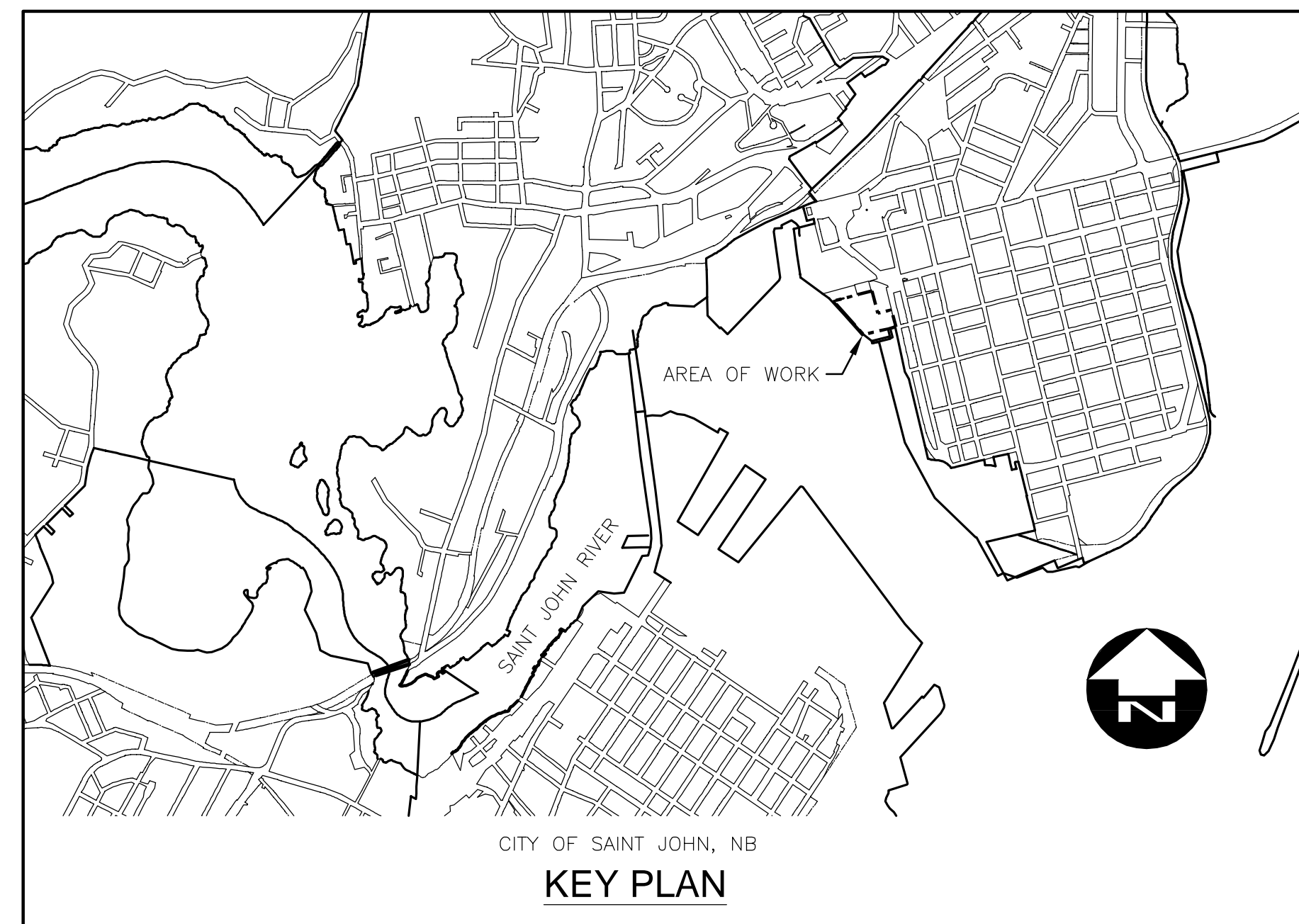


# SEAWALL REFURBISHMENT

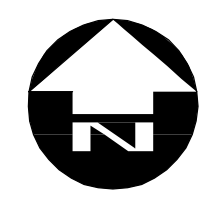
## SAINT JOHN, NEW BRUNSWICK

### CITY OF SAINT JOHN



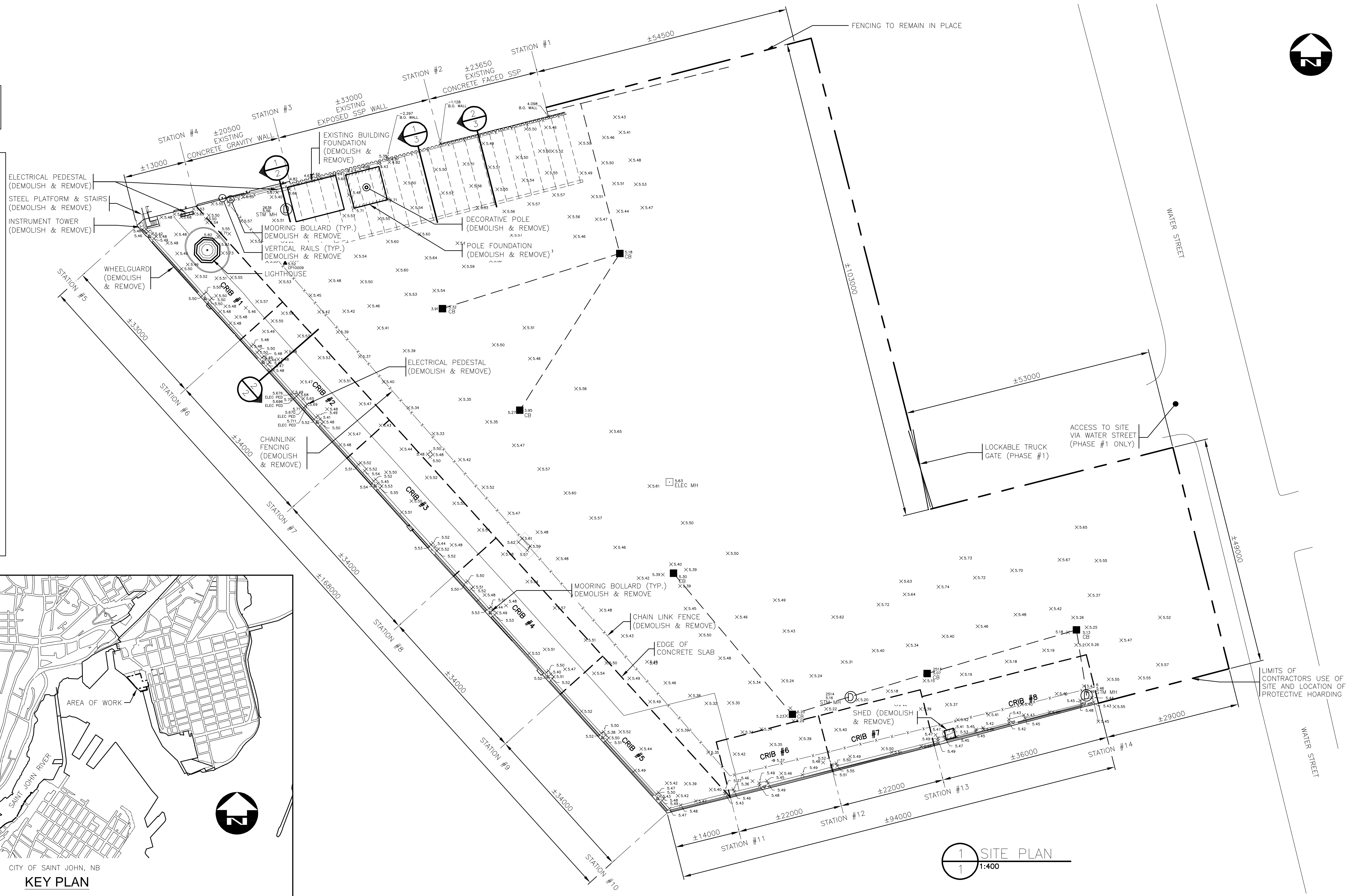
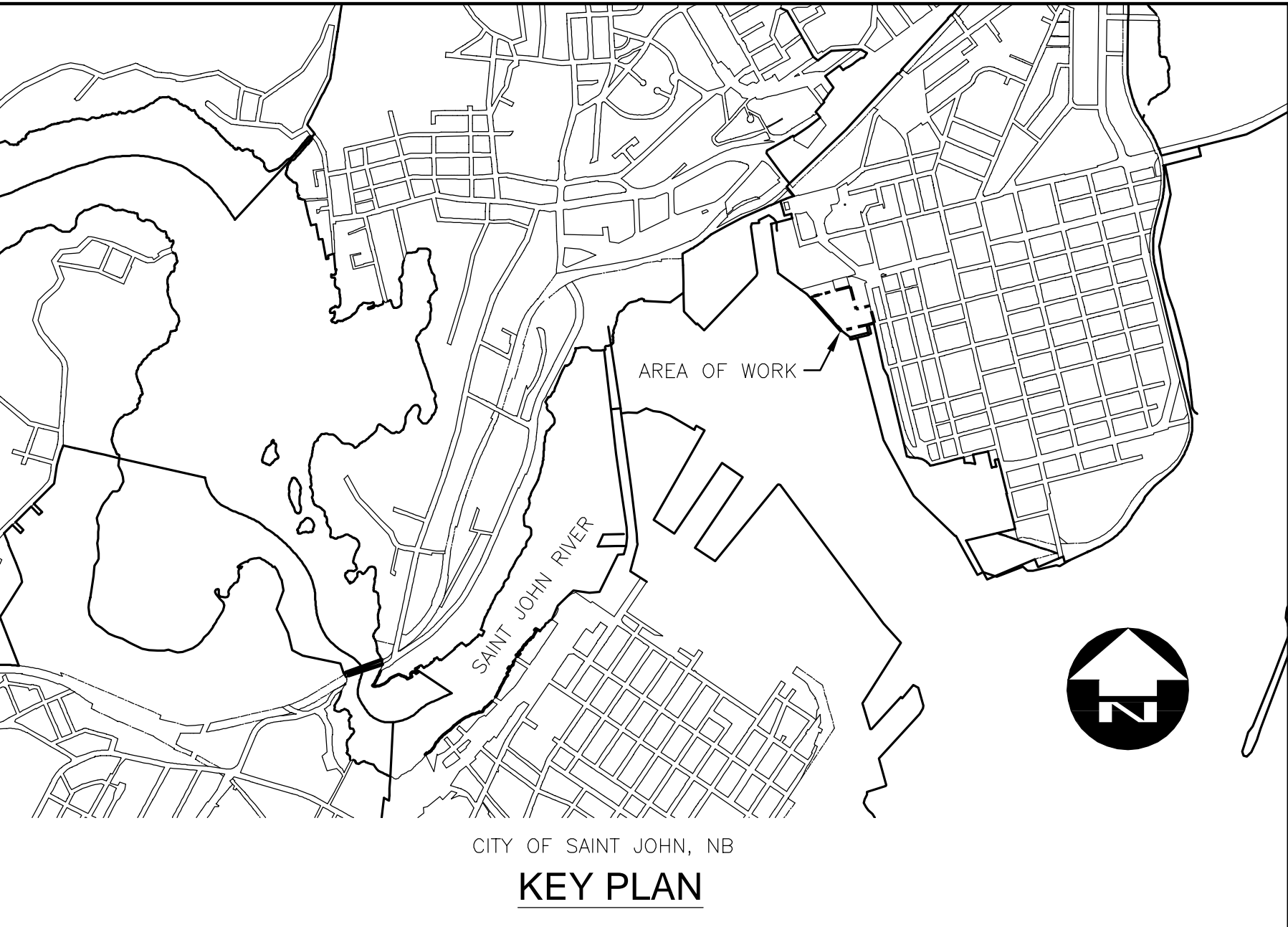
#### DRAWING LIST

- S1 - EXISTING SITE PLAN - DEMOLITION
  - S2 - EXISTING SECTIONS
  - S3 - EXISTING SECTIONS AND DETAIL
  - S4 - EXISTING SECTIONS, PLAN AND DETAIL
  - S5 - EXISTING ELEVATIONS STATIONS #3-9 - DEMOLITION
  - S6 - EXISTING ELEVATIONS STATIONS #9-14 - DEMOLITION
  - S7 - TYPE 1-3 CONCRETE REMOVALS
  - S8 - TYPE 4-9 CONCRETE REMOVALS
  - S9 - NEW SITE PLAN
  - S10 - NEW WALL ELEVATIONS - STATIONS #1-9
  - S11 - NEW WALL ELEVATIONS - STATIONS #9-14
  - S12 - SECTIONS - NEW STEEL SHEET PILING
  - S13 - REFACING AND TIEBACK SYSTEM AT EXISTING CONCRETE-FACED SSP
  - S14 - SSP TIEBACK EXCAVATION STAGING
  - S15 - SECTION AND DETAILS - SSP AND TIEBACK SYSTEM
  - S16 - SECTION AND DETAILS - SSP TOE PINNING, ANCHOR WALL, AND TRANSITIONS
  - S17 - KEYWAY WALL EXTENSION
  - S18 - SECTIONS - CRIB AND GRAVITY WALL REFACING
  - S19 - DETAILS - CRIB AND GRAVITY WALL REFACING
  - S20 - NEW RAISED WALL
  - S21 - MOORING BOLLARD AND CLEAT SECTIONS AND DETAILS
  - S22 - EXPANSION JOINT AND SAFETY LADDER
  - S23 - ARCHITECTURAL FORM LINER TREATMENT AT NORTH WALL (STATIONS #1-5)
  - S24 - ARCHITECTURAL FORM LINER TREATMENT AT SOUTH WALL (STATIONS #10-14)
  - S25 - SEWER OUTFALL DEMOLITION DETAILS
- C1 - STORM SEWER OUTFALL PLAN & PROFILE STA. 0+000 - STA. 0+060  
C2 - STORM SEWER OUTFALL DETAILS



**LEGEND:**  
SSP - STEEL SHEET PILING

- NOTES:**
- DO NOT SCALE FROM DRAWING.
  - ALL DIMENSIONS IN MILLIMETRES.
  - ALL EXISTING ELEVATIONS ARE IN METERS AND ARE REFERENCED TO CVGD28.
  - CHART DATUM IS 4.10m BELOW CVGD28.
  - INSTALL PROTECTIVE HOARDING AROUND ENTIRE SITE BEFORE BEGINNING DEMOLITION TO THE LIMITS AS SHOWN.
  - EXISTING LIGHTHOUSE TO REMAIN IN PLACE. INSTALL TEMPORARY PROTECTIVE HOARDING AROUND PERIMETER OF LIGHTHOUSE. PROTECTIVE HOARDING TO BE LOCATED AT CURB SURROUNDING THE LIGHTHOUSE.
  - DEMOLISH AND REMOVE EXISTING STEEL PLATFORM AND STAIRS, INSTRUMENT TOWER, VERTICAL RAILS, ELECTRICAL PEDESTALS, MOORING BOLLARDS, FENCING, DECORATIVE POLE AND POLE FOUNDATION, SHED, AND WHEELGUARD.
  - CONTRACTOR IS RESPONSIBLE TO DEMOLISH AND REMOVE ANY OTHER ITEMS ON SITE REQUIRED TO COMPLETE THE WORK, INCLUDING BUT NOT LIMITED TO MISCELLANEOUS FENDERS AND SAFETY LADDERS ON THE FACE OF THE WALL, ASPHALT AND CONCRETE SLABS.
  - ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.



1 SITE PLAN  
1:400

FILENAME: C:\PW\WORKING\_DIRECTORY\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - R.DWG - PLOTTED BY: BAILEY, PHILIP  
PLOT DATE: 2021-01-21 @ 1:53:27 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

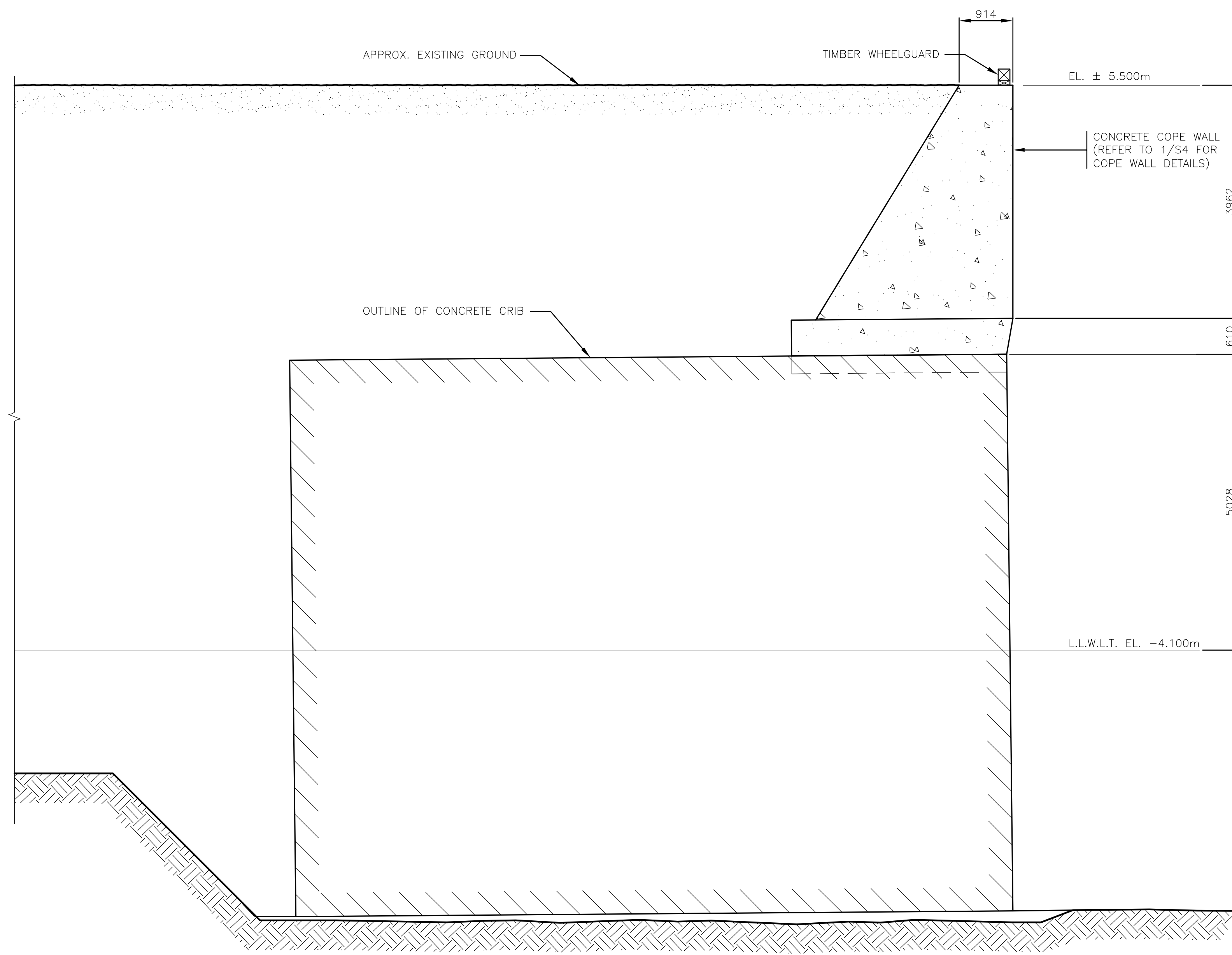
**Conditions of Use**  
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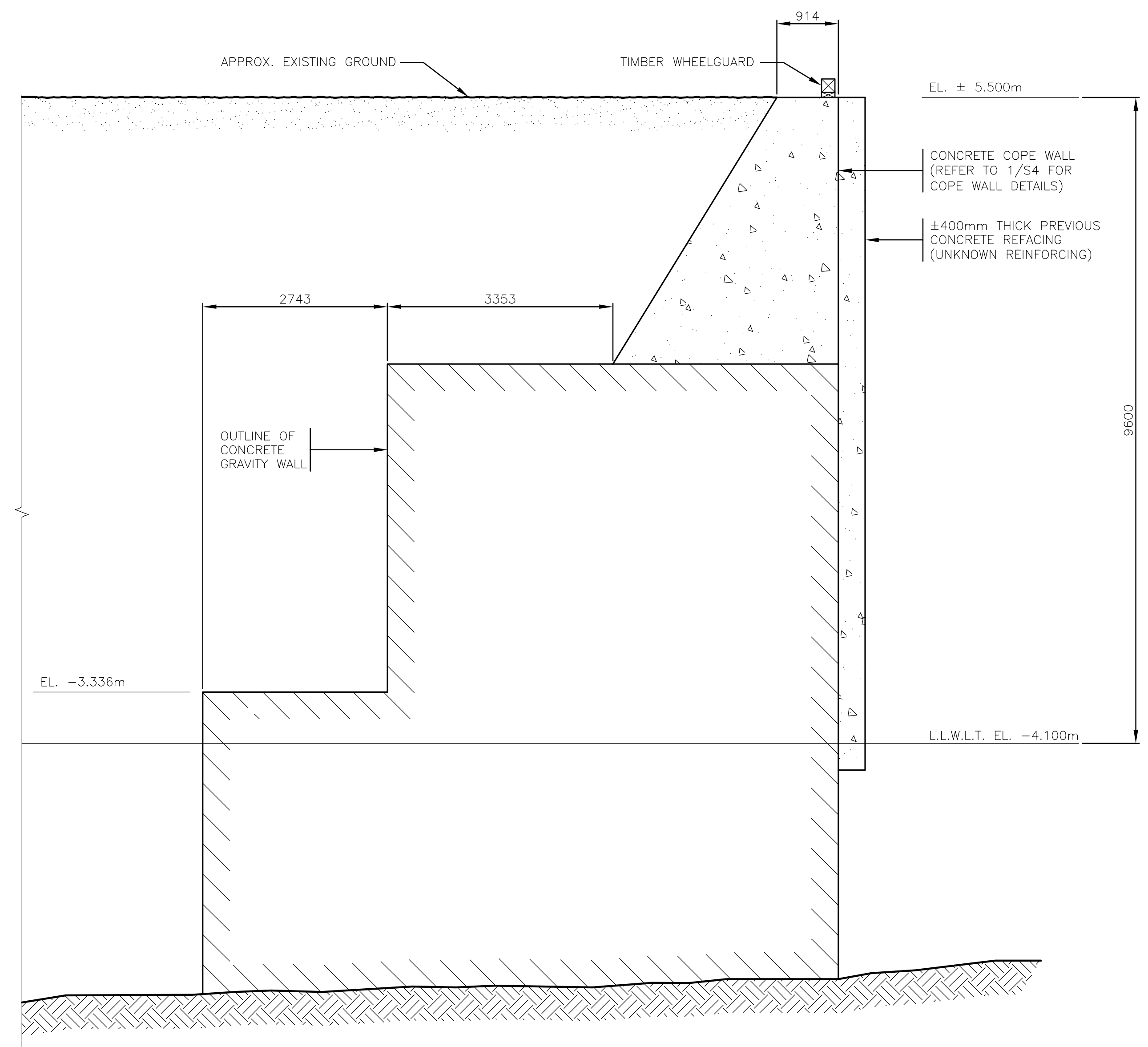
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DRAWN	PB	CHECKED BY	WH
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D	ISSUED FOR 99% REVIEW	22-12-20	PB
C	ISSUED FOR DRAFT CONCEPT DESIGN REPORT	09-09-20	PB
B	ISSUED FOR INSPECTION AND EVALUATION REPORT	23-07-20	PB
A	ISSUED FOR DRAFT GHG ASSESSMENT REPORT	15-04-20	PB
No.	ISSUED FOR	DATE	BY

PROJECT NO.	20-2454
SHEET NO.	S1
SEAWALL REFURBISHMENT SAINT JOHN, NB	
EXISTING SITE PLAN DEMOLITION	

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG PLOTTED BY: BAILEY, PHILIP  
 PLOT DATE: 2021-01-21 @ 1:53:46 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB



