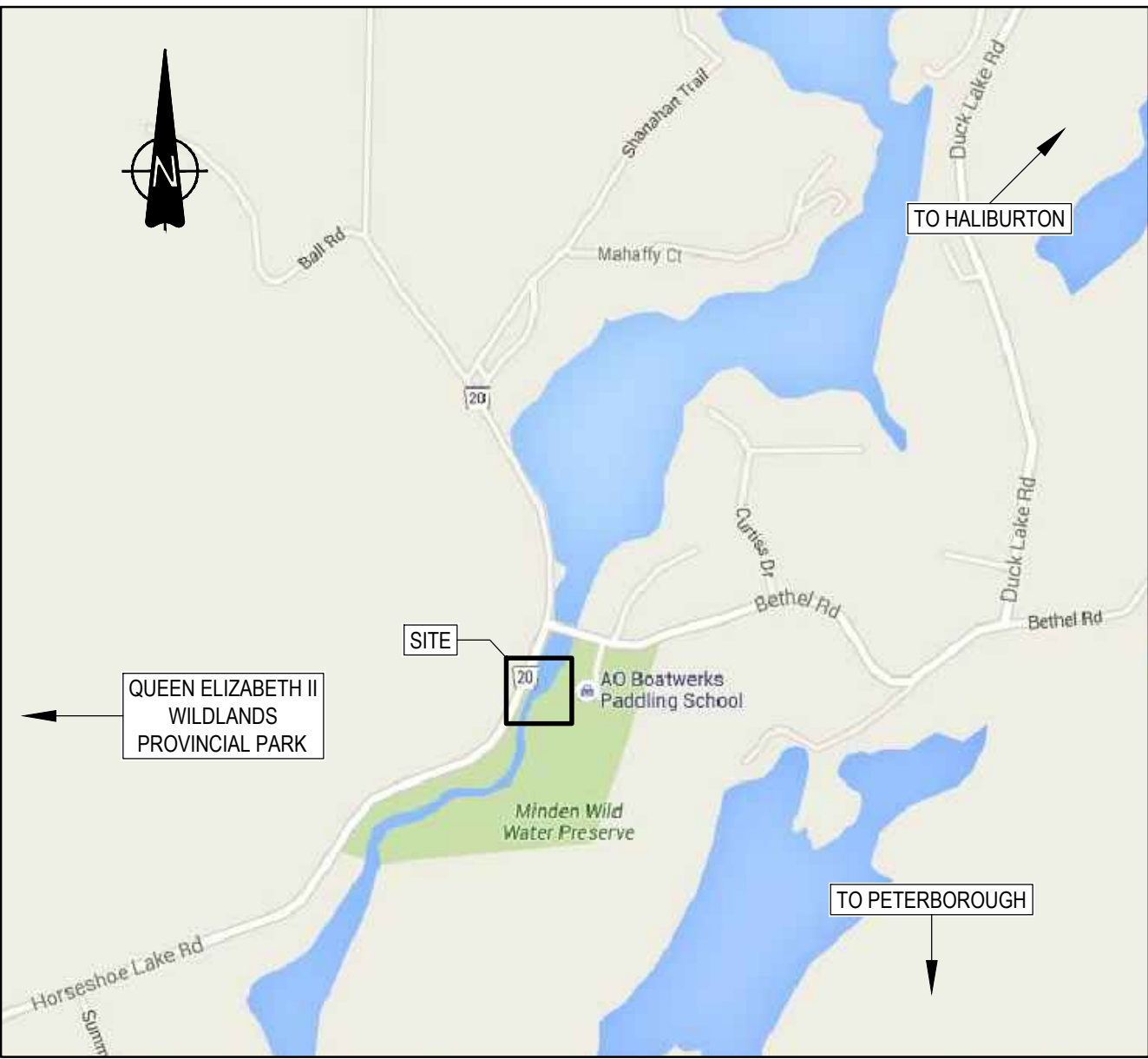


# HORSESHOE LAKE DAM REPLACEMENT

## MINDEN HILLS, ONTARIO

DWG No.	DESCRIPTION
100	COVER SHEET AND DRAWING LIST
101	GENERAL NOTES
102	EXISTING CONDITIONS - PLAN VIEW
103	EXISTING CONDITIONS - ELEVATION AND SECTION
104	PROPOSED CONSTRUCTION STAGING - PLAN STAGE 1 TO 4
105	PROPOSED CONSTRUCTION STAGING - PLAN STAGE 5 TO 8
106	REMOVALS
107	CONSTRUCTION - NEW GENERAL ARRANGEMENT
108	CONSTRUCTION - ELEVATION AND SECTIONS
109	REINFORCING - DECK
110	REINFORCING - PIER SECTIONS AND SILL SLAB
111	CONSTRUCTION - WEST ABUTMENT AND STAIRS
112	CONSTRUCTION - EAST ABUTMENT AND PEDESTRIAN WALKWAY
113	TYPICAL DETAILS - GAIN EMBEDDED PARTS
114	MISCELLANEOUS METAL DETAILS
115	MISCELLANEOUS DETAILS
116	PUBLIC SAFETY PLAN
117	FALL ARREST SYSTEM



Canada



E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Dwn.By (Des.Par)	Date

Revision / Révision

Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the  
Departmental Representative of all discrepancies.

A	A Detail number Numéro du détail
B	B Location dwg. number Numéro sur dessin



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

COVER SHEET  
AND  
DRAWING LIST

Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

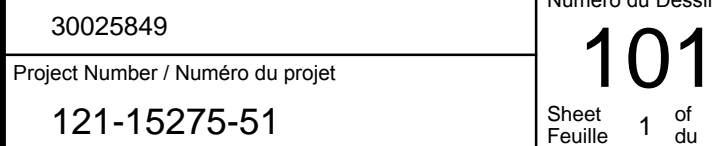
JOHN JUFFS

Drawing Number / Numéro de CHTI 30025849	Drawing Number / Numéro du Dessin 100
Project Number / Numéro du projet 121-15275-51	Sheet Feuille 1 of 1



## 7. ENVIRONMENTAL PROTECTION:

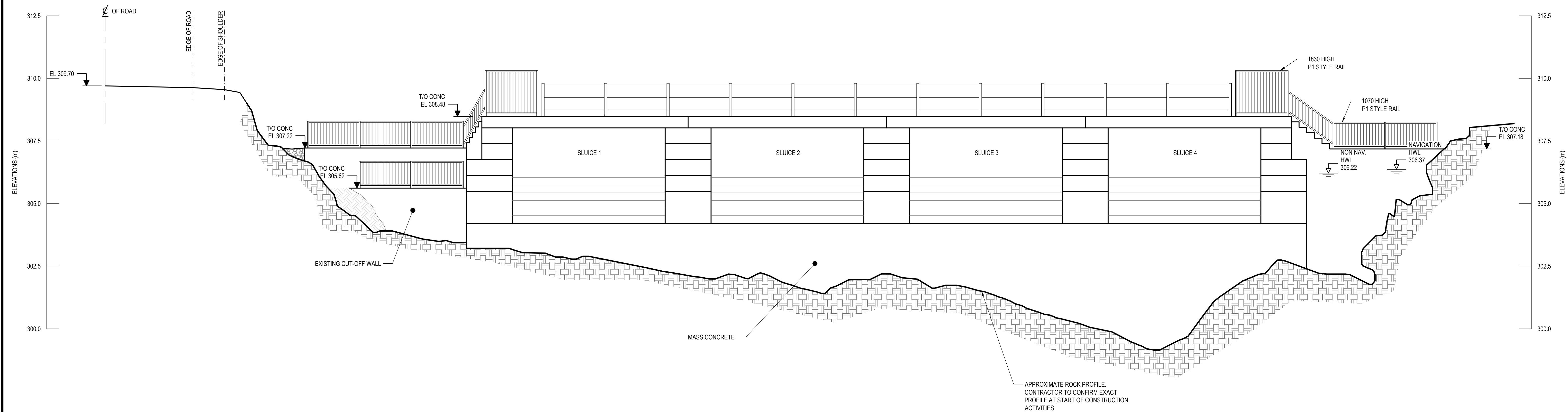
- ENVIRONMENTAL PROTECTION IN THIS SECTION SHALL BE DEEMED TO BE PART OF THE GENERAL WORK PROGRAM.
- 7.1. GENERAL
- THE FOLLOWING ENVIRONMENTAL REQUIREMENTS WILL BE MET DURING CONSTRUCTION OF THE PROJECT.
- A. CLEARING OF VEGETATION BEYOND THE LIMITS NEEDED FOR CONSTRUCTION AND EQUIPMENT MOVEMENT WILL NOT BE ALLOWED.
- B. MAINTENANCE, REPAIR AND CLEANING OF CONSTRUCTION EQUIPMENT SHALL NOT BE UNDERTAKEN IN AREAS WHICH MAY IMPACT NEGATIVELY ON SURFACE WATERS.
- C. THE CONTRACTOR SHALL PROVIDE A SEDIMENT AND EROSION CONTROL PLAN, PREPARED BY A CONSULTING FIRM WITH RELATED ENVIRONMENTAL EXPERIENCE, UPON ACCEPTANCE BY THE DEPARTMENTAL REPRESENTATIVE. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN AND REPLACE AS NECESSARY SEDIMENT AND EROSION CONTROL WORKS TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
- D. SEDIMENT FROM CONSTRUCTION ACTIVITIES SHALL NOT BE ALLOWED TO ENTER SURFACE WATERS AND WATER COURSES.
- E. ALL SPILLS OF DELETERIOUS SUBSTANCES SHALL BE REPORTED TO THE DEPARTMENTAL REPRESENTATIVE AND THE ONTARIO MINISTRY OF ENVIRONMENT (MOE) IMMEDIATELY AND CLEAN UP SHALL BE IN ACCORDANCE WITH CURRENT ENVIRONMENTAL PRACTICE AND THE MOST APPROPRIATE TECHNOLOGY AVAILABLE.
- F. THE CONTRACTOR SHALL MAINTAIN ON SITE MATERIALS AND PRODUCTS TO CONTAIN AND ABSORB ANY DELETERIOUS SPILLS BOTH FOR DRY AND WET CONDITIONS.
- G. DUMPING OF EXCAVATED MATERIAL, WASTE MATERIALS, DEBRIS OR OTHER FOREIGN SUBSTANCES INTO OR NEAR WATERWAYS IS NOT ALLOWED.
- 7.1. DRAINAGE
- THE CONTRACTOR SHALL UNDERTAKE THEIR OWN EVALUATION AS TO THE MEASURES REQUIRED TO DIVERT FLOW IN GULL RIVER THROUGH OR AROUND THE WORK AREA. THE METHODOLOGY SHALL BE PRESENTED IN THE RESPECTIVE DEWATERING AND DIVERSION PLANS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED AT ALL TEMPORARY DRAINAGE WORKS AND AT EXISTING WORKS DISTURBED BY CONSTRUCTION ACTIVITIES.
- 7.2. SEDIMENT CONTROL
- SEDIMENT CONTROL PLAN SHALL INCLUDE SILT FENCING, AND SEDIMENT TRAPS AS SHOWN ON THE DRAWINGS AS A MINIMUM. THE PLAN SHALL BE INSTALLED AND MAINTAINED IN GOOD ORDER UNTIL WORK IS COMPLETED. AFTER ACCEPTANCE OF WORKS BY THE DEPARTMENTAL REPRESENTATIVE, ALL SEDIMENT CONTROL WORKS ARE TO BE REMOVED AND SITE RESTORED TO THE ORIGINAL CONDITION OR AS NOTED, TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
- THE FOLLOWING PROCEDURES FOR SEDIMENT AND EROSION CONTROL ARE TO BE FOLLOWED AS A MINIMUM:
- A. INSTALLATION OF COFFERDAMS / DEWATERING BARRIER:
- ISOLATE THE IN-WATER WORK AREA.
  - UNDERTAKE THE INSTALLATION OF WORKS UNDER NO FLOW CONDITIONS TO THE GREATEST EXTENT POSSIBLE.
- B. SITE DIVERSION:
- ISOLATE THE DIVERSION AREA WITH SUITABLE BARRIERS DESIGNED BY A PROFESSIONAL ENGINEER TO CONTAIN THE DESIGN FLOW
  - INSTALL SEDIMENT FENCE WHERE APPLICABLE DIRECT ANY PUMP DISCHARGE TO A SETTLING POND OR OTHER APPROVED DESILTATION STRUCTURE.
  - REMOVE ALL FISH, CAPTURE AND RELEASE TO BE UNDERTAKEN BY A QUALIFIED (ENVIRONMENTAL), CONSULTANT TO THE REQUIREMENTS OF THE ISSUED PERMIT.
- C. DRAINAGE WORKS (OPEN CHANNEL):
- INSTALL CHECK DAMS TO MINIMIZE SEDIMENT TRANSPORT (OPSD 219.211).
- D. STOCKPILES:
- PROVIDE HEAVY DUTY SEDIMENT FENCE AT ALL STOCKPILES DESIGNATED BY THE CONTRACTOR AS LONG TERM.
  - COLLECT RUNOFF AND DIRECT IT TO A SEDIMENT BASIN.
- E. WORKING IN THE DRY:
- DIRECT ANY PUMP DISCHARGE TO A SETTLING POND OR OTHER APPROVED STRUCTURE.
  - CARRY OUT ALL SITE PREPARATION FOR AND INCLUDING STRUCTURAL WORKS AND GRADING WITH EROSION PROTECTION.
- F. REMOVAL OF COFFERDAMS:
- UNDERTAKE THE REMOVAL OF WORKS UNDER NO FLOW CONDITIONS TO THE GREATEST EXTENT POSSIBLE
- 7.1. ENVIRONMENTAL CONTROL
- AIRBORNE MATERIALS FROM CONSTRUCTION OPERATIONS SHALL BE CONTAINED AND NOT PERMITTED TO ENTER SURFACE WATERS.
- CONCRETE WASTE FROM CONSTRUCTION ACTIVITIES SHALL NOT BE PERMITTED TO ENTER SURFACE WATERS.
- 7.2. DISPOSAL OF VEGETATION AND COMBUSTIBLE MATERIAL
- VEGETATION AND COMBUSTIBLE MATERIALS RESULTING FROM THE CONSTRUCTION OPERATIONS SHALL BE DISPOSED OFF-SITE TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
- 7.3. ENVIRONMENTAL MONITORING
- MAINTAIN ALL SEDIMENT CONTROL MEASURES TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
- REPLACE GEOTEXTILE AT DEWATERING TRAP TO MAINTAIN TREATMENT PERFORMANCE.





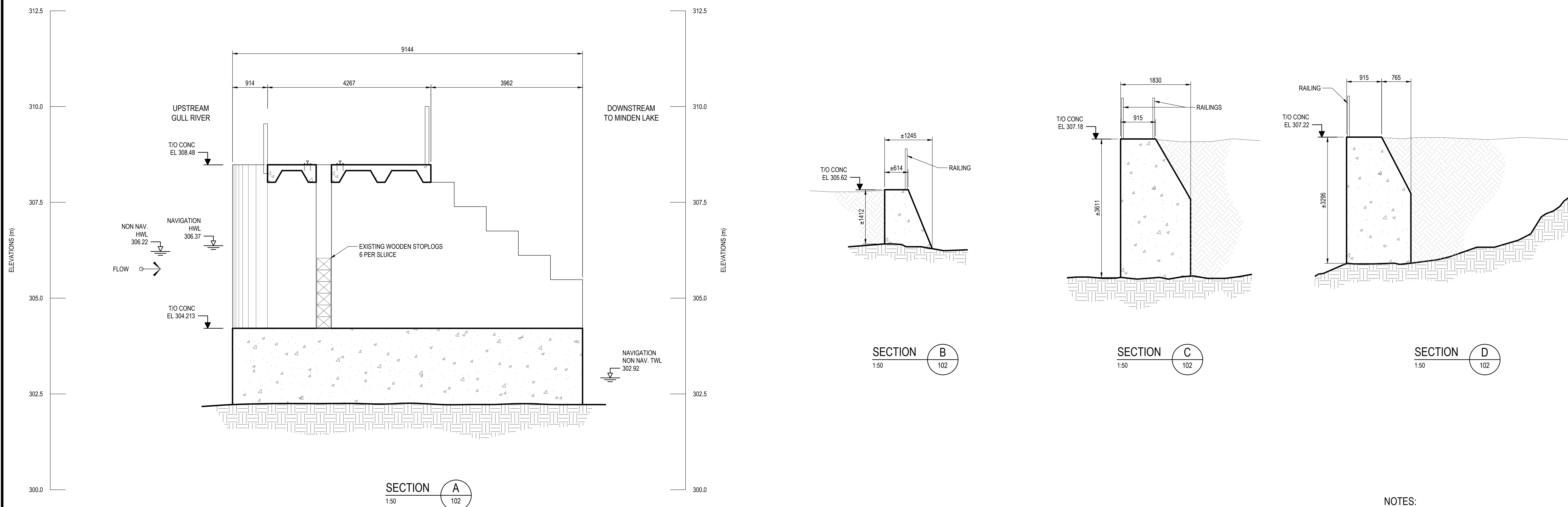
1. REFER TO PCA DRAWINGS C-1, S-1, S-2, S-3, S-4, S-5 FOR PLAN, ELEVATIONS, AND DETAILS OF EXISTING GATES, RAILING AND SIGNAGE.
2. ALL SIGNS ARE TO BE SALVAGED AND REUSED (RELOCATED TO SUIT NEW PUBLIC SAFETY PLAN).





## DOWNSTREAM ELEVATION

1:75



## NOTES:

1. REFER TO PCA DRAWINGS C-1, S-1, S-2, S-3, S-4, S-5 FOR PLAN, ELEVATIONS, AND DETAILS OF EXISTING GATES, RAILING AND SIGNAGE.
2. ALL SIGNS ARE TO BE SALVAGED AND REUSED (RELOCATED TO SUIT NEW DAM PLAN).
3. DIMENSIONS OF EXISTING STRUCTURES ARE APPROXIMATE.



Canada



## LEGEND:

- DIRECTION OF WATER FLOW
- TREES
- BRUSH (PLAN VIEW)
- EARTH (SECTION)
- ROCK (SECTION)

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Drawn By (Des. Par)	Date
Revision / Révision			

Do not scale drawings.  
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- A Detail number  
Numéro du détail
- B Location dwg. number  
Numéro sur dessin



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

EXISTING CONDITIONS  
ELEVATION AND  
SECTION

Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI

30025849

Project Number / Numéro du projet

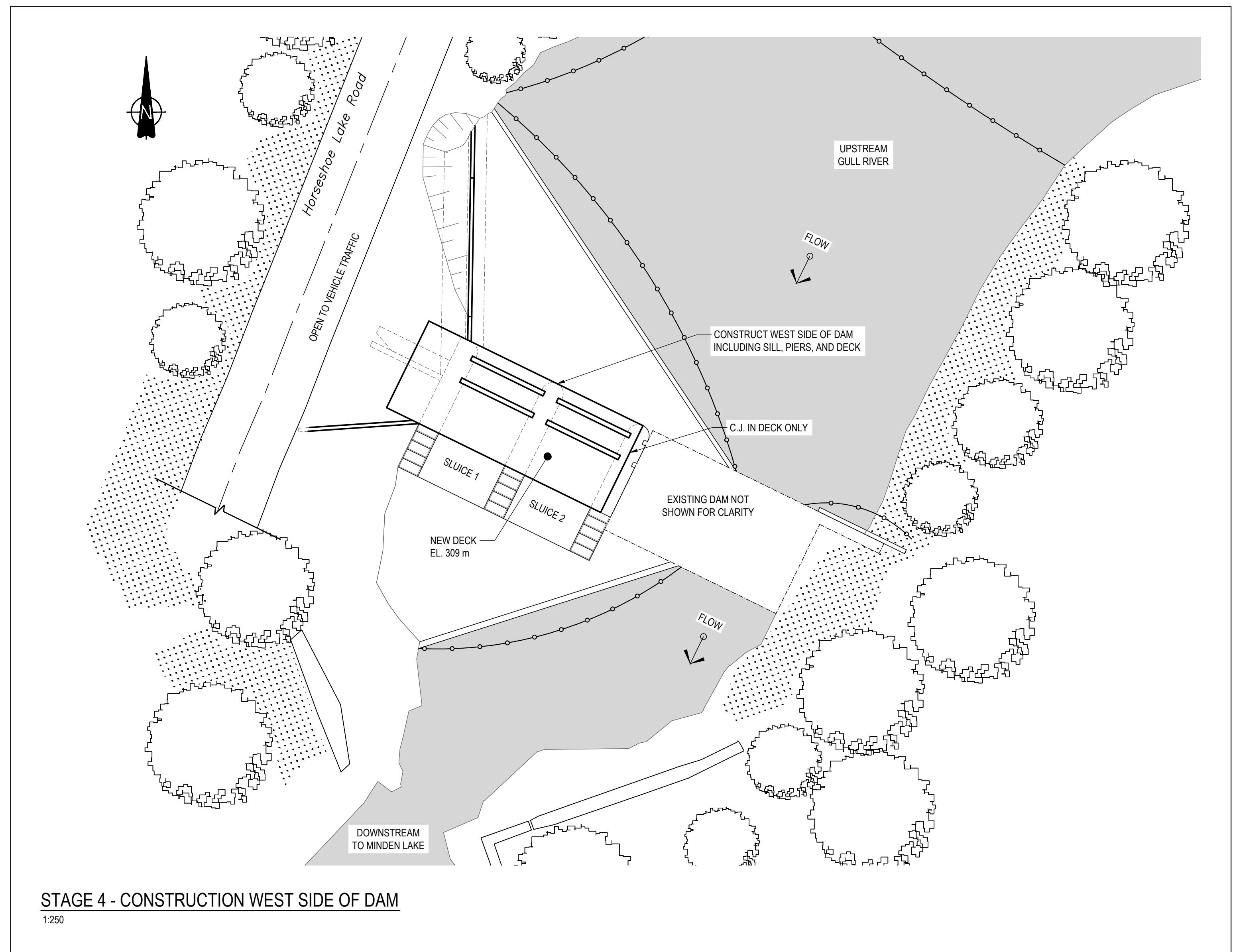
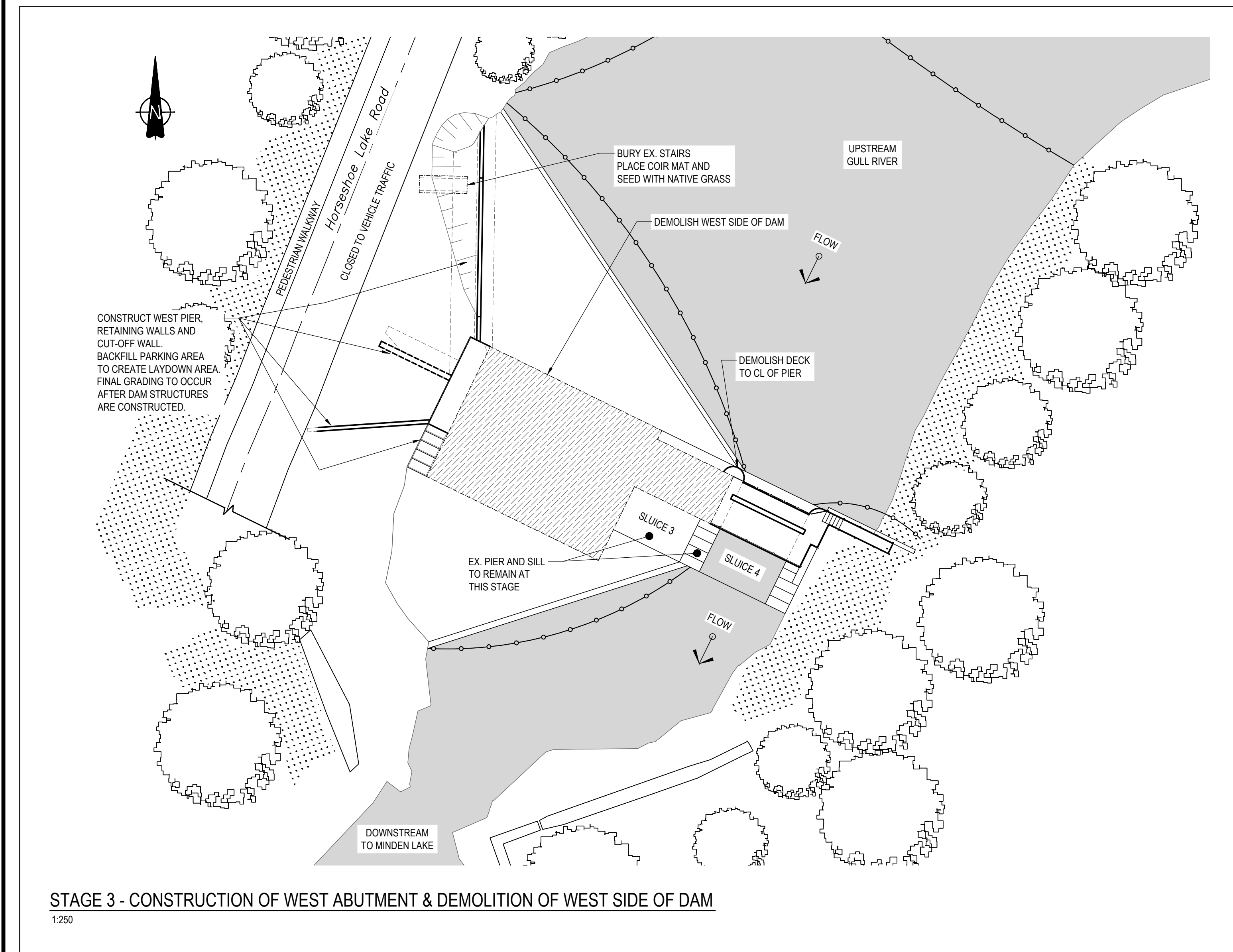
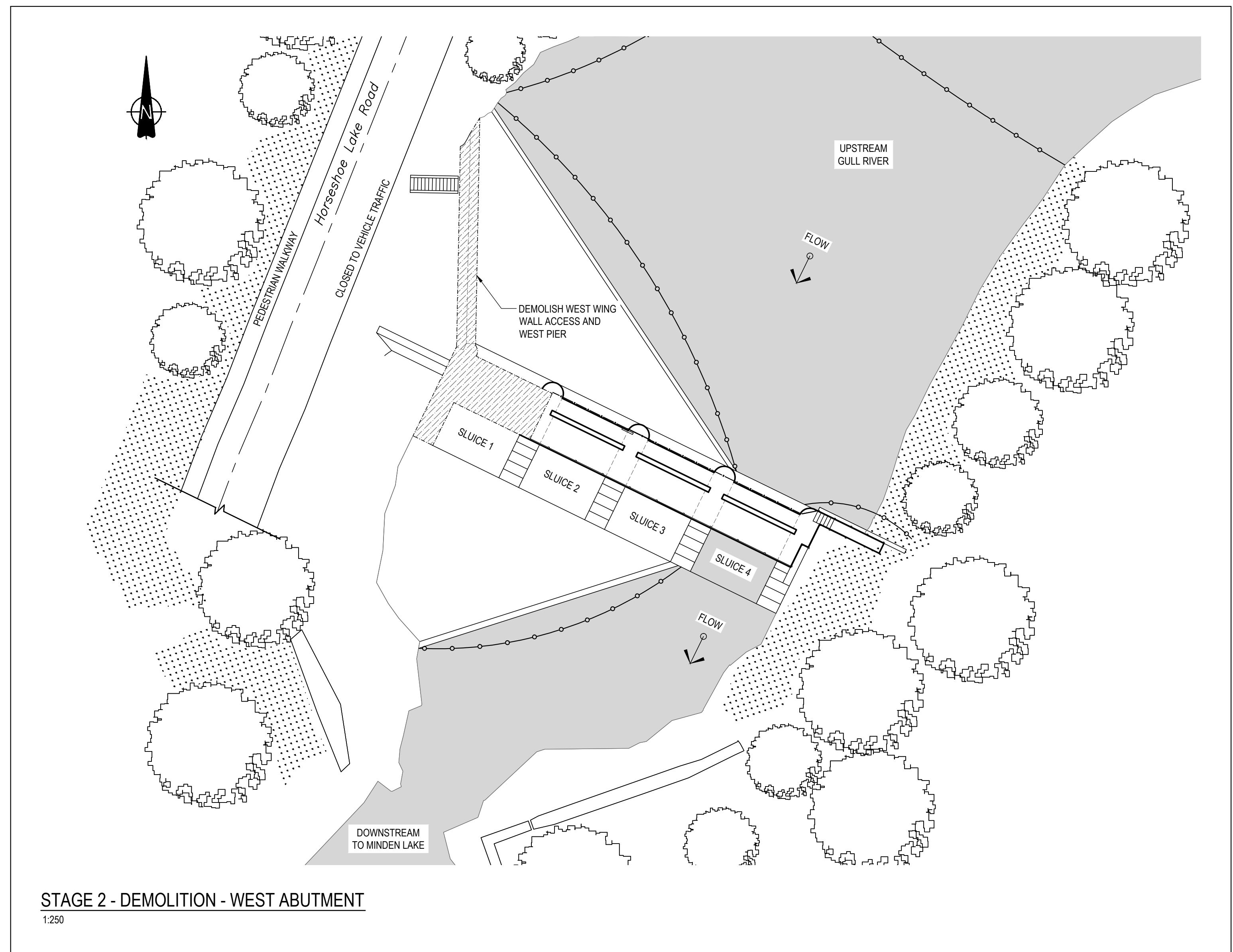
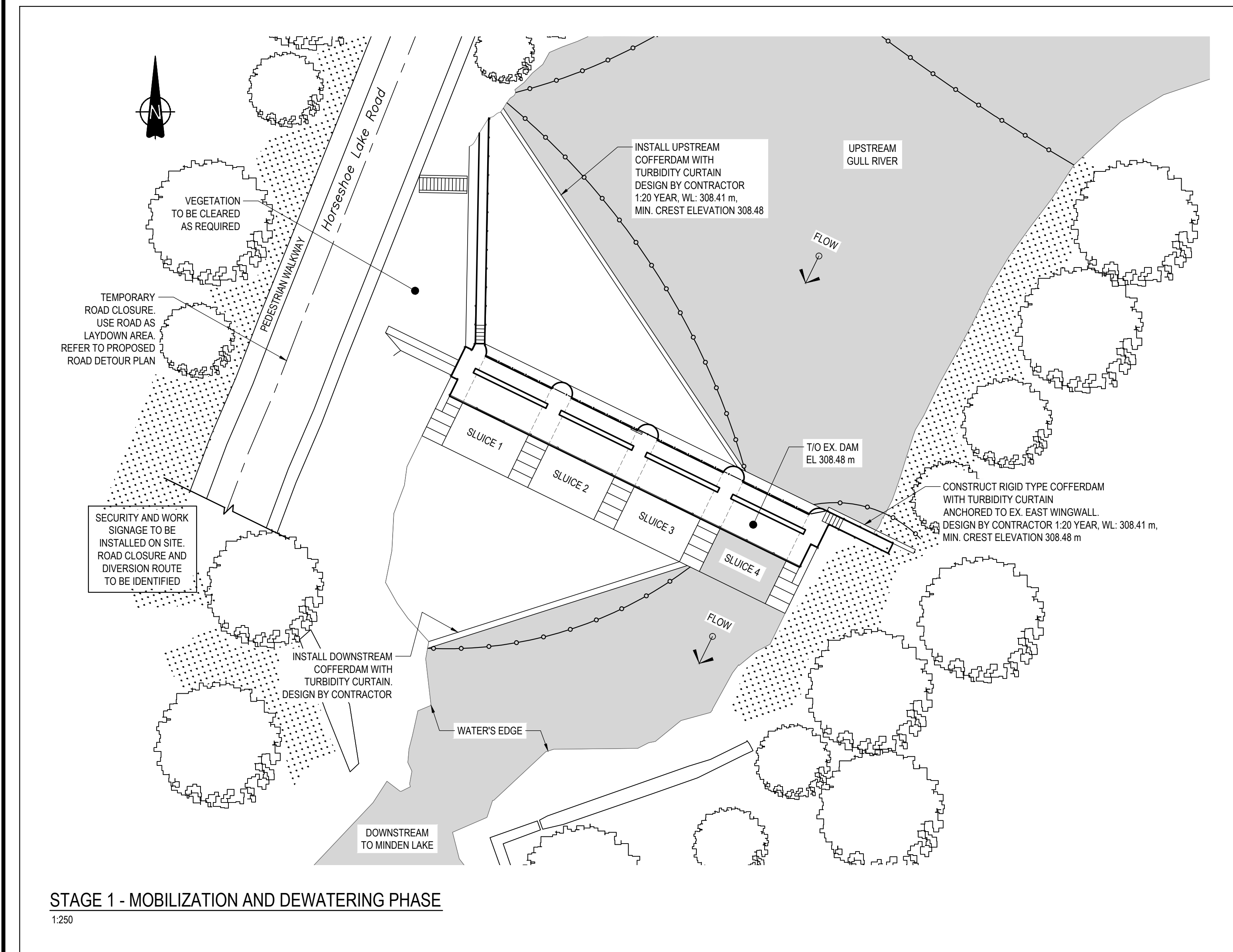
121-15275-51

Drawing Number /  
Numéro du Dessin

103

Sheet  
Feuille 1 of 1





## NOTE:

1. THE PROPOSED STAGING AND COFFERDAM CONFIGURATION IS FOR PLANNING AND PERMITTING PURPOSES ONLY. CONTRACTOR TO PROVIDE FINAL STAGING AND COFFERDAM DESIGN TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL AT LEAST 7 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.



