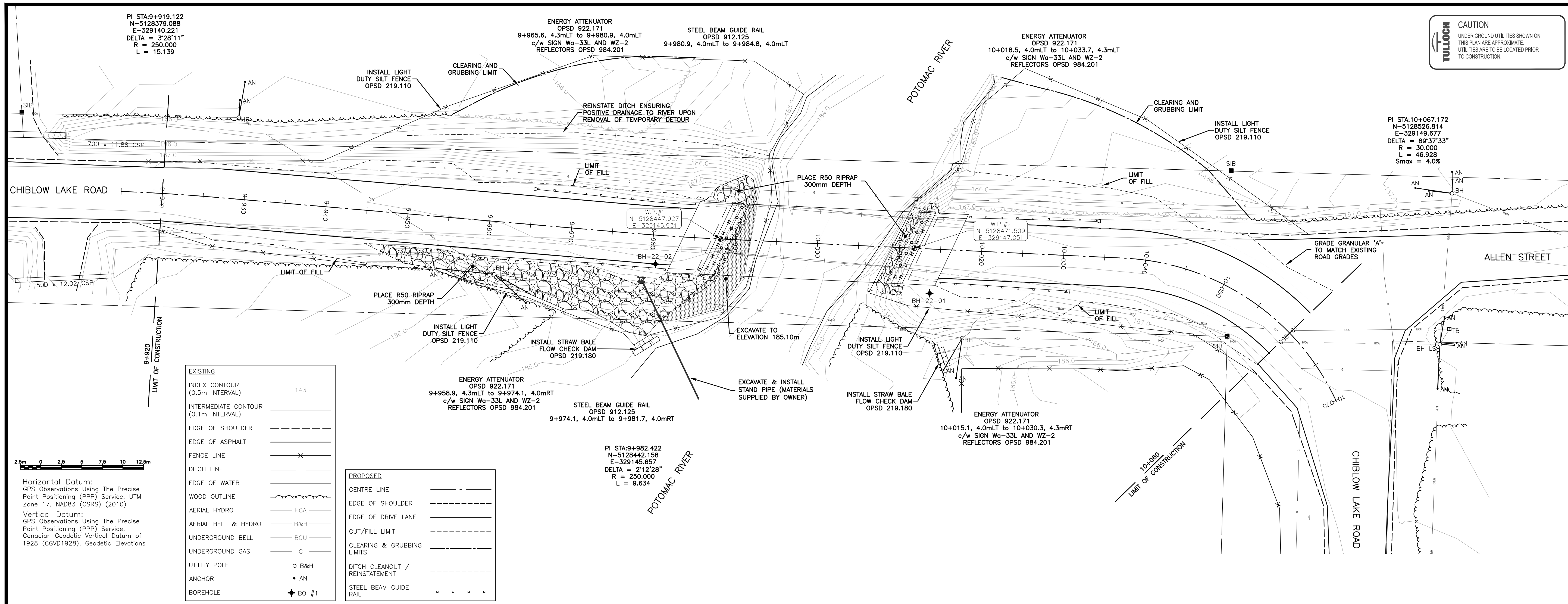


**CLIENT**  
MUNICIPALITY OF HURON SHORES  
7 BRIDGE STREET, PO Box 460  
IRON BRIDGE, ON  
P0R 1H0  
ph (705) 843-2033



PROJECT No. 220887

**PRIME CONSULTANT**  
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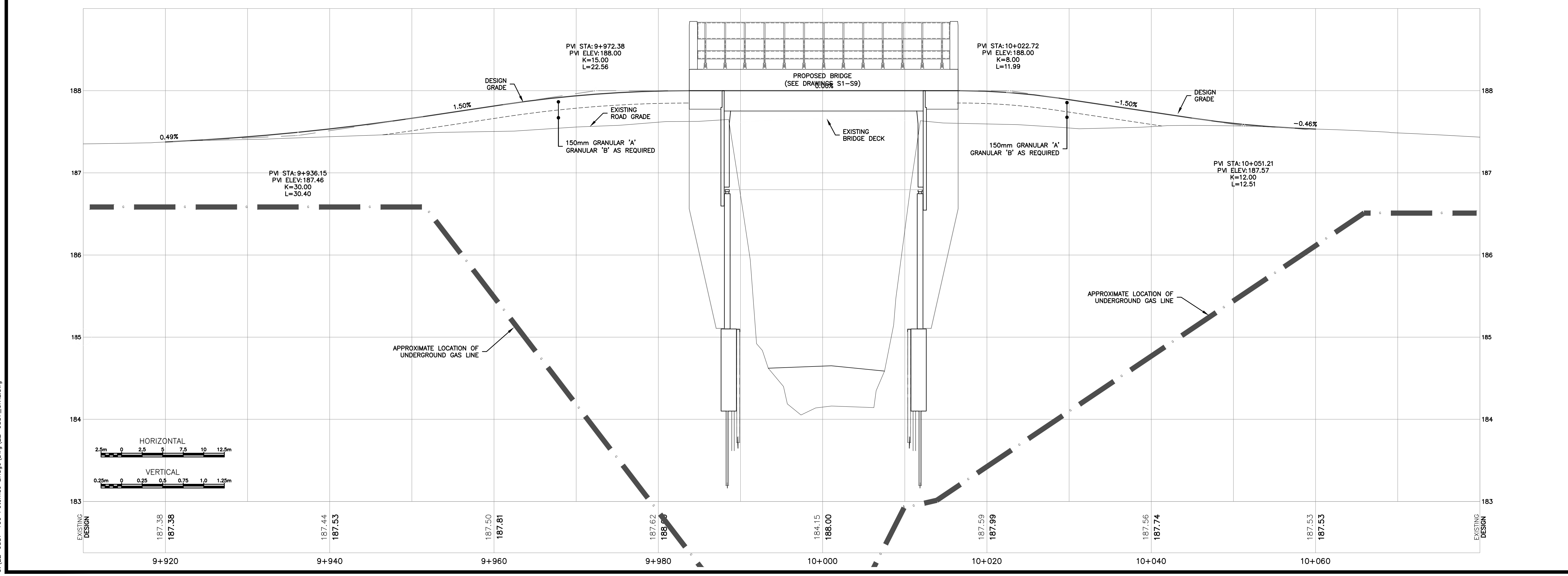
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23-07-14	0	ISSUED FOR TENDER	DAS	MK



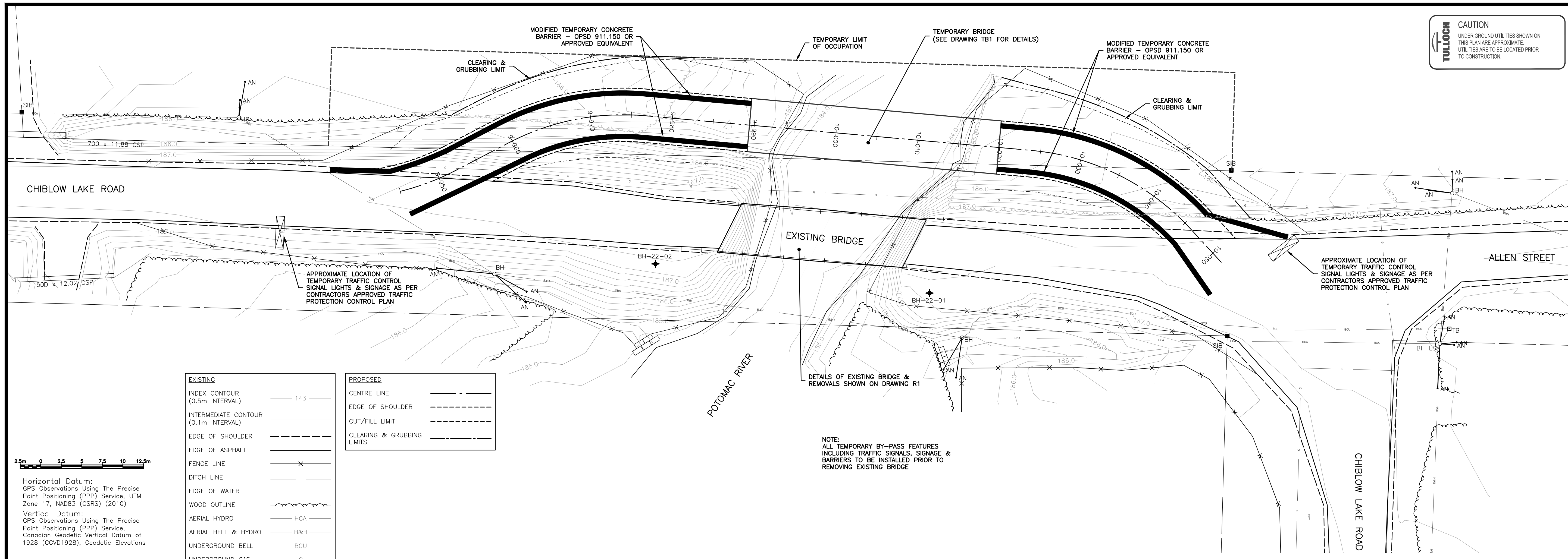
PROJECT TITLE:  
**POTOMAC RIVER BRIDGE REPLACEMENT**

DRAWING TITLE:  
**CHIBLOW LAKE ROAD PLAN & PROFILE**

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<b>22-0887</b>	<b>0</b>	<b>C1</b>	
PROJECT No.	REVISION	DRAWING	

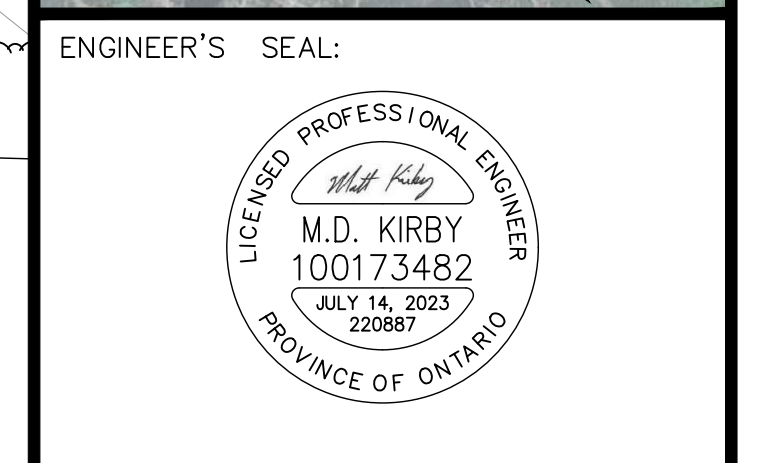
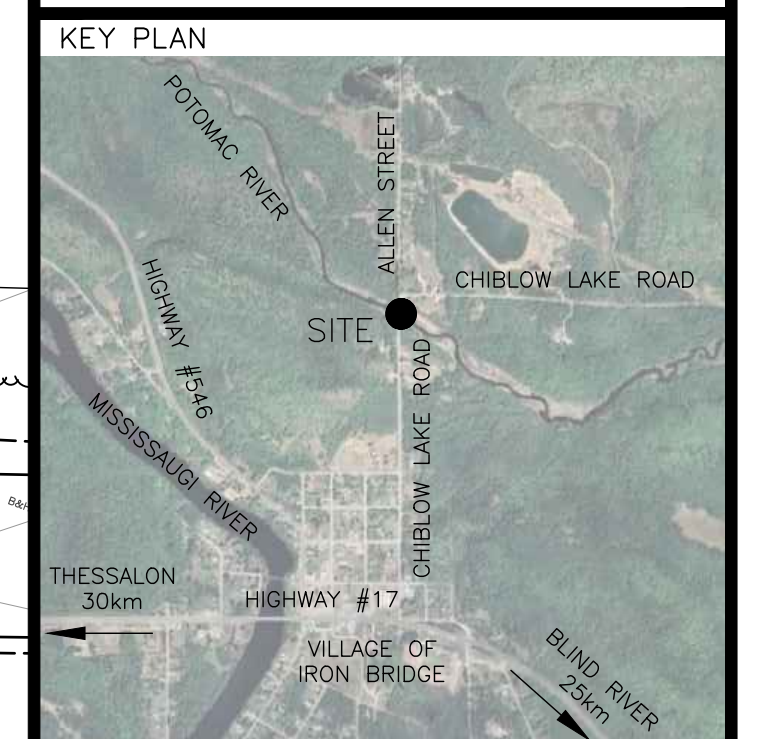
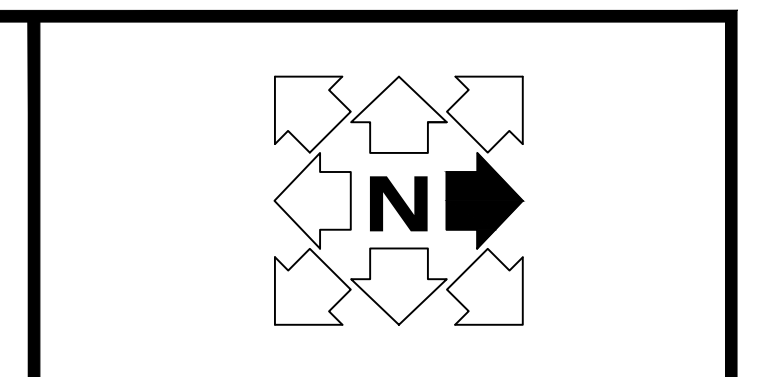
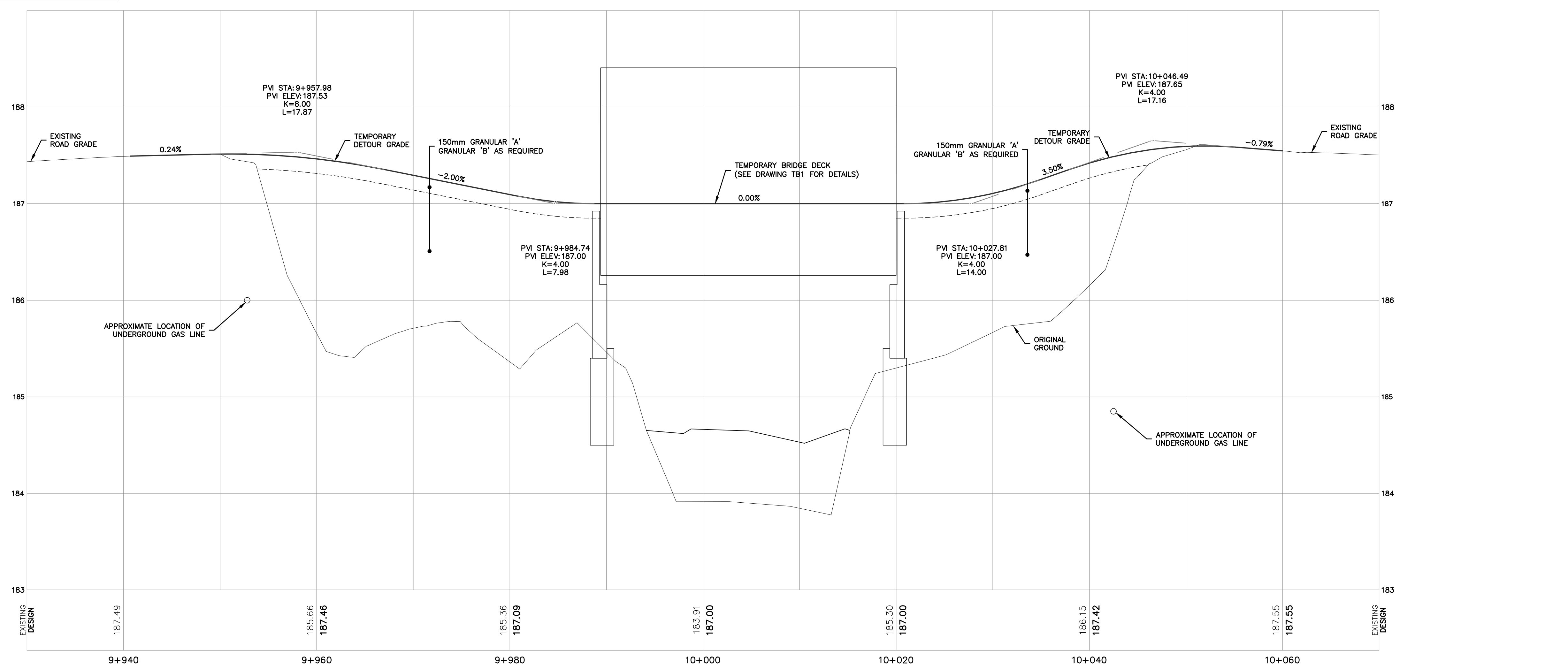


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Horizontal Datum:  
GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)

Vertical Datum:  
GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



DATE	REV.	REVISION	BY	APP'D
23-07-14	0	ISSUED FOR TENDER	DAS	MK



**PROJECT TITLE:**  
**POTOMAC RIVER BRIDGE REPLACEMENT**

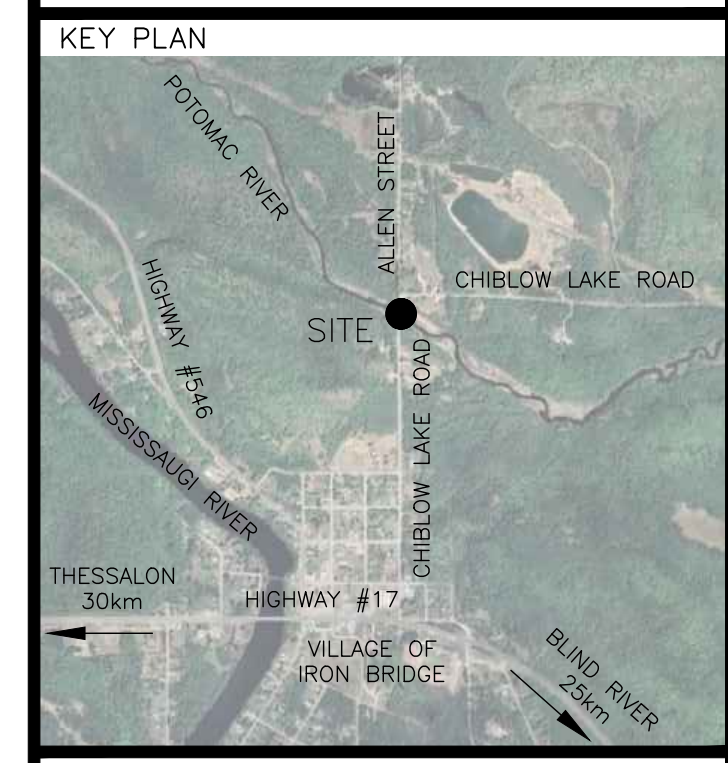
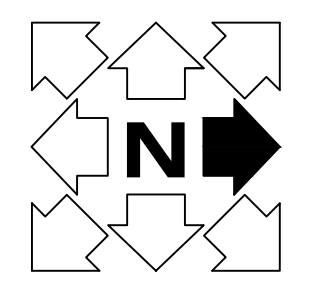
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PROJECT No.	REVISION	DRAWING	

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- GENERAL CONSTRUCTION NOTES:**
1. ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARD DRAWINGS TO APPLY UNLESS OTHERWISE NOTED.
  2. ALL EROSION AND SEDIMENT CONTROLS SHALL FOLLOW AND BE IN ACCORDANCE WITH GENERAL BEST MANAGEMENT PRACTICES PRIOR TO UNDERTAKING WORKS.
  3. NOTIFY ALL UTILITY DEPARTMENTS 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. UTILITY PERSONNEL MAY BE REQUIRED TO BE ON SITE WHEN EXCAVATING ADJACENT TO UNDERGROUND UTILITIES.
  4. SUPPORT UTILITIES IN ACCORDANCE WITH THE DIRECTIONS AND GUIDELINES OF THE IMPACTED UTILITY.
  5. COMPLETE ALL TRENCHING IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT.
  6. THE LOCATION OF UTILITIES SHOWN ON DRAWINGS IS APPROXIMATE AND MAY BE INCOMPLETE. CONFIRM EXACT LOCATION OF UTILITIES WITH MINISTRY, MUNICIPALITY OR UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR PROTECTING AGAINST DAMAGE. THE CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGE TO UTILITY AND ROAD WORKS.
  7. COMPLY WITH THE REQUIREMENTS OF THE MUNICIPALITY OF HURON SHORES IN REGARDS TO TRAFFIC FLOW ON MUNICIPAL STREETS. SHORT TERM FULL CLOSURE PERMITTED TO FACILITATE PORTIONS OF THE WORK, ONLY WITH WRITTEN PERMISSION FROM OWNER VIA THE ENGINEER.
  8. PROVIDE NOTICE TO RESIDENTS WHEN VEHICLE ACCESS WILL BE IMPACTED.
  9. ALL INSTALLATIONS ARE TO BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE MUNICIPALITY OF HURON SHORES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  10. CONSTRUCTION SHALL ADHERE TO THE ASSOCIATED WORK WINDOWS FOR WORKS IN OR NEAR WATER BODIES AND WETLANDS. NO WORKING WITHIN THE HIGH WATER LEVEL BETWEEN MARCH & JUNE 15TH.

- ROAD CONSTRUCTION NOTES:**
1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED. STRAW BALE FLOW CHECK DAM, OPSD 219.18 AND LIGHT DUTY SILT FENCE, OPSD 219.110. ADDITIONAL MEASURES MAY BE REQUIRED DURING CONSTRUCTION BASED ON SITE CONDITIONS.
  2. CLEARING & GRUBBING TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 201.
  3. ALL REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 510. LIMITS TO BE SAWCUT.
  4. ROADWAY SURFACING TO BE SCARIFIED AND MIXED WITH THE EXISTING BASE GRANULARS.
  5. EXCAVATION TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 206. EXCAVATIONS TO ALLOW FOR RECONSTRUCTION OF STREET TO DESIGN GRADES AND ELEVATIONS. ENSURE POSITIVE DRAINAGE IN ALL DITCHES.
  6. PROOF ROLL SUBGRADE PRIOR TO PLACING GEOTEXTILE AND GEOGRID.
  7. PLACE GEOTEXTILE - OPSS.MUNI 1860.
  8. PLACE & COMPACT GRANULAR "B" AND GRANULAR "A" - OPSS.MUNI 314 & OPSS.MUNI 501.
  9. INSTALL STEEL BEAM GUIDE RAIL TYPE M, OPSD 912.130. INSTALL STEEL BEAM ENERGY ATTENUATING TERMINAL SEQUENTIAL KINKING TERMINAL SYSTEM, OPSD 922.181.
  10. INSTALL TOPSOIL AND HYDROSEED.



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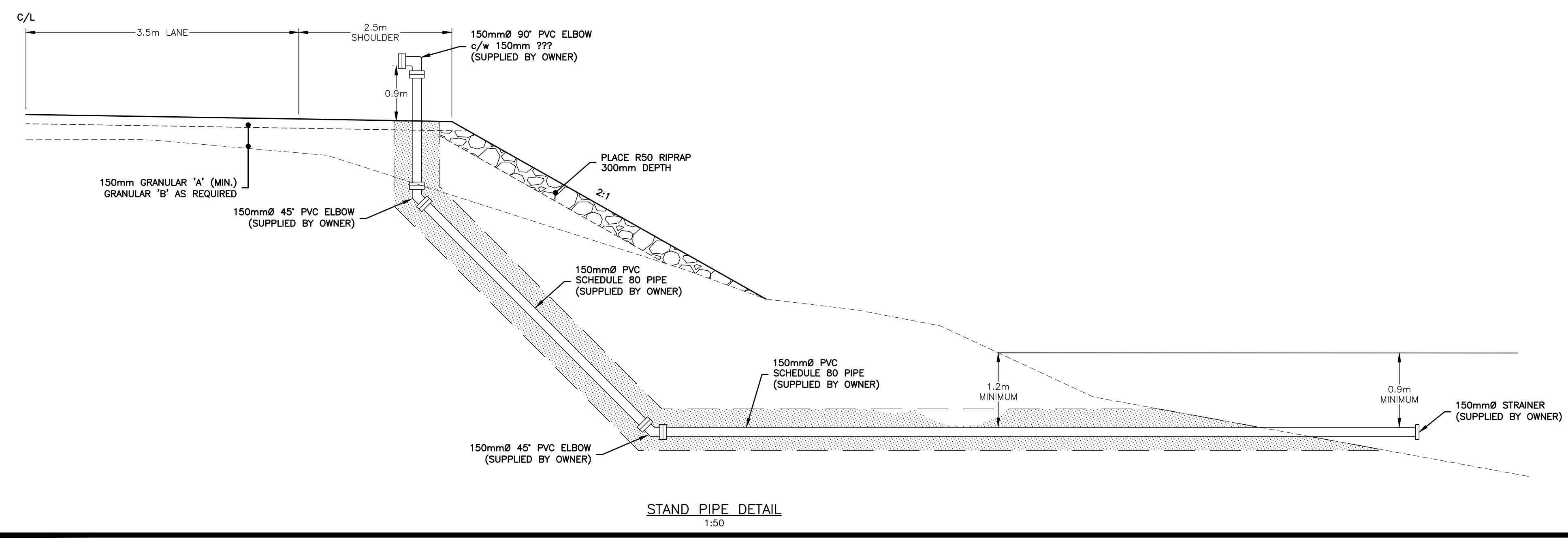
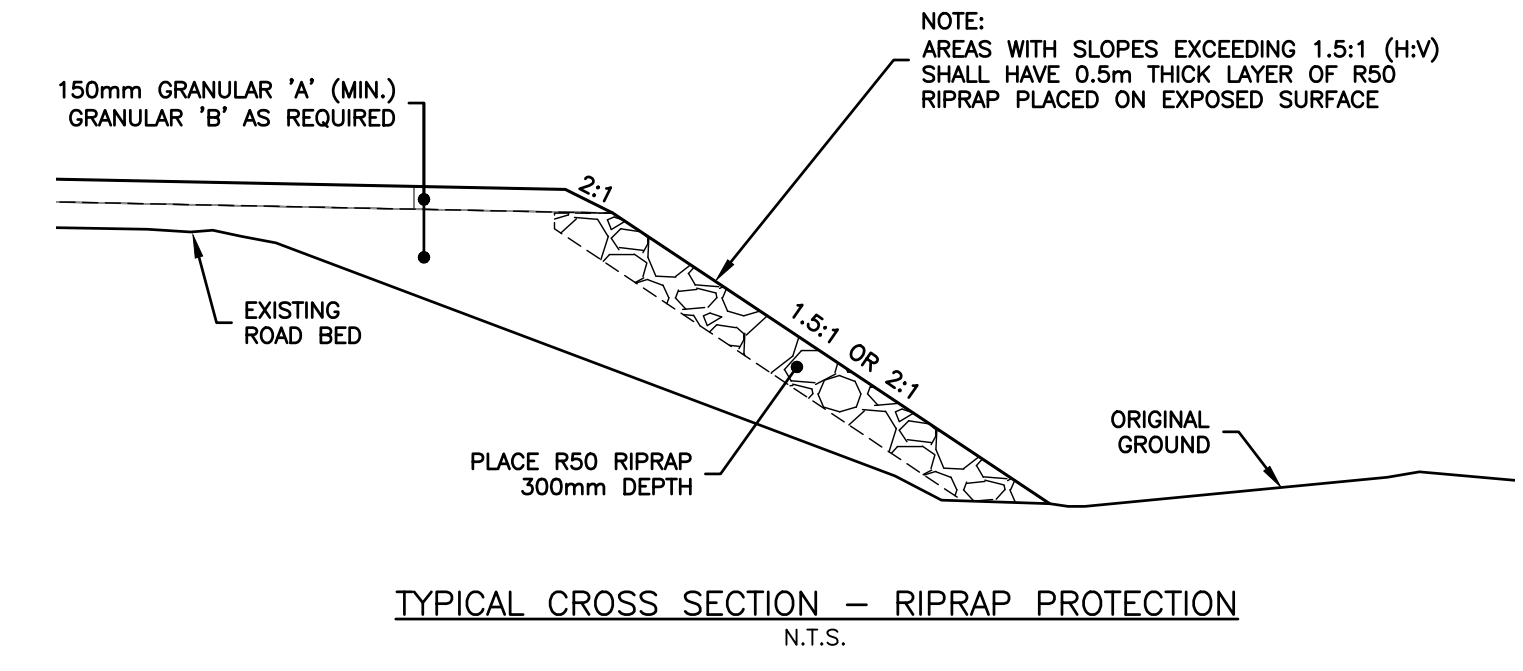
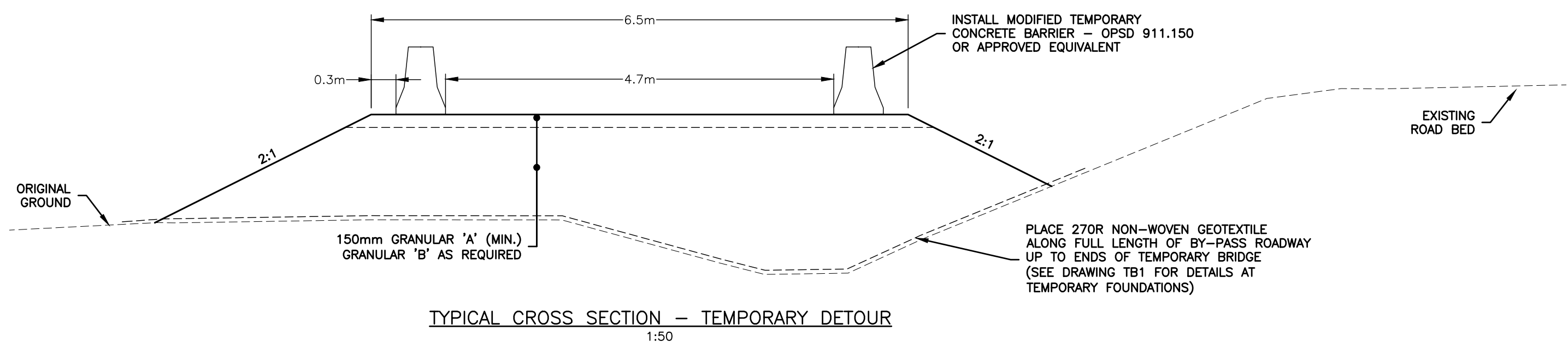
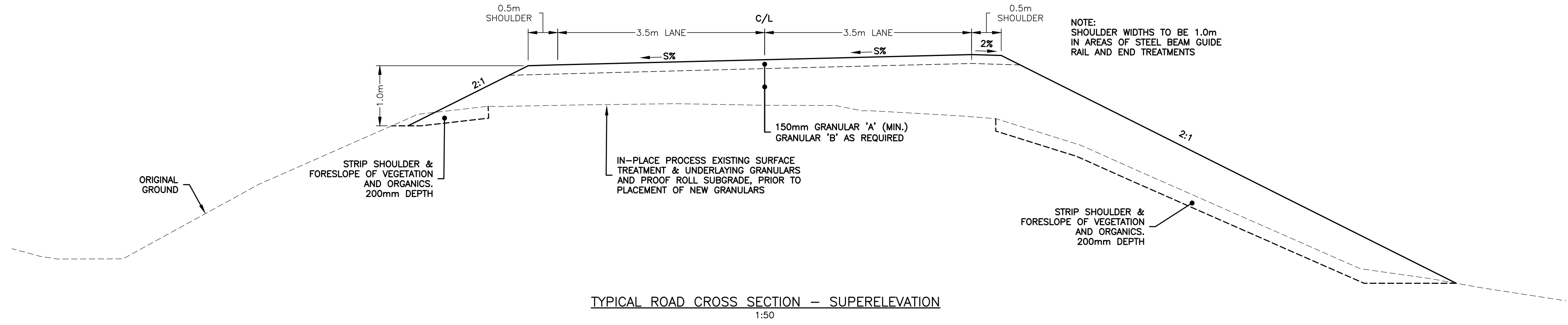
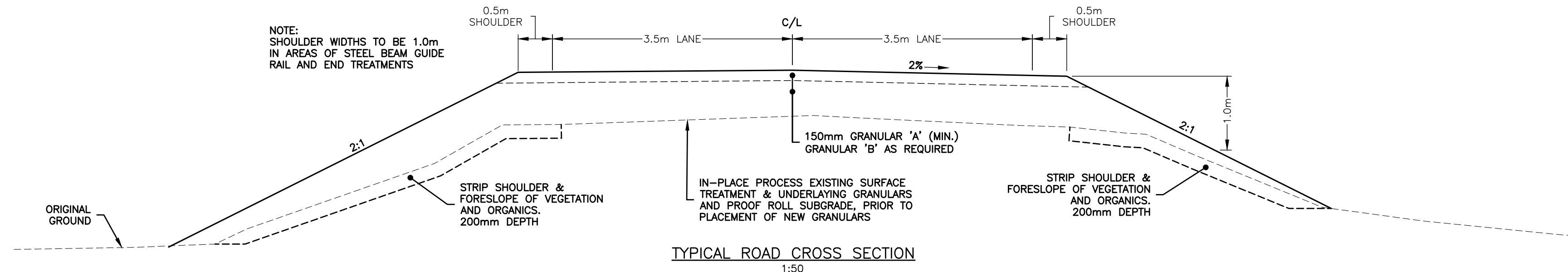
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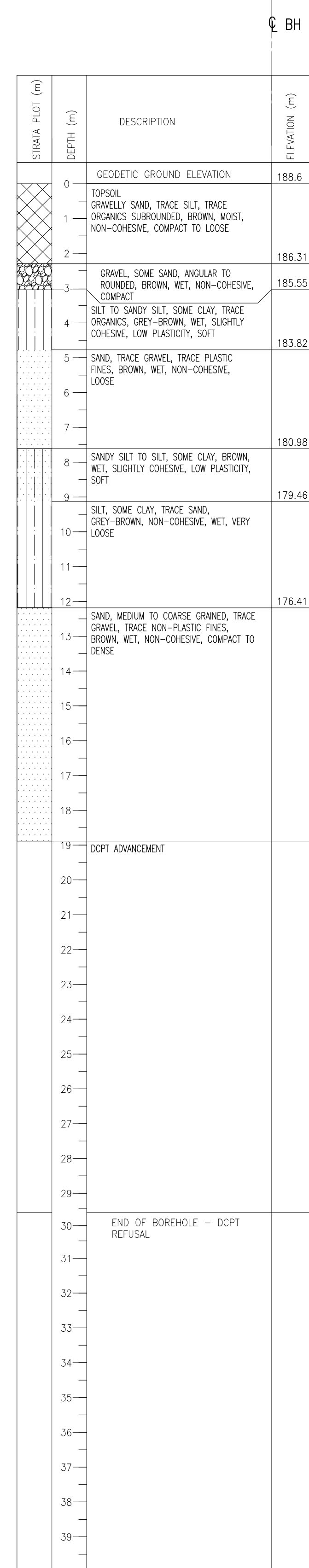
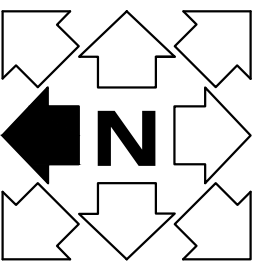
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**POTOMAC RIVER BRIDGE REPLACEMENT**

