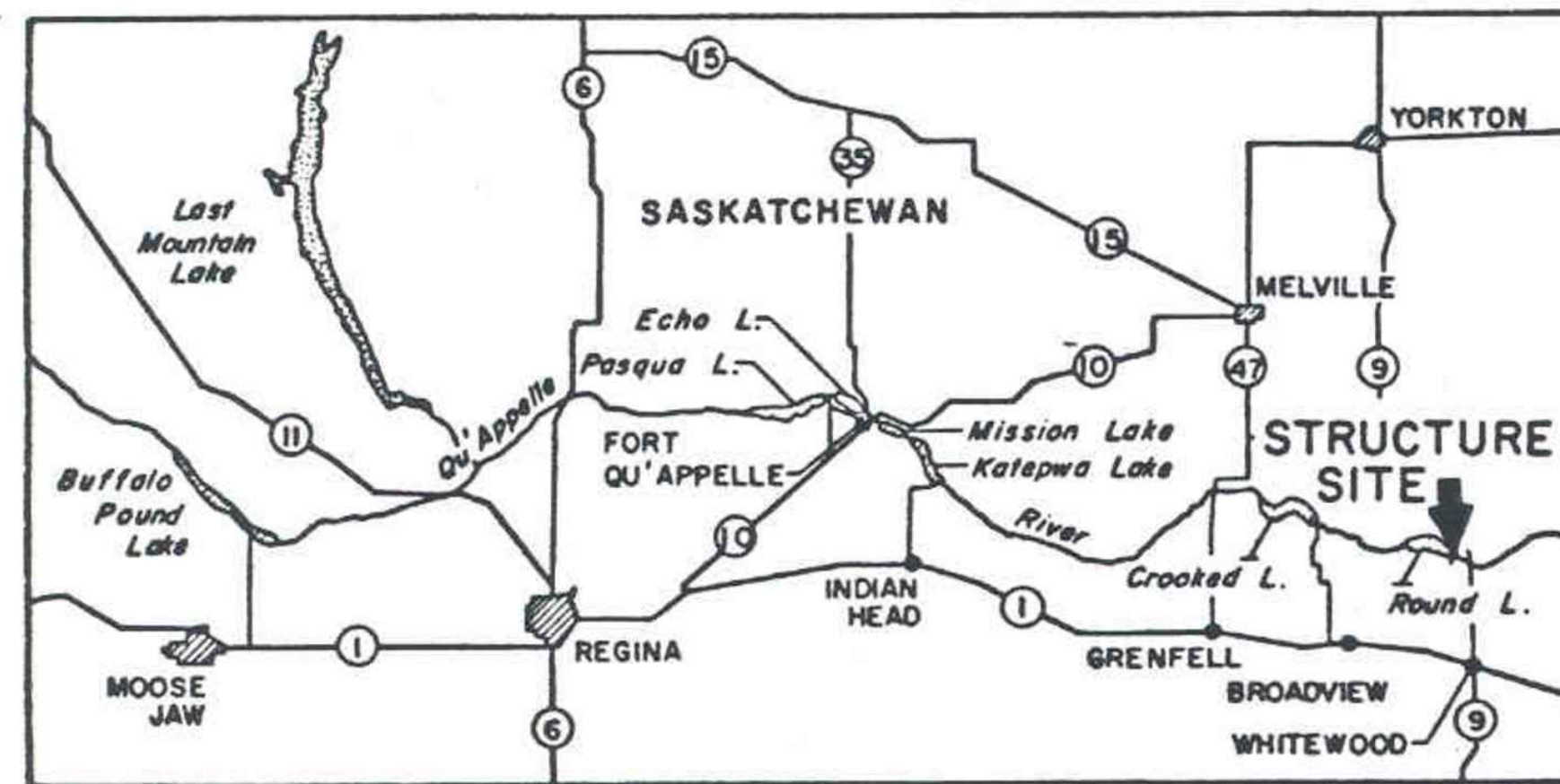
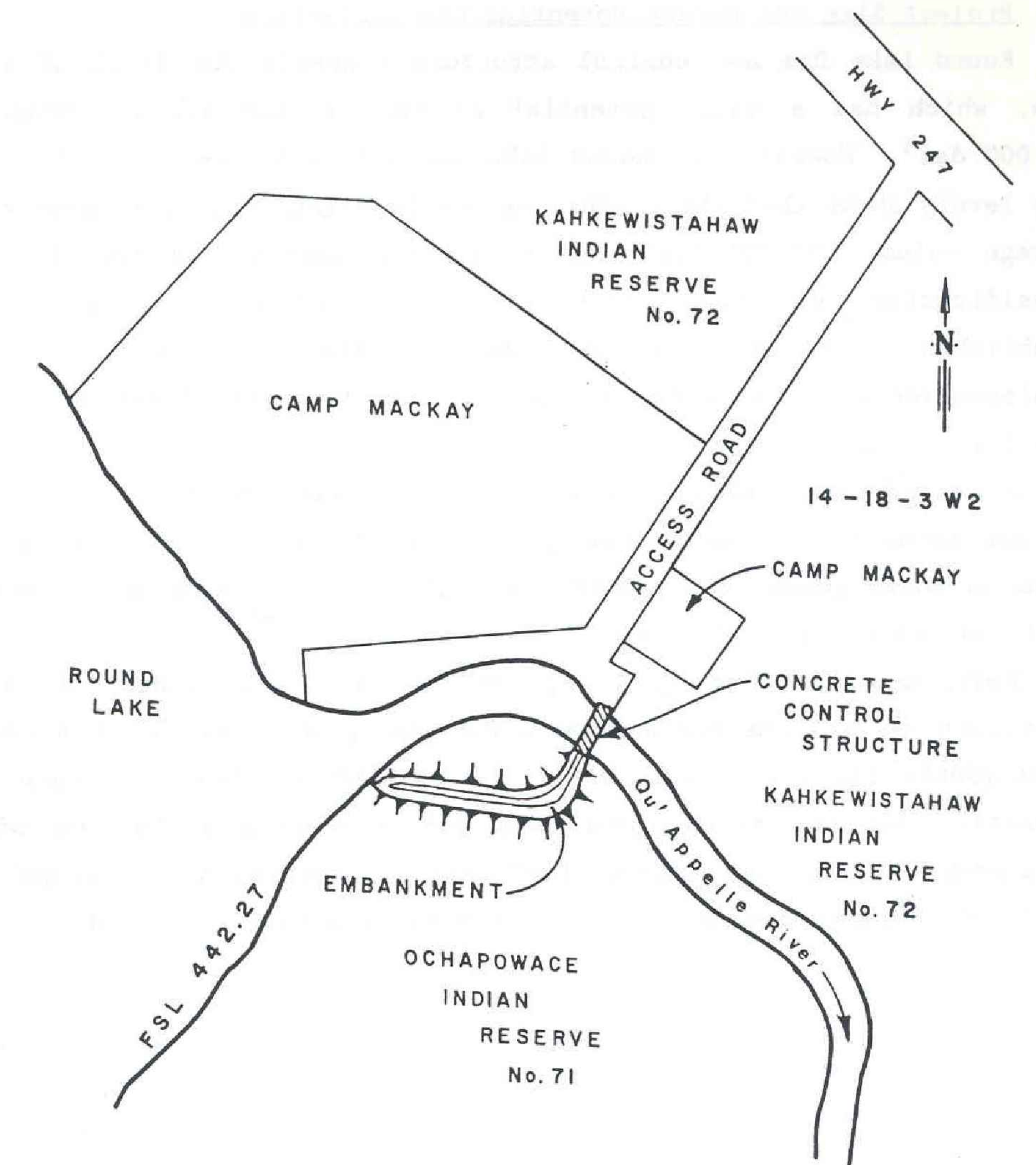


# ROUND LAKE DAM CONSTRUCTION PHASE 1 ROUND LAKE, SASKATCHEWAN



VICINITY MAP  
N.T.S.



SITE PLAN  
N.T.S.

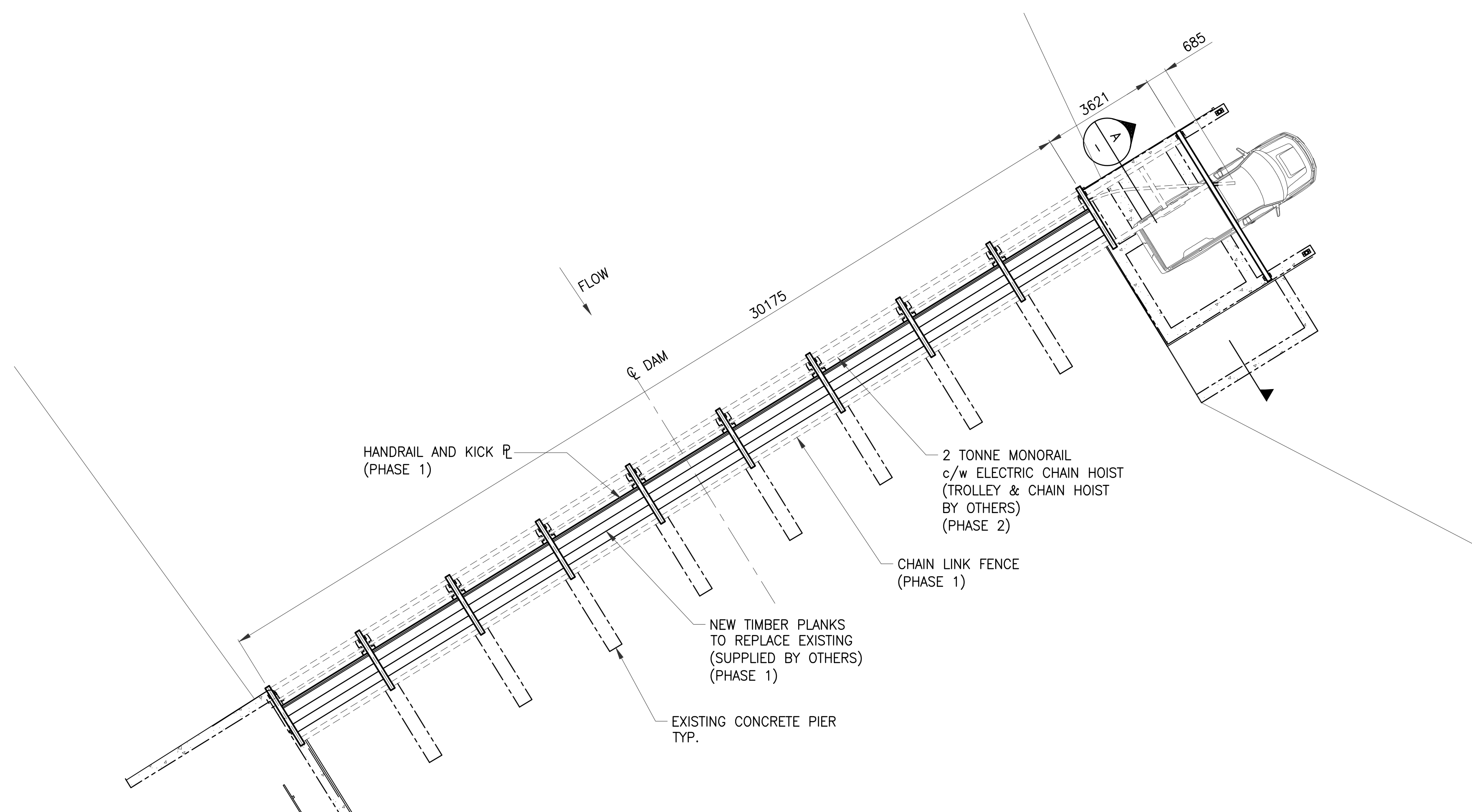


203 WELLMAN CRESCENT  
SASKATOON SASKATCHEWAN CANADA S7T 0J1  
TEL.: 1-306-665-6223 | FAX: 1-306-665-8589 | WWW.WSPGROUP.COM