## LEGEND:

- DIRECTION OF WATER FLOW
- TREES
- BRUSH (PLAN VIEW)
- EARTH (SECTION)
- ROCK (SECTION)
- WATER
- REMOVALS

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
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B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
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No.	Description	Drawn By (Des./Par)	Date
Revision / Révision			

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A	A Detail number Numéro du détail
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Project title / Titre du projet

## HORSESHOE LAKE DAM REPLACEMENT

Drawing title / Titre du dessin

PROPOSED  
CONSTRUCTION STAGING  
PLAN  
STAGE 1 TO 4

Drawn by / Dessiné par	Designed by / Conçu par
FELIPE ZULUAGA	KARINA SETO
Approved by / Approuvé par	Drawing Date / Date du dessin
JAVIER VILORIA	SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI

30025849

Project Number / Numéro du projet

121-15275-51

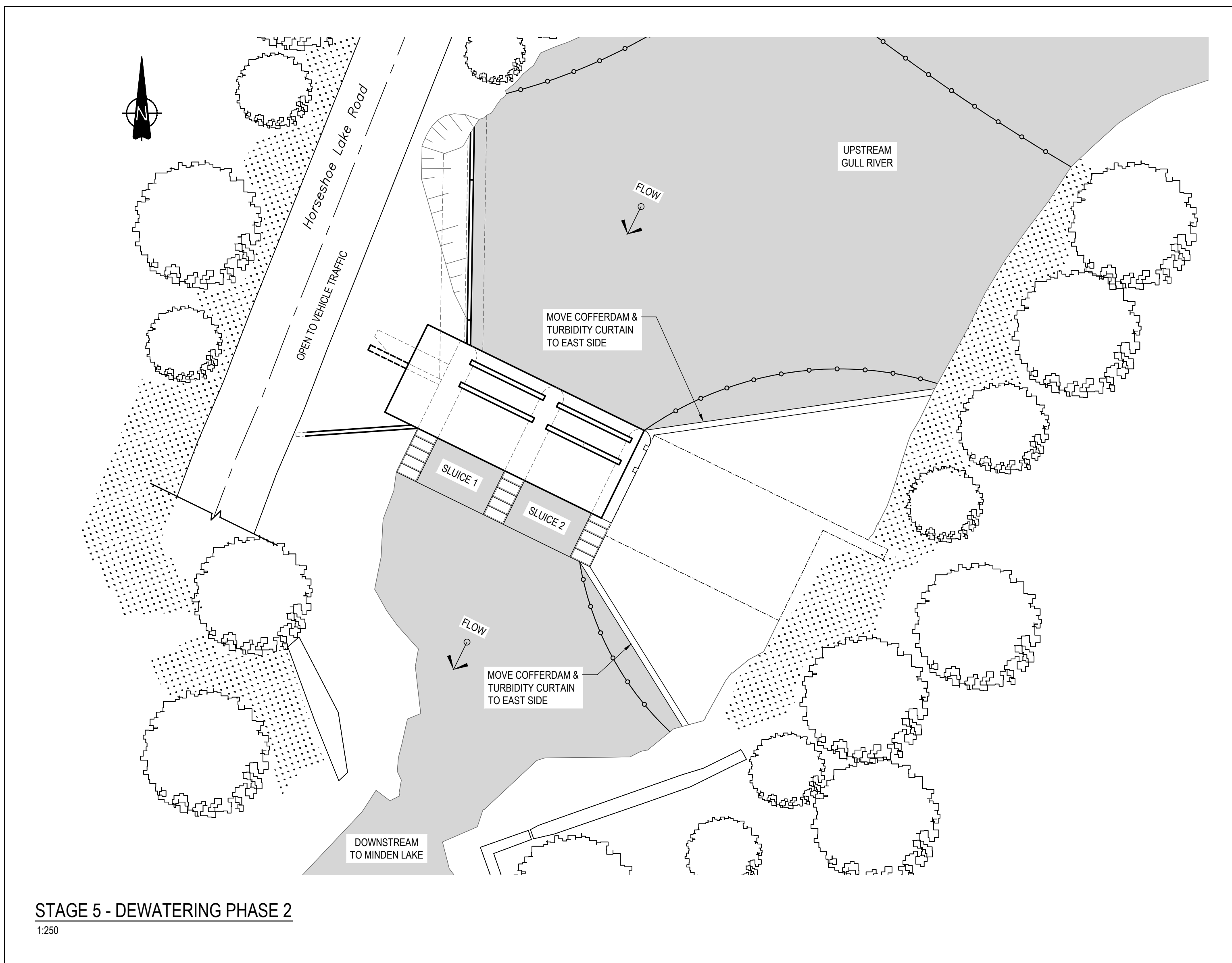
Drawing Number / Numéro du Dessin

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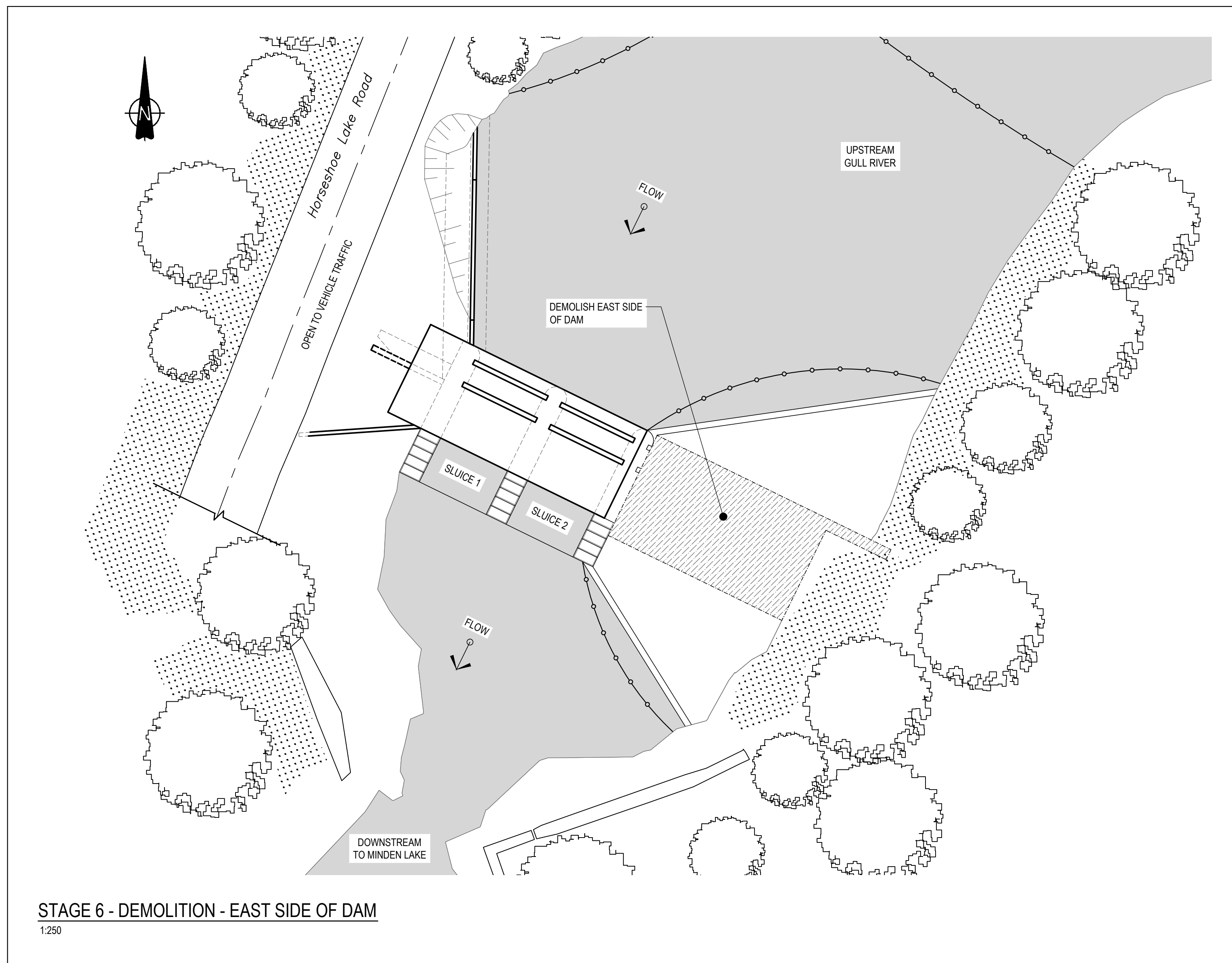
Sheet / Feuille

1 of 1

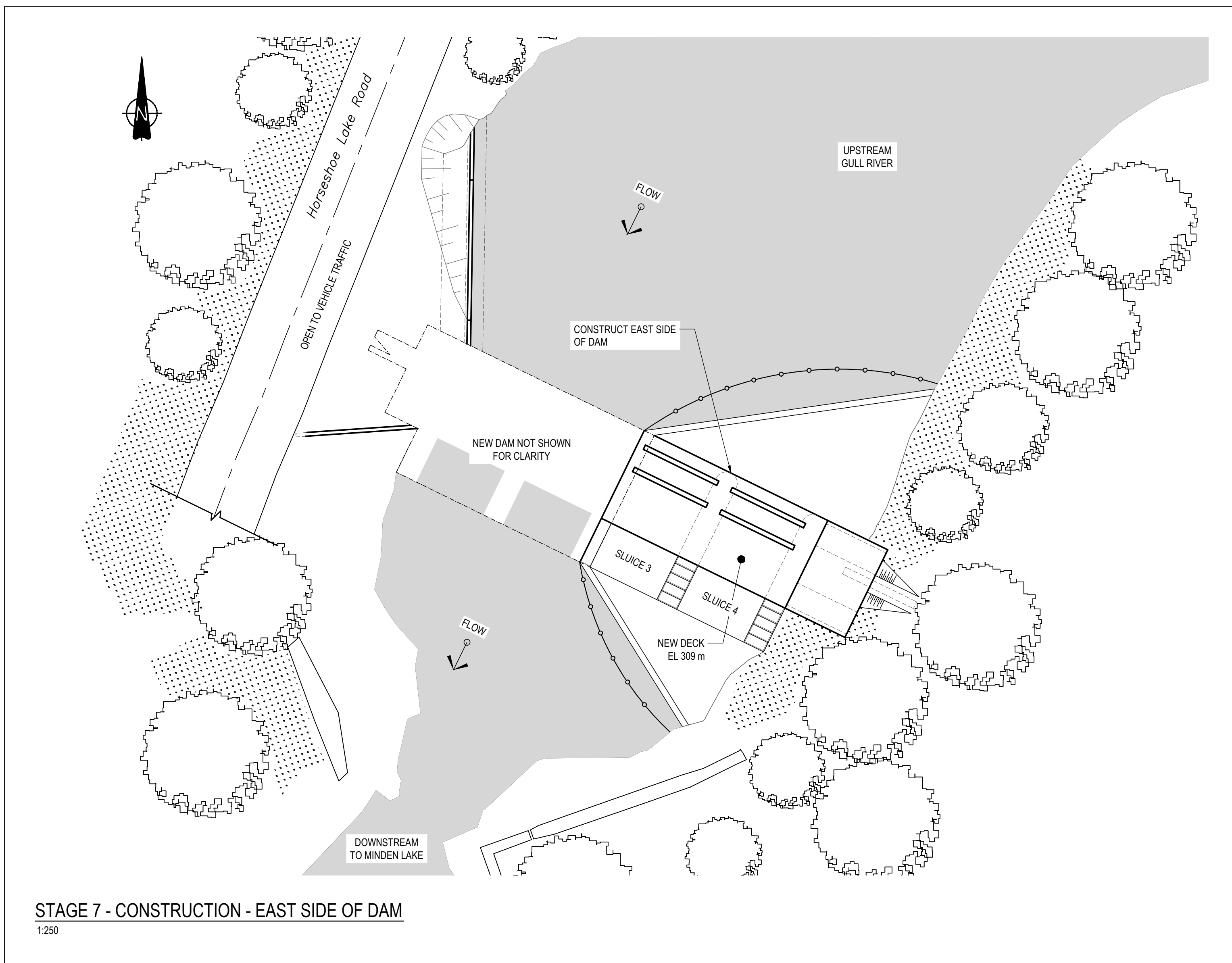




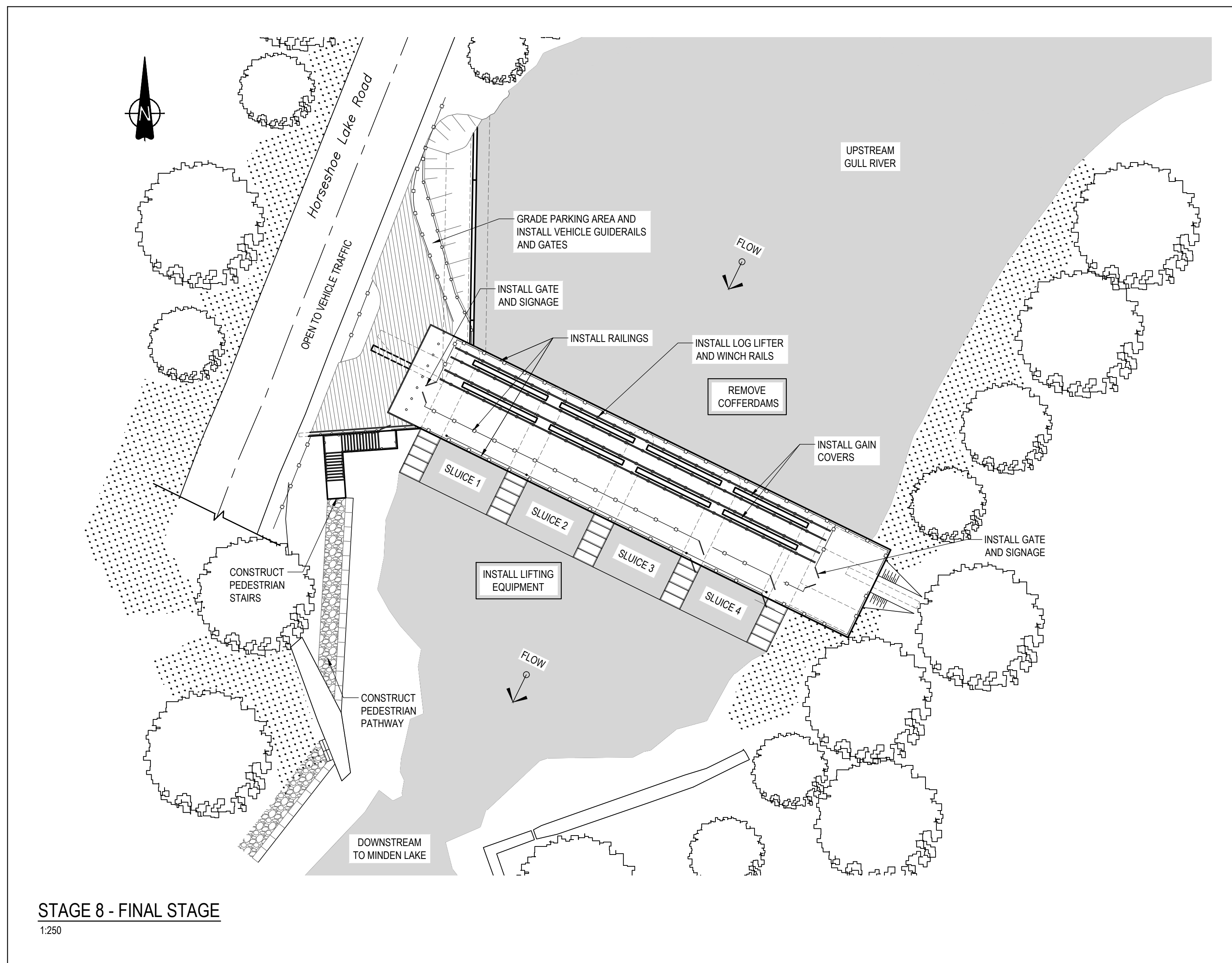
STAGE 5 - DEWATERING PHASE 2  
1:250



STAGE 6 - DEMOLITION - EAST SIDE OF DAM  
1:250



STAGE 7 - CONSTRUCTION - EAST SIDE OF DAM  
1:250



STAGE 8 - FINAL STAGE  
1:250



Canada

## NOTE:

1. THE PROPOSED STAGING AND COFFERDAM CONFIGURATION IS FOR PLANNING AND PERMITTING PURPOSES ONLY. CONTRACTOR TO PROVIDE FINAL STAGING AND COFFERDAM DESIGN TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL AT LEAST 7 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.



## LEGEND:

- DIRECTION OF WATER FLOW
- TREES
- BRUSH (PLAN VIEW)
- EARTH (SECTION)
- ROCK (SECTION)
- WATER
- REMOVALS

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Dwn.By (Des.Par)	Date
Revision / Révision			

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- A Detail number  
Numéro du détail
- B Location dwg. number  
Numéro sur dessin



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

PROPOSED  
CONSTRUCTION STAGING  
PLAN  
STAGE 5 TO 8

Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI

30025849

Project Number / Numéro du projet

121-15275-51

Drawing Number /

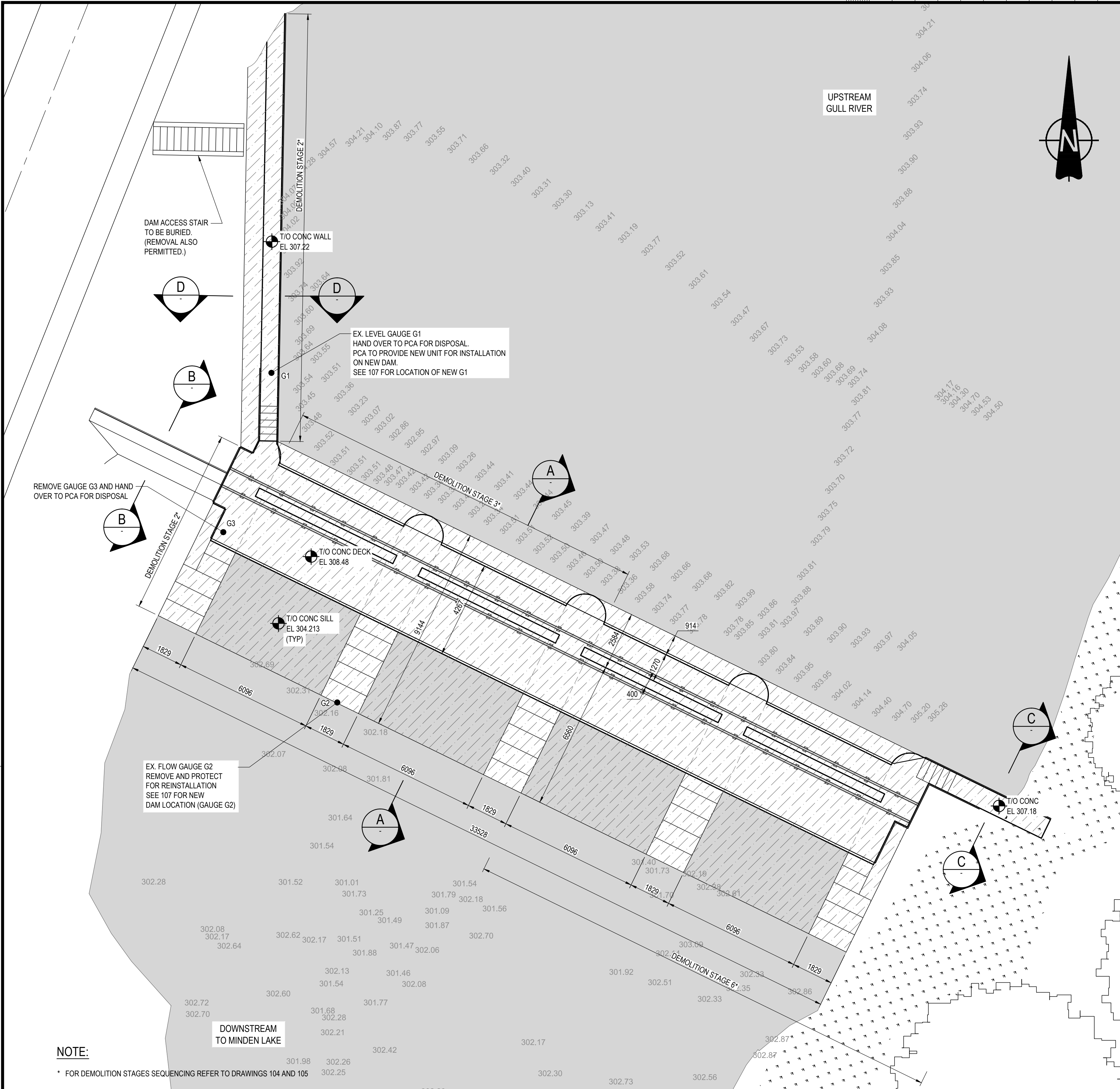
Numéro du Dessin

105

Sheet /

Feuille 1 of 1

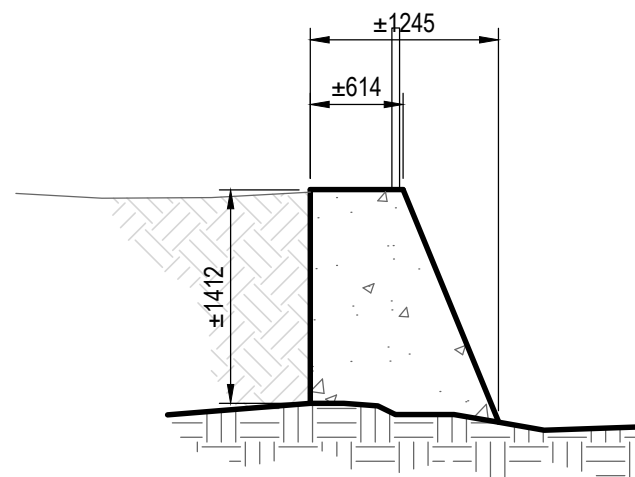




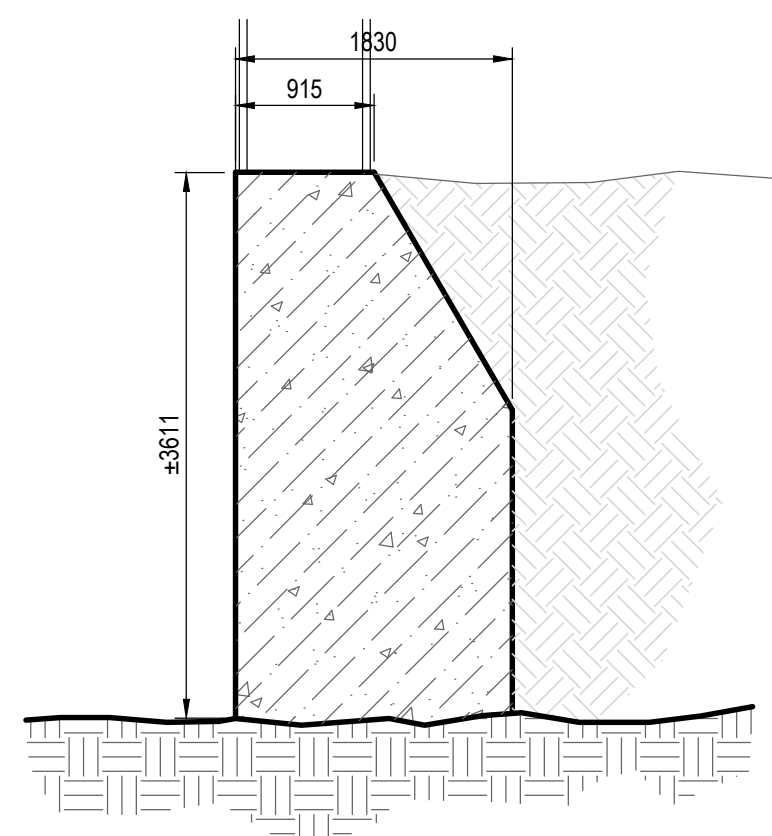
**PLAN VIEW**  
1:100

**NOTES:**

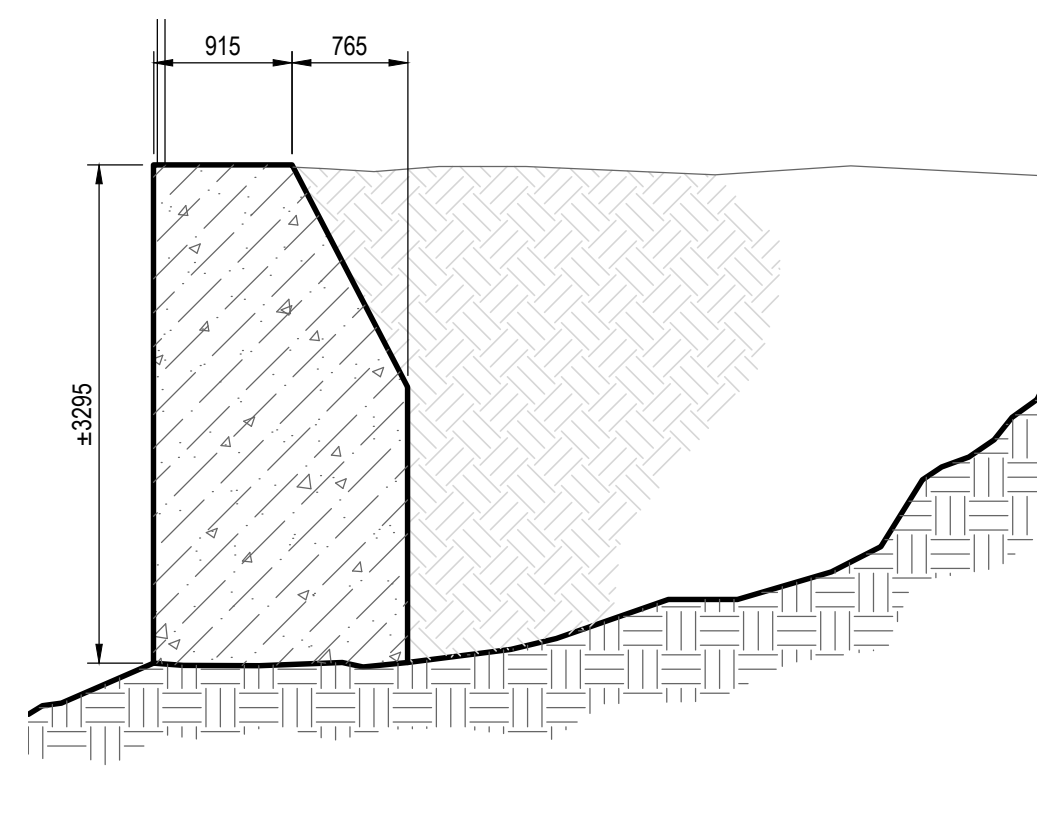
- EXISTING CRAB WINCHES TO BE PROTECTED AND LEFT ON THE DAM AT ALL TIMES DURING CONSTRUCTION IN ORDER TO MAINTAIN STAGED OPERATIONS OF THE DAM. DAM OPERATORS MUST BE PROVIDED ACCESS TO THE OPERATING EQUIPMENT AT ALL TIMES.
- REFER TO PCA DRAWING S6 FOR DETAILS OF EXISTING GAUGE CONNECTION.
- PCA WILL BE INSTALLING TEMPORARY LEVEL GAUGE AT BETHEL RD. BRIDGE IN ADVANCE OF CONSTRUCTION. CONTRACTOR TO CONFIRM WITH PCA THAT TEMPORARY GAUGE IS RUNNING BEFORE DISCONNECTING EXISTING PERMANENT GAUGES.
- ALL EXISTING CONDUIT TO BE DISPOSED OF. NEW CONDUIT TO SUIT NEW GAUGE LAYOUT ON DRAWING 107 TO BE SUPPLIED BY CONTRACTOR.
- DIMENSIONS ON DRAWING ARE APPROXIMATE AND TAKEN FROM RECORD DRAWINGS. ACTUAL DIMENSION MAY VARY.
- TEMPORARY ANCHOR IS REQUIRED TO KEEP EXISTING SAFETY BOOM IN PLACE.
- PRIOR TO DEMOLITION OF EXISTING STRUCTURE, CONTRACTOR TO ESTABLISH REFERENCE POINTS (MIN. 4) TO ALLOW TRANSFER OF COORDINATES AND ELEVATIONS OF THE EXISTING GEODETIC BENCHMARK TO THE NEW GEODETIC BENCHMARK ON THE NEW STRUCTURE.