DRAWING TITLE:  
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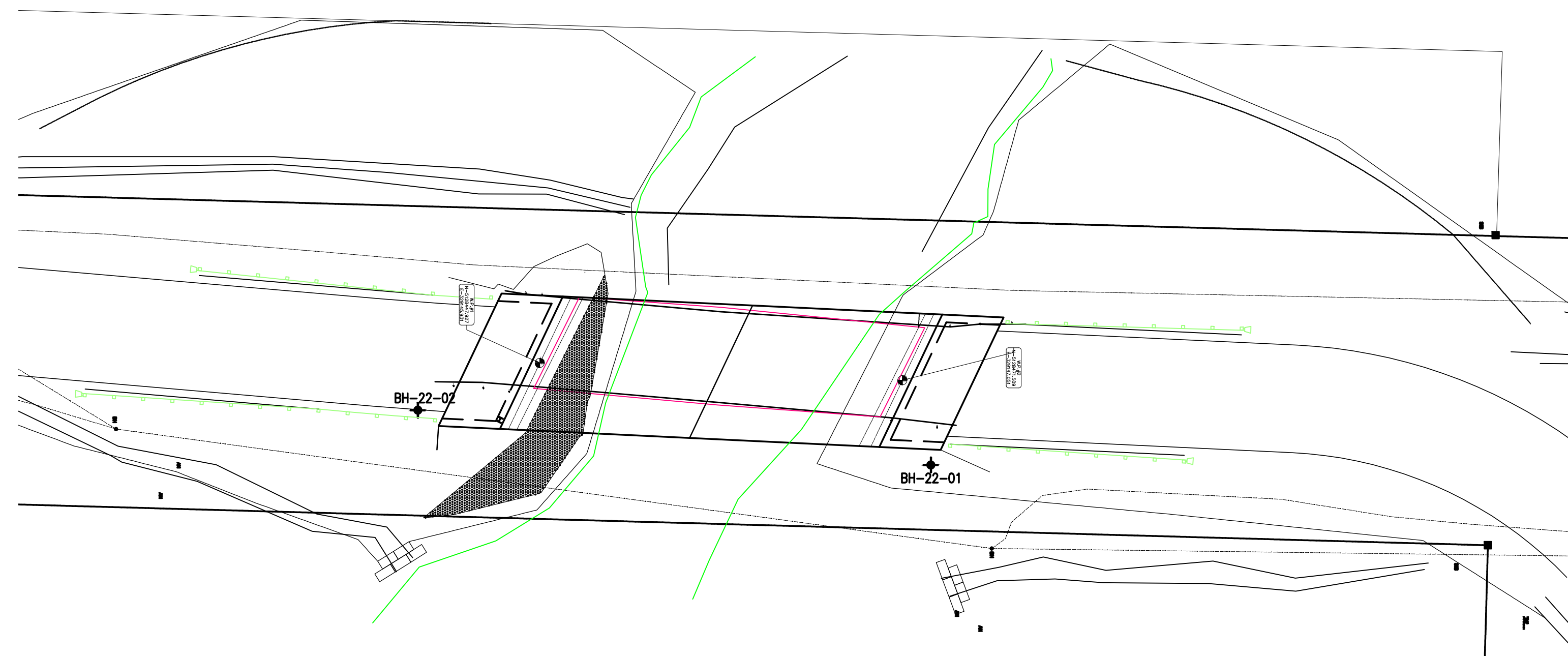
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AS NOTED		JULY 14, 2023	
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PROJECT No.	REVISION	DRAWING	



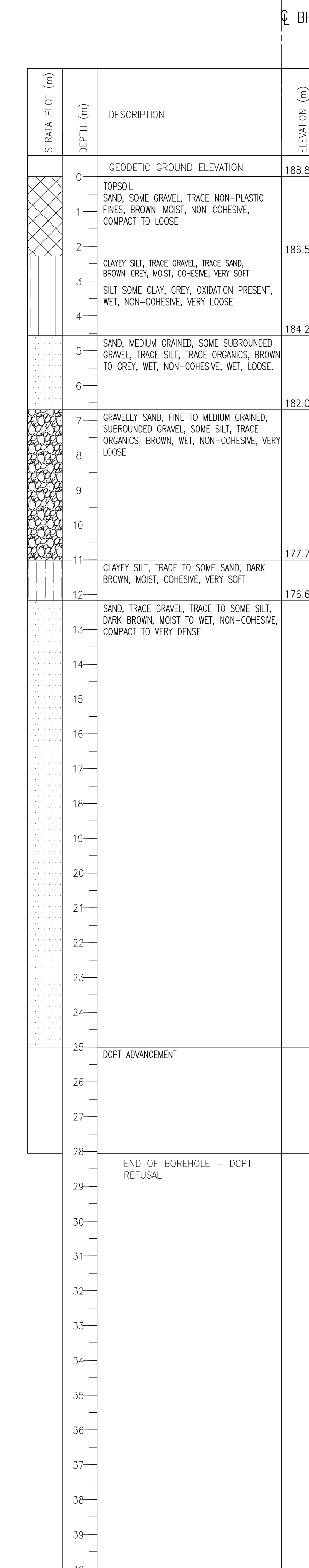
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PROFILE -- BORE HOLE 2  
NORTH SIDE OF BRIDGE



**NOTES:**  
 THE BOUNDARIES BETWEEN SOIL STRATA HAVE BEEN ESTABLISHED ONLY AT BORE HOLE LOCATIONS. BETWEEN BORE HOLES THE BOUNDARIES ARE ASSUMED FROM GEOLOGICAL EVIDENCE.  
 FOR DETAIL SUBSURFACE CONDITIONS AND DYNAMIC CONE PENETRATION TESTS, REFER TO GEOTECHNICAL REPORT IN THE CONTRACT DOCUMENTS.



PROFILE -- BORE HOLE 1  
SOUTH SIDE OF BRIDGE

KEY PLAN

DATE	REV.	REVISION	BY	APP'D
23.07.14	A	ISSUED FOR TENDER	CM	MK

ENGINEER'S SEAL:



CLIENT:



**Municipality of Huron Shores**  
 7 Bridge Street, PO Box 460  
 Iron Bridge, ON. P0R 1H0

CONSULTANT:



DRAWING TITLE:

**POTOMAC BRIDGE  
 REPLACEMENT  
 BOREHOLE LOCATIONS  
 AND SOIL STRATA**

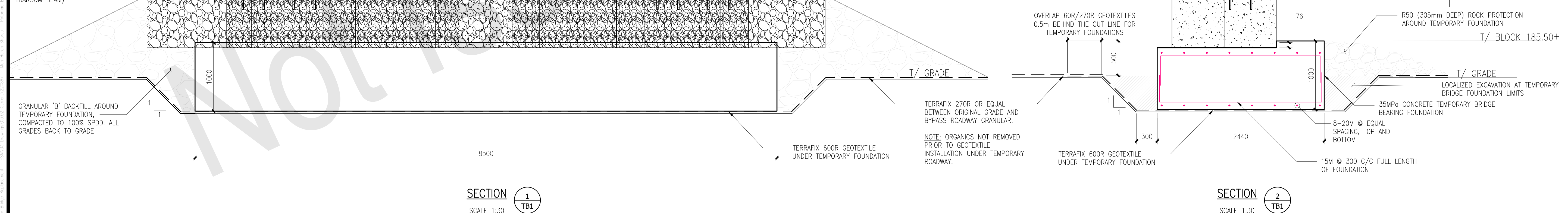
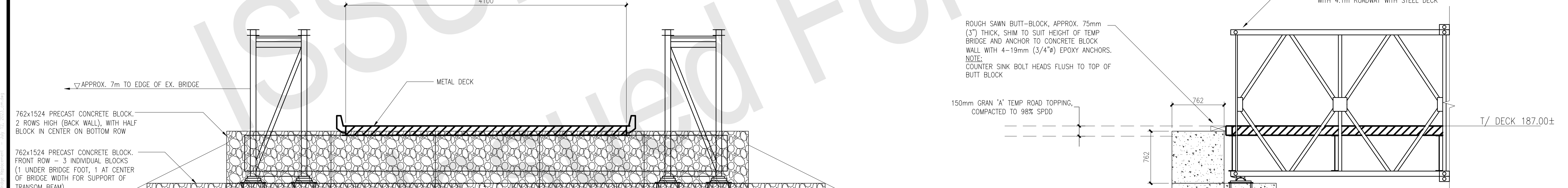
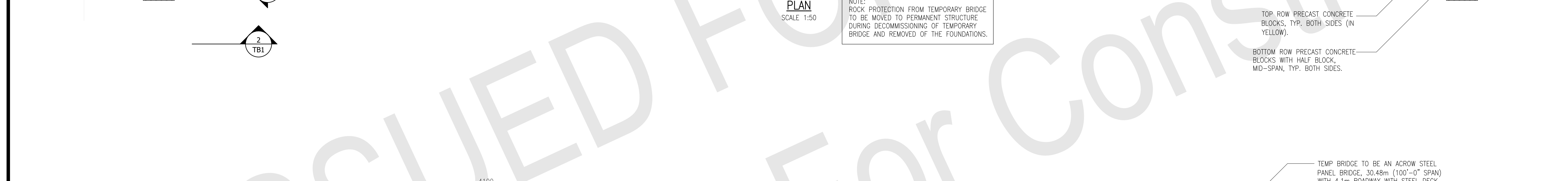
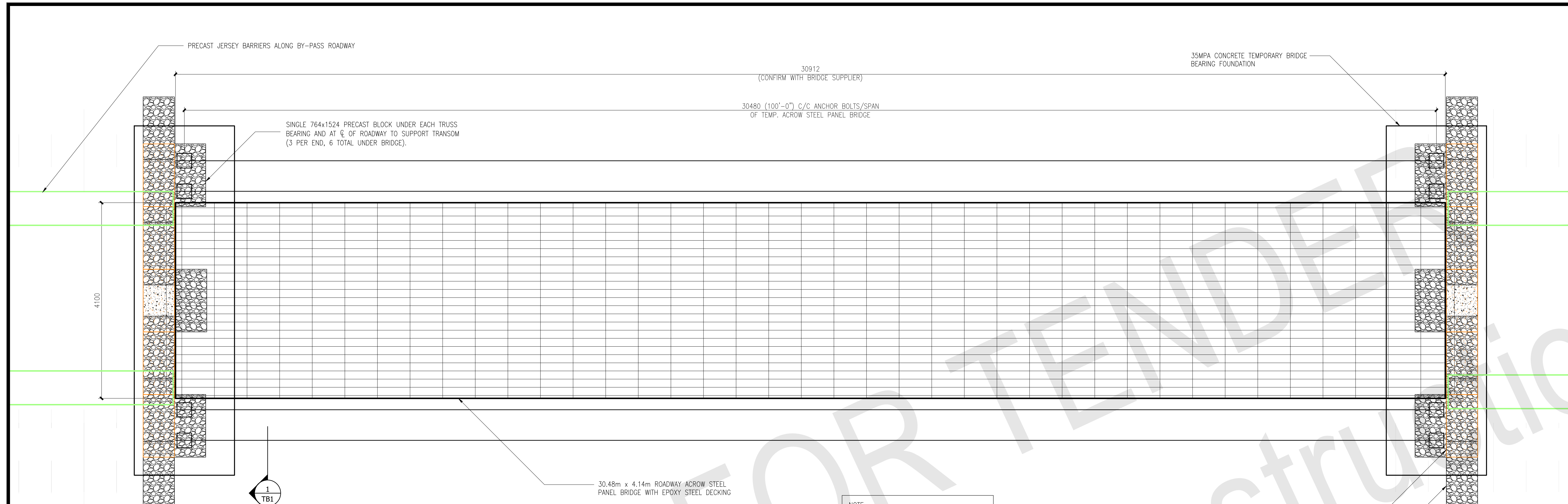
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**As Noted** **MAY 24, 2023**

SCALE DATE

220887	A	C4
PROJECT No.	REVISION	DRAWING

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KEY PLAN


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DATE	REV.	REVISION	BY	APP'D

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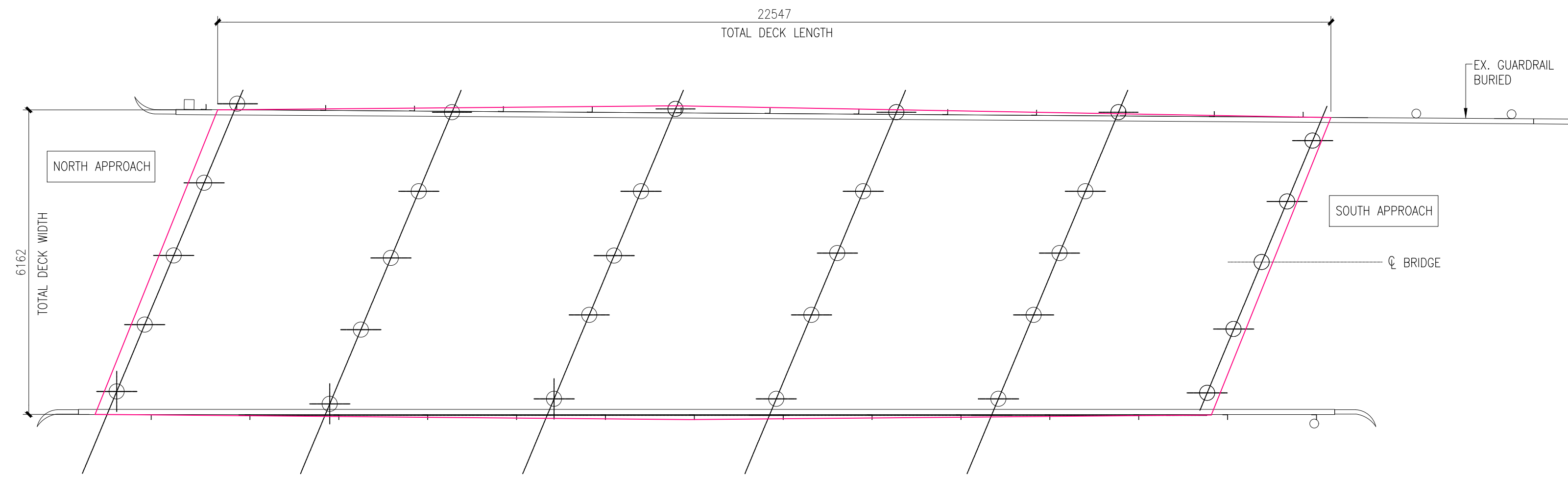
Municipality of Huron Shores  
7 Bridge Street, PO Box 460  
Iron Bridge, ON - P0R 1H0

CONSULTANT:

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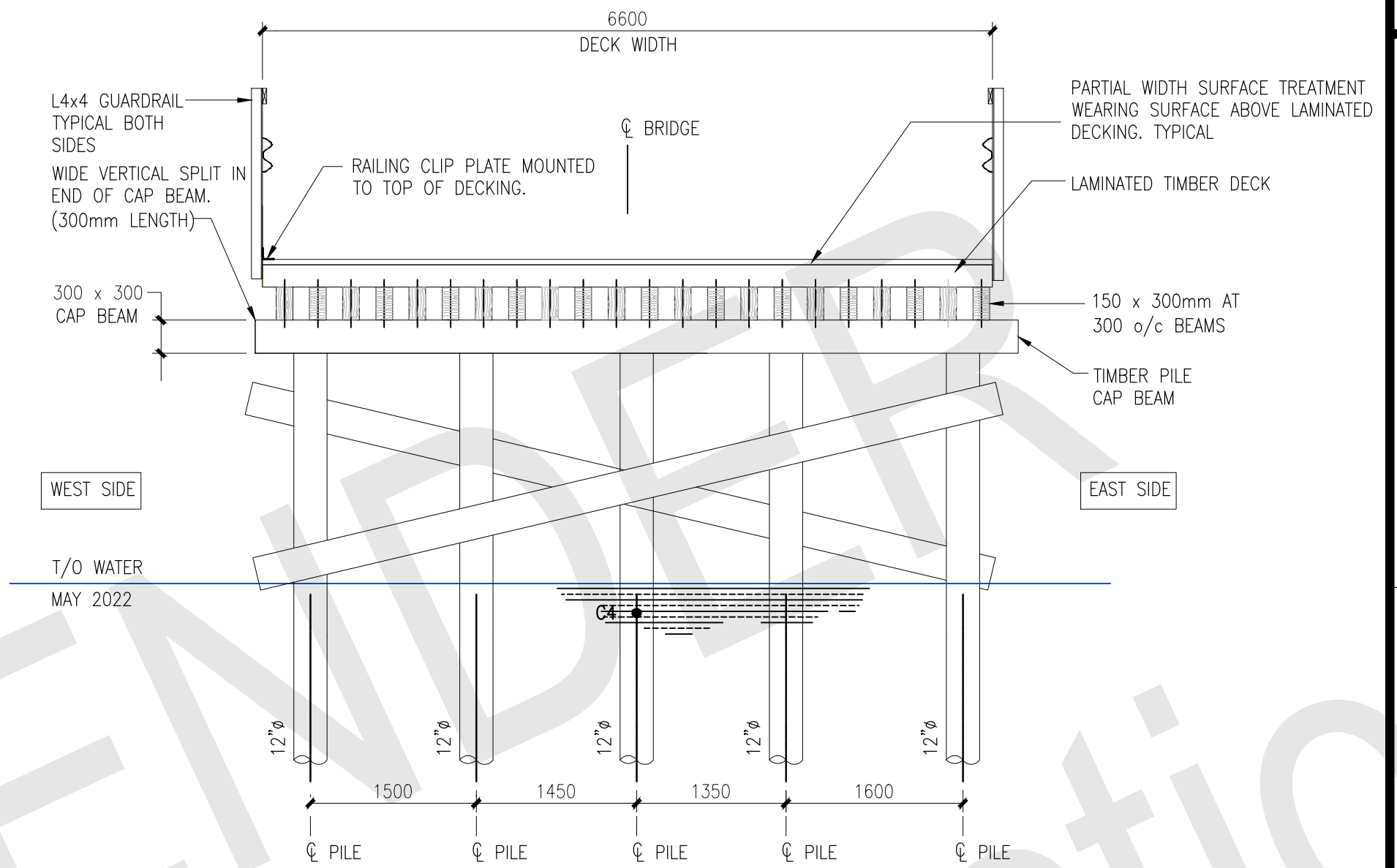
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22-0887	A	TB1	
PROJECT No.	REVISION	DRAWING	



PLAN

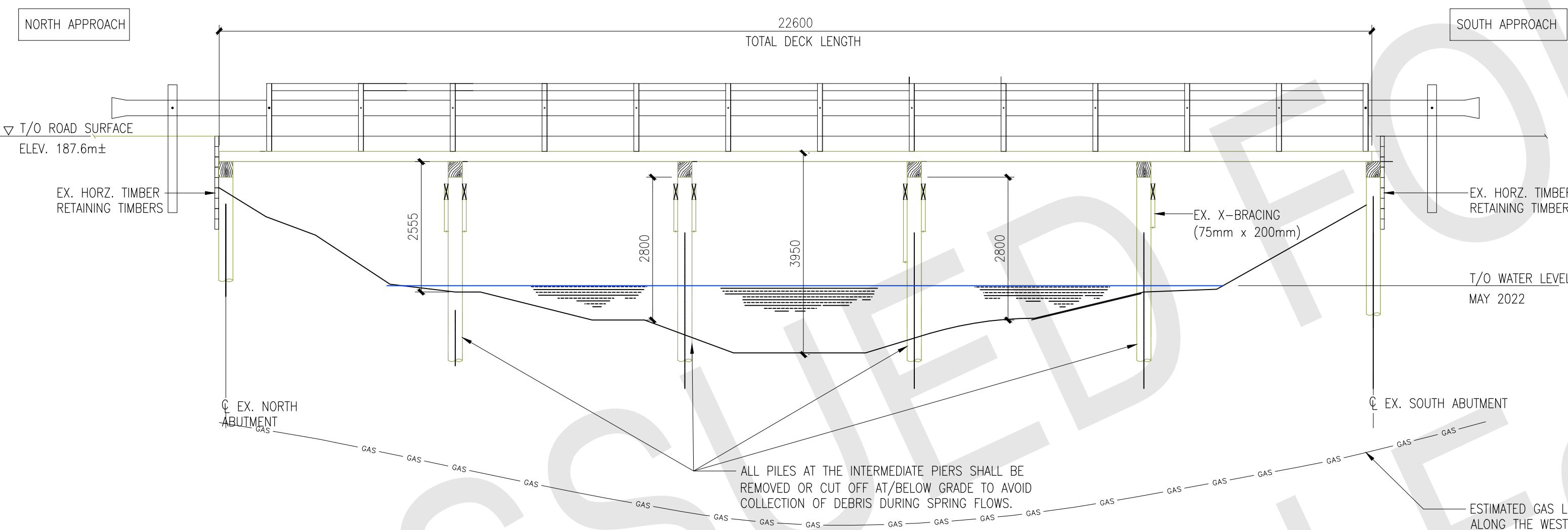
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TYPICAL PIER/PILE BENT

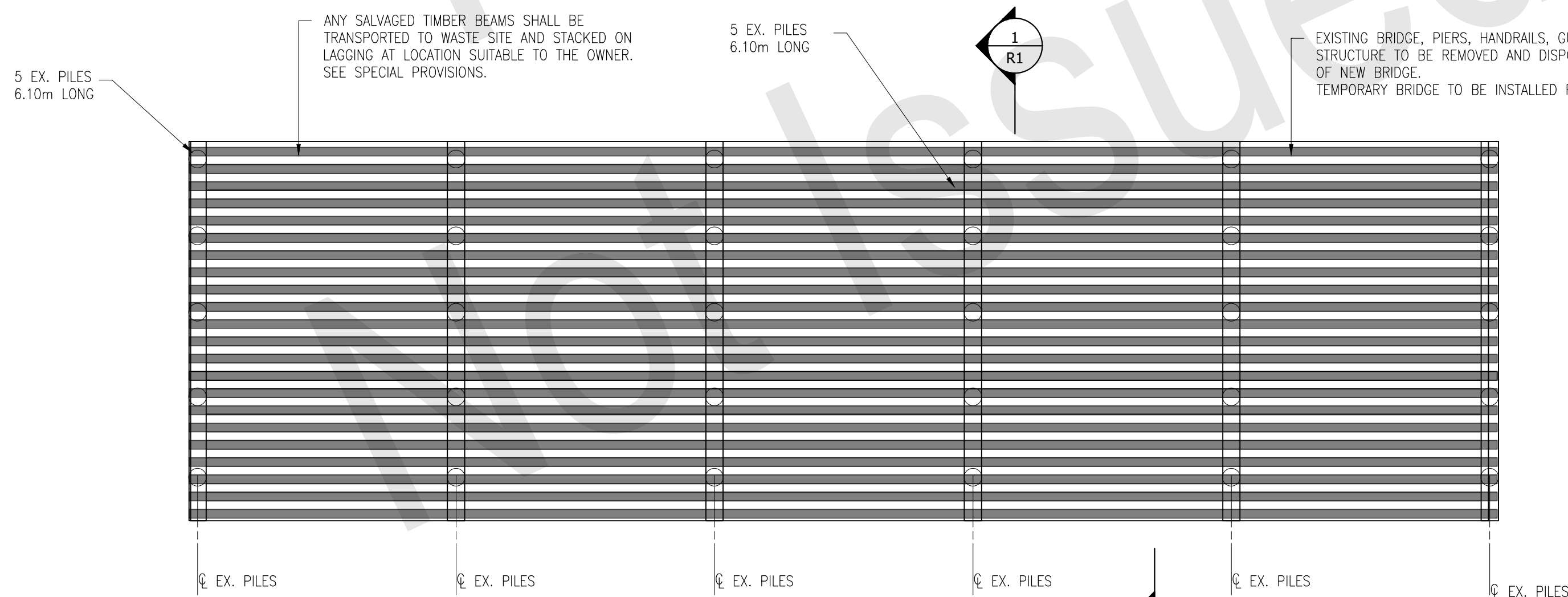
LOOKING NORTH

SCALE 1:50



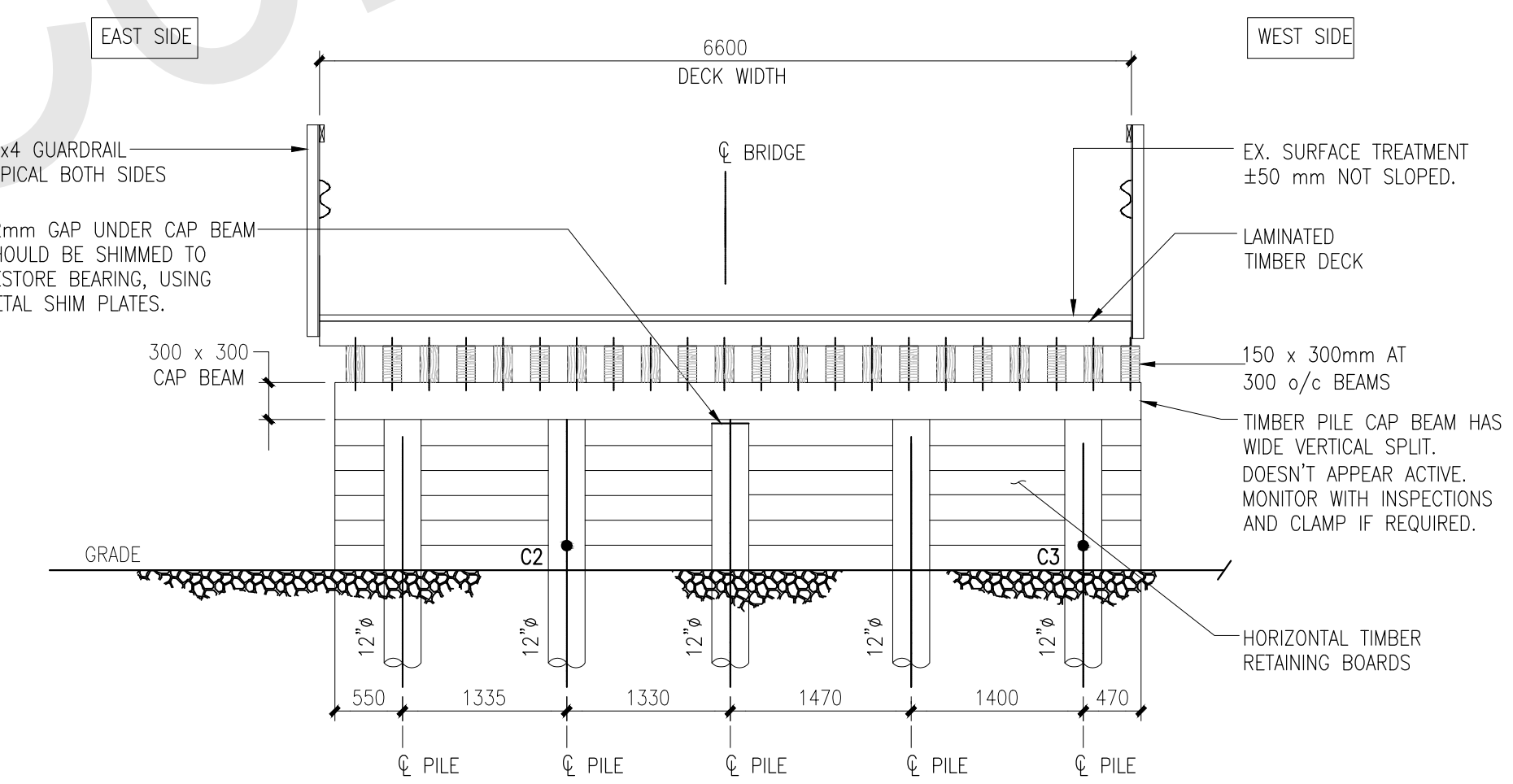
WEST ELEVATION (LOOKING EAST)

SCALE 1:75



PLAN  
UNDERSIDE (SOFFIT) OF TIMBER LAMINATED DECK

SCALE 1:75



TYPICAL ABUTMENT

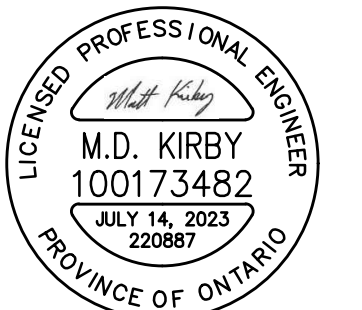
LOOKING SOUTH

SCALE 1:50

KEY PLAN

DATE	REV.	REVISION	BY	APP'D
23.07.14	A	ISSUED FOR TENDER	CM	MK

ENGINEER'S SEAL:



CLIENT:



**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. -P0R 1H0

CONSULTANT:



DRAWING TITLE:

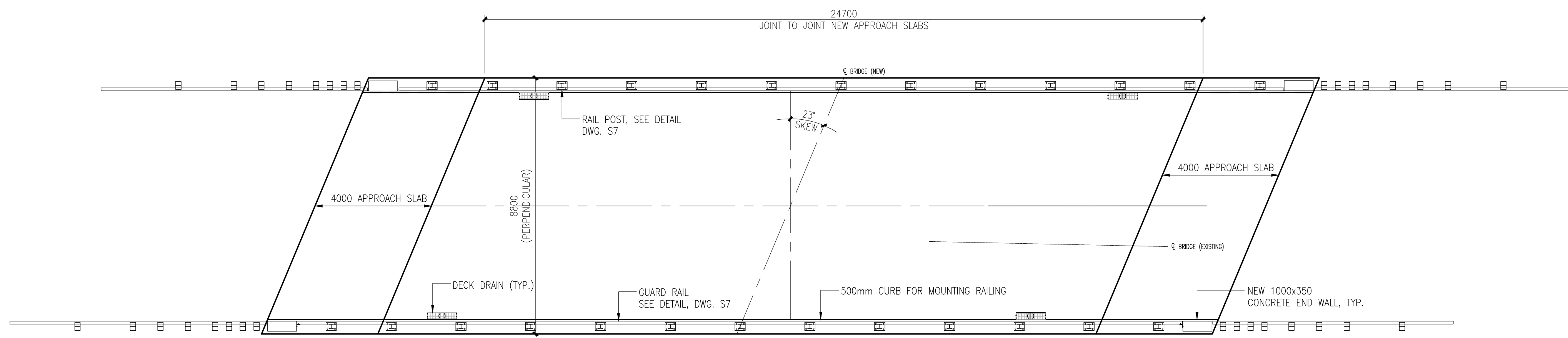
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REPLACEMENT  
EXISTING CONDITIONS  
AND REMOVALS**