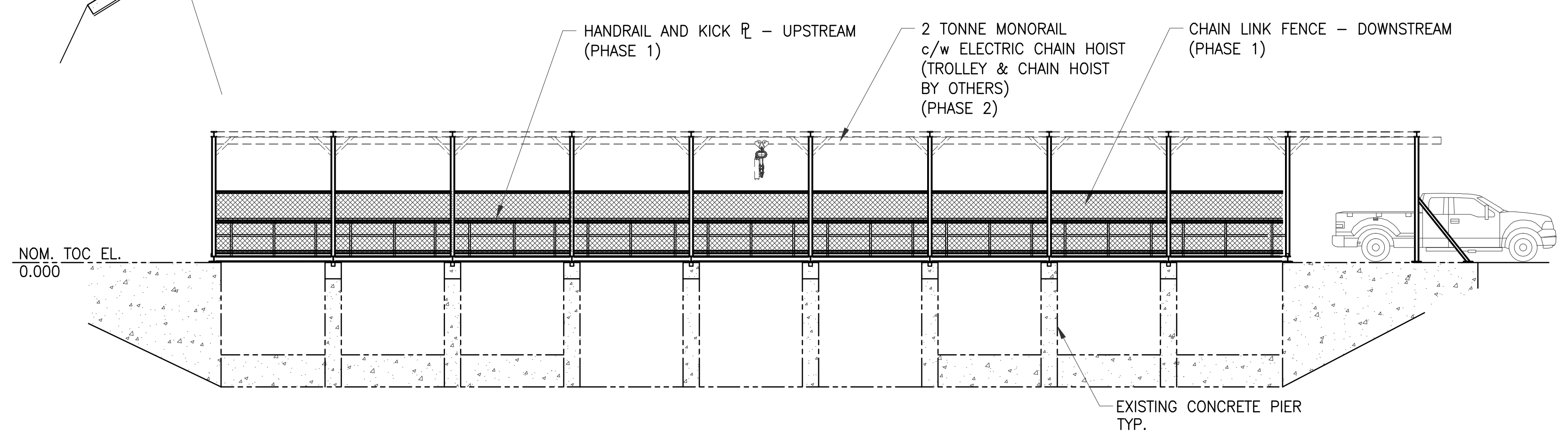
## DRAWING SHEET LIST :

- DRAWING # 209166: COVER SHEET
- DRAWING # 209167: GENERAL ARRANGEMENT
- DRAWING # 209168: DEMOLITION PLAN
- DRAWING # 209169: STRUCTURAL STEEL PLAN
- DRAWING # 209170: STRUCTURAL STEEL ELEVATIONS
- DRAWING # 209171: STRUCTURAL STEEL SECTIONS & DETAILS 1
- DRAWING # 209172: STRUCTURAL STEEL SECTIONS & DETAILS 2
- DRAWING # 209173: SPECS AND NOTES

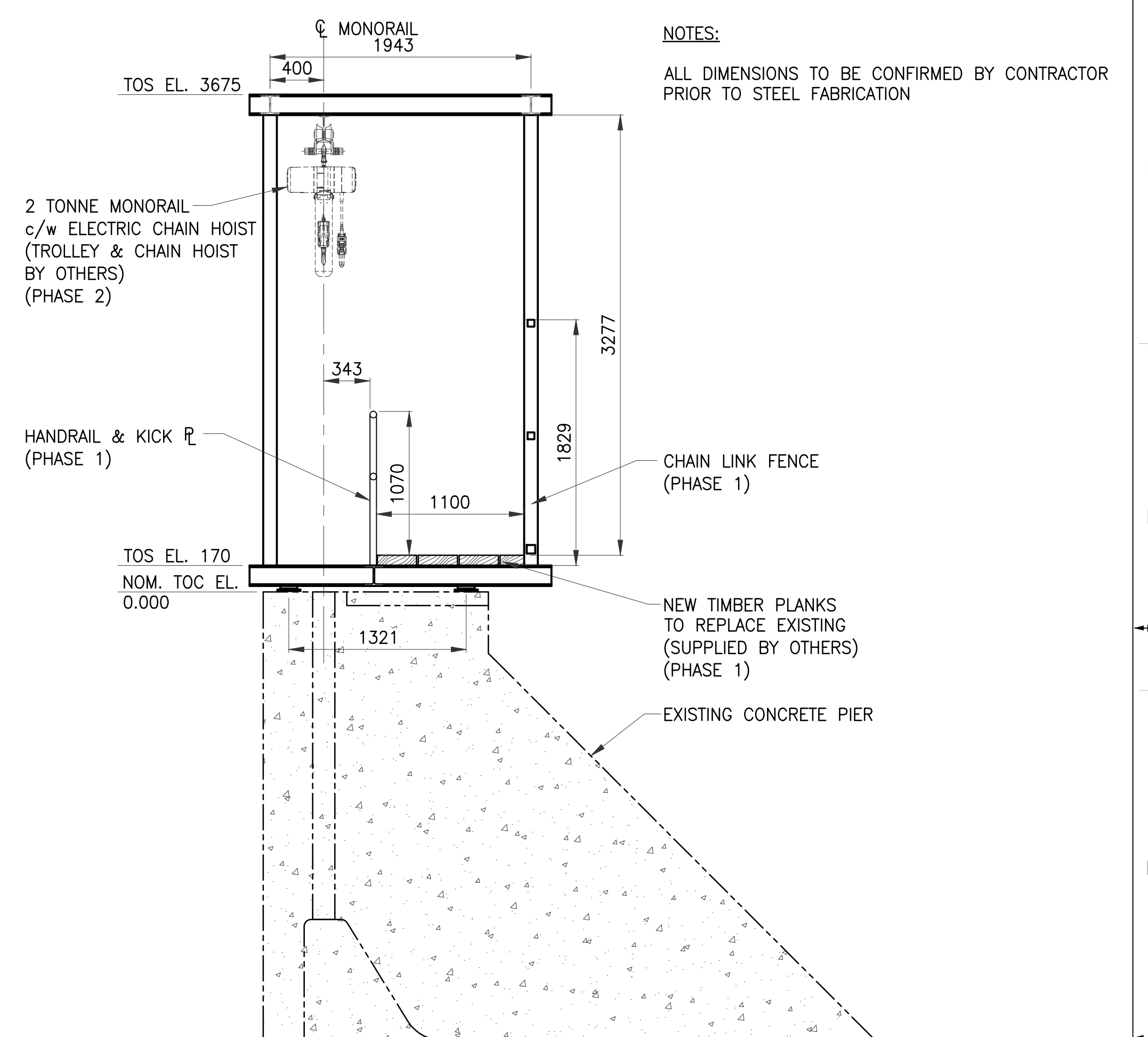
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		ISSUED FOR - REVISION:	DATE	DESCRIPTION												
0	17/10/27	ISSUED FOR CONSTRUCTION														
<small>CLIENT REF. #:</small> --	<small>PROJECT NO.:</small> 171-03240-00	<small>DATE:</small> 17/10/16	<small>SHEET NUMBER:</small> <p style="text-align: center;"><b>209166</b></p>	<small>ISSUE DATE:</small> 2017/10/27	<small>SHEET #:</small> <p style="text-align: center;">1 OF 8</p>											