2 SECTION - EXISTING CONCRETE CRIBS #1-7  
 2 1:50



1 SECTION - EXISTING GRAVITY WALL  
 2 1:50

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DESIGN	REVIEWED BY
WH	BL

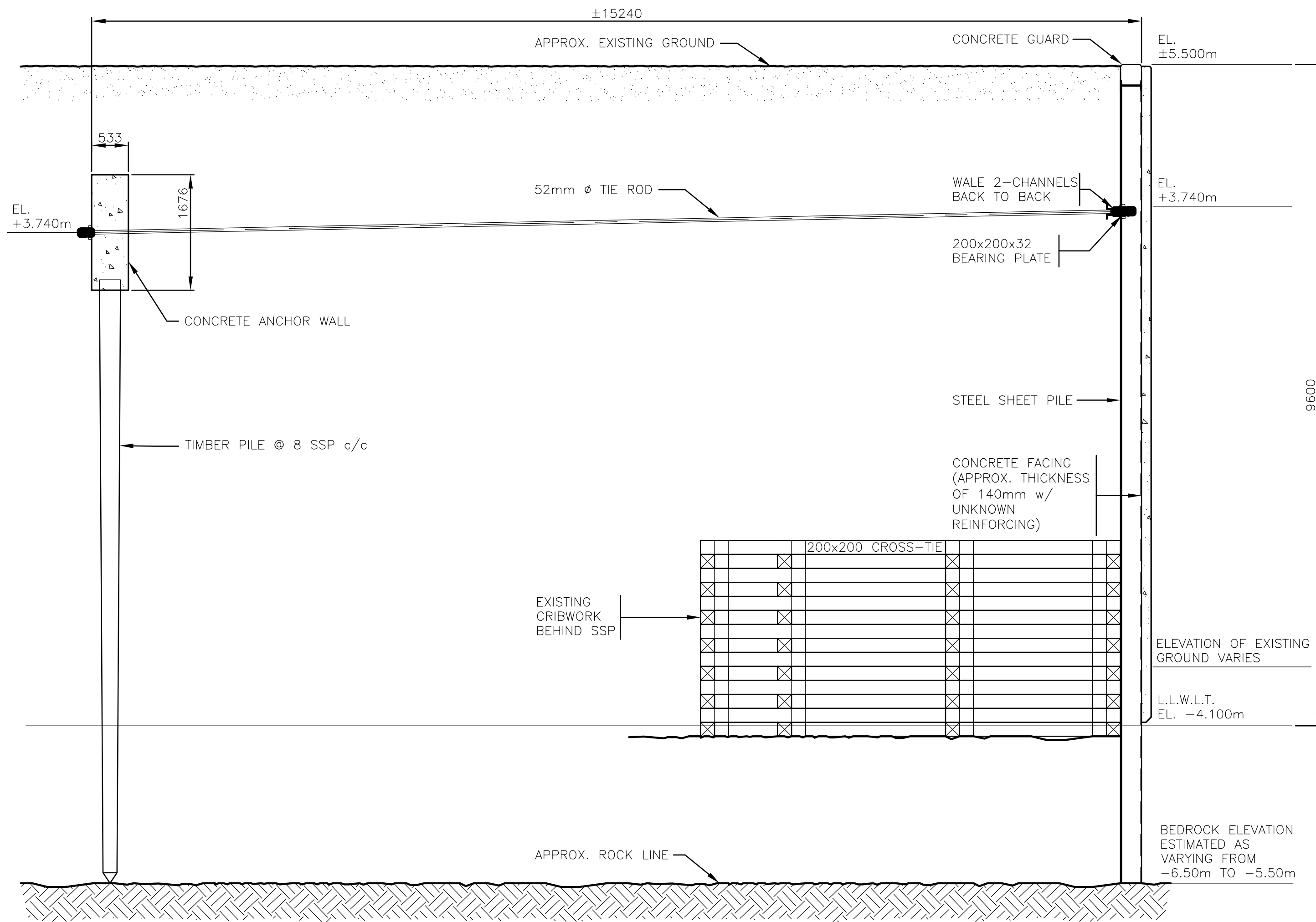
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PB	WH

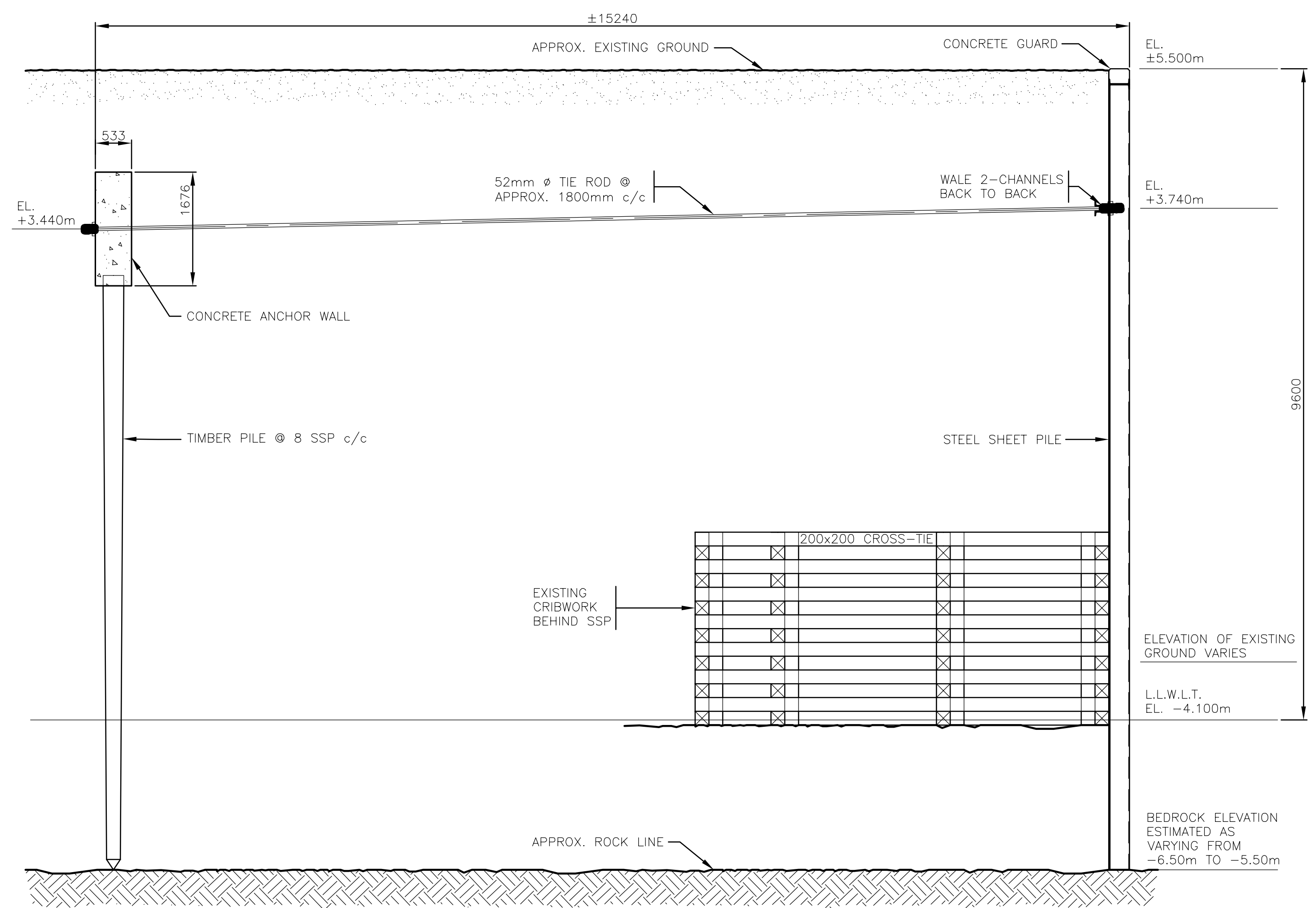
DATE	SCALE
January 4 2021	AS SHOWN

SEAWALL REFURBISHMENT  
 SAINT JOHN, NB  
 EXISTING SECTIONS

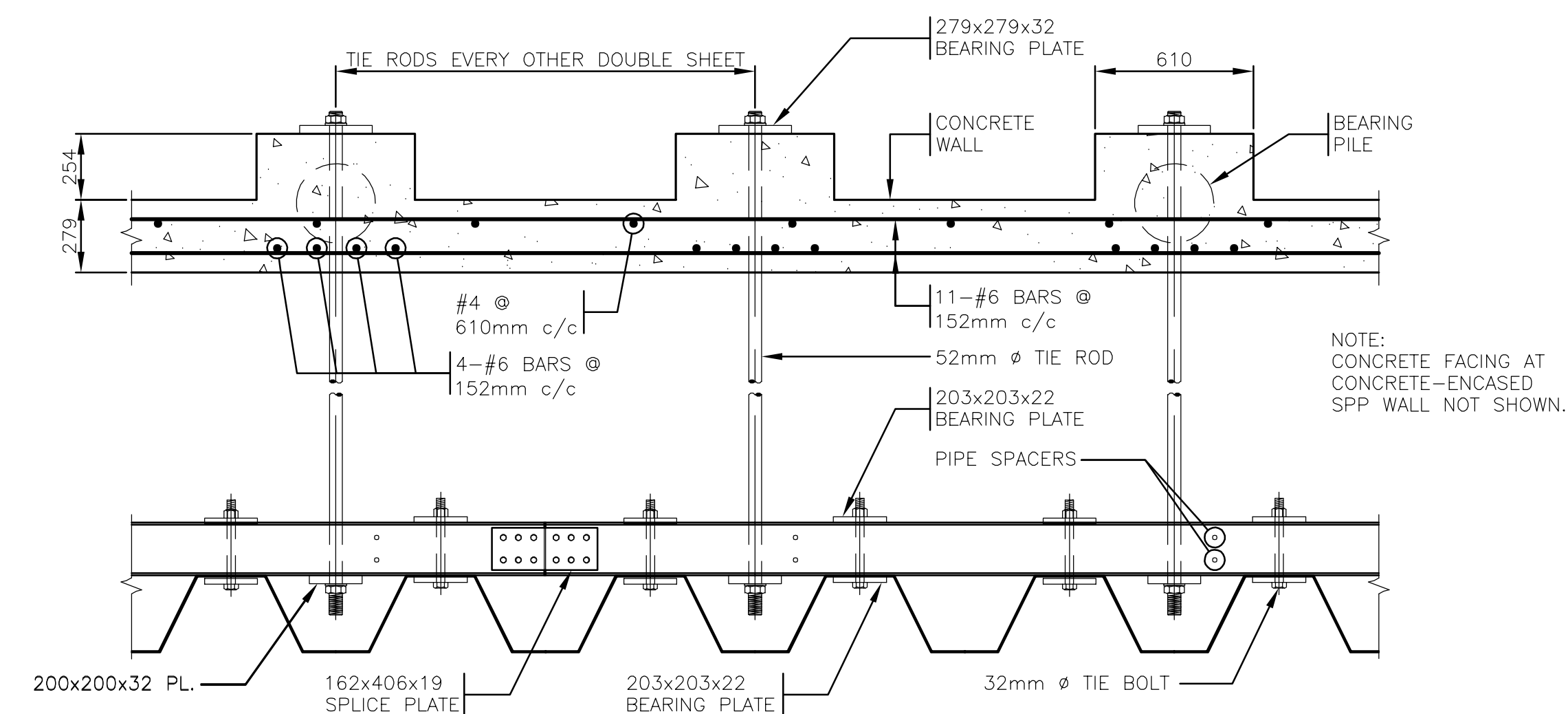
PROJECT NO.  
 20-2454  
 SHEET NO.  
 S2



2 SECTION – EXISTING CONCRETE-ENCASED SSP WALL  
1:50



1 SECTION – EXISTING EXPOSED SSP WALL  
1:50



3 DETAIL – EXISTING WALES, TIE RODS & ANCHOR WALL  
1:20

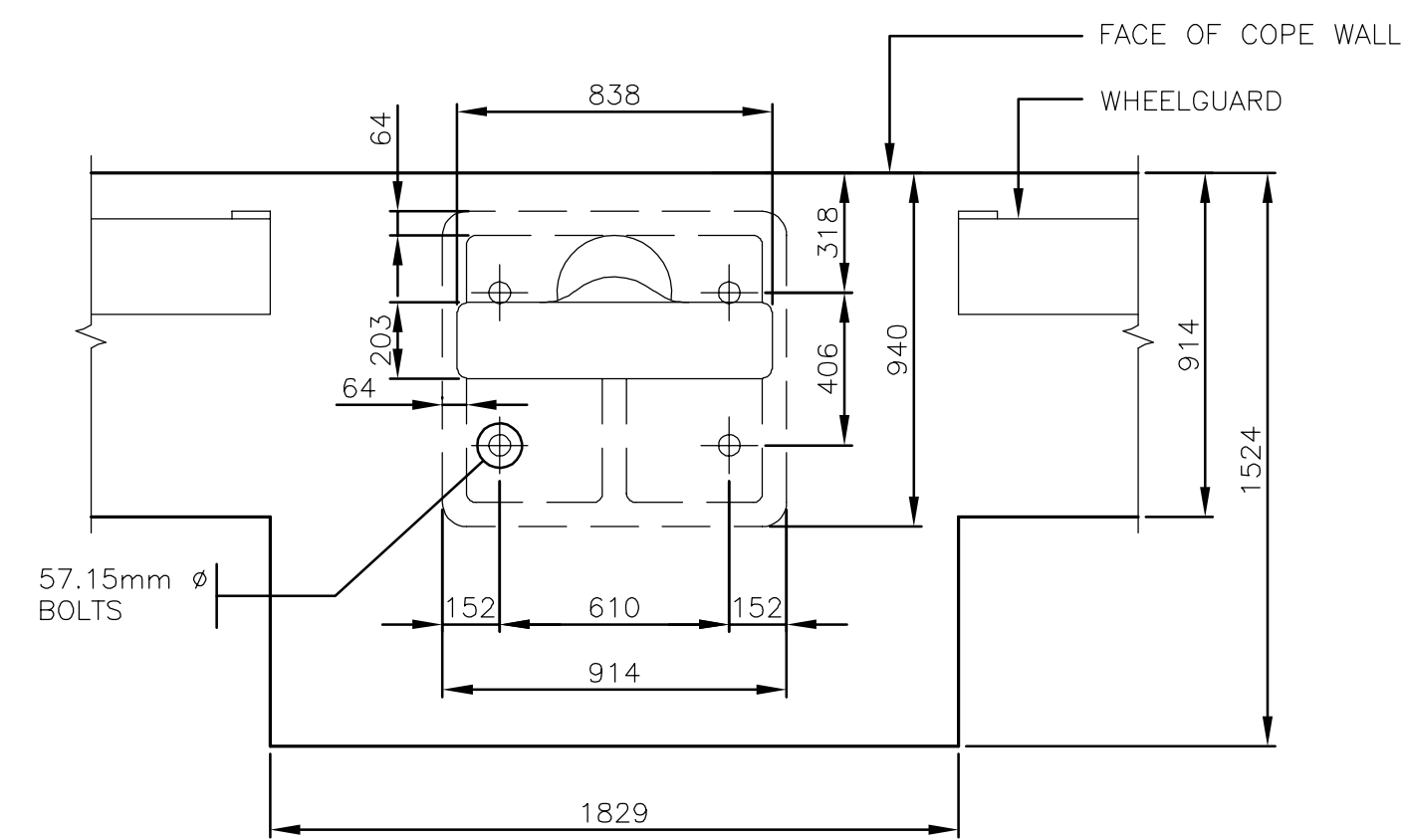
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 PLOT DATE: 2021-01-21 @ 1:54:08 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.ctb

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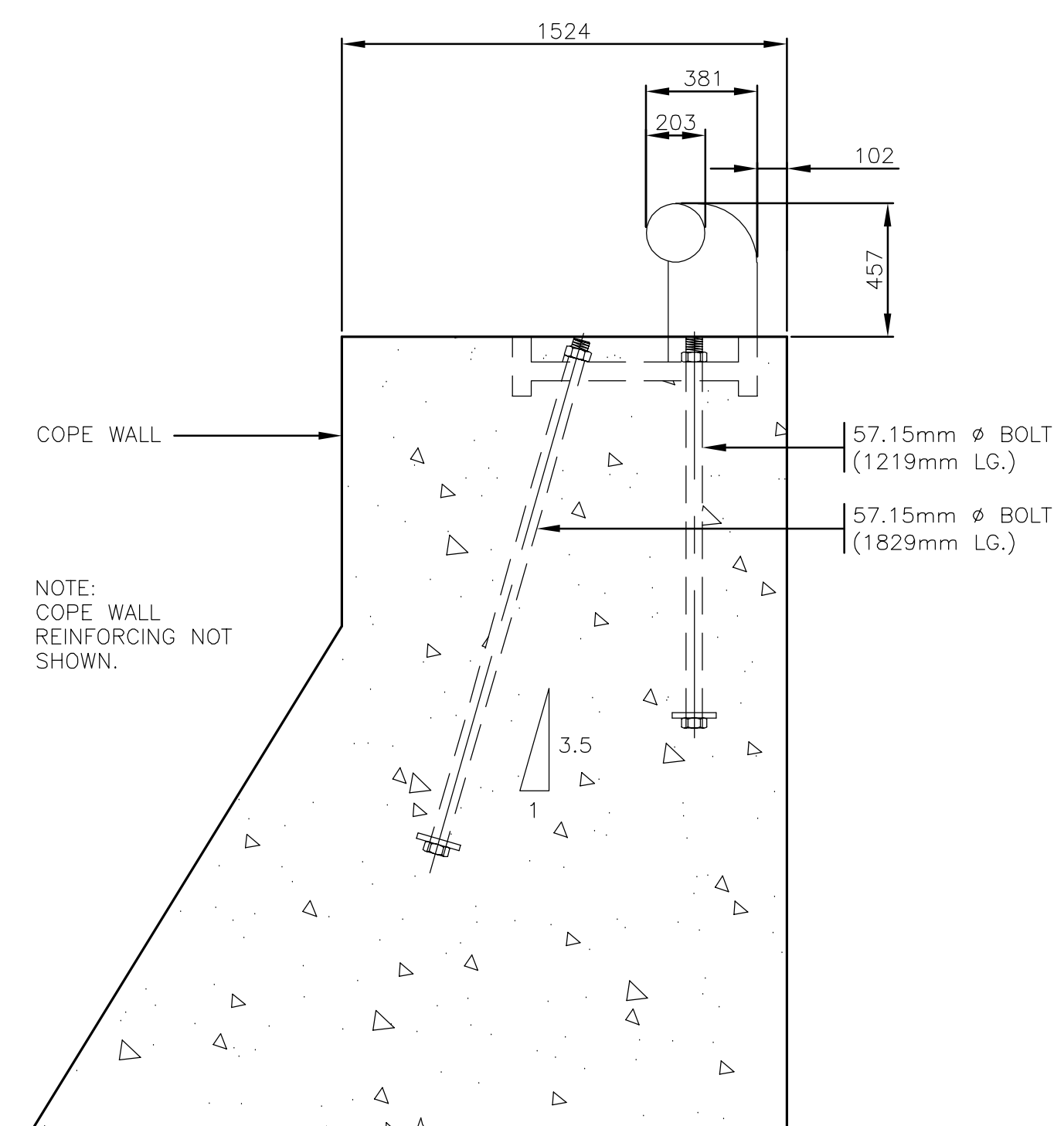


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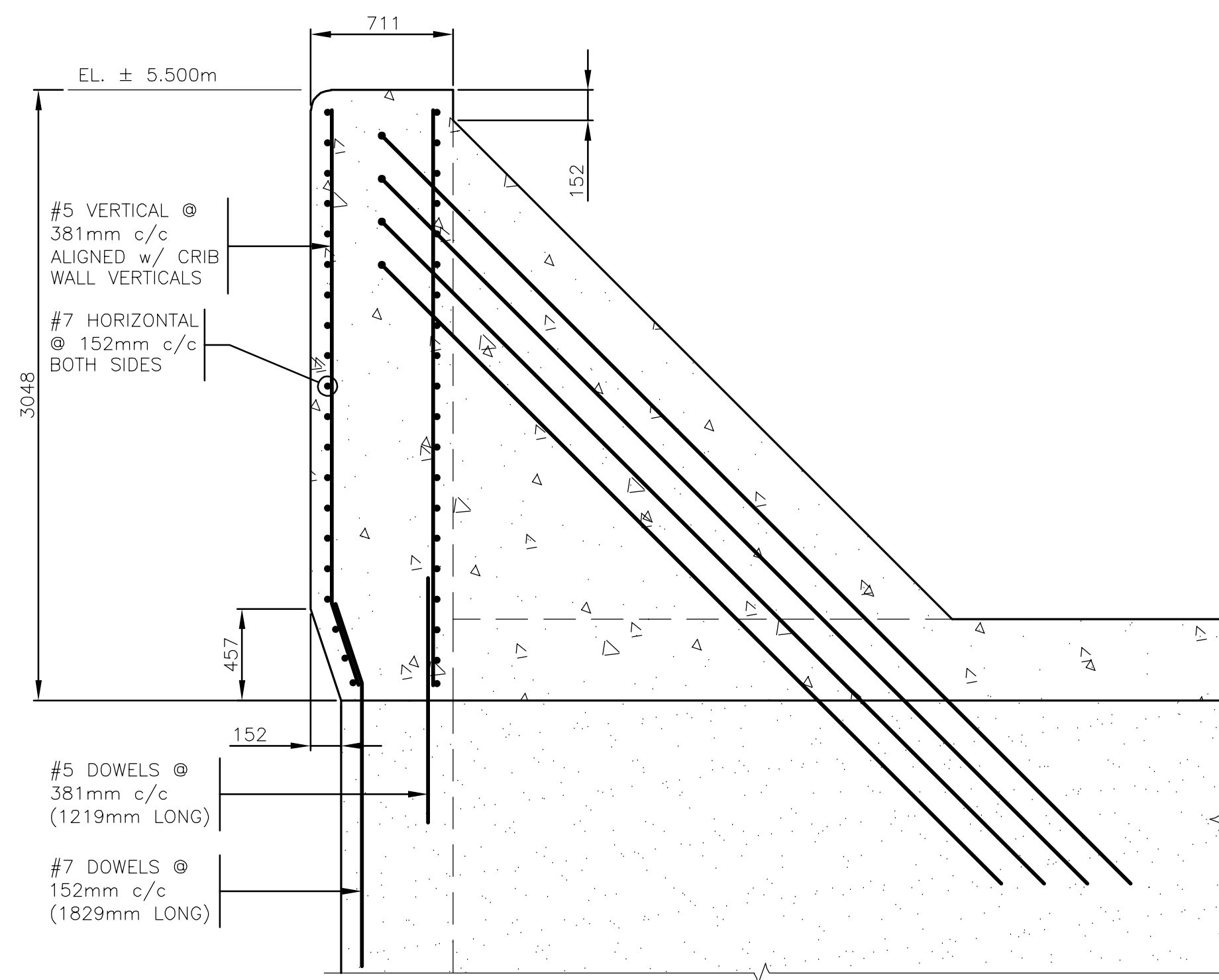
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DRAWN: PB	CHECKED BY: WH		SHEET NO: S3
DATE: 22-01-21		EXISTING SECTIONS AND DETAIL	S3
SCALE: AS SHOWN			



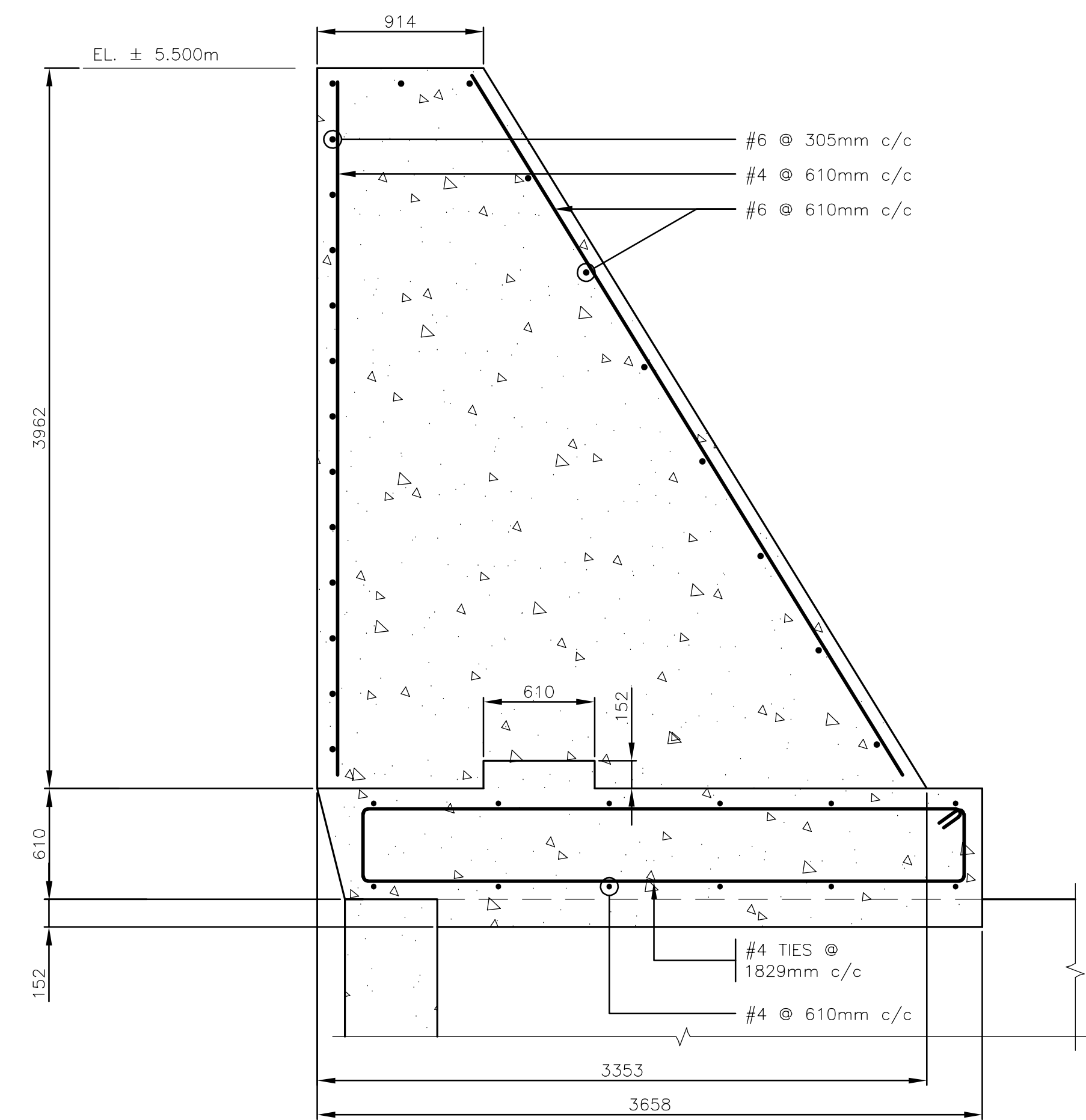
3 PARTIAL PLAN – EXISTING BOLLARDS  
4 1:20



4 DETAIL – EXISTING BOLLARDS  
4 1:20



2 SECTION – EXISTING COPE WALL AT CRIB #8  
4 1:25



1 SECTION – EXISTING COPE WALL AT CRIBS #1-7 AND GRAVITY WALL  
4 1:25

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
PLOT DATE: 2021-01-21 @ 1:54:29 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.ctb