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DRAWN	DESIGNED	CHECKED	APPROVED

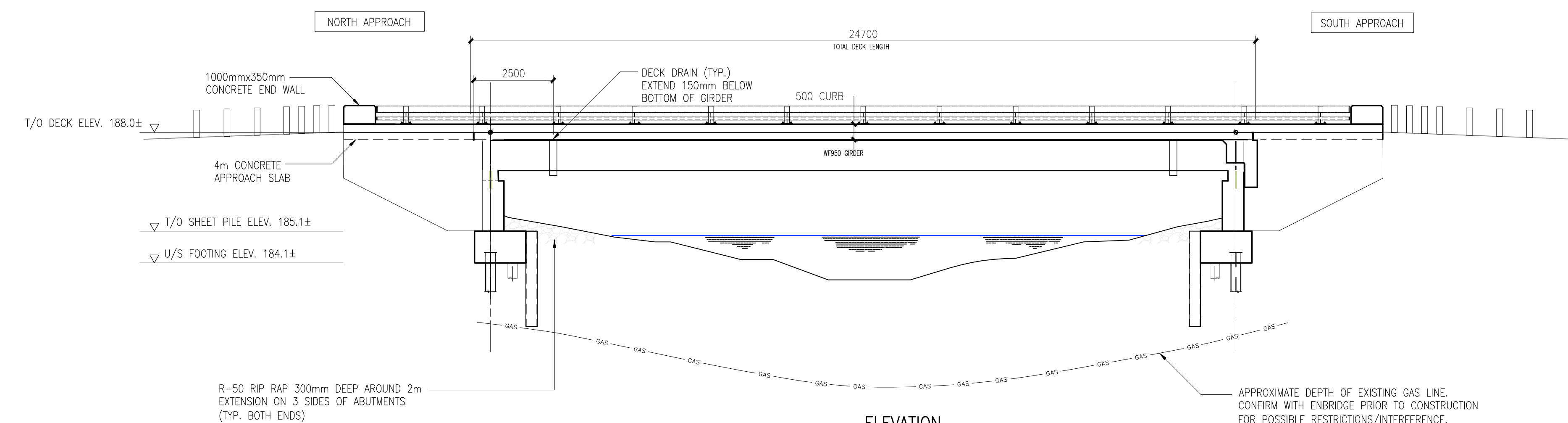
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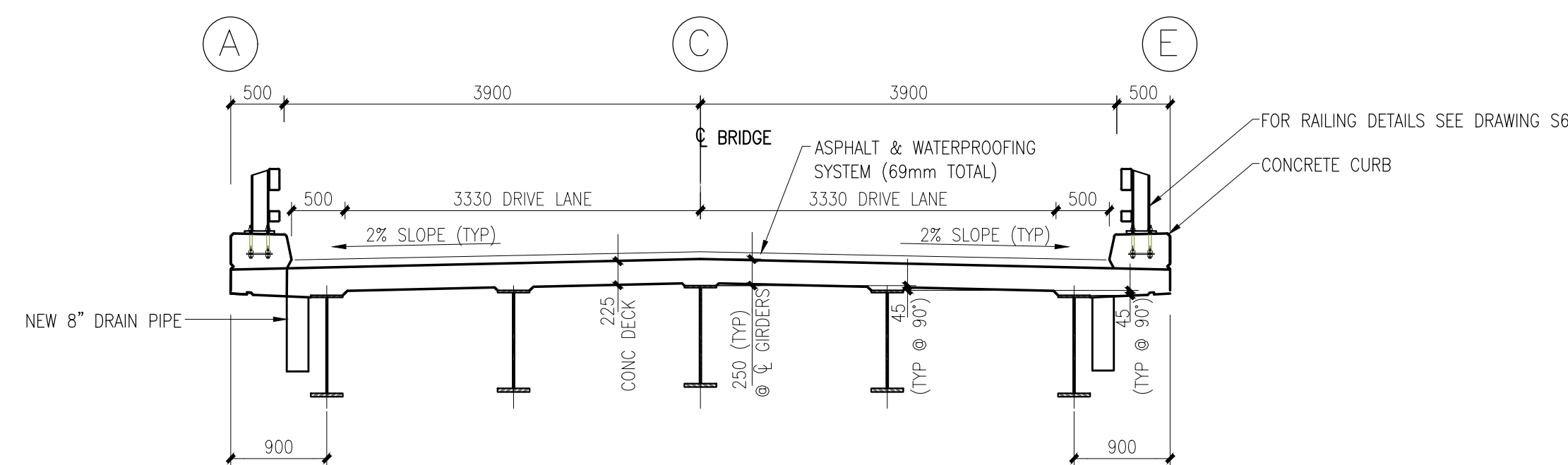
220887	A	R1
PROJECT No.	REVISION	DRAWING



PLAN  
SCALE 1:100



ELEVATION  
LOOKING EAST  
SCALE 1:100



SECTION A  
TYPICAL BRIDGE SECTION BEYOND DECK DRAIN  
SCALE 1:50

APPLICABLE STANDARD DRAWINGS

OPSD - 202.010	EMBANKMENT CONSTRUCTION (USING EXCESS MATERIAL OUTSIDE OF EARTH OR ROCK FILL)
OPSD - 912.430	GUIDE RAIL SYSTEM, STEEL BEAM STRUCTURE CONNECTION
OPSD - 3000.100	FOUNDATION PILES - STEEL H PILE DRIVING SHOE DETAILS
OPSD - 3000.150	WALLS ABUTMENT, BACKFILL MINIMUM GRANULAR REQUIREMENTS
OPSD - 3101.150	DECK - GIRDERS, STEEL - METHOD OF OBTAINING SCAFFOLD ELEVATIONS
OPSD - 3311.100	DECK REINFORCEMENT - SUPPORTS FOR REIN. STEEL FOR SLAB DEPTH 300mm OR LESS
OPSD - 3329.100	DECK - DRAINS WITH TRANSVERSE BAR OPENINGS
OPSD - 3340.150	DECK WATERPROOFING - HOT APPLIED ASPHALT MEMBRANE WITH PROTECTION BOARD - DETAILS
OPSD - 3370.100	DECK WATERPROOFING - HOT APPLIED ASPHALT MEMBRANE ACTIVE CRACKS GREATER THAN 2mm WIDE AND CONSTRUCTION JOINTS
OPSD - 3390.100	DECK - DRIP CHANNEL
OPSD - 3419.100	BARRIERS AND RAILINGS - STEEL - GUIDE RAIL AND CHANNEL ANCHORAGE
OPSD - 3941.200	FIGURES IN CONCRETE - SITE NUMBER AND DATE LAYOUT
OPSD - 3950.100	JOINTS - CONCRETE EXPANSION AND CONSTRUCTION ON STRUCTURAL

GENERAL NOTES:

- ALL WORK SHALL CONFORM TO CAN/CSA-S6-14 CANADIAN BRIDGE DESIGN CODE, THE LATEST EDITION PROVINCIAL BUILDING CODE, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- DO NOT SCALE THESE DRAWINGS. DRAWING SCALE MAY BE INACCURATE FROM REPRODUCTION.
- COMMENCEMENT OF THE WORK IMPLIES THAT THE CONTRACTOR HAS COMPLETED ALL NECESSARY FIELD CHECKS, AND IS SATISFIED WITH THE ACCURACY OF THE WORK AND IS RESPONSIBLE FOR ITS CORRECTNESS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LAYOUT AND CONSTRUCTION SURVEY AS REQUIRED TO ENSURE THAT ALL CONSTRUCTION IS WITHIN THE APPROPRIATE RIGHTS OF WAY AND OR UTILITY EASEMENTS AND THAT CONSTRUCTION IS TO THE LINES AND GRADES OF THE CONTRACT DOCUMENTS.
- THE POSITION OF EXISTING ABOVE OR UNDERGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE PLANS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES (PUBLIC OR PRIVATE) AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AT HIS OWN COST, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND COSTS FOR APPROVED REPAIRS.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFETY BARRIERS AROUND ANY OPEN EXCAVATIONS.
- ALL DIMENSIONS ARE IN METRIC UNLESS NOTED OTHERWISE.
- SAW CUT EX. ASPHALT SURFACES AND PROVIDE SMOOTH TIE-IN BETWEEN EXISTING & NEW GRADES.

CONSTRUCTION NOTES

- THE CONTRACTOR SHALL ESTABLISH THE BEARING SEAT ELEVATIONS BY DEDUCTING THE ACTUAL BEARING THICKNESS FROM THE TOP OF BEARING ELEVATIONS. IF THE ACTUAL BEARING THICKNESS IS DIFFERENT FROM THOSE GIVEN WITH THE BEARING DESIGN DATA, THE CONTRACTOR SHALL ADJUST THE REINFORCING STEEL TO SUIT.
- NO BACKFILL SHALL BE PLACED BEHIND ABUTMENTS UNTIL DECK CONCRETE HAS REACHED 75% OF ITS SPECIFIED STRENGTH. BACKFILL SHALL BE PLACED SIMULTANEOUSLY BEHIND BOTH ABUTMENTS KEEPING THE HEIGHT OF THE BACKFILL APPROXIMATELY THE SAME. AT NO TIME SHALL THE DIFFERENCE IN ELEVATIONS BE GREATER THAN 500mm.

SOILS NOTES

- SHOULD UNUSUALLY SOFT SOILS BE ENCOUNTERED DURING EXCAVATION NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL GRANULAR MATERIAL SHALL BE COMPACTED TO A STANDARD PROCTOR DENSITY OF 98% AND SHALL BE PLACED IN MAXIMUM 200mm LAYERS OF LOOSE MATERIAL.

CONCRETE NOTES

ALL WORK SHALL CONFORM TO THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) LATEST REVISION AND CHBDC DESIGN CODE 2014.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

- CLASS OF CONCRETE
  - CONCRETE IS SPECIFIED USING ALTERNATIVE NUMBER (1) OF CSA A23.1-14 TABLE 5 AS FOLLOWS:
 

PARAMETER	WING WALLS, ABUTMENTS AND SLABS
EXPOSURE CLASS (TABLE 1)	C1
AIR CONTENT CATEGORY (TABLE 4)	1
MAX. W/C RATIO (TABLE 2)	0.4
CURING TYPE (TABLE 19)	2 - AMENDED TO 7 DAYS TOTAL AT > 10°C AND THE TIME NECESSARY TO ATTAIN 75% OF THE SPECIFIED STRENGTH
MIN. COMPRESSIVE STRENGTH @ 28 DAYS	35 MPA
- AT LEAST ONE WEEK PRIOR TO CONCRETE PLACEMENT THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW THE FOLLOWING
  - A VALID "CERTIFICATE OF READY MIXED CONCRETE PRODUCTION FACILITIES" OR A VALID "CERTIFICATE OF MOBILE MIX CONCRETE PRODUCTION FACILITIES" AS ISSUED BY THE "READY MIXED CONCRETE ASSOCIATION OF ONTARIO" TO THE PLANT BEING USED.
  - A COMPLETED "CONCRETE MIX DESIGN SUBMISSION FORM"
  - A QUALITY PLAN THAT DESIGNATES A SPECIFIED SLUMP OR SOME OTHER MEASURE OF WORKABILITY
  - TEST RESULTS TO SHOW COMPLIANCE WITH CSA A23.1 CLAUSE 4.3.3 - AIR VOID SYSTEM OF HARDENED CONCRETE.
  - TEST RESULTS TO SHOW COMPLIANCE WITH CSA A23.1 CLAUSE 4.1.1.2 - WATER-SOLUBLE CHLORIDE ION CONTENT.
  - STATISTICAL STRENGTH TEST ANALYSIS TO CONFIRM THE STRENGTH LEVEL FOR EACH CLASS OF CONCRETE INCLUDING THE EXPECTED 7/28-DAY STRENGTH RATIO (AS PER CSA A23.1 CLAUSE 4.4.6.7)

REINFORCING STEEL

- FABRICATION AND PLACING OF REBAR TO BE IN ACCORDANCE WITH CSA A23.1 AND THE REINFORCING STEEL INSTITUTE OF CANADA'S "REINFORCING STEEL MANUAL OF STANDARD PRACTICE"
- REBAR SUPPORTS AS PER OPSD 3329.100
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO CSA G30.18 M04.FY=400 MPA (GRADE 400)
- CONCRETE SHALL NOT BE POURED UNTIL REBAR HAS BEEN INSPECTED BY THE ENGINEER.
- UNLESS SHOWN OTHERWISE, LAP LENGTHS NOT INDICATED ON THE CONTRACT DRAWINGS SHALL BE CLASS "B" AS PER CHBDC-S6-14
- BAR HOOKS, WHERE REQUIRED SHALL BE MINIMUM LENGTH AND STIRRUPS SHALL HAVE MINIMUM HOOKS (SEE DWG. S9) UNLESS INDICATED OTHERWISE.
- CLEAR COVER TO REINFORCING STEEL PER CHBDC-S6-14 UNLESS NOTED OTHERWISE
  - DECK - TOP - 70 ± 20
  - BOTTOM - 50 ± 10
  - REMAINDER UNLESS OTHERWISE NOTED - 70 ± 20
- SUPPORTS FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH OPSD 3922.010

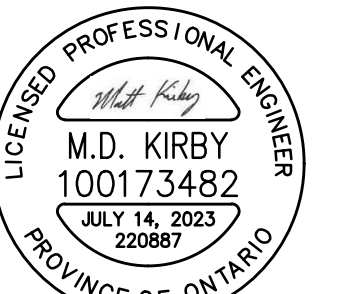
BRIDGE DECK WATERPROOFING NOTES:

- USE BAKOR OR APPROVED EQUAL 790-11 MTO GRADE HOT APPLIED RUBBERIZED WATERPROOFING / ROOF MEMBRANE TO BRIDGE DECK.
- APPLY BAKOR OR APPROVED EQUAL 930-18 PRIMER OR 910.01 PRIMER ACCORDING TO PROJECT REQUIREMENTS.
- BOTH HORIZONTAL AND VERTICAL AREAS MUST BE PROTECTED, BAKOR OR APPROVED EQUAL 990-31 PROTECTION BOARD SHALL BE USED WHERE ASPHALT PAVING TRAFFIC SURFACES WILL BE INSTALLED DIRECTLY OVER THE PROTECTION LAYER.
- DECK WATERPROOFING SHALL BE IN ACCORDANCE WITH OPSD 3370.100

KEY PLAN


23.07.14	A	ISSUED FOR TENDER	CM	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:



CLIENT:



Municipality of Huron Shores  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. -P0R 1H0

CONSULTANT:



DRAWING TITLE:

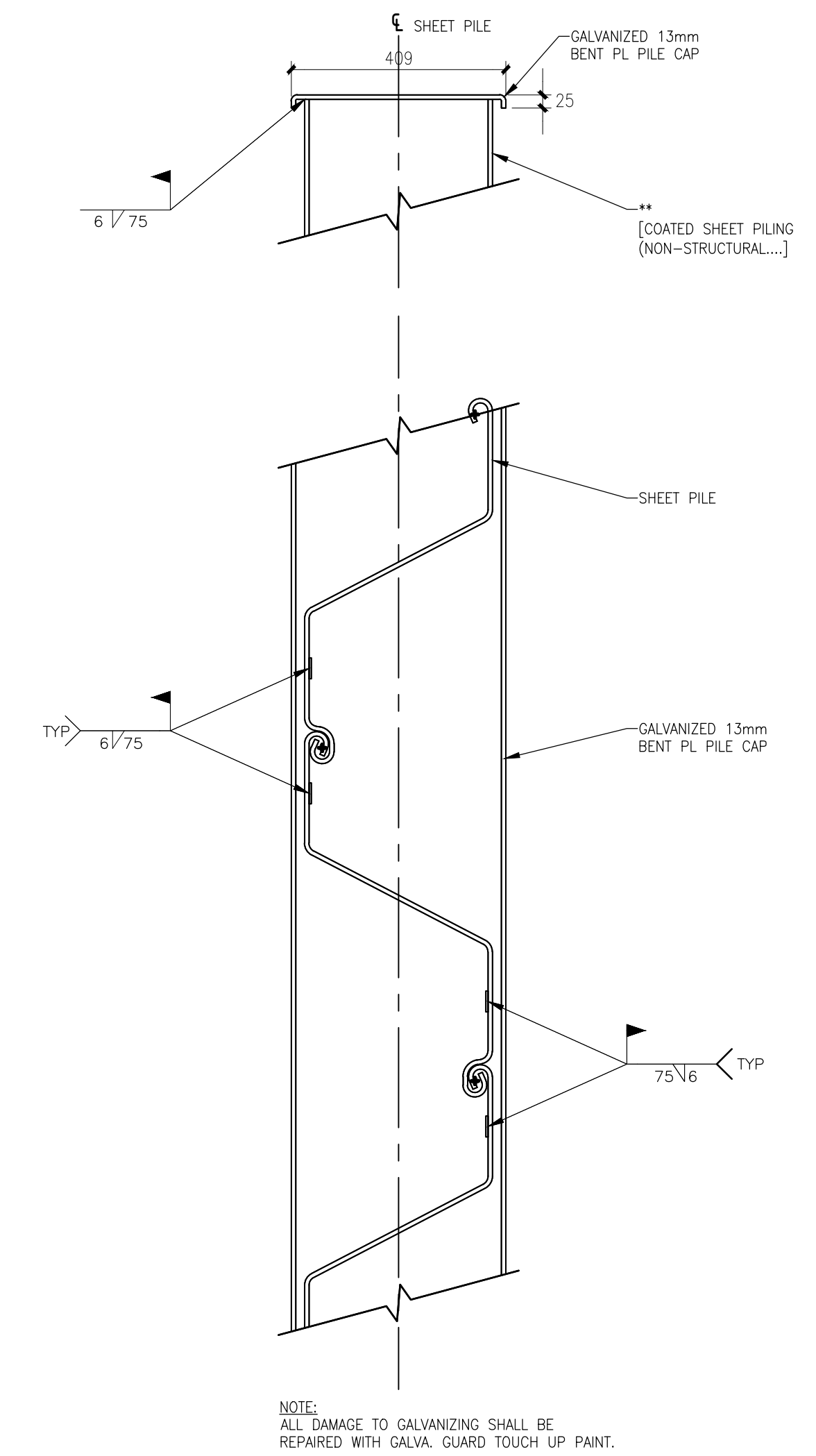
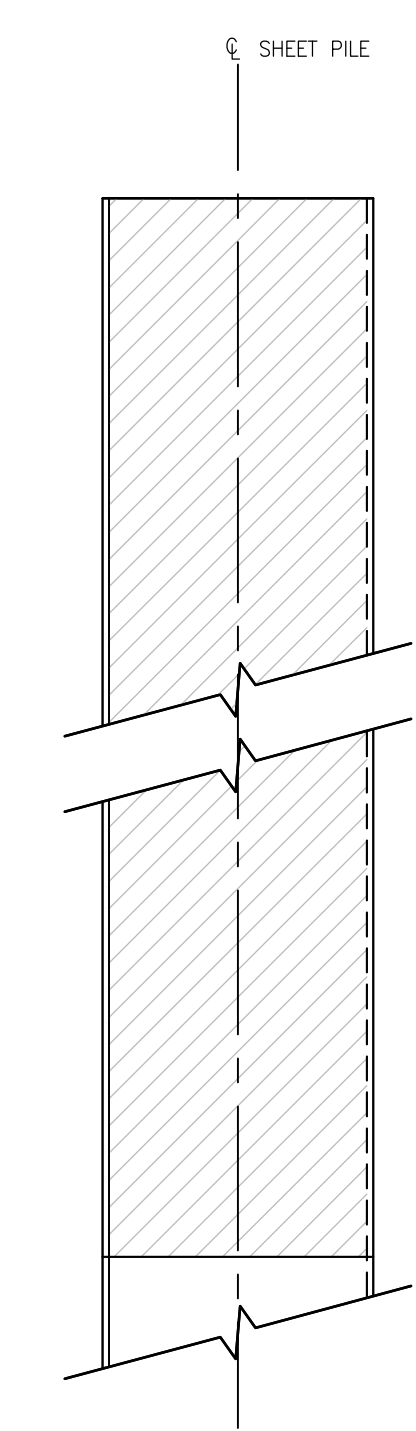
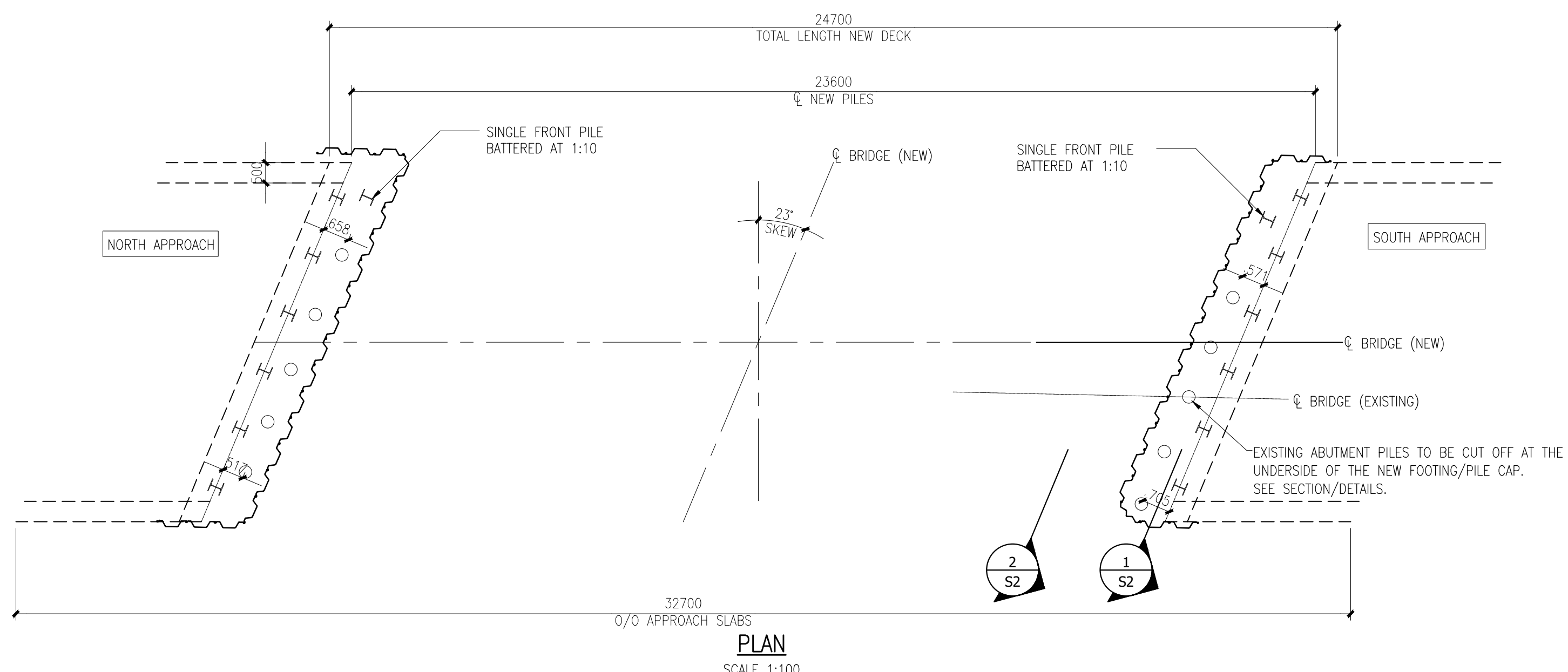
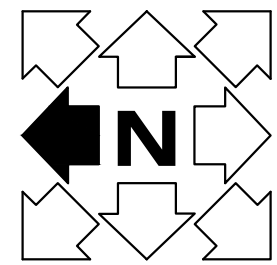
POTOMAC BRIDGE  
REPLACEMENT  
GENERAL ARRANGEMENT

CM	MK	KL	MK
DRAWN	DESIGNED	CHECKED	APPROVED

As Noted	MAY 24, 2023
SCALE	DATE

220887	A	S1
PROJECT No.	REVISION	DRAWING





NOTE:  
ALL DAMAGE TO GALVANIZING SHALL BE REPAIRED WITH GALVA. GUARD TOUCH UP PAINT.

DETAIL  
SHEET PILING  
SCALE 1:10

**SHEET PILING NOTES**

- STEEL SHEET PILING SHALL BE CANADIAN METAL ROLLING MILLS 'S' SERIES SECTION S-80 OR APPROVED ALTERNATE.
- STEEL TO BE IN ACCORDANCE WITH CSA G40.21 GRADE 350W.
- SHEET PILING TO BE IN ACCORDANCE WITH ASTM A328.
- SHEET PILES TO BE DRIVEN USING A TEMPLATE DESIGNED BY THE CONTRACTOR AND SHALL BE CAPABLE OF MAINTAINING TOP OF SHEET PILE ±40mm VERTICALLY AND ±50mm HORIZONTALLY FROM POSITION INDICATED ON THE DRAWINGS.
- SHEET PILING TO BE DRIVEN TO ELEVATIONS SHOWN.
- THE CONTRACTOR SHALL ENSURE THE STABILITY OF ALL COMPONENTS DURING HANDLING, TRANSPORTATION, ERECTION AND UNTIL THE STRUCTURAL SYSTEMS ARE IN THEIR FINAL LOCATION WITH ALL PERMANENT CONNECTIONS AND SUPPORTS IN PLACE.
- THE PILE DRIVING EQUIPMENT SHALL BE APPROPRIATE FOR THE DRIVING CONDITIONS AND CAPABLE OF DELIVERING A MINIMUM SPECIFIED HAMMER ENERGY OF 26 kJ MAXIMUM HAMMER ENERGY NOT TO EXCEED 35 kJ.

**PILE DRIVING NOTES**

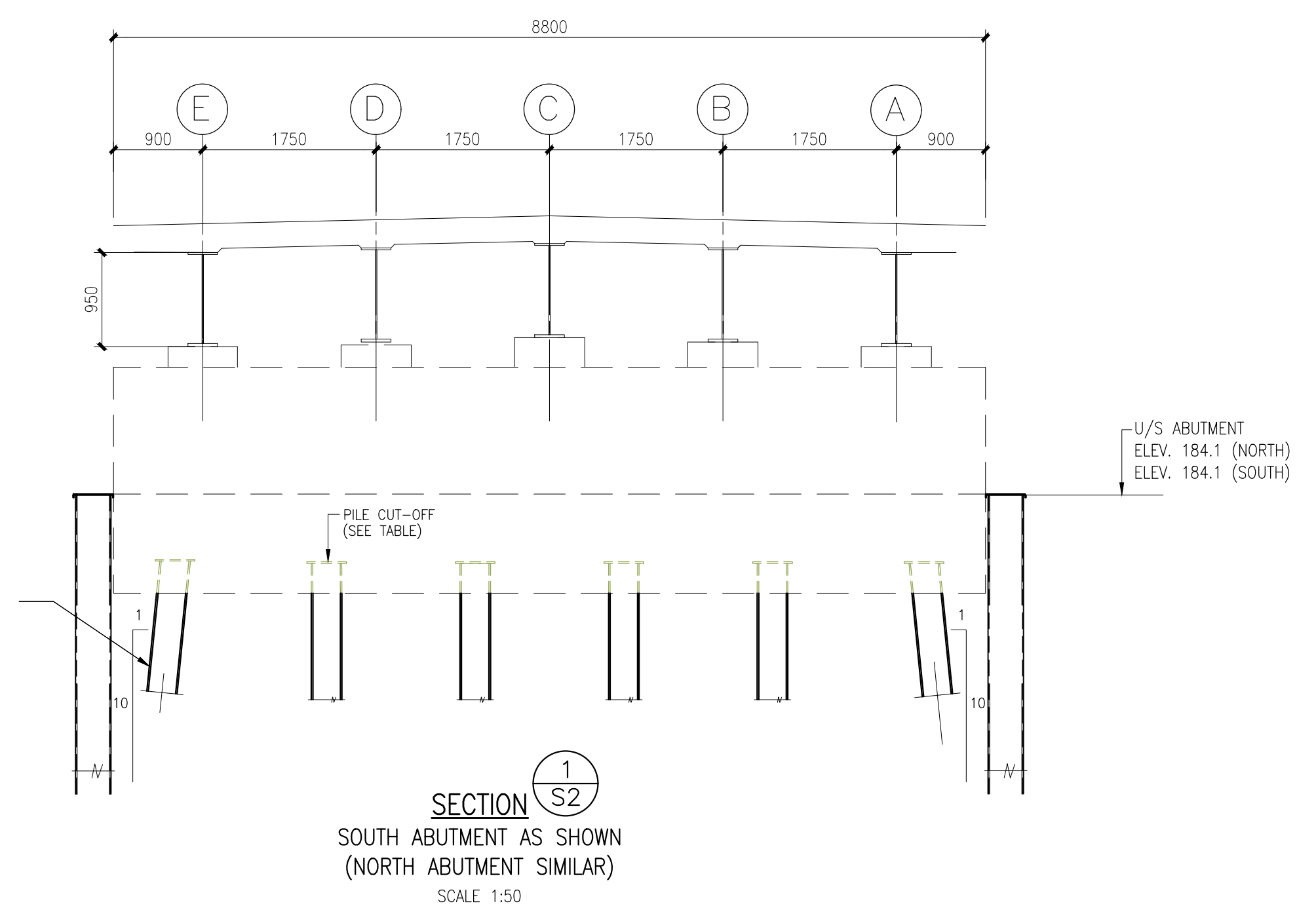
- PILE SPACING IS MEASURED AT THE TOP OF PILES AFTER INSTALLATION.
- PILE LENGTHS SHOWN ARE THEORETICAL LENGTHS BELOW CUT-OFF.
- CONTRACTOR SHALL SUBMIT DRIVING CRITERIA (METHODOLOGY, EQUIPMENT AND PDA TESTING).
- PDA TESTING SHALL BE COMPLETED ON 1ST AND LAST PILE OF EACH ABUTMENT TO CONFIRM RESISTANCES AND ESTABLISH SET CRITERIA AND LENGTHS.
- PILES SHALL BE MONITORED FOR MOVEMENT (SINK OR HEAVE) DURING ALL DRIVING ACTIVITIES.
- ALL PILE INSTALLATIONS AS PER OPSS 903.