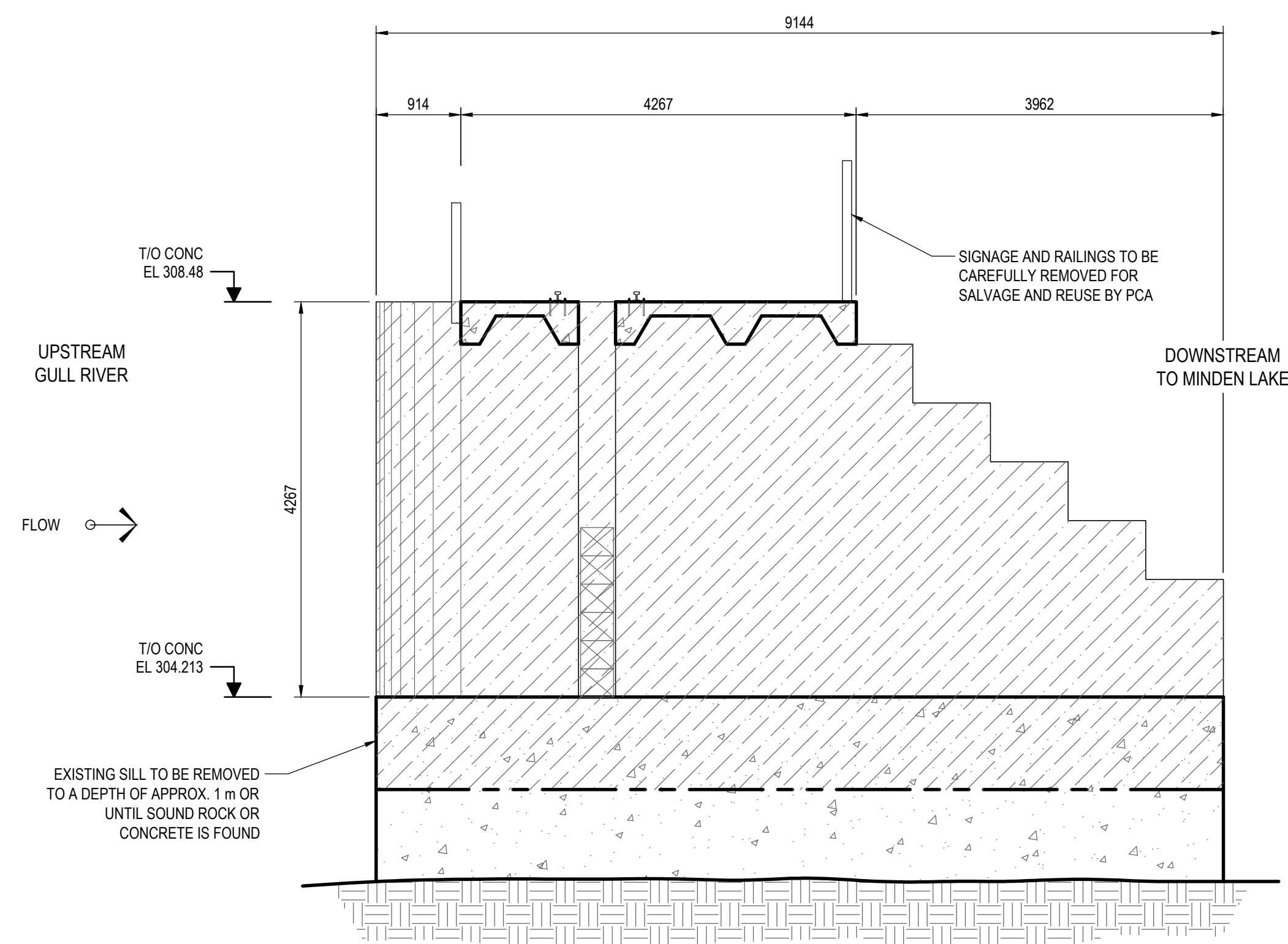
**SECTION B**  
1:50



**SECTION C**  
1:50



**SECTION D**  
1:50



**SECTION A**  
1:50

Canada



**LEGEND:**

- DIRECTION OF WATER FLOW
- TREES
- BRUSH (PLAN VIEW)
- EARTH (SECTION)
- ROCK (SECTION)
- WATER
- REMOVALS

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
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No.	Description	Dwn.By (Des.Par)	Date
Revision / Révision			

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A	A Detail number Numéro du détail
B	B Location dwg. number Numéro sur dessin



Project title / Titre du projet

**HORSESHOE LAKE DAM REPLACEMENT**

Drawing title / Titre du dessin

**REMOVALS**

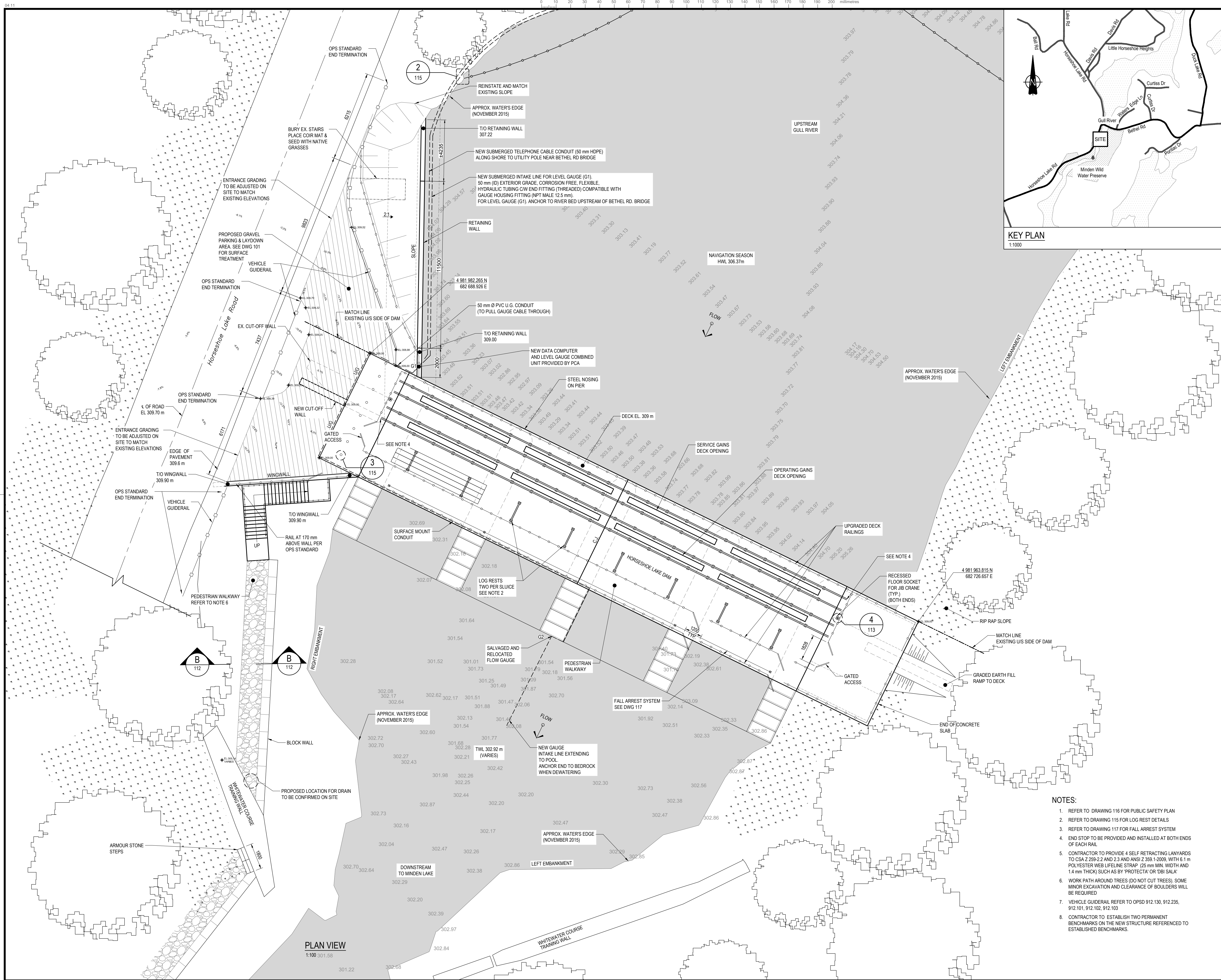
Drawn by / Dessiné par <b>FELIPE ZULUAGA</b>	Designed by / Conçu par <b>KARINA SETO</b>
Approved by / Approuvé par <b>JAVIER VILORIA</b>	Drawing Date / Date du dessin <b>SEPTEMBER 2016</b>

Project manager / Administrateur de projet

**JOHN JUFFS**

HCEW Number / Numéro de CHTI <b>30025849</b>	Drawing Number / Numéro du Dessin <b>106</b>
Project Number / Numéro du projet <b>121-15275-51</b>	Sheet / Feuille <b>1 of 1</b>












# Canadä

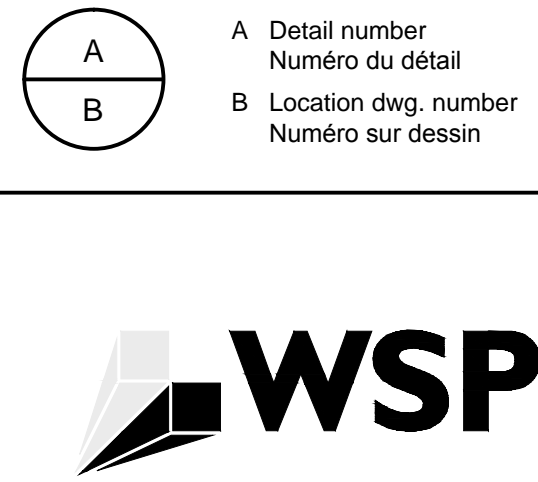


**LEGEND:**

- |   |                          |
|---|--------------------------|
|            | DIRECTION OF WATER FLOW  |
|            | TREES                    |
|            | BRUSH (PLAN VIEW)        |
|            | EARTH (SECTION)          |
|            | ROCK (SECTION)           |
|            | WATER                    |
|  EL.309.20 | NEW SPOT ELEVATIONS      |
| 302.40  | EXISTING SPOT ELEVATIONS |

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Down By Des. Par	Date
Revision / Révision			

Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the  
Departmental Representative of all discrepancies.



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

CONSTRUCTION  
NEW GENERAL  
ARRANGEMENT

Drawn by / Dessiné par <b>FELIPE ZULUAGA</b>	Designed by / Conçu par <b>KARINA SETO</b>
Approved by / Approuvé par <b>JAVIER VILORIA</b>	Drawing Date / Date du dessin <b>SEPTEMBER 2016</b>

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHT

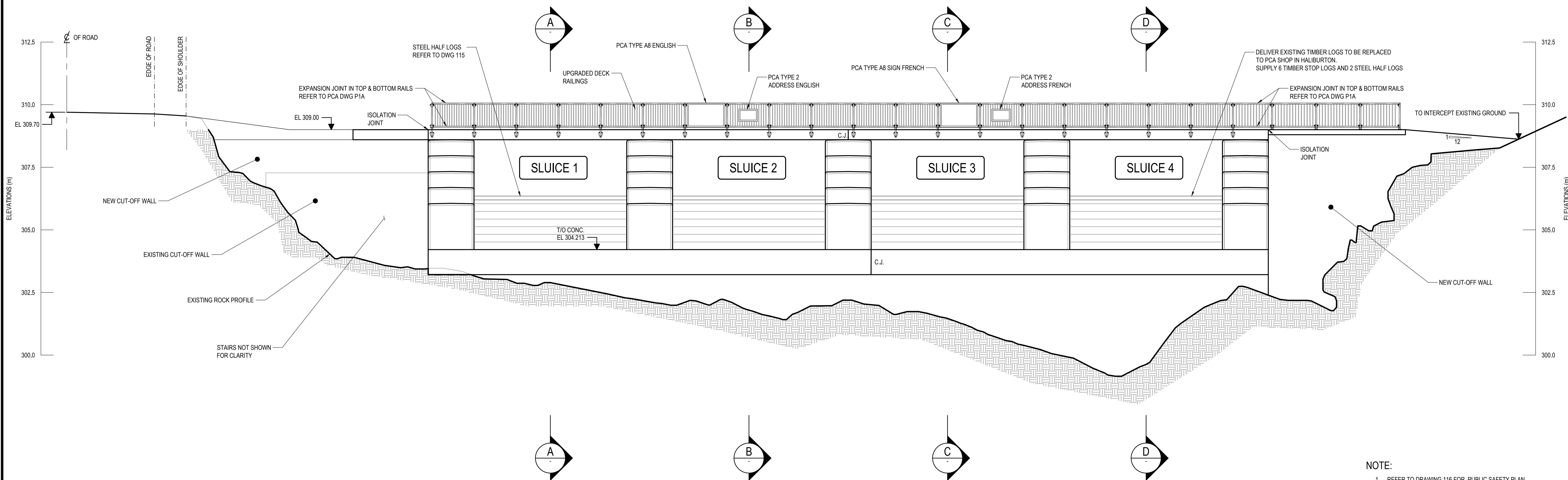
30025849

Revised November 1, 1999 for use

Drawing Number/ Numéro du Dessin	
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107

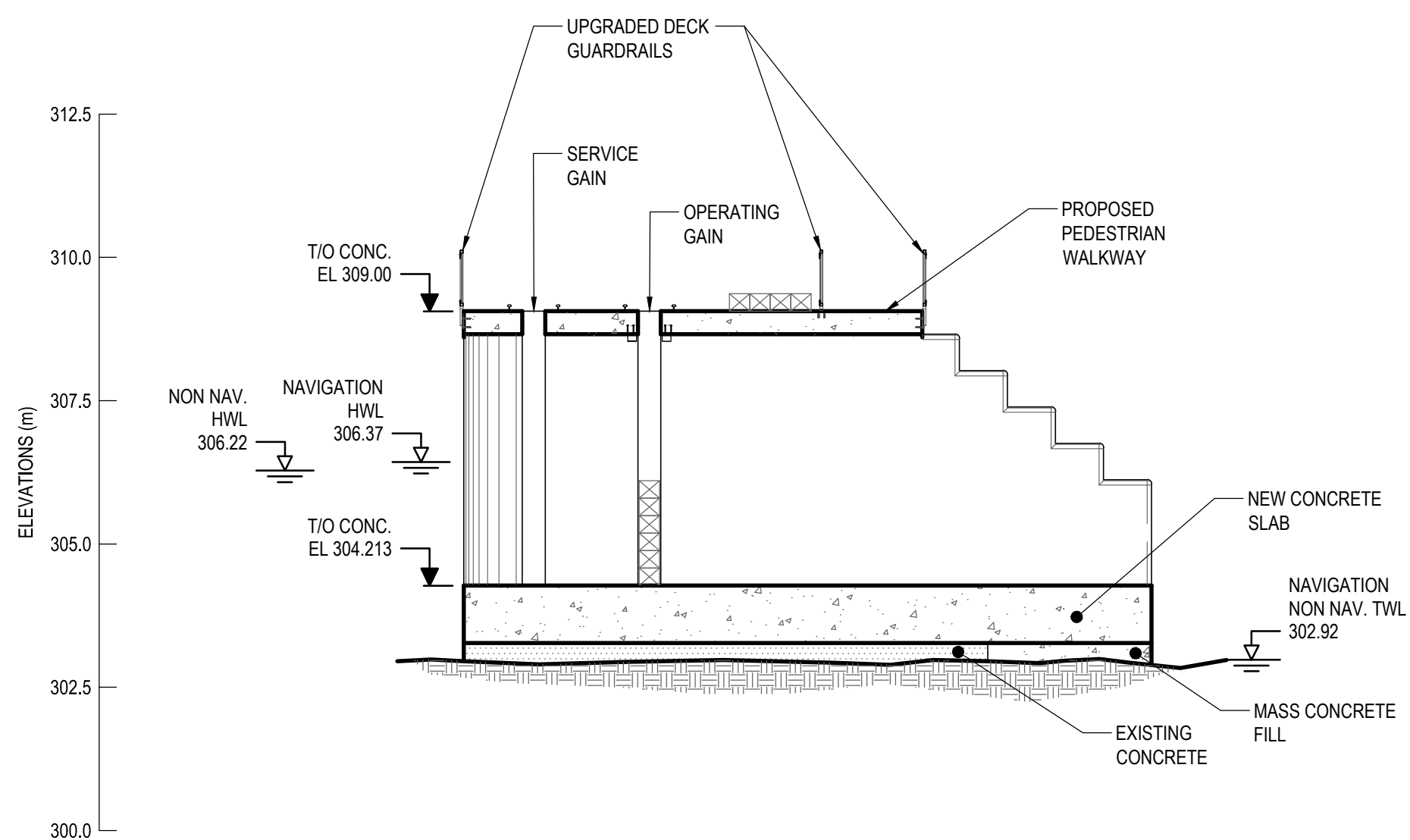
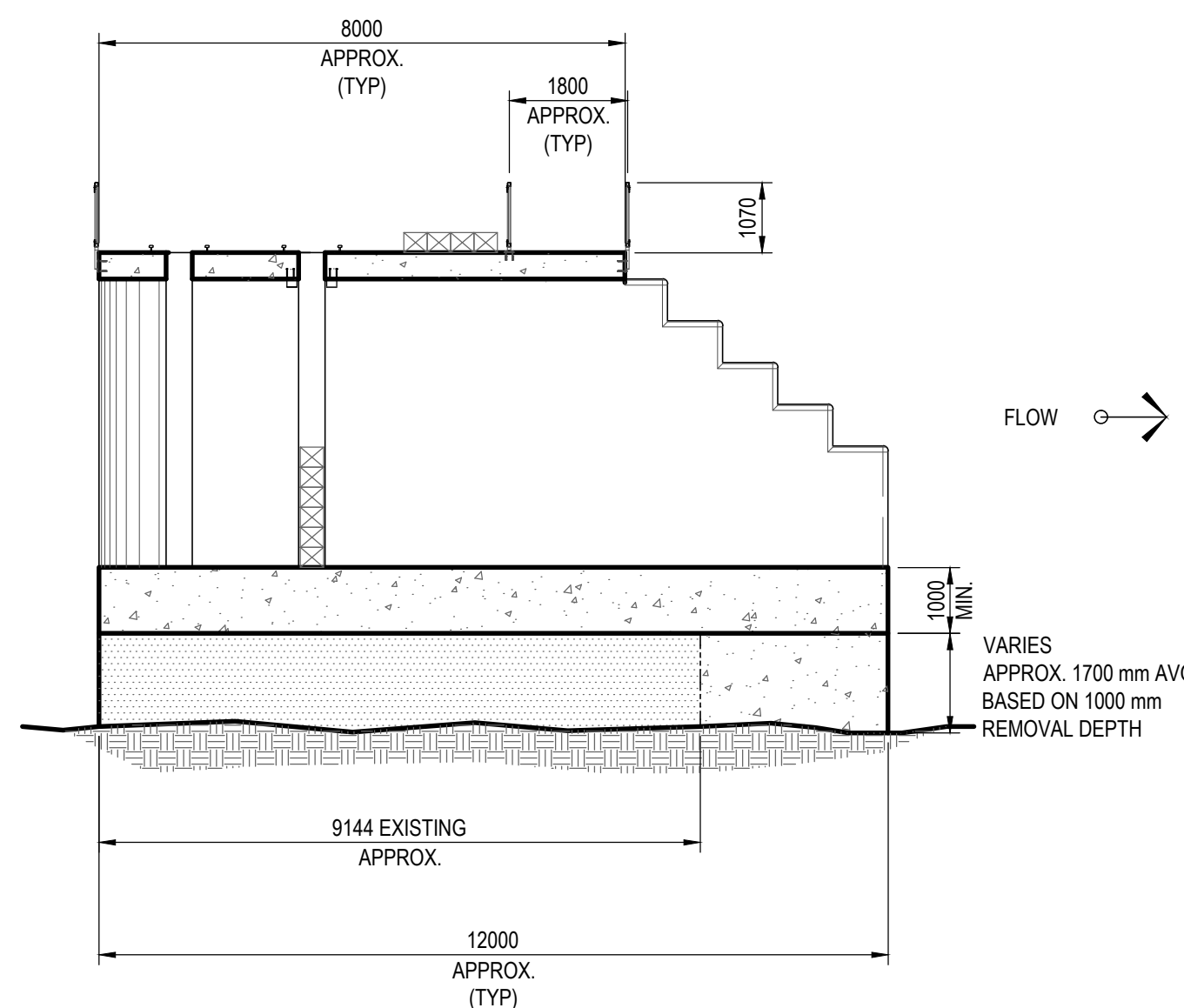
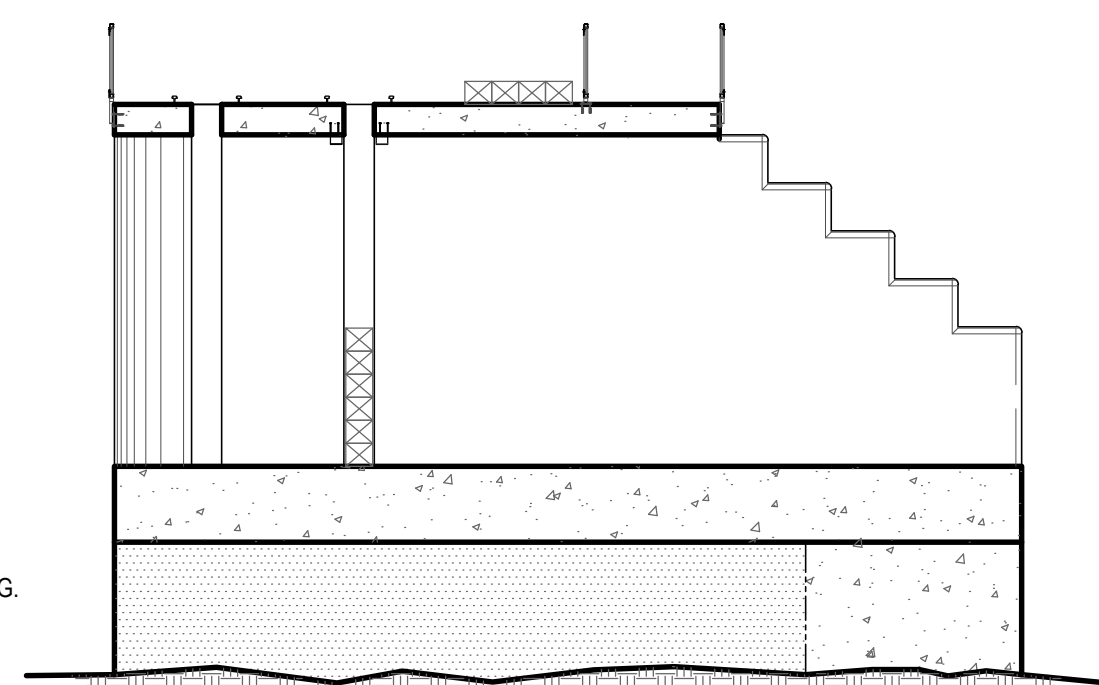
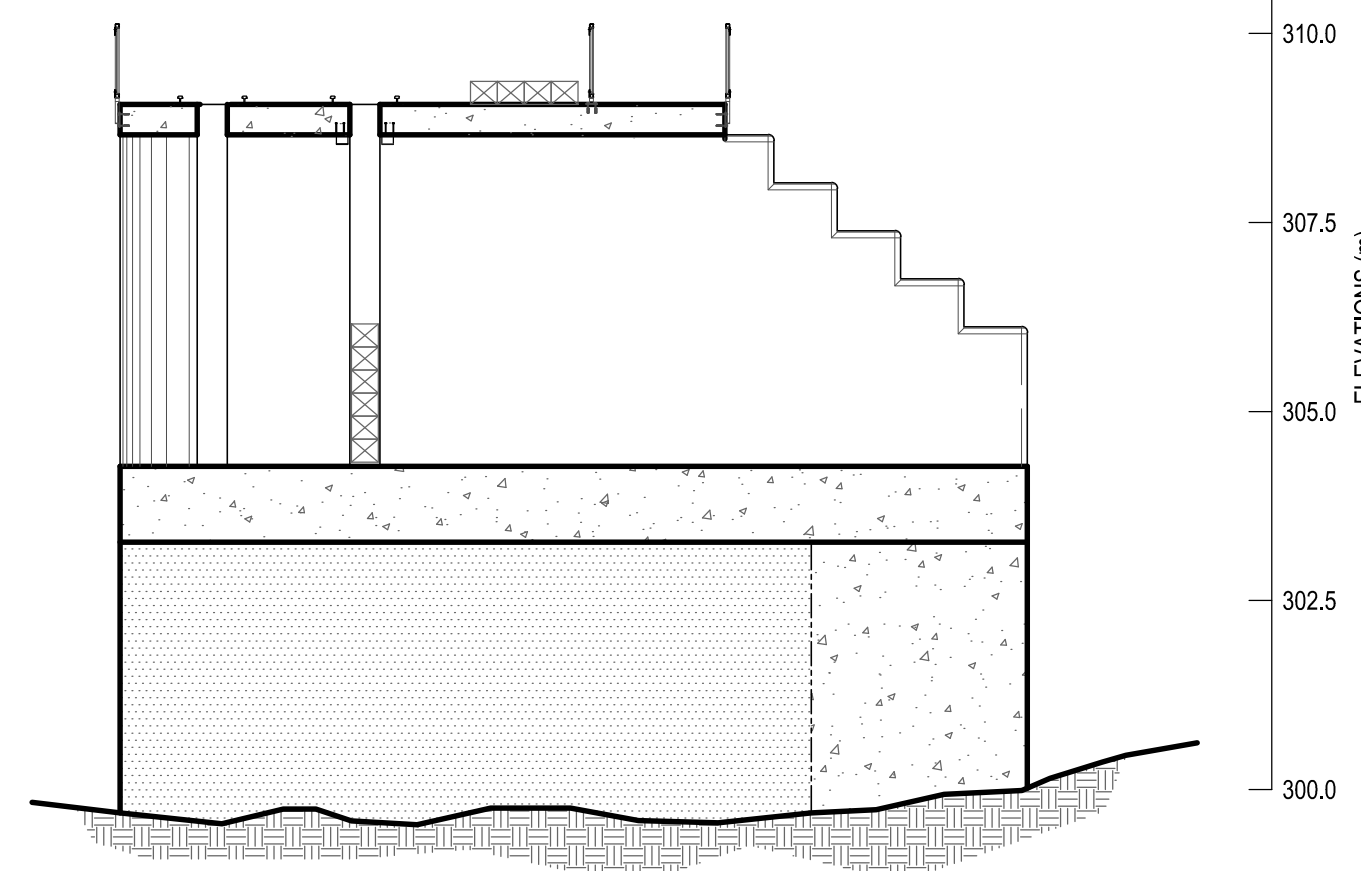




DOWNSTREAM ELEVATION VIEW

1:75

NOTE:  
1. REFER TO DRAWING 116 FOR PUBLIC SAFETY PLAN

SECTION A  
1:100SECTION B  
1:100SECTION C  
1:100SECTION D  
1:100

Canada



## LEGEND:

- DIRECTION OF WATER FLOW
- TREES
- BRUSH (PLAN VIEW)
- EARTH (SECTION)
- ROCK (SECTION)

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
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Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

CONSTRUCTION  
ELEVATION AND  
SECTIONS

Drawn by / Dessiné par	Designed by / Conçu par
FELIPE ZULUAGA	KARINA SETO
Approved by / Approuvé par	Drawing Date / Date du dessin
JAVIER VILORIA	SEPTEMBER 2016


Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI	Drawing Number / Numéro du Dessin
30025849	108
Project Number / Numéro du projet	Sheet / Feuille
121-15275-51	1 of 1

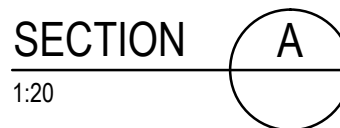


A circular professional engineer seal for the Province of Ontario. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. In the center, the name "J. VILORIA" is printed above the license number "100139980". Below the license number is a semi-circular emblem containing the date "2016/09/23". A stylized signature is written across the middle of the seal, overlapping the name and license number.

Revision / Révision

Drawn by / Dessiné par	Designed by / Conçu par
FELIPE ZULUAGA	KARINA SETO
Approved by / Approuvé par	Drawing Date / Date du dessin
JAVIER VILORIA	SEPTEMBER 2016

Project manager / Administrateur de projet	
JOHN JUFFS	
CEW Number / Numéro de CHTI	Drawing Number/ Numéro du Dessin
30025849	109
Project Number / Numéro du projet	
121-15275-51	Sheet Feuille 1 of du 1








Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the  
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Do not scale drawings.  
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A Detail number  
Numéro du détail