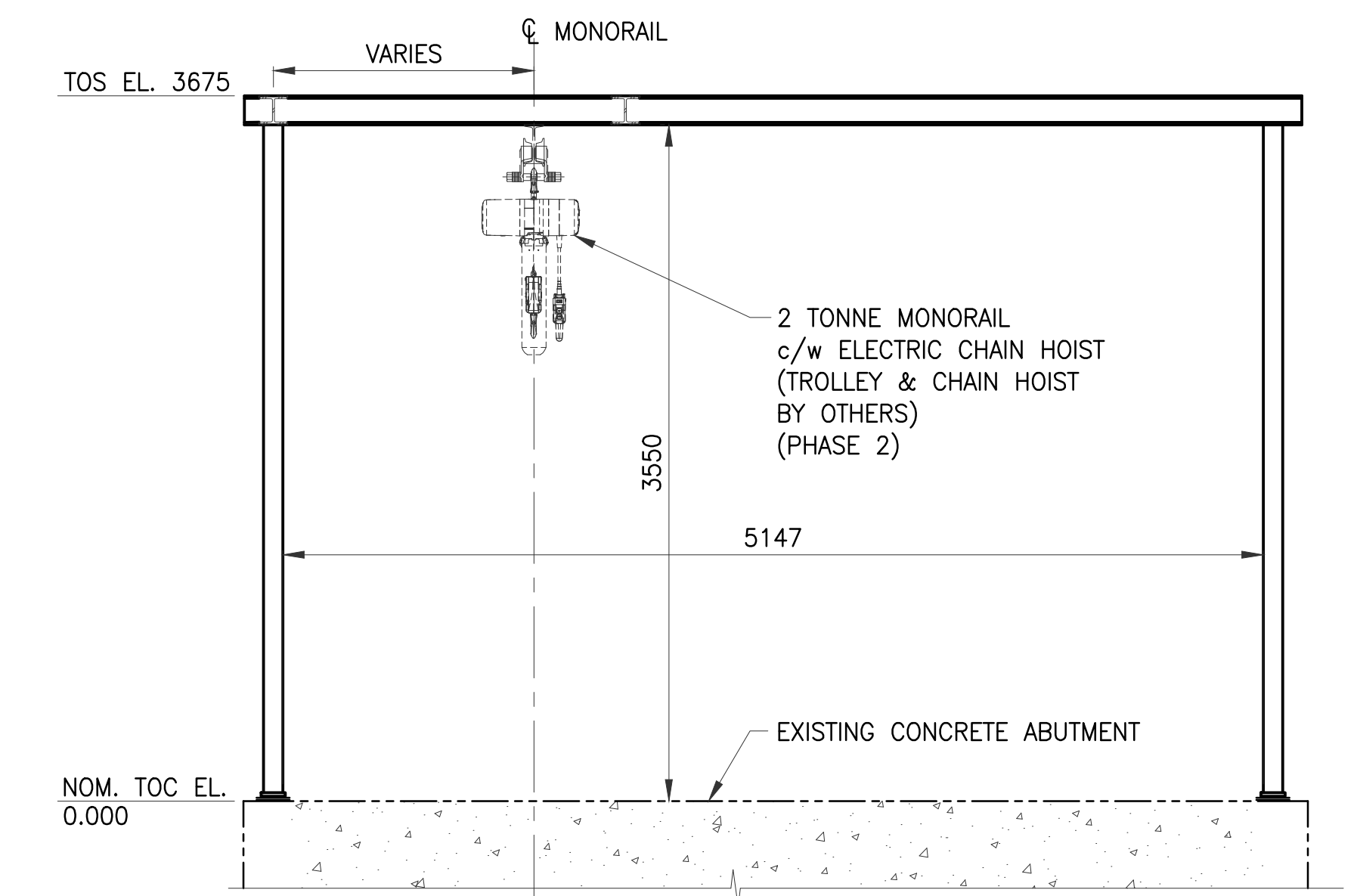
**PLAN**  
1 : 100



**ELEVATION - LOOKING UPSTREAM**  
1 : 100

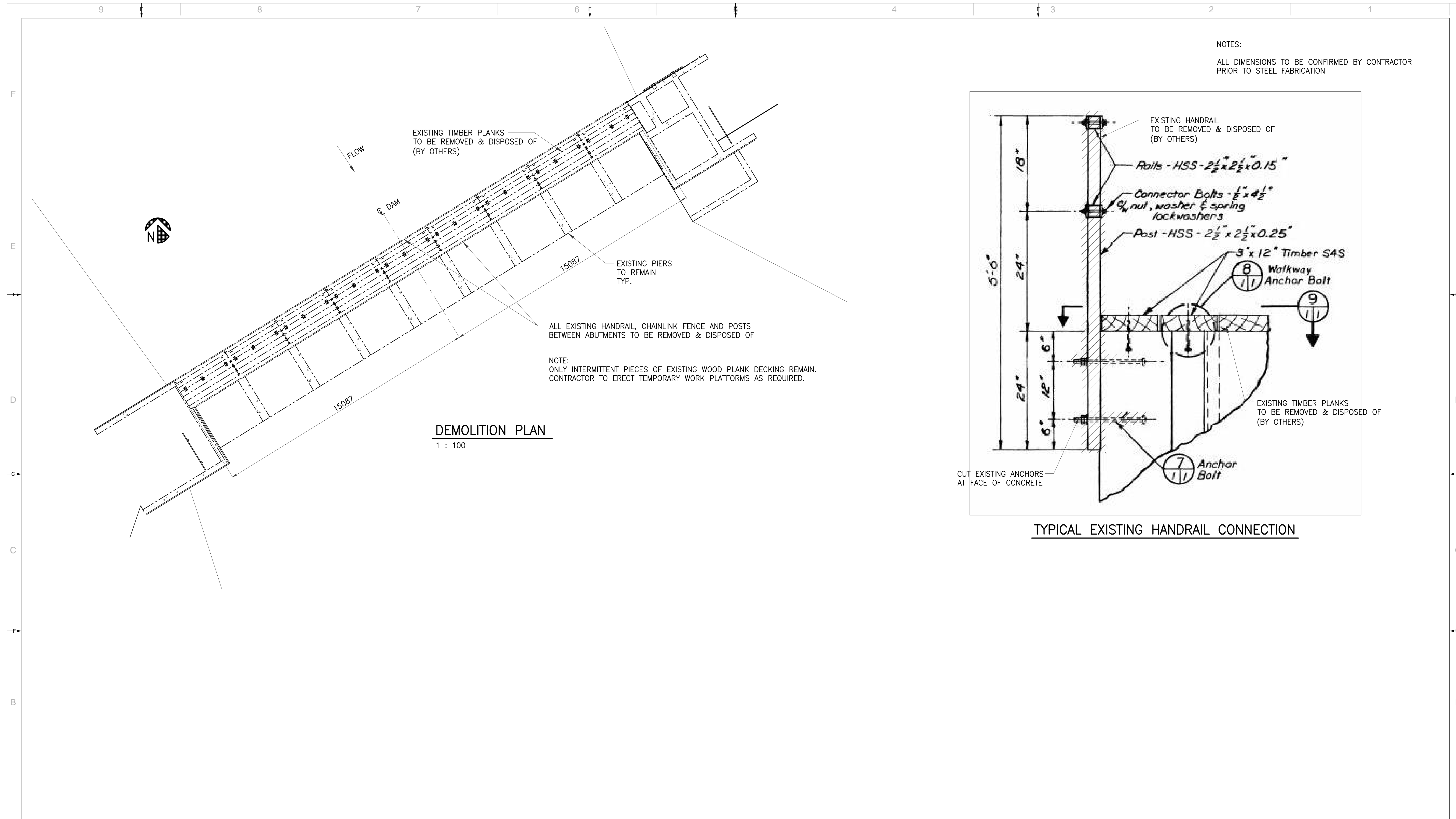


**TYPICAL SECTION THROUGH DAM**  
1 : 30

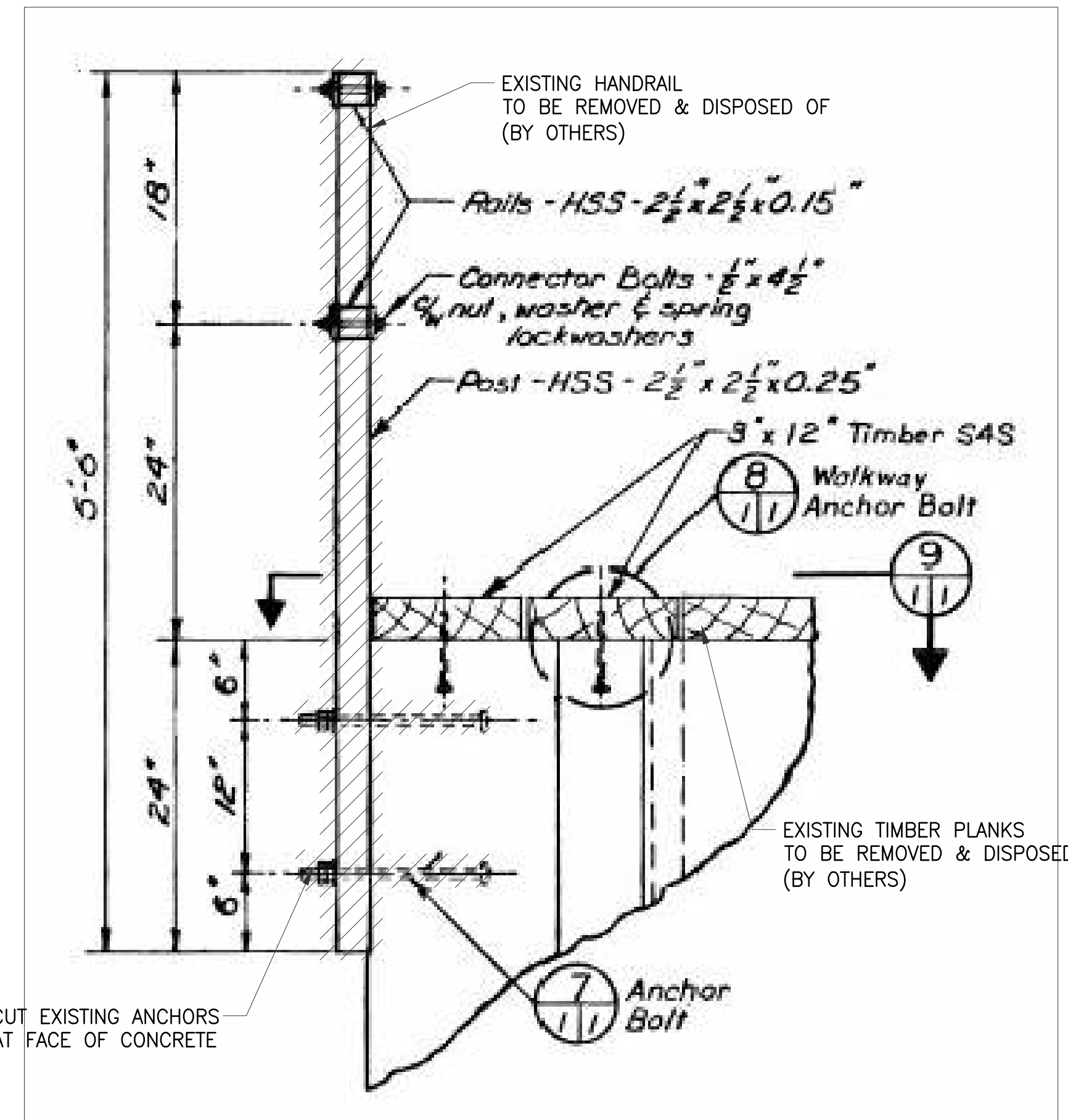


**A SECTION**  
1 : 30

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	IS.	RV.	DATE	DESCRIPTION											
0		17/10/27	ISSUED FOR CONSTRUCTION												
<p>CLIENT REF. #: --</p>	<p>PROJECT NO: 171-03240-00</p>	<p>DATE: 17/10/16</p>	<p>SHEET NUMBER: 209167</p> <p>SHEET #: 2 OF 8</p>	<p>ISSUE: ISSUED FOR CONSTRUCTION</p> <p>DATE OF: 2017/10/27</p>	<p>RV. # 0</p>										



NOTES:  
ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR PRIOR TO STEEL FABRICATION

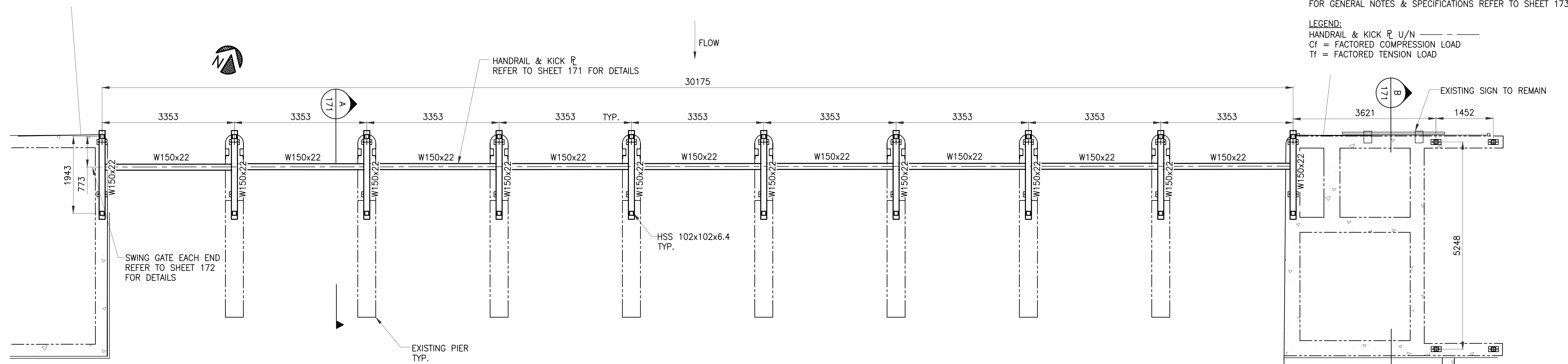


TYPICAL EXISTING HANDRAIL CONNECTION

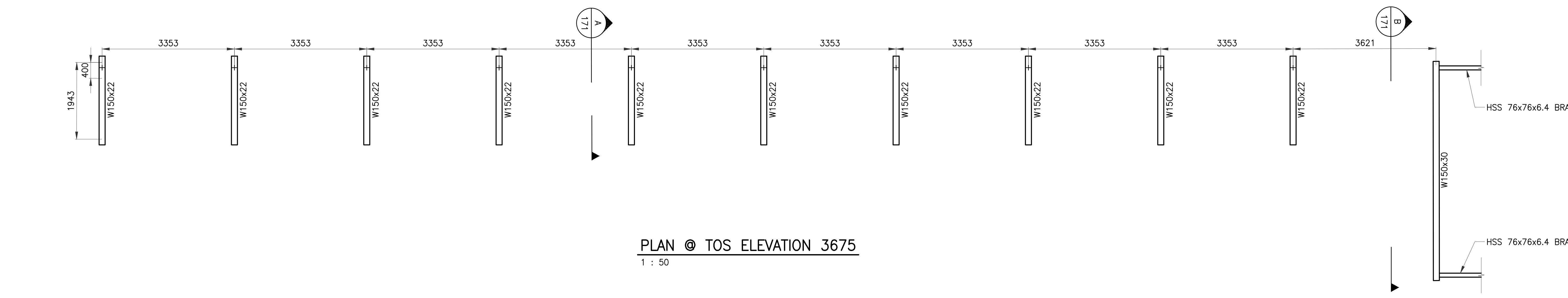
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0		17/10/27	ISSUED FOR CONSTRUCTION																
CLIENT REF. #: --	PROJECT NO: 171-03240-00	DATE: 17/10/16																	

**NOTES:**  
 ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR PRIOR TO STEEL FABRICATION  
 FOR GENERAL NOTES & SPECIFICATIONS REFER TO SHEET 173

**LEGEND:**  
 HANDRAIL & KICK P U/N ———  
 Cf = FACTORED COMPRESSION LOAD  
 Tf = FACTORED TENSION LOAD



**PLAN @ TOS ELEVATION 170**  
 1 : 50



**PLAN @ TOS ELEVATION 3675**  
 1 : 50

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**SEAL:**

**PROFESSIONAL ENGINEER**  
 M. AUQUIN  
 MEMBER 14741  
 2017/10/30  
 YR. EXPI. DATE  
 SASKATCHEWAN

**CERTIFICATE OF AUTHORIZATION**  
 WSP Canada Inc.  
 Number 02868  
 Permission to Consult held by:  
 Discipline Sk. Reg. No. Signature  
 STRUCT 14741

**CLIENT:**  
 AAFC

**CLIENT REF. #:**  
 --

**PROJECT:**  
 ROUND LAKE DAM  
 MONORAIL  
 PHASE 1 CONSTRUCTION

**PROJECT NO.:**  
 171-03240-00

**DATE:**  
 17/10/16

**WSP**

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 TEL: 1-306-965-6223 | FAX: 1-306-965-6589 | WWW.WSPGROUP.COM

**ORIGINAL SCALE:**  
 AS NOTED

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

1"

**TITLE:**  
 STRUCTURAL STEEL PLAN

**SHEET NUMBER:**  
 209169  
 4 OF 8

**DESIGNED BY:**  
 MDA

**DRAWN BY:**  
 BCT

**CHECKED BY:**  
 MDA

**DISCIPLINE:**  
 STRUCTURAL

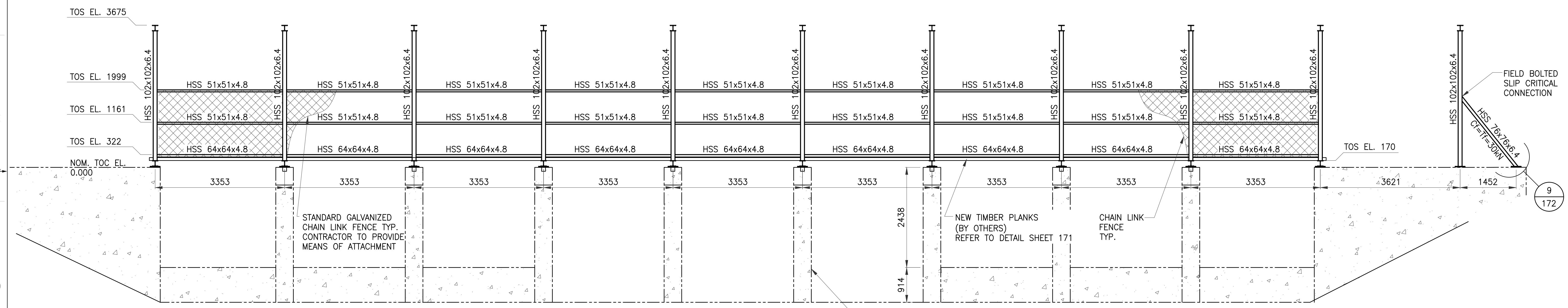
**ISSUE:**  
 ISSUED FOR CONSTRUCTION

**DATE OF:**  
 2017/10/27

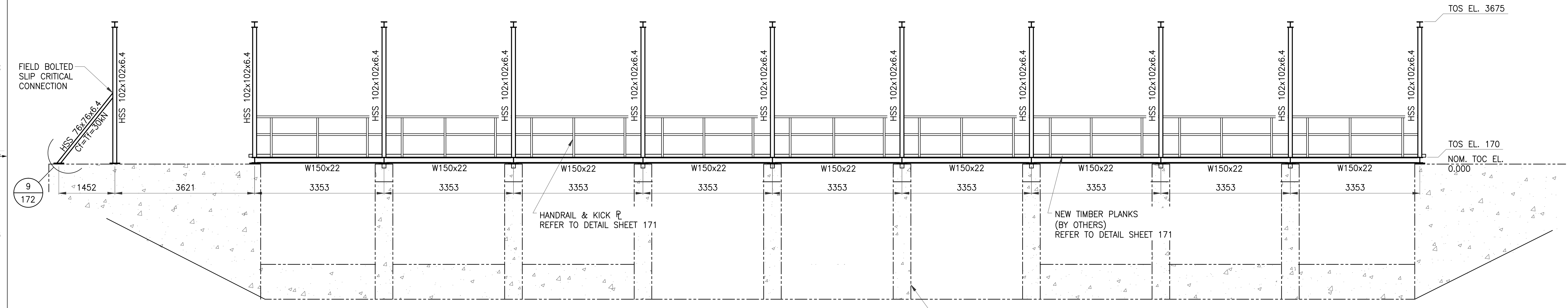
**RV. #**  
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**NOTES:**  
 ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR PRIOR TO STEEL FABRICATION  
 FOR GENERAL NOTES AND SPECIFICATIONS REFER TO SHEET 173