**PILE DESIGN DATA:**

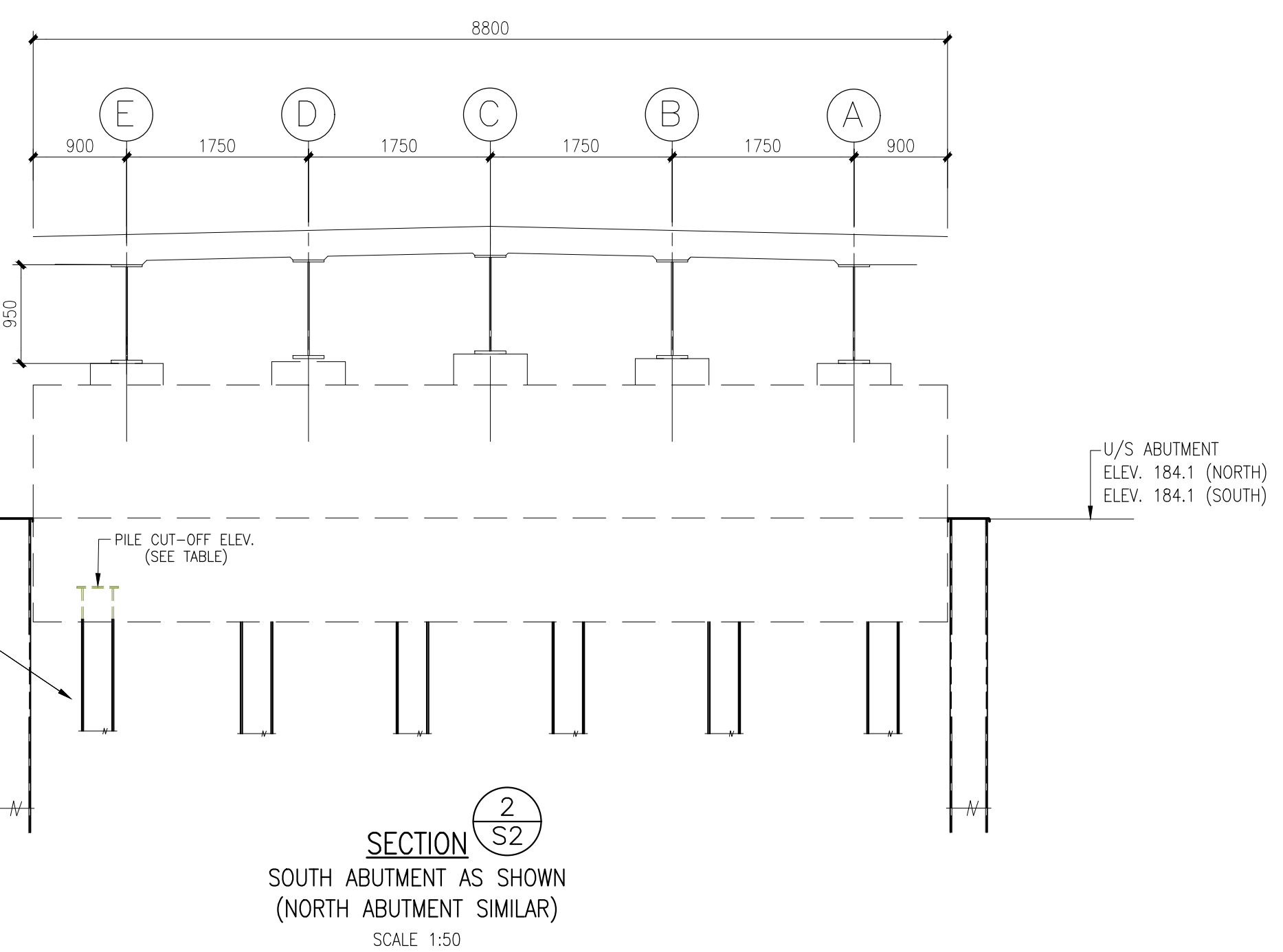
- MAXIMUM COMBINED FACTORED LOAD PER ABUTMENT BY TULLOCH ENGINEERING = 3865 kN

WORKING POINT DATA			
W.P. STATION	CO-ORDINATES		EAST
	NORTH	EAST	
1	9+988.196	5128447.927	329145.931
2	10+011.804	5128471.509	329147.051

HP310x110 PILE DATA					
LOCATION	QTY.	OUT-OFF ELEV. (m)	PILE TIP ELEV. (m)	LENGTH (mm)	BATTER
NORTH ABUTMENT	6	184.4	162.4	24±	VERTICAL
	2	184.4	162.4	24±	1:10
	1	184.4	162.4	15.2±	1:10
SOUTH ABUTMENT	6	184.4	162.4	24±	VERTICAL
	2	184.4	162.4	24±	1:10
	1	184.4	162.4	15.2±	1:10



HP310x110 STEEL PILE (TYP) 1:10 FORWARD BATTER



KEY PLAN


23.07.14	A	ISSUED FOR TENDER	CM	MK
DATE (D/M/Y/GW)	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:



CLIENT:



**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. -P0R 1H0

CONSULTANT:



DRAWING TITLE:

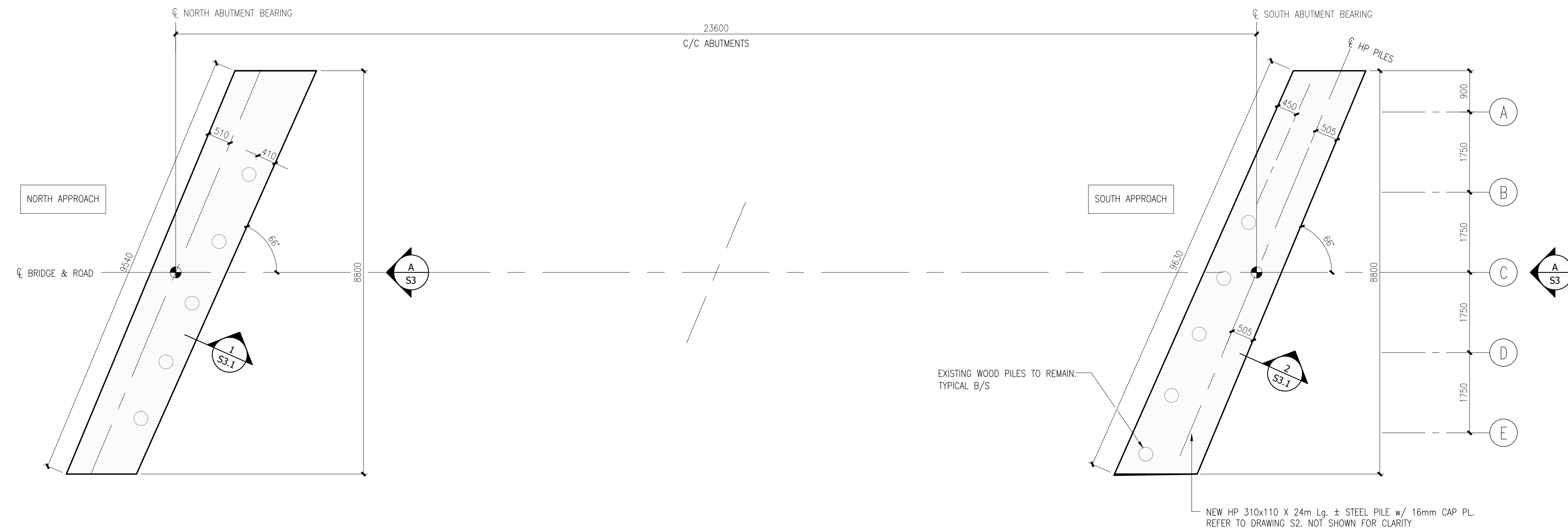
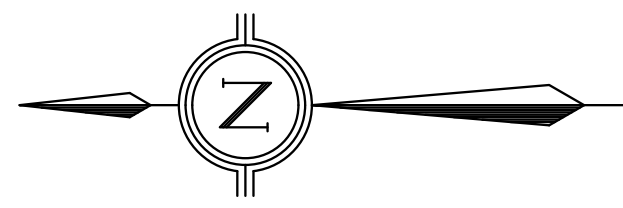
**POTOMAC BRIDGE REPLACEMENT FOUNDATION LAYOUT AND PILE DATA**

CM	MK	KL	MK
DRAWN	DESIGNED	CHECKED	APPROVED

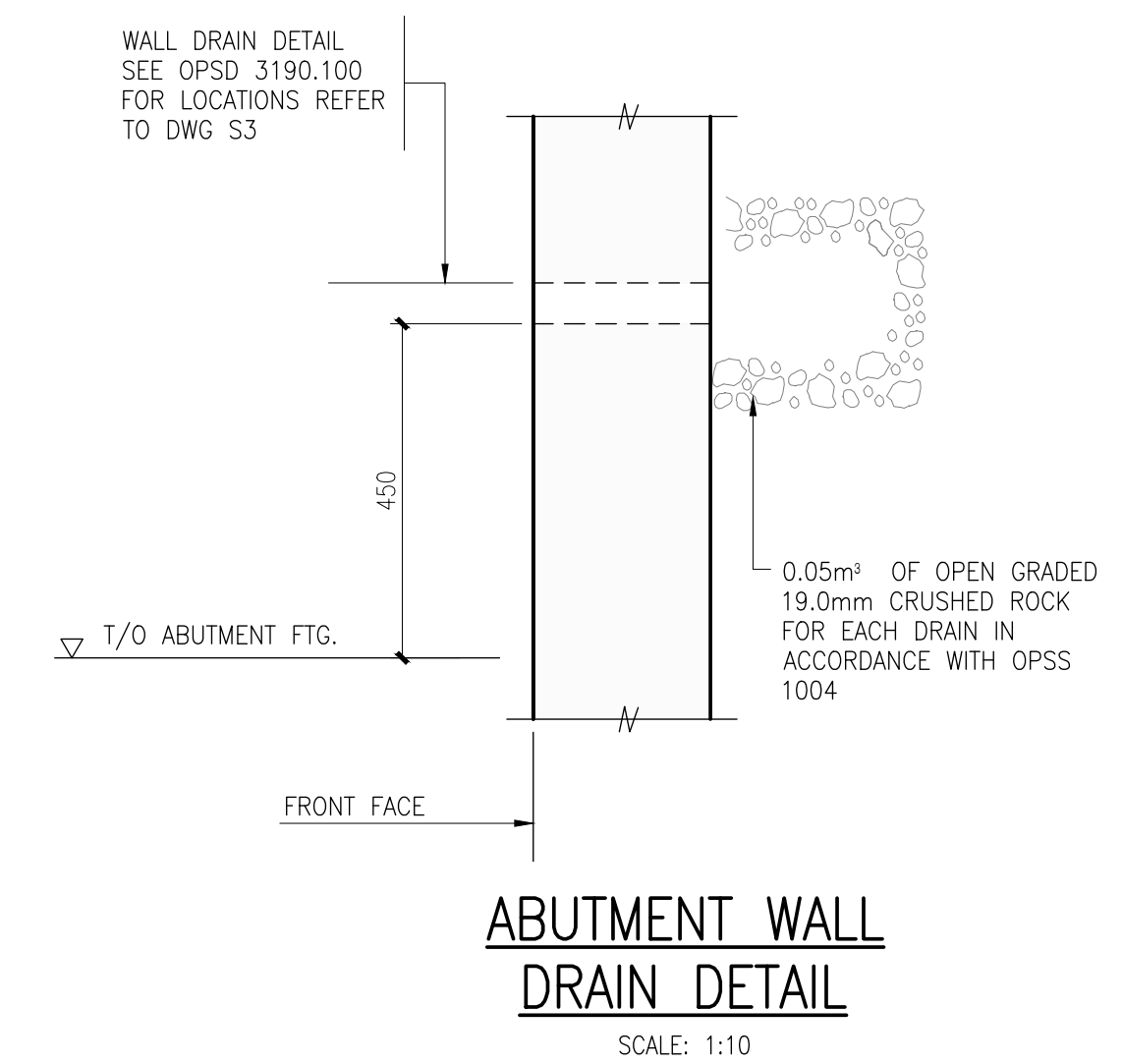
As Noted MAY 24, 2023

SCALE	DATE
220887	A S2
PROJECT No.	REVISION DRAWING

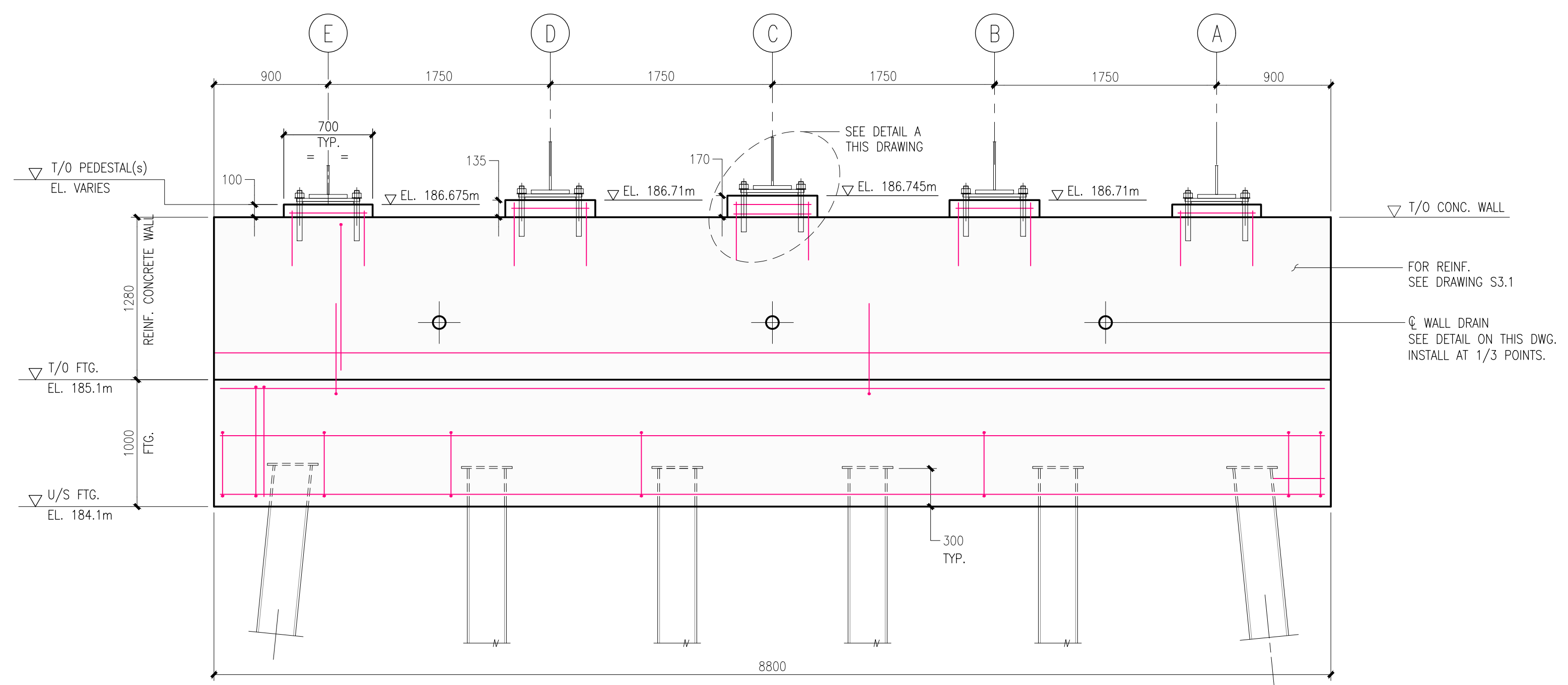
P:\2023\220887 - Potomac Bridge Replacement - 58803.DWG (03/02/2023) - M.D. Kirby - 100173482 - July 14, 2023 - 10:48 AM



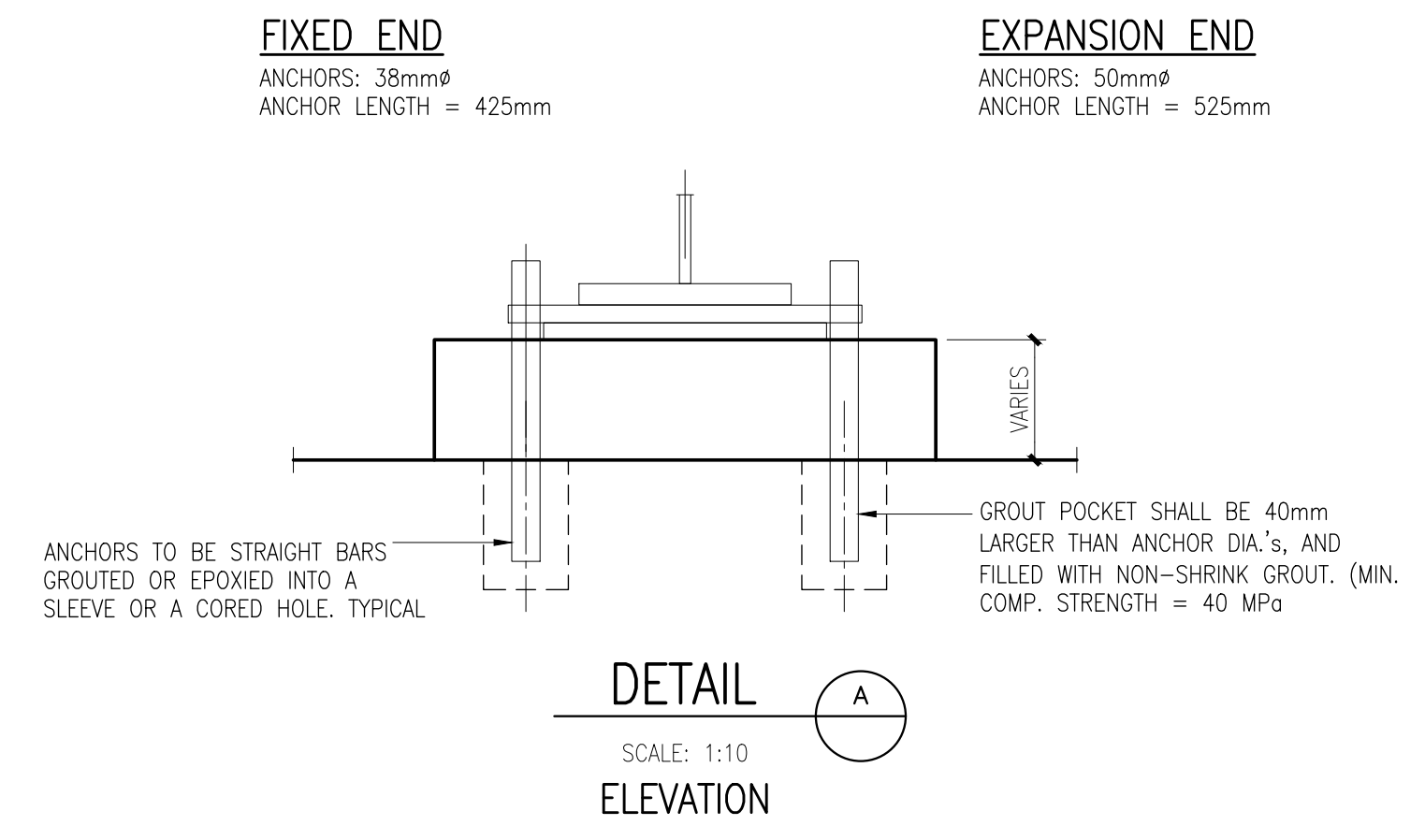
**ABUTMENT PLAN**  
SCALE: 1:60



**ABUTMENT WALL DRAIN DETAIL**  
SCALE: 1:10



**ELEVATION ABUTMENT REINFORCING**  
SCALE: 1:30



**DETAIL ELEVATION**  
SCALE: 1:10

**KEY PLAN**


23.07.16	0	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:

CLIENT:

**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON - P0R 1H0

CONSULTANT:

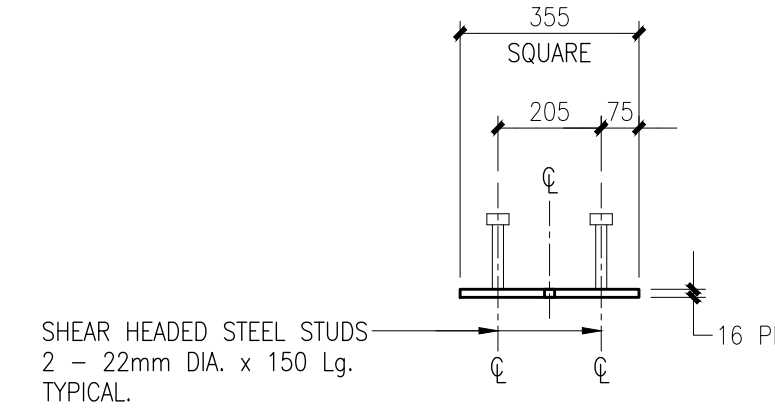
DRAWING TITLE:  
**POTOMAC BRIDGE REPLACEMENT**  
**NORTH & SOUTH ABUTMENTS**  
**PLAN & SECTION - REINF.**

<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED
<b>As Noted</b>		<b>MAY 24, 2023</b>	
SCALE		DATE	
<b>220887</b>	<b>0</b>	<b>S3</b>	
PROJECT No.	REVISION	DRAWING	

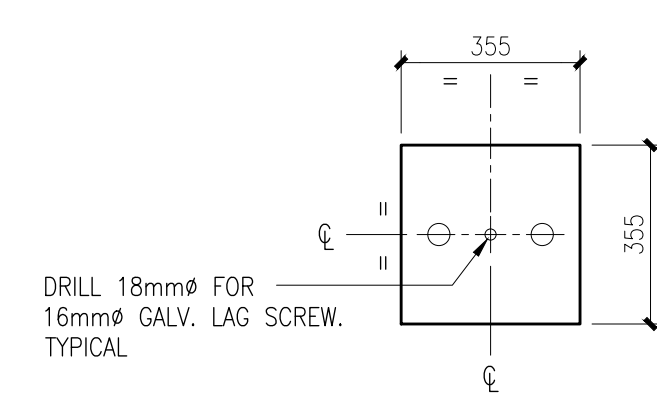
P:\2023\220887 - Potomac Bridge Replacement - Huron Shores - Potomac Bridge Replacement - July 12, 2023.dwg  
 P:\2023\220887 - Potomac Bridge Replacement - Huron Shores - Potomac Bridge Replacement - July 12, 2023.dwg

ELASTOMERIC BEARING DATA

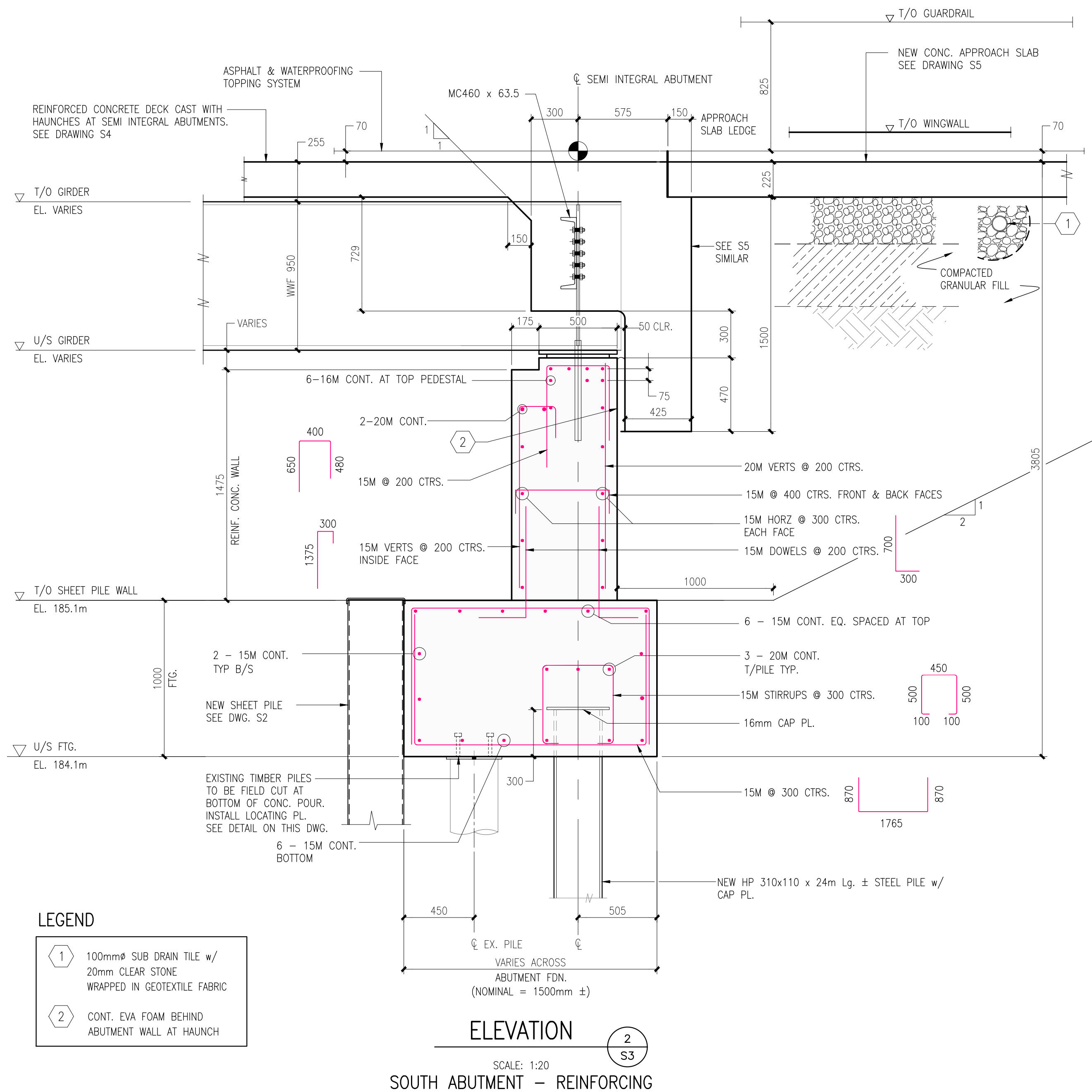
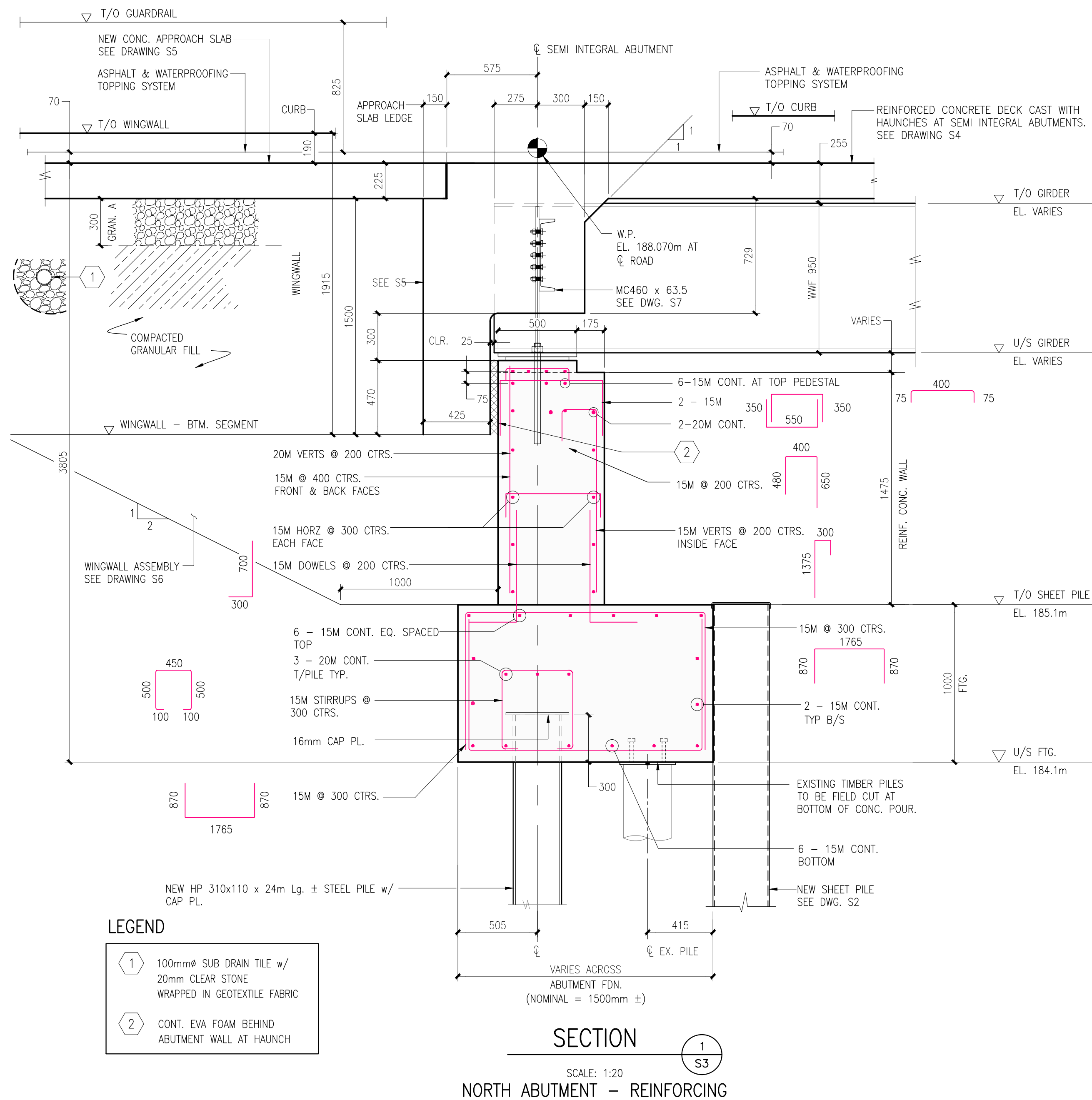
LOCATION		ABUTMENTS
TYPE		PLAIN NATURAL RUBBER DUROMETER 50
SIZE (mm)		400 x 300 x 25
NUMBER REQUIRED		10 (TOTAL)
SERVICEABILITY LIMIT STATES	DEAD LOAD (kN)	180
	TOTAL LOAD (kN)	395
	MOVEMENT (mm)	± 12
	ROTATION (radian)	0.00087
ULTIMATE LIMIT STATES	DEAD LOAD (kN)	210
	TOTAL LOAD (kN)	570



TIMBER PL.'s  
SCALE: 1:15  
ELEVATION



TIMBER PL.'s  
SCALE: 1:15  
PLAN



KEY PLAN


23.07.16	A	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:

CLIENT:

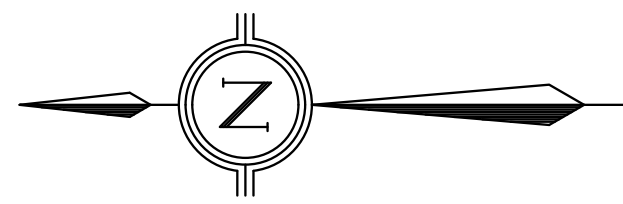
**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON - P0R 1H0

CONSULTANT:

DRAWING TITLE:

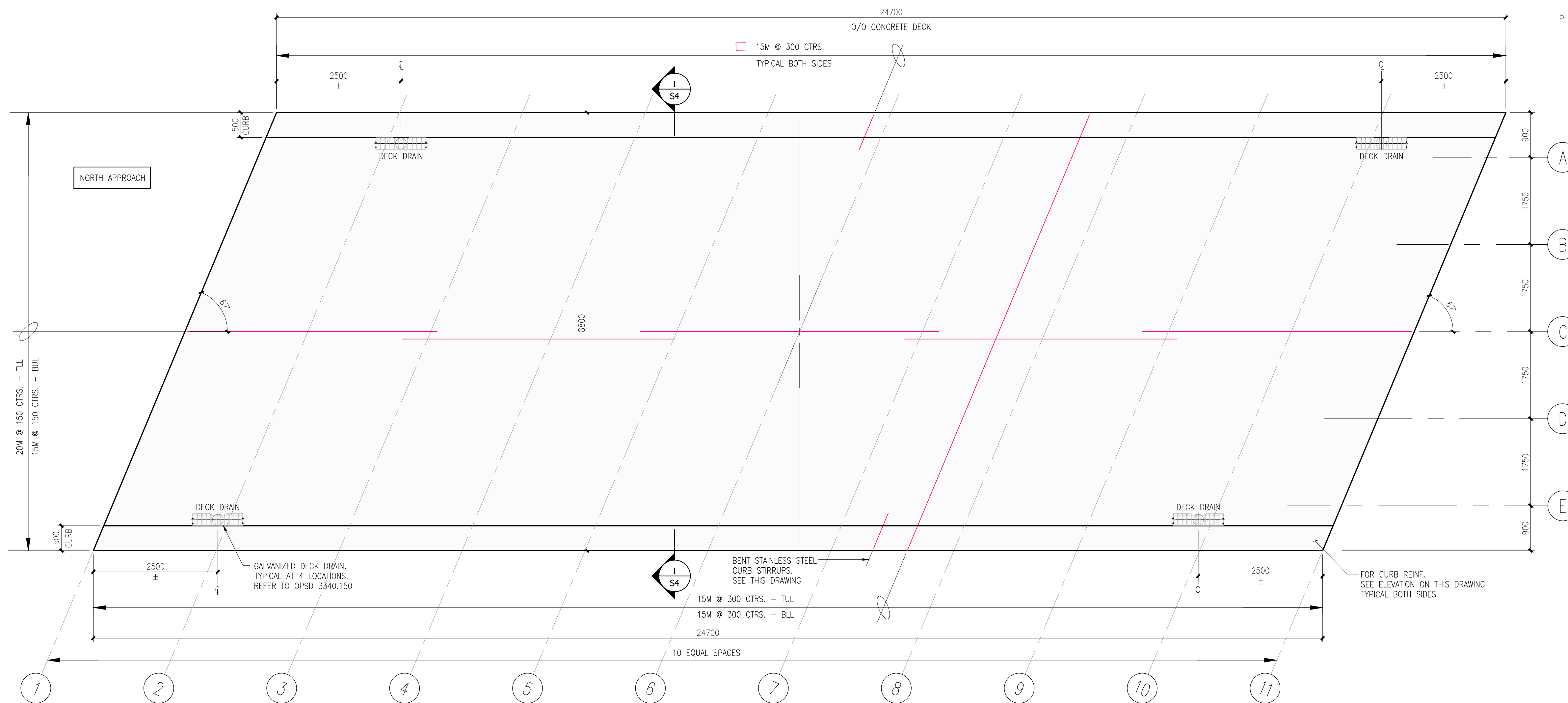
**POTOMAC BRIDGE  
REPLACEMENT  
NORTH & SOUTH ABUTMENTS  
ELEVATIONS - REINF.**

BWJ	MK	KL	MK
DRAWN	DESIGNED	CHECKED	APPROVED
As Noted		MAY 24, 2023	
SCALE		DATE	
220887	A	S3.1	
PROJECT No.	REVISION	DRAWING	



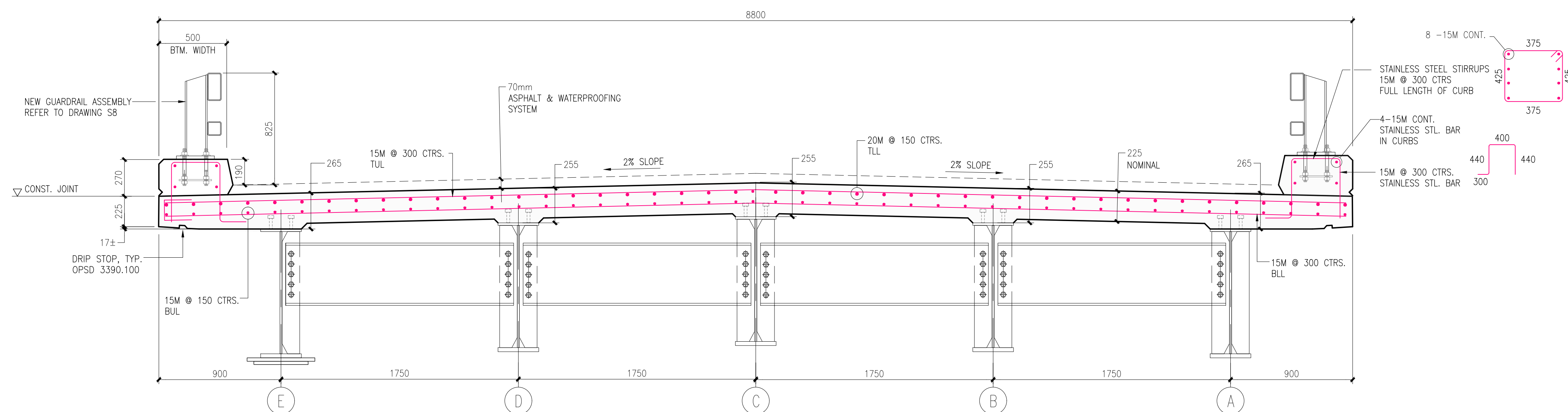
**NOTES:**

1. SCREED ELEVATIONS ARE TO TOP OF CONCRETE.
2. SCREEN ELEVATIONS SHOWN IN TABLE INCLUDE AN ALLOWANCE FOR ROADWAY PROFILE, WEIGHT OF DECK SLAB AND SUPERIMPOSED DEAD LOAD.
3. CONCRETE IN DECK SLAB SHALL BE TYPE "R" RETARDER FOR THE DURATION OF THE POUR.
4. CONCRETE HAUNCH AT THE BACK WALL OF ABUTMENT SHALL BE CAST INTEGRALLY WITH THE DECK SLAB.
5. CONCRETE IN PARAPET WALLS AND CONCRETE CURBS SHALL NOT BE PLACED UNTIL ALL CONCRETE IN DECK SLAB HAS REACHED 75% OF ITS SPECIFIED STRENGTH.