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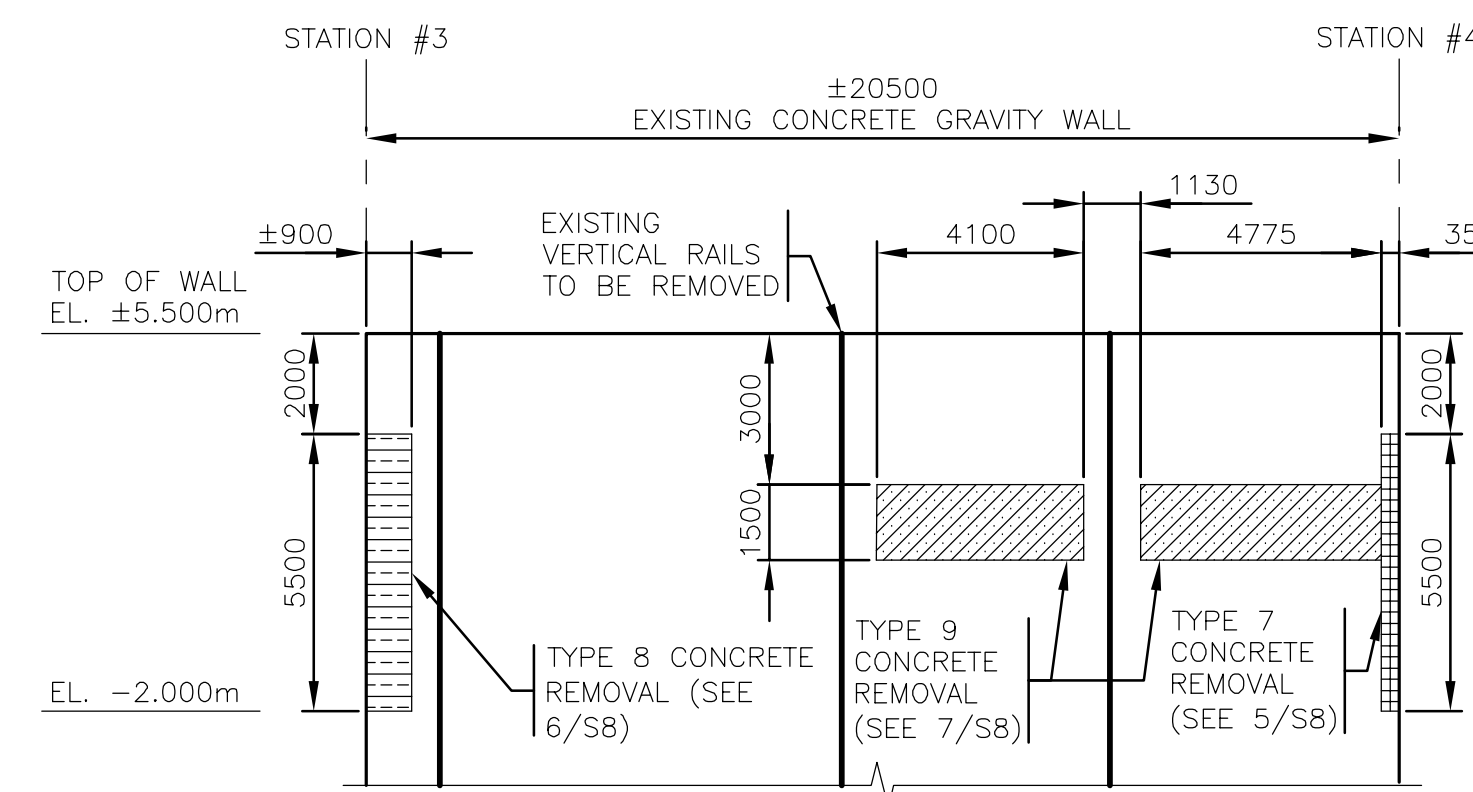
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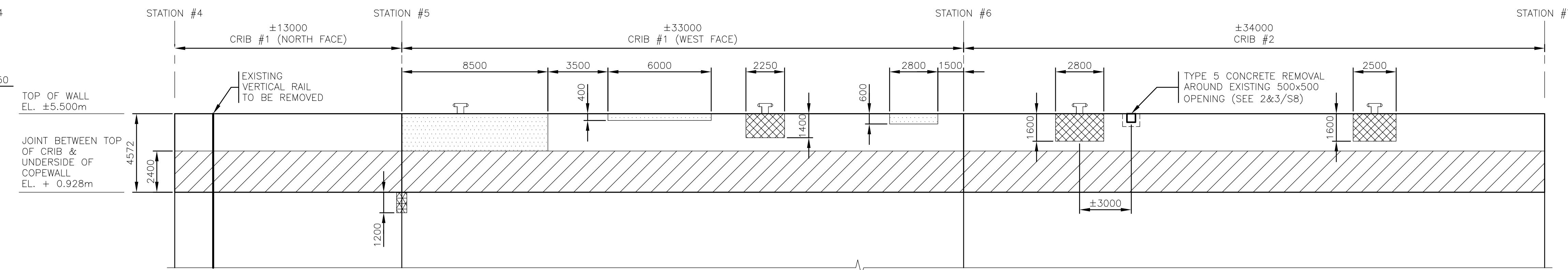
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WH	BL
DRAWN	CHECKED BY
PB	WH
DATE	January 22, 2021
SCALE	AS SHOWN

SEAWALL REFRUBISHMENT  
SAINT JOHN, NB  
  
EXISTING SECTIONS,  
PLAN AND DETAIL

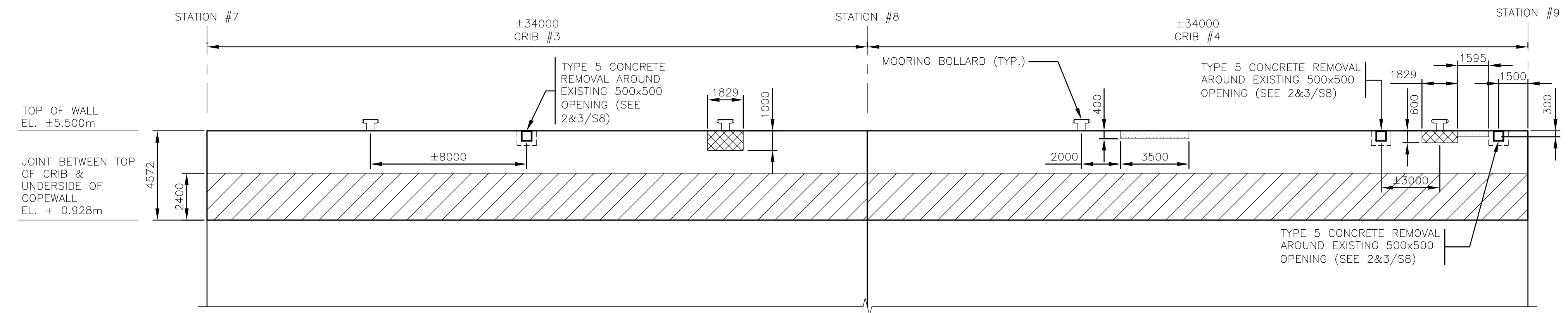
PROJECT NO.  
20-2454  
  
SHEET NO.  
S4



1 ELEVATION - GRAVITY WALL CONCRETE REMOVALS - STATION #3 TO #4  
5 1:150



2 ELEVATION - COPEWALL CONCRETE REMOVALS - STATION #4 TO #7  
5 1:150



3 ELEVATION - COPEWALL CONCRETE REMOVALS - STATION #7 TO #9  
5 1:150

- NOTES:
1. ALL CONCRETE REMOVAL LOCATIONS SHALL BE VERIFIED BY THE ENGINEER. THE LOCATION AND EXTENT OF ALL CONCRETE REPAIRS MAY BE ADJUSTED AT THE SOLE DISCRETION OF THE ENGINEER.
  2. WHEELGUARD, LADDERS AND ELECTRICAL PEDESTALS ARE NOT SHOWN FOR CLARITY.
  3. EXPOSED REINFORCING STEEL AT ALL CONCRETE REMOVAL LOCATIONS TO BE CLEANED BY ABRASIVE SANDBLASTING AS PER SPECIFICATIONS.

LEGEND:

	TYPE 1 CONCRETE REMOVAL (SEE 1/S7)
	TYPE 2 CONCRETE REMOVAL (SEE 2/S7)
	TYPE 3 CONCRETE REMOVAL (SEE 3&4/S7)
	TYPE 4 CONCRETE REMOVAL (SEE 1/S8)
	TYPE 5 CONCRETE REMOVAL (SEE 2&3/S8)
	TYPE 6 CONCRETE REMOVAL (SEE 4/S8)
	TYPE 7 CONCRETE REMOVAL (SEE 5/S8)
	TYPE 8 CONCRETE REMOVAL (SEE 6/S8)
	TYPE 9 CONCRETE REMOVAL (SEE 7/S8)

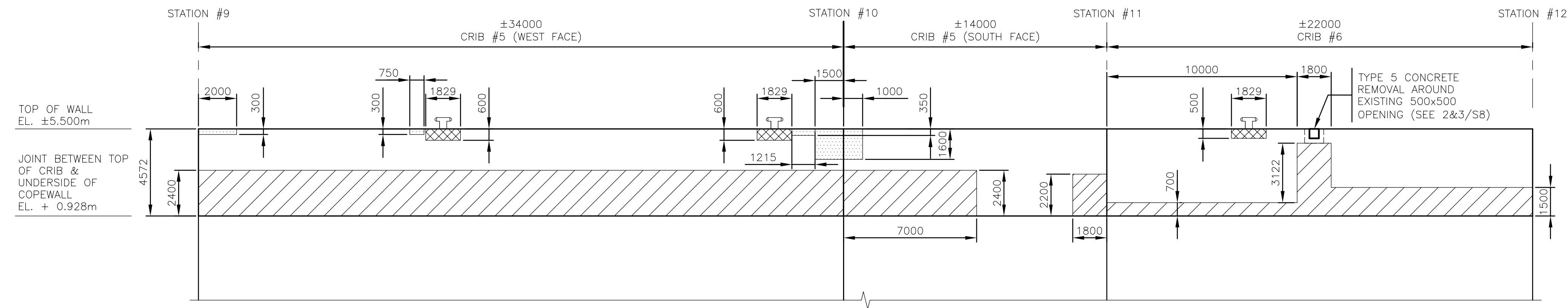
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 PLOT DATE: 2021-01-21 @ 1:54:47 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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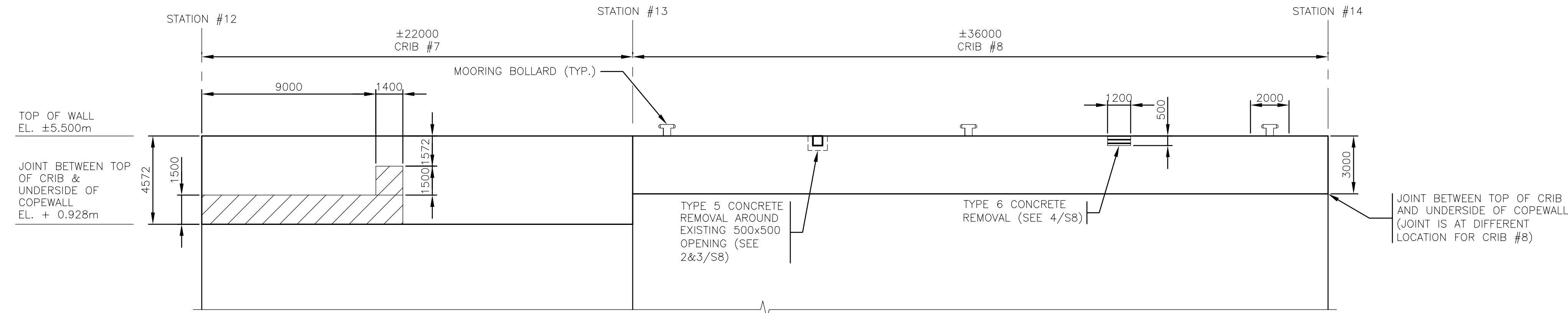


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DESIGN: WH	REVIEWED BY: BL	SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO: 20-2454
DRAWN: PB	CHECKED BY: WH		SHEET NO: S5
DATE: 22-01-2021		EXISTING ELEVATIONS STATIONS #3-9 - DEMOLITION	
SCALE: AS SHOWN			



1 ELEVATION - COPEWALL CONCRETE REMOVALS - STATION #9 TO #12  
6 1:150



2 ELEVATION - COPEWALL CONCRETE REMOVALS - STATION #12 TO #14  
6 1:150

NOTES:

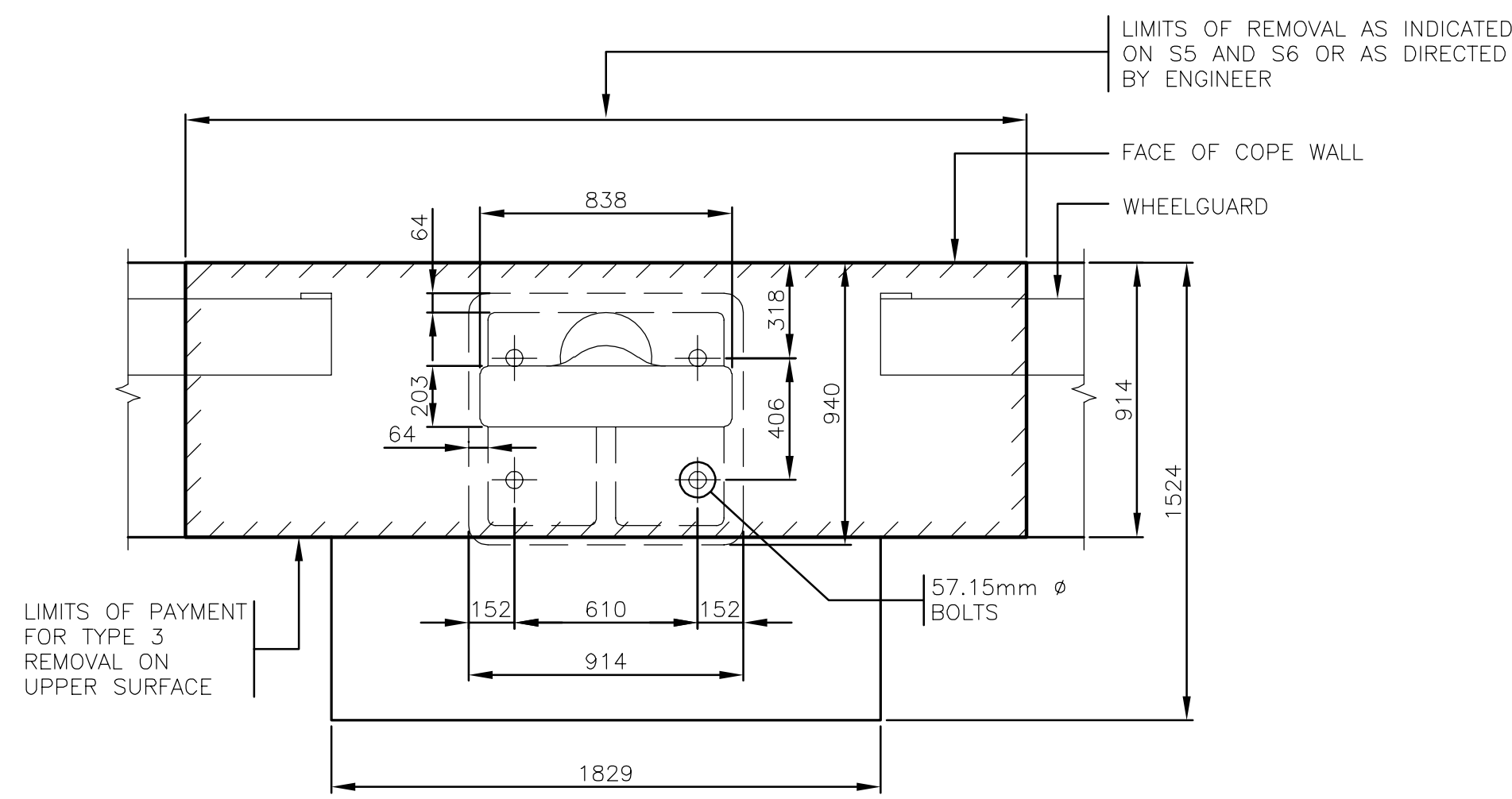
1. ALL CONCRETE REMOVAL LOCATIONS SHALL BE VERIFIED BY THE ENGINEER. THE LOCATION AND EXTENT OF ALL CONCRETE REPAIRS MAY BE ADJUSTED AT THE SOLE DISCRETION OF THE ENGINEER.
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3. EXPOSED REINFORCING STEEL AT ALL CONCRETE REMOVAL LOCATIONS TO BE CLEANED BY ABRASIVE SANDBLASTING AS PER SPECIFICATIONS.

LEGEND:

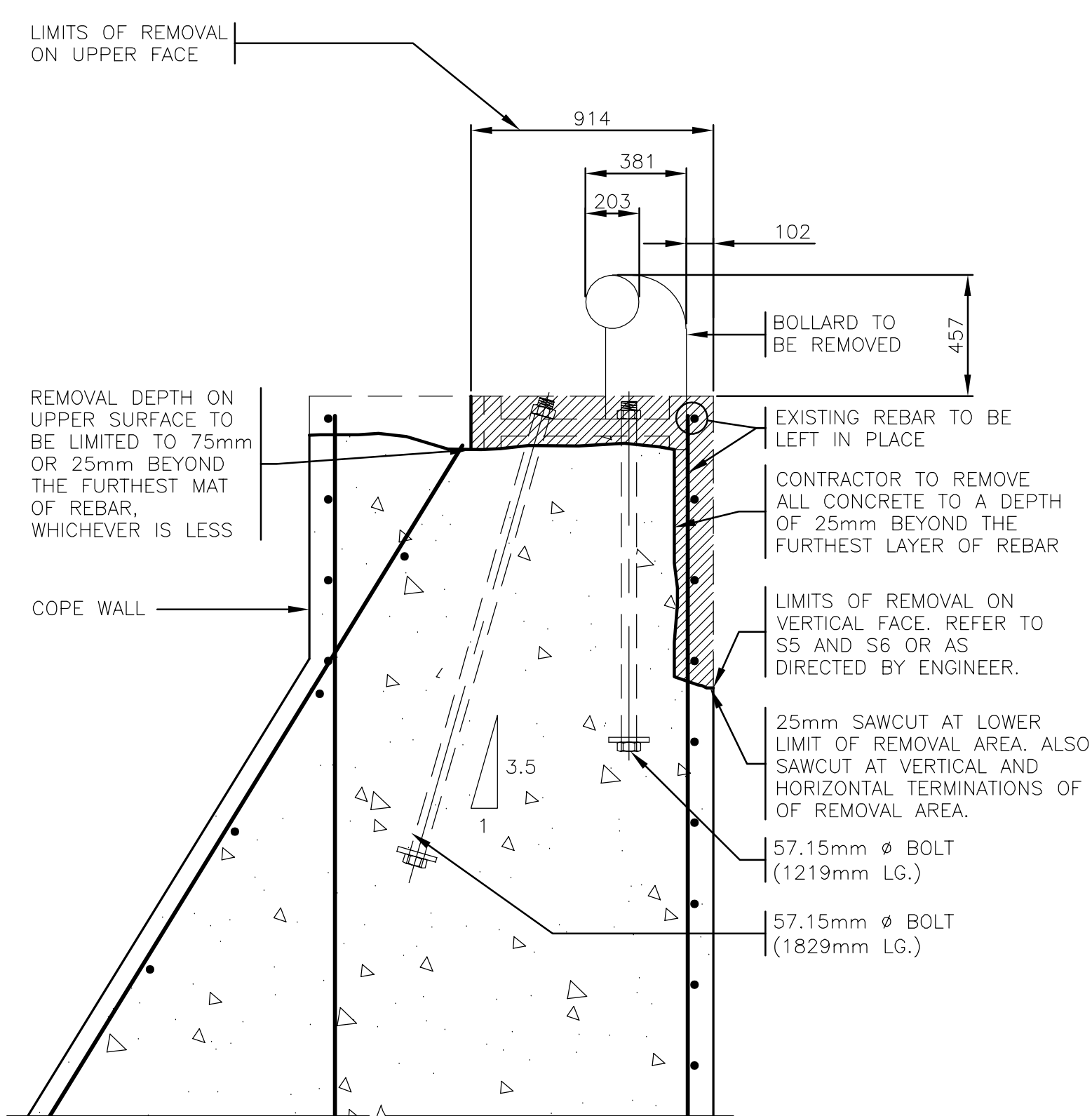
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	TYPE 2 CONCRETE REMOVAL (SEE 2/S7)
	TYPE 3 CONCRETE REMOVAL (SEE 3&4/S7)
	TYPE 4 CONCRETE REMOVAL (SEE 1/S8)
	TYPE 5 CONCRETE REMOVAL (SEE 2&3/S8)
	TYPE 6 CONCRETE REMOVAL (SEE 4/S8)

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\STATION#9-14 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
 PLOT DATE: 2021-01-21 @ 1:56:03 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

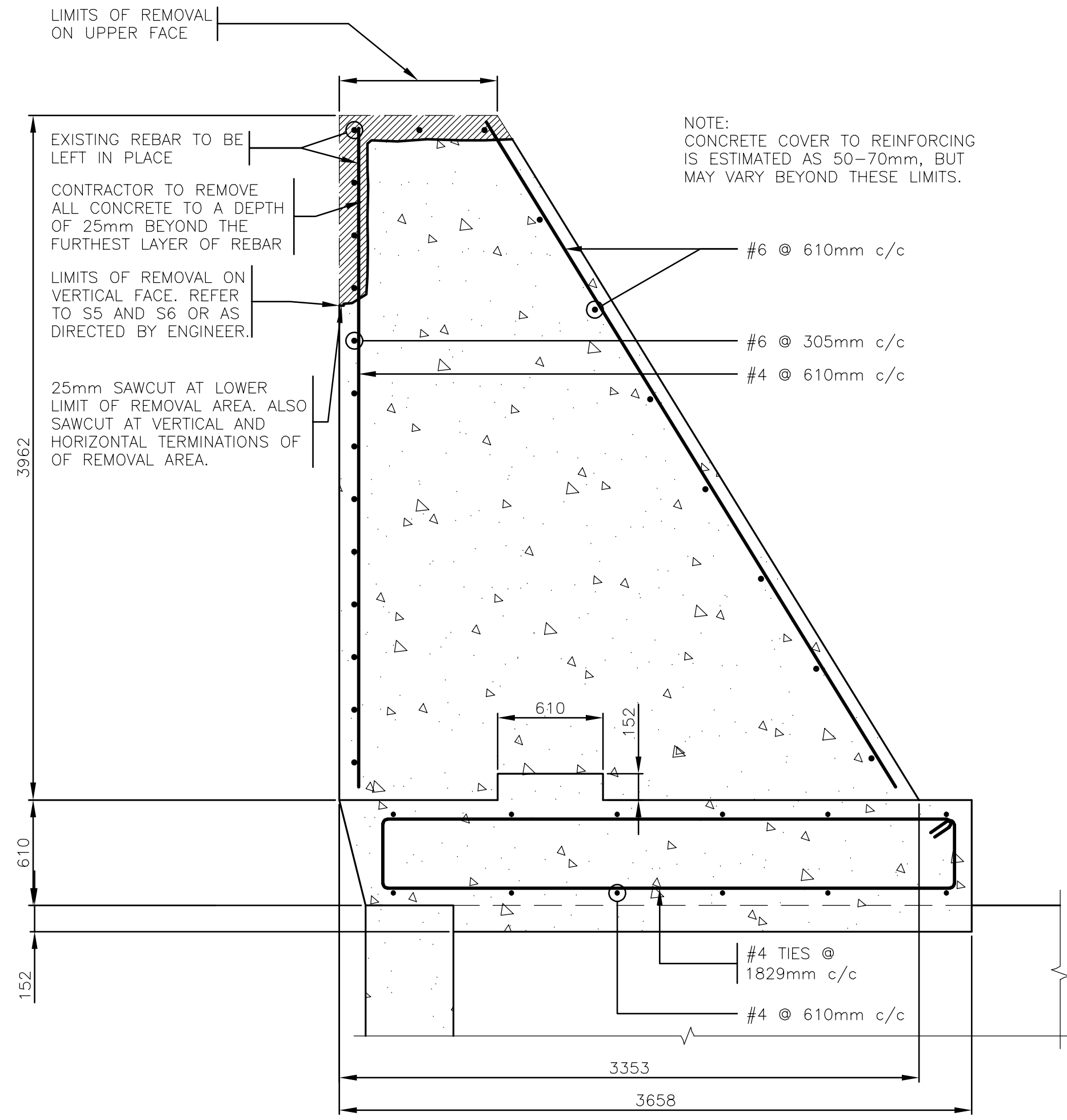
<b>Conditions of Use</b> Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.  Do not scale dimensions from drawing.  Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">DESIGN</td> <td>WH</td> <td style="width: 5%;">REVIEWED BY</td> <td>BL</td> </tr> <tr> <td>DRAWN</td> <td>PB</td> <td>CHECKED BY</td> <td>WH</td> </tr> <tr> <td>DATE</td> <td colspan="3">January 22, 2021</td> </tr> <tr> <td>SCALE</td> <td colspan="3">AS SHOWN</td> </tr> </table>	DESIGN	WH	REVIEWED BY	BL	DRAWN	PB	CHECKED BY	WH	DATE	January 22, 2021			SCALE	AS SHOWN			SEAWALL REFURBISHMENT SAINT JOHN, NB  EXISTING ELEVATIONS STATIONS #9-14 - DEMOLITION	PROJECT NO. 20-2454  SHEET NO. <span style="font-size: 2em; font-weight: bold;">S6</span>
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DRAWN	PB	CHECKED BY	WH																			
DATE	January 22, 2021																					
SCALE	AS SHOWN																					