**LEGEND:**  
 HANDRAIL & KICK R U/N — — — —  
 Cf = FACTORED COMPRESSION LOAD  
 Tf = FACTORED TENSION LOAD



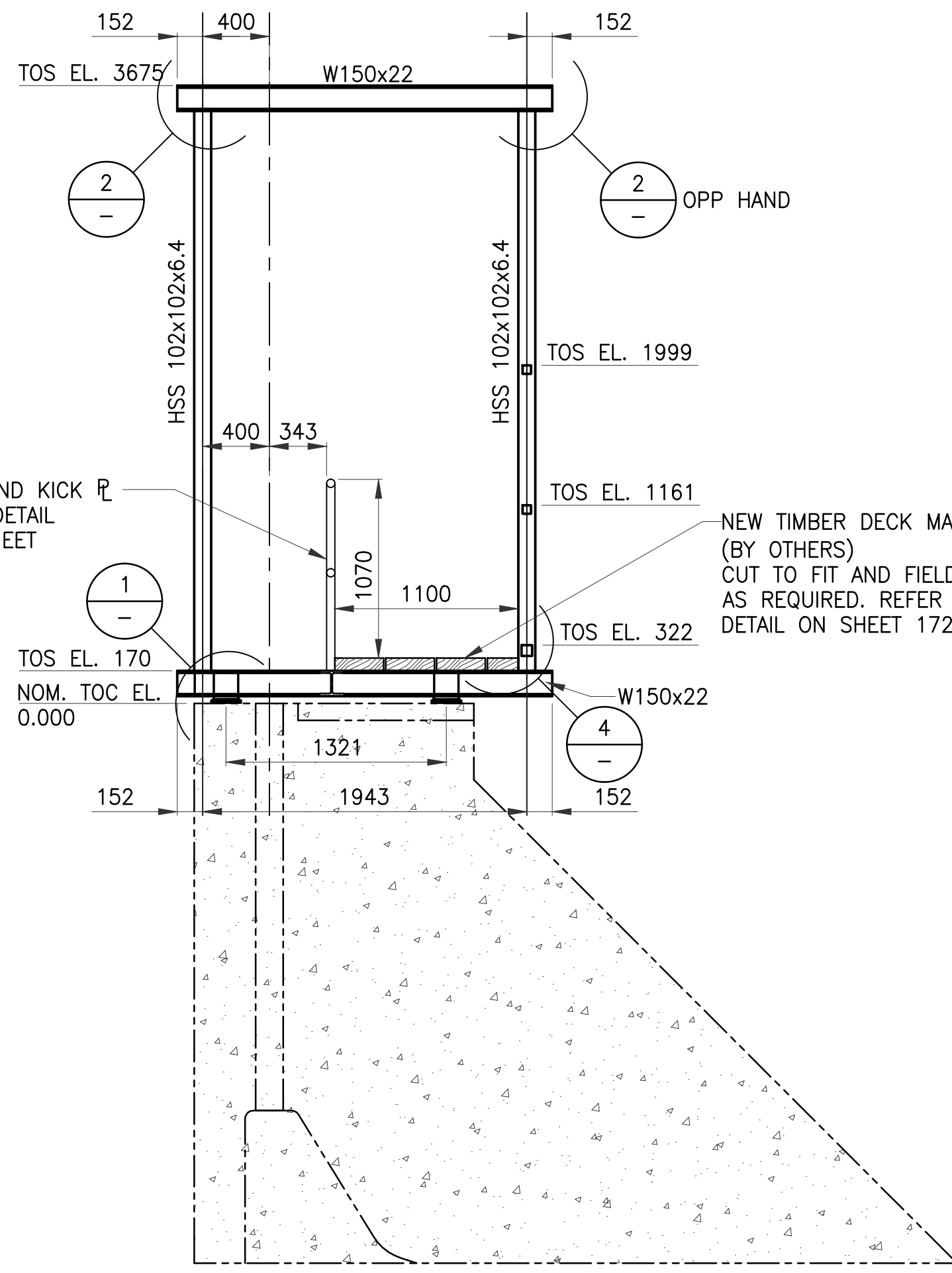
**ELEVATION LOOKING UPSTREAM**  
 1 : 50



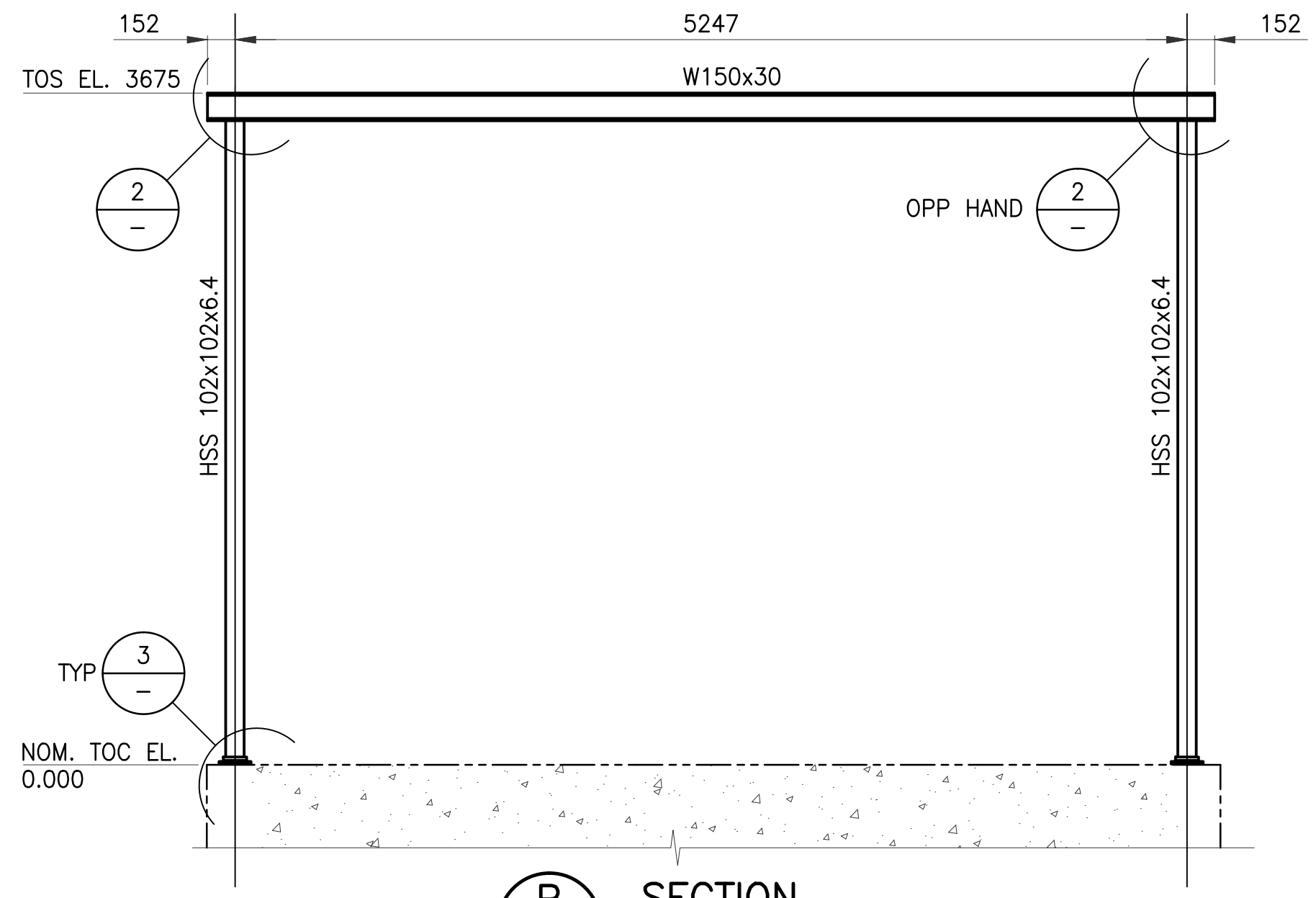
**ELEVATION LOOKING DOWNSTREAM**  
 1 : 50

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<b>SHEET NUMBER:</b> 209170	<b>ISSUE DATE:</b> 2017/10/27																		

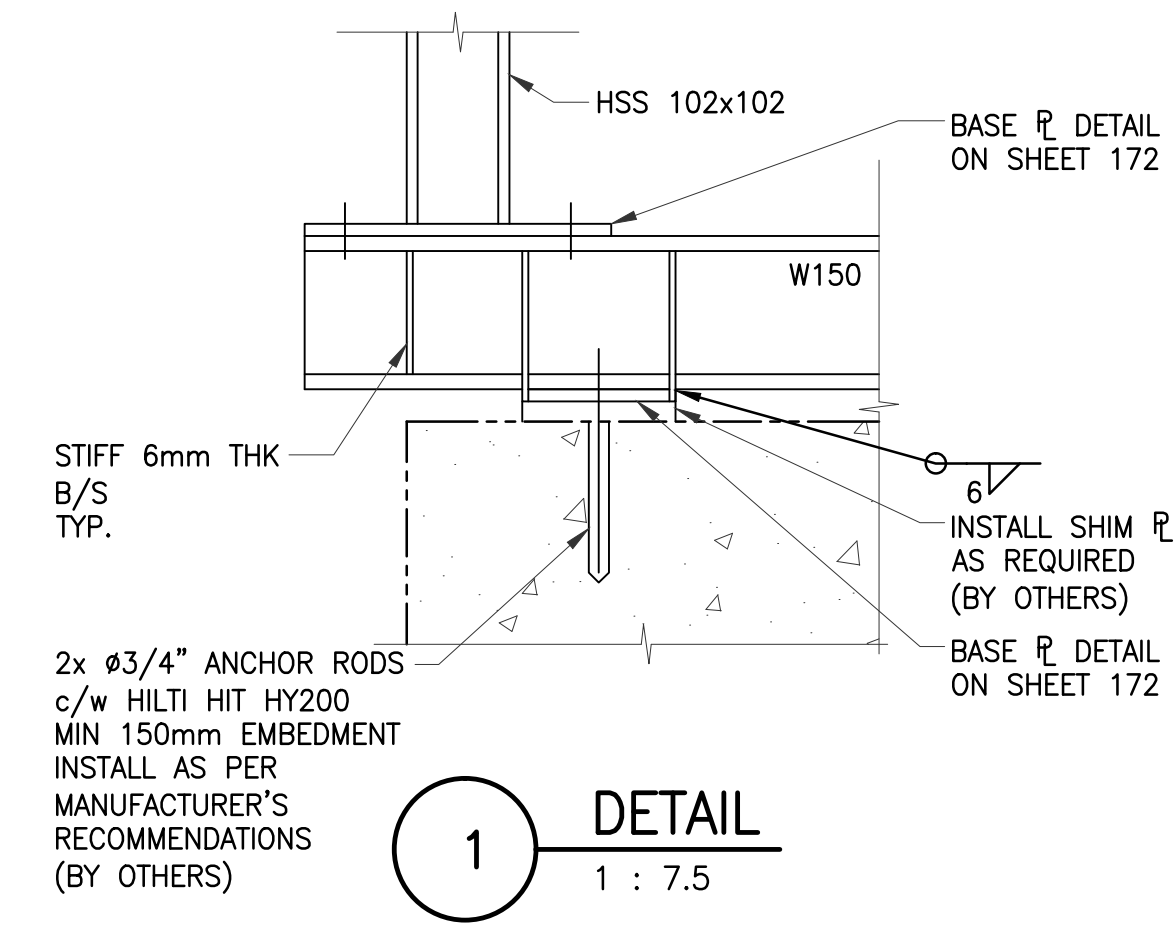
**NOTES:**  
ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR PRIOR TO STEEL FABRICATION