**CONCRETE DECK PLAN**

SCALE: 1:50



**SECTION**

SCALE: 1:20

**DECK REINFORCEMENT**

**SCREED ELEVATION (TOP OF DECK CONCRETE)**

LOCATION	POINT	A	B	C	D	E
NORTH ABUT.	1	187.94	187.965	188.00	187.965	187.94
	2	187.94	187.976	188.011	187.976	187.94
	3	187.962	187.987	188.022	187.987	187.962
	4	187.971	187.996	188.031	187.996	187.971
	5	187.977	188.002	188.037	188.002	187.977
MID-SPAN	6	187.98	188.005	188.040	188.005	187.98
	7	187.977	188.002	188.037	188.002	187.977
	8	187.971	187.996	188.031	187.996	187.971
	9	187.962	187.987	188.022	187.987	187.962
	10	187.951	187.976	188.011	187.976	187.951
SOUTH ABUT.	11	187.94	187.965	188.00	187.965	187.94

**APPLICABLE STANDARD DRAWINGS**

- OPSD - 3904.040 DRIP DETAIL
- OPSD - 3906.020 BRIDGE DECK WATERPROOFING
- OPSD - 3329.100 SUPPORTS FOR DECK REINFORCEMENT FOR SLABS LESS THAN 300mm DEPTH
- OPSD - 3310.100 METHOD OF OBTAINING SCREED ELEVATIONS FOR STEEL GIRDERS

**KEY PLAN**


23.07.16	A	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:

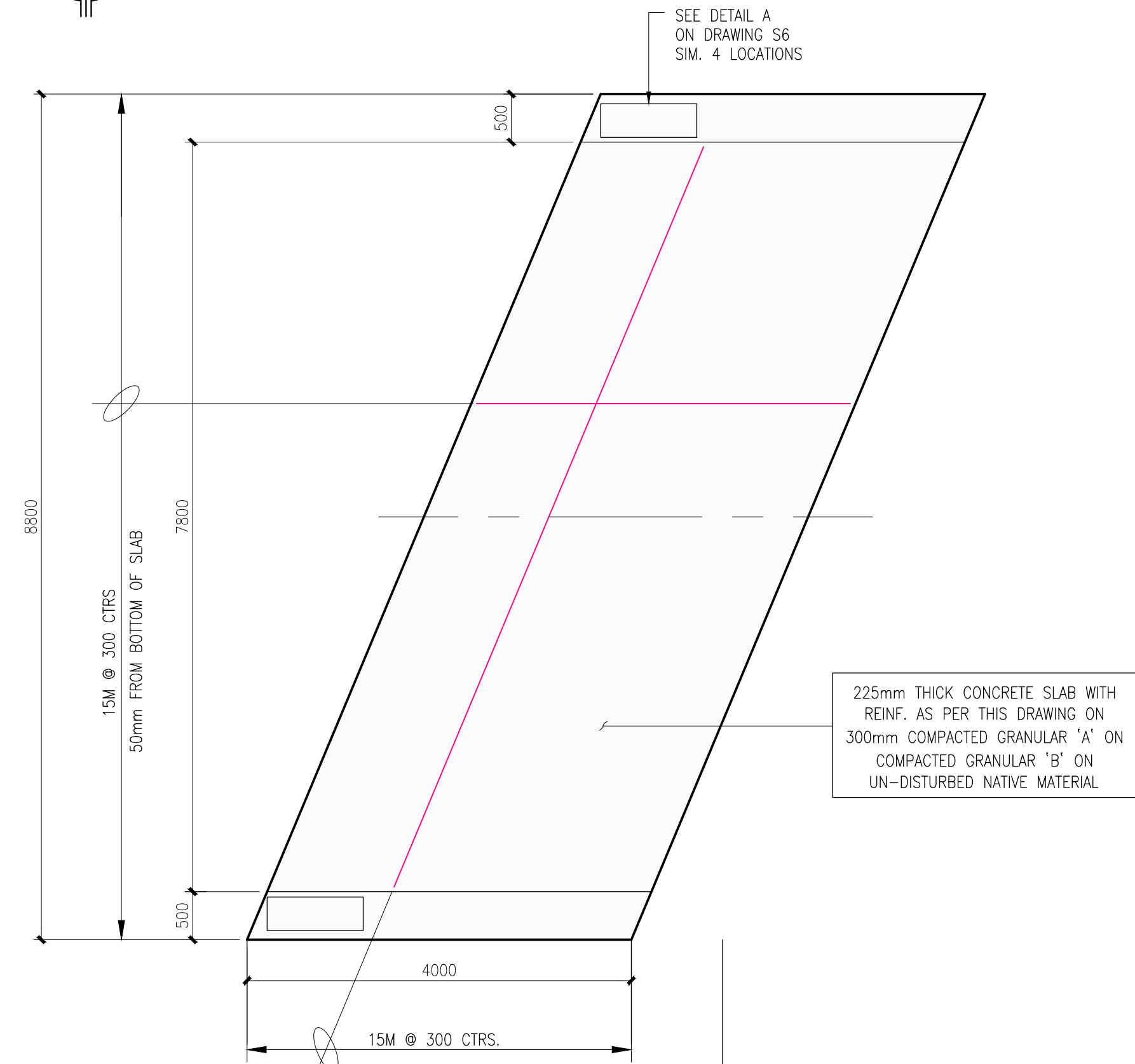
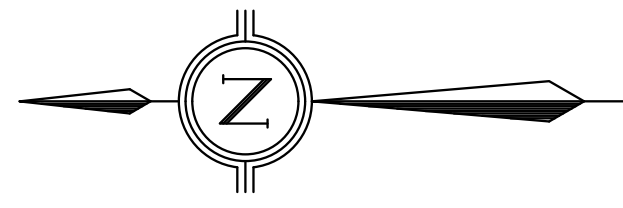
CLIENT:

**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. -P0R 1H0

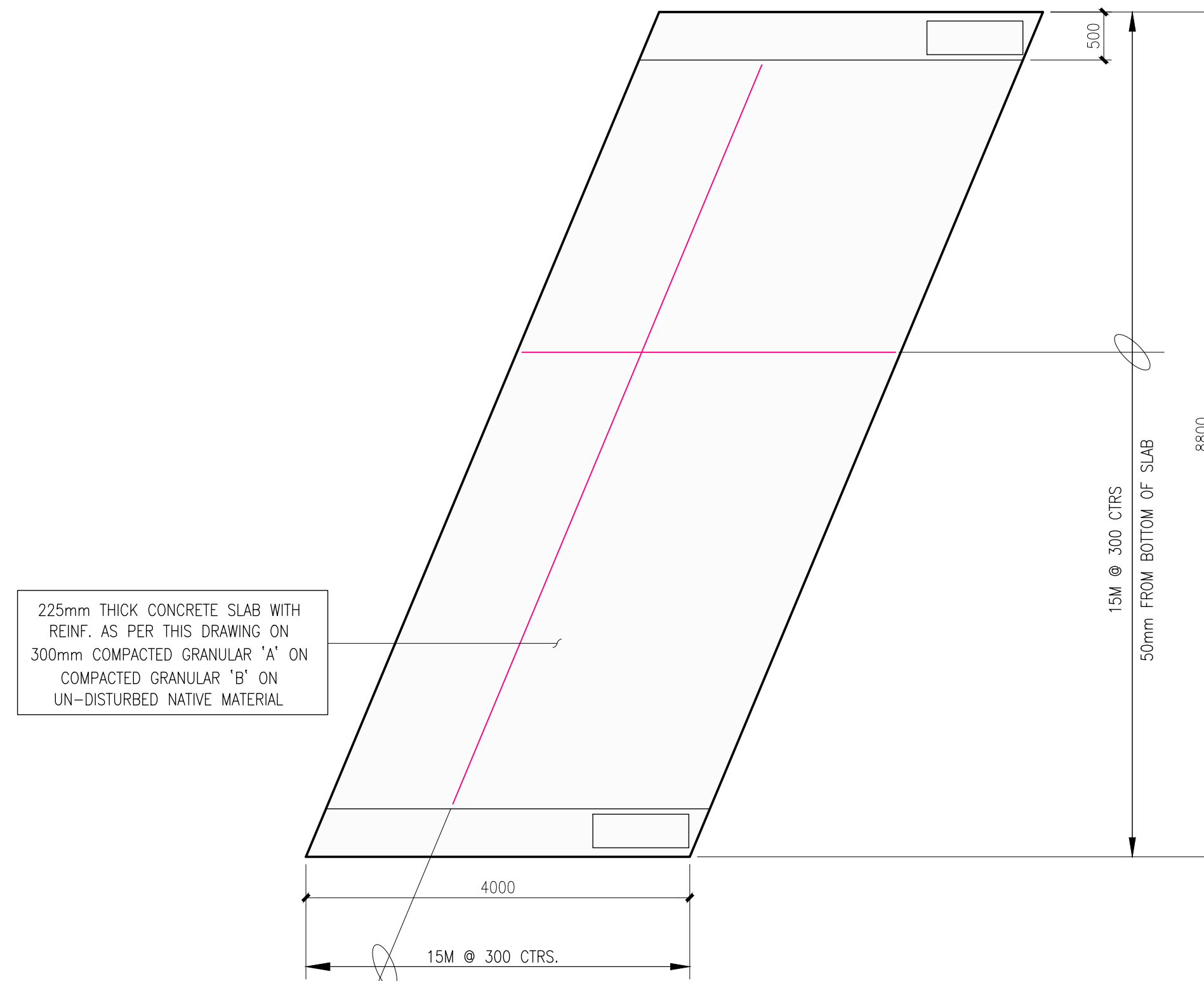
CONSULTANT:

**DRAWING TITLE:**  
**POTOMAC BRIDGE REPLACEMENT DECK - PLAN & SECTION REINFORCING**

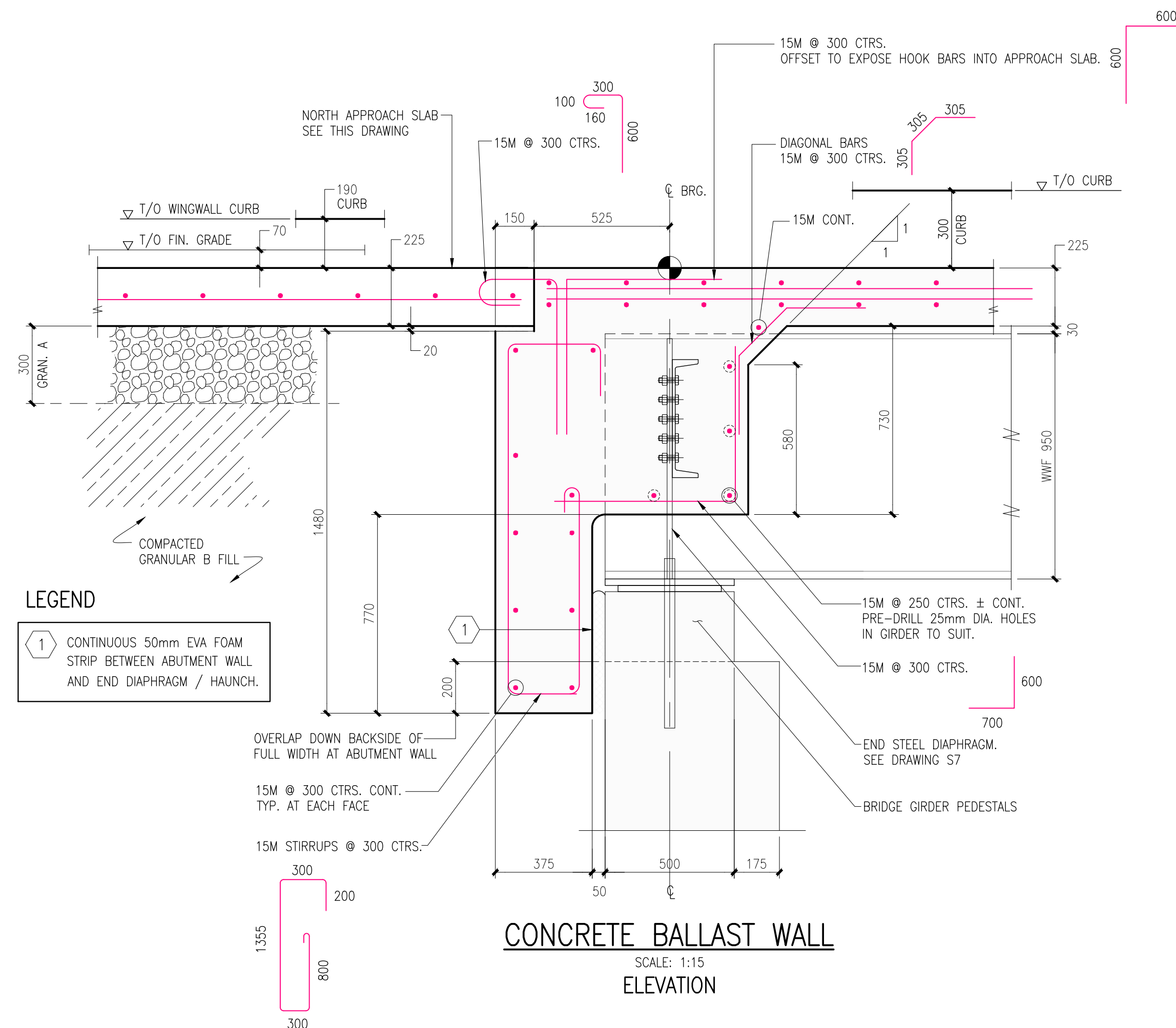
<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED
<b>As Noted</b>		<b>JUNE 22, 2023</b>	
SCALE		DATE	
<b>220887</b>	<b>A</b>	<b>S4</b>	
PROJECT No.	REVISION	DRAWING	



**NORTH APPROACH SLAB**  
SCALE: 1:50  
REINFORCING PLAN



**SOUTH APPROACH SLAB**  
SCALE: 1:50  
REINFORCING PLAN



**CONCRETE BALLAST WALL**  
SCALE: 1:15  
ELEVATION

KEY PLAN


DATE	REV.	REVISION	BY	APP'D
23.07.16	0	ISSUED FOR TENDER	BWJ	MK

ENGINEER'S SEAL:

CLIENT:

**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON -P0R 1H0

CONSULTANT:

DRAWING TITLE:  
**POTOMAC BRIDGE REPLACEMENT APPROACH SLAB DETAILS & CONC. BALLAST WALL**

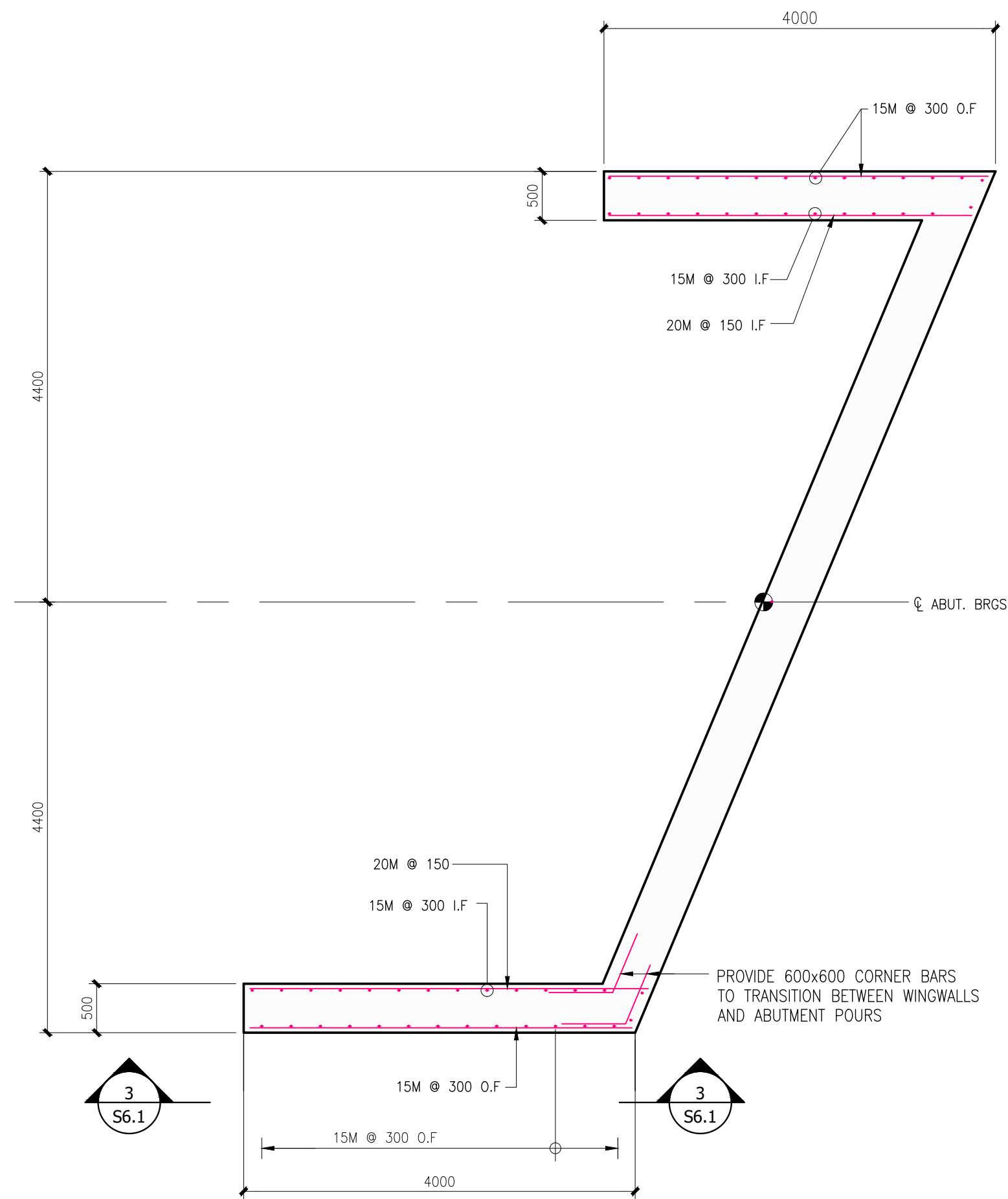
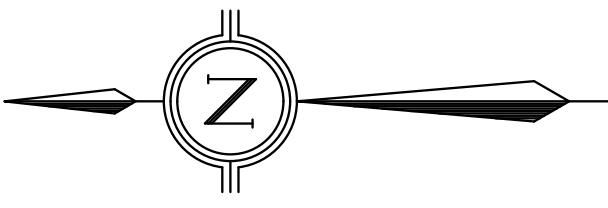
<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED
<b>As Noted</b>		<b>JUNE 22, 2023</b>	
SCALE		DATE	

<b>220887</b>	<b>0</b>	<b>S5</b>
PROJECT No.	REVISION	DRAWING

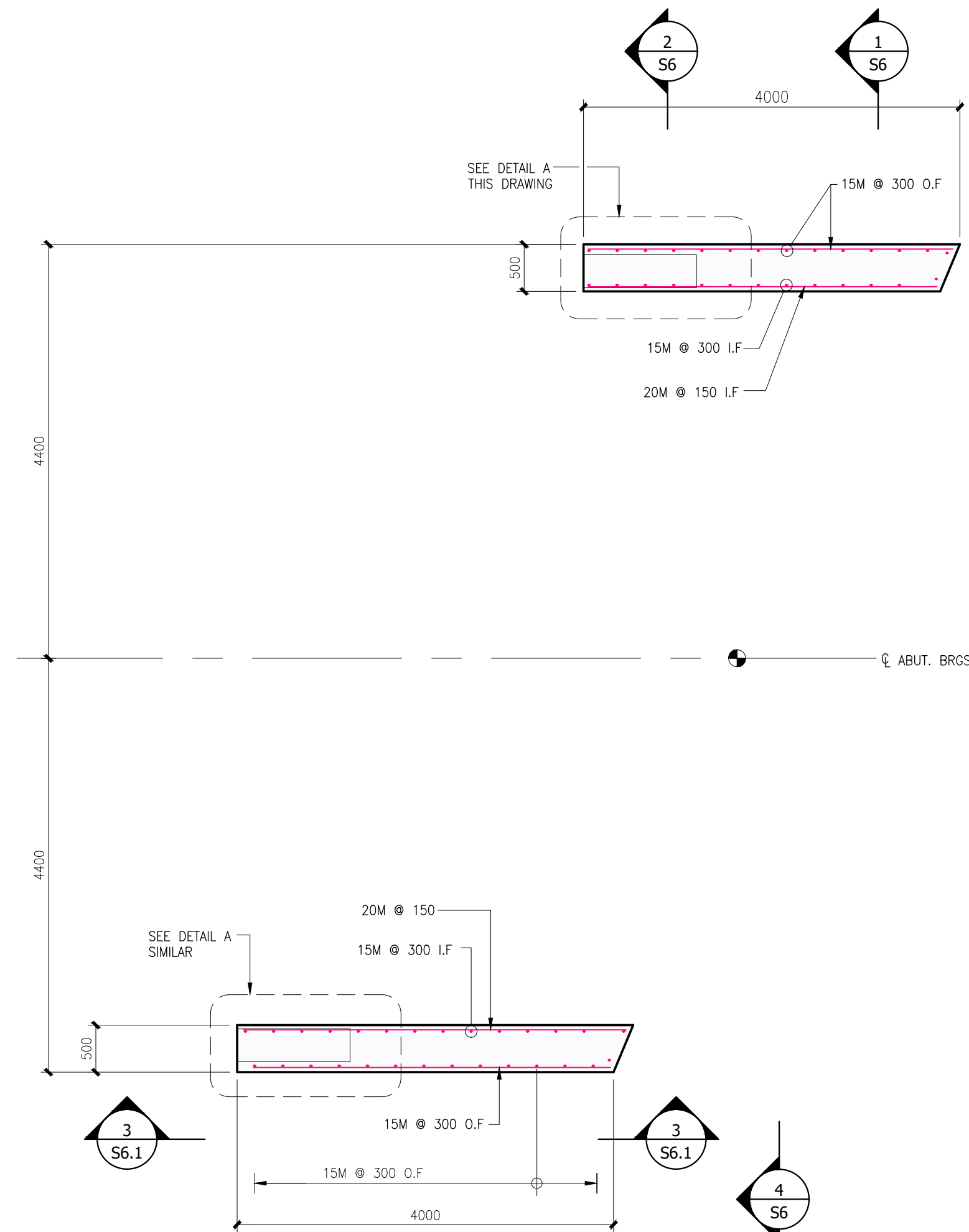
APPLICABLE STANDARD DRAWINGS

OPSD - 3904.040 DRIP DETAIL  
OPSD - 3906.020 BRIDGE DECK WATERPROOFING  
OPSD - 3329.100 SUPPORTS FOR DECK REINFORCEMENT FOR SLABS LESS THAN 300mm DEPTH  
OPSD - 3310.100 METHOD OF OBTAINING SCREED ELEVATIONS FOR STEEL GIRDERS

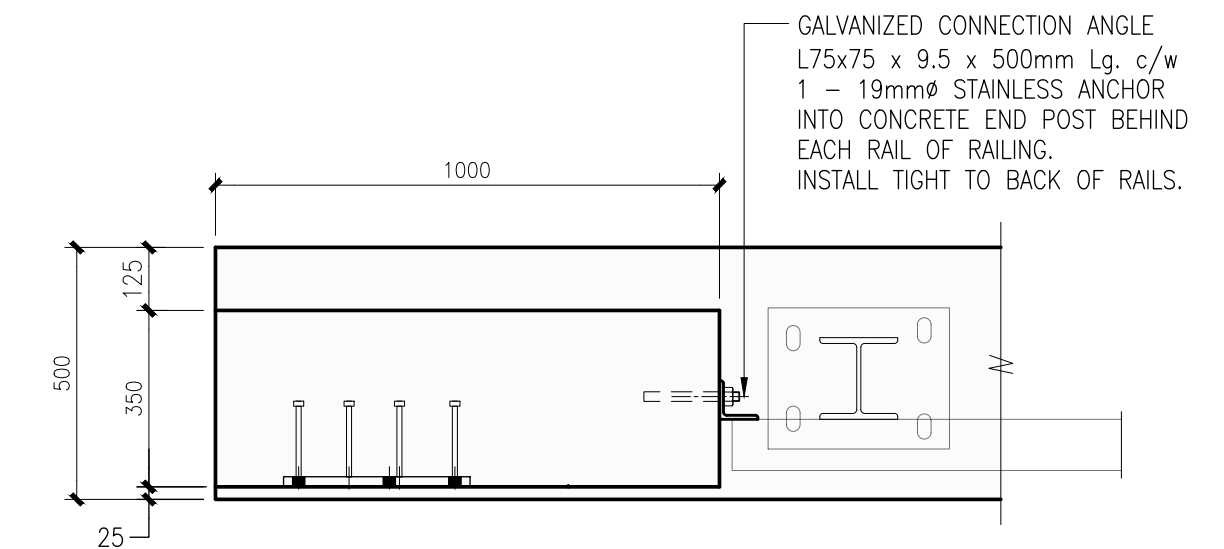
P:\2023\220887 - Potomac Bridge Replacement - 558\03 Drawings\0302 Concrete\220887 - Main Huron Shores - Potomac Bridge Replacement - July 12, 2023.dwg



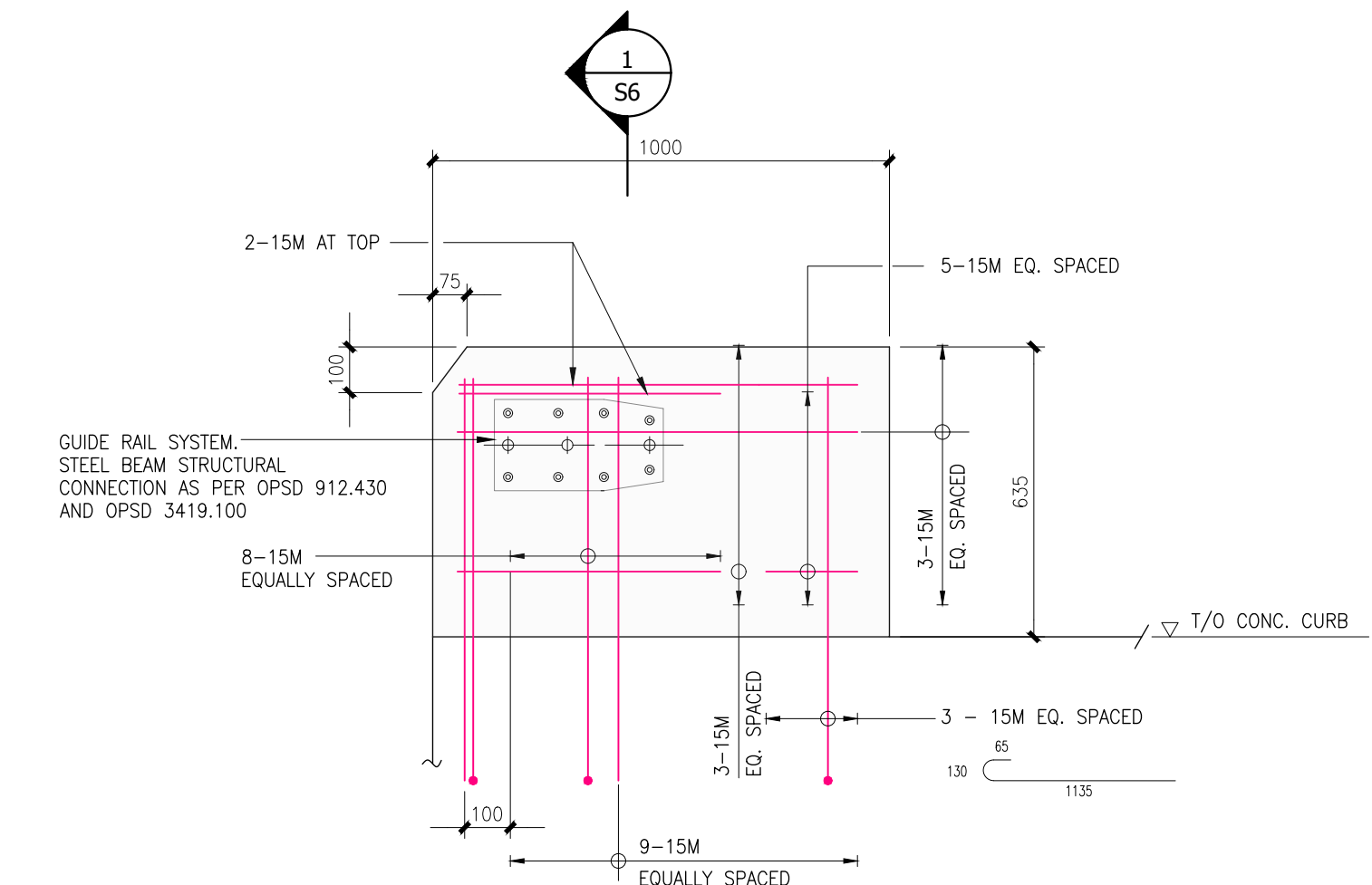
**NORTH WINGWALL**  
SCALE: 1:50  
REINFORCING PLAN – BTM. SEGMENT  
NORTH WINGWALLS AS SHOWN: SOUTH WINGWALLS SIMILAR