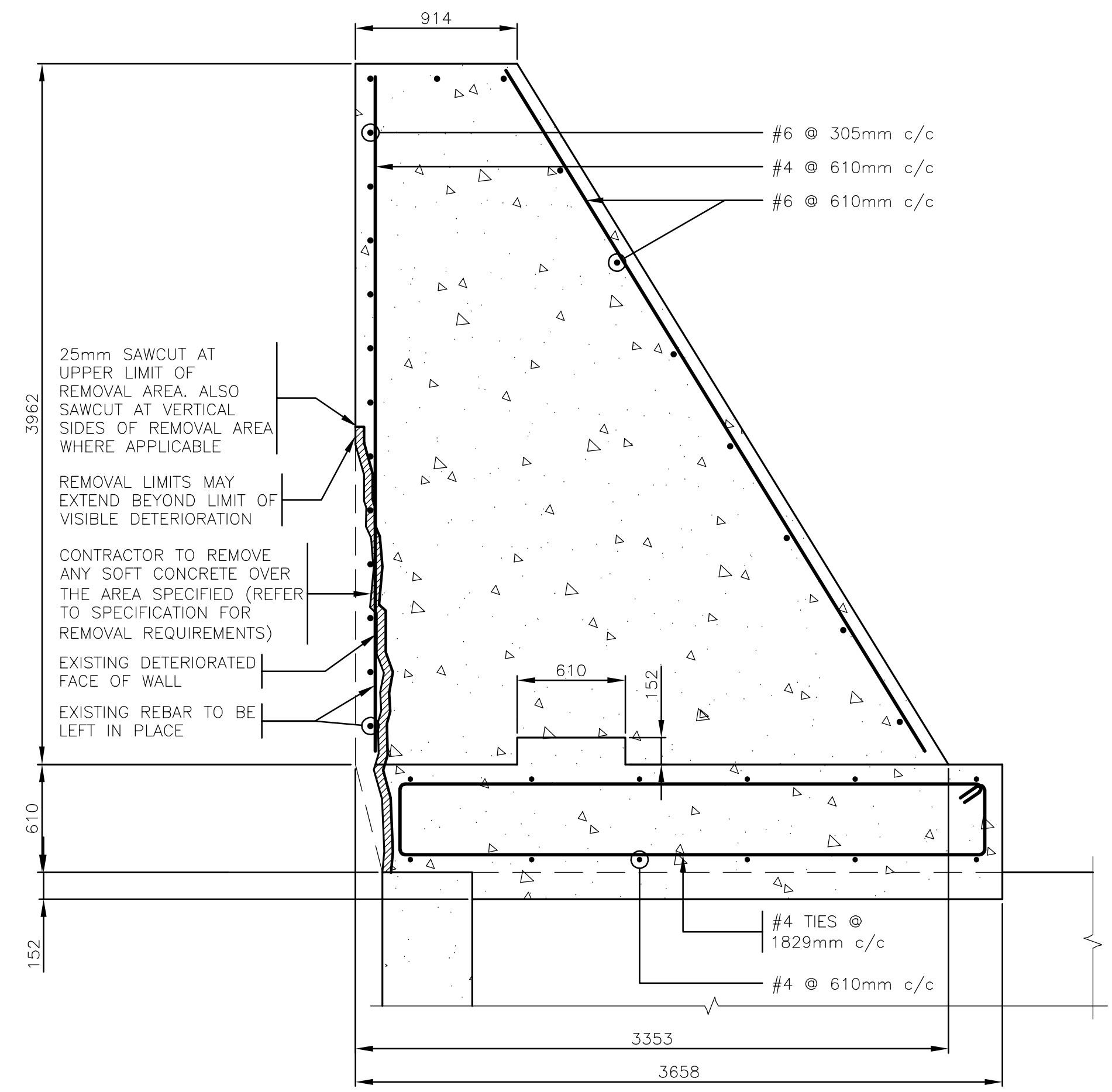
3  
7 1:20  
DETAIL – TYPE 3 CONCRETE UPPER SURFACE REMOVAL PAYMENT LIMITS



4  
7 1:20  
DETAIL – TYPE 3 CONCRETE REMOVAL



2  
7 1:25  
DETAIL – TYPE 2 CONCRETE REMOVAL



1  
7 1:25  
DETAIL – TYPE 1 CONCRETE REMOVAL

FILE NAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
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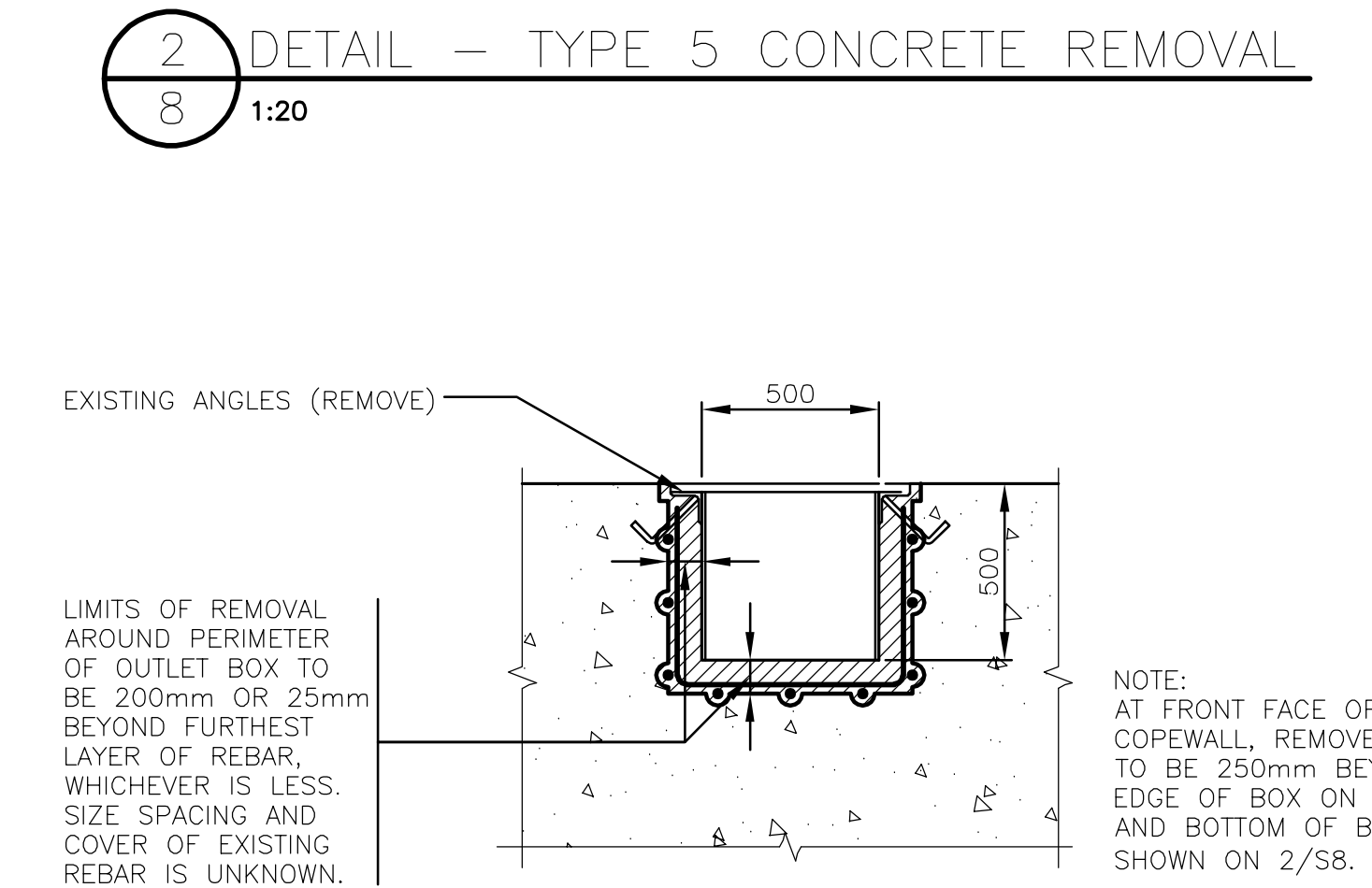
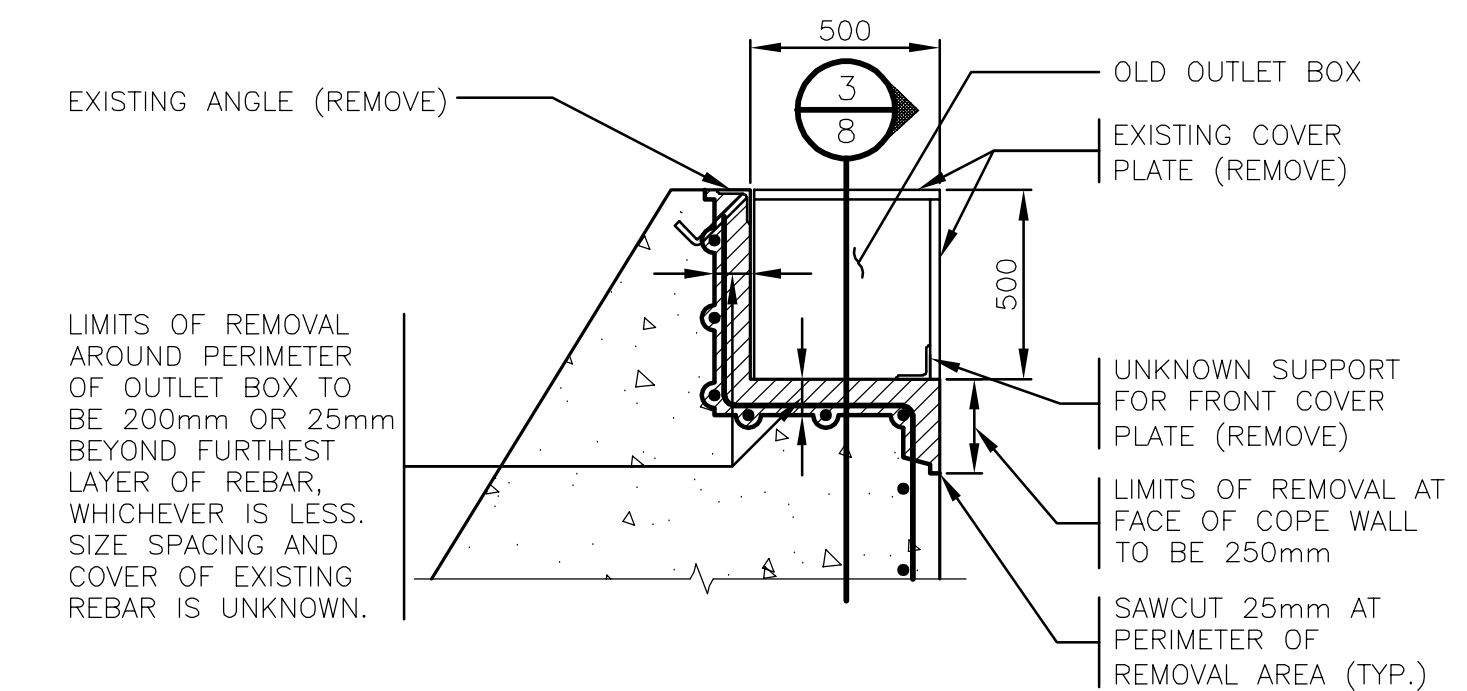
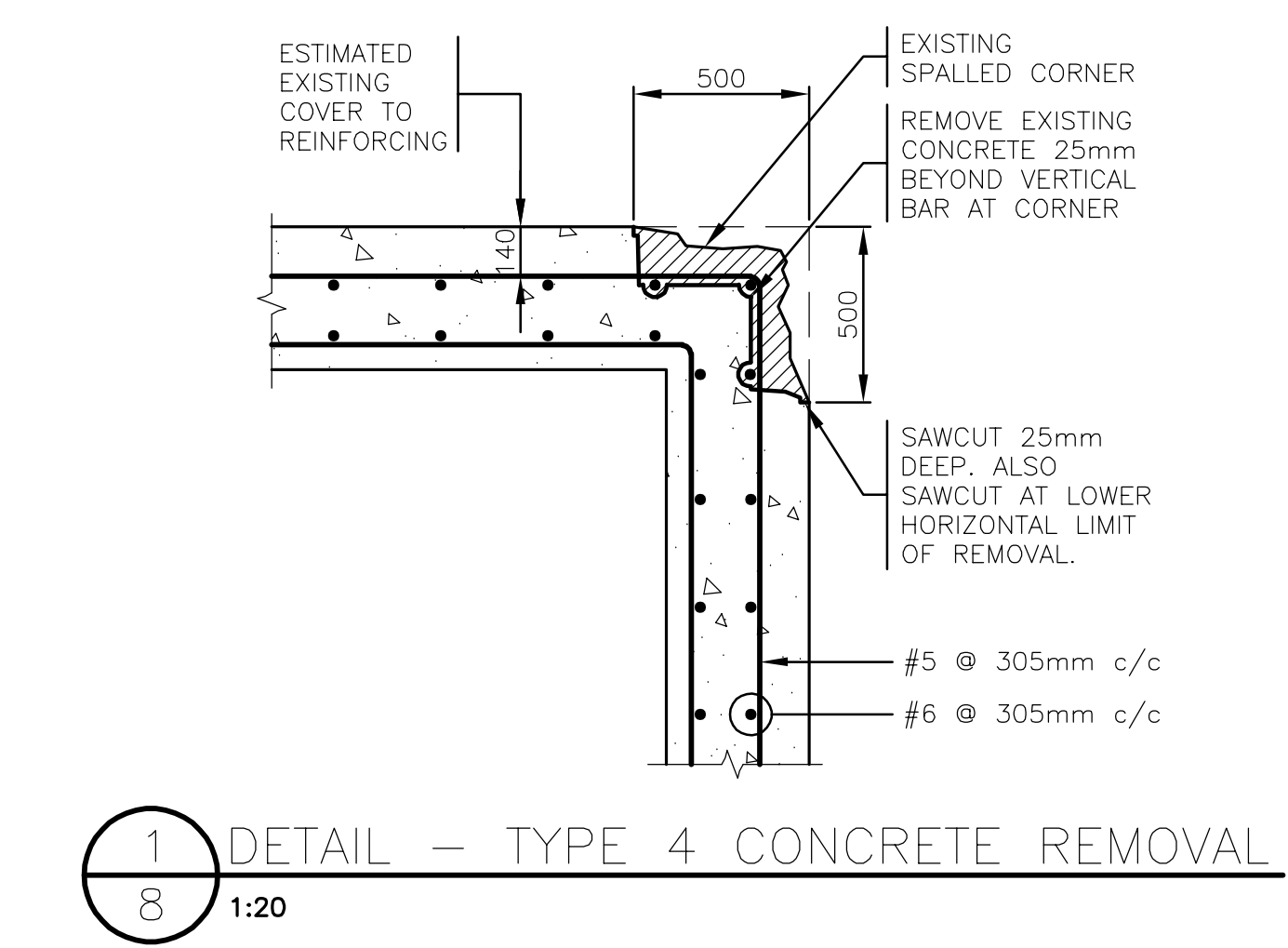
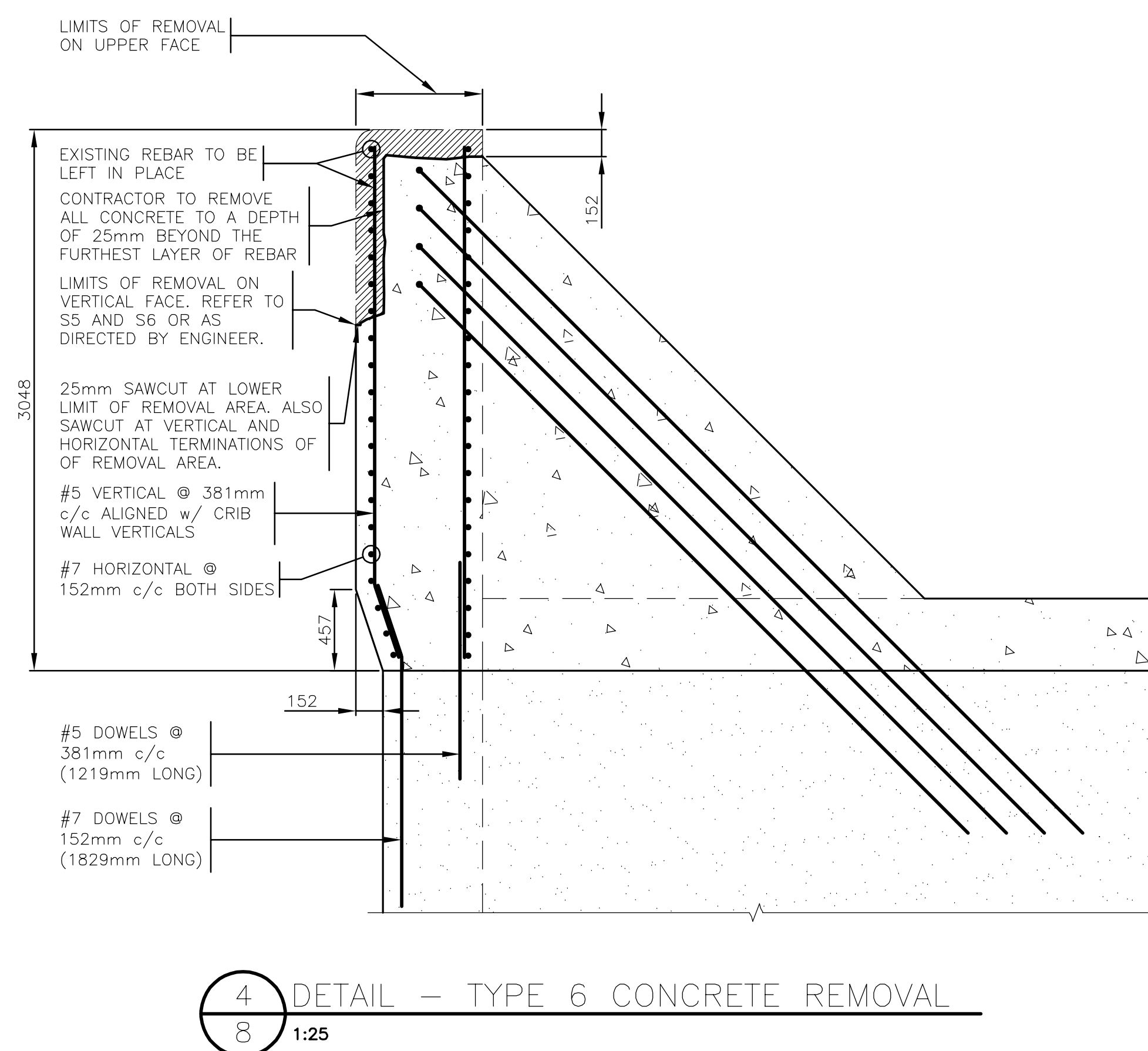
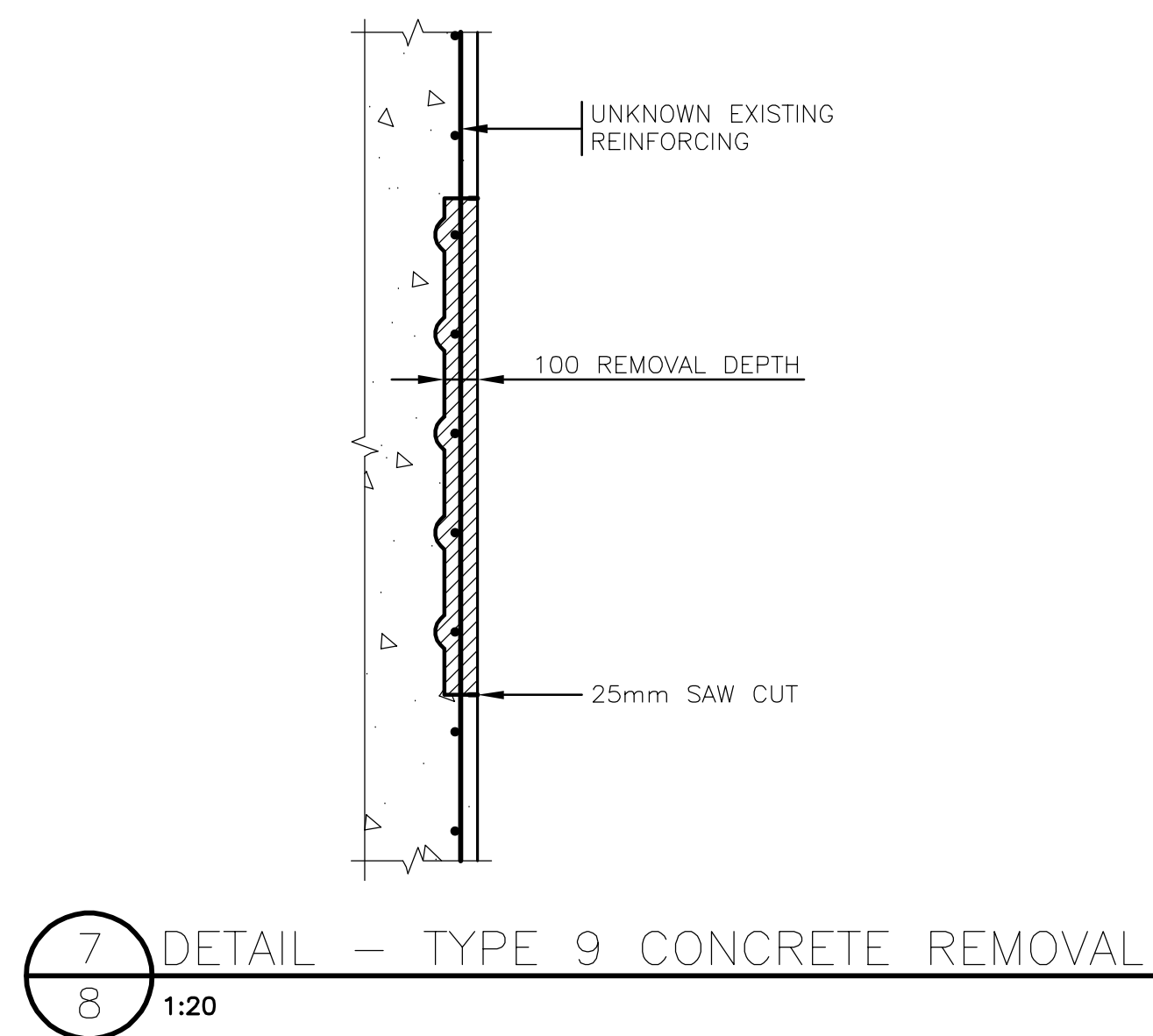
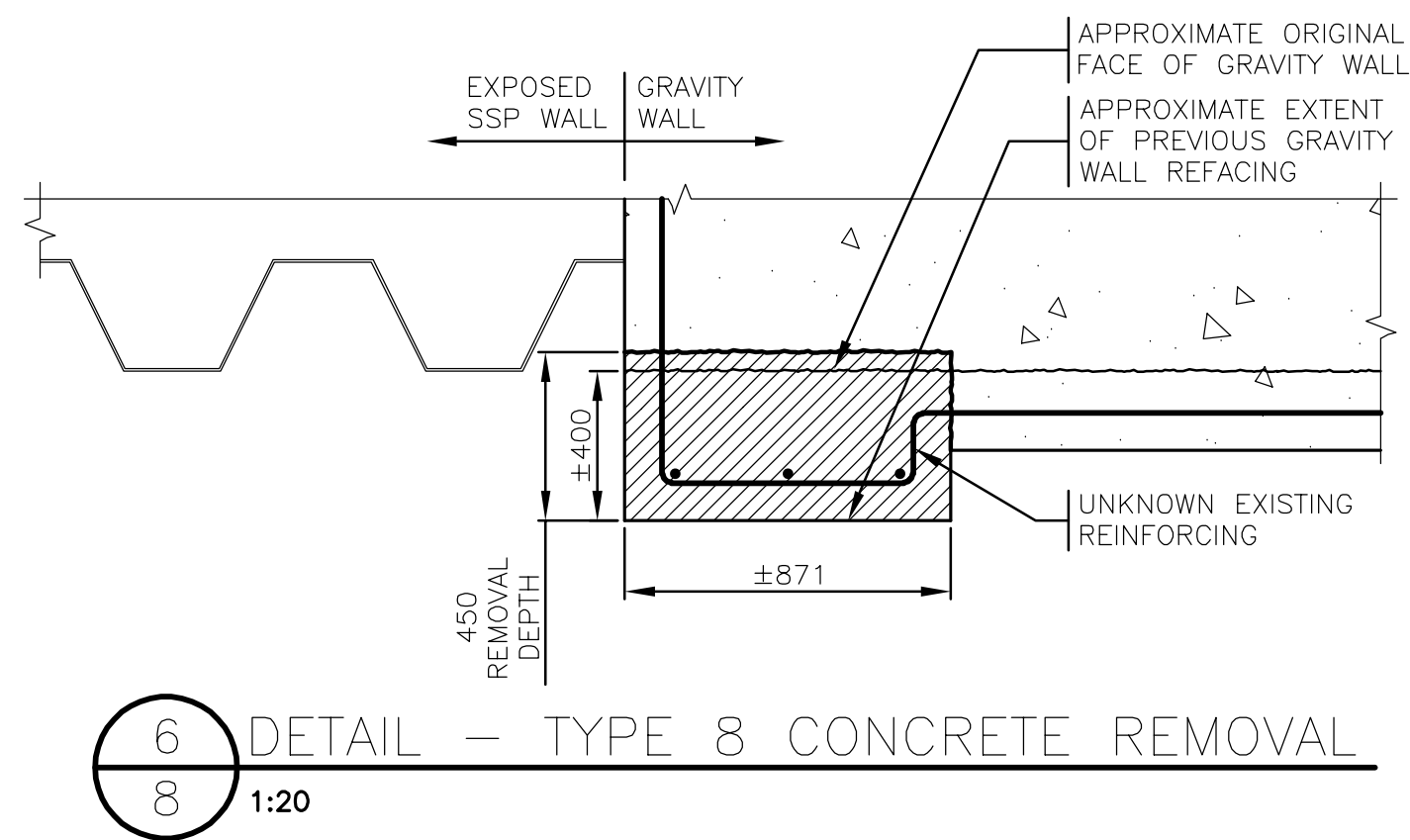
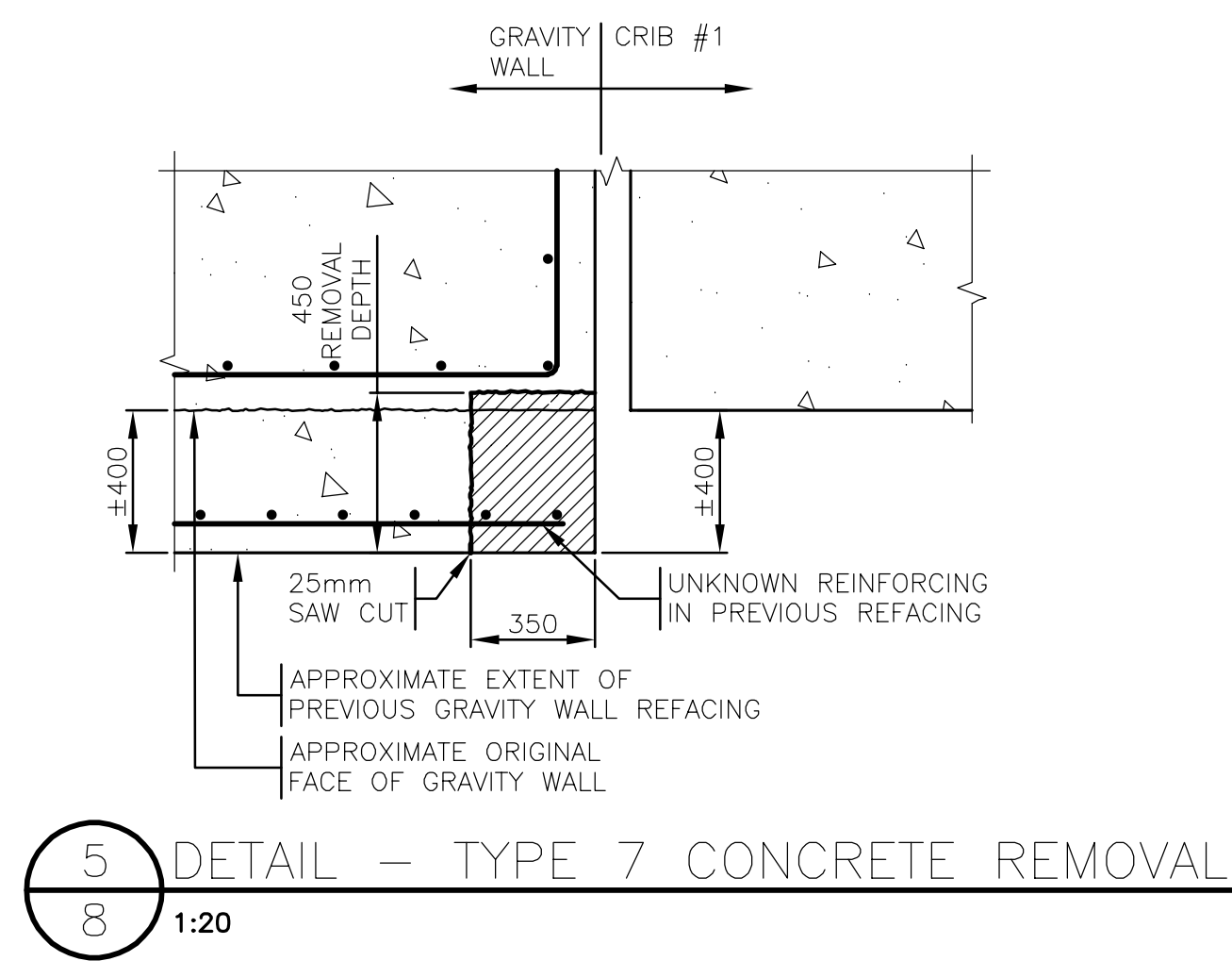
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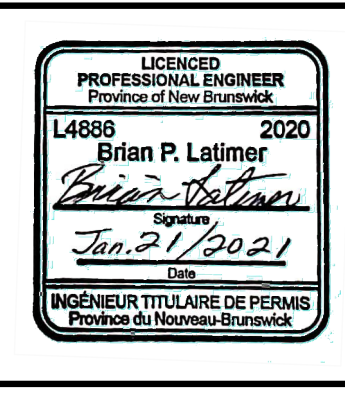
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DATE: 22-01-21		TYPE 1-3 CONCRETE REMOVALS	SHEET NO: S7
SCALE: AS SHOWN			