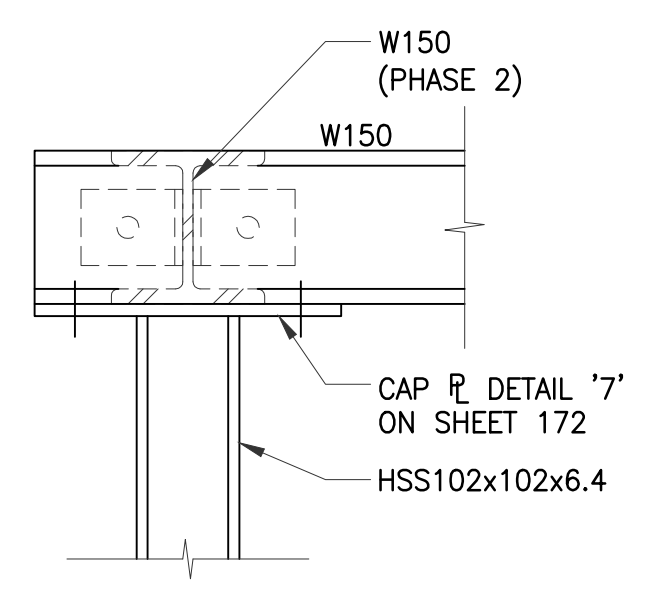
**A** TYPICAL SECTION THROUGH DAM  
169 1 : 30