B Location dwg. number  
Numéro sur dessin



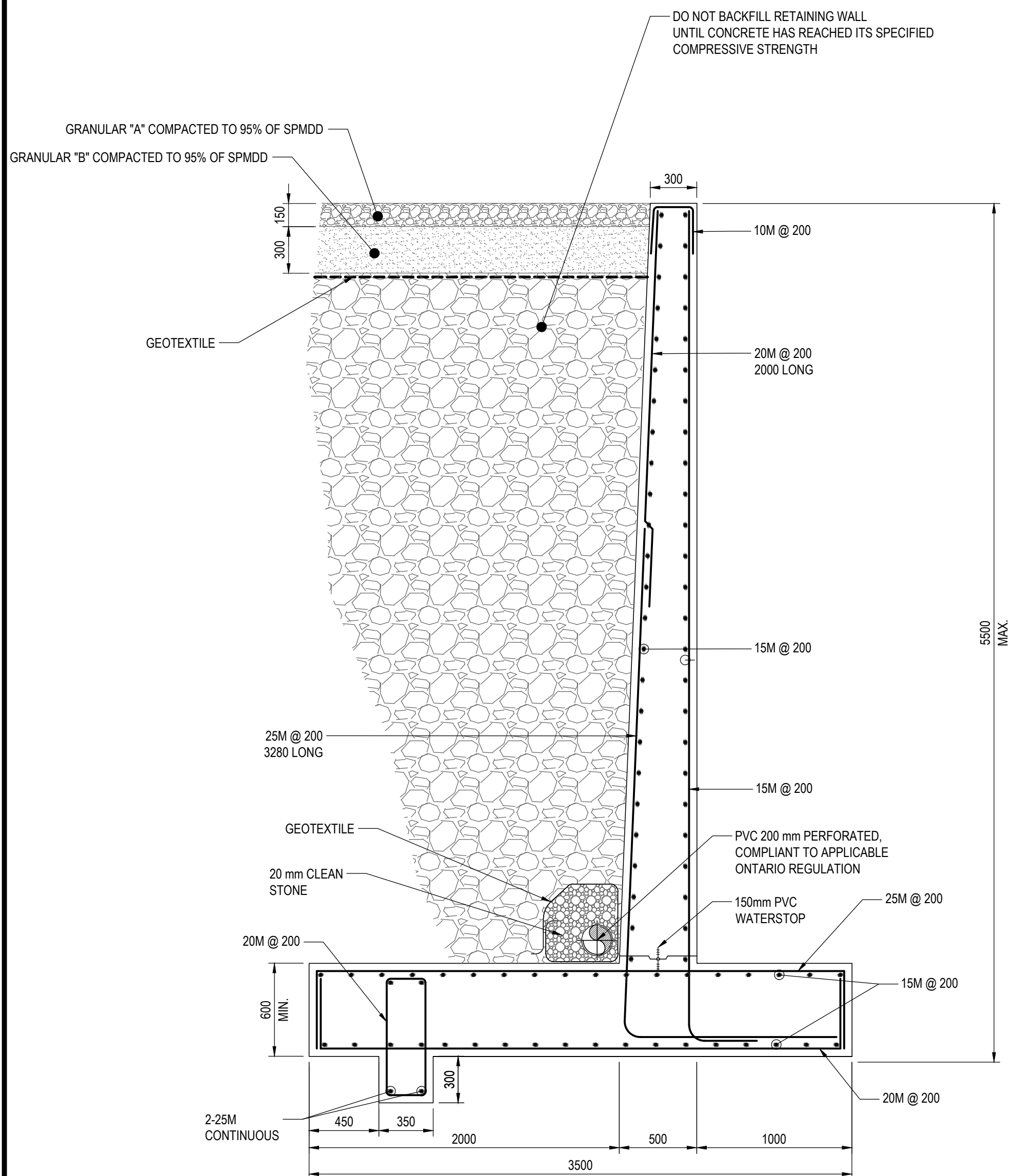
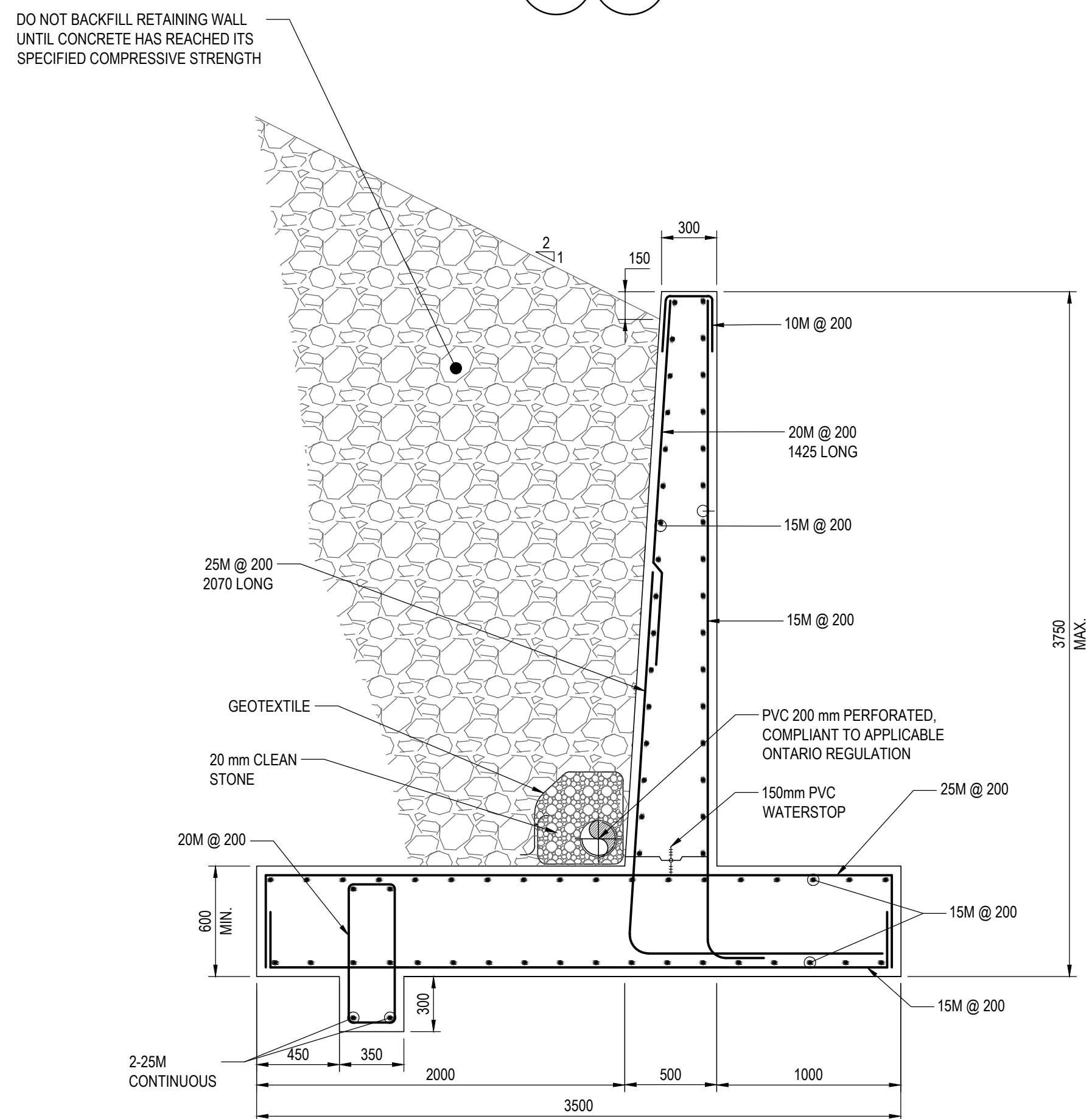
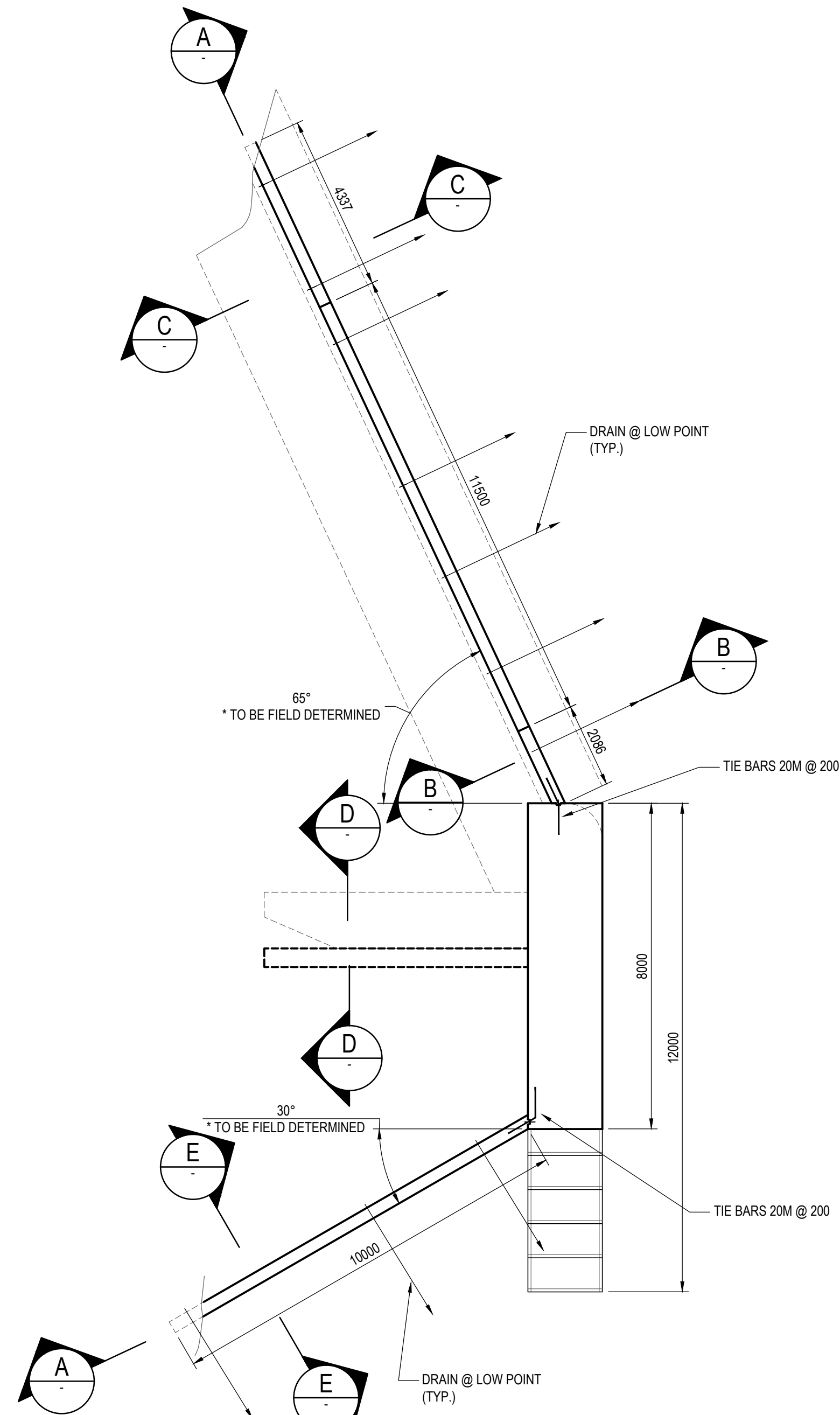
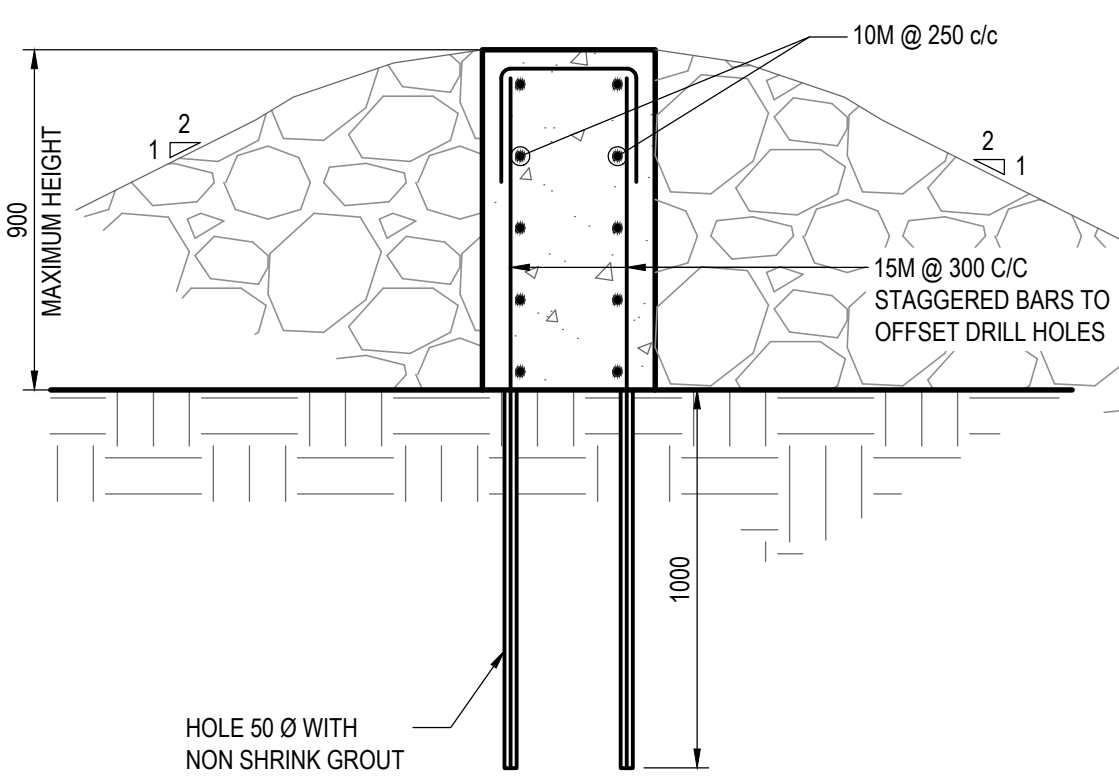
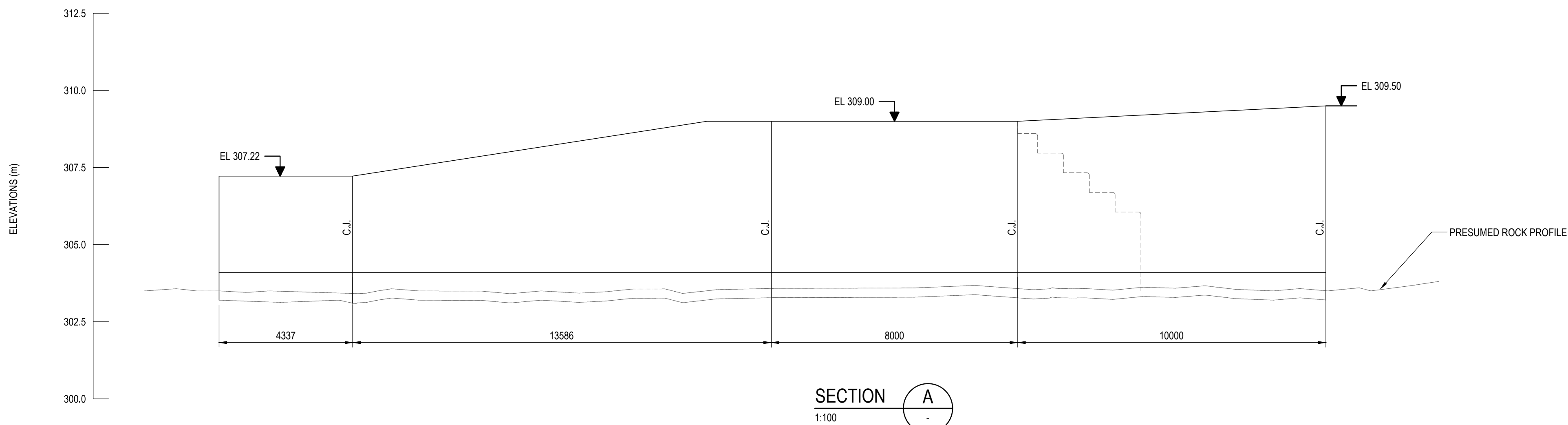
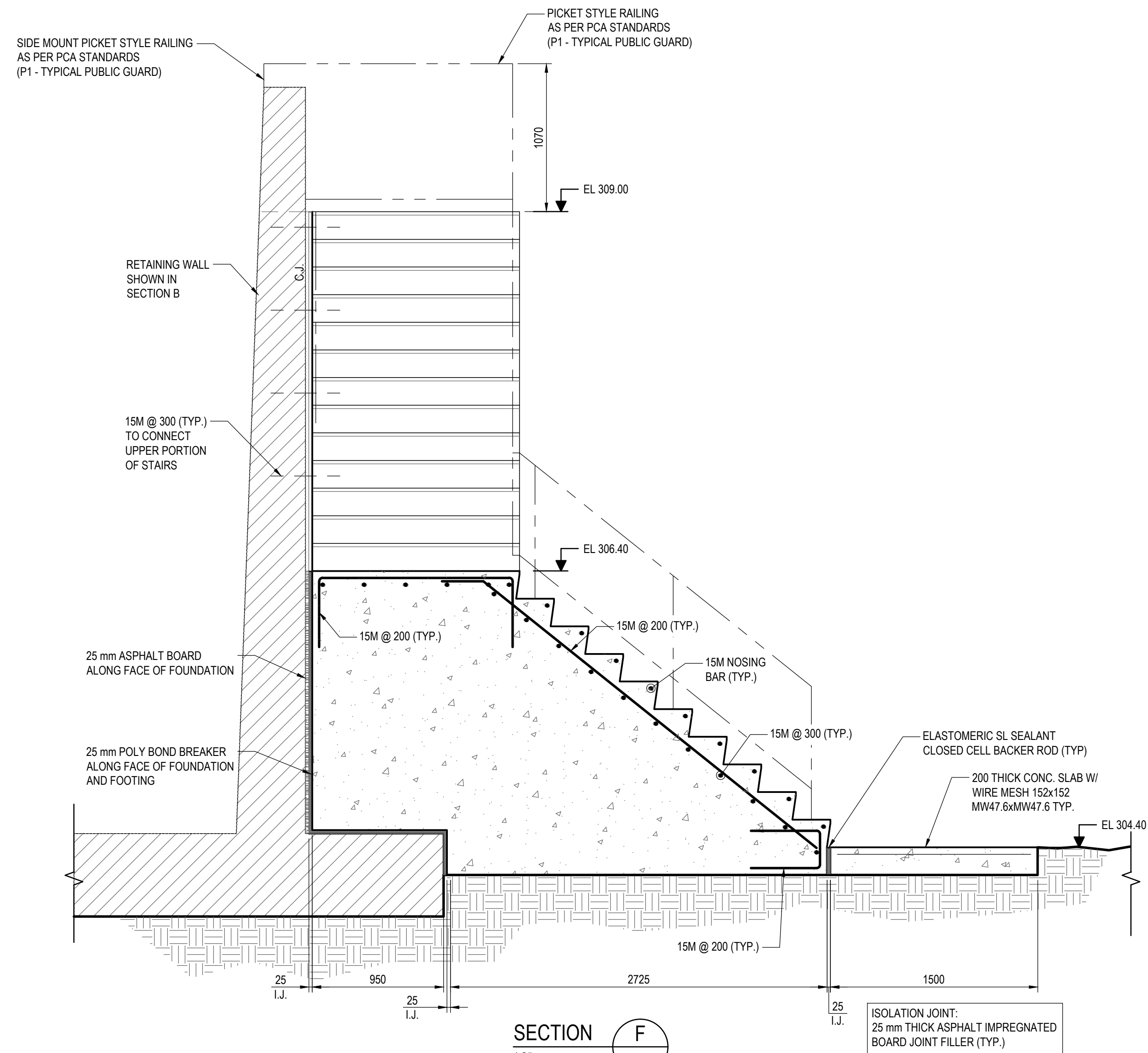
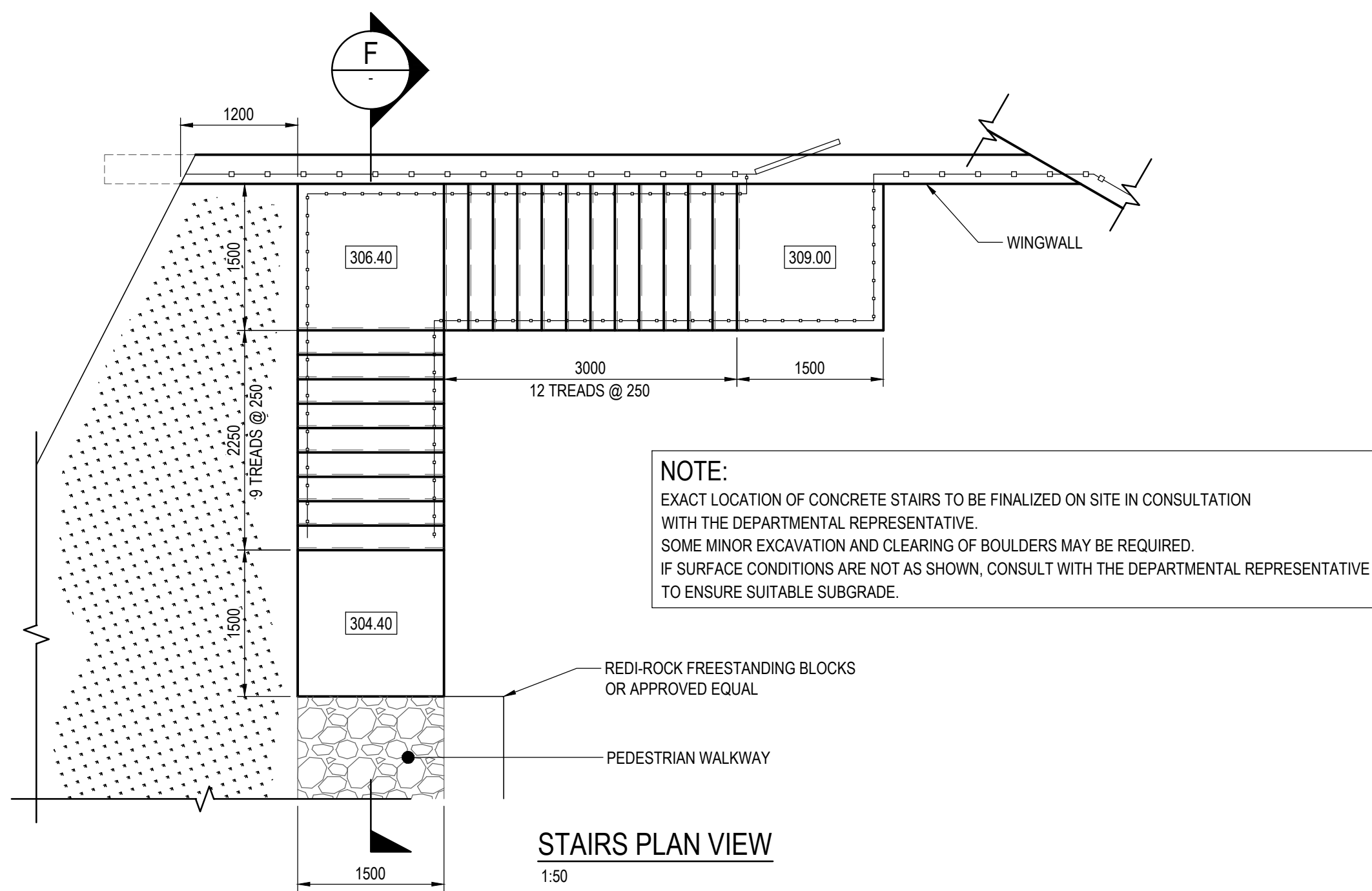
## HORSESHOE LAKE DAM REPLACEMENT

## REINFORCING PIER SECTIONS AND SILL SLAB

Drawn by / Dessiné par	Designed by / Conçu par
FELIPE ZULUAGA	KARINA SETO
Approved by / Approuvé par	Drawing Date / Date du dessin
JAVIER VILORIA	SEPTEMBER 2016
Project manager / Administrateur de projet	
JOHN JUFFS	
HCEW Number / Numéro de CHTI	Drawing Number / Numéro du Dessin
30025849	110
Project Number / Numéro du projet	Sheet Feuille
121-15275-51	1 of 1





SECTION B-E  
1:25SECTION C  
1:25WEST ABUTMENT PLAN VIEW  
1:100SECTION D  
1:20SECTION A  
1:100SECTION F  
1:25

E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	JUN-14-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Dwn.By (Des.Par)	Date
Revision / Révision			

Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.

A	A Detail number Numéro du détail
B	B Location dwg. number Numéro sur dessin



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

CONSTRUCTION  
WEST ABUTMENT AND  
STAIRS

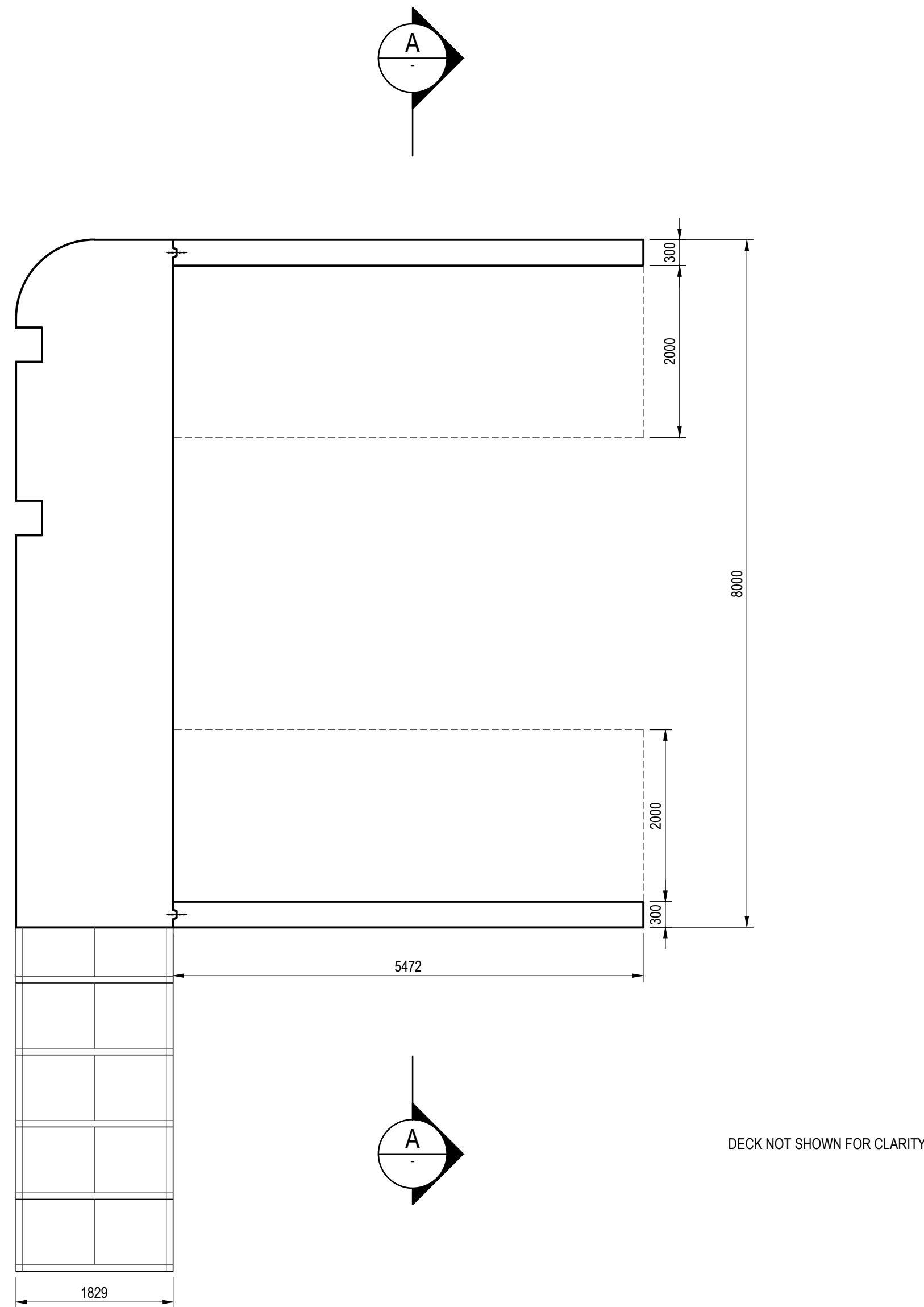
Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

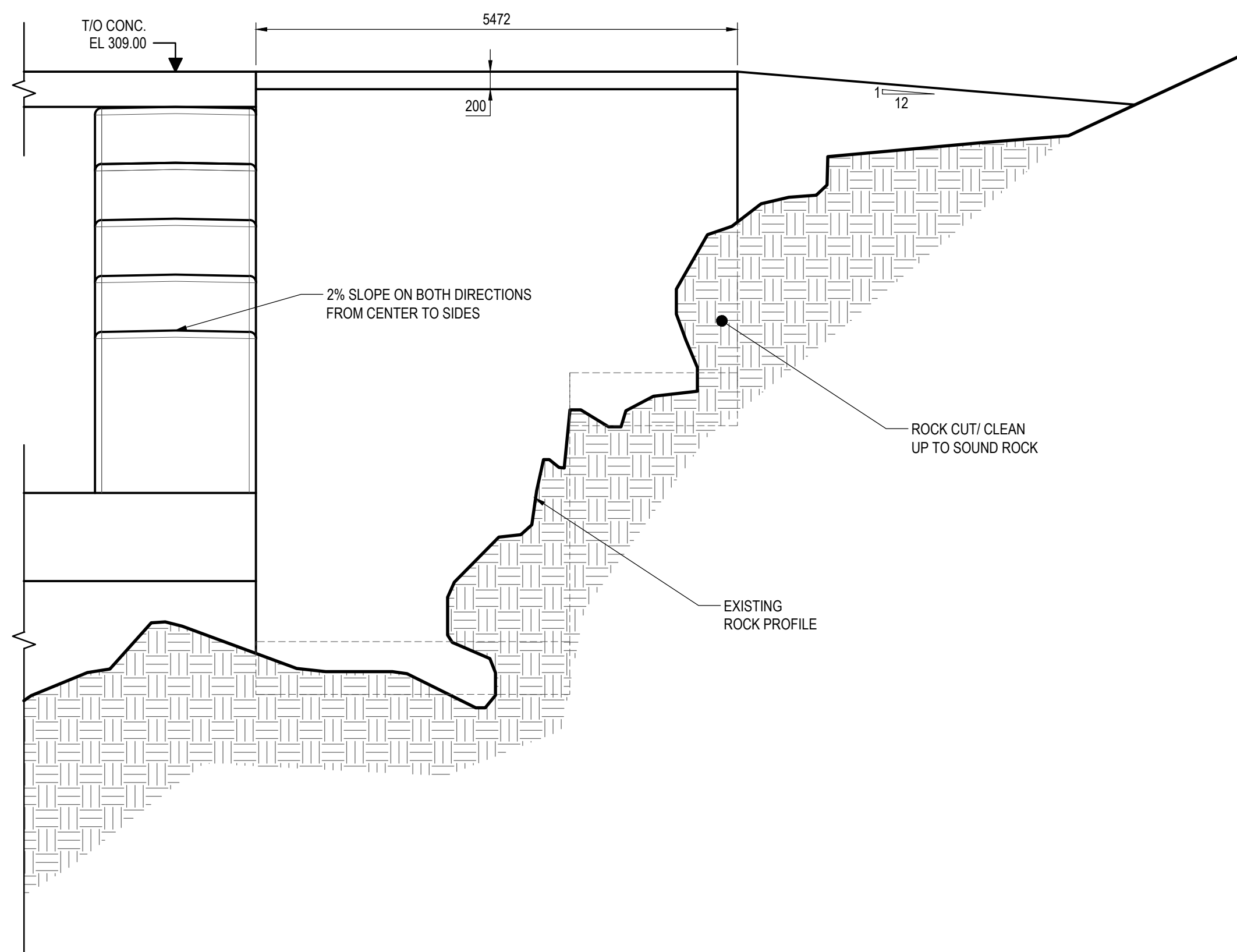
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Project Number / Numéro du projet 121-15275-51	Sheet / Feuille 1 of 1





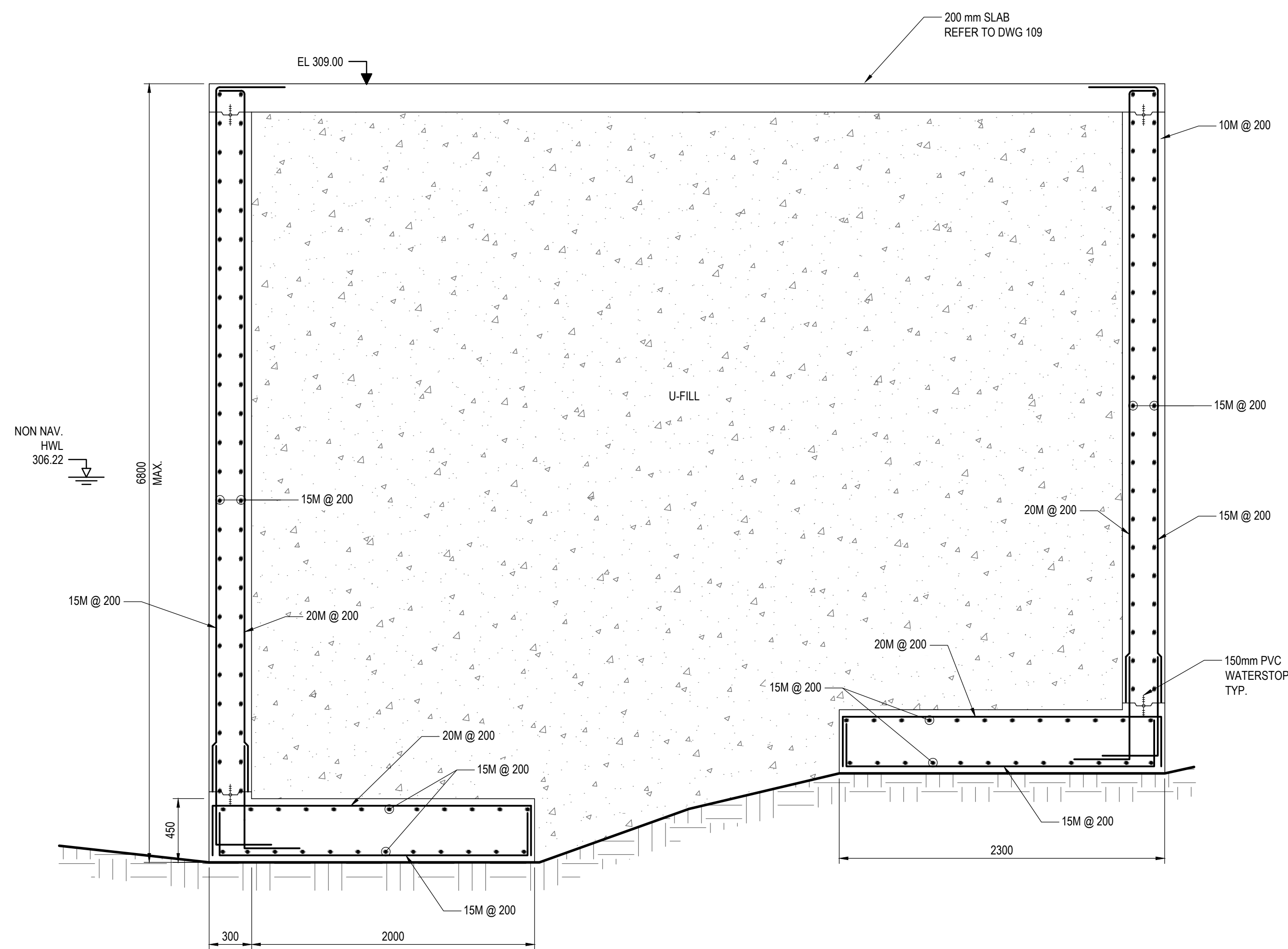
EAST ABUTMENT PLAN VIEW

1:50



DOWNSTREAM ELEVATION

1:50

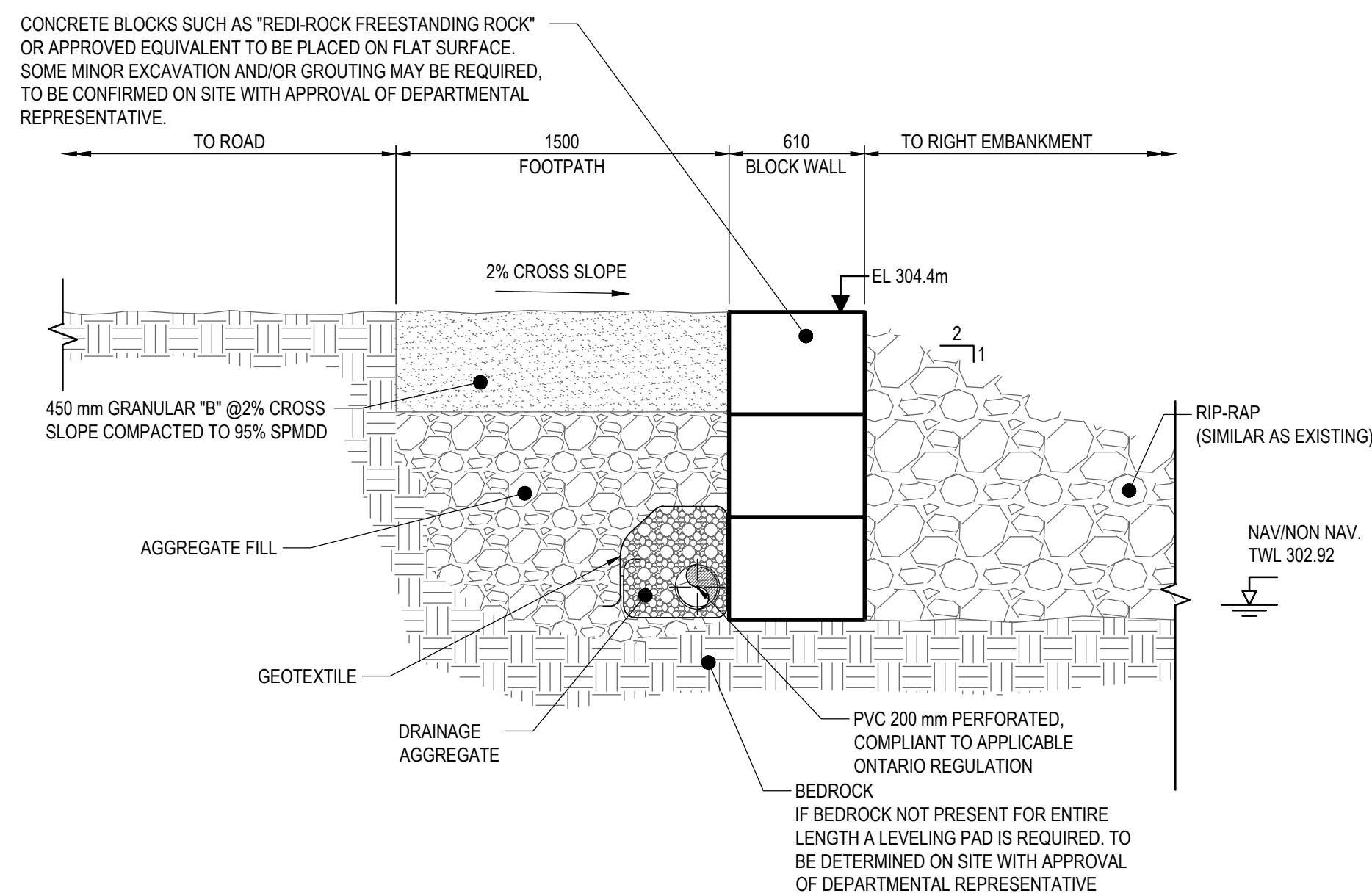


SECTION A

1:25

## NOTE:

- FOR FIRST LIFT U-FILL TO A MAX HEIGHT OF 1.5 m. PLACE FOLLOWING U-FILL LIFT ONCE PREVIOUS LIFT IS SET.
- FOR LAP DIMENSIONS REFER TO GENERAL NOTES ON DWG 101.