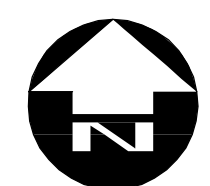
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DESIGN: WH	REVIEWED BY: BL	SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO: 20-2454
DRAWN: PB	CHECKED BY: WH		
DATE: July 23, 2021		TYPE 4-9 CONCRETE REMOVALS	SHEET NO: S8
SCALE: AS SHOWN			



- LEGEND:**
- SSP - STEEL SHEET PILING
  - CB - CATCH BASIN
  - ⊙ - STORM MANHOLE

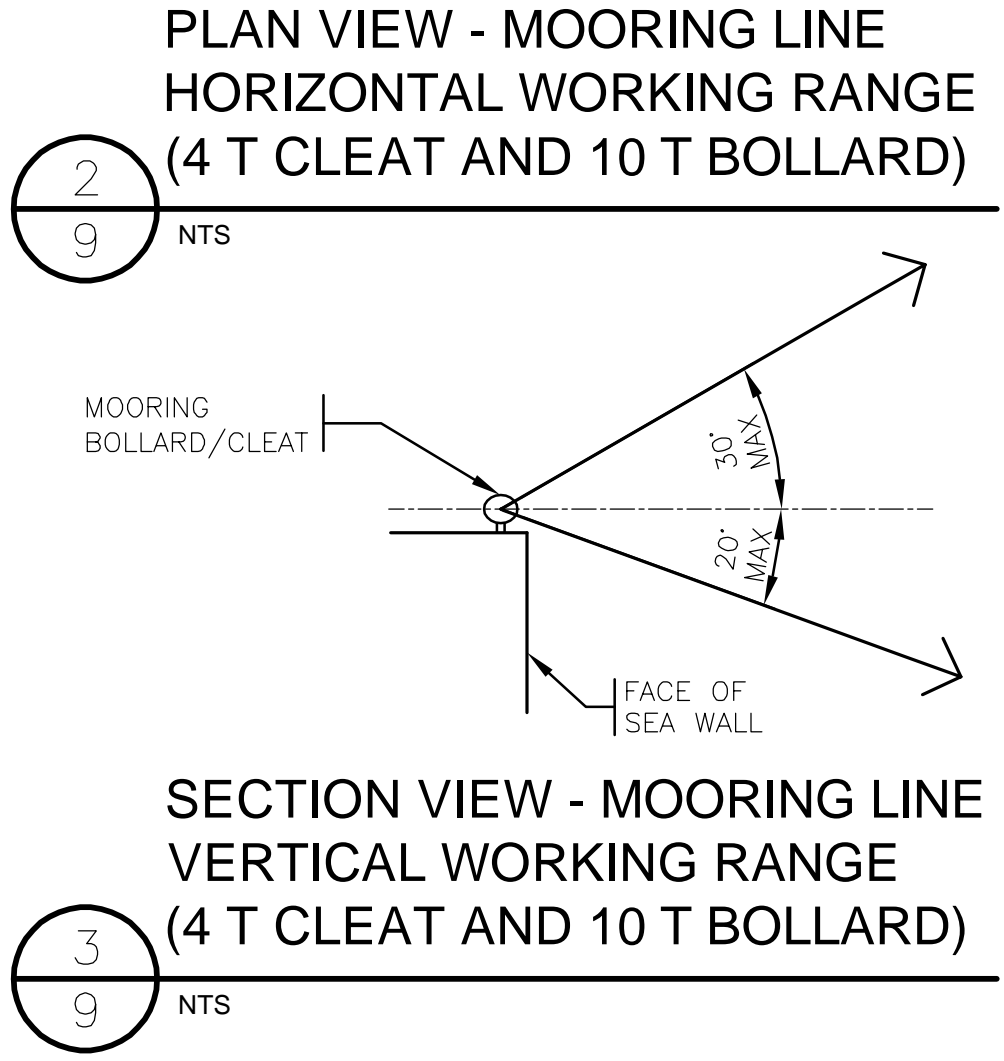
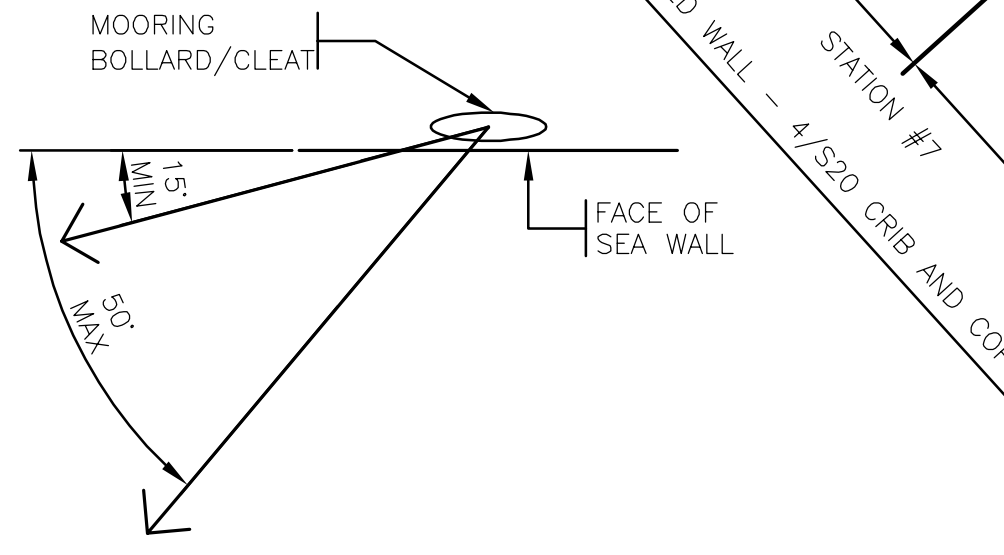
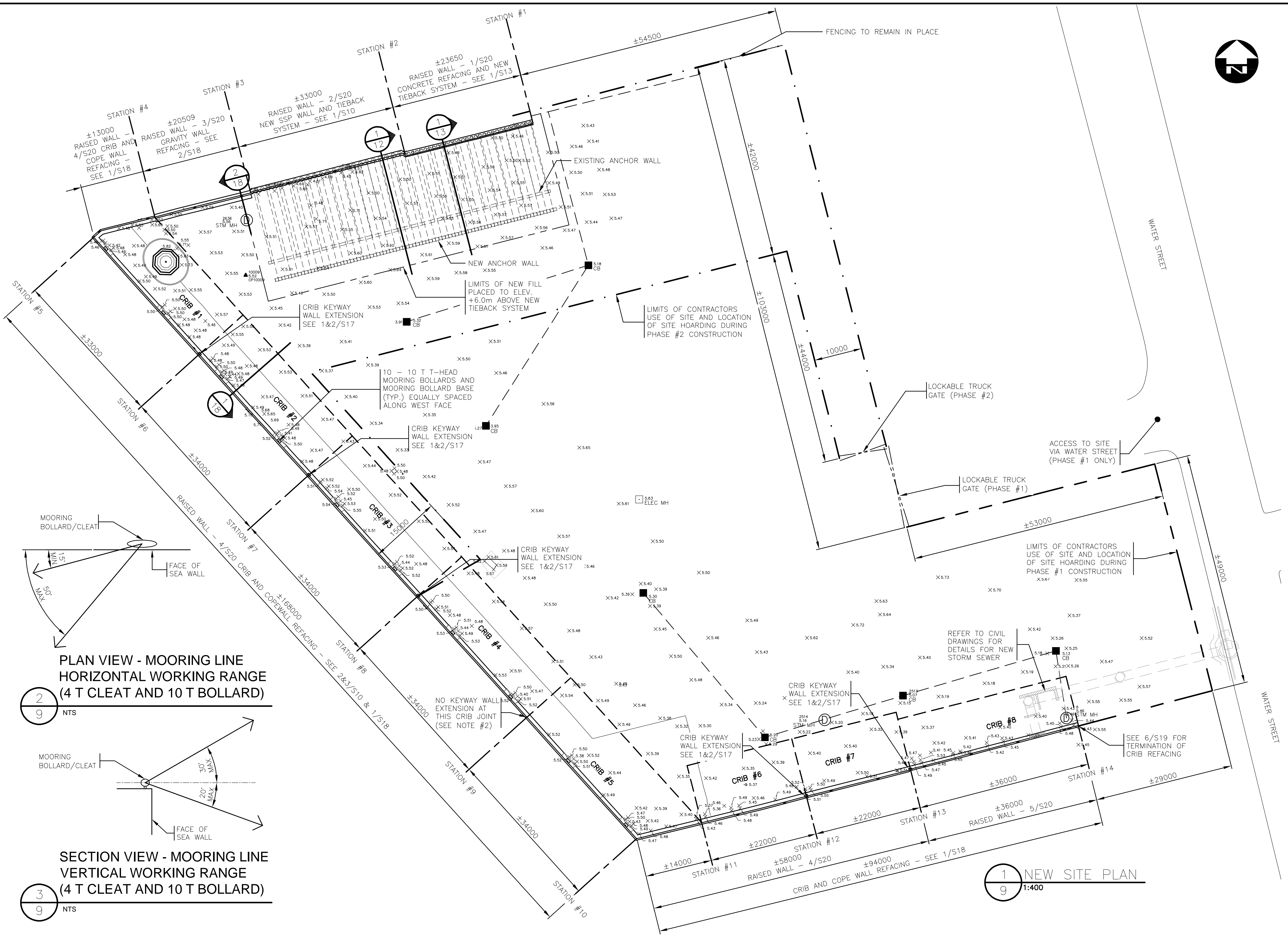
- GENERAL NOTES:**
- ALL DIMENSIONS IN MILLIMETERS.
  - AT CRIB JOINTS WITH NO KEYWAY WALL EXTENSION, CONTRACTOR TO FORM GAP BETWEEN CRIBS AS REQUIRED FOR INSTALLATION OF CRIB REFACING.
  - ALL EXPANSION AND CONTROL JOINTS IN EXISTING WALL FACES SHALL BE MATCHED TO EXISTING JOINTS IN THE FIELD.
  - 4.0 T MOORING BOLLARDS ON NORTH AND SOUTH FACES ARE NOT SHOWN. REFER TO ELEVATIONS.
  - THE CONTRACTOR SHALL AS PART OF HIS WORK CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
  - ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.
  - PHASE #1 SHALL END BY SEPTEMBER 30, 2021. BY THIS TIME REFACING, RAISING OF WALL, AND ALL OTHER WORK FROM STATIONS #8-14 SHALL BE COMPLETED. NEW SHEET PILE WALL AND NEW TIEBACK SYSTEMS AND ALL WORK RELATED TO THE NEW SEWER OUTFALL SHALL ALSO BE COMPLETED BY THIS TIME. BY SEPTEMBER 30, 2021 THE CONTRACTOR SHALL RELOCATE ALL PROTECTIVE HOARDING TO THE LIMITS AS SHOWN FOR PHASE #2 CONSTRUCTION. DURING PHASE #2, THE CONTRACTOR'S USE OF SITE SHALL BE LIMITED TO THE LIMITS AS SHOWN. PHASE #2 WORK FROM STATIONS #1-8 SHALL GENERALLY CONSIST OF REFACING OF CONCRETE CRIBS AND GRAVITY WALL, RAISING OF THE WALL, AND INSTALLATION OF MOORING BOLLARDS AND OTHER MISCELLANEOUS ITEMS.

- CONCRETE NOTES:**
- PERFORM CONCRETE WORK IN ACCORDANCE WITH CSA A23.1-14.
  - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS TO BE 35 MPa.
  - ALL CONCRETE TO MEET EXPOSURE CLASS C-1 AND S-3. CONCRETE FORMWORK AND FALSEWORK MATERIALS SHALL CONFORM TO CSA A23.1-14.
  - UNLESS INDICATED OTHERWISE, CONCRETE COVER TO REINFORCING STEEL TO BE 100 mm AT SEAWARD FACE OF WALLS, AND 75 mm AT ALL OTHER LOCATIONS.

- CONCRETE REINFORCEMENT NOTES:**
- PERFORM REINFORCING WORK IN ACCORDANCE WITH CSA A23.1-14.
  - REINFORCING STEEL SHALL CONFORM TO CAN/CSA G30.18, GRADE 400R OR 400W.
  - UNLESS INDICATED OTHERWISE, REINFORCING LAP LENGTHS SHALL BE MINIMUM 500 mm (10M), 700 mm (15M), 850 mm (20M), 1350 mm (25M).

- STRUCTURAL STEEL NOTES:**
- PERFORM STRUCTURAL STEEL WORK IN ACCORDANCE WITH CAN/CSA-S16-14.
  - ALL FABRICATION AND WELDING SHALL CONFORM TO CSA W59-18 AND BE PERFORMED BY A COMPANY CERTIFIED BY AND WELDERS QUALIFIED IN ACCORDANCE WITH CSA W47.1-19.
  - WELDING ELECTRODES TO BE "BASIC" LOW HYDROGEN TYPE TO CSA W48 SERIES, COMPATIBLE WITH STEEL TO BE WELDED.
  - STEEL SHEET PILE TO BE A250-700 TO ASTM A572, GRADE 60 (415 MPa).
  - HP SECTIONS TO CSA G40.21, GRADE 350W.
  - PLATES, CHANNELS, AND STEEL ANGLES TO CSA G40.21, GRADE 300W.
  - BOLTS TO ASTM F3125, GRADE A325.
  - TIERRODS TO ASTM A615, GRADE 550 MPa, GALVANIZED.
  - ANCHOR BOLTS TO ASTM F1554, GRADE 55, GALVANIZED.

- LOADING NOTES:**
- NEW WALL DESIGNED FOR A MAXIMUM UNIFORM LIVE LOAD SURCHARGE OF 10 kPa.
  - T-HEAD MOORING BOLLARDS ON WEST FACE OF WALL RATED FOR 10 TONNES, WITH A WORKING MOORING LINE RANGE AS SHOWN.
  - MOORING CLEATS ON NORTH AND SOUTH FACES OF WALL RATED FOR 4 TONNES, WITH A WORKING MOORING LINE RANGE AS SHOWN.



FILE NAME: C:\PW\WORKING\DIRECTOR\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
 PLOT DATE: 2021-01-22 @ 10:35:48 AM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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REGISTERED PROFESSIONAL ENGINEER  
 Province of New Brunswick  
 14888 Brian P. Latimer 2020  
 Brian P. Latimer  
 Jun 21, 2021  
 INGENIEUR TITULAIRE DE PERMIS  
 Province du Nouveau Brunswick



No.	ISSUED FOR	DATE	BY
0	ISSUED FOR TENDER	22-01-21	PB
D	ISSUED FOR 99% REVIEW	22-12-20	PB
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A	ISSUED FOR DRAFT GHG ASSESSMENT REPORT	15-04-20	PB

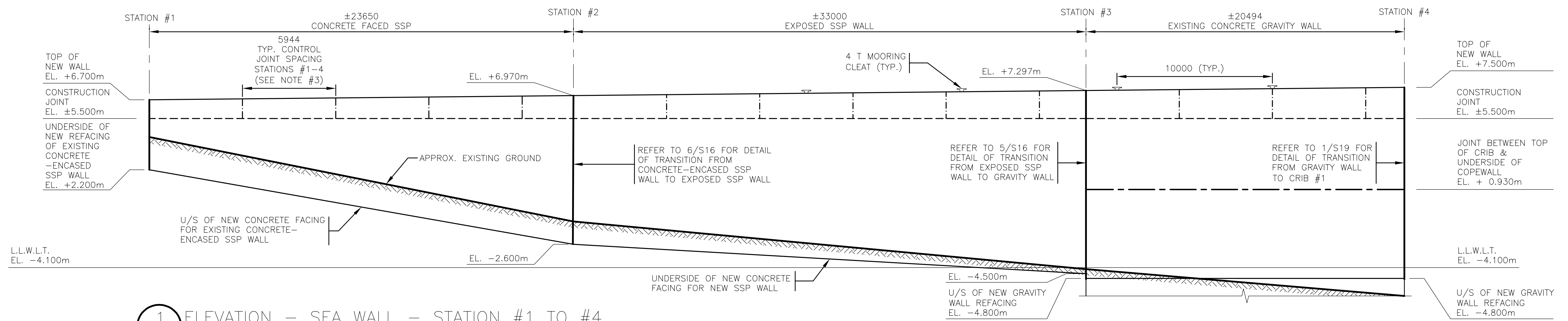
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WH	BL

DRAWN	CHECKED BY
PB	WH

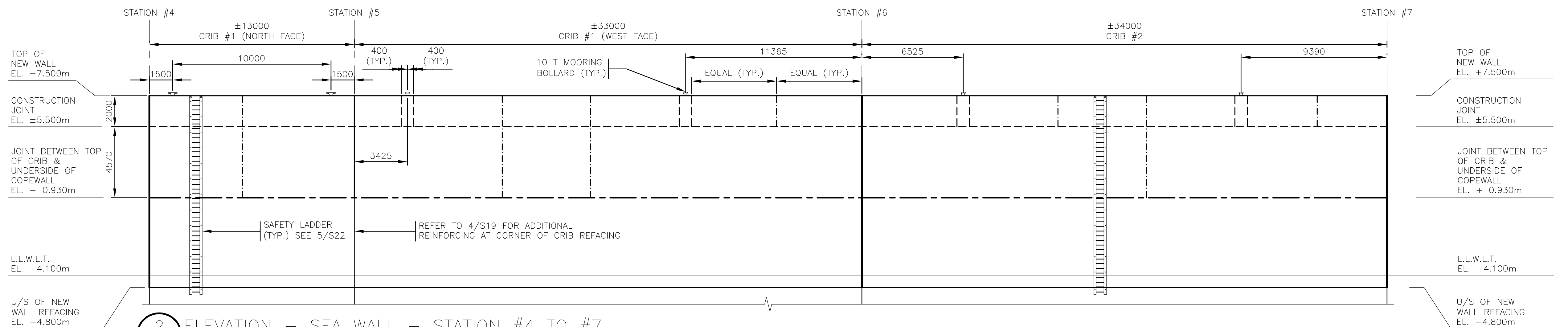
DATE: January 22, 2021

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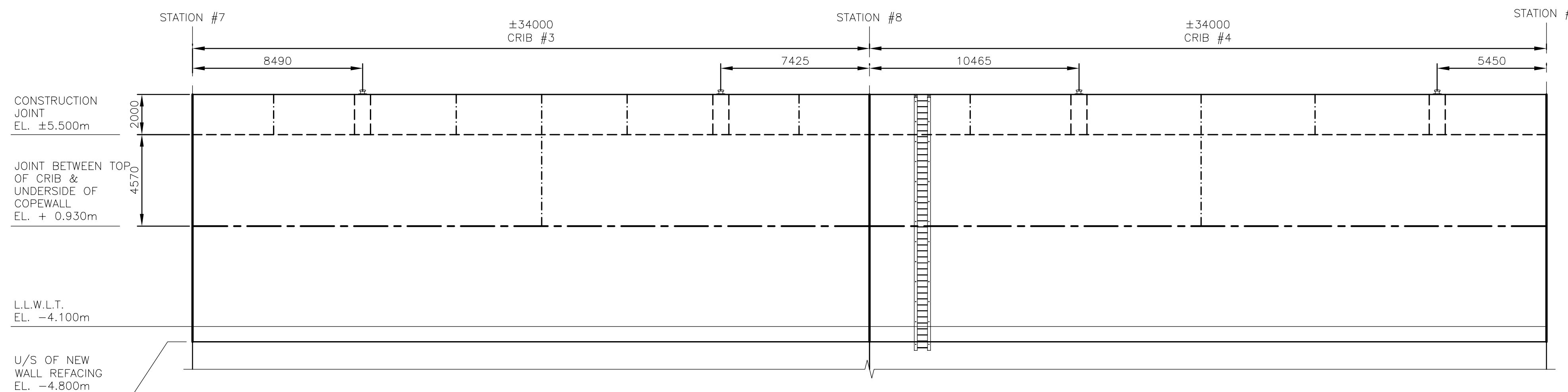
SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO: 20-2454
<b>NEW SITE PLAN</b>	SHEET NO: <b>S9</b>



1 ELEVATION - SEA WALL - STATION #1 TO #4  
10 1:150



2 ELEVATION - SEA WALL - STATION #4 TO #7  
10 1:150



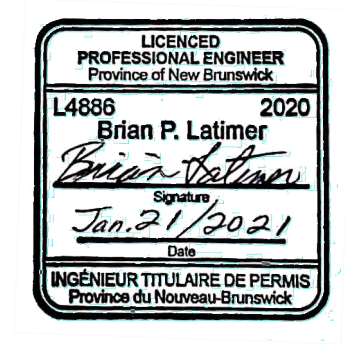
3 ELEVATION - SEA WALL - STATION #7 TO #9  
10 1:150

- NOTES:
- ALL EXPANSION JOINTS AND CONTROL JOINTS EXTENDING ACROSS THE EXISTING COPE WALL SHALL BE MATCHED TO EXISTING JOINTS IN THE FIELD.
  - THE UNDERSIDE OF THE EXISTING CONCRETE FACING ON THE CONCRETE-ENCASED SSP WALL IS UNKNOWN. THE UNDERSIDE ELEVATION OF THE NEW REFACING MAY BE ADJUSTED BASED ON THE UNCOVERED LOCATION OF THE EXISTING CONCRETE FACING.
  - ARCHITECTURAL FORM LINER FINISH FOR NEW RAISED WALL FROM STATIONS #1-5 NOT SHOWN. REFER TO SHEET S24. CONTROL JOINTS IN NEW RAISED WALL AT STATIONS #1-5 TO OCCUR AT INTERSECTIONS IN FORM LINER PANELS.