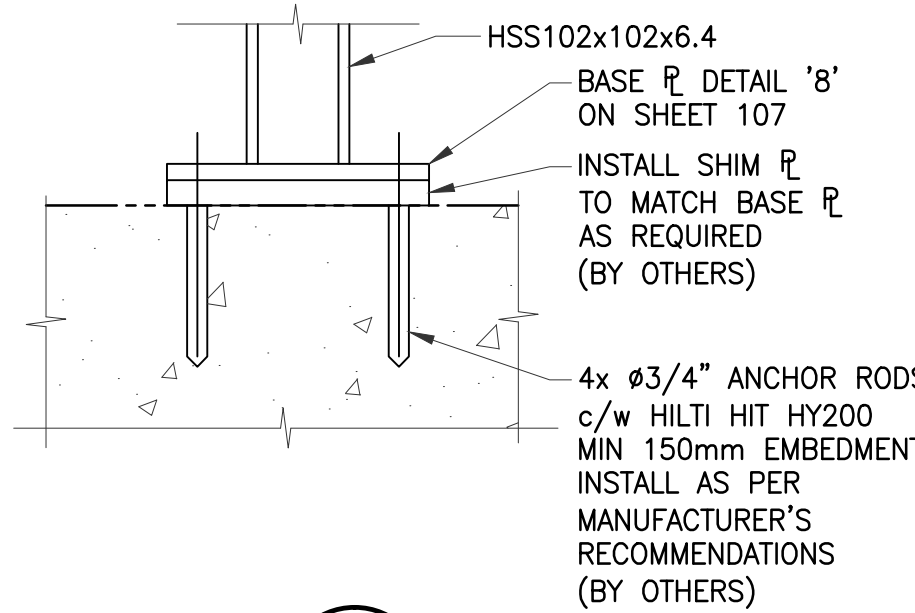
**B** SECTION  
169 1 : 30



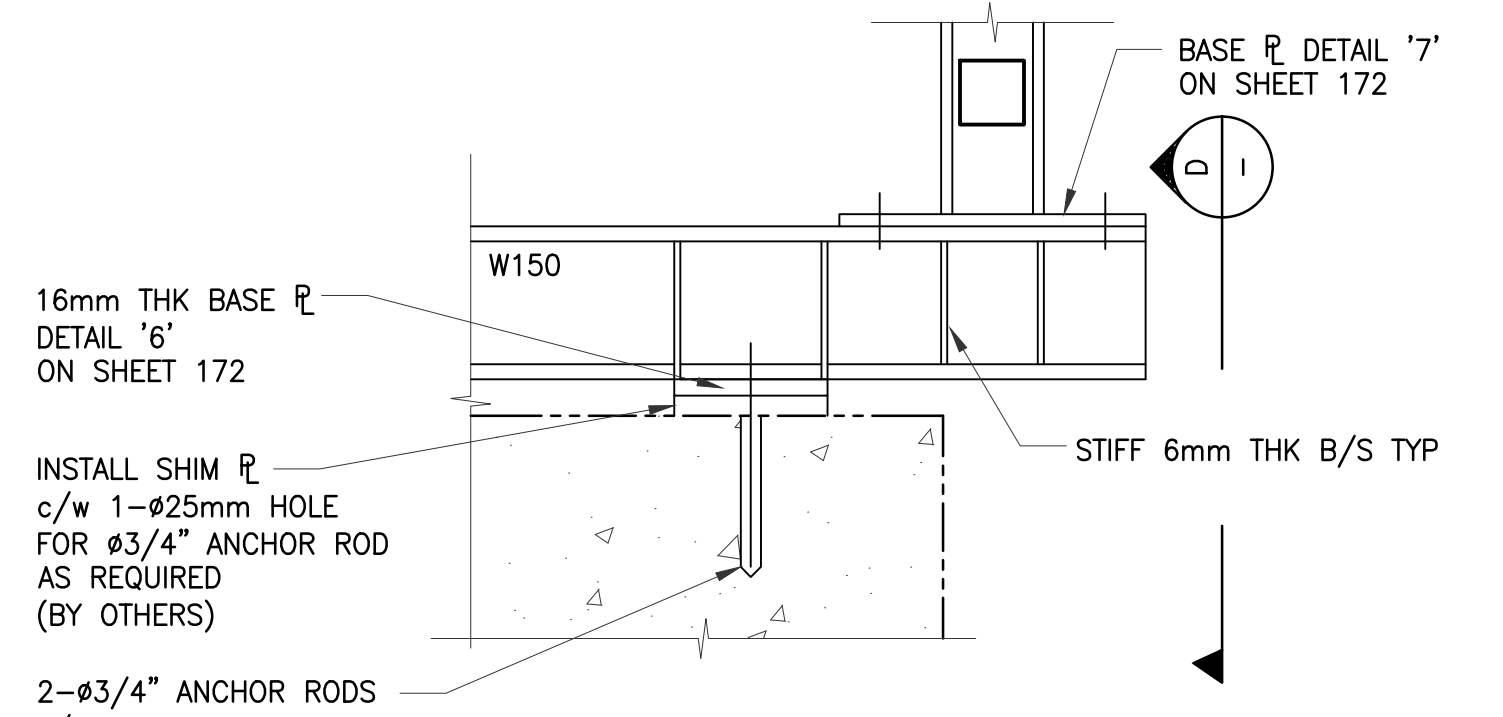
**1** DETAIL  
1 : 7.5



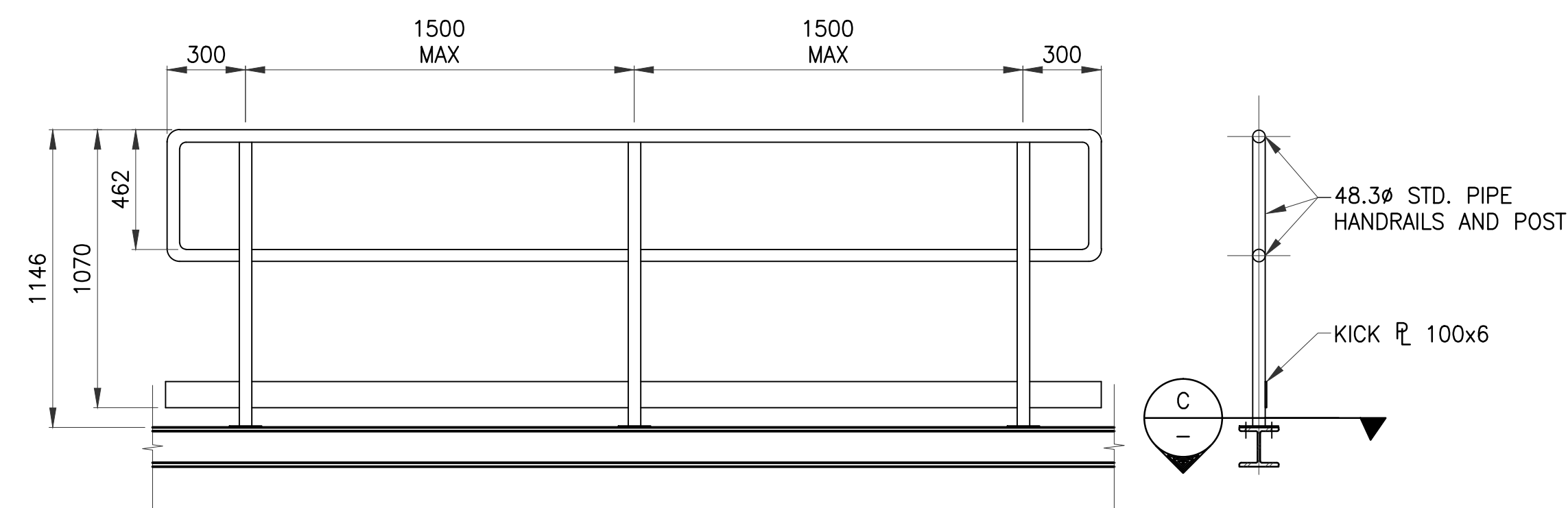
**2** DETAIL  
1 : 7.5



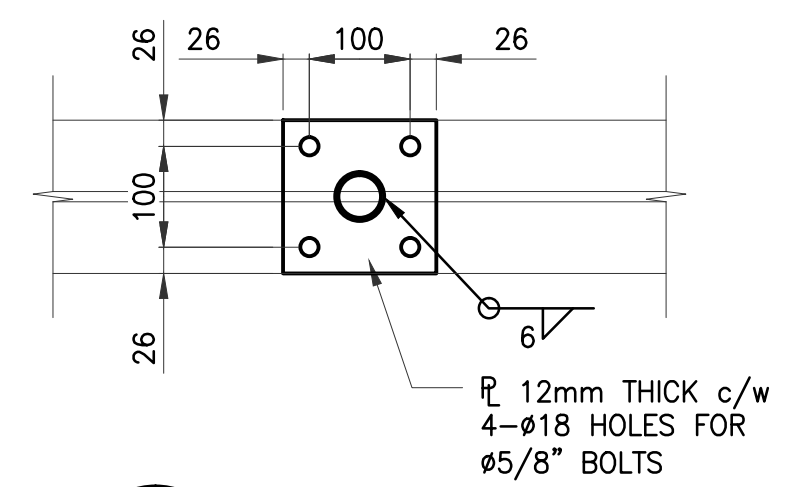
**3** DETAIL  
1 : 7.5



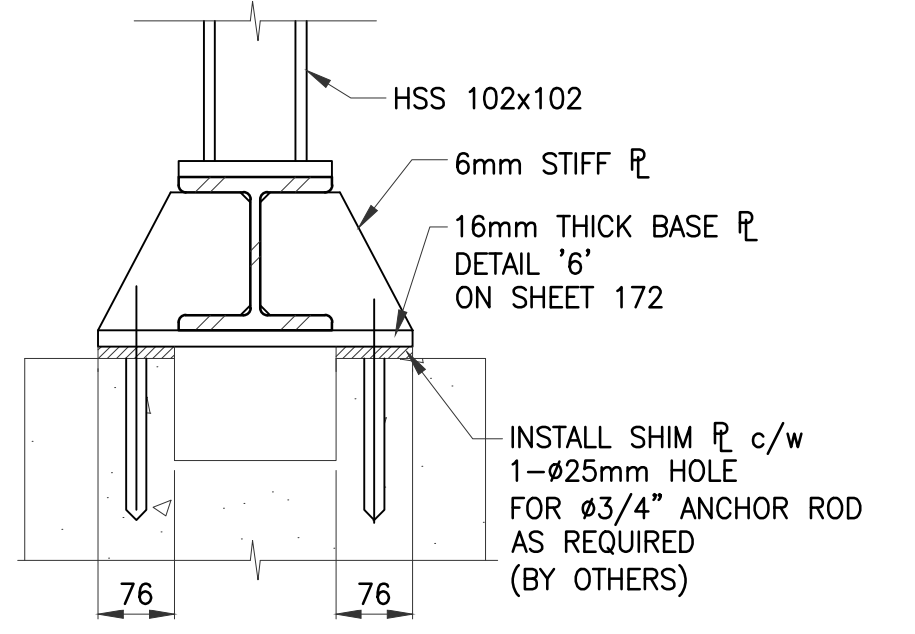
**4** DETAIL  
1 : 7.5



TYPICAL HANDRAIL DETAIL  
1 : 20

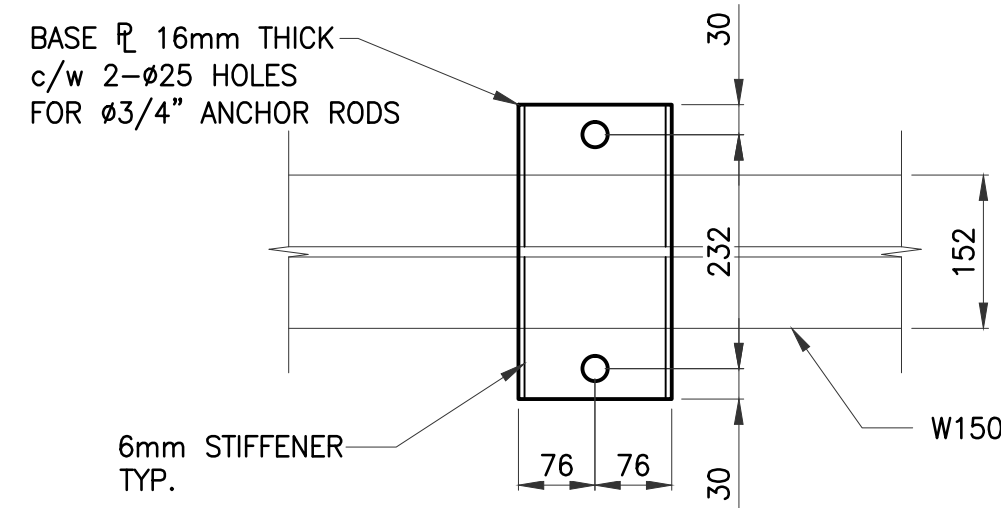


**C** SECTION  
1 : 7.5

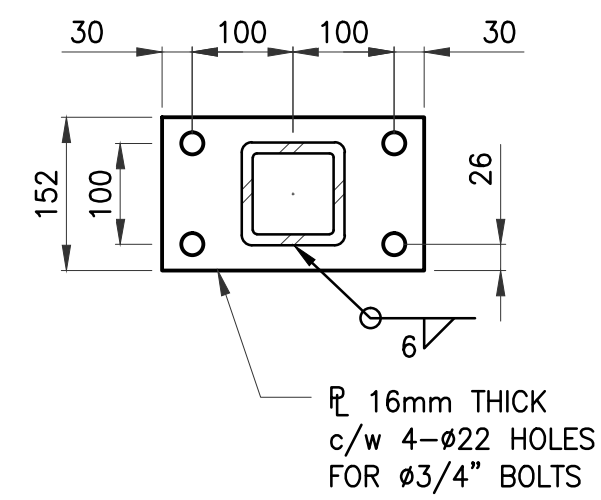


**D** SECTION  
1 : 7.5

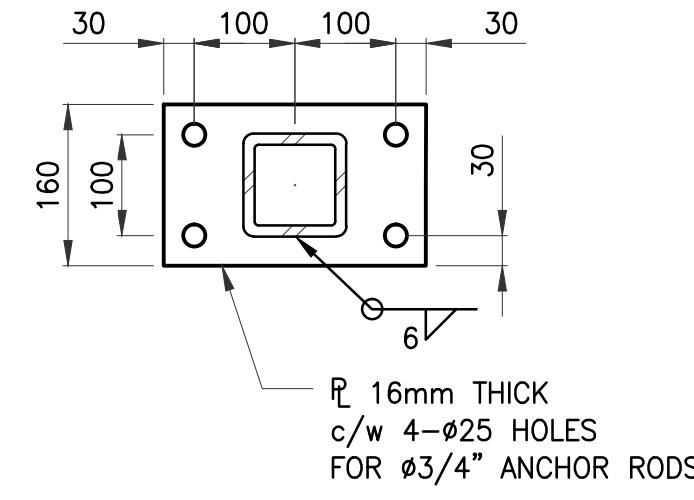
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	<table border="1"> <thead> <tr> <th>IS.</th> <th>RV.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>0</td> <td></td> <td>17/10/27</td> <td>ISSUED FOR CONSTRUCTION</td> </tr> </tbody> </table>	IS.	RV.	DATE	DESCRIPTION	0		17/10/27	ISSUED FOR CONSTRUCTION	<p>CLIENT REF. #: --</p>	<p>PROJECT NO: 171-03240-00</p>	<p>DATE: 17/10/16</p>	<p>IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.</p>	<p>SHEET NUMBER: 209171</p>	<p>ISSUE: ISSUED FOR CONSTRUCTION</p>
IS.	RV.	DATE	DESCRIPTION												
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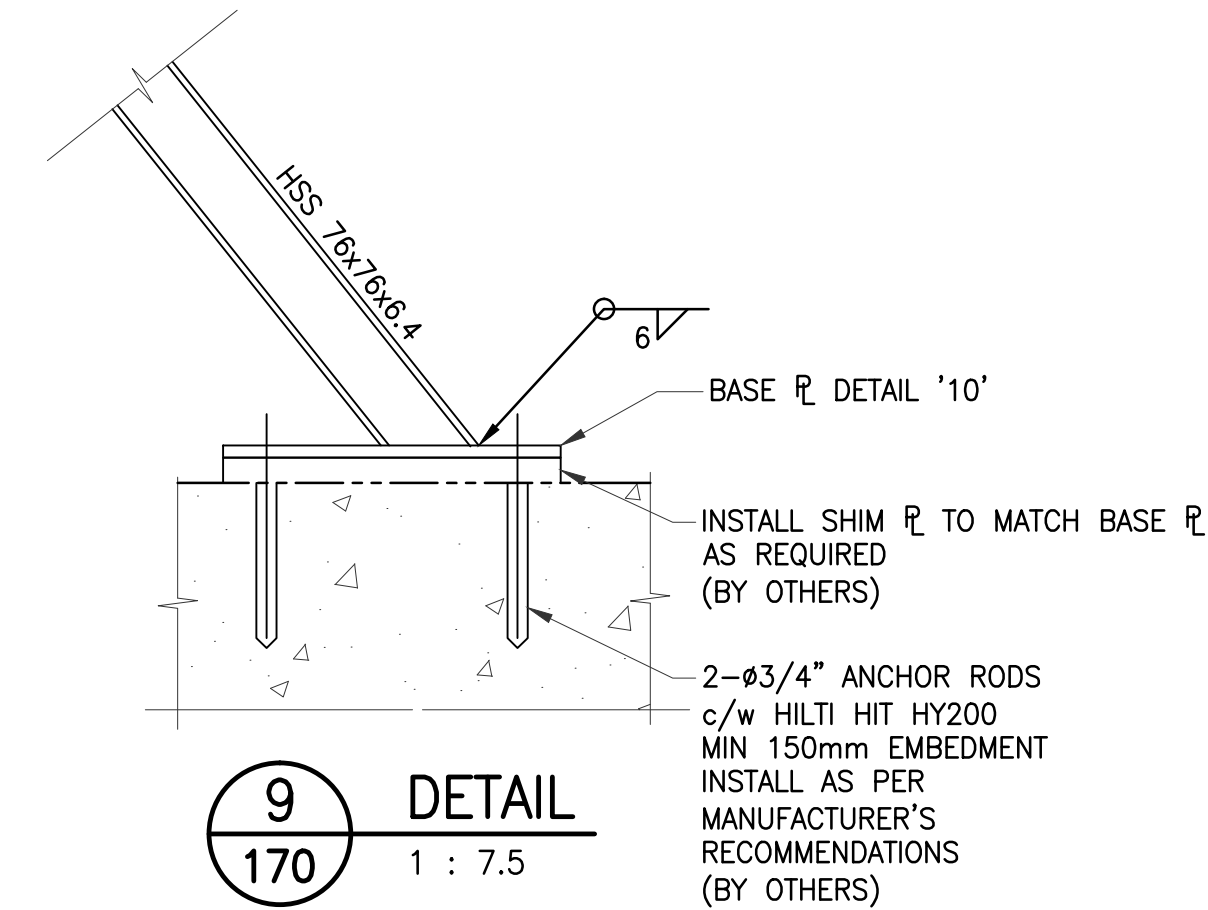
**6** BASE PL DETAIL  
1 : 7.5



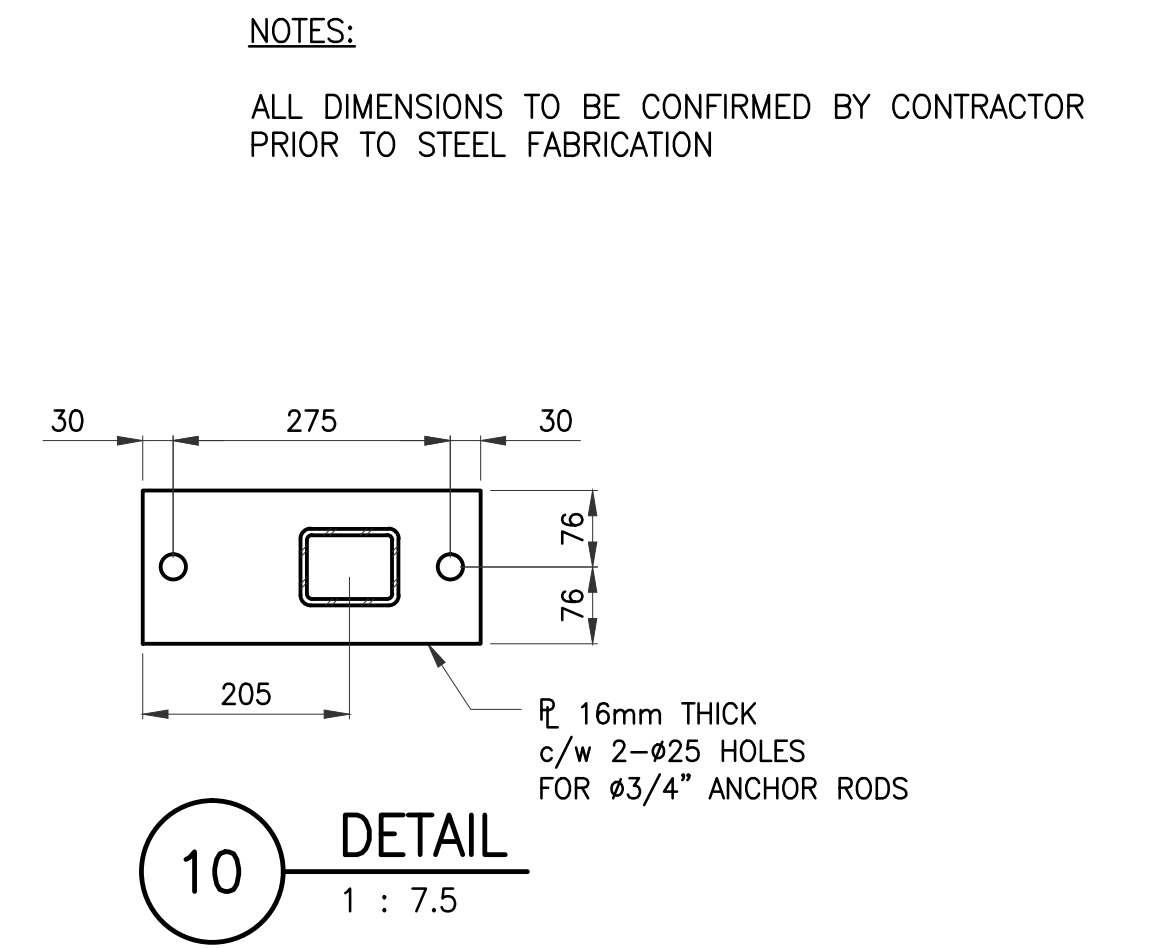
**7** TYPICAL HSS TO W150  
CAP PL / BASE PL DETAIL  
1 : 7.5