PEDESTRIAN WALKWAY

1:25

SECTION B

107

Canada



E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	JUN-14-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Des. By (Des. Par)	Date
Revision / Révision			

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A	A Detail number Numéro du détail
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Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

CONSTRUCTION  
EAST ABUTMENT AND  
PEDESTRIAN WALKWAY

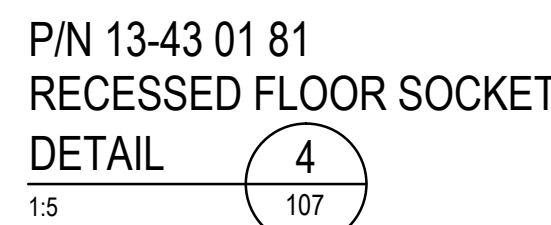
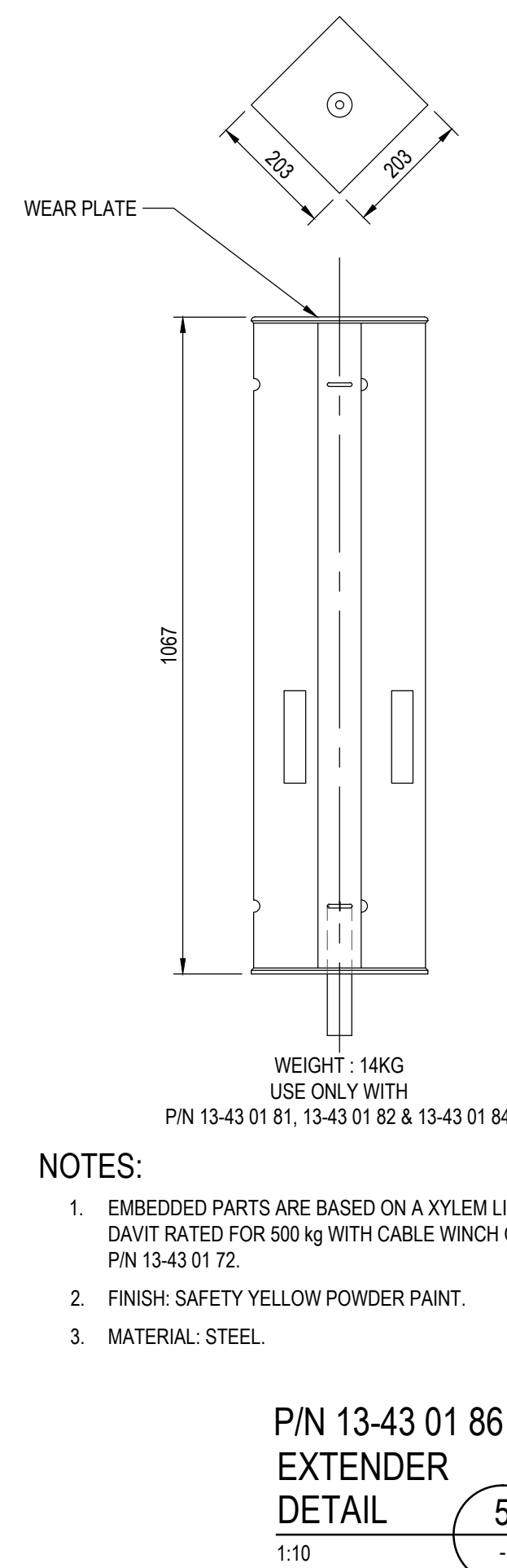
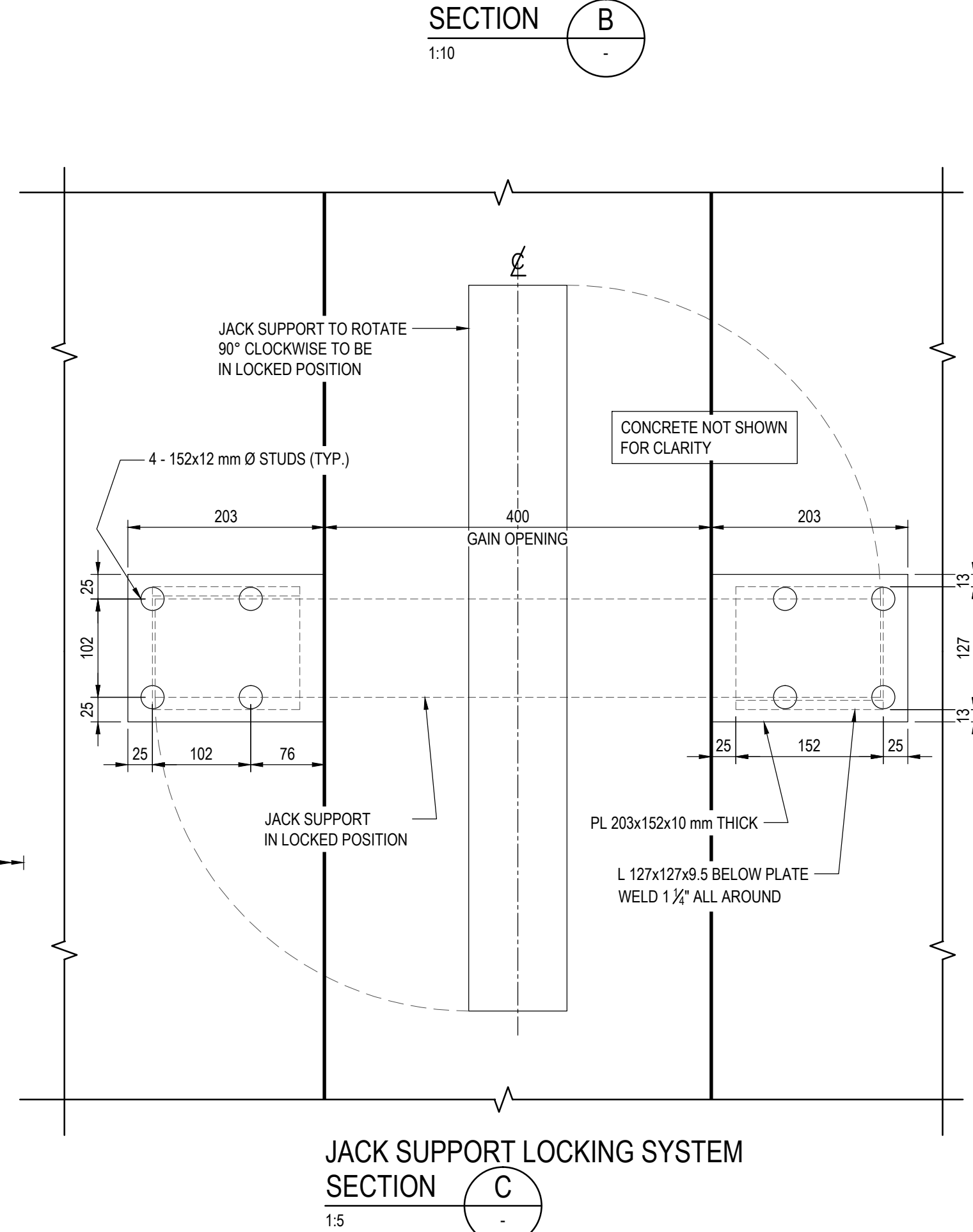
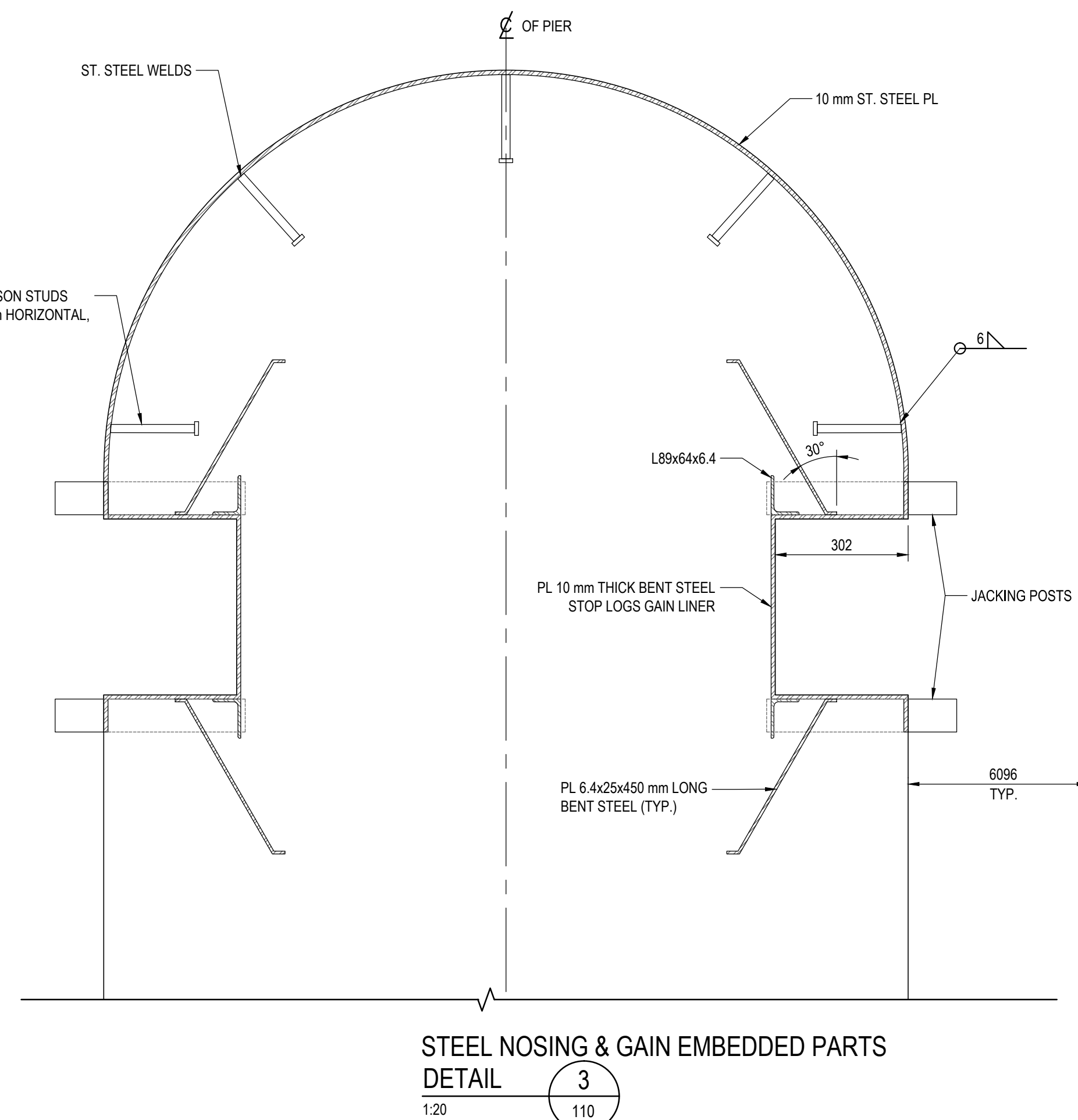
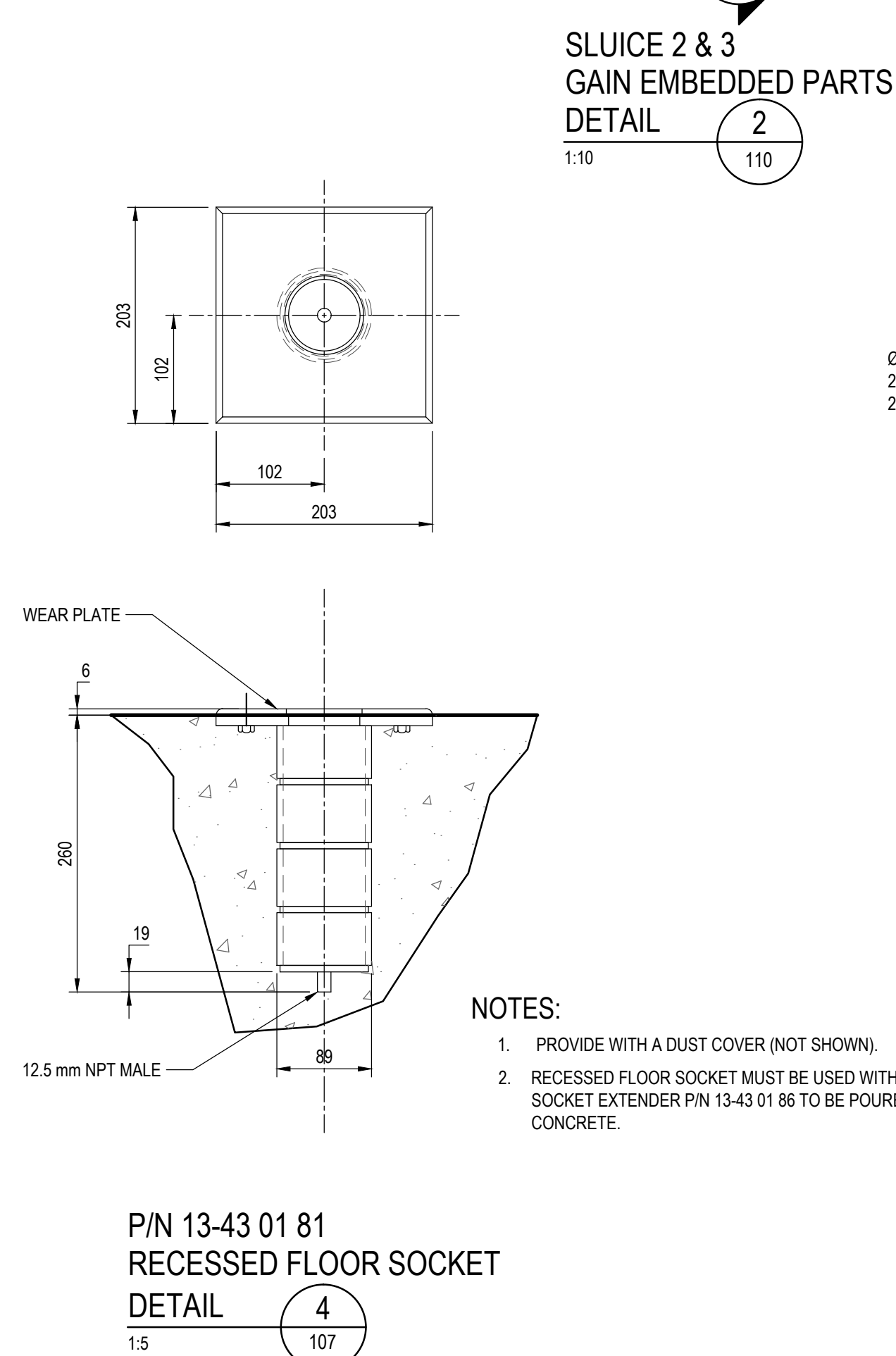
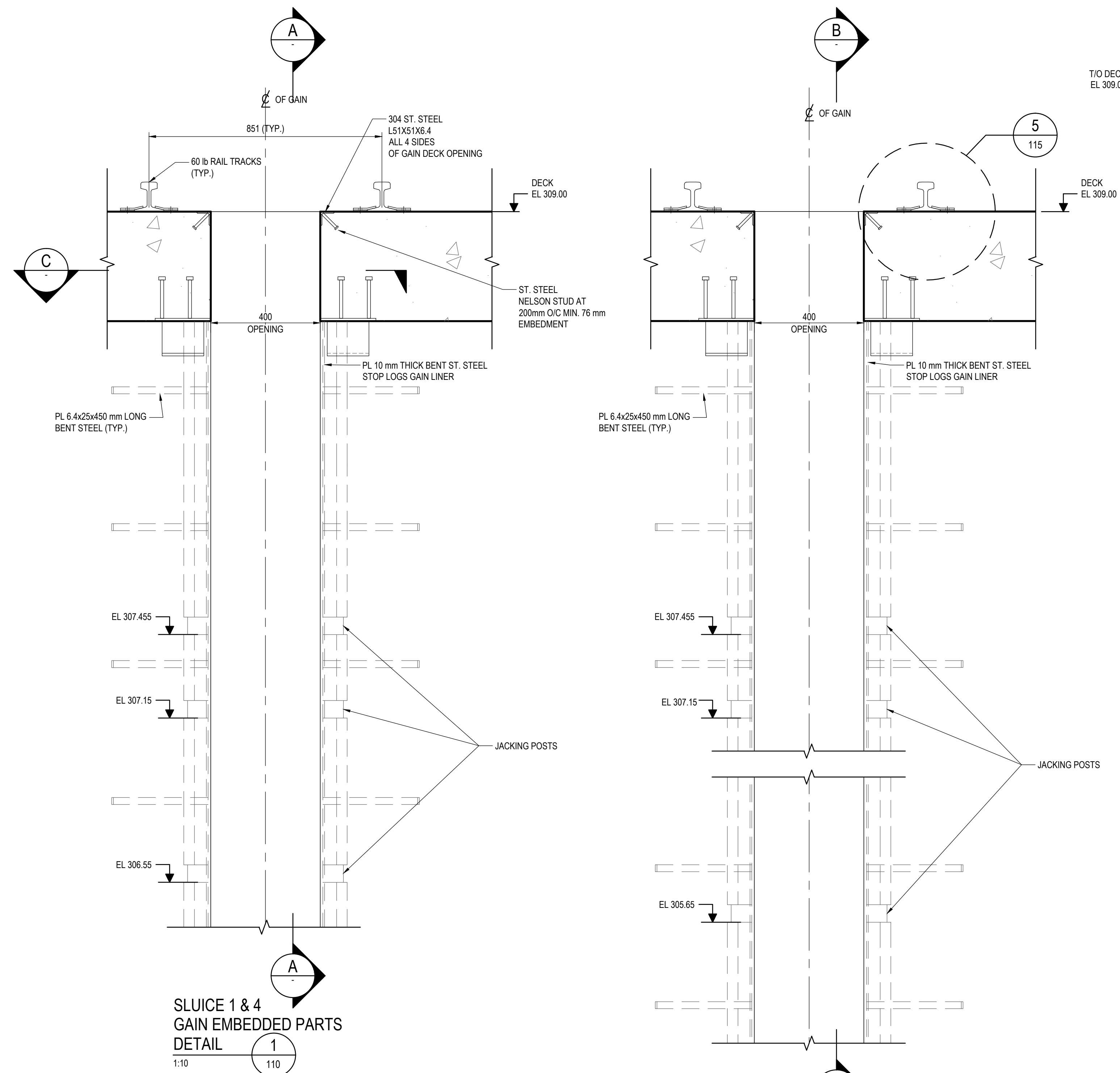
Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

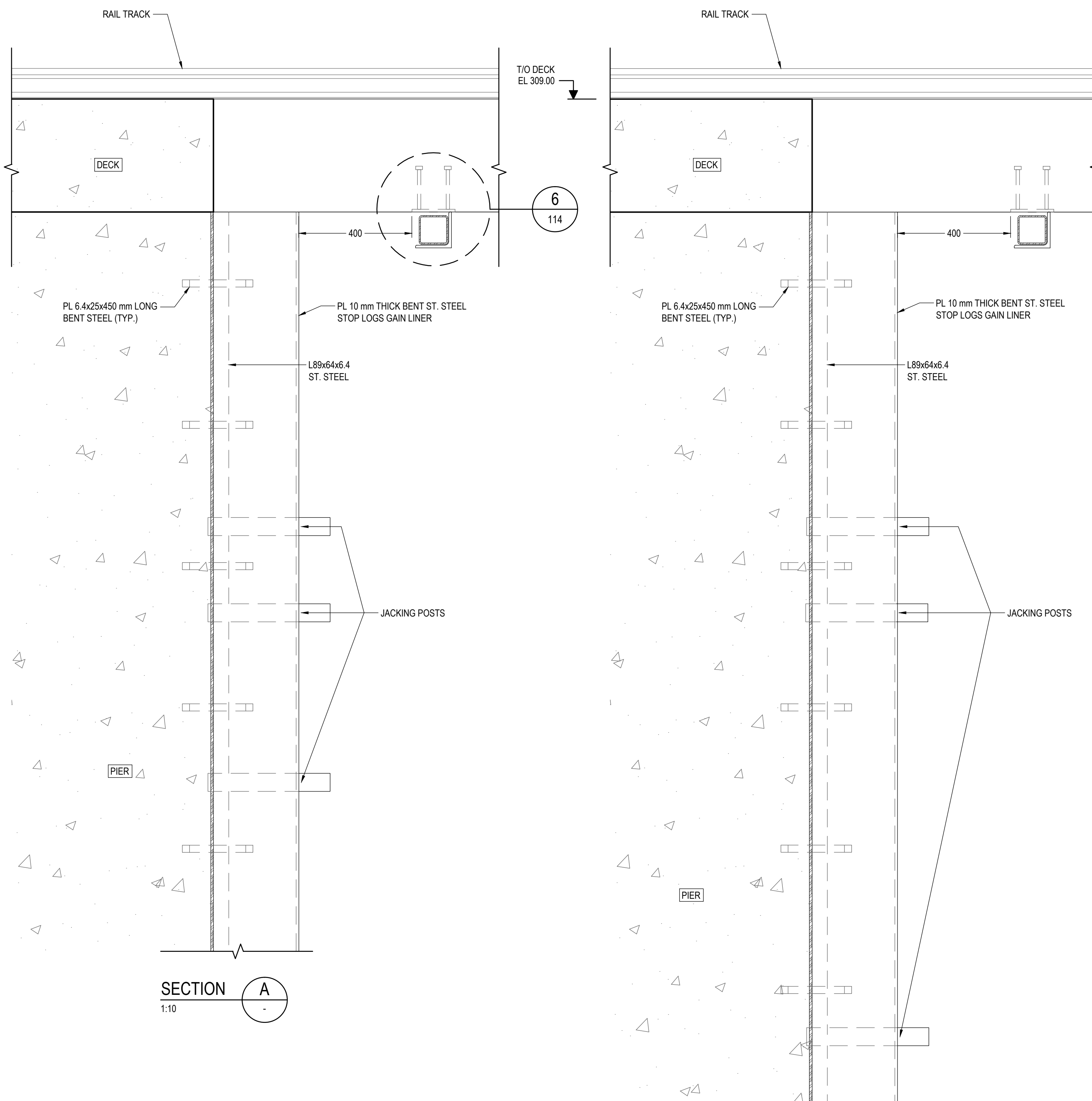
HCEW Number / Numéro de CHTI 30025849	Drawing Number / Numéro du Dessin 112
Project Number / Numéro du projet 121-15275-51	Sheet Feuille 1 of 1





- NOTES:
- EMBEDDED PARTS ARE BASED ON A XYLEM LIFTING DAVIT RATED FOR 500 kg WITH CABLE WINCH OPTION PIN 13-43 01 72.
  - FINISH: SAFETY YELLOW POWDER PAINT.
  - MATERIAL: STEEL.

- NOTES:
- PROVIDE WITH A DUST COVER (NOT SHOWN).
  - RECESSED FLOOR SOCKET MUST BE USED WITH SOCKET EXTENDER PIN 13-43 01 86 TO BE POURED IN CONCRETE.



E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Dwn.By (Des.Par)	Date
Revision / Révision			

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A	A Detail number Numéro du détail
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Project title / Titre du projet