- LEGEND:
- HORIZONTAL CONTROL JOINT (SEE 3/S19)
  - VERTICAL CONTROL JOINT - JOINT DETAIL ON SEAWARD FACE, UPPER FACE, AND ON LANDWARD FACE OF RAISED WALL (SEE 7/S19)
  - VERTICAL CONTROL JOINT - JOINT DETAIL ON SEAWARD FACE AND UPPER FACE ONLY (SEE 7/S19 & 1/S21)
  - EXPANSION JOINT (SEE 1/S22)

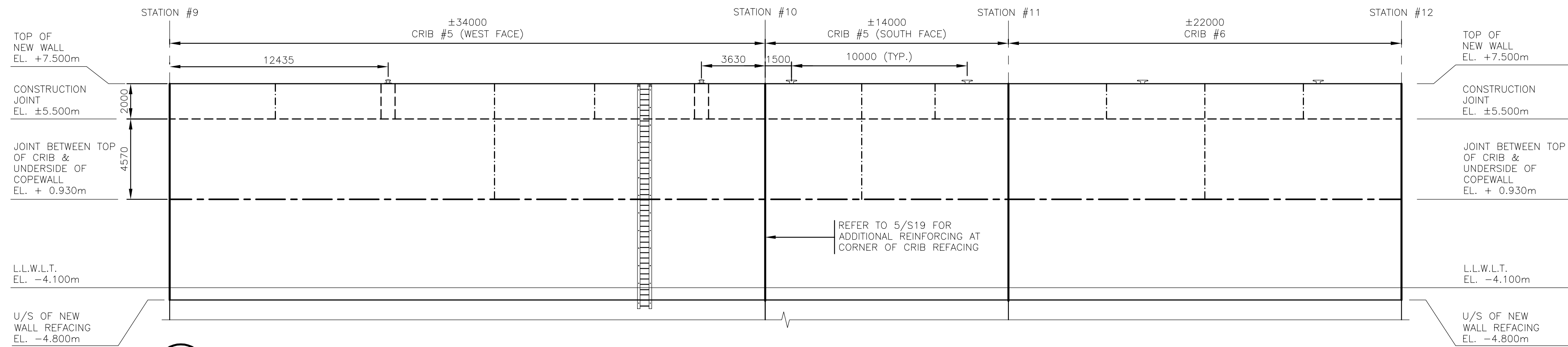
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 PLOT DATE: 2021-01-21 @ 1:58:33 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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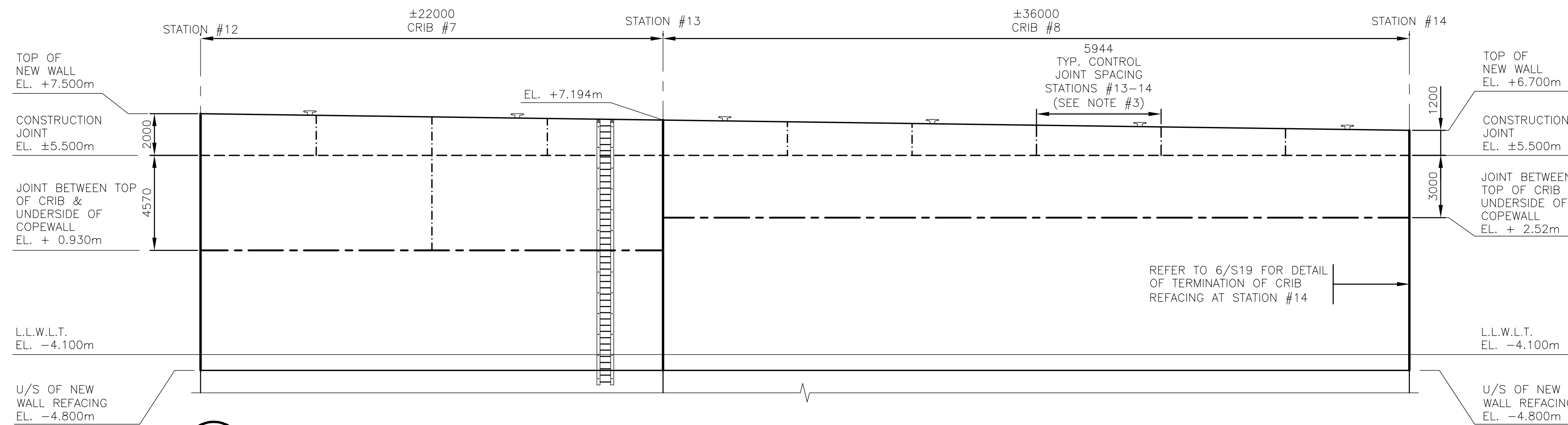


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C	ISSUED FOR DRAFT CONCEPT DESIGN REPORT	09-09-20	PB
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A	ISSUED FOR DRAFT GHG ASSESSMENT REPORT	15-04-20	PB

DESIGN: WH	REVIEWED BY: BL	SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO: 20-2454
DRAWN: PB	CHECKED BY: WH		
DATE: 22/01/2021		NEW WALL ELEVATIONS - STATIONS #1-9	SHEET NO: S10
SCALE: AS SHOWN			



1 ELEVATION - SEA WALL - STATION #9 TO #12  
11 1:100



2 ELEVATION - SEA WALL - STATION #12 TO #14  
11 1:100

- NOTES:
- ALL EXPANSION JOINTS AND CONTROL JOINTS EXTENDING ACROSS THE EXISTING COPE WALL SHALL BE MATCHED TO EXISTING JOINTS IN THE FIELD.
  - THE UNDERSIDE OF THE EXISTING CONCRETE FACING ON THE CONCRETE-ENCASED SSP WALL IS UNKNOWN. THE UNDERSIDE ELEVATION OF THE NEW REFACING MAY BE ADJUSTED BASED ON THE UNCOVERED LOCATION OF THE EXISTING CONCRETE FACING.
  - ARCHITECTURAL FORM LINER FINISH FOR NEW RAISED WALL FROM STATIONS #10-14 NOT SHOWN. REFER TO SHEET S25. CONTROL JOINTS IN NEW RAISED WALL AT STATIONS #10-14 TO OCCUR AT INTERSECTIONS IN FORM LINER PANELS.

- LEGEND:
- HORIZONTAL CONTROL JOINT (SEE 3/S19)
  - - - - - VERTICAL CONTROL JOINT - JOINT DETAIL ON SEAWARD FACE, UPPER FACE, AND ON LANDWARD FACE OF RAISED WALL (SEE 7/S19)
  - - - - - VERTICAL CONTROL JOINT - JOINT DETAIL ON SEAWARD FACE AND UPPER FACE ONLY (SEE 7/S19 & 1/S21)
  - ===== EXPANSION JOINT (SEE 1/S22)

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\STATION#9-14\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
 PLOT DATE: 2021-01-21 @ 1:58:45 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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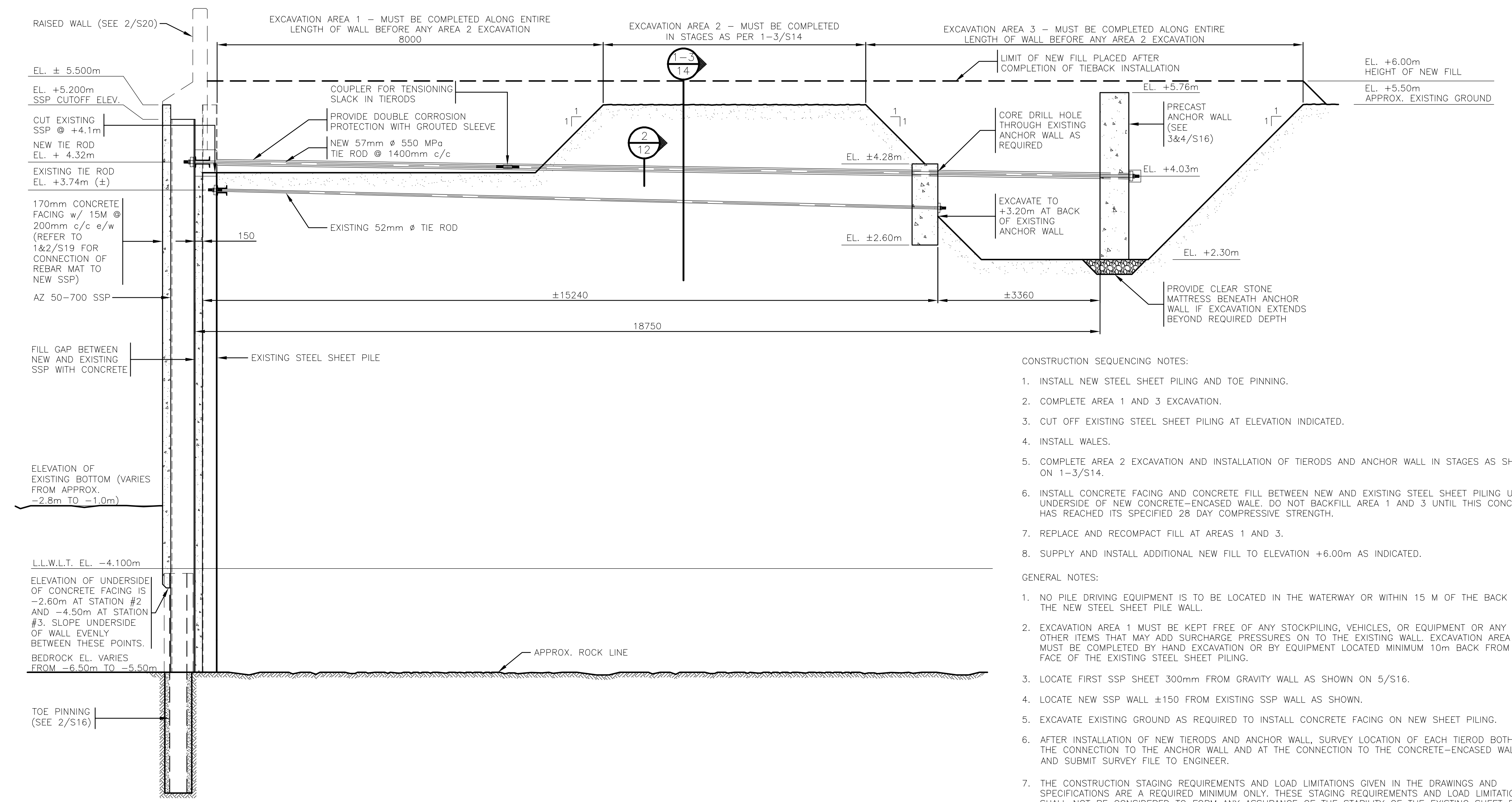


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0	ISSUED FOR TENDER	22-01-21	PB
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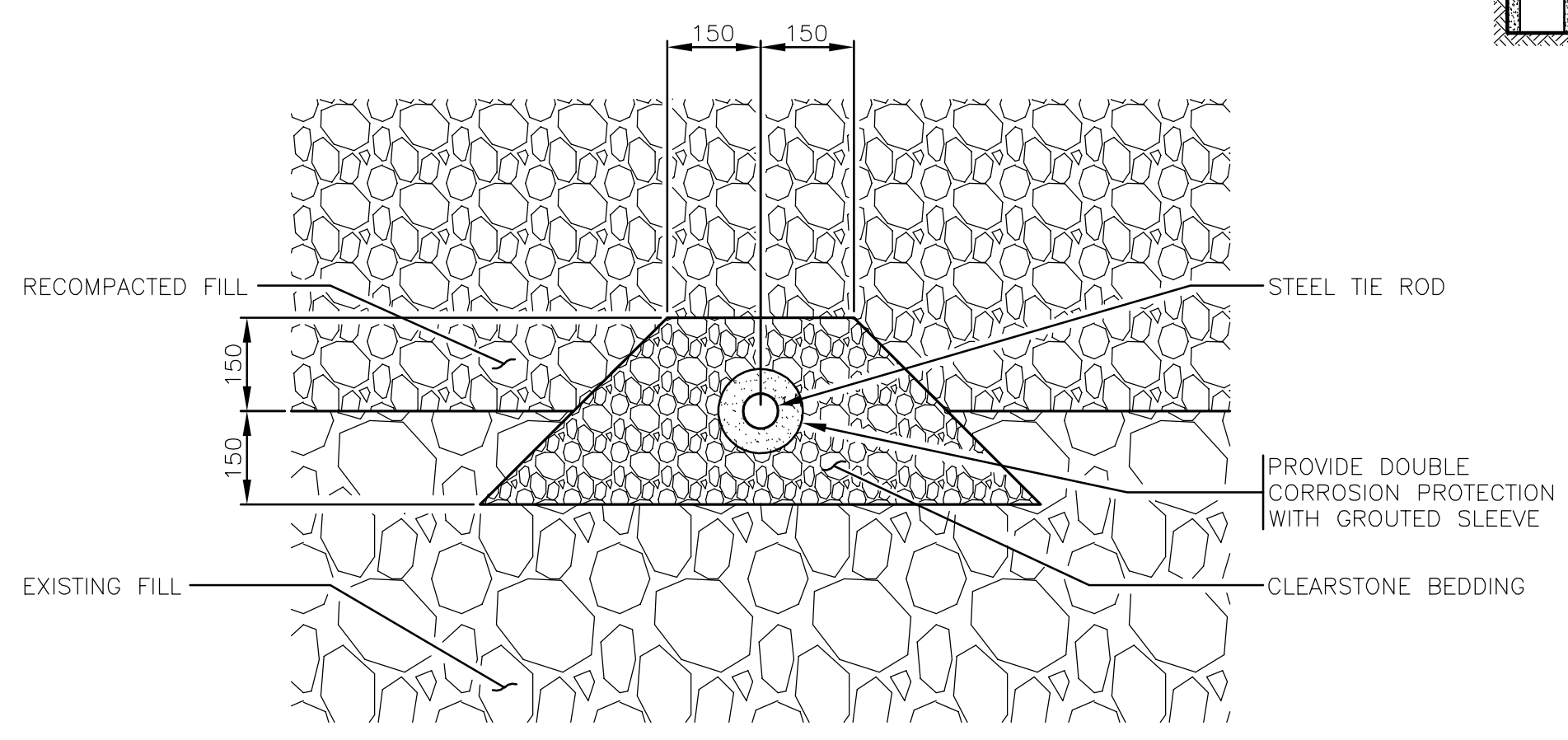
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DRAWN	PB	CHECKED BY	WH
DATE	July 23, 2021		
SCALE	AS SHOWN		

SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO. 20-2454
NEW WALL ELEVATIONS - STATIONS #9-14		SHEET NO. <b>S11</b>



- CONSTRUCTION SEQUENCING NOTES:
1. INSTALL NEW STEEL SHEET PILING AND TOE PINNING.
  2. COMPLETE AREA 1 AND 3 EXCAVATION.
  3. CUT OFF EXISTING STEEL SHEET PILING AT ELEVATION INDICATED.
  4. INSTALL WALES.
  5. COMPLETE AREA 2 EXCAVATION AND INSTALLATION OF TIERODS AND ANCHOR WALL IN STAGES AS SHOWN ON 1-3/S14.
  6. INSTALL CONCRETE FACING AND CONCRETE FILL BETWEEN NEW AND EXISTING STEEL SHEET PILING UP TO UNDERSIDE OF NEW CONCRETE-ENCASED WALE. DO NOT BACKFILL AREA 1 AND 3 UNTIL THIS CONCRETE HAS REACHED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
  7. REPLACE AND RECOMPACT FILL AT AREAS 1 AND 3.
  8. SUPPLY AND INSTALL ADDITIONAL NEW FILL TO ELEVATION +6.00m AS INDICATED.
- GENERAL NOTES:
1. NO PILE DRIVING EQUIPMENT IS TO BE LOCATED IN THE WATERWAY OR WITHIN 15 M OF THE BACK OF THE NEW STEEL SHEET PILE WALL.
  2. EXCAVATION AREA 1 MUST BE KEPT FREE OF ANY STOCKPILING, VEHICLES, OR EQUIPMENT OR ANY OTHER ITEMS THAT MAY ADD SURCHARGE PRESSURES ON TO THE EXISTING WALL. EXCAVATION AREA 1 MUST BE COMPLETED BY HAND EXCAVATION OR BY EQUIPMENT LOCATED MINIMUM 10m BACK FROM THE FACE OF THE EXISTING STEEL SHEET PILING.
  3. LOCATE FIRST SSP SHEET 300mm FROM GRAVITY WALL AS SHOWN ON 5/S16.
  4. LOCATE NEW SSP WALL ±150 FROM EXISTING SSP WALL AS SHOWN.
  5. EXCAVATE EXISTING GROUND AS REQUIRED TO INSTALL CONCRETE FACING ON NEW SHEET PILING.
  6. AFTER INSTALLATION OF NEW TIERODS AND ANCHOR WALL, SURVEY LOCATION OF EACH TIEROD BOTH AT THE CONNECTION TO THE ANCHOR WALL AND AT THE CONNECTION TO THE CONCRETE-ENCASED WALE, AND SUBMIT SURVEY FILE TO ENGINEER.
  7. THE CONSTRUCTION STAGING REQUIREMENTS AND LOAD LIMITATIONS GIVEN IN THE DRAWINGS AND SPECIFICATIONS ARE A REQUIRED MINIMUM ONLY. THESE STAGING REQUIREMENTS AND LOAD LIMITATIONS SHALL NOT BE CONSIDERED TO FORM ANY ASSURANCE OF THE STABILITY OF THE EXISTING SHEET PILE WALL. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO ENSURE STABILITY OF THE EXISTING SHEET PILE WALL THROUGHOUT CONSTRUCTION AND SHALL INCORPORATE ADDITIONAL MEASURES AS DETERMINED BY THE CONTRACTOR TO ENSURE STABILITY OF THE WALL THROUGHOUT CONSTRUCTION.

1 SECTION - NEW STEEL SHEET PILING AND EXCAVATION FOR STAGING  
1:50



2 TIE ROD SECTION  
1:10

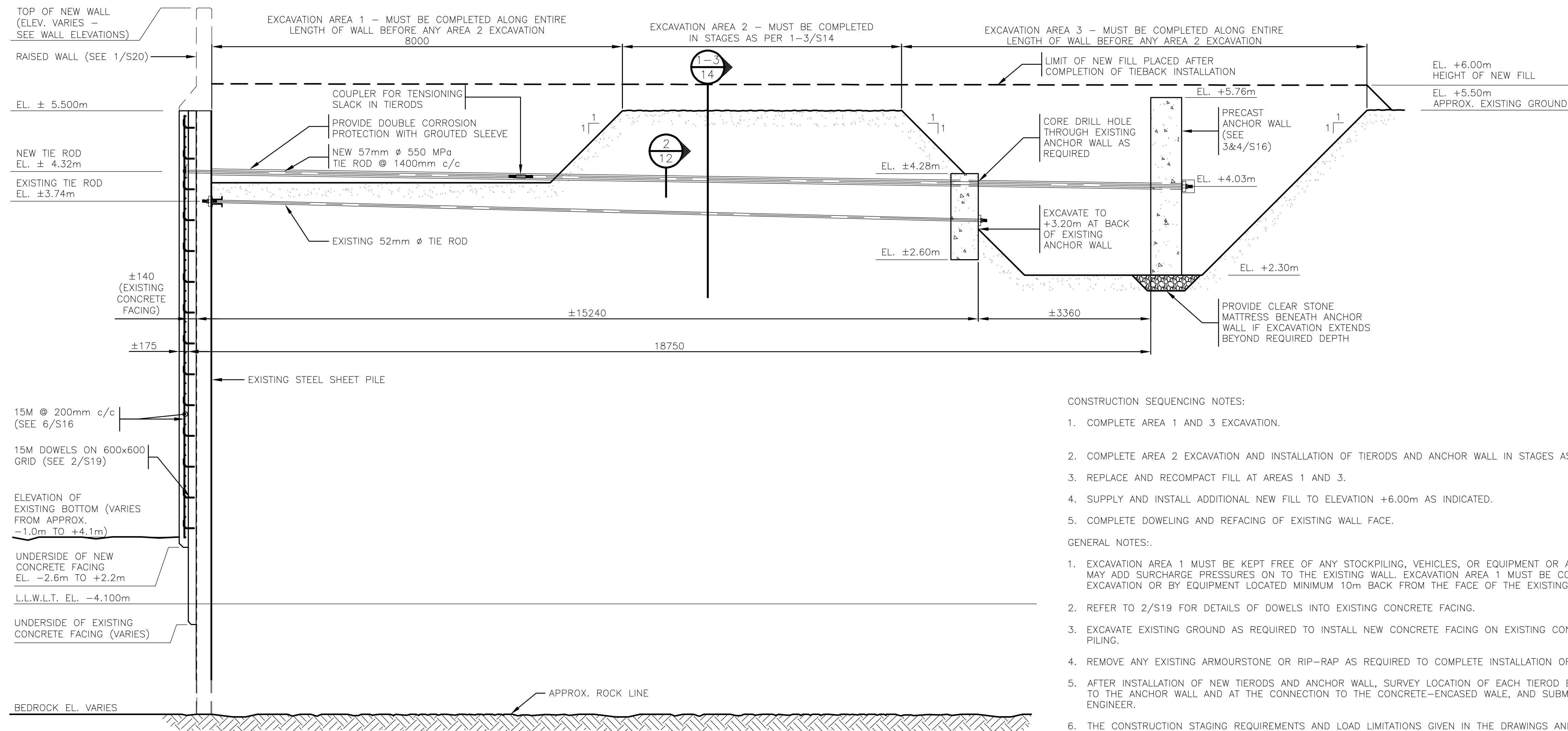
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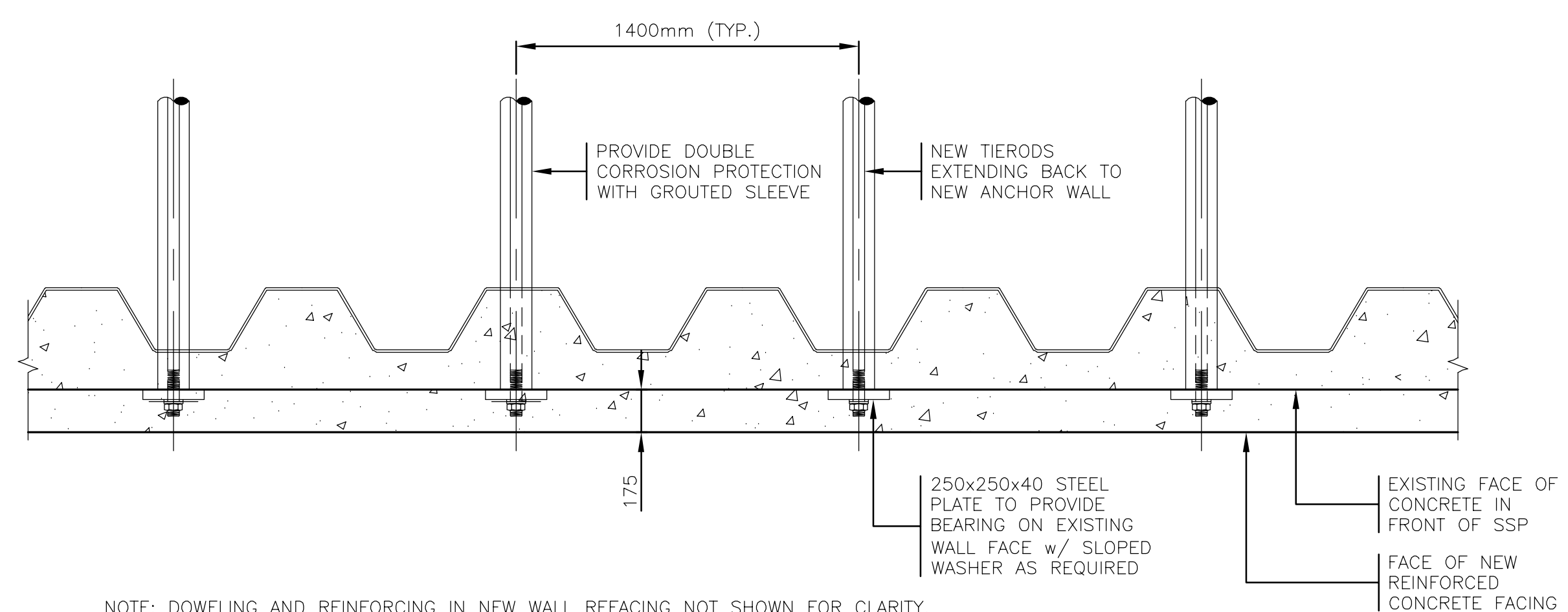
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D	ISSUED FOR 99% REVIEW	22-12-20	PB
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B	ISSUED FOR INSPECTION AND EVALUATION REPORT	23-07-20	PB
A	ISSUED FOR DRAFT GHG ASSESSMENT REPORT	15-04-20	PB
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DESIGN: WH	REVIEWED BY: BL	SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO: 20-2454
DRAWN: PB	CHECKED BY: WH		
DATE: January 4, 2021		SECTIONS - NEW STEEL SHEET PILING	SHEET NO: S12
SCALE: AS SHOWN			



- CONSTRUCTION SEQUENCING NOTES:
1. COMPLETE AREA 1 AND 3 EXCAVATION.
  2. COMPLETE AREA 2 EXCAVATION AND INSTALLATION OF TIERODS AND ANCHOR WALL IN STAGES AS SHOWN ON 1-3/S14.
  3. REPLACE AND RECOMPACT FILL AT AREAS 1 AND 3.
  4. SUPPLY AND INSTALL ADDITIONAL NEW FILL TO ELEVATION +6.00m AS INDICATED.
  5. COMPLETE DOWELING AND REFACING OF EXISTING WALL FACE.
- GENERAL NOTES:
1. EXCAVATION AREA 1 MUST BE KEPT FREE OF ANY STOCKPILING, VEHICLES, OR EQUIPMENT OR ANY OTHER ITEMS THAT MAY ADD SURCHARGE PRESSURES ON TO THE EXISTING WALL. EXCAVATION AREA 1 MUST BE COMPLETED BY HAND EXCAVATION OR BY EQUIPMENT LOCATED MINIMUM 10m BACK FROM THE FACE OF THE EXISTING STEEL SHEET PILING.
  2. REFER TO 2/S19 FOR DETAILS OF DOWELS INTO EXISTING CONCRETE FACING.
  3. EXCAVATE EXISTING GROUND AS REQUIRED TO INSTALL NEW CONCRETE FACING ON EXISTING CONCRETE-ENCASED SHEET PILING.
  4. REMOVE ANY EXISTING ARMOURSTONE OR RIP-RAP AS REQUIRED TO COMPLETE INSTALLATION OF SHEET PILING.
  5. AFTER INSTALLATION OF NEW TIERODS AND ANCHOR WALL, SURVEY LOCATION OF EACH TIEROD BOTH AT THE CONNECTION TO THE ANCHOR WALL AND AT THE CONNECTION TO THE CONCRETE-ENCASED WALL, AND SUBMIT SURVEY FILE TO ENGINEER.
  6. THE CONSTRUCTION STAGING REQUIREMENTS AND LOAD LIMITATIONS GIVEN IN THE DRAWINGS AND SPECIFICATIONS ARE A REQUIRED MINIMUM ONLY. THESE STAGING REQUIREMENTS AND LOAD LIMITATIONS SHALL NOT BE CONSIDERED TO FORM ANY ASSURANCE OF THE STABILITY OF THE EXISTING SHEET PILE WALL. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO ENSURE STABILITY OF THE EXISTING SHEET PILE WALL THROUGHOUT CONSTRUCTION AND SHALL INCORPORATE ADDITIONAL MEASURES AS DETERMINED BY THE CONTRACTOR TO ENSURE STABILITY OF THE WALL THROUGHOUT CONSTRUCTION.