**8** BASE PL DETAIL  
1 : 7.5

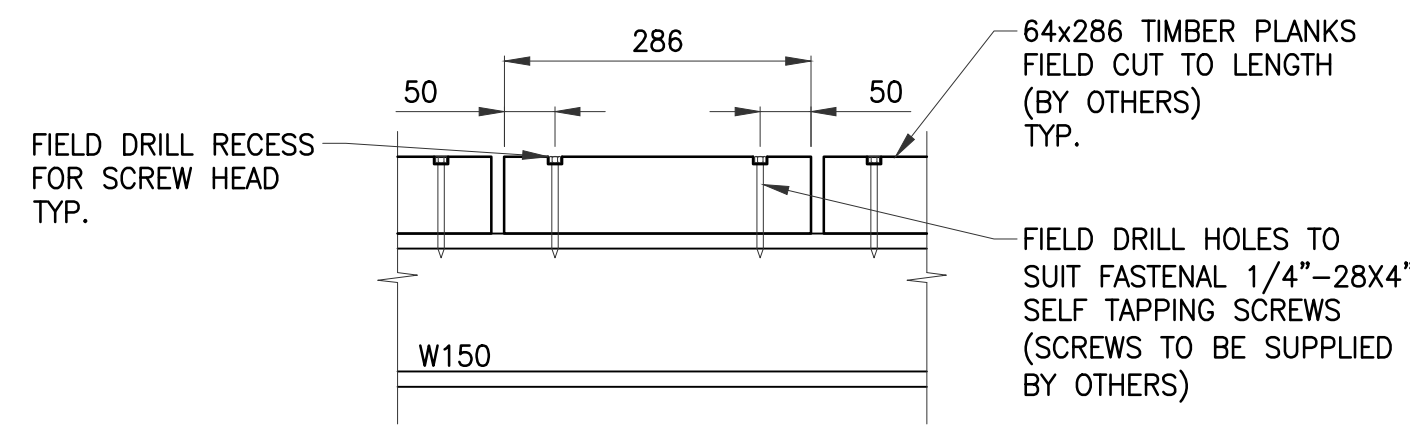


**9** DETAIL  
170 1 : 7.5

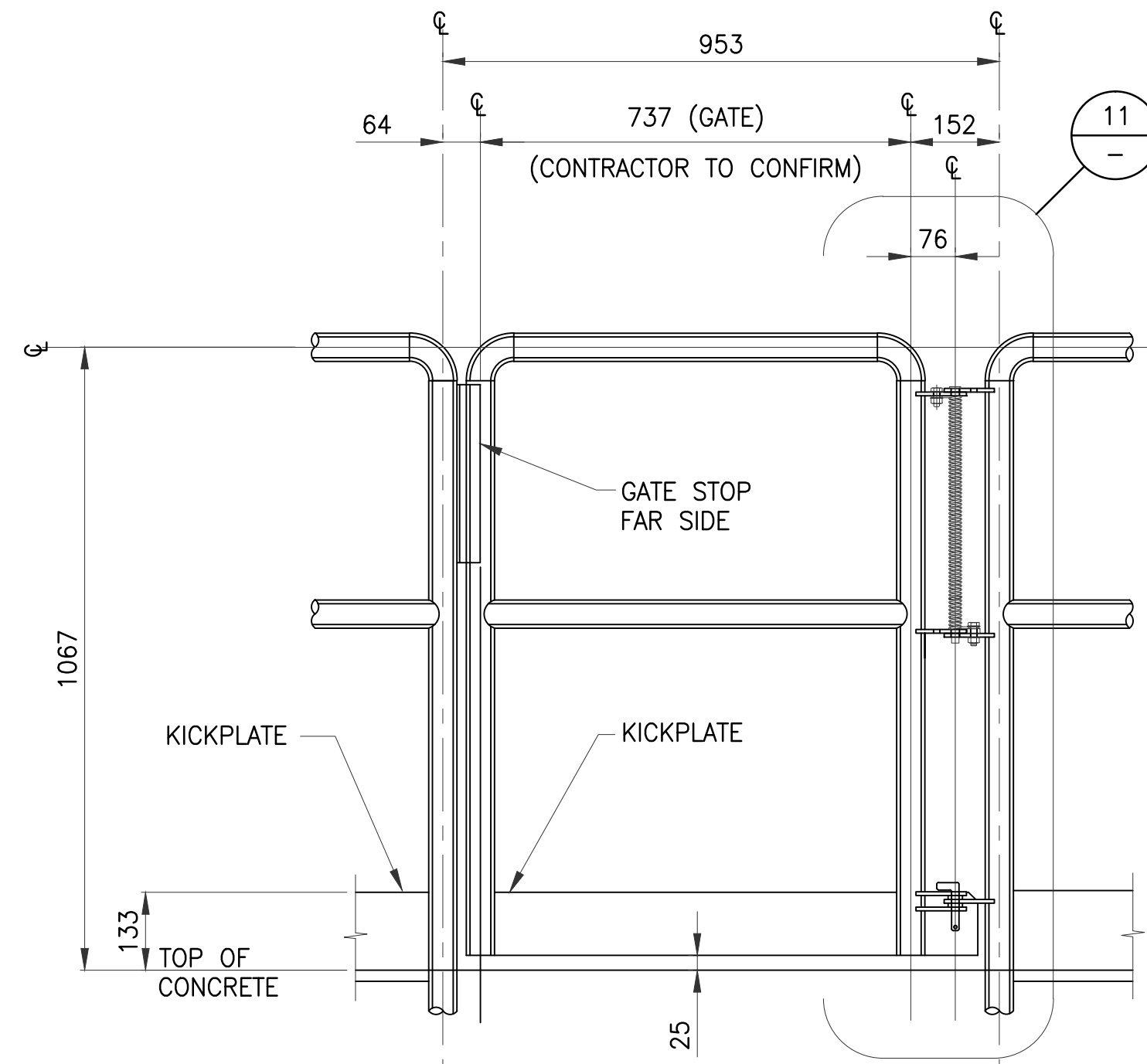


**10** DETAIL  
1 : 7.5

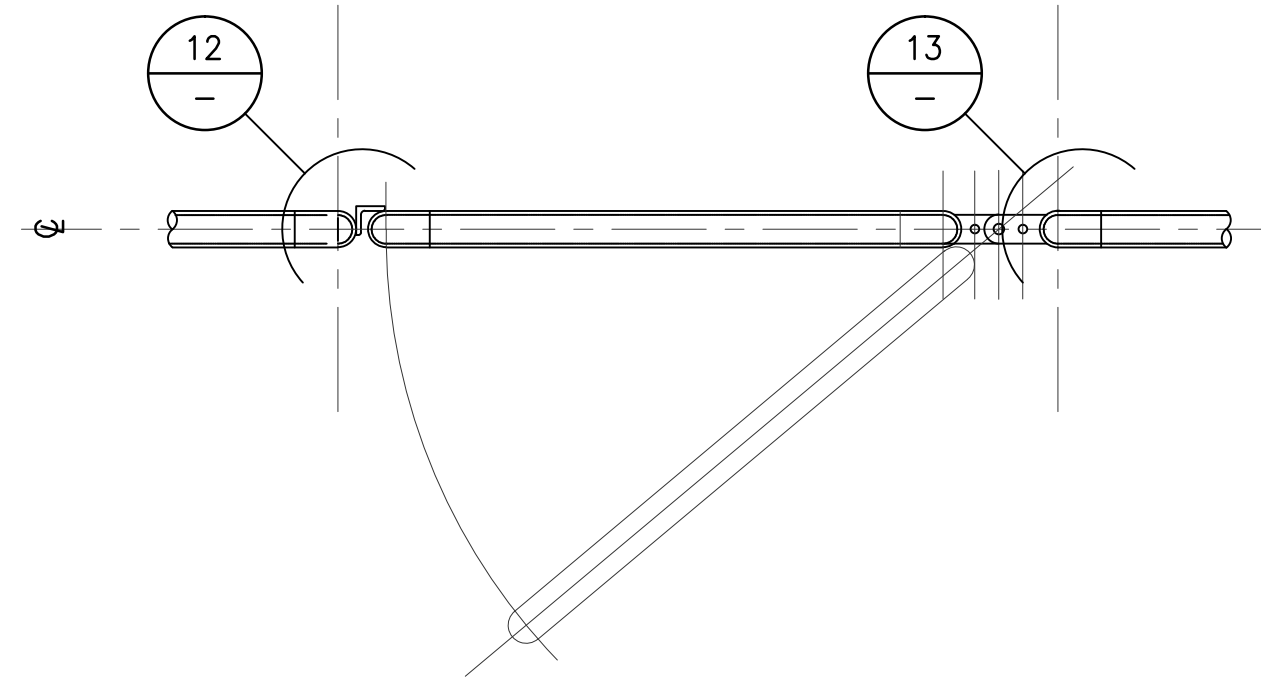
NOTES:  
ALL DIMENSIONS TO BE CONFIRMED BY CONTRACTOR  
PRIOR TO STEEL FABRICATION



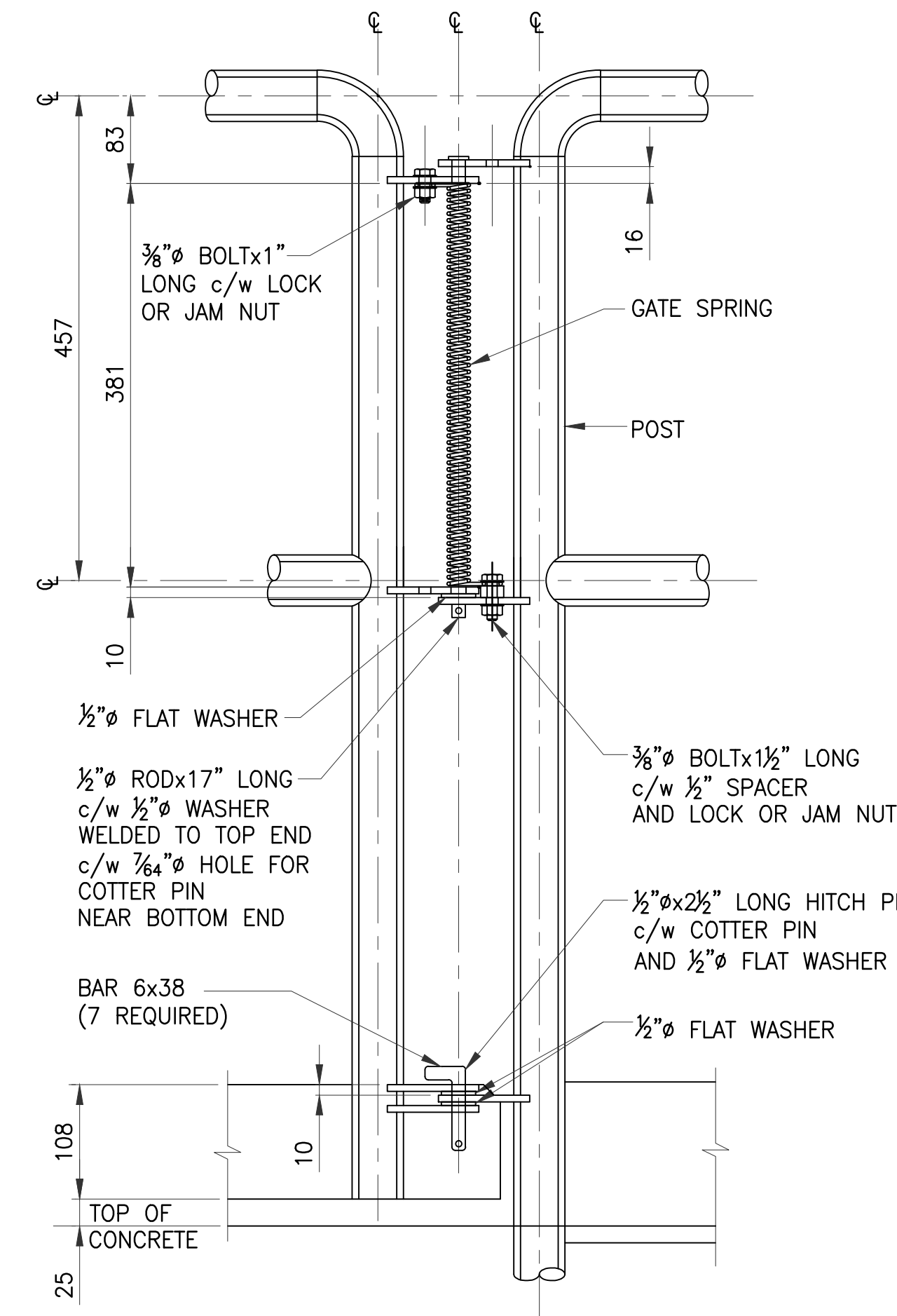
TIMBER PLANK CONNECTION DETAIL  
1 : 7.5