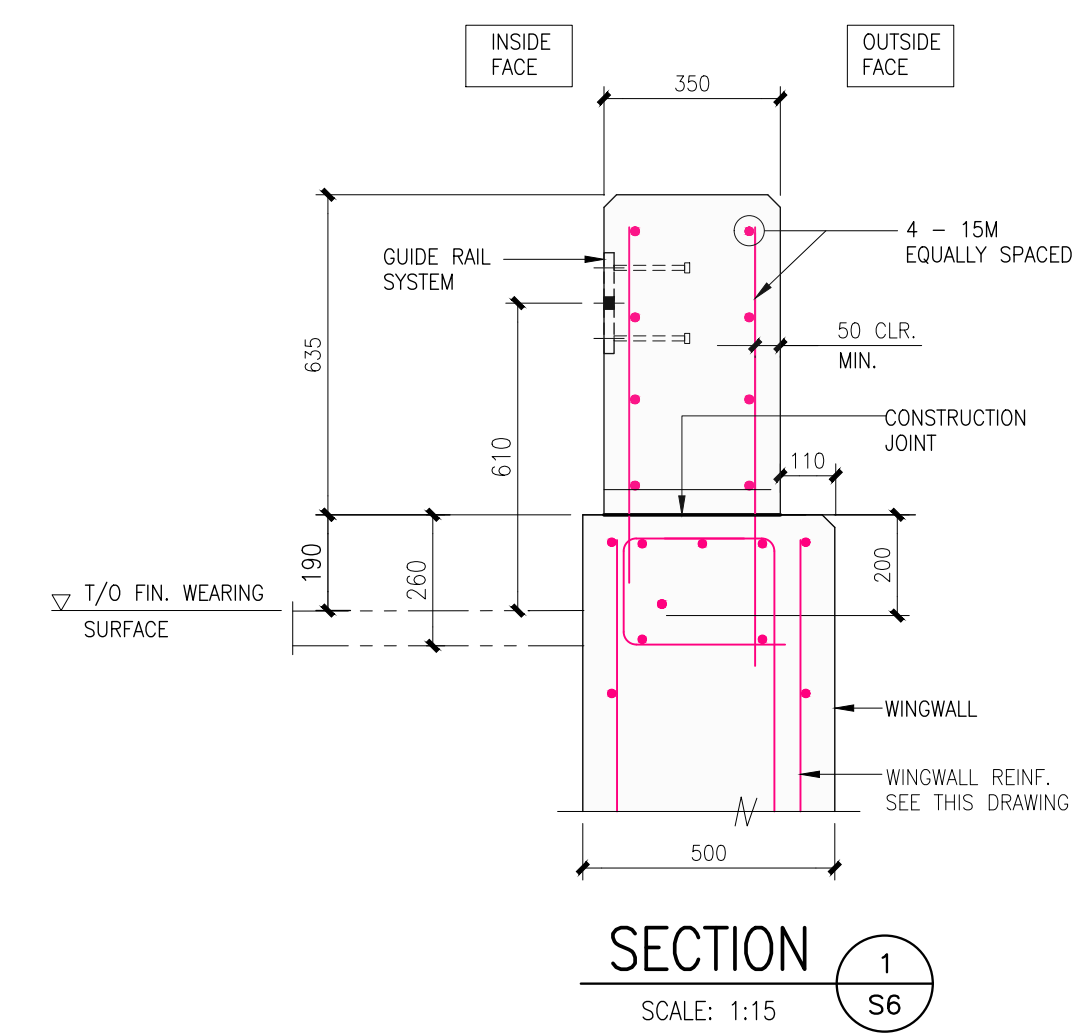
**NORTH WINGWALL**  
SCALE: 1:50  
REINFORCING PLAN – UPPER SEGMENT  
NORTH WINGWALLS AS SHOWN: SOUTH WINGWALLS SIMILAR



**DETAIL A**  
SCALE: 1:15  
ONE AS SHOWN, ONE OPP. HAND



**END WALL ON APRON – REINF.**  
(REINFORCING ARRANGEMENT)  
SCALE: 1:15



**SECTION 1**  
SCALE: 1:15

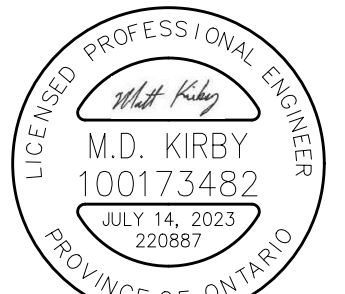
**APPLICABLE STANDARD DRAWINGS**

OPSD - 3904.040	DRIP DETAIL
OPSD - 3906.020	BRIDGE DECK WATERPROOFING
OPSD - 3329.100	SUPPORTS FOR DECK REINFORCEMENT FOR SLABS LESS THAN 300mm DEPTH
OPSD - 3310.100	METHOD OF OBTAINING SCREED ELEVATIONS FOR STEEL GIRDERS

**KEY PLAN**


23.07.16	A	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

**ENGINEER'S SEAL:**



**CLIENT:**



**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. -P0R 1H0

**CONSULTANT:**



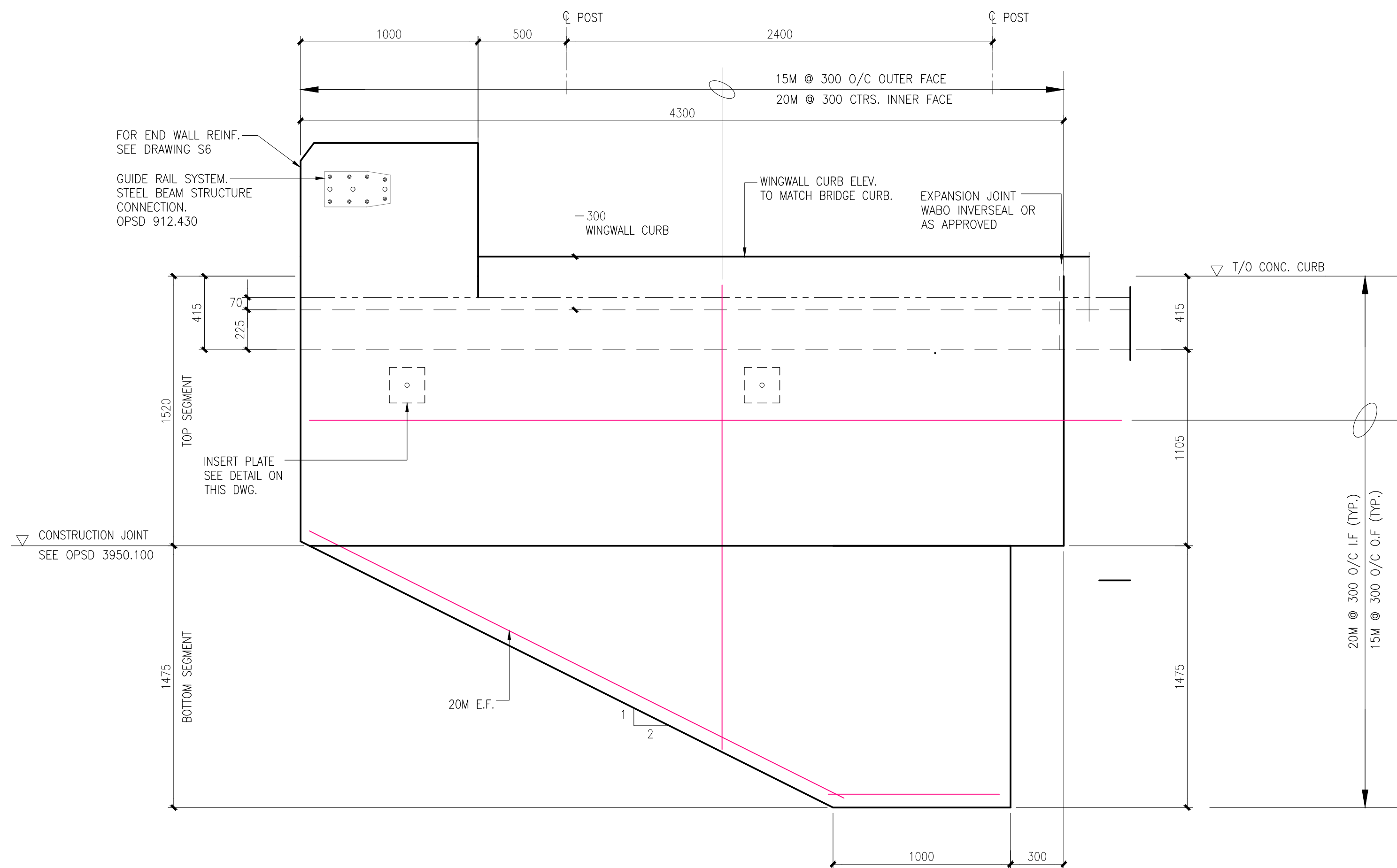
**DRAWING TITLE:**

**POTOMAC BRIDGE  
REPLACEMENT  
WING WALLS  
PLAN, SECTIONS & DETAILS**

<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED

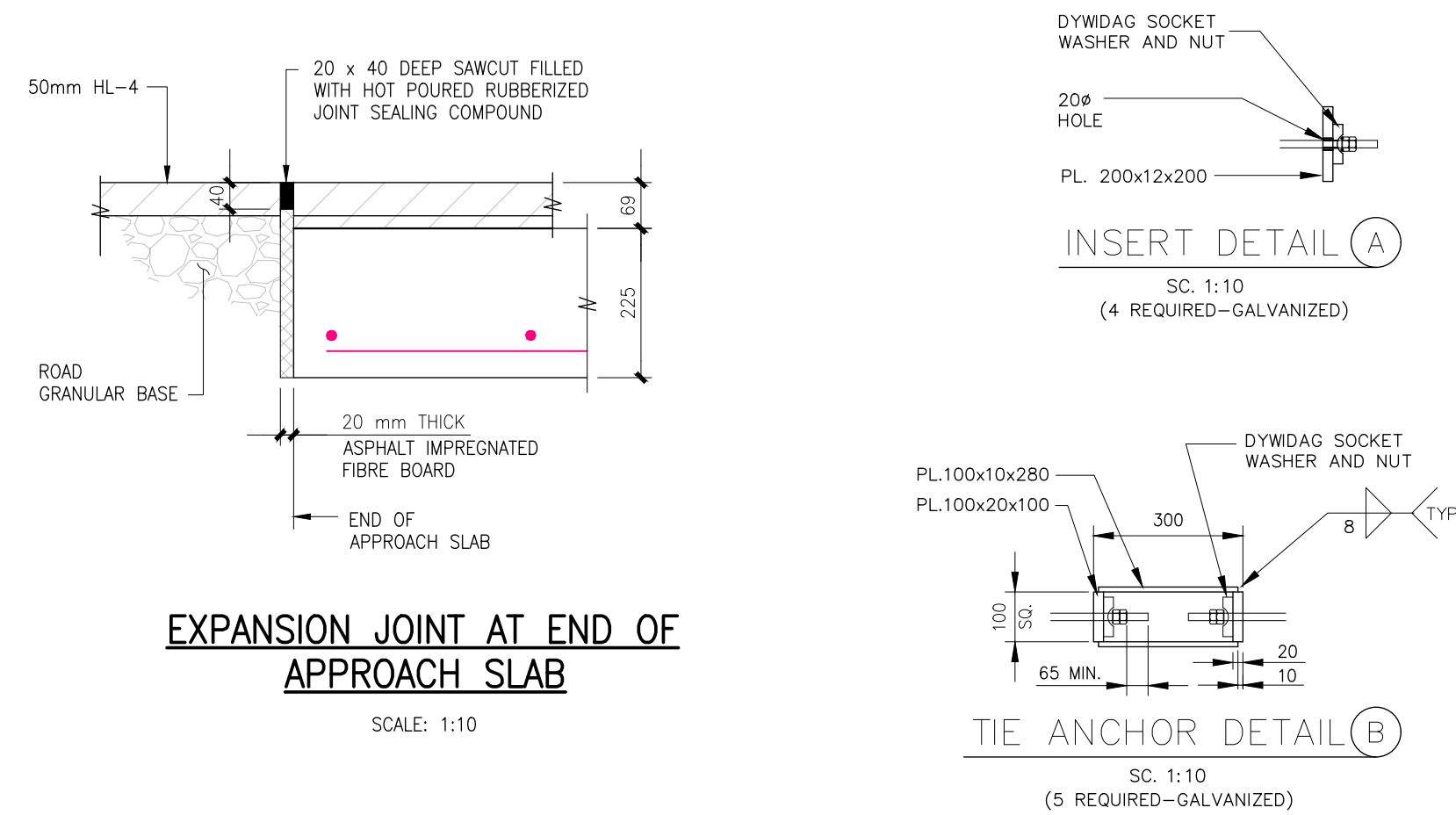
<b>As Noted</b>	<b>JUNE 22, 2023</b>
SCALE	DATE

<b>220887</b>	<b>0</b>	<b>S6</b>
PROJECT No.	REVISION	DRAWING



SECTION 3  
SCALE: 1:20 S6

WING WALL ELEVATION - REINFORCING

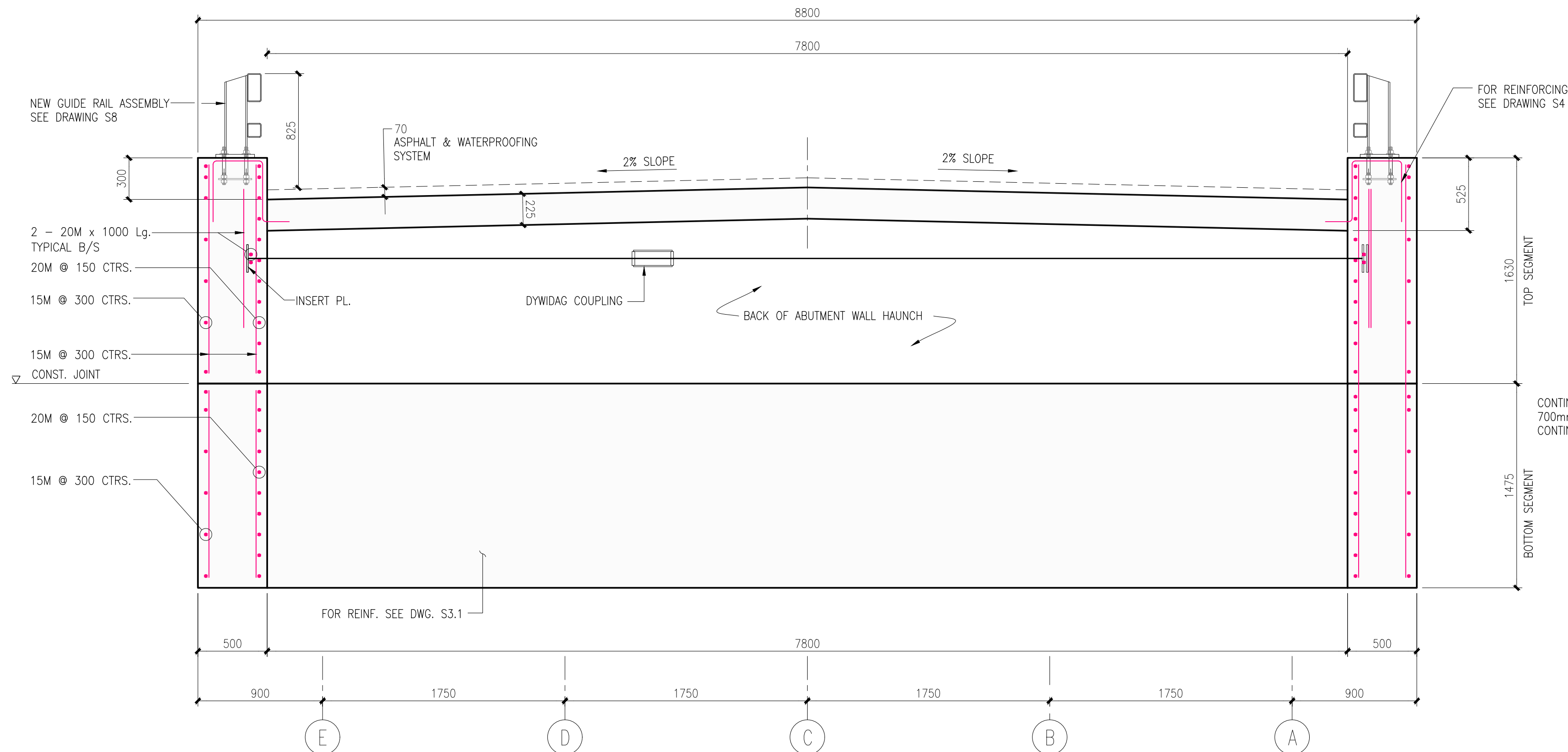


EXPANSION JOINT AT END OF APPROACH SLAB

SCALE: 1:10

TIE ANCHOR DETAIL B

SCALE: 1:10  
(5 REQUIRED - GALVANIZED)

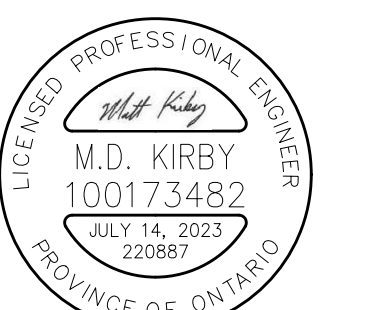


SECTION 4  
SCALE: 1:25 S6

KEY PLAN


DATE	REV.	REVISION	BY	APP'D
23.07.16	A	ISSUED FOR TENDER	BWJ	MK

ENGINEER'S SEAL:



CLIENT:



**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON -P0R 1H0

CONSULTANT:



DRAWING TITLE:

**POTOMAC BRIDGE  
REPLACEMENT  
WING WALLS  
REINFORCING**

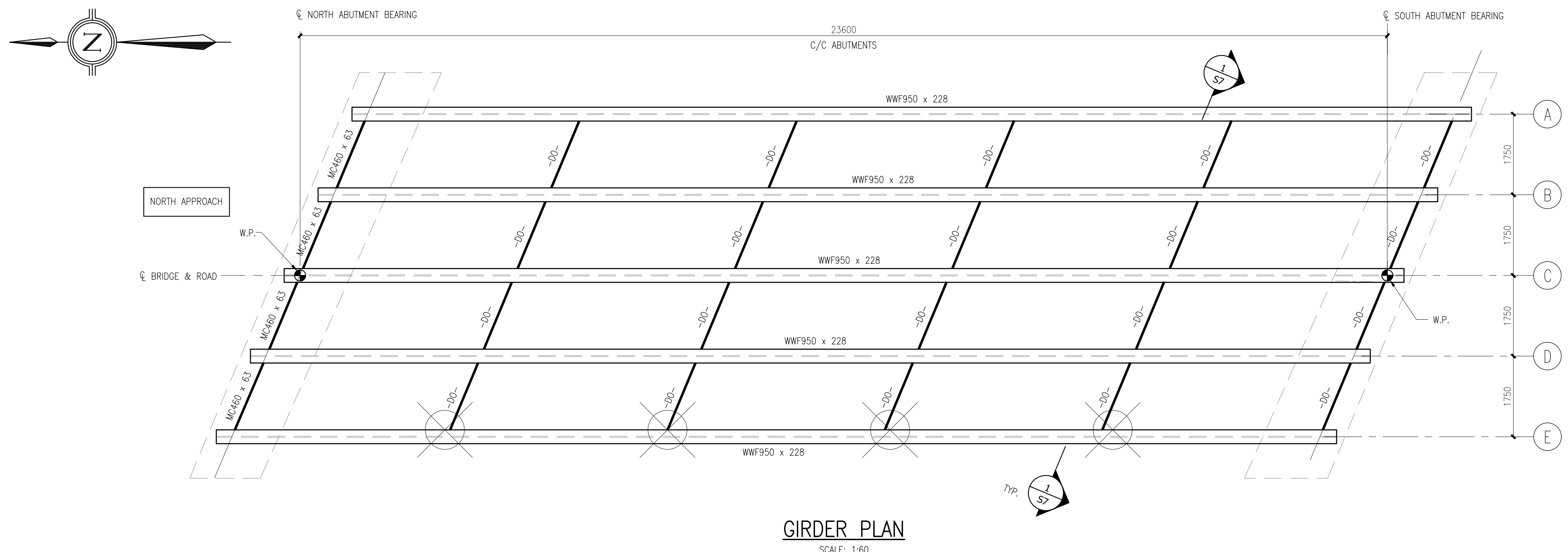
BWJ	MK	KL	MK
DRAWN	DESIGNED	CHECKED	APPROVED

<b>As Noted</b>	<b>JUNE 22, 2023</b>
SCALE	DATE

PROJECT No.	REVISION	DRAWING
220887	A	S6.1

APPLICABLE STANDARD DRAWINGS

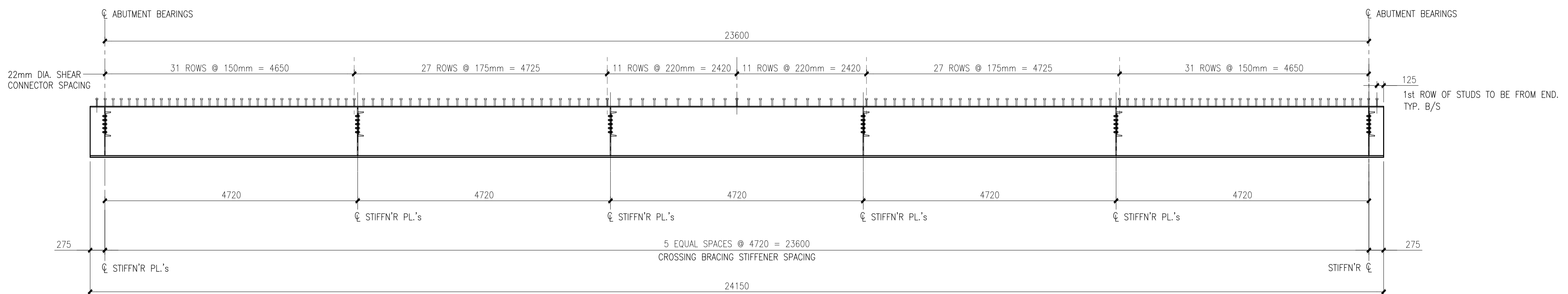
- OPSD - 3904.040 DRIP DETAIL
- OPSD - 3906.020 BRIDGE DECK WATERPROOFING
- OPSD - 3329.100 SUPPORTS FOR DECK REINFORCEMENT FOR SLABS LESS THAN 300mm DEPTH
- OPSD - 3310.100 METHOD OF OBTAINING SCREED ELEVATIONS FOR STEEL ORDERS



**GIRDER PLAN**  
SCALE: 1:60

**NOTES:**

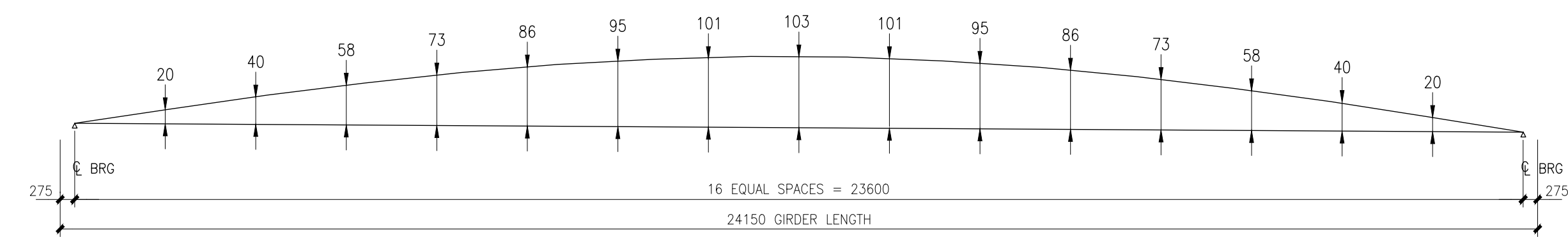
- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA STANDARD CAN/CSA-G40.20-04 (Reaffirmed 2009) GRADE 350AT. THE CHARPY IMPACT ENERGY REQUIREMENTS SHALL BE 27 JOULES AND THE TEST TEMPERATURE SHALL BE -20°C. ROLLED SECTIONS SHALL CONFORM TO CSA STANDARD CAN/CSA-G40.21-04 OR ASTM SPECIFICATIONS A588.
  - BOLTS ON ATMOSPHERIC CORROSION RESISTANT STEEL SHALL BE ASTM A325 TYPE 3, M32. BOLTS ON COATED STEEL SHALL BE GALVANNEZED ASTM A325M TYPE 1, M32. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANES.
  - STUD SHEAR CONNECTIONS SHALL BE 22mm DIAMETER, AND CONFORM TO ASTM STANDARD A108 & CSA W59.
  - ALL LENGTHS SHOWN ARE IN THE HORIZONTAL PLANE AND MEASURED AT 20°C.
  - GIRDERS SHALL BE CAMBERED TO VALUES SHOWN IN THE CAMBER DIAGRAM.
  - CAMBER ORDINATES INCLUDE AN ALLOWANCE FOR GIRDER SELF-WEIGHT, CONCRETE DECK, SUPERIMPOSED DEAD LOADS AND PROFILE OF ROADWAY.
  - THE ENDS OF GIRDERS AND BEARING STIFFENERS SHALL BE TRULY VERTICAL UNDER FULL DEAD LOAD.
  - UNLESS OTHERWISE NOTED, MINIMUM FILLET WELDS SHALL BE AS FOLLOWS:
- | MATERIAL THICKNESS OF THICKER PART JOINED (mm) | MINIMUM SIZE OF FILLET WELD (mm) |
|--|----------------------------------|
| TO 12 INCLUSIVE                                | 5                                |
| OVER 12 TO 20                                  | 6                                |
| OVER 20 TO 40                                  | 8                                |
| OVER 40 TO 60                                  | 10                               |
| OVER 60 TO 100                                 | 12                               |
- ALL GIRDERS SHALL BE COATED FOR A DISTANCE OF 700mm AS FOLLOWS: FROM THE FACE OF THE ABUTMENT 100mm TOWARDS THE ENDS OF THE GIRDERS AND 600mm TOWARDS THE CENTRE OF GIRDERS. THE COLOUR OF THE TOP COAT SHALL BE 504-217 BROWN (1-GP-12C)
  - THE CONTRACTOR SHALL ENSURE THE STABILITY OF ALL COMPONENTS DURING HANDLING, TRANSPORTATION AND ERECTION, AND UNTIL THE STRUCTURAL STEEL IS IN ITS FINAL LOCATION WITH ALL PERMANENT BRACING, CONNECTIONS AND SUPPORTS IN PLACE, AND THE CONCRETE IN THE DECK HAS REACHED 75% OF ITS SPECIFIED STRENGTH.



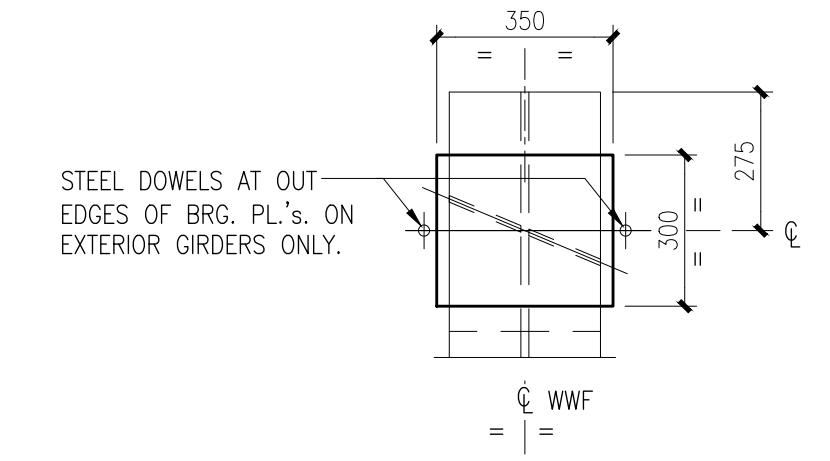
**WWF950 x 228 GIRDER**  
SCALE: 1:50

TOP OF GIRDER ELEVATIONS						
LOCATION	POINT	A	B	C	D	E
☉ SOUTH ABUT.	1	187.675	187.71	187.745	187.71	187.675
☉ MID-SPAN	2	187.765	187.800	187.835	187.800	187.765
☉ NORTH ABUT.	3	187.675	187.71	187.745	187.71	187.675

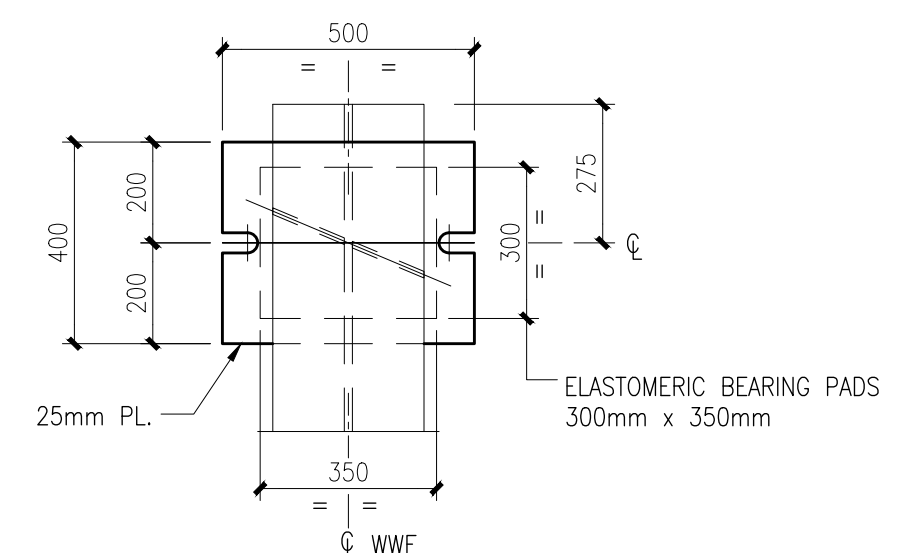
NOTE:  
ELEVATIONS SHOWN ARE FOR CAMBERED GIRDER WITH ONLY THE WEIGHT OF THE COMPLETELY ERECTED STRUCTURAL STEEL ACTING.