1 SECTION - NEW TIEBACK SYSTEM AND CONCRETE ENCASING AT EXISTING CONCRETE-ENCASED SSP WALL  
13 1:50



NOTE: DOWELING AND REINFORCING IN NEW WALL REFACING NOT SHOWN FOR CLARITY.  
2 PLAN - NEW TIEBACK CONNECTION AT EXISTING CONCRETE-ENCASED SSP WALL  
13 1:20

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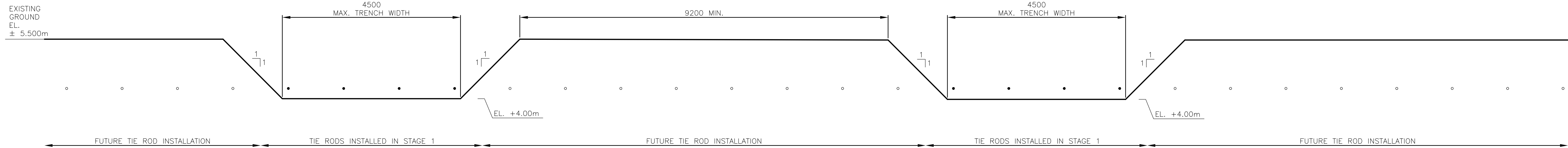
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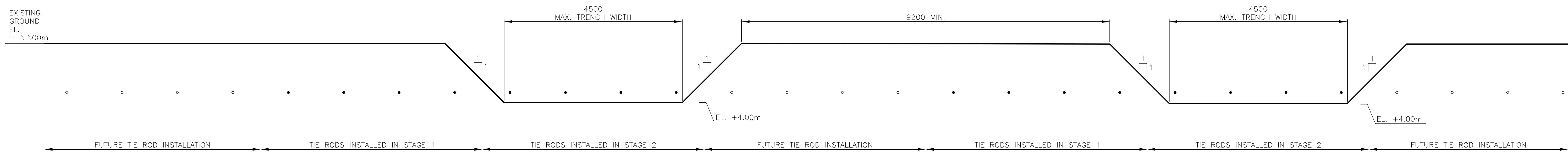
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PB	WH
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SCALE	AS SHOWN

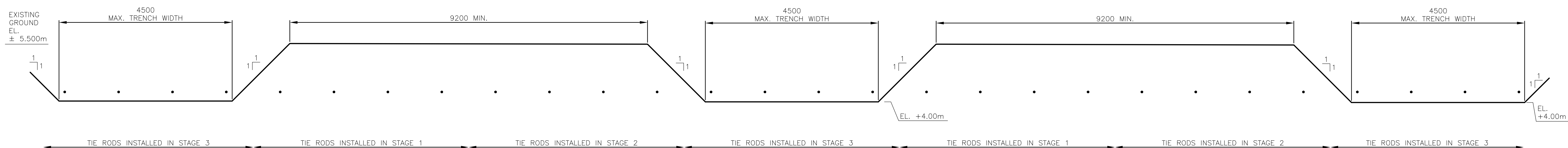
SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO. 20-2454
SECTION AND PLAN - REFACING AND TIE-BACK SYSTEM AT EXISTING CONCRETE-FACED SSP		SHEET NO. <b>S13</b>



1 SECTION – TIE ROD INSTALLATION STAGE 1  
14 1:50



2 SECTION – TIE ROD INSTALLATION STAGE 2  
14 1:50



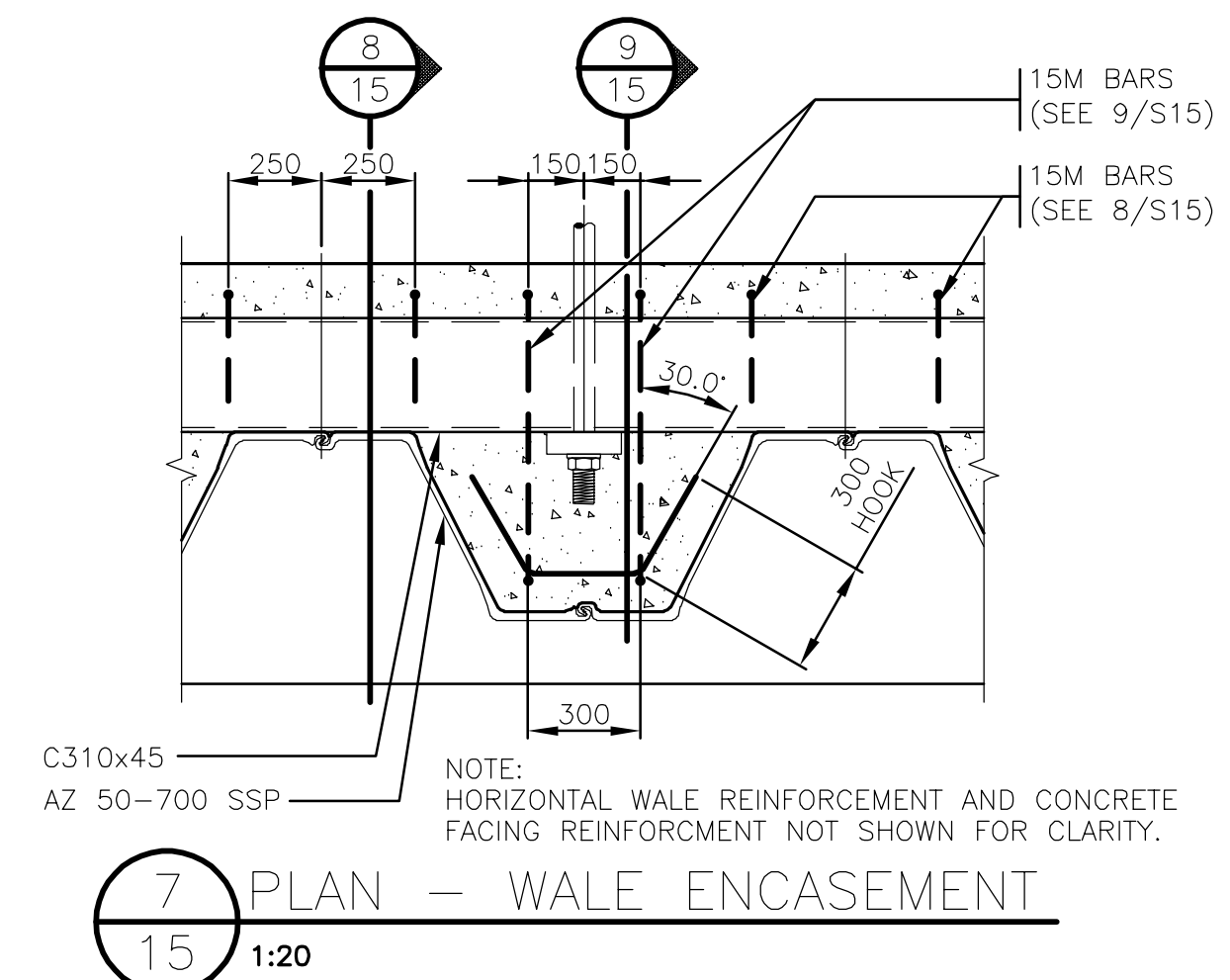
3 SECTION – TIE ROD INSTALLATION STAGE 3  
14 1:50

NOTES:

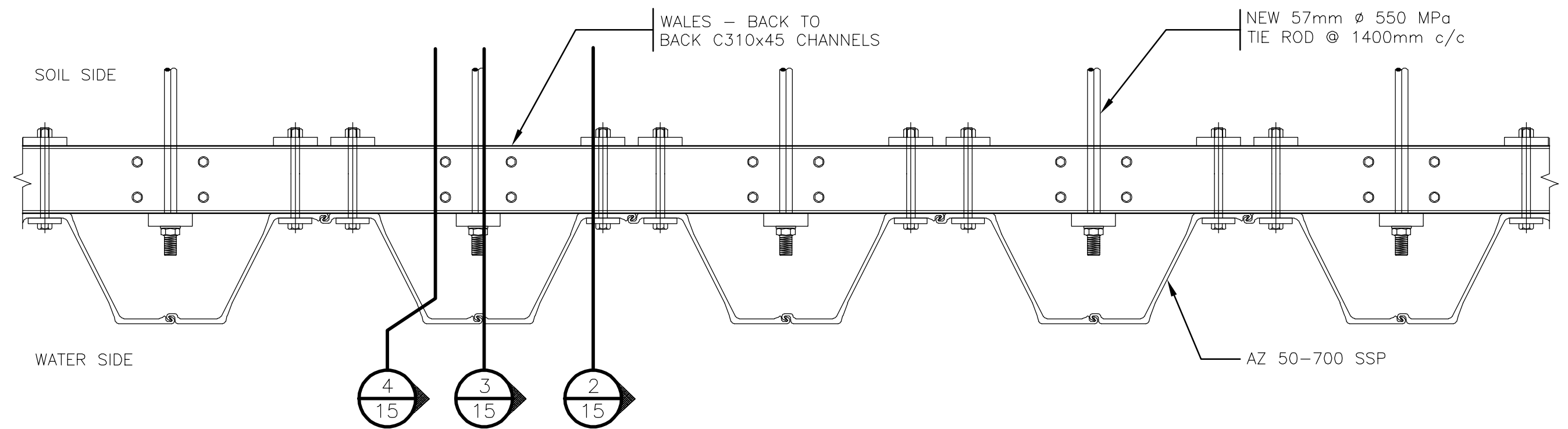
- BACKFILLING AND COMPACTION OF EACH EXCAVATION STAGE MUST BE COMPLETED BEFORE PROCEEDING TO THE NEXT EXCAVATION STAGE.
- EXCAVATION AND TIE ROD INSTALLATION STAGING AS SHOWN ON THIS SHEET IS TYPICAL FOR THE ENTIRE LENGTH OF TIEBACK SYSTEM TO BE INSTALLED AT THE EXISTING CONCRETE-ENCASED AND EXPOSED SSP WALLS.

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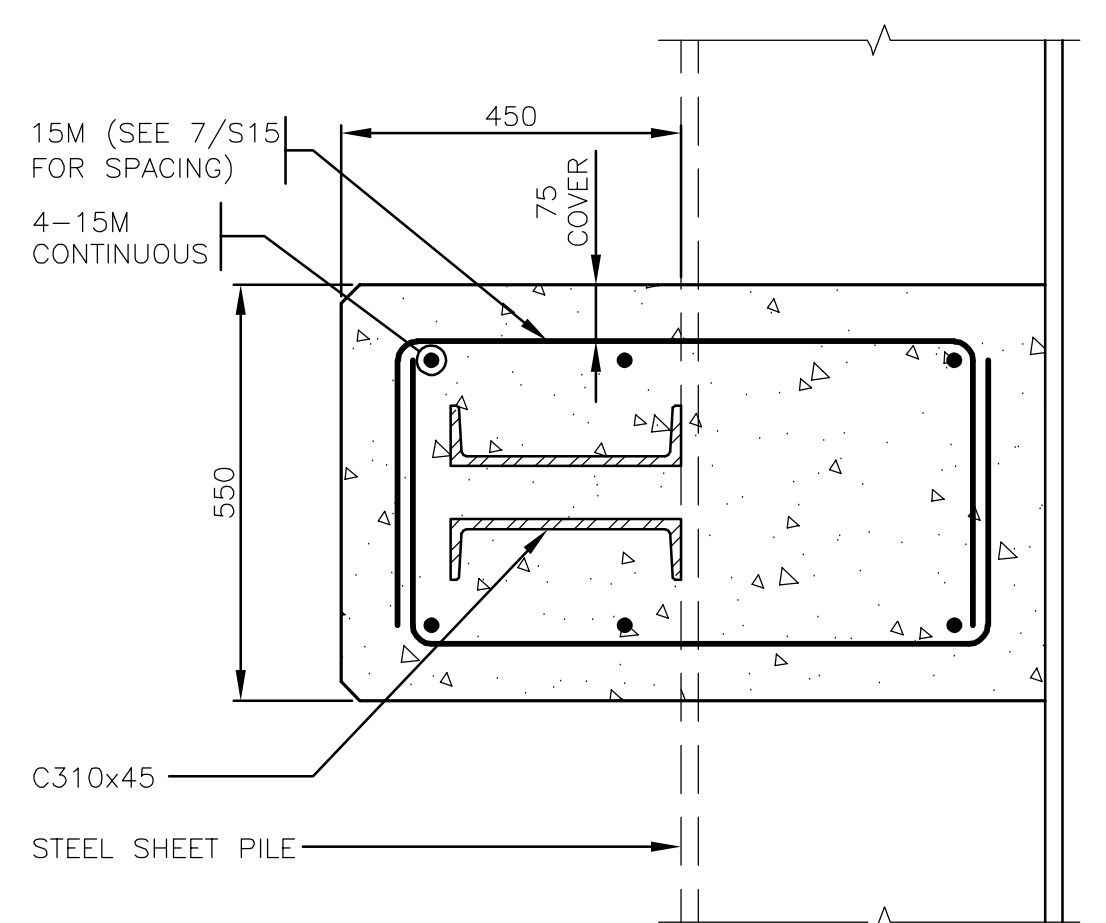
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				SSP TIEBACK EXCAVATION STAGING	SHEET NO: <b>S14</b>																									



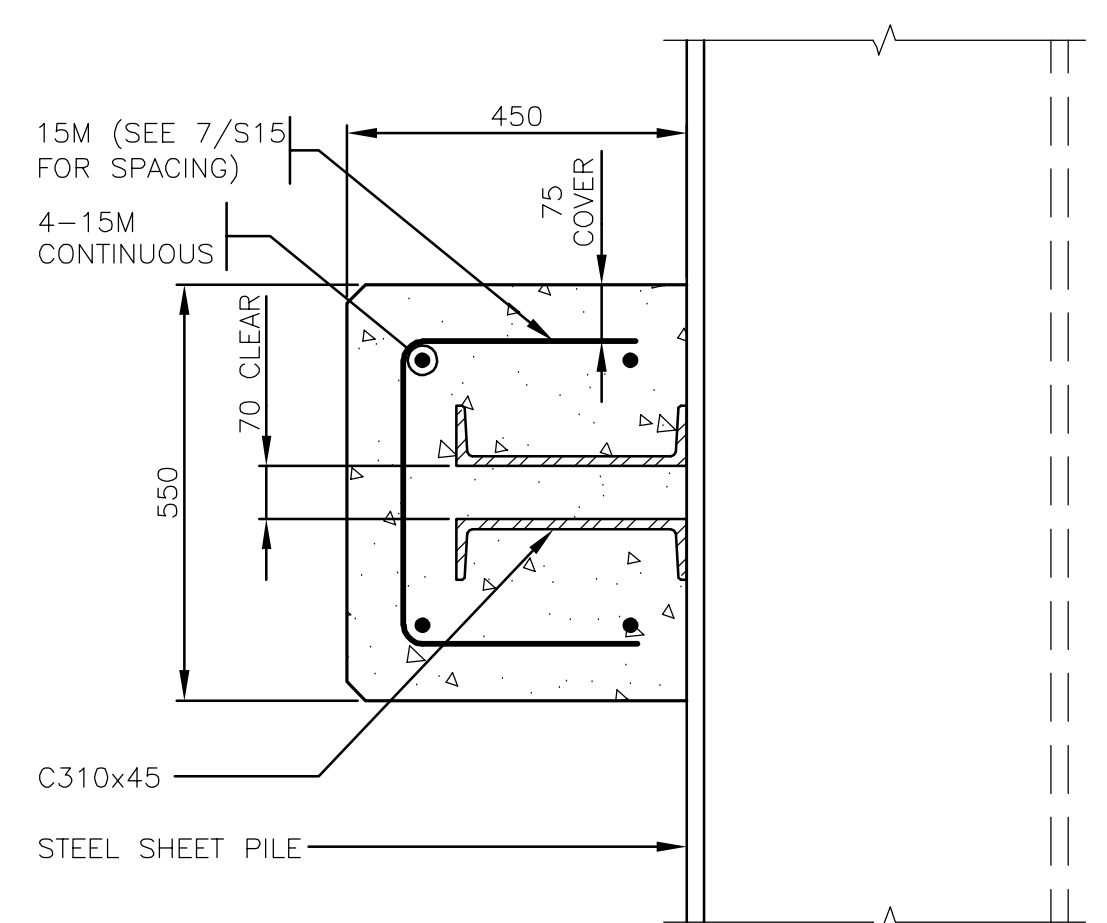
7 PLAN - WALE ENCASEMENT  
15 1:20



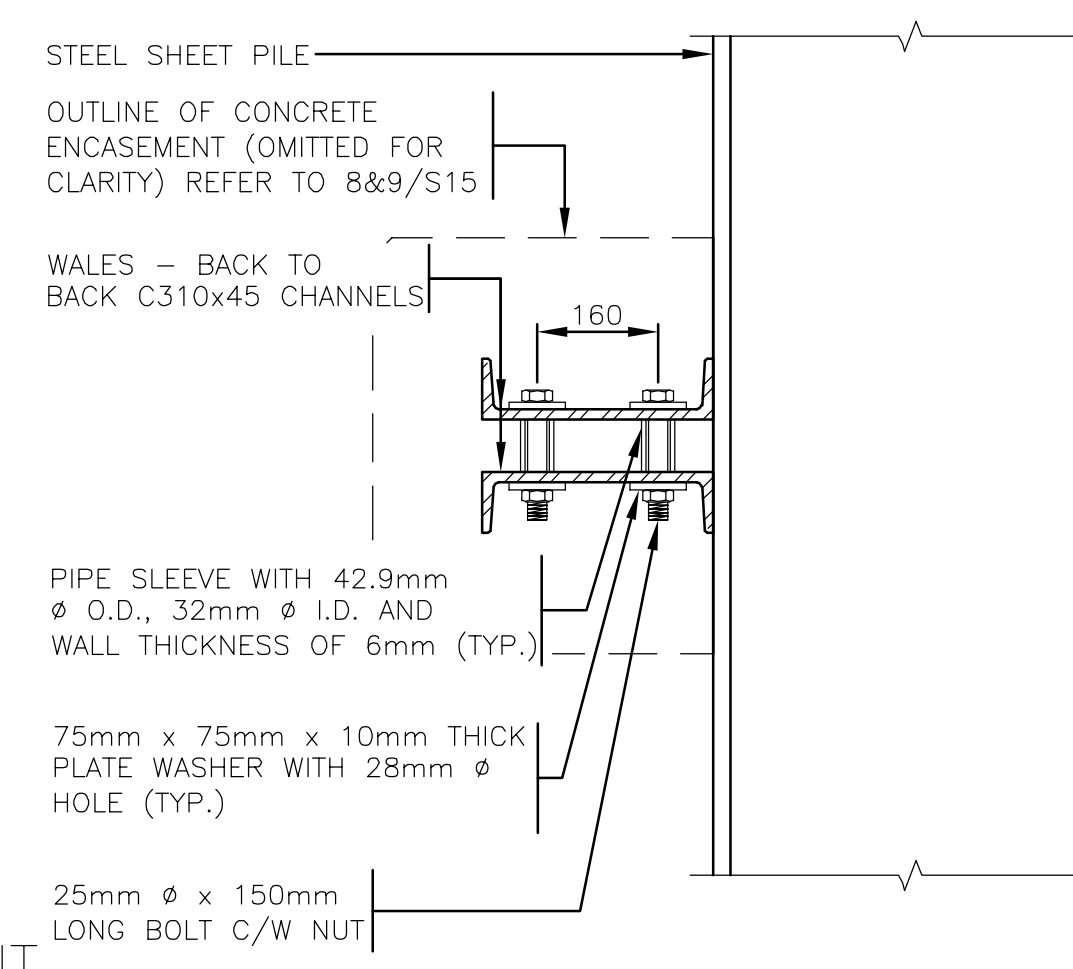
1 PARTIAL PLAN - STEEL SHEET PILING (TYPICAL)  
15 1:20



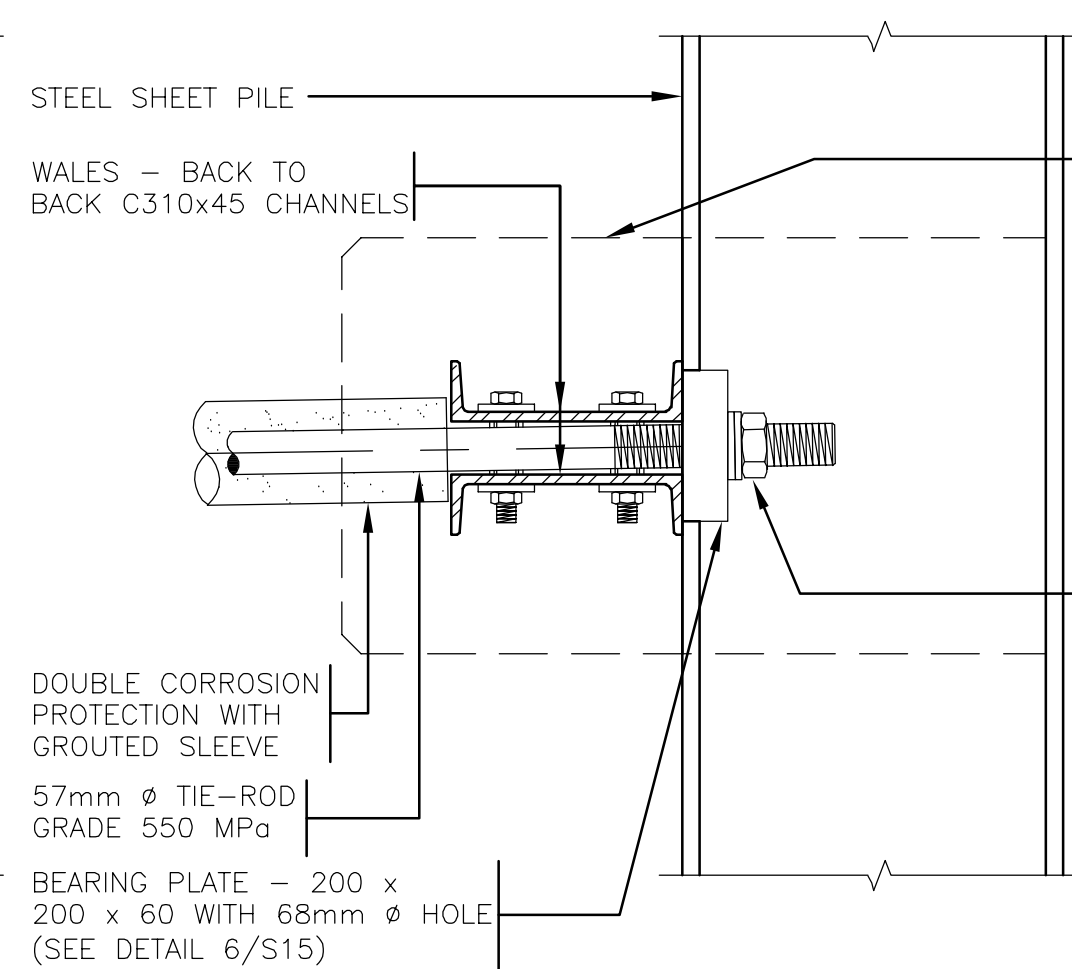
9 SECTION - WALE ENCASEMENT @ SSP OUTPAN  
15 1:10