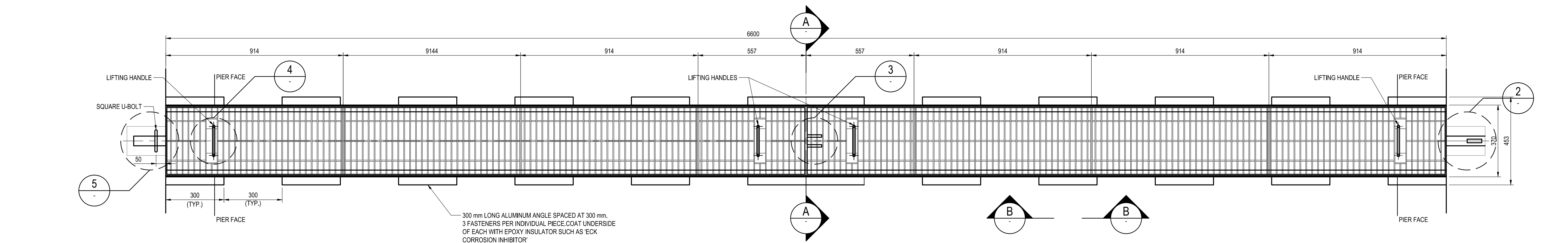
## HORSESHOE LAKE DAM REPLACEMENT

Drawing title / Titre du dessin

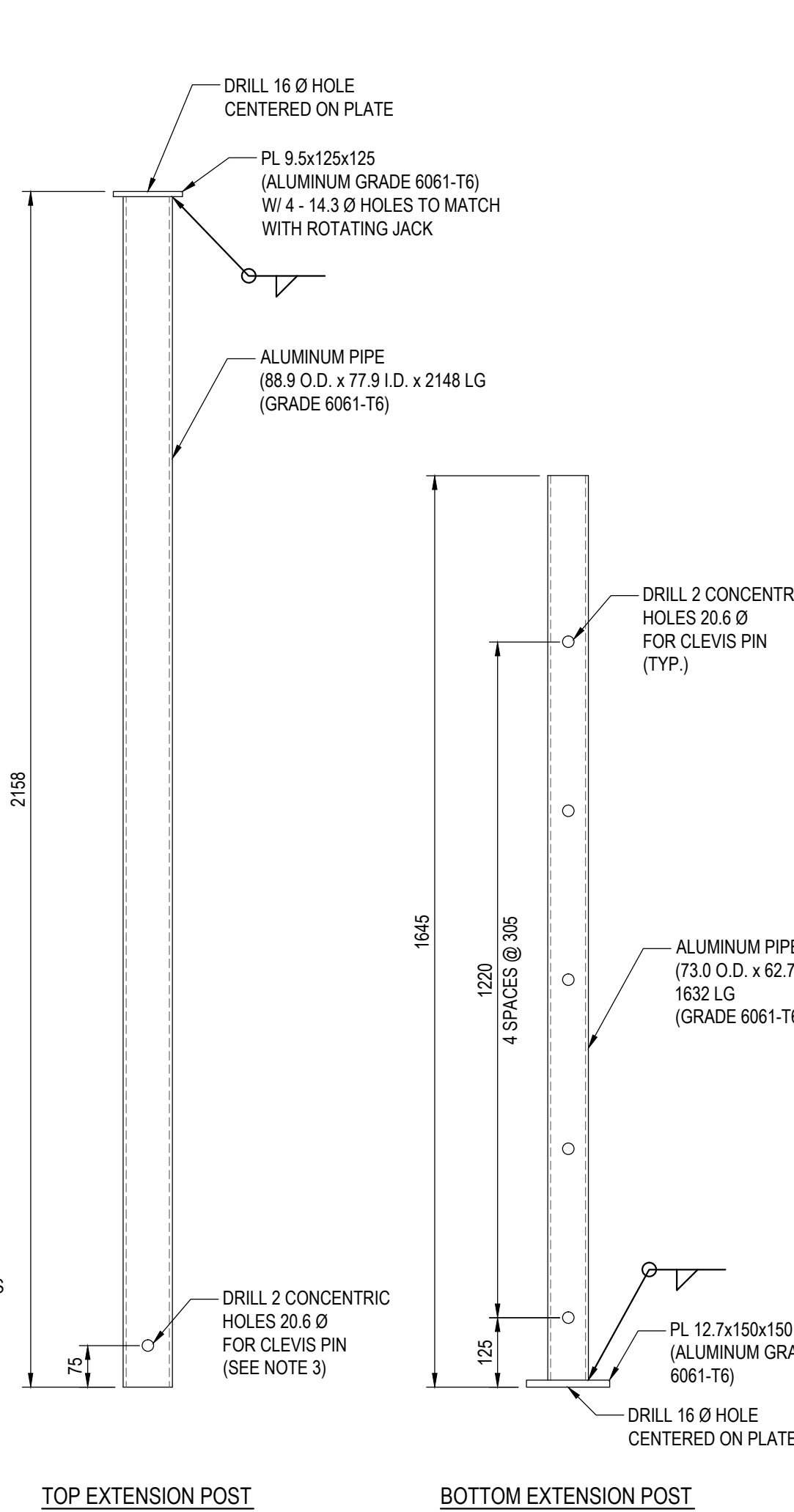
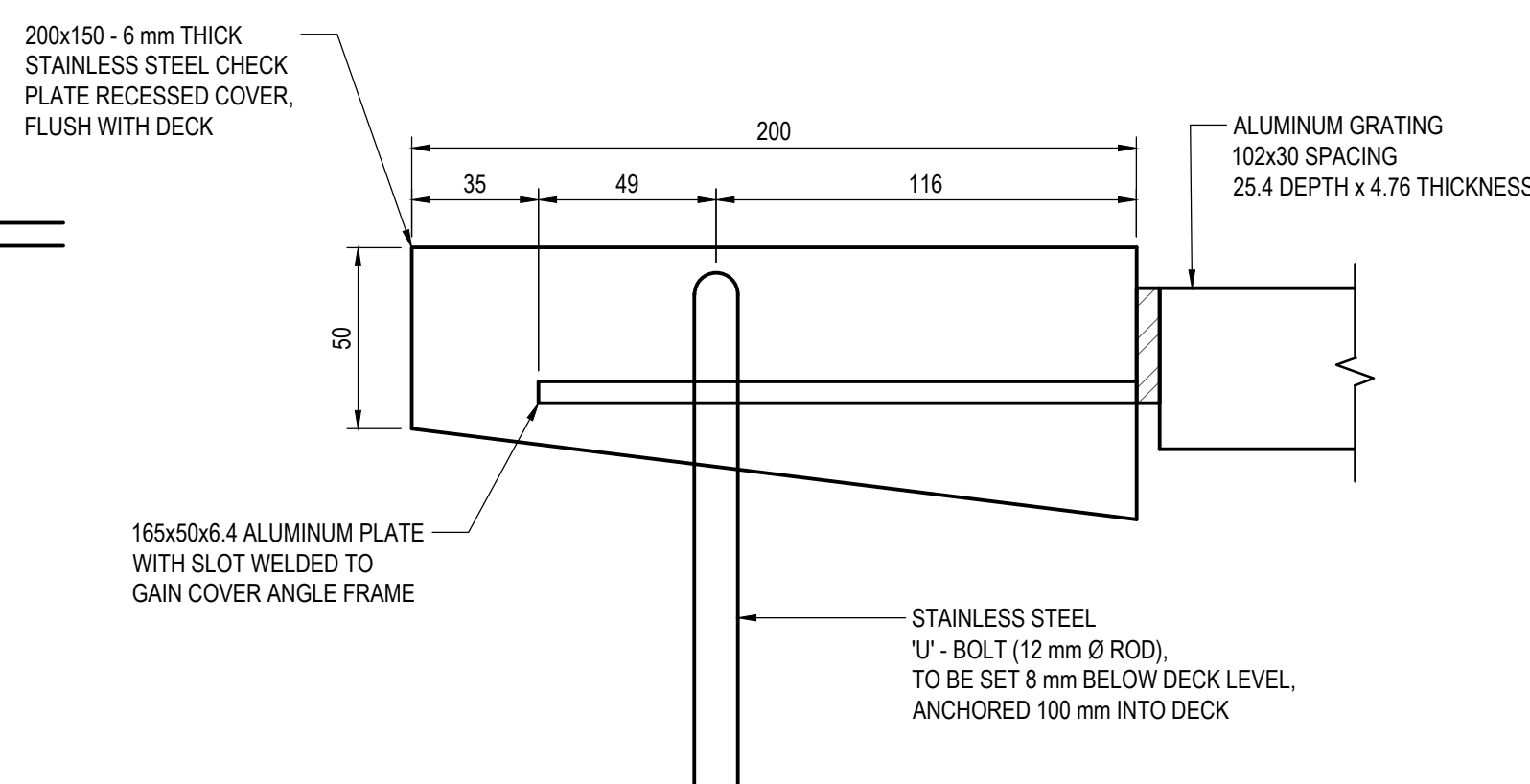
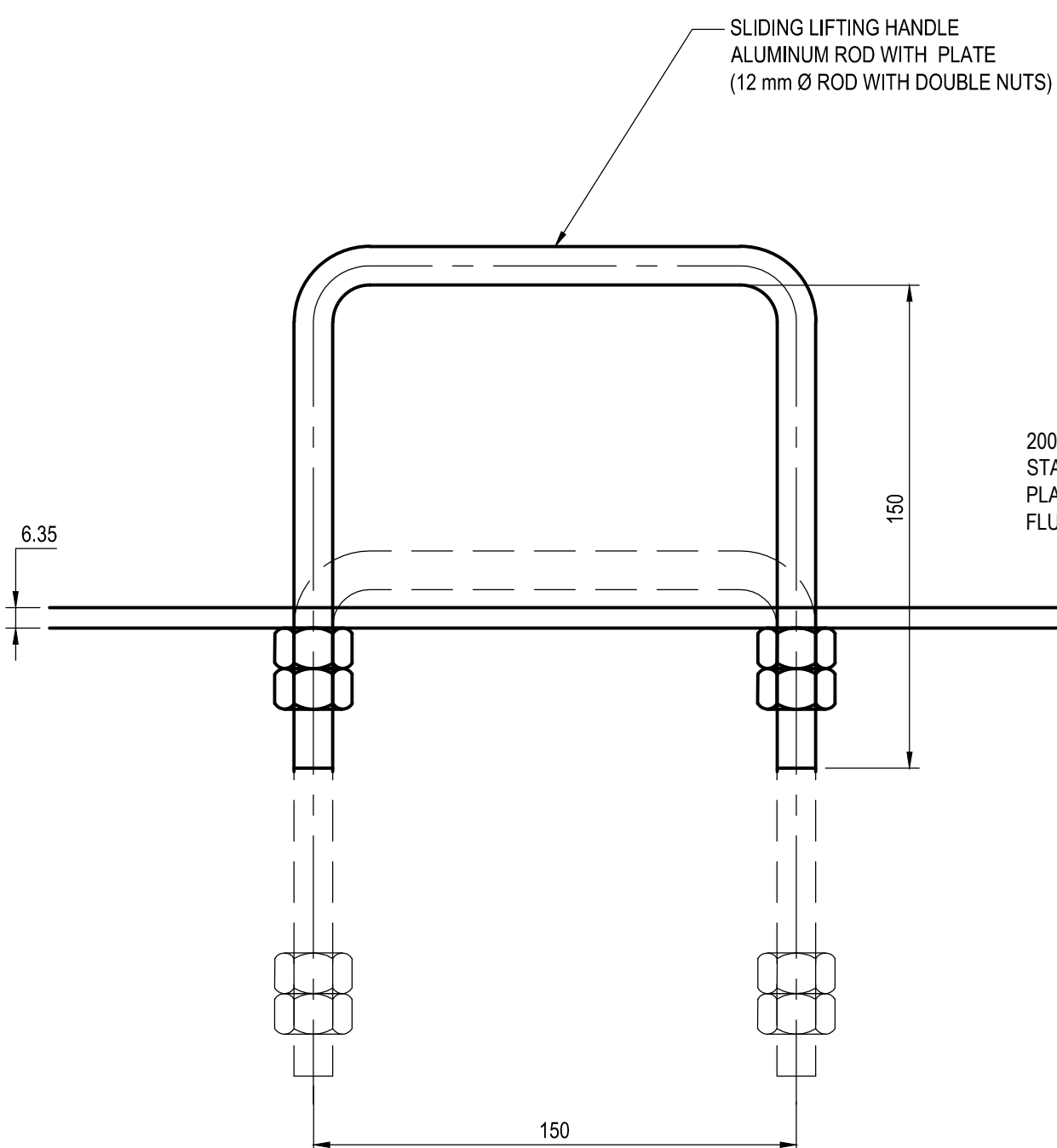
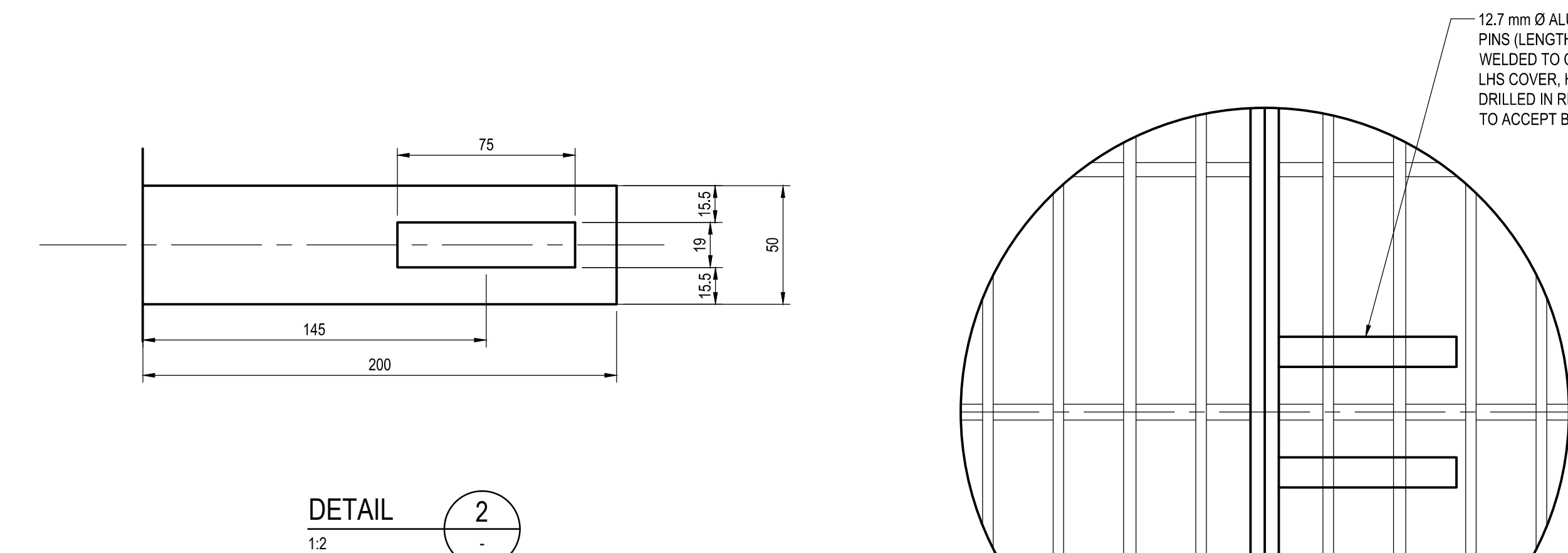
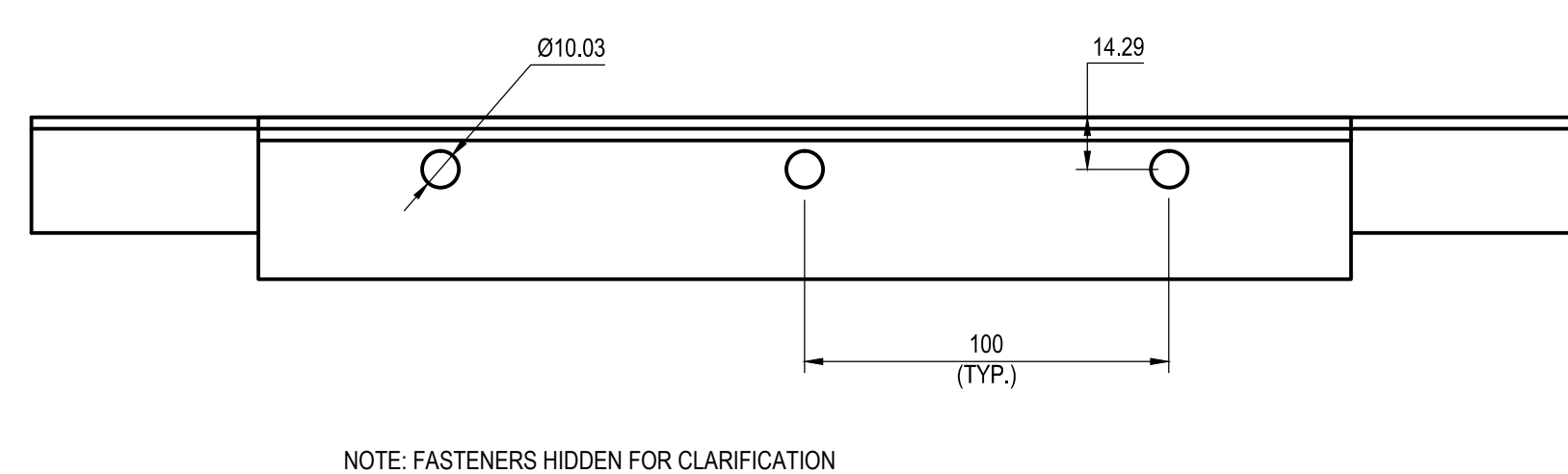
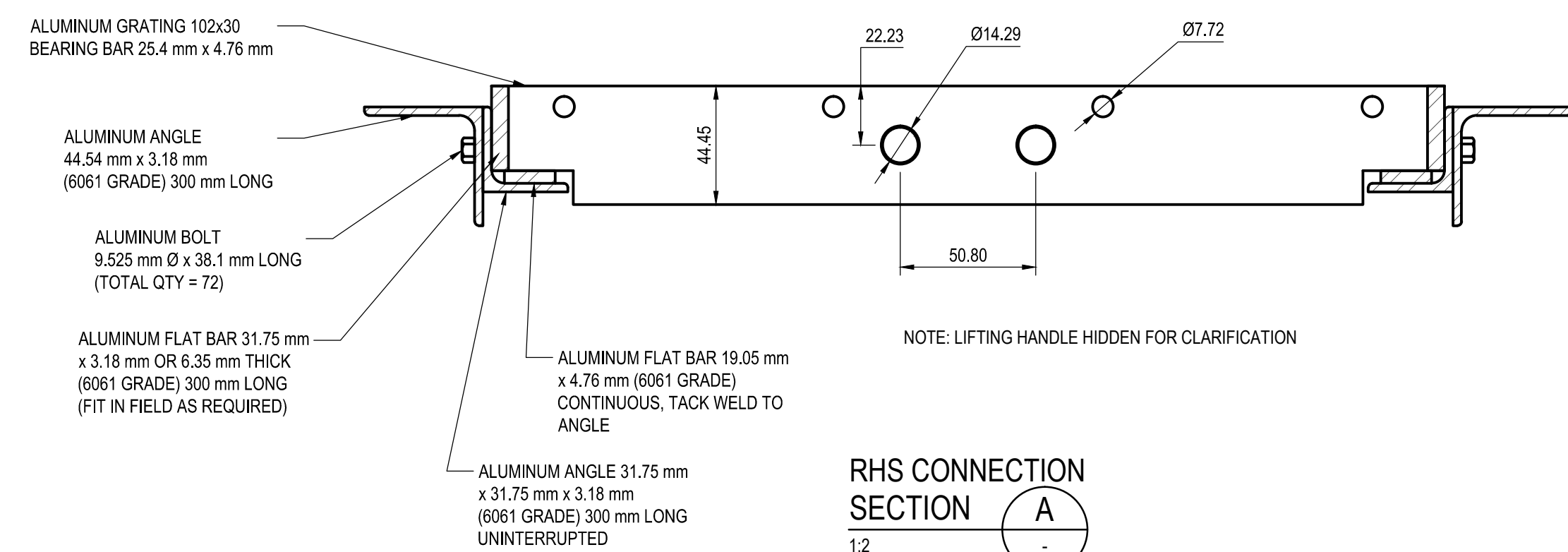
## TYPICAL DETAILS GAIN EMBEDDED PARTS

Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016
Project manager / Administrateur de projet JOHN JUFFS	
HCEW Number / Numéro de CHTI 30025849	Drawing Number / Numéro du Dessin 113
Project Number / Numéro du projet 121-15275-51	Sheet / Feuille 1 of 1

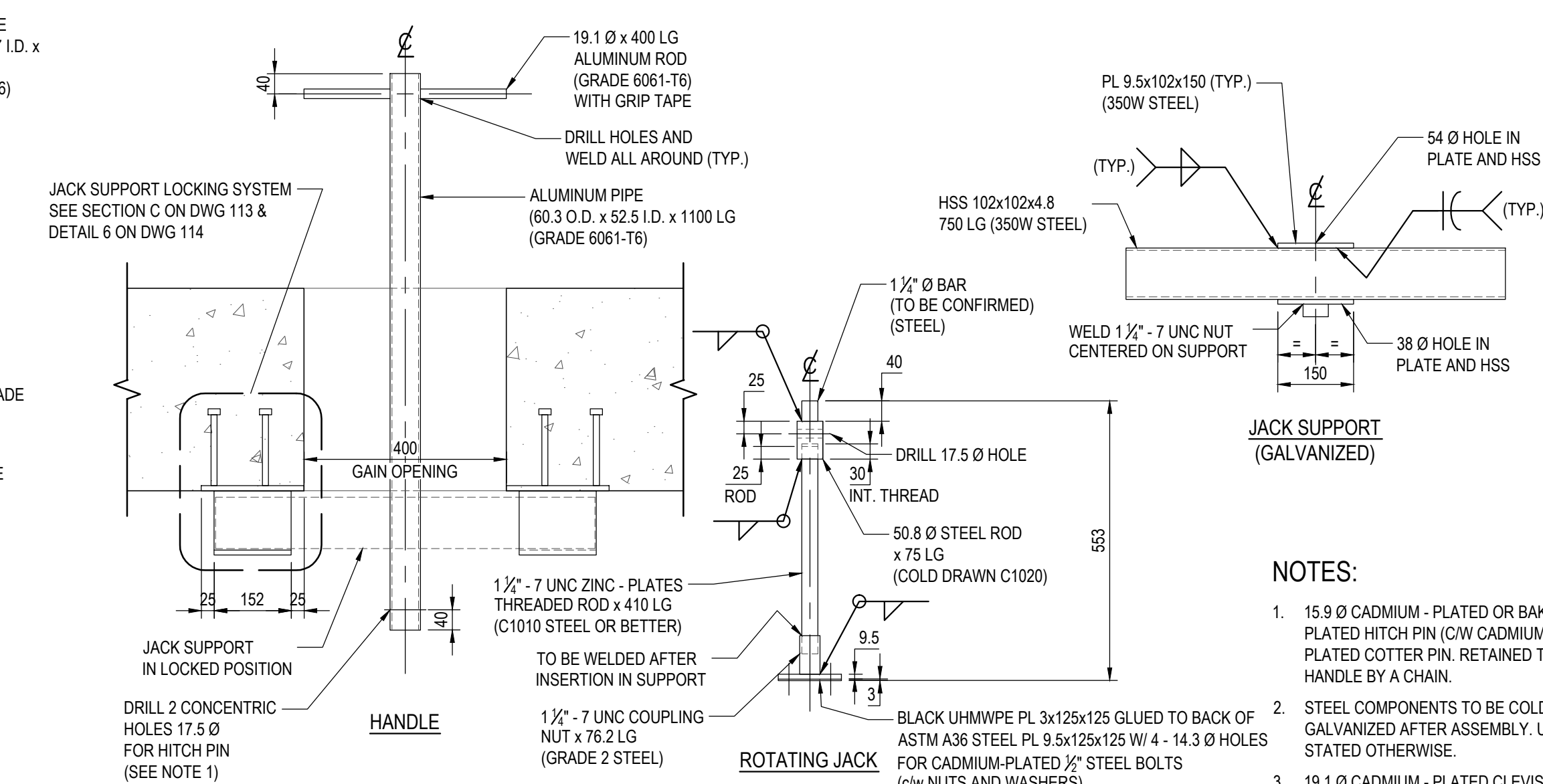
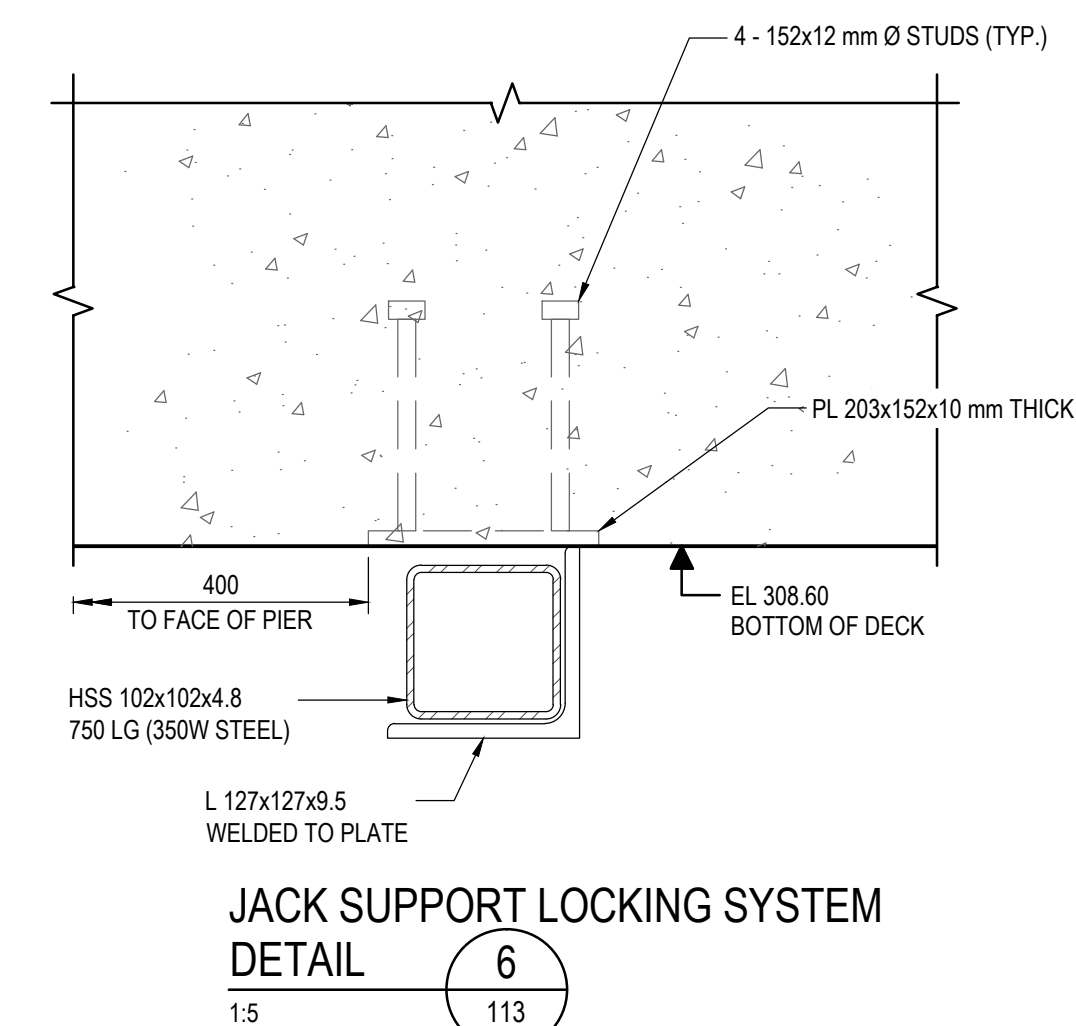
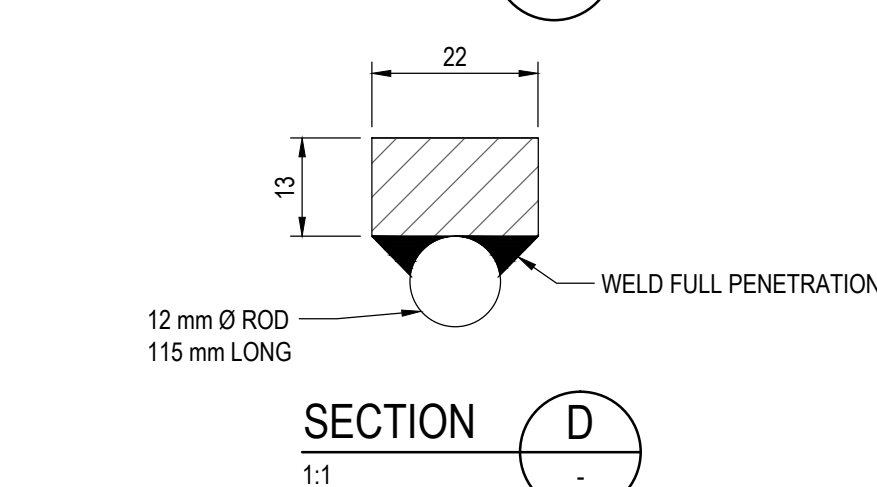
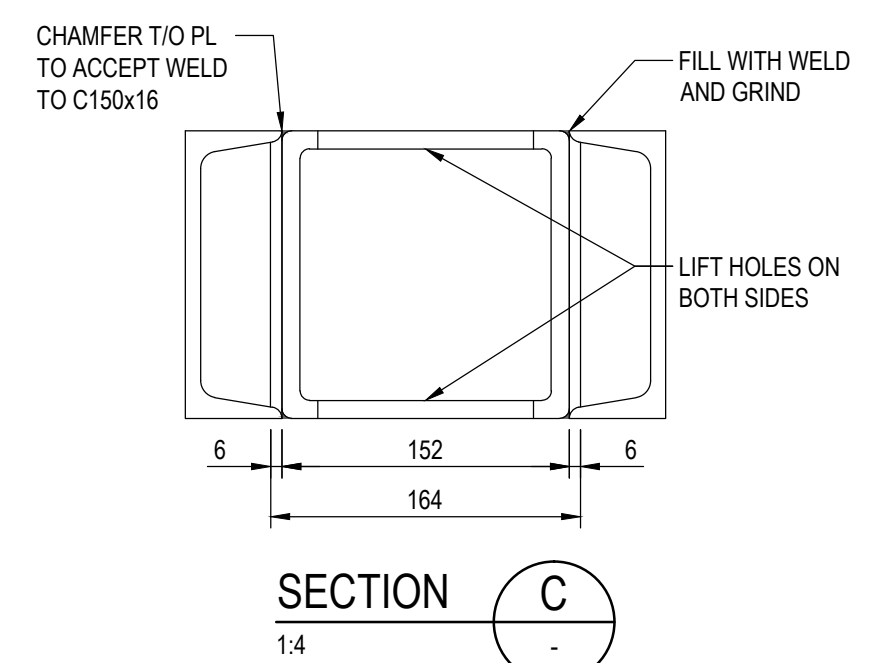
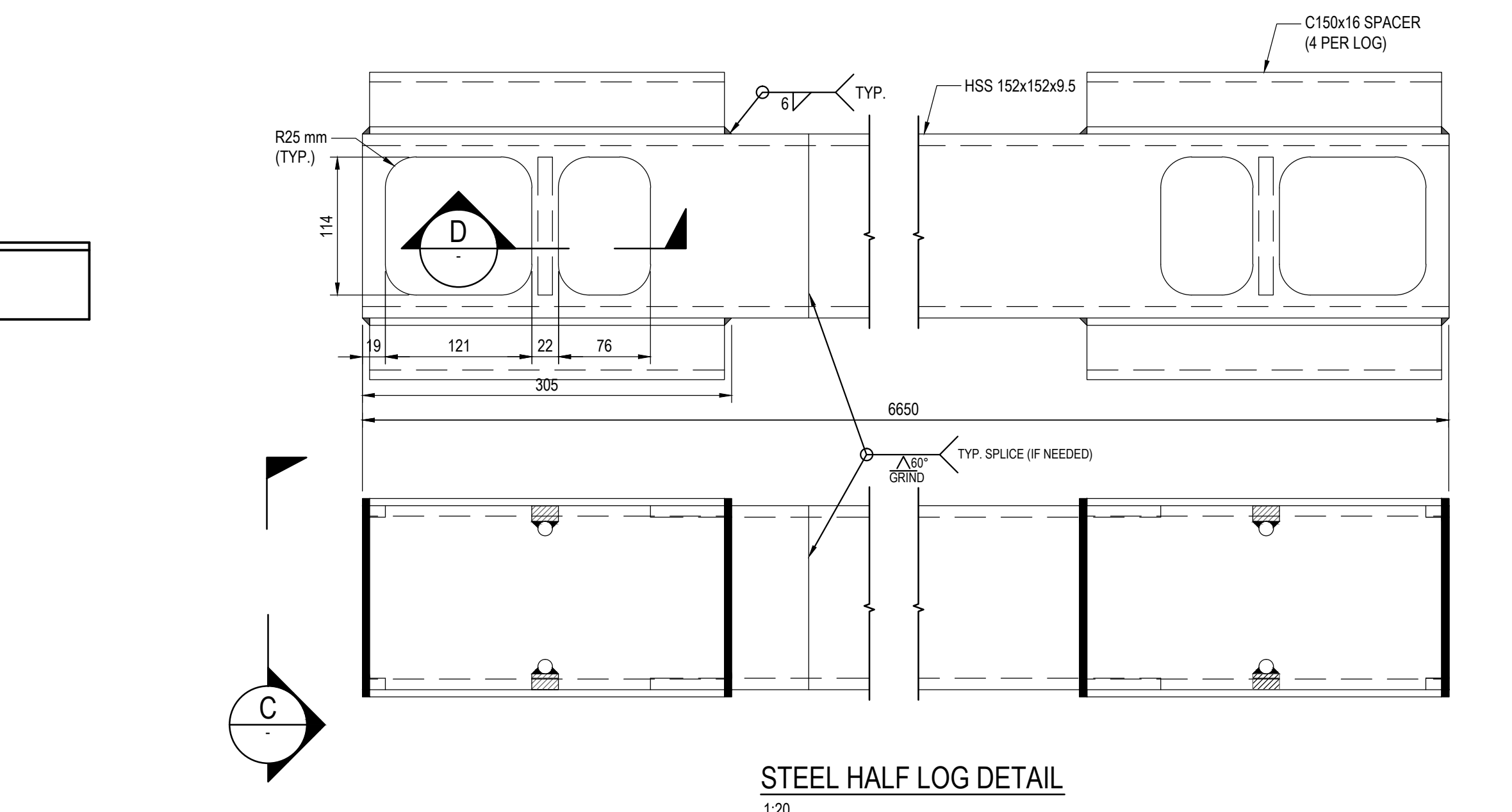




**GAIN COVER DETAIL**  
1  
1:10



**LOG PINNING EXTENSION DETAIL**  
1:10



**NOTES:**

- 15.9 Ø CADMIUM - PLATED OR BAKED PLATED HITCH PIN (C/W CADMIUM - PLATED COTTER PIN, RETAINED TO HANDLE BY A CHAIN.
- STEEL COMPONENTS TO BE COLD - GALVANIZED AFTER ASSEMBLY, UNLESS STATED OTHERWISE.
- 19.1 Ø CADMIUM - PLATED CLEVIS PIN (C/W CADMIUM - PLATED COTTER PIN, RETAINED TO POST BY A CHAIN.



E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Drawn By (Des.Pai)	Date
Revision / Révision			

Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the  
Departmental Representative of all discrepancies.

A	A Detail number Numéro du détail
B	B Location dwg. number Numéro sur dessin



Project title / Titre du projet

**HORSESHOE LAKE DAM  
REPLACEMENT**

Drawing title / Titre du dessin

**MISCELLANEOUS  
METAL DETAILS**

Drawn by / Dessiné par FELIPE ZULUAGA	Designed by / Conçu par KARINA SETO
Approved by / Approuvé par JAVIER VILORIA	Drawing Date / Date du dessin SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI

30025849

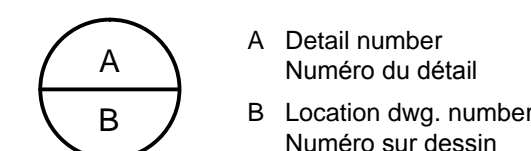
Project Number / Numéro du projet

121-15275-51

Drawing Number /  
Numéro du Dessin  
**114**

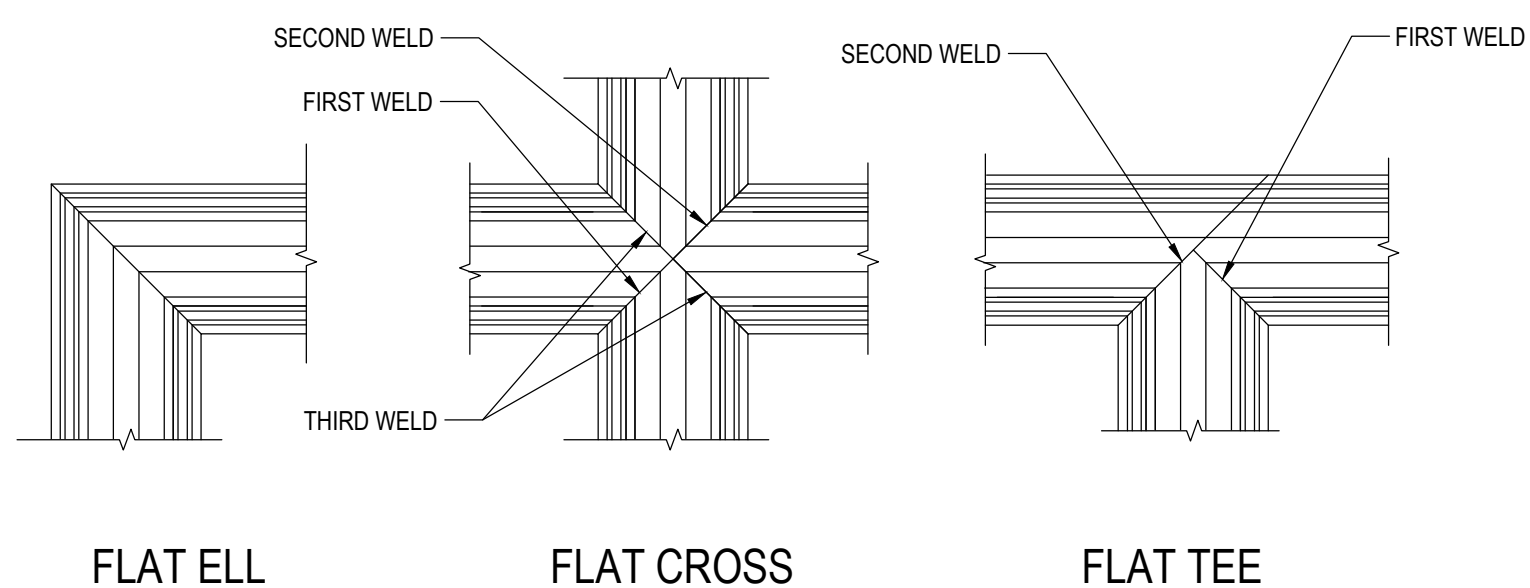
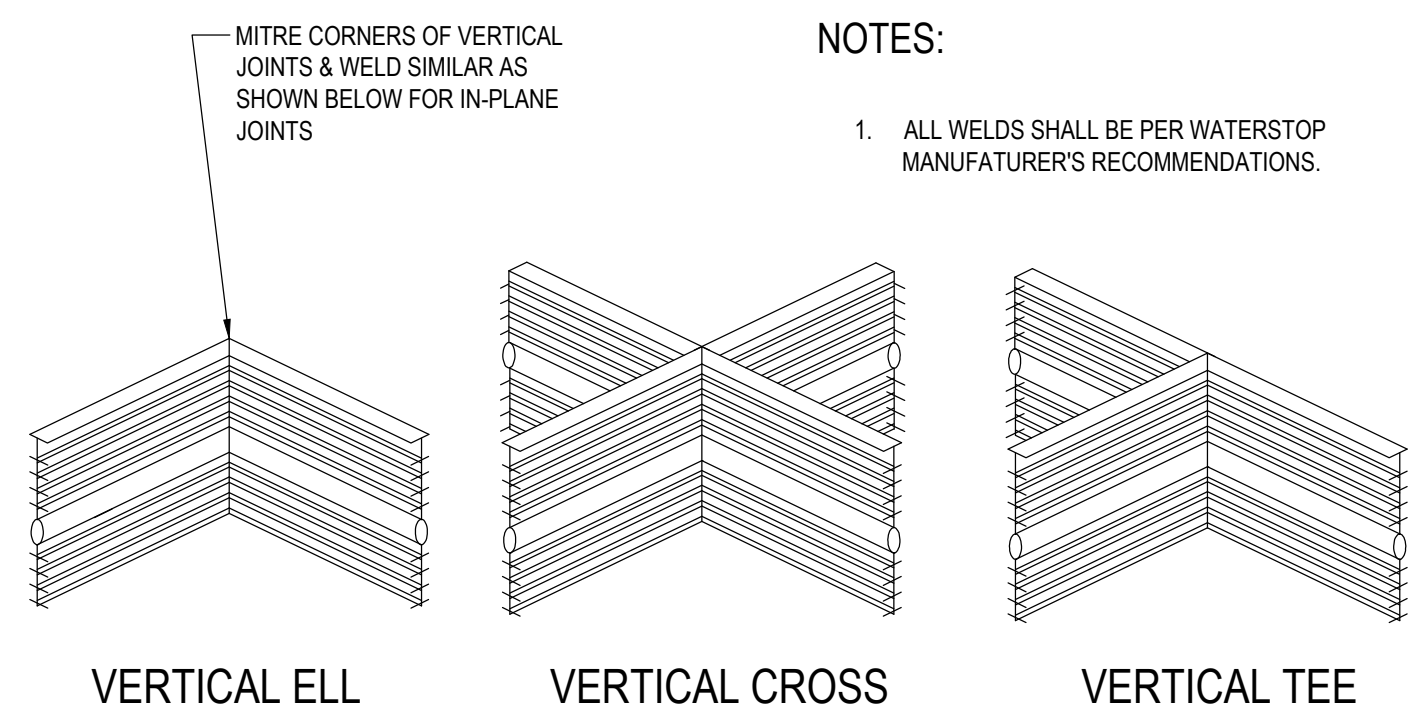
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Feuille 1 of 1



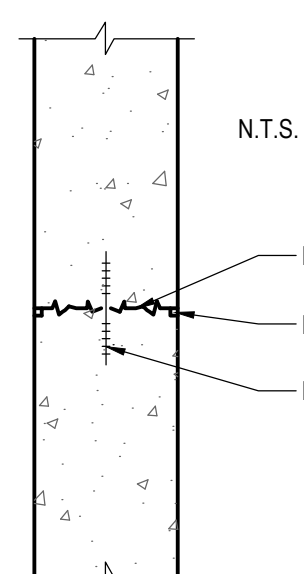
HORSESHOE LAKE DAM  
REPLACEMENT

## MISCELLANEOUS DETAILS

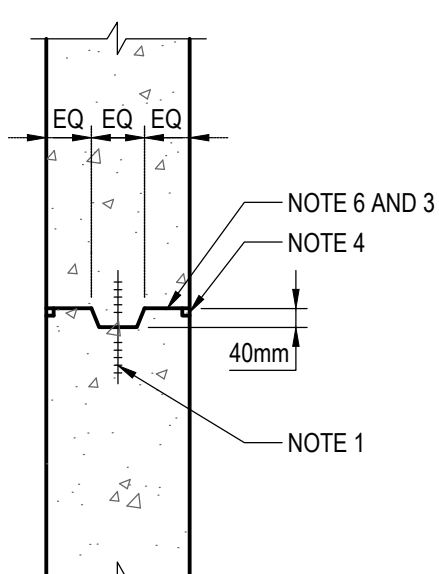
Drawn by / Dessiné par <b>FELIPE ZULUAGA</b>		Designed by / Conçu par <b>KARINA SETO</b>	
Approved by / Approuvé par <b>JAVIER VILORIA</b>		Drawing Date / Date du dessin <b>SEPTEMBER 2016</b>	
Project manager / Administrateur de projet <b>JOHN JUFFS</b>			
HICEV Number / Numéro de CHTI <b>30025849</b>		Drawing Number/ Numero du Dessin <b>115</b>	
Project Number / Numéro du projet <b>121-15275-51</b>		Sheet Feuille <b>1</b> of du <b>1</b>	



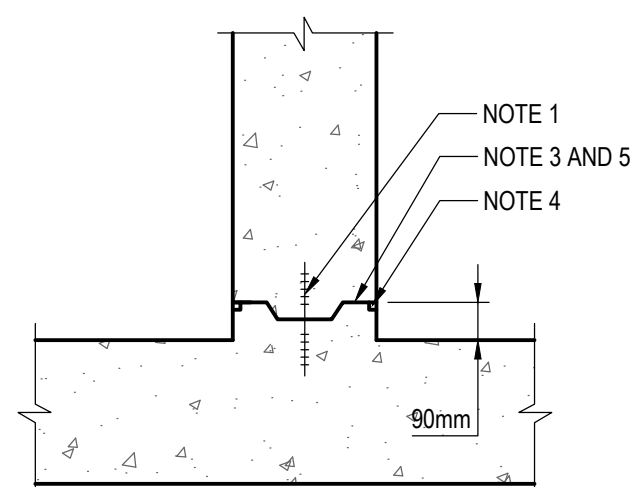
WATERSTOP JOINTS  
N.T.S.