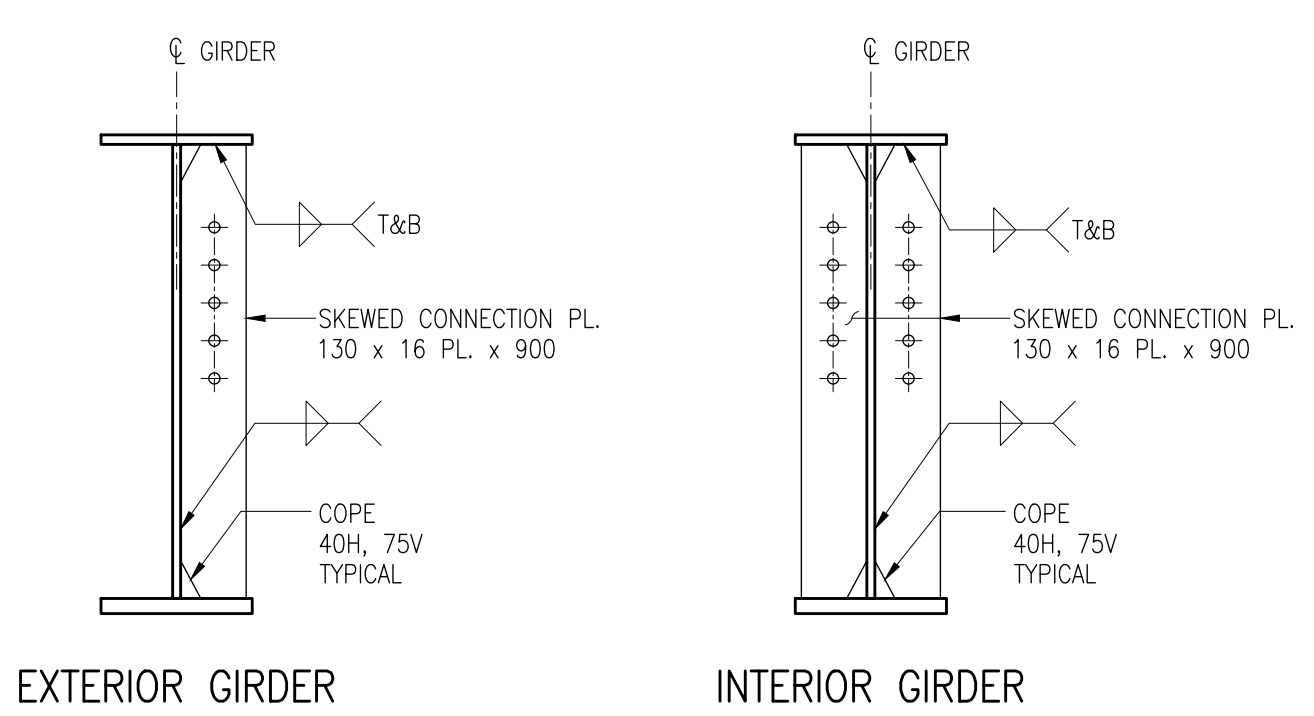
**CHAMBER DIAGRAM**



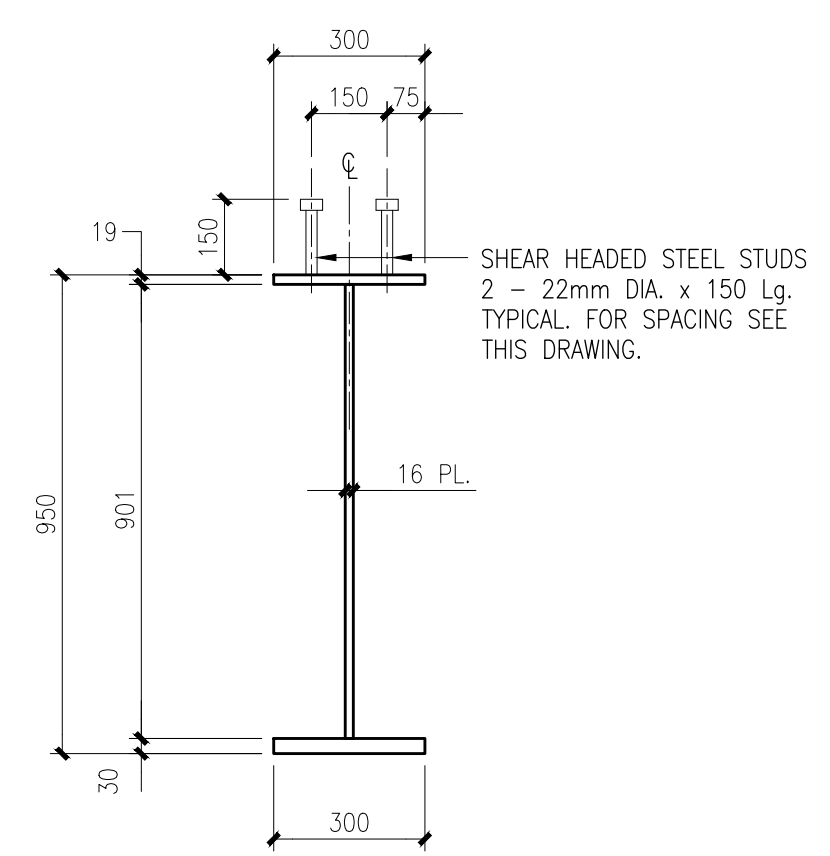
**BEARING SHOE PL.'s**  
SCALE: 1:15  
FREE END - PLAN



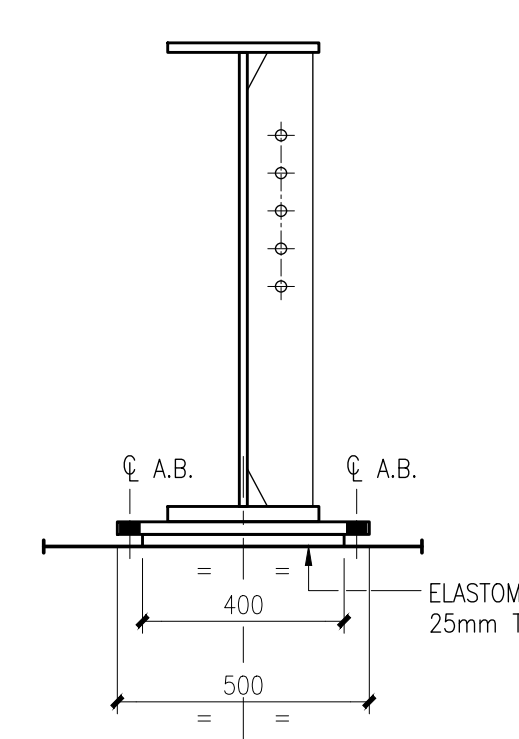
**BEARING SHOE PL.'s**  
SCALE: 1:15  
FIXED END - PLAN



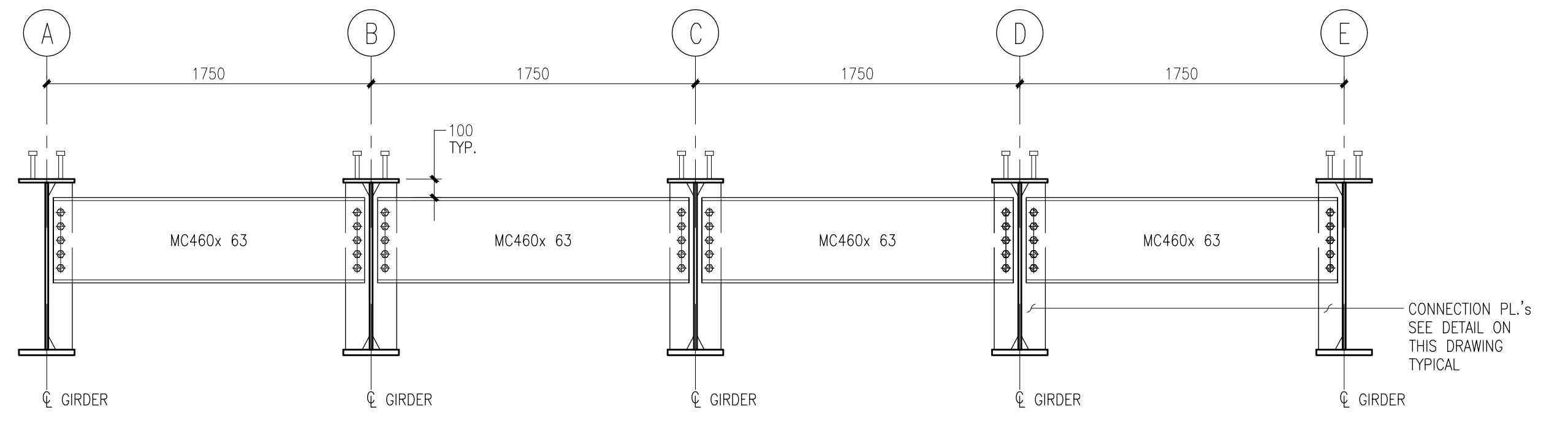
**STIFFENER PLATES**  
SCALE: 1:15



**TYPICAL GIRDER SECTION**  
SCALE: 1:15  
WWF950 x 228



**END BEARING PLATES**  
SCALE: 1:15  
ELEVATION

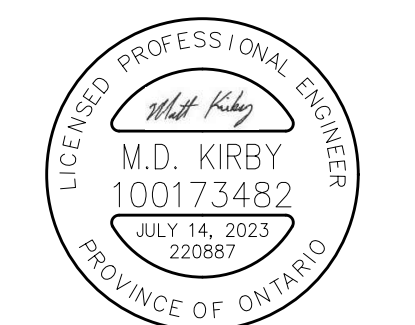


**SECTION**  
SCALE: 1:25  
INTERMEDIATE CROSS BRACING - ELEVATION

**KEY PLAN**


23.07.16	A	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:

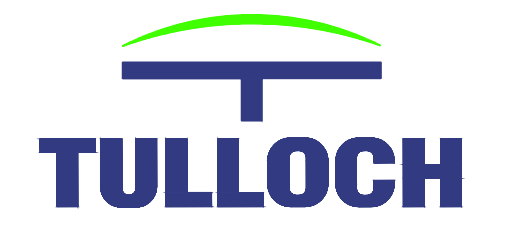


CLIENT:



**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON -P0R 1H0

CONSULTANT:



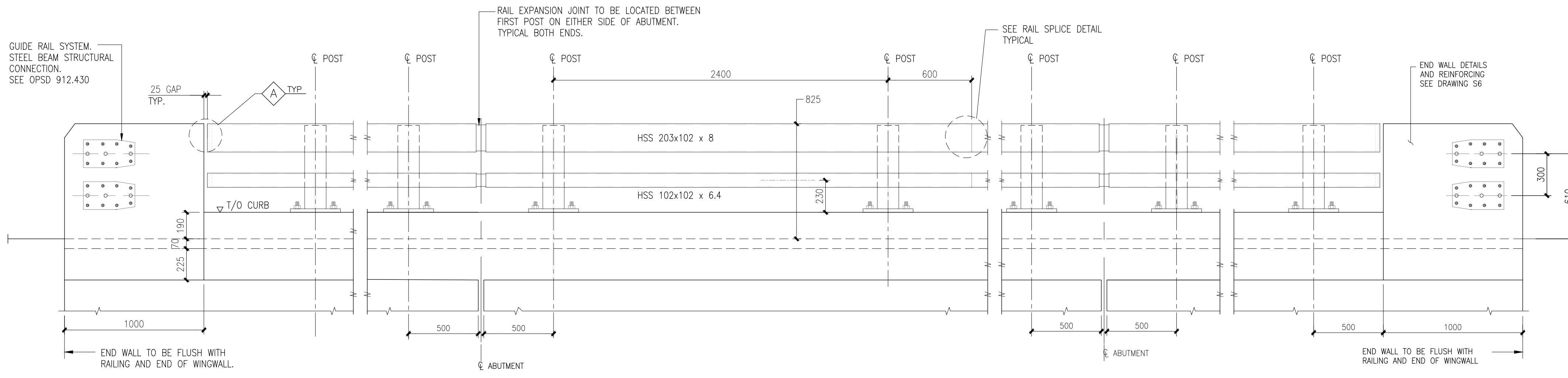
**DRAWING TITLE:**  
**POTOMAC BRIDGE REPLACEMENT BRIDGE GIRDERS PLAN, SECTIONS & DETS.**

<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED

**As Noted**      **JUNE 22, 2023**

SCALE	DATE
<b>220887</b>	<b>A</b>
PROJECT No.	REVISION
<b>S7</b>	DRAWING



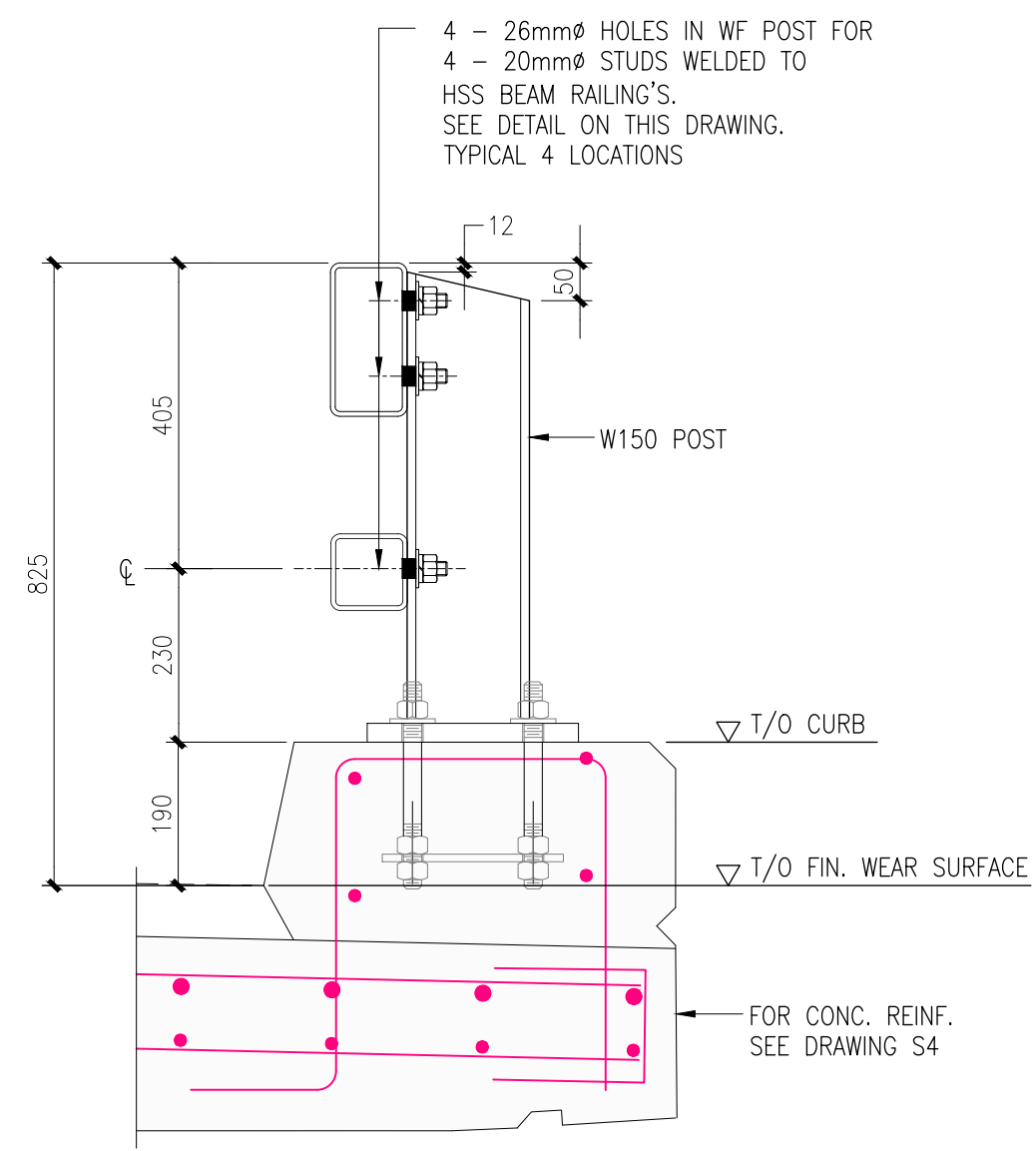


**ELEVATION – BOX BEAM GUIDE RAIL ON CURB**

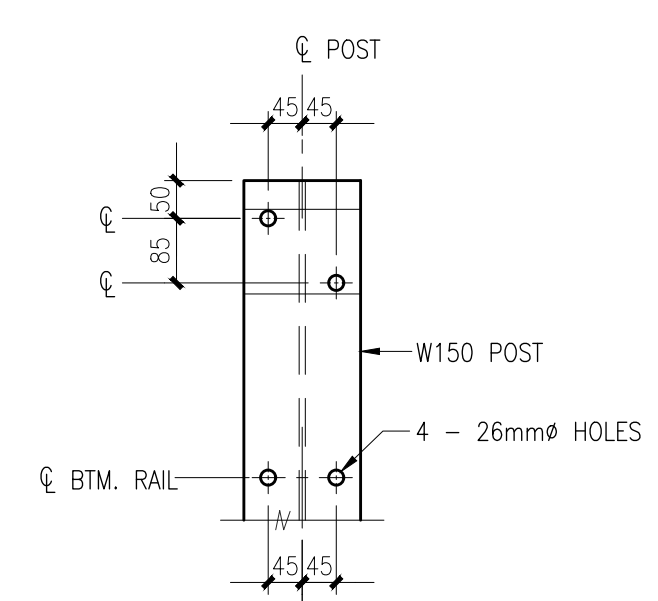
INSIDE FACE SHOWN  
SCALE: 1:20  
**2-BAR CURB MOUNTED BRIDGE RAIL**

**GENERAL NOTES:**

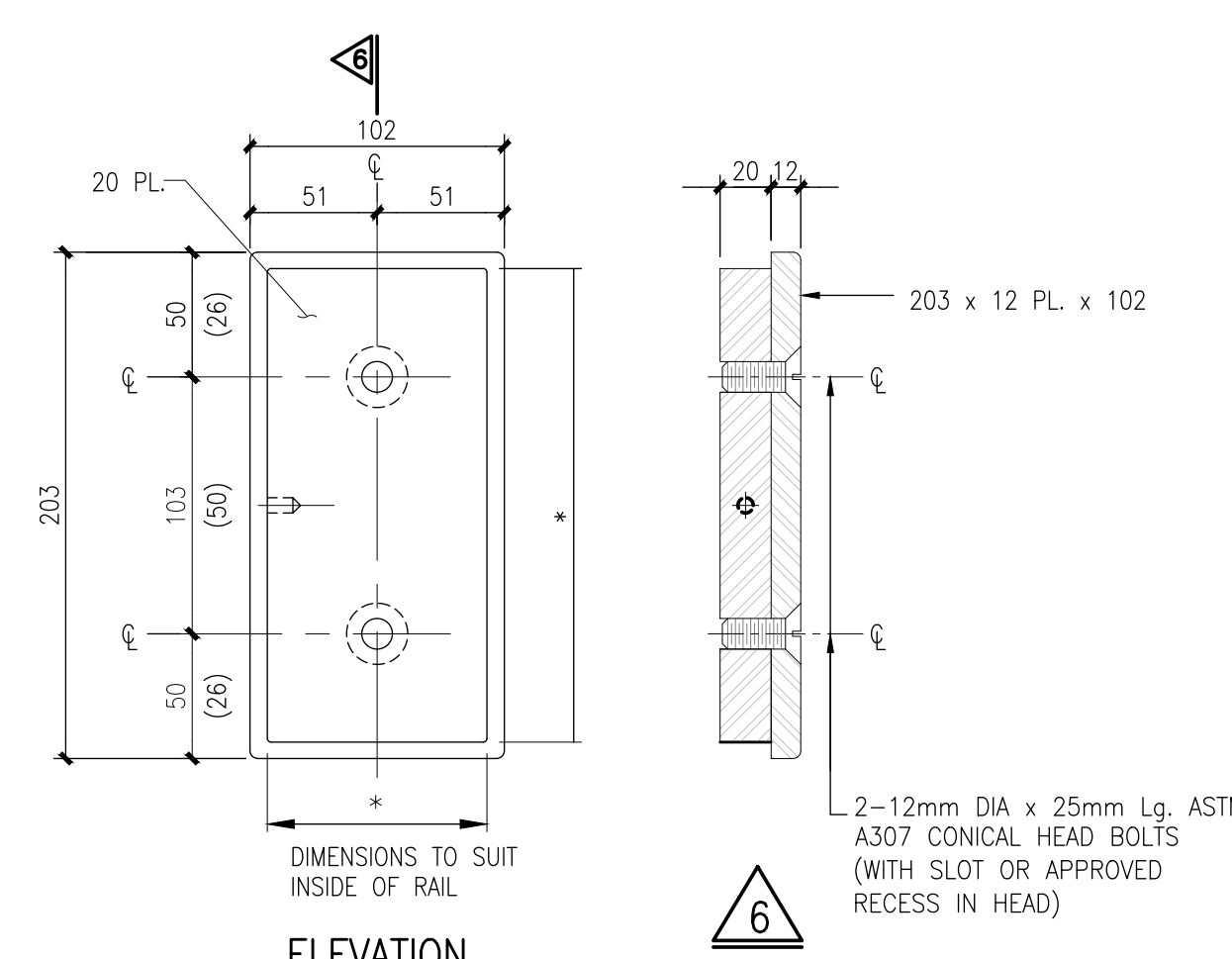
- RAIL ELEMENTS SHALL BE HOLLOW STRUCTURAL SECTIONS GRADE 350WT, CLASS C. RAIL ELEMENT SHALL MEET THE LONGITUDINAL CHARNY V-NOTCH IMPACT TEST REQUIREMENTS OF 27 JOULES AT TEST TEMPERATURE OF 20 °C. (ASTM A500 GRADE B OR C STEEL MAY BE SUBSTITUTED FOR GRADE 350WT PROVIDED THAT THE CHARNY V-NOTCH IMPACT TEST REQUIREMENTS ARE VERIFIED BY THE SUBMISSION OF TEST DOCUMENTATION).
- POSTS AND PLATES SHALL BE GRADE 350WT.
- THE NOTCH TOUGHNESS REQUIREMENTS FOR POSTS AND PLATES SHALL BE THE SAME AS THOSE SPECIFIED IN NOTE 1.
- ANCHOR STUDS, WASHERS AND NUTS SHALL CONFORM TO ASTM A449.
- FULL THREAD STUDS, WASHERS AND NUTS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A108
- RAIL SHALL BE SUPPLIED IN LENGTH TO BE ATTACHED TO A MINIMUM OF THREE (3) RAIL POSTS.
- GALVANIZING ON MATING SURFACES OF RAILS TO HAVE UNIFORM THICKNESS NOT EXCEEDING 0.15mm TO ENSURE SLIDING FIT.
- RAILS, POSTS, RAIL SPLICES, AND END CAPS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- BOLTS, ANCHOR STUDS, PLATES, WASHERS AND NUTS SHALL BE HOT-DIP GALVANIZED. LOCK NUTS SHALL BE ZINC PLATED ACCORDING TO ASTM-B695.
- RAILS SHALL BE PRE-BENT TO FOLLOW ROAD CURVATURE WHERE RADIUS IS LESS THAN 150 METRES.
- RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
- RAILS MAY BE CUT AS REQUIRED IN THE FIELD, CUT TO BE SURFACE TREATED WITH A ZINC TOUCH-UP SOLDER, GALVANGUARD OR AN APPROVED EQUIVALENT.
- WHEN CONNECTING TO EXISTING RAILING, RAILS MUST BE MADE CONTINUOUS AND POST SPACINGS TO BE DETERMINED WITH REFERENCE TO EXISTING POSTS.
- GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF EPOXY GROUT MAY BE USED WHEN REQUIRED FOR FILLING THE VOIDS UNDER THE BASE PLATE.
- POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT CONDITION AND GIVEN AN ADDITIONAL 1/3 OF A TURN.
- BOLTS IN RAIL SPLICES SHALL BE TIGHTENED TO A CONDITION THAT WILL ALLOW RAIL MOVEMENT.
- CHASES ARE REQUIRED ON HIGH AND LOW SIDE OF CROSS FALL.
- STAINLESS STEEL BARS SHALL BE TYPE 316 LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPA.



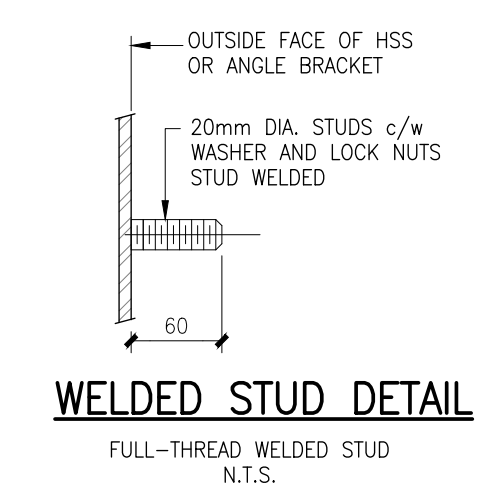
**RAIL POST ASSEMBLY**  
SCALE: 1:10  
ELEVATION



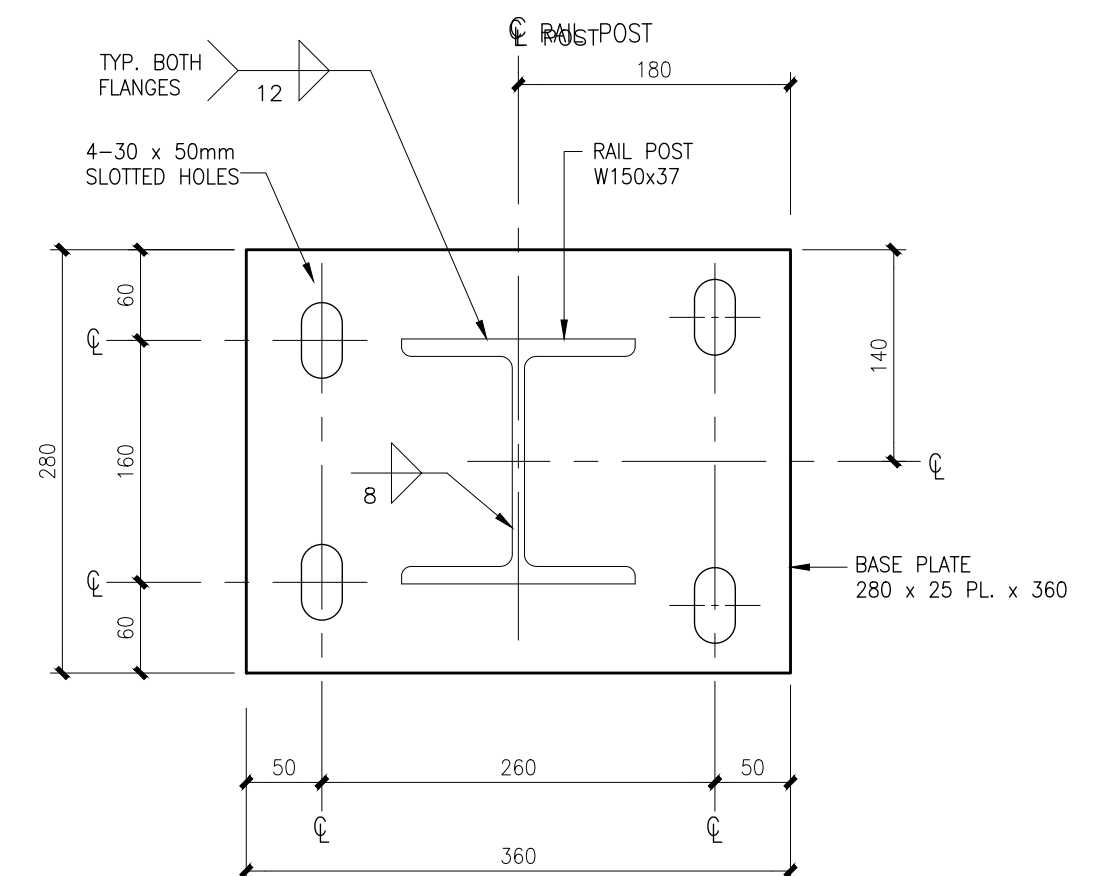
**RAIL POST**  
SCALE: 1:10  
**BOLTING PATTERN – ELEVATION**



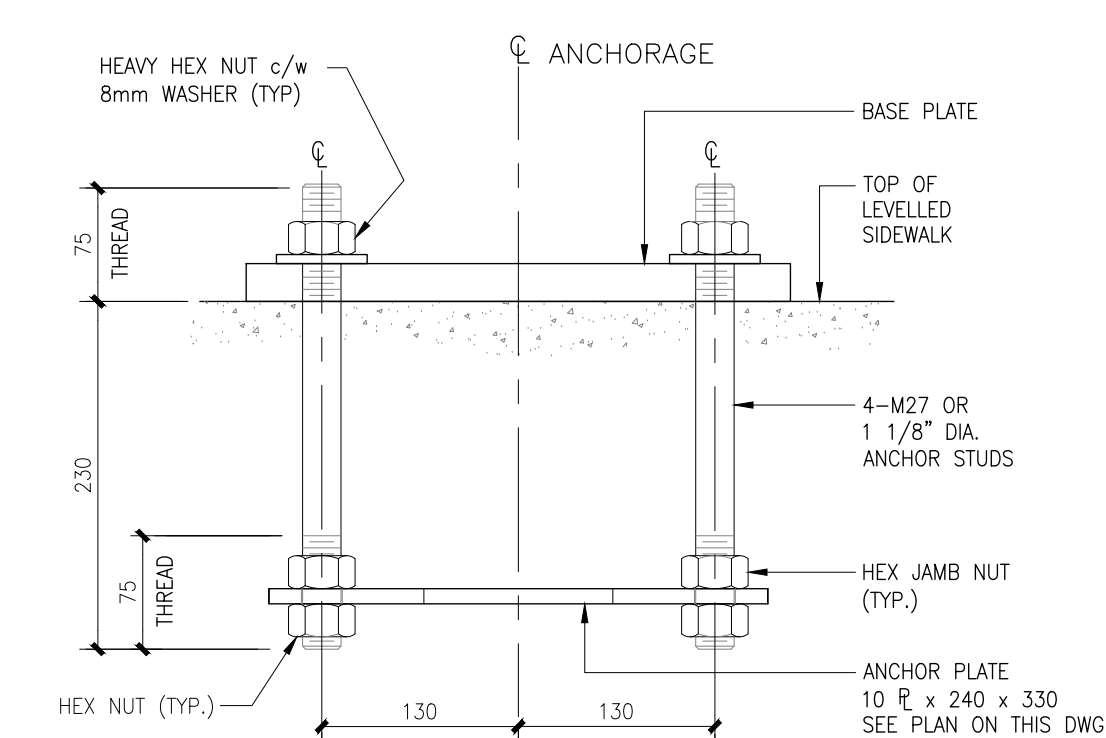
**ELEVATION**  
VALUE NOTED ( ) FOR HSS 102x10  
**END CAP DETAILS**



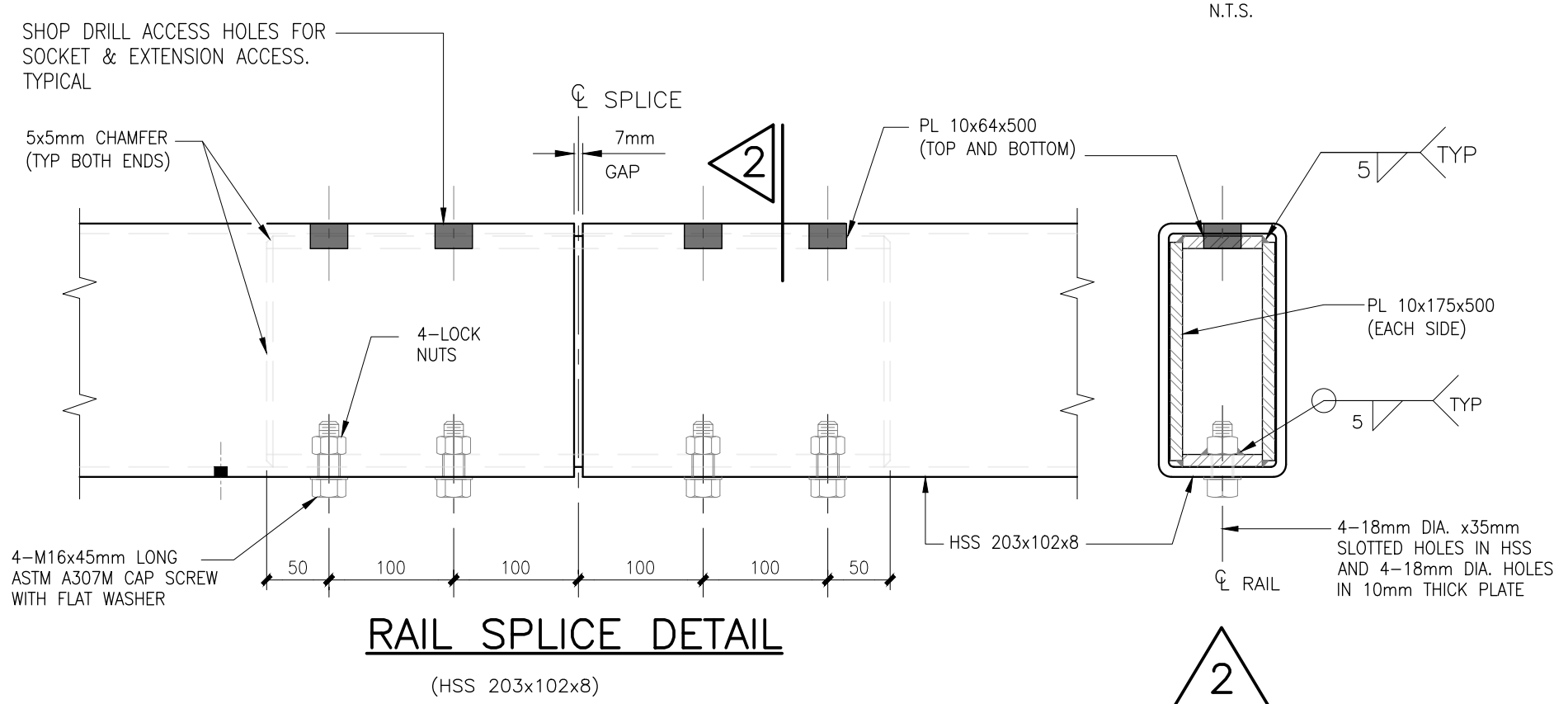
**WELDED STUD DETAIL**  
FULL-THREAD WELDED STUD  
N.T.S.