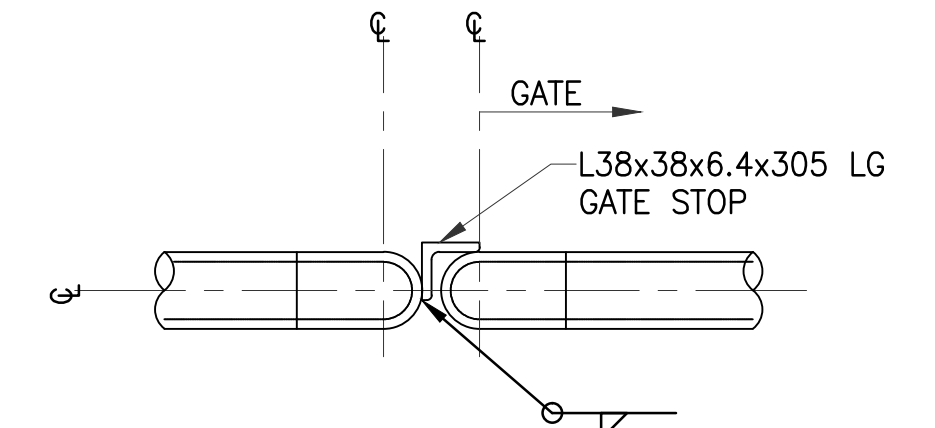
TYPICAL GUARDRAIL GATE ELEVATION



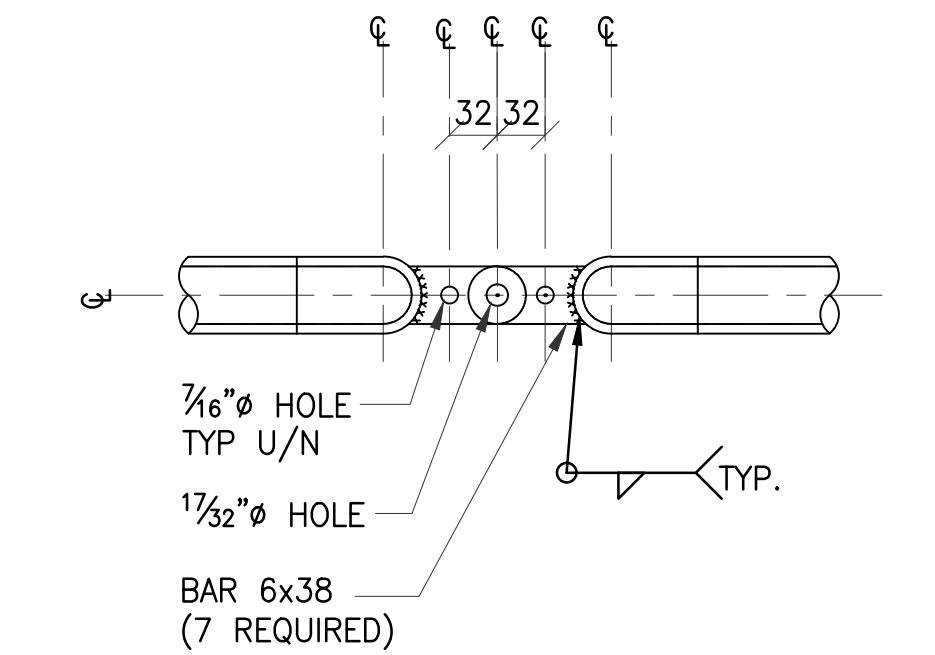
GUARDRAIL GATE SWING PLAN  
1 : 10



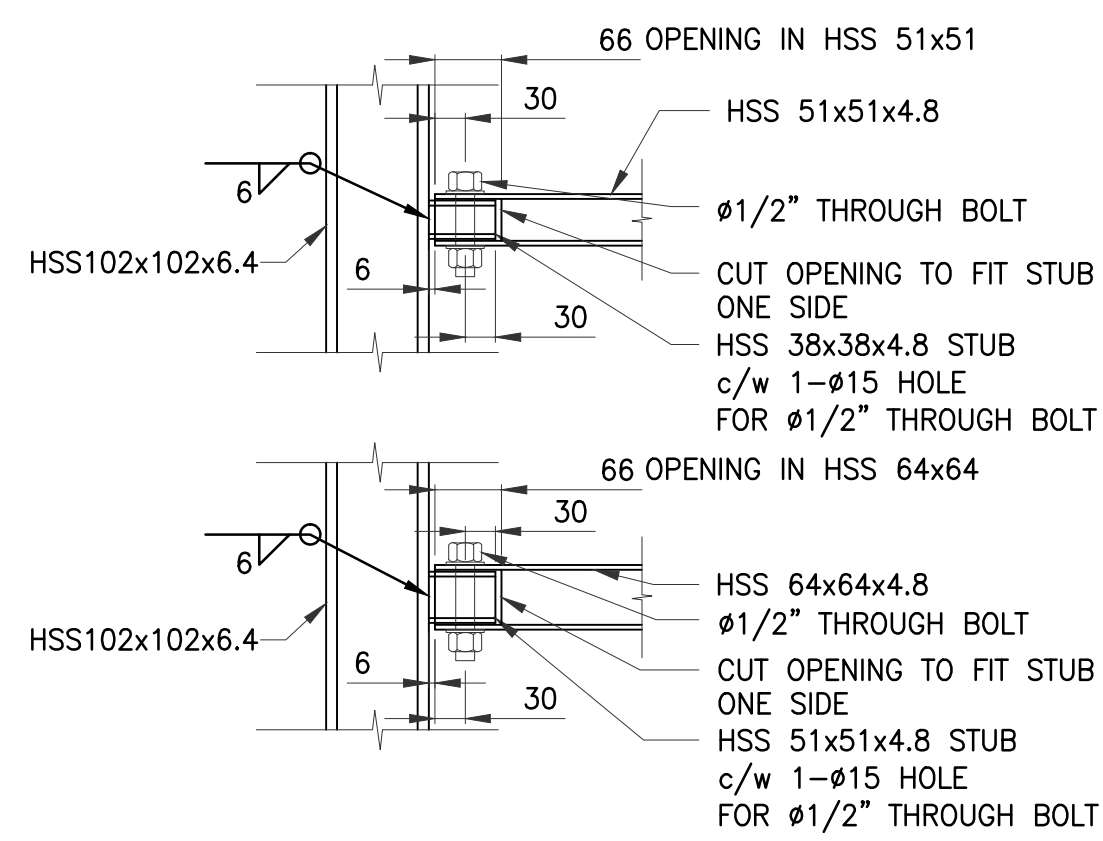
**11** DETAIL  
1 : 5



**12** DETAIL  
1 : 5



**13** DETAIL  
1 : 5



TYPICAL CHAIN LINK FENCE SUPPORT CONNECTIONS  
1 : 7.5

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0		17/10/27	ISSUED FOR CONSTRUCTION												
SEAL:	CLIENT:														
	AAFC														

PROJECT:	CLIENT:
ROUND LAKE DAM MONORAIL PHASE 1 CONSTRUCTION	AAFC
PROJECT NO: 171-03240-00	CLIENT REF. #:
DATE: 17/10/16	

ORIGINAL SCALE: AS NOTED	TITLE: STRUCTURAL STEEL SECTIONS & DETAILS 2	DESIGNED BY: MDA
IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.	SHEET NUMBER: 209172	DRAWN BY: BCT
1"	7 OF 8	CHECKED BY: MDA
		DISCIPLINE: STRUCTURAL
		ISSUE: ISSUED FOR CONSTRUCTION
		DATE OF: 2017/10/27
		RV. # 0

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**GENERAL NOTES**

**A. GENERAL**

1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE OF CANADA 2010 (NBC), AND ANY APPLICABLE REQUIREMENTS OR BY-LAWS OF THE AUTHORITY HAVING JURISDICTION.
2. ALL DIMENSIONS IN (mm) UNLESS NOTED OTHERWISE
3. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION, UNLESS NOTED OTHERWISE.
4. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.
5. BEFORE PROCEEDING WITH WORK, FIELD VERIFY THE DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS AND REPORT DISCREPANCIES TO THE CONSULTANT. DO NOT SCALE THE DRAWINGS.
6. THE STRUCTURE HAS BEEN DESIGNED FOR THE LOADS SHOWN. ENSURE THEY ARE NOT EXCEEDED DURING CONSTRUCTION.
7. TYPICAL STRUCTURAL DETAILS SHALL GOVERN THE WORK. IF DETAILS DIFFER ON OTHER DRAWINGS, THE MOST STRINGENT SHALL GOVERN.

**B. MATERIALS**

1. REFER TO SPECIFICATION 05501 MISCELLANEOUS METALWORK FOR DETAILS
2. STRUCTURAL STEEL:
  - STRUCTURAL WIDE FLANGE & S-SHAPES TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 350W OR ASTM A992/A992M GRADE 50 (345MPa).
  - STRUCTURAL WELDED WIDE FLANGE SHAPES TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 350W.
  - ANGLES, PLATES AND CHANNELS TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 300W.
  - HOLLOW STRUCTURAL SECTIONS TO CONFORM TO ASTM A500 GRADE C OR CSA - G40.21 GRADE 350 W CLASS C.
3. ANCHOR RODS:
  - CONFORM TO ASTM F1554 GRADE 55 WELDABLE STEEL OR 300W THREADED ROD CONFORMING TO CSA G40.21-M, UNLESS NOTED OTHERWISE.
4. STRUCTURAL BOLTS:
  - SHALL CONFORM TO ASTM A325M, NUTS SHALL CONFORM TO ASTM A563M, WASHERS SHALL CONFORM TO ASTM F436M.
5. WOOD:
  - TIMBER PLANK TO BE PRESSURE TREATED S-P-F UNLESS NOTED OTHERWISE ON THE DRAWINGS.
6. SELF-TAPPING SCREWS:
  - FASTENERS FOR TIMBER PLANKS TO BE FASTENAL ¼"-28x4" HEX HEAD TEKS 5 SELF-TAPPING SCREW.

**C. STRUCTURAL STEEL**

1. REFER TO ABBREVIATIONS USED FOR THE CONNECTION FORCES SHOWN ON THE DRAWINGS. FORCES INDICATED ARE FACTORED UNLESS NOTED OTHERWISE.
2. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
3. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER TOP OF COLUMNS, UNLESS SHOWN BY DESIGN, THAT STIFFENERS ARE NOT REQUIRED.
4. PROVIDE SLOTTED HOLES AND SLIP-CRITICAL BOLTED CONNECTIONS TO CONNECT NEW STEEL TO EXISTING WORK.
5. DESIGN TYPICAL SHEAR CONNECTIONS, UNLESS NOTED OTHERWISE, AS FOLLOWS:
  - TYPICAL BEAM TO BEAM (INTERIOR CONDITION) CONNECTIONS - ONE SIDED, TWO SIDED OR END PLATE CONNECTIONS.
  - TYPICAL BEAM TO SPANDREL BEAM CONNECTIONS - TWO SIDED OR END PLATE CONNECTIONS.
  - TYPICAL BEAM TO COLUMN CONNECTIONS - TWO SIDED OR END PLATE CONNECTIONS.
  - TYPICAL SPANDREL BEAM TO COLUMN CONNECTIONS - TWO SIDED CONNECTIONS.
  - ALL OTHER CONDITIONS - TWO SIDED OR END PLATE CONNECTIONS.

NOTE: THE ADDITION OF OTHER CONNECTION FORCES (I.E. AXIAL FORCES) MAY RESULT IN DIFFERENT CONNECTIONS TO THOSE NOTED ABOVE.
6. DESIGN ALL BEAM CONNECTIONS FOR THE FACTORED VERTICAL SHEAR FORCE NOTED ON PLAN. WHERE NO FORCE IS INDICATED, DESIGN THE CONNECTION FOR A VERTICAL SHEAR FORCE OF 75kN (50kN FOR C150 AND C100 SECTIONS). IN ADDITION, A MINIMUM OF TWO BOLTS ARE TO BE USED IN ALL BEAM CONNECTIONS.

**7. PAINT:**

- REFER TO SPECIFICATION 09901 PAINTING METALWORK FOR DETAILS
- ALL STRUCTURAL STEEL AND METALWORK TO BE SHOP PAINTED
- PAINT COLOUR TO BE LIGHT GREY
- PAINT SYSTEM OPTION 1 - HOT DIP GALVANIZED (CONTRACTOR QUOTE TO INCLUDE COST FOR GALVANIZING)
- PAINT SYSTEM OPTION 2 - HIGH BUILD EPOXY (UPON APPROVAL BY CLIENT)
- SEE PAINT SPECIFICATIONS BELOW

**D. DESIGN CRITERIA**

1. STRUCTURE LOCATION - BROADVIEW SASKATCHEWAN
2. IMPORTANCE CATEGORY - NORMAL
3. FLOOR LIVE LOAD - 4.8kPa
4. SNOW LOAD - 1.46kPa


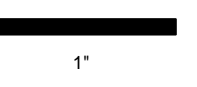
**E. SPECIFICATIONS**

**1. PAINT SYSTEMS**

- REFER TO SPECIFICATION 05501 MISCELLANEOUS METALWORK AND SPECIFICATION 09901 PAINTING METALWORK FOR DETAILS
- HOT DIP GALVANIZED GALVANIZE STEEL TO CAN/CSA\_G164, MINIMUM ZINC COATING OF 600 g/m2
- HIGH BUILD EPOXY
  - i. DURABILITY: OVER 15 YEARS
  - ii. ACCEPTABLE PRODUCTS:
    - AMERCOAT AMERLOCK 400 - 2 COATS: MIN 6-8 MILS DRY FILM THICKNESS PER COAT
    - DEVOE COATINGS BAR RUST 236 - 2 COATS: MIN 6-8 MILS DRY FILM THICKNESS PER COAT
- APPLICATION
  - i. APPLICATION TO BE STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS
  - ii. TOUCH UP ALL FIELD WELDS AND ANY OTHER AREAS MARRED DURING ERECTION. CLEAN TO SSPC SP3, PRIME AND APPLY 2 COATS OF COMPATIBLE ENAMEL PAINT.
- SURFACE PREPARATION
  - i. STEEL SURFACES TO BE PAINTED SHALL BE CLEANED OF MILL SCALE, RUST AND FOREIGN MATTER AND PREPARED IN ACCORDANCE WITH STANDARD SSPC-SP6, BURNED AND SHEARED EDGES SHALL BE GROUND SMOOTH AND WELDS THOROUGHLY CLEANED OF FLUX, SLAG OR SPATTER.
- TOUCH-UP
  - i. TOUCH UP ANY METAL WORK DAMAGED DURING ERECTION USING ZINC RICH PAINT SUCH AS RUST-OLEUM FLAT GRAY COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT.

**2. CHAIN LINK FENCE**

- CONTRACTOR TO PROPOSE CONNECTION DETAIL TO HSS TUBE. AAFC TO APPROVE.

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