SECTION (IN WALLS)

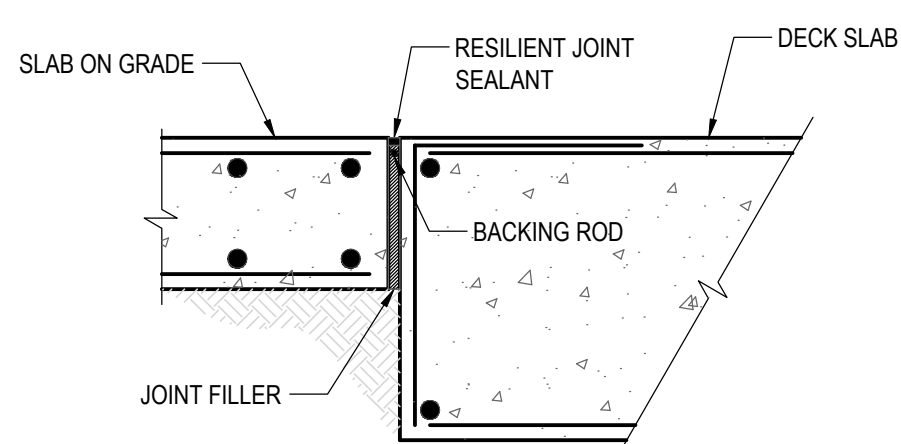


SECTION PLAN (IN WALLS)

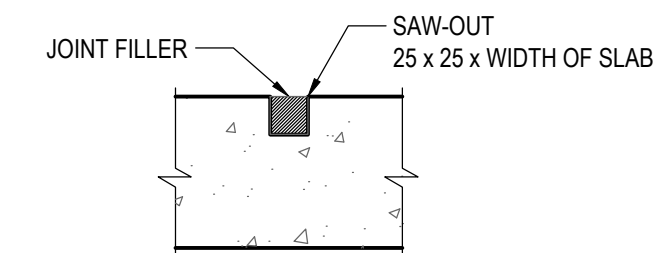


## SECTION

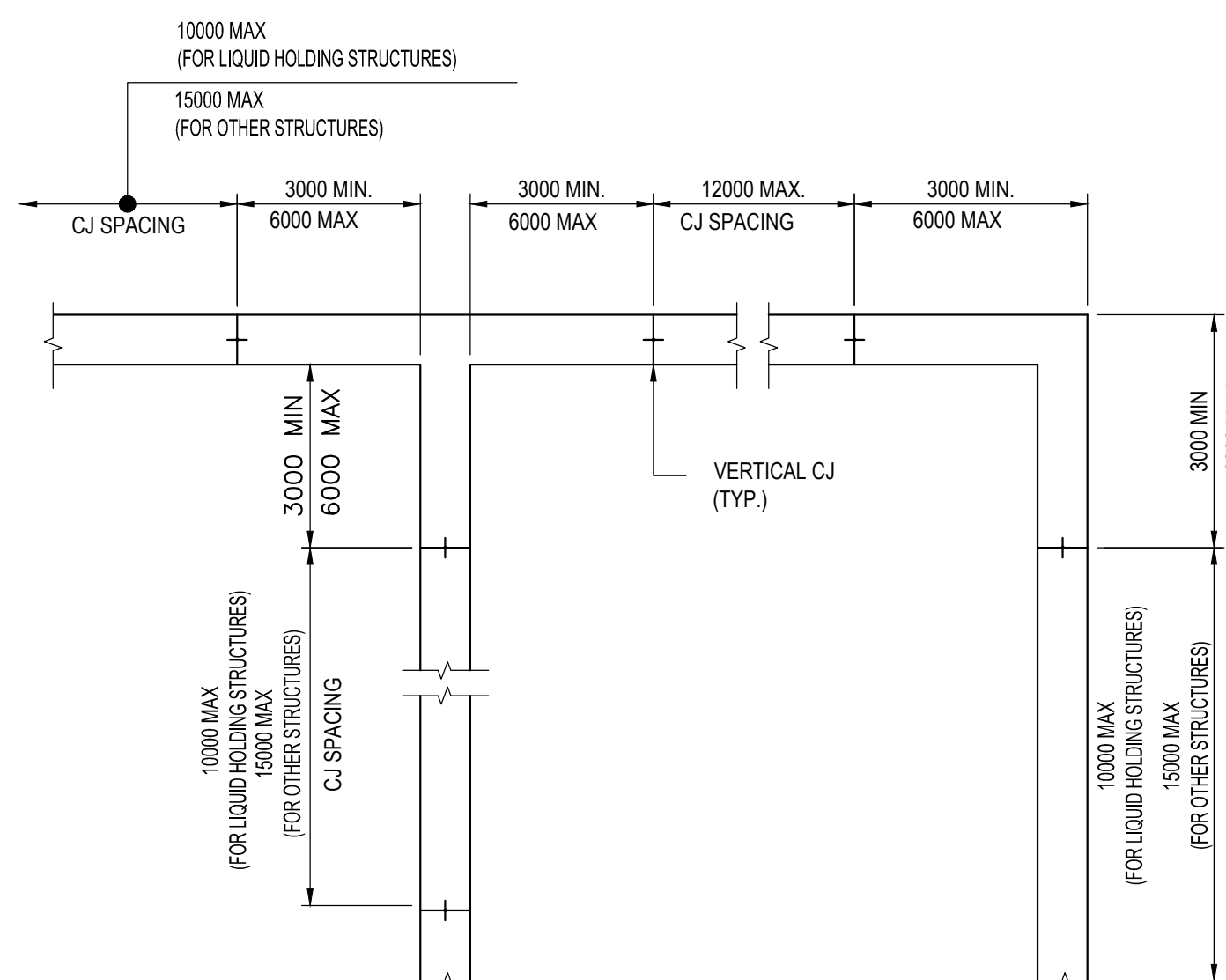
TYPICAL CONSTRUCTION JOINT  
N.T.S.



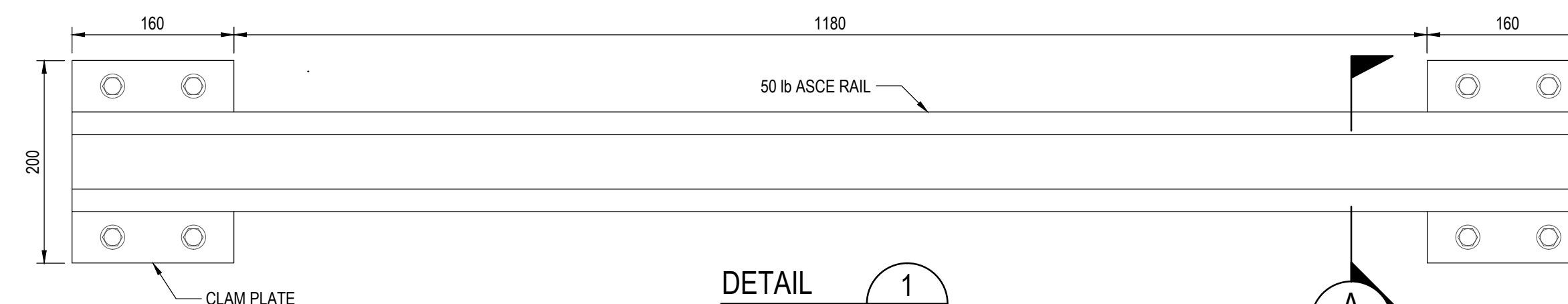
TYPICAL ISOLATION JOINT - SECTION  
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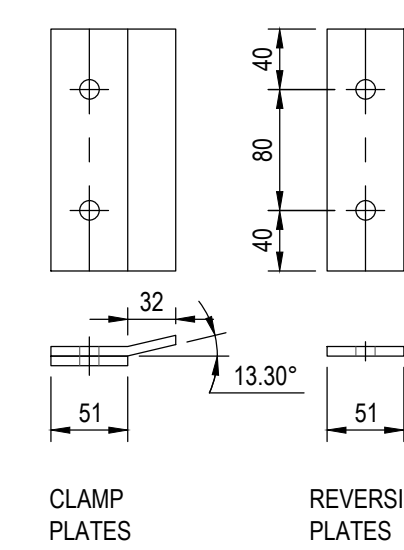
TYPICAL CONTROL JOINT - DETAIL  
EAST & WEST SLABS ON GRADE  
N.T.S.



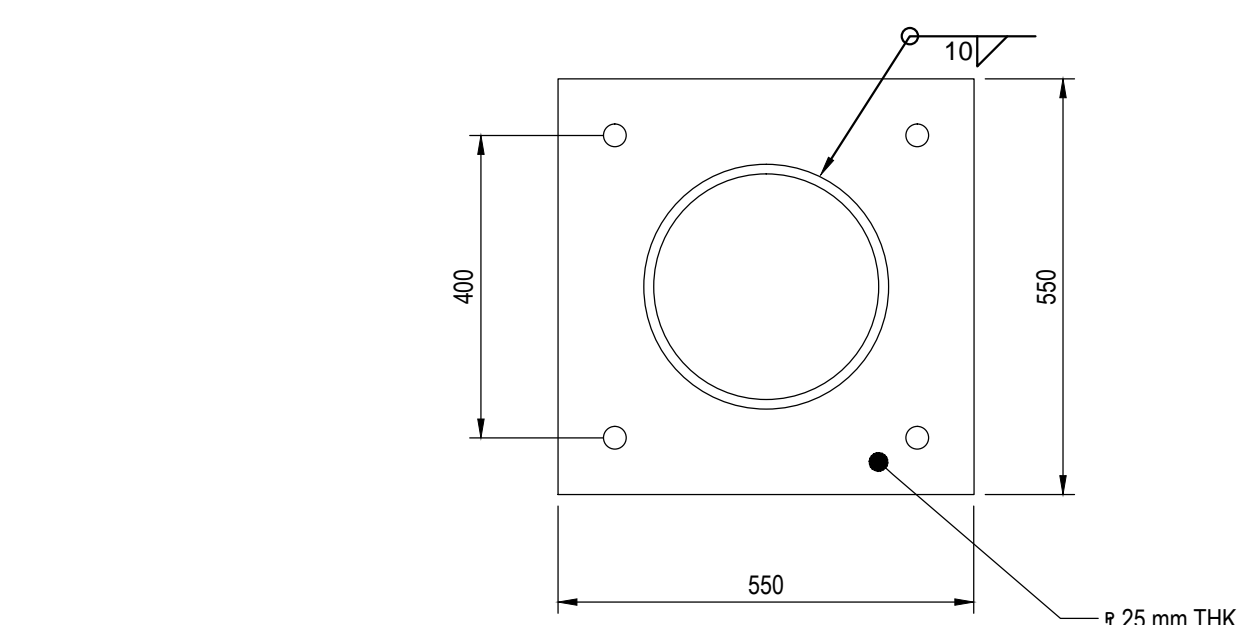
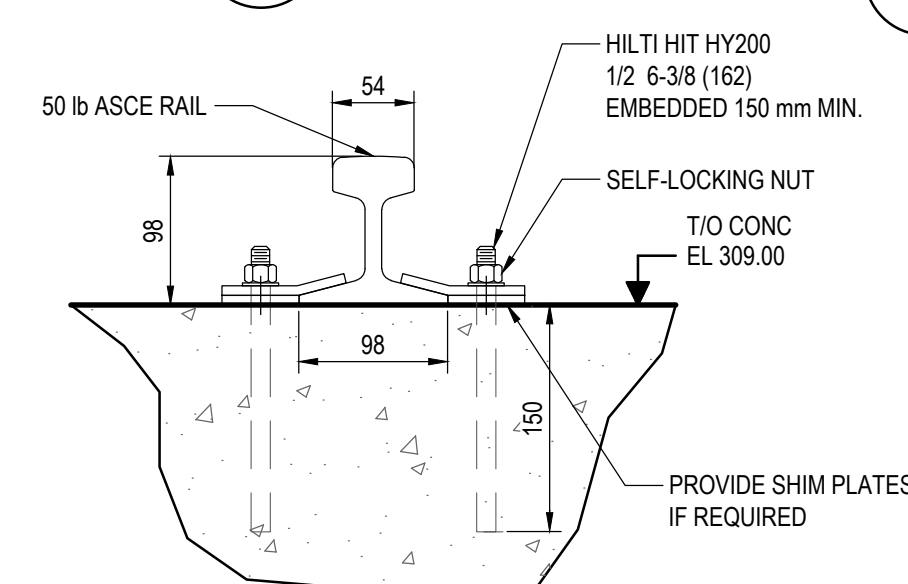
JOINT LOCATIONS  
N.T.S.



DETAIL 1



SECTION A

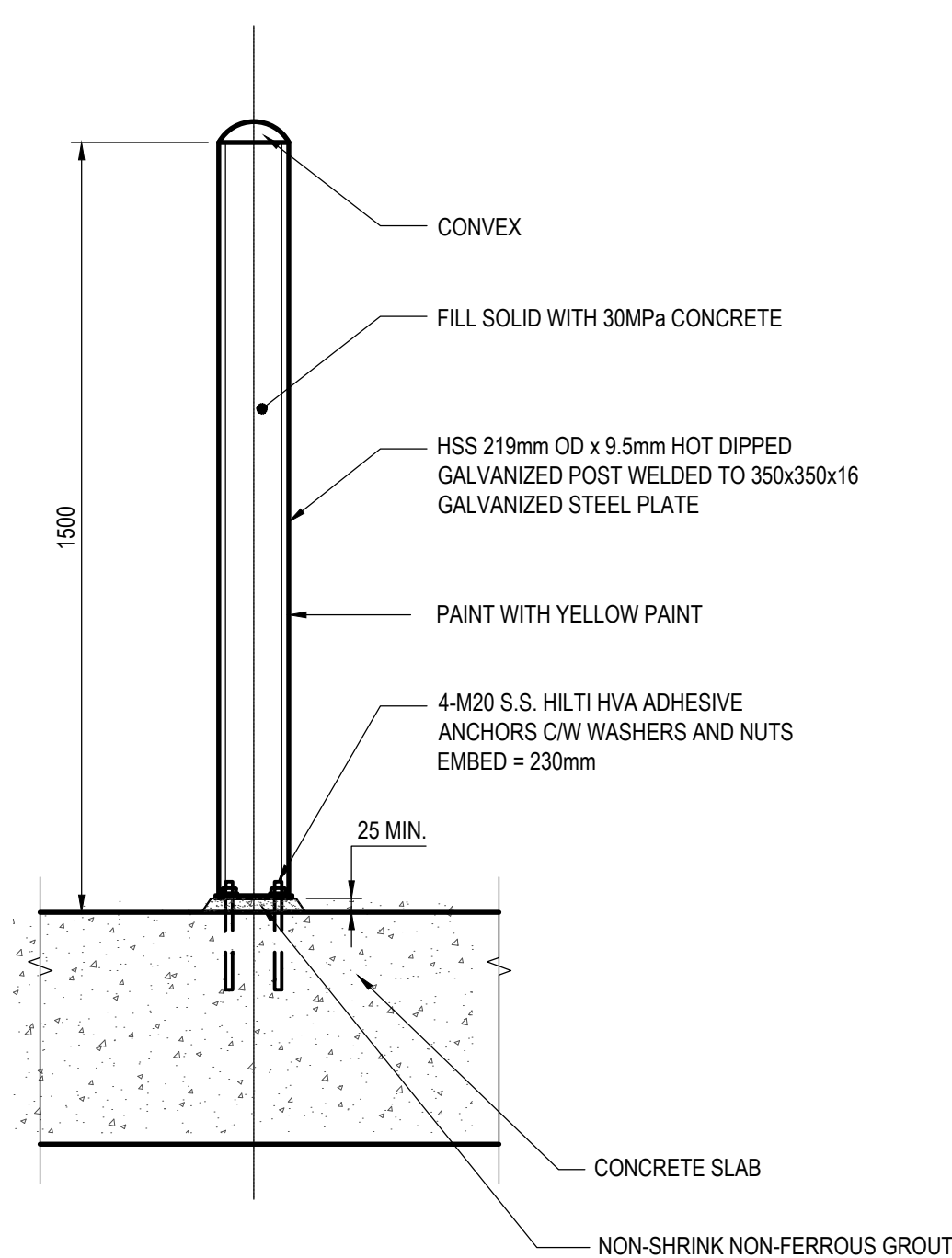


TYP. SHORELINE ANCHOR  
DETAIL

1:10

2

107

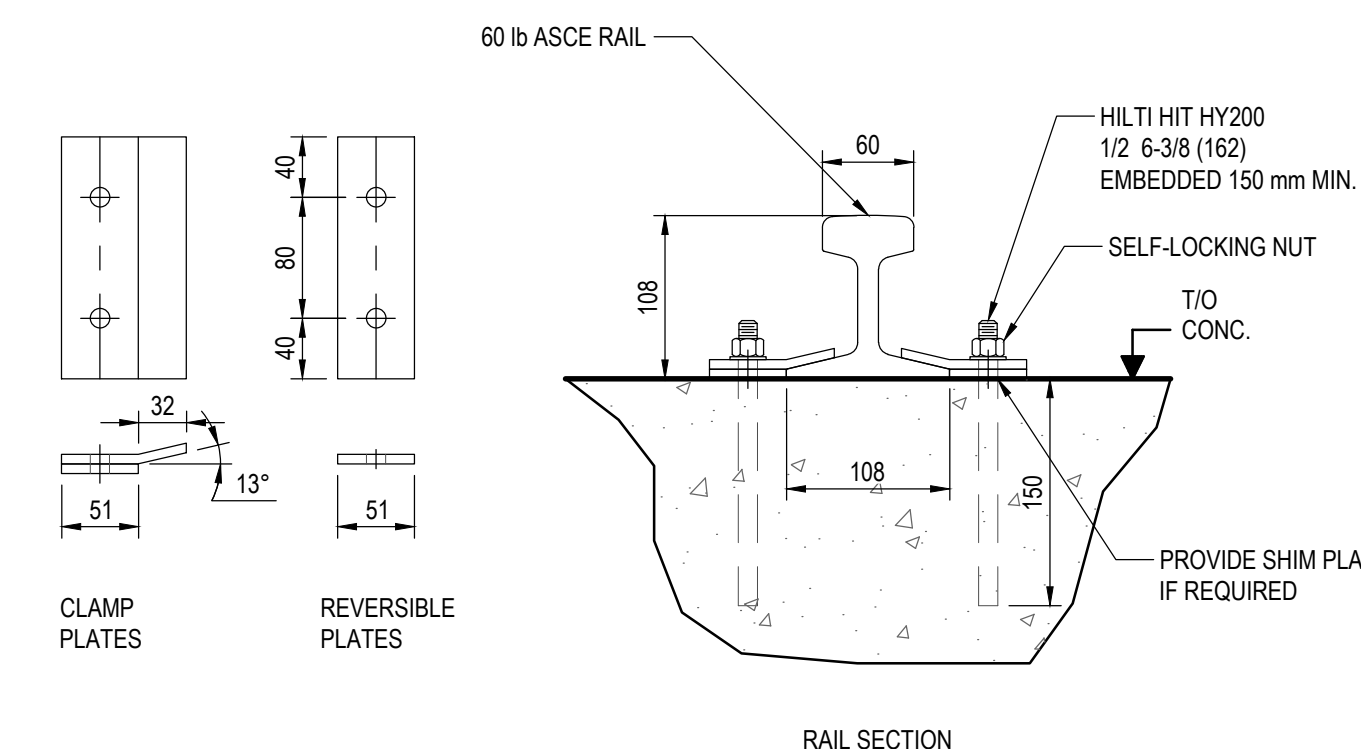


TYP. BOLLARD ON CONCRETE SLAB  
DETAIL

N.T.S.


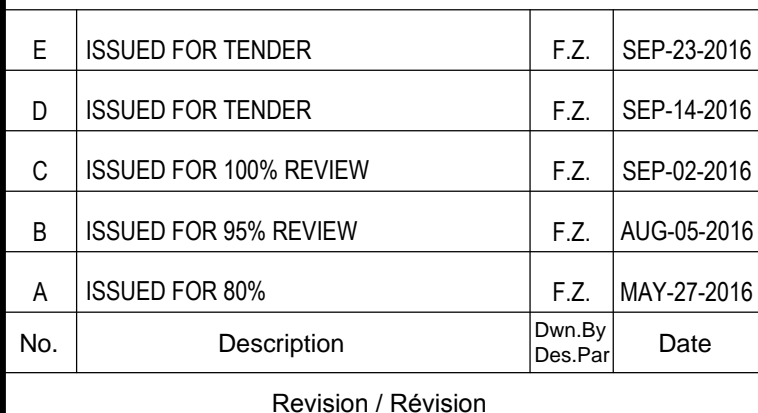
3

107



TEE RAIL (60 LB)  
DETAIL 5  
1:5 113





A Detail number  
Numéro du détail

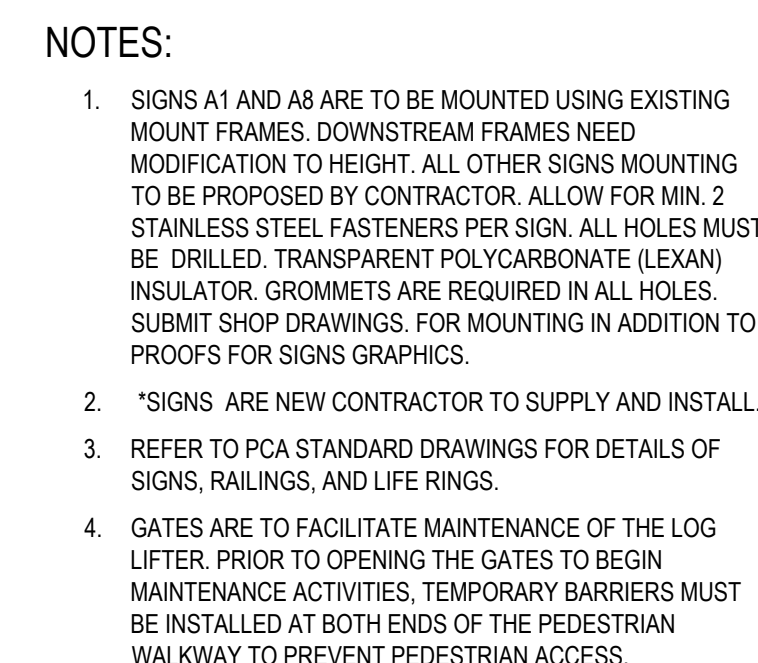
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Numéro sur dessin



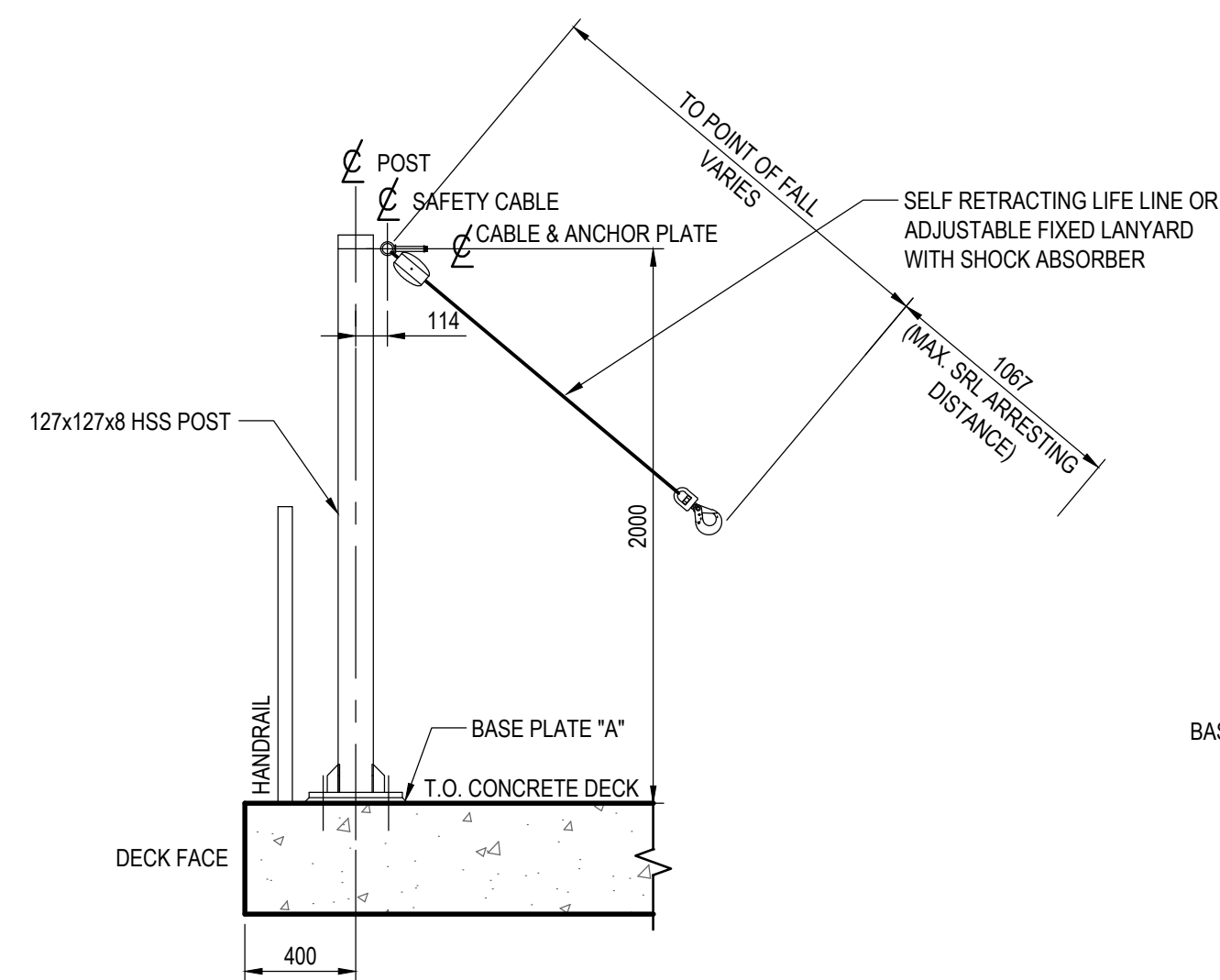
HORSESHOE LAKE DAM  
REPLACEMENT

PUBLIC SAFETY  
PLAN

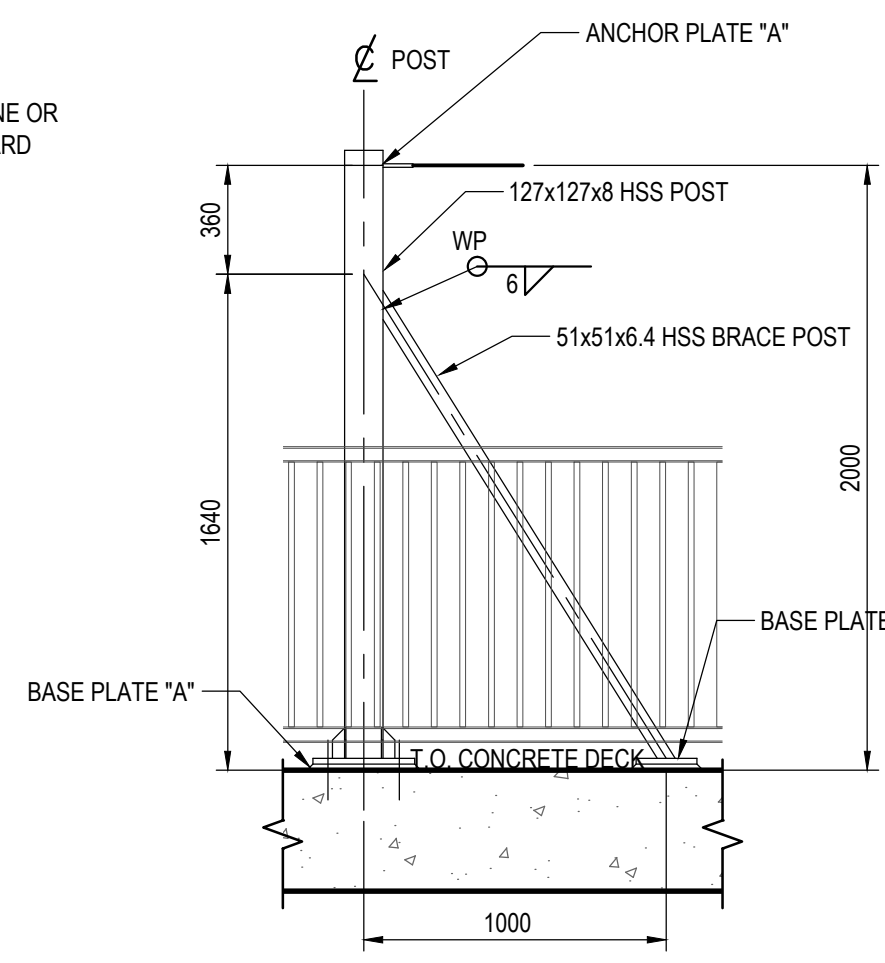
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Project Number / Numéro du projet 121-15275-51	Sheet 1 of Feuille 1 de