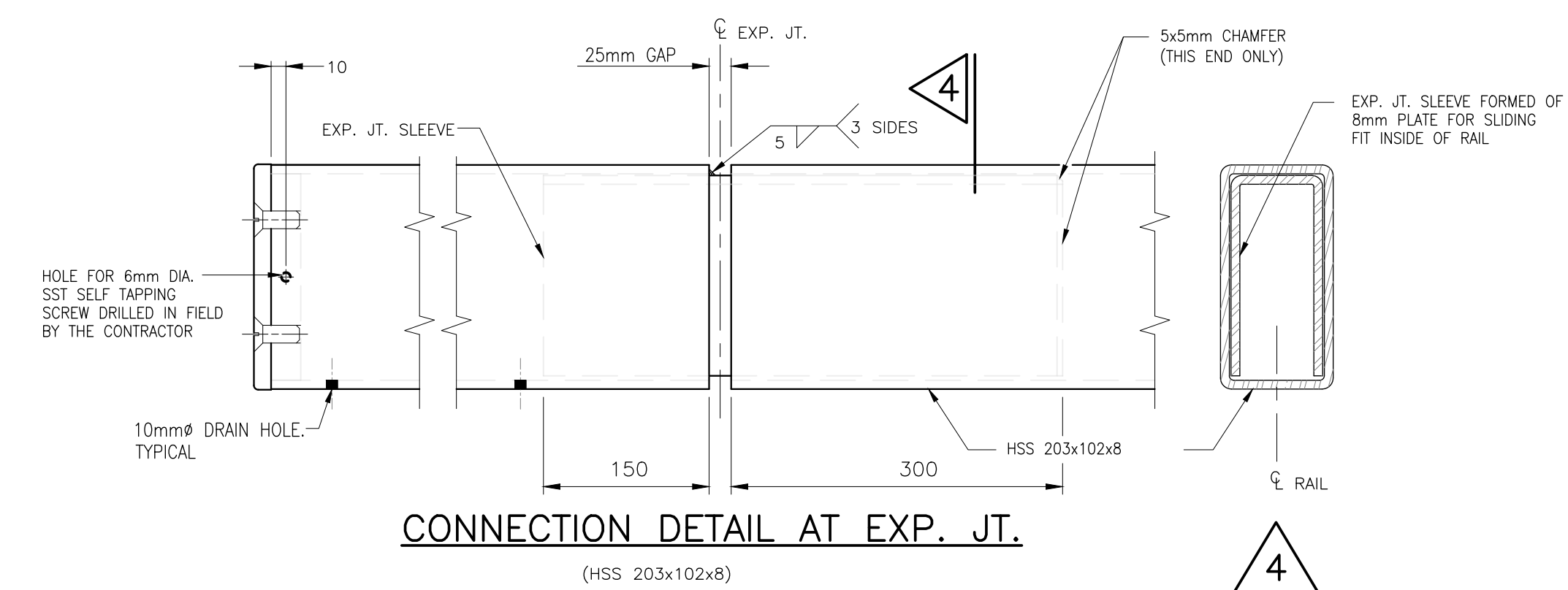
**BASE PLATE**  
SCALE: 1:5



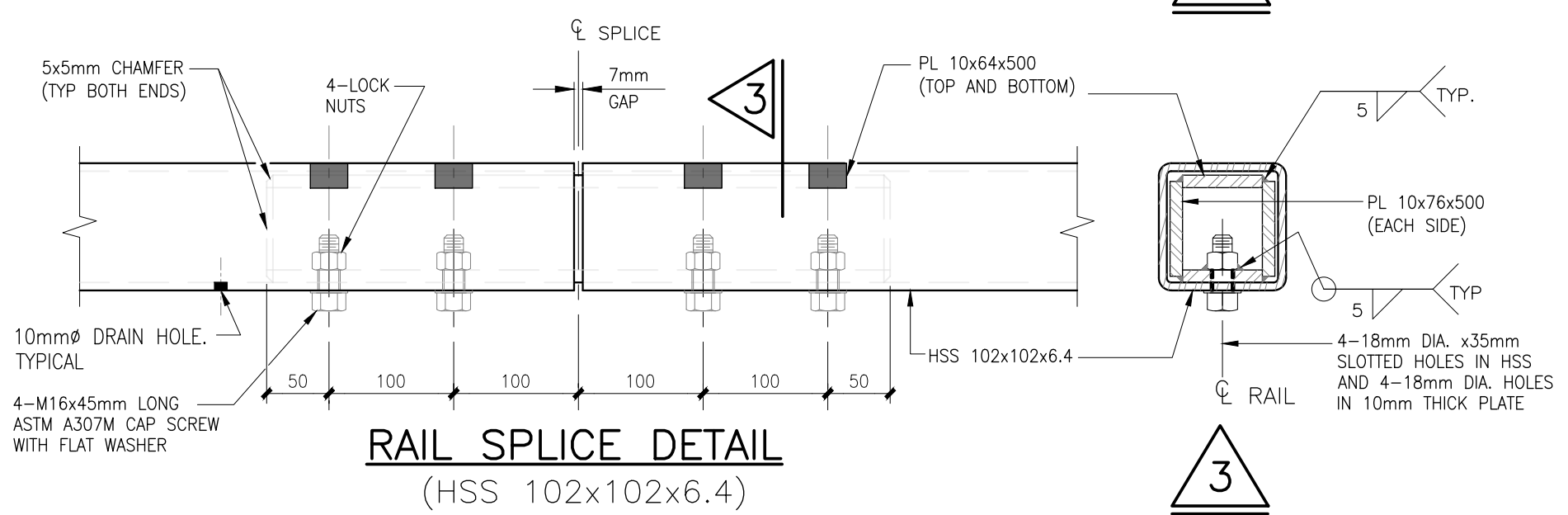
**ANCHORAGE ASSEMBLY**  
SCALE: 1:5



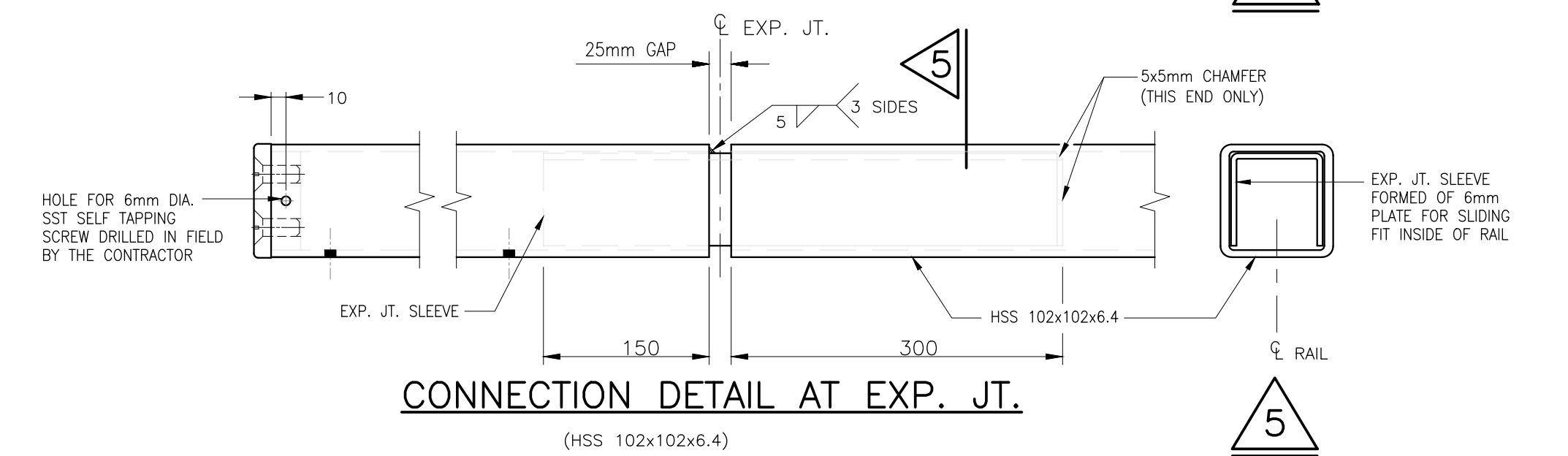
**RAIL SPLICE DETAIL**  
(HSS 203x102x8)  
SCALE: 1:10



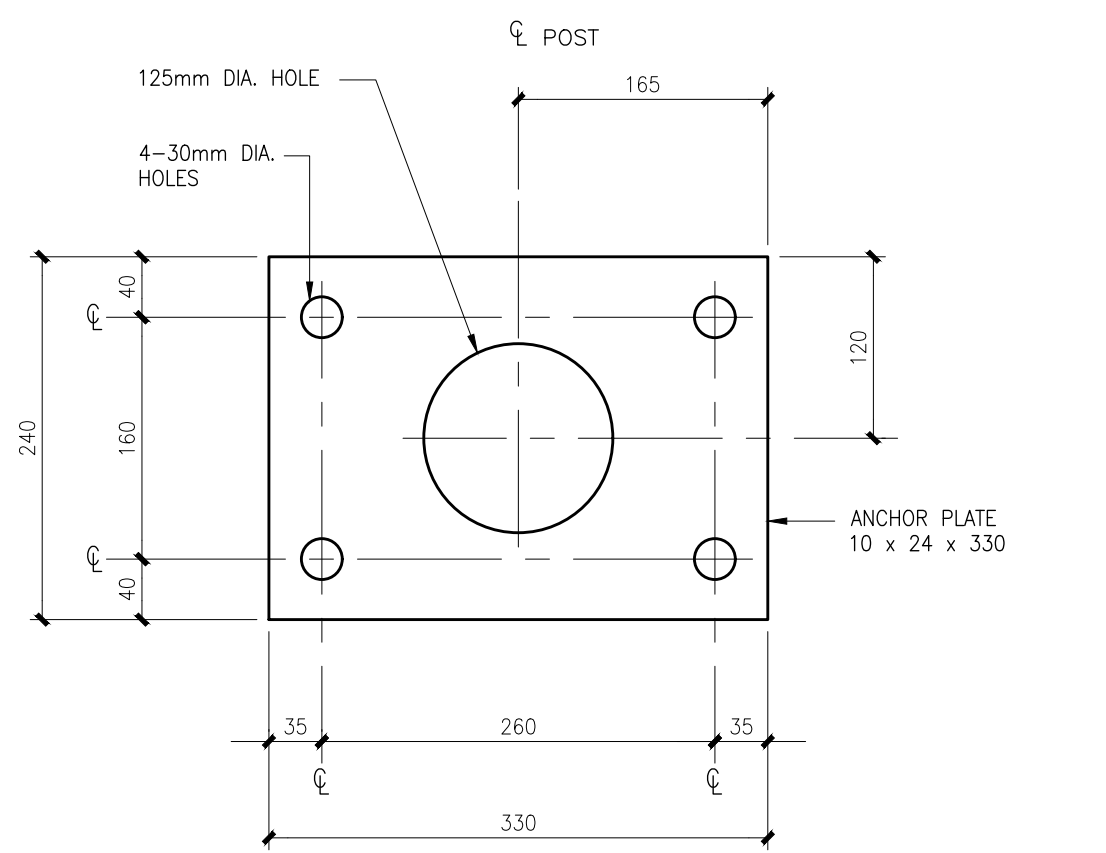
**CONNECTION DETAIL AT EXP. JT.**  
(HSS 203x102x8)  
SCALE: 1:10



**RAIL SPLICE DETAIL**  
(HSS 102x102x6.4)  
SCALE: 1:10



**CONNECTION DETAIL AT EXP. JT.**  
(HSS 102x102x6.4)  
SCALE: 1:10



**ANCHOR PLATE**  
SCALE: 1:5

**KEY PLAN**


23.07.16	A	ISSUED FOR TENDER	EWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:

CLIENT:

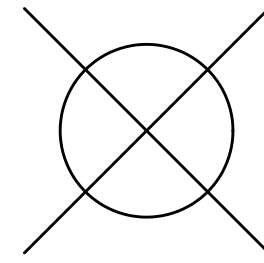
**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON -P0R 1H0

CONSULTANT:

DRAWING TITLE:

**POTOMAC BRIDGE  
REPLACEMENT  
BRIDGE GUARD RAILS  
PLAN, SECTIONS & DETAILS**

EWJ	MK	KL	MK
DRAWN	DESIGNED	CHECKED	APPROVED
As Noted		JUNE 22, 2023	
SCALE		DATE	
220887	A	S8	
PROJECT No.	REVISION	DRAWING	



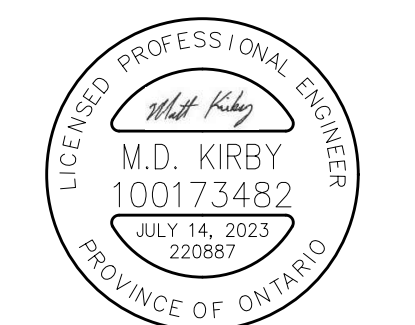
**GENERAL NOTES:**

- PILE ENDS TO BE SPLICED SHALL BE CUT SQUARE PERPENDICULAR TO CENTRELINE OF PILE
- FLANGE AND SPLICE PLATES SHALL BE ACCORDING TO CSA G40.20/G40.21-98 GRADE 300W
- WELDING SHALL BE ACCORDING TO CSA W59M
- THIS STANDARD APPLIES TO H-PILE SIZES HP310x79, HP310x110 AND HP310x132
- HANDLING HOLES SHALL ONLY BE MADE IN THE PORTION OF THE PILE TO BE CUT OFF OR IN THE PORTION OF THE PILE IN THE CONCRETE CAP.

KEY PLAN


23.07.16	A	ISSUED FOR TENDER	BWJ	MK
DATE	REV.	REVISION	BY	APP'D

ENGINEER'S SEAL:



CLIENT:



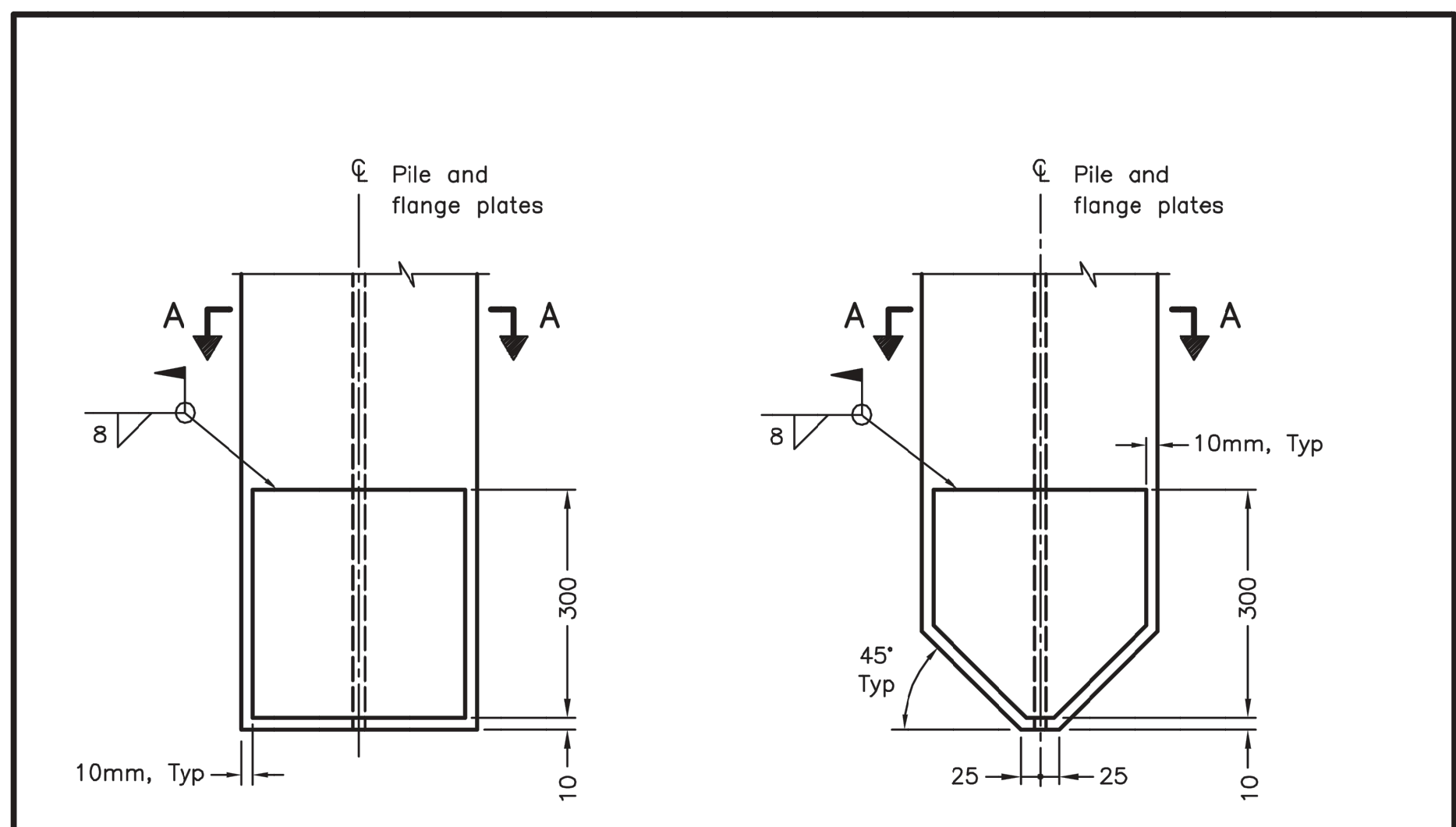
**Municipality of Huron Shores**  
7 Bridge Street, PO Box 460  
Iron Bridge, ON. - P0R 1H0

CONSULTANT:

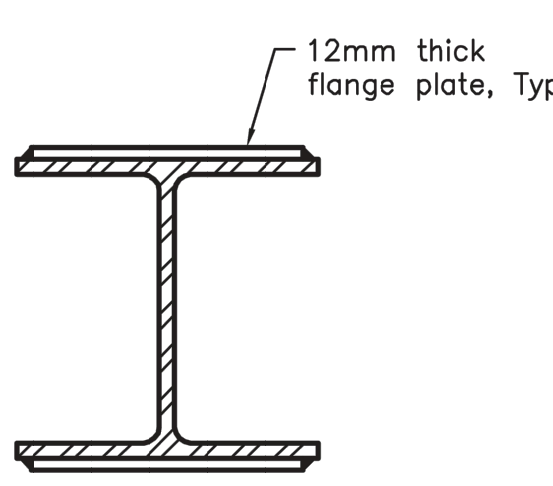


DRAWING TITLE:  
**POTOMAC BRIDGE REPLACEMENT STANDARD DETAILS**

<b>BWJ</b>	<b>MK</b>	<b>KL</b>	<b>MK</b>
DRAWN	DESIGNED	CHECKED	APPROVED
<b>As Noted</b>		<b>JUNE 22, 2023</b>	
SCALE		DATE	
<b>220887</b>	<b>A</b>	<b>S9</b>	
PROJECT No.	REVISION	DRAWING	



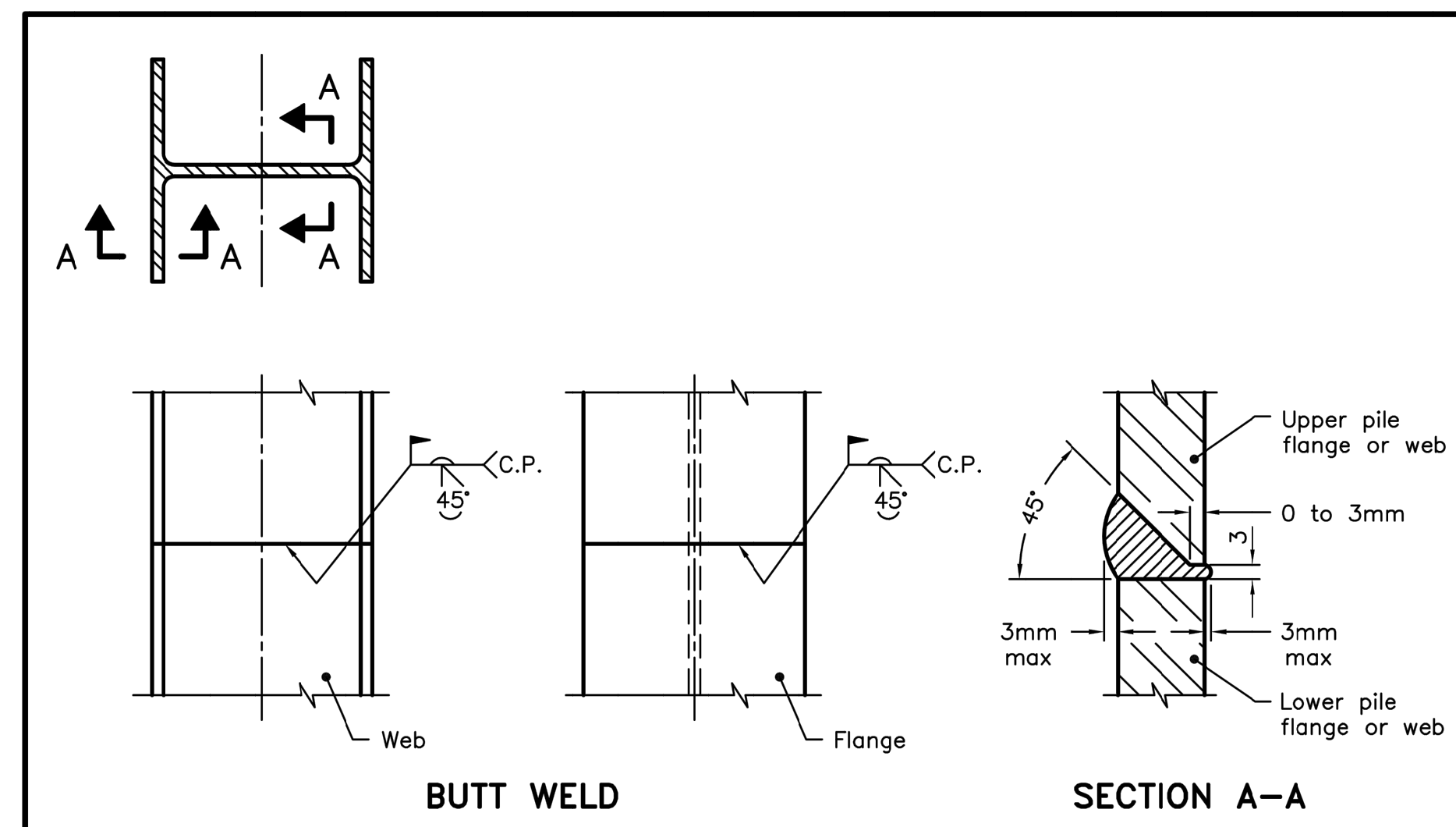
ELEVATION



PILE DRIVING SHOE SECTION A-A

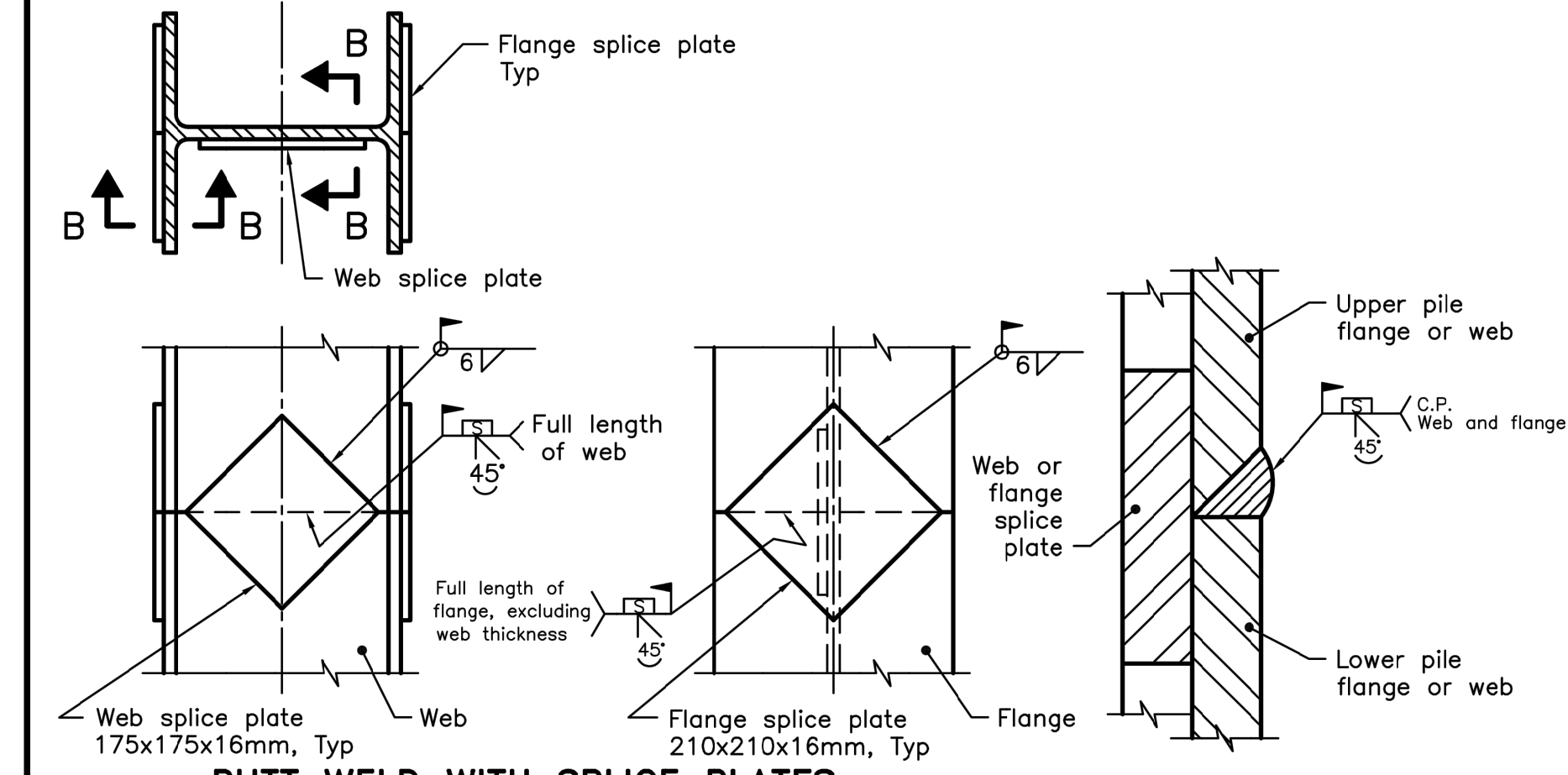
- NOTES:**
- A Flange plates shall be according to CSA G40.20/G40.21, Grade 300W.
  - B Welding shall be according to CSA W59.
  - C Driving shoe Type I shall be used unless Type II is specified.
  - D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2010	Rev	2
<b>FOUNDATION PILES</b>	-----		
<b>STEEL H-PILE DRIVING SHOE</b>	<b>OPSD 3000.100</b>		



BUTT WELD

SECTION A-A



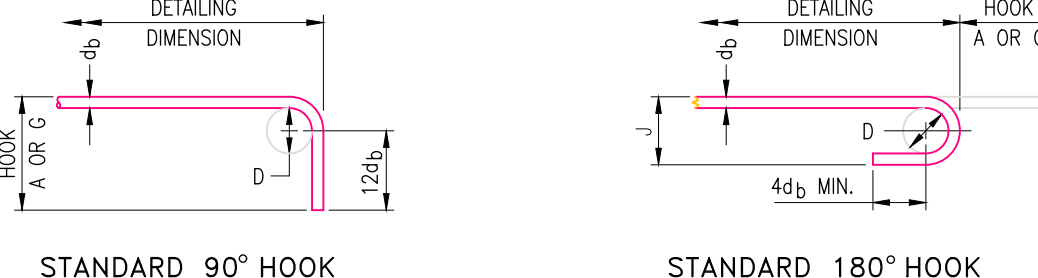
BUTT WELD WITH SPLICE PLATES

SECTION B-B

- NOTES:**
- A The pile splice shall be perpendicular to the centreline of pile.
  - B Splice plates shall be according to CSA-G40.20/G40.21, Grade 300W.
  - C Welding shall be according to CSA-W59.
  - D Splice plates applicable to H-pile sizes HP310x79, HP310x110, and HP310x132.
  - E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2005	Rev	0
<b>FOUNDATION PILES</b>	-----		
<b>STEEL H-PILE SPLICE</b>	<b>OPSD - 3000.150</b>		

HOOK DIMENSIONS FOR UNCOATED BARS



MINIMUM BENDING PIN DIAMETER, D, mm

BAR SIZE	STEEL GRADE	
	400R (2)	400W
10M	70	60
15M	100	90
20M	120	100
25M	150	150
30M	250	200
35M	300	250
45M	450 (1)	400
55M	600 (1)	550

- (1) Special fabrication is required for bends exceeding 90° for bars of these sizes and grade.
- (2) For stainless steel, with Fy = 500, use the same D as for 400R.

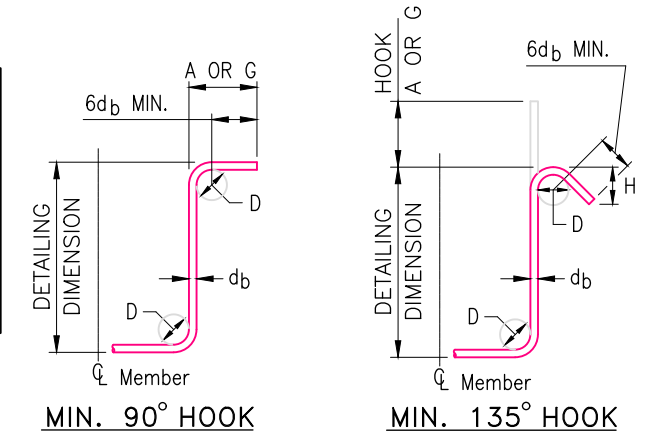
STANDARD HOOK DIMENSIONS

BAR SIZE	90° HOOKS		180° HOOKS	
	A OR G (mm)	A OR G (mm)	A OR G (mm)	J (mm)
10M	180	180	140	130
15M	260	250	180	170
20M	310	300	220	200
25M	400	400	280	280
30M	510	490	400	350
35M	610	590	480	430
45M	790	770	680	630
55M	1030	1010	900	850

NOTE: All Hook Dimensions are according to the CHBDC-2000.

MINIMUM STIRRUP AND TIE HOOK DIMENSIONS

BAR SIZE	BAR DIAM. db (mm)	PIN DIAM. D (mm)	90°		135°	
			A OR G (mm)	A OR G (mm)	H (approx.) (mm)	H (approx.) (mm)
10M	11.3	45	100	100	70	70
15M	16.0	65	140	140	100	100
20M	19.5	80	180	175	115	115
25M	25.2	100	230	230	150	150



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