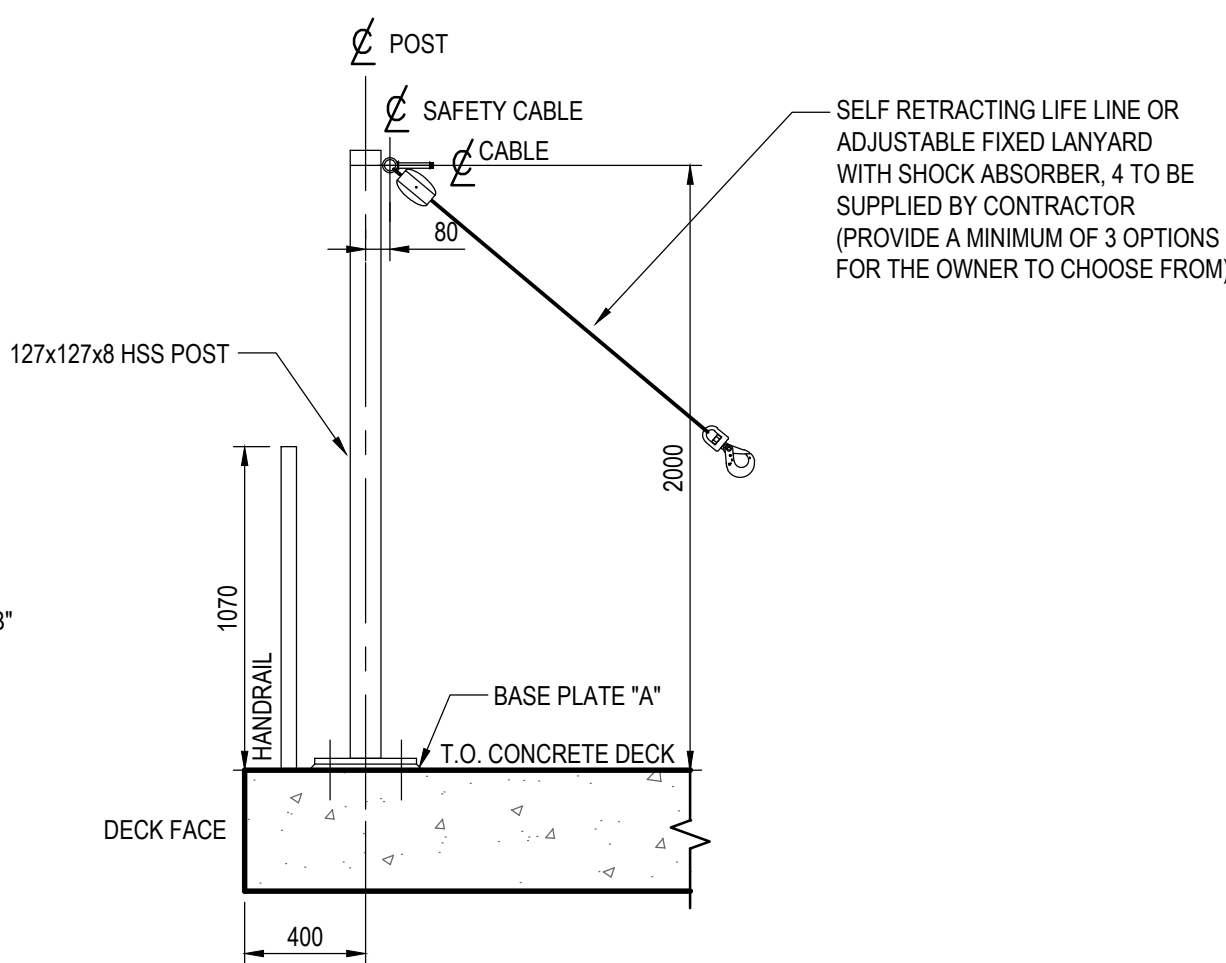




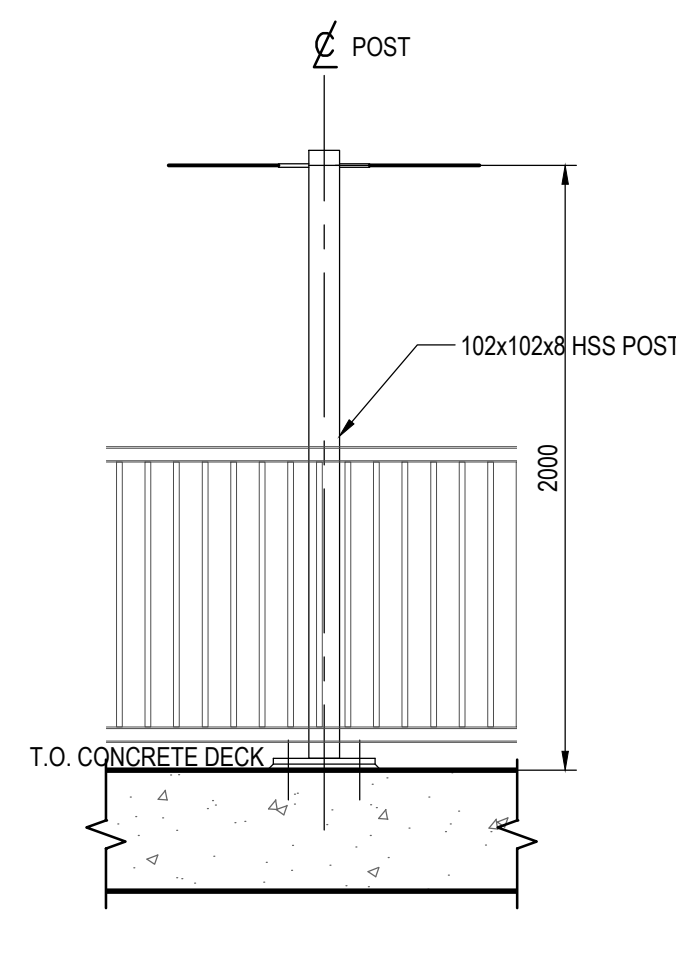
SOUTH END POST  
ELEVATION (LOOKING SOUTH)  
1:25



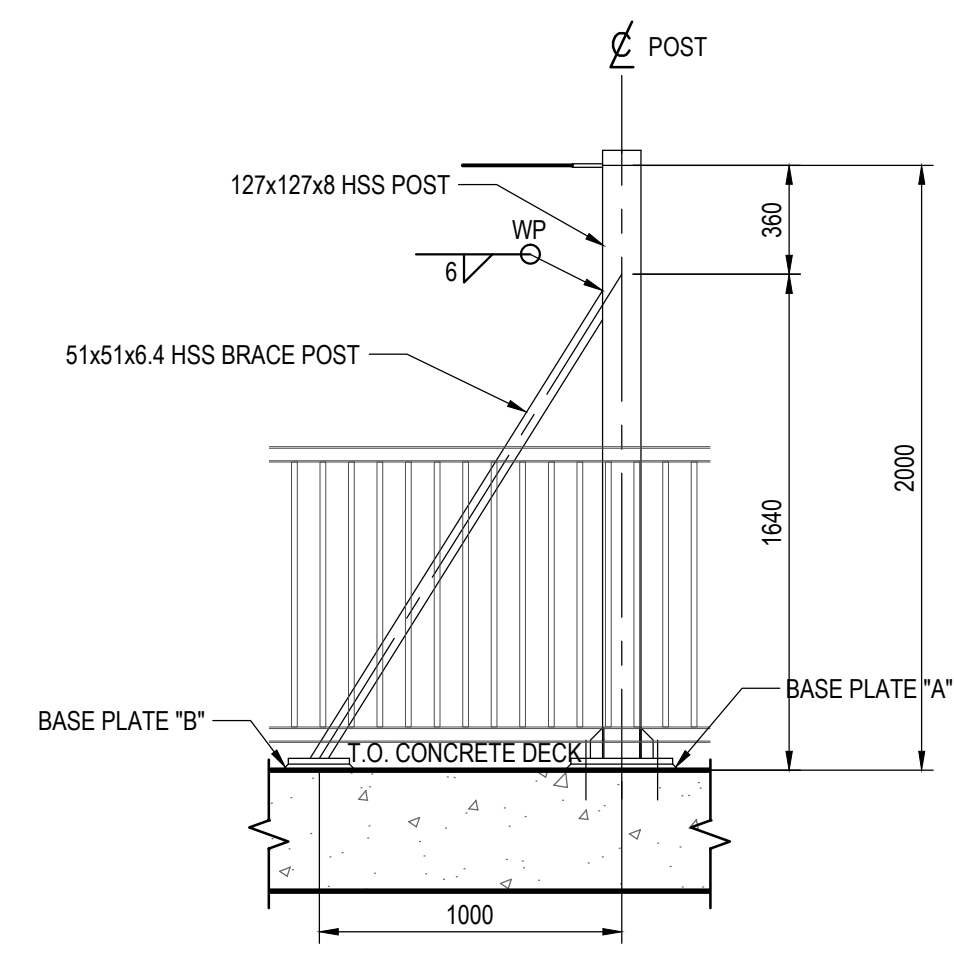
SOUTH END POST  
ELEVATION (LOOKING DOWNSTREAM)  
1:25



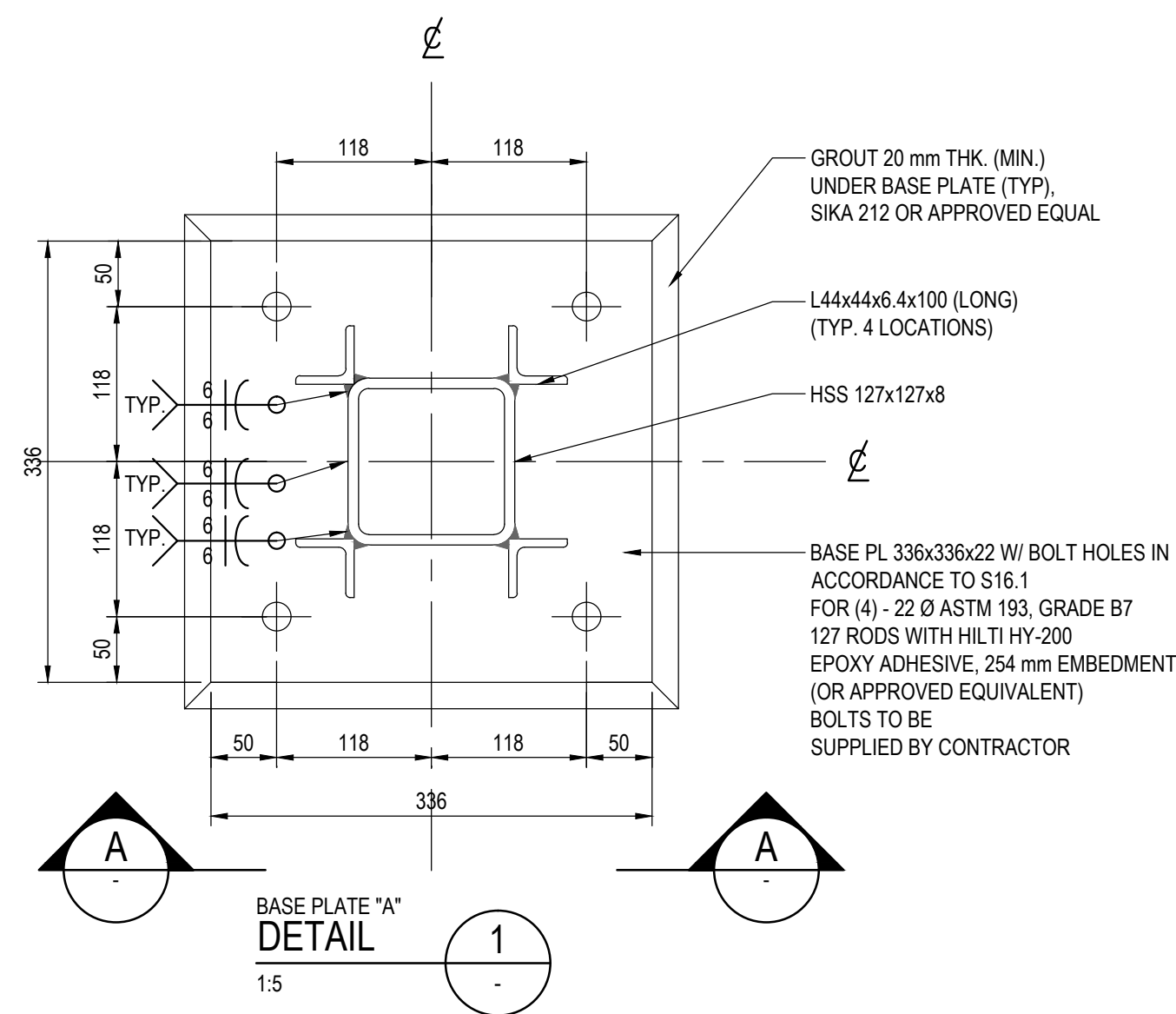
INTERMEDIATE POST  
ELEVATION (LOOKING SOUTH)  
1:25



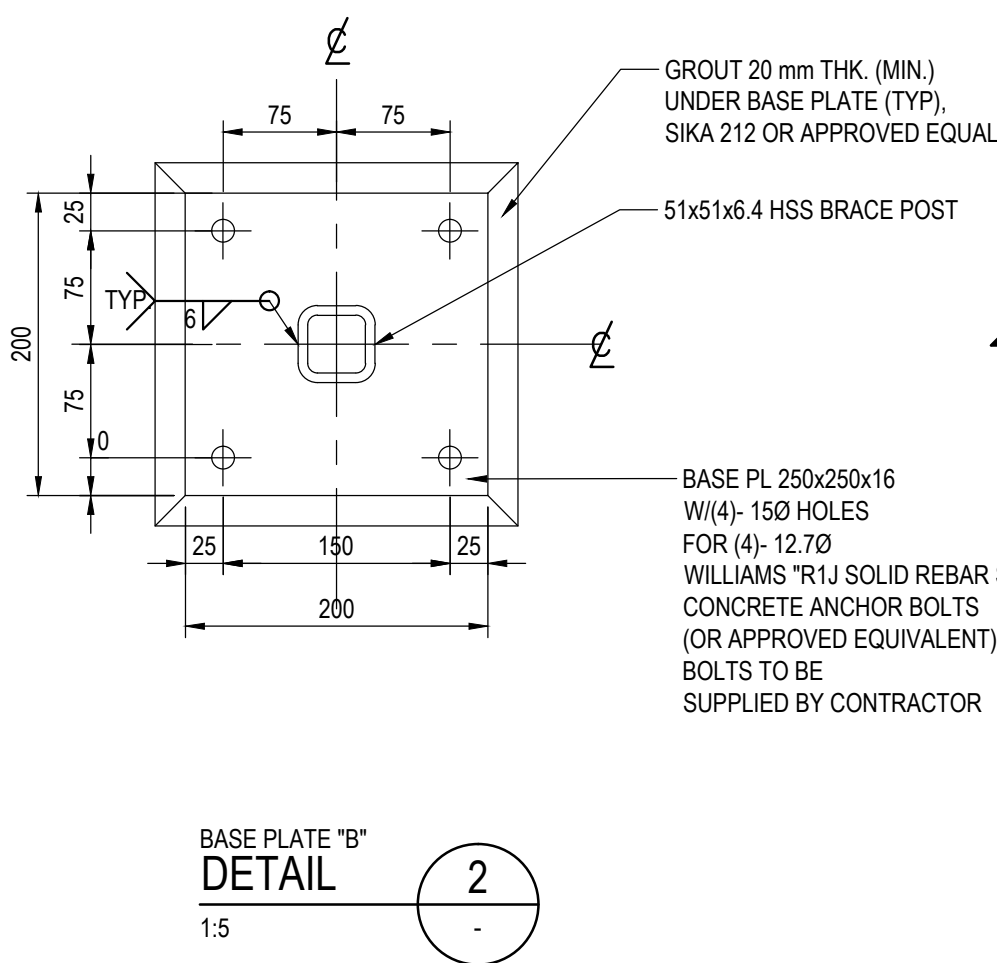
INTERMEDIATE POST  
ELEVATION (LOOKING DOWNSTREAM)  
1:25



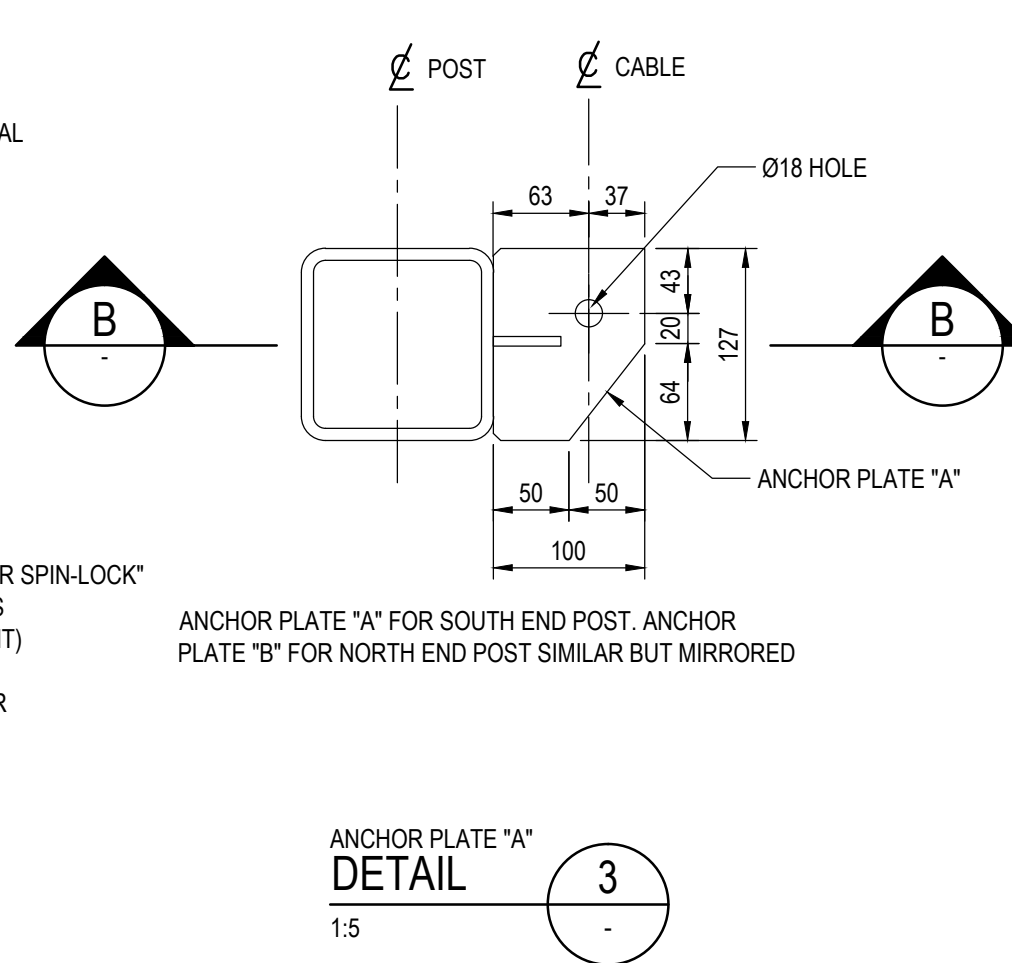
NORTH END POST  
ELEVATION (LOOKING DOWNSTREAM)  
1:25



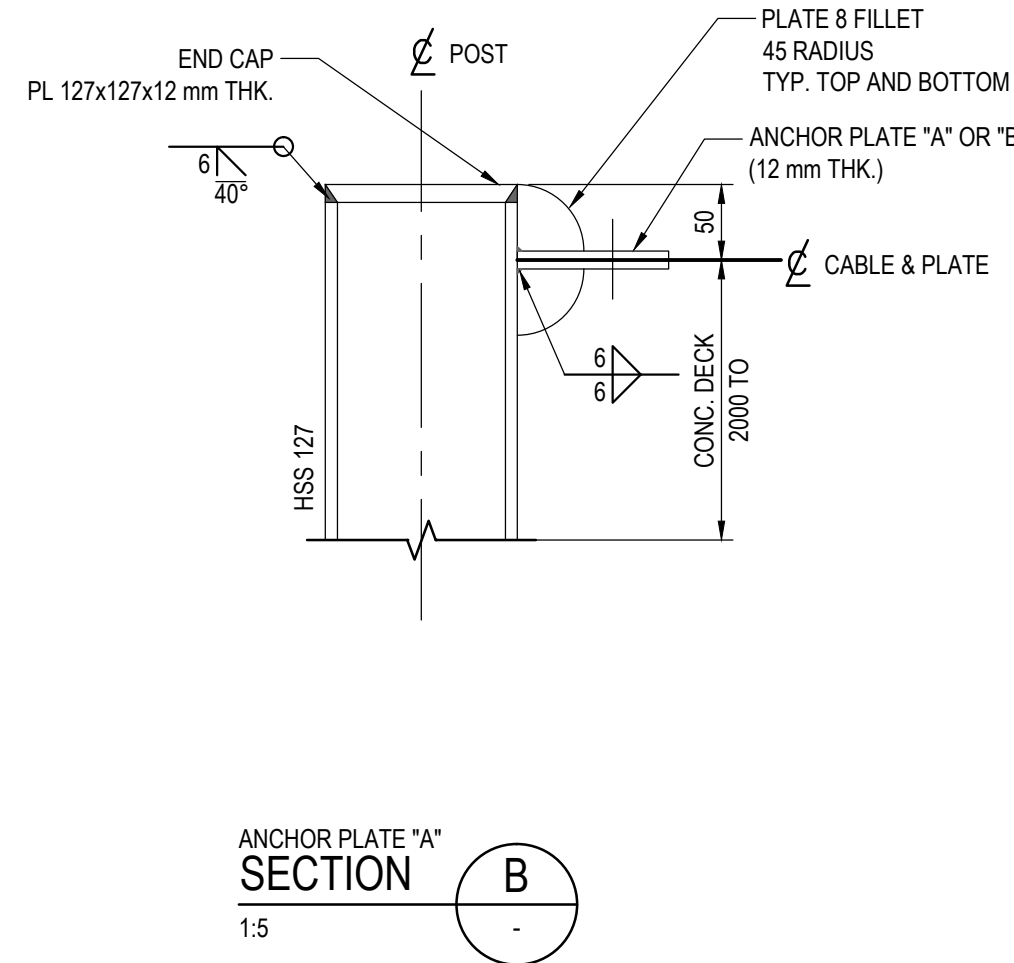
BASE PLATE "A"  
DETAIL  
1:5



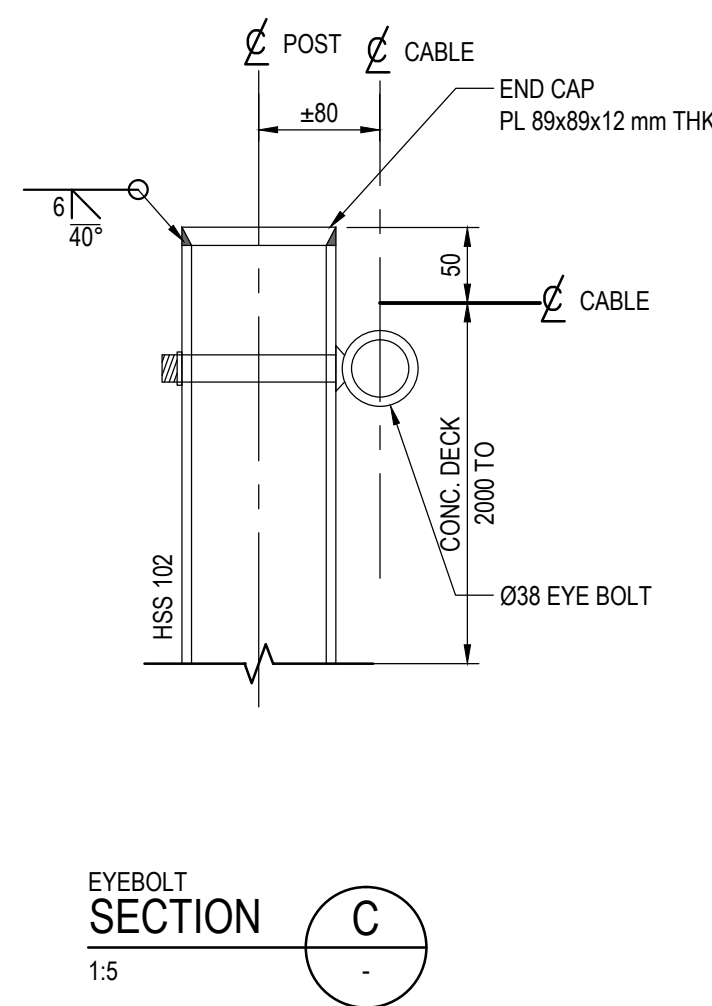
BASE PLATE "B"  
DETAIL  
1:5



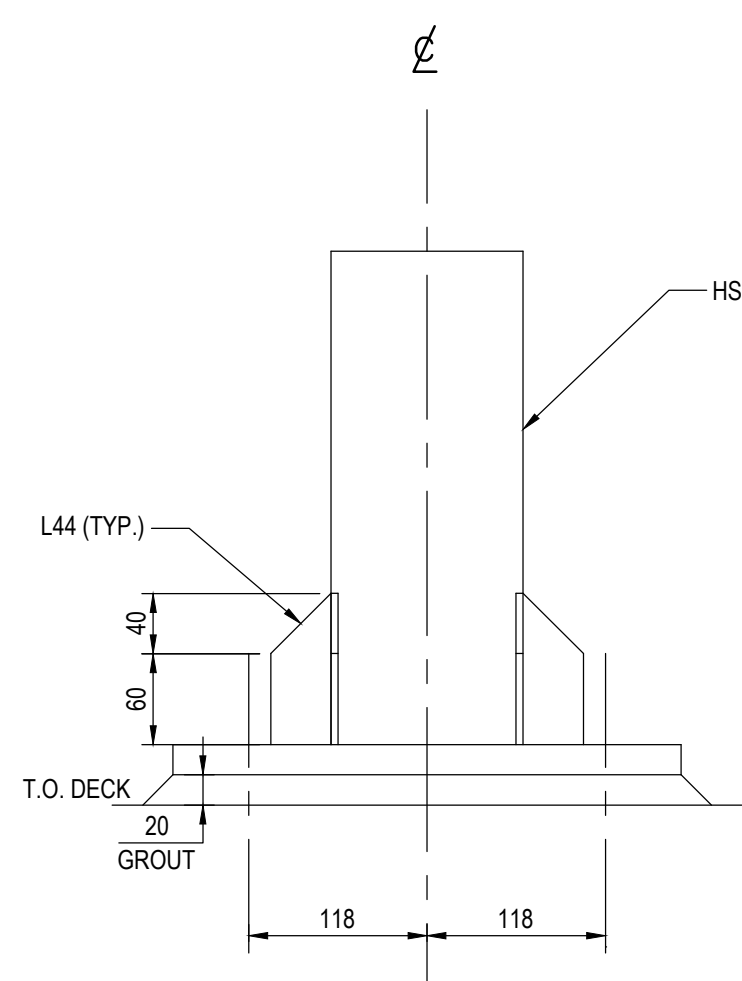
ANCHOR PLATE "A"  
DETAIL  
1:5



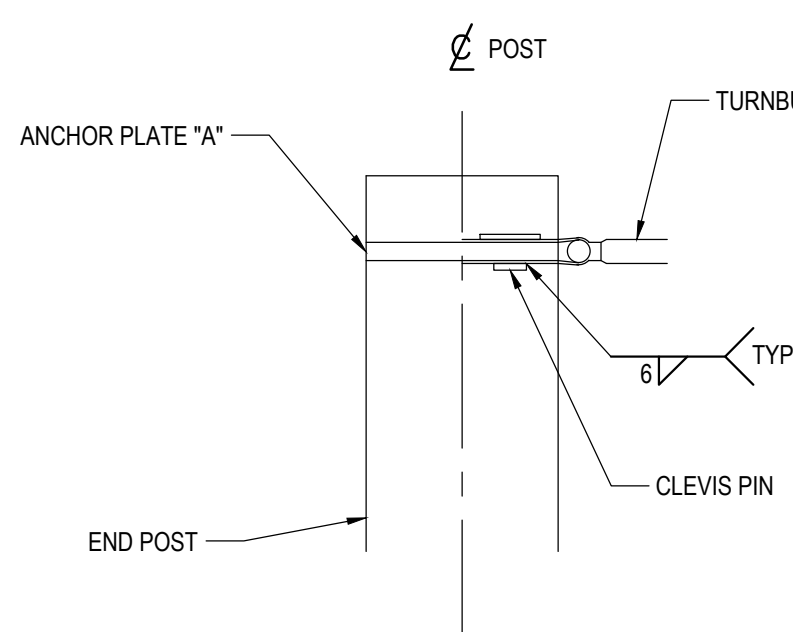
ANCHOR PLATE "A"  
SECTION  
1:5



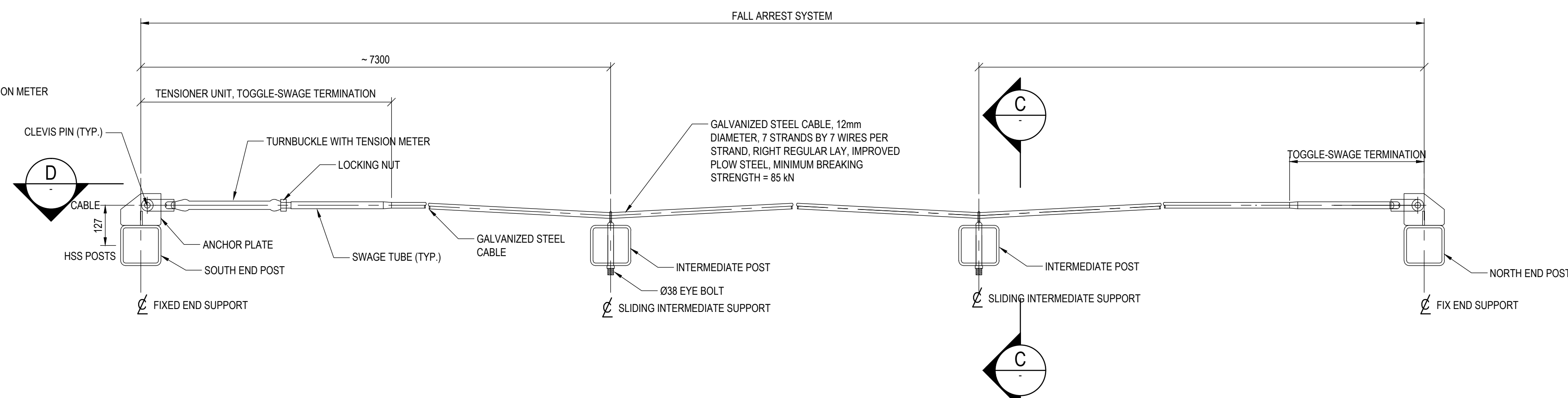
EYEBOLT  
SECTION  
1:5



SECTION  
A  
1:5



END POST  
SECTION  
D  
1:5



CABLE ASSEMBLY (TYP.)  
1:10

NOTES:

1. ALL STEEL COMPONENTS OF THE NEW FALL ARREST SYSTEM ARE TO HAVE GALVANIZED FINISH AS PER THE SPECIFICATIONS.
2. TOGGLE SWAGE TERMINATION TO BE DROP-FORGED GALVANIZED STEEL TOGGLE ASSEMBLY COMPLETE WITH OPEN TYPE SWAGE SOCKET AND CLEVIS PIN, MINIMUM BREAKING STRENGTH 100 kN.
3. TENSIONER UNIT/TOGGLE SWAGE TERMINATION TO BE DROP-FORGED GALVANIZED STEEL TOGGLE ASSEMBLY COMPLETE WITH SWAGE TUBE, TURNBUCKLE BODY, JAW END WITH CLEVIS PIN AND LOCKING NUT, MINIMUM BREAKING STRENGTH 100 kN.
4. INTERMEDIATE BRACKET TO BE DROP-FORGED GALVANIZED STEEL SHOULDER EYE BOLT COMPLETE WITH GALVANIZED WASHER AND LOCK NUT. TORQUE EYE BOLT AS FOLLOWS (183N-M FOR 5/8" THREAD, 358N-M FOR 3/4" THREAD).



E	ISSUED FOR TENDER	F.Z.	SEP-23-2016
D	ISSUED FOR TENDER	F.Z.	SEP-14-2016
C	ISSUED FOR 100% REVIEW	F.Z.	SEP-02-2016
B	ISSUED FOR 95% REVIEW	F.Z.	AUG-05-2016
A	ISSUED FOR 80%	F.Z.	MAY-27-2016
No.	Description	Drawn By (Des. Par)	Date

Revision / Révision

Do not scale drawings.  
Verify all dimensions and conditions on site and immediately notify the  
Departmental Representative of all discrepancies.

A Detail number  
Numéro du détail  
B Location dwg. number  
Numéro sur dessin



Project title / Titre du projet

HORSESHOE LAKE DAM  
REPLACEMENT

Drawing title / Titre du dessin

FALL ARREST  
SYSTEM

Drawn by / Dessiné par	Designed by / Conçu par
FELIPE ZULUAGA	KARINA SETO
Approved by / Approuvé par	Drawing Date / Date du dessin
JAVIER VILORIA	SEPTEMBER 2016

Project manager / Administrateur de projet

JOHN JUFFS

HCEW Number / Numéro de CHTI	Drawing Number / Numéro du Dessin
30025849	117
Project Number / Numéro du projet	Sheet / Feuille
121-15275-51	1 of 1