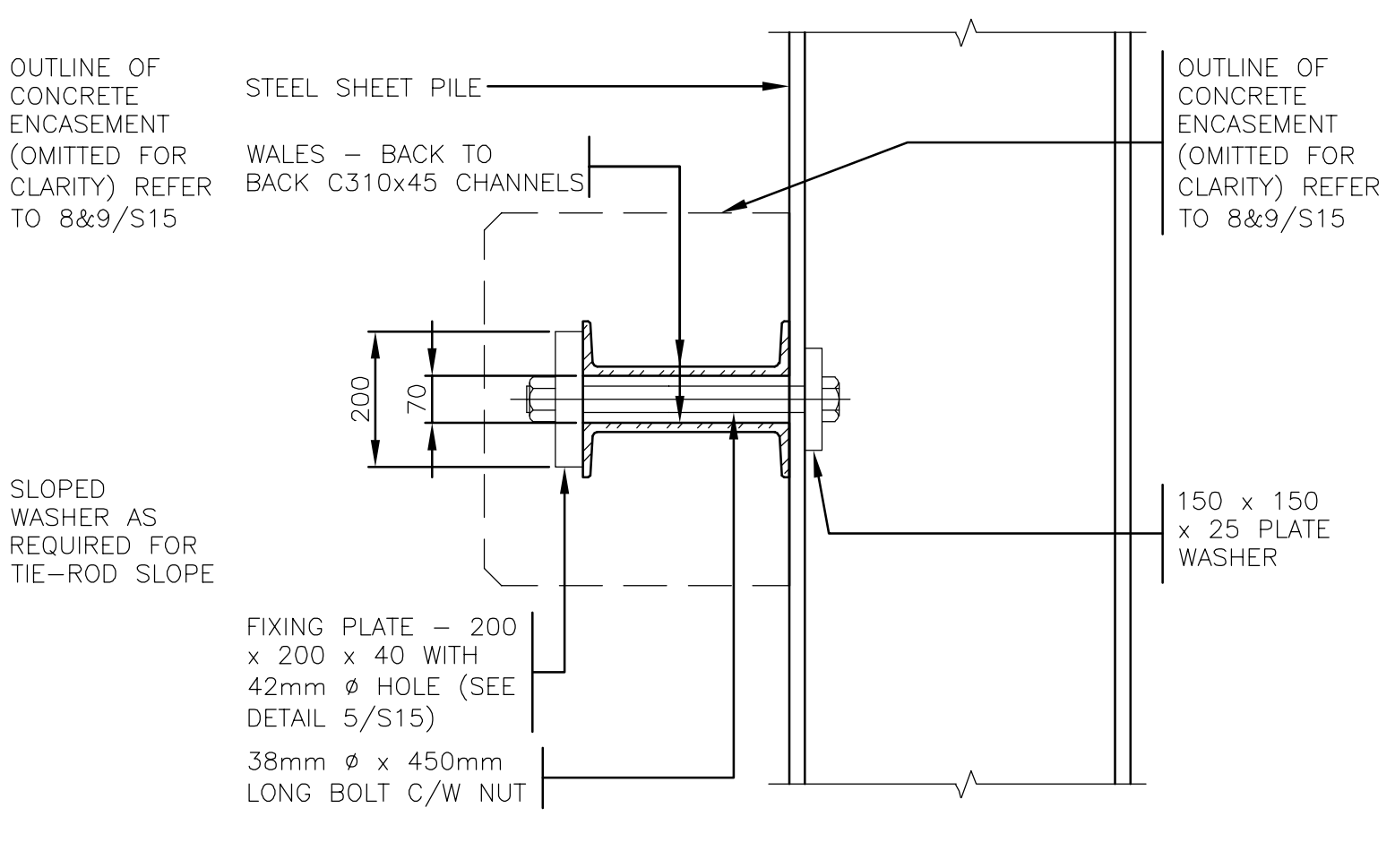
8 SECTION - WALE ENCASEMENT @ SSP INPAN  
15 1:10



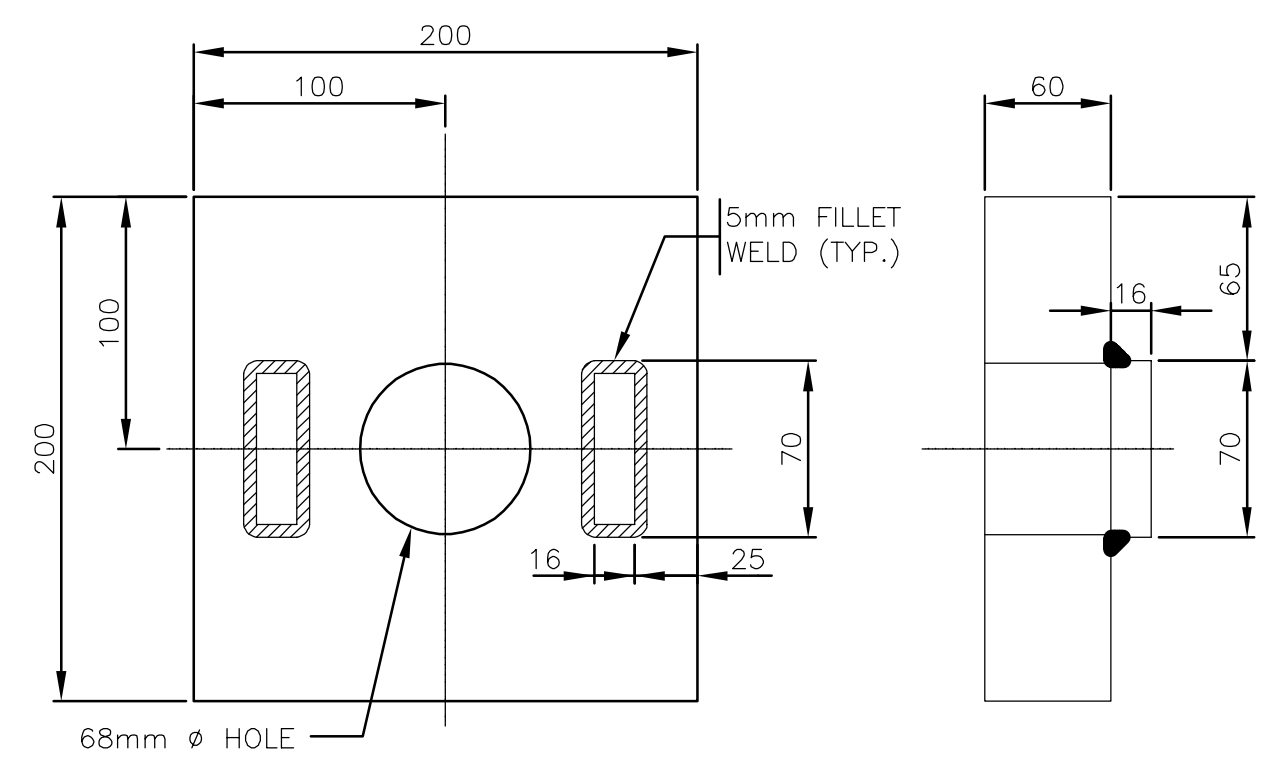
4 SECTION  
15 1:10



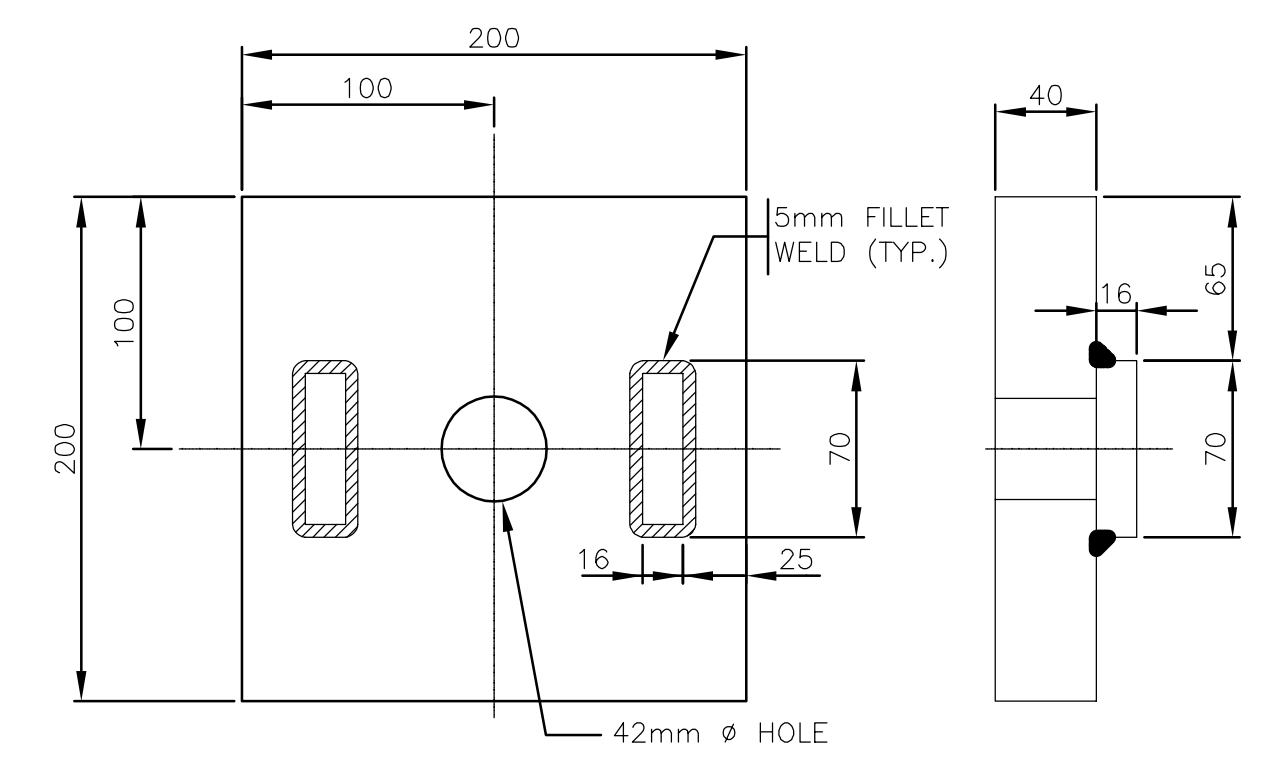
3 SECTION  
15 1:10



2 SECTION  
15 1:10



6 BEARING PLATE DETAIL  
15 1:3



5 FIXING PLATE DETAIL  
15 1:3

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - R.DWG - PLOTTED BY: BAILEY, PHILIP  
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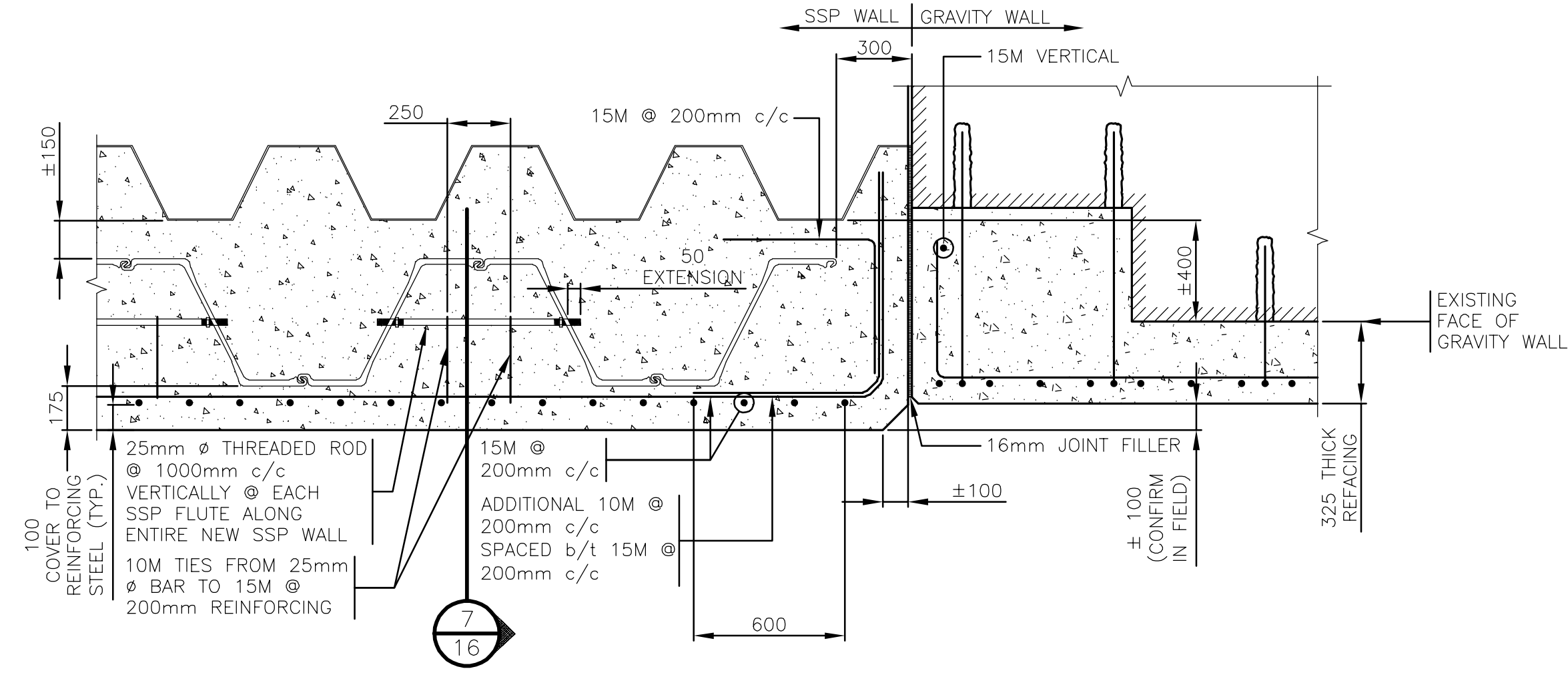
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WH	BL

DRAWN	CHECKED BY
PB	WH

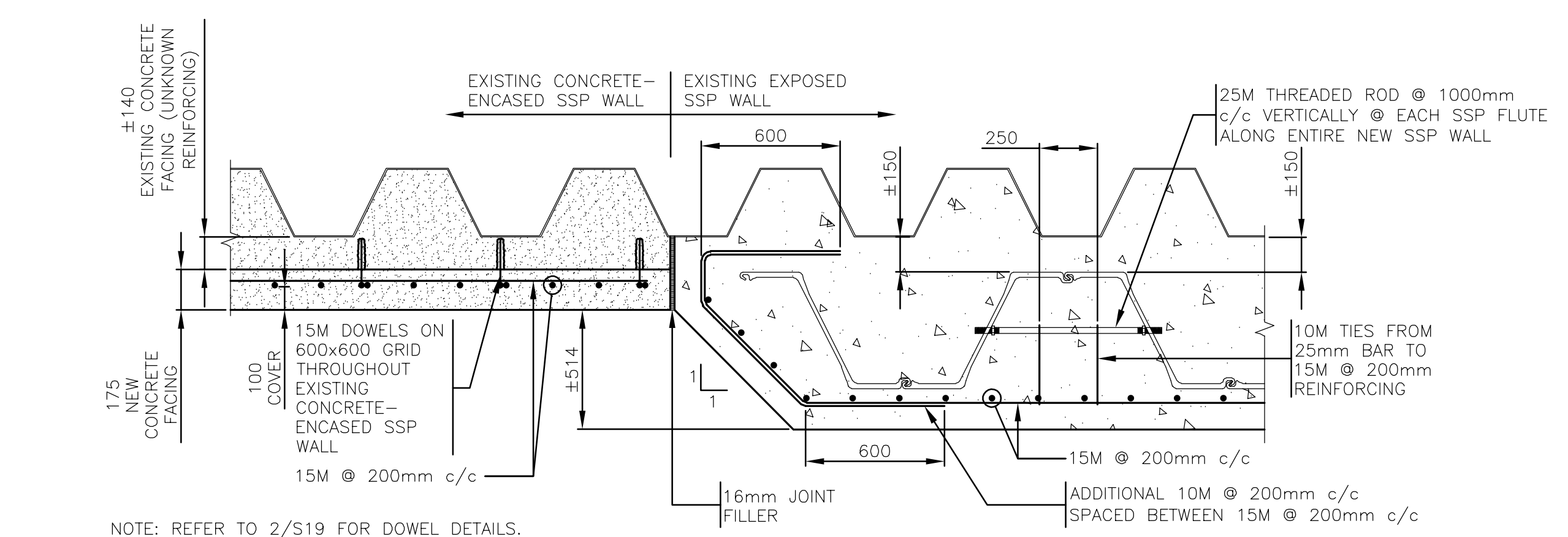
DATE: *January 22, 2021*  
SCALE: AS SHOWN

SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO: 20-2454
SECTIONS AND DETAILS - SSP AND TIEBACK SYSTEM		SHEET NO: <b>S15</b>

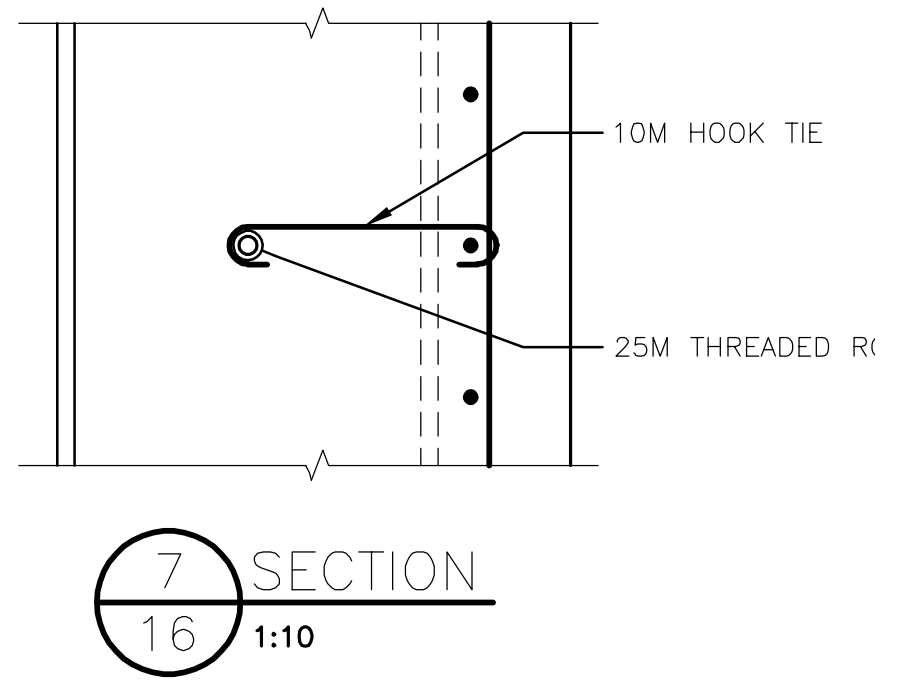




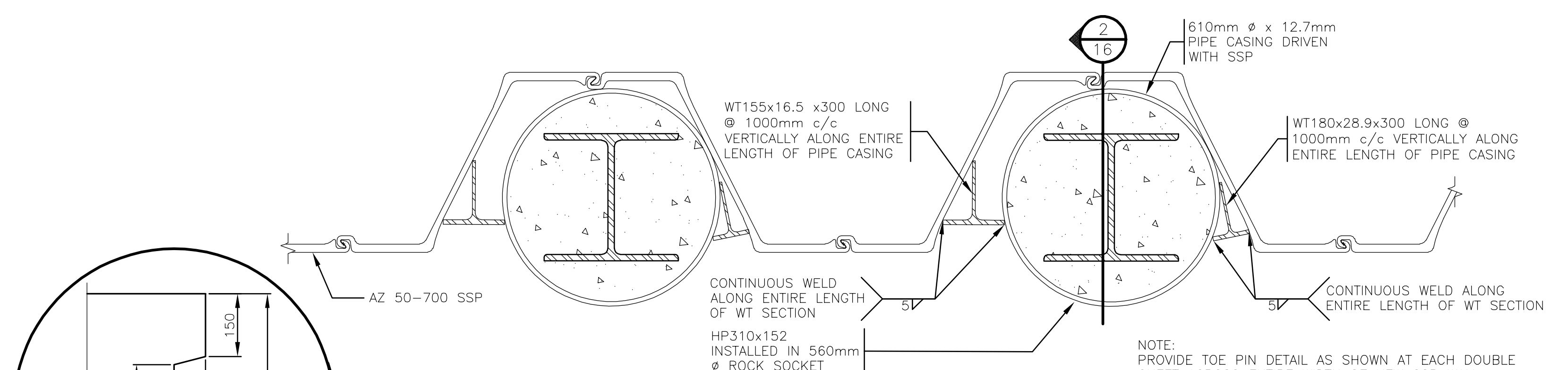
5 DETAIL – TRANSITION FROM GRAVITY WALL TO SSP WALL  
16 1:20



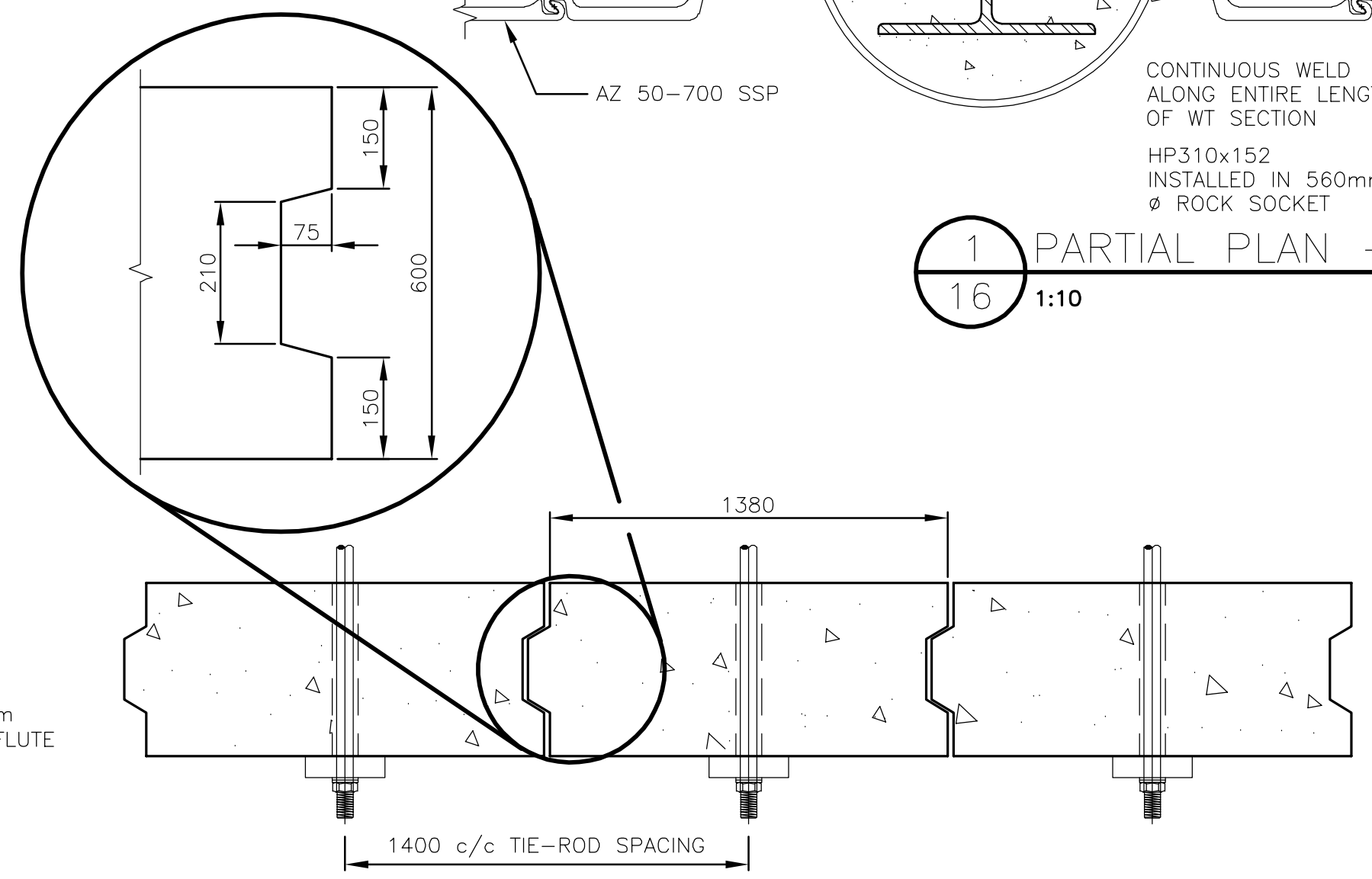
6 DETAIL – TRANSITION FROM CONCRETE-ENCASED TO EXPOSED SSP WALL  
16 1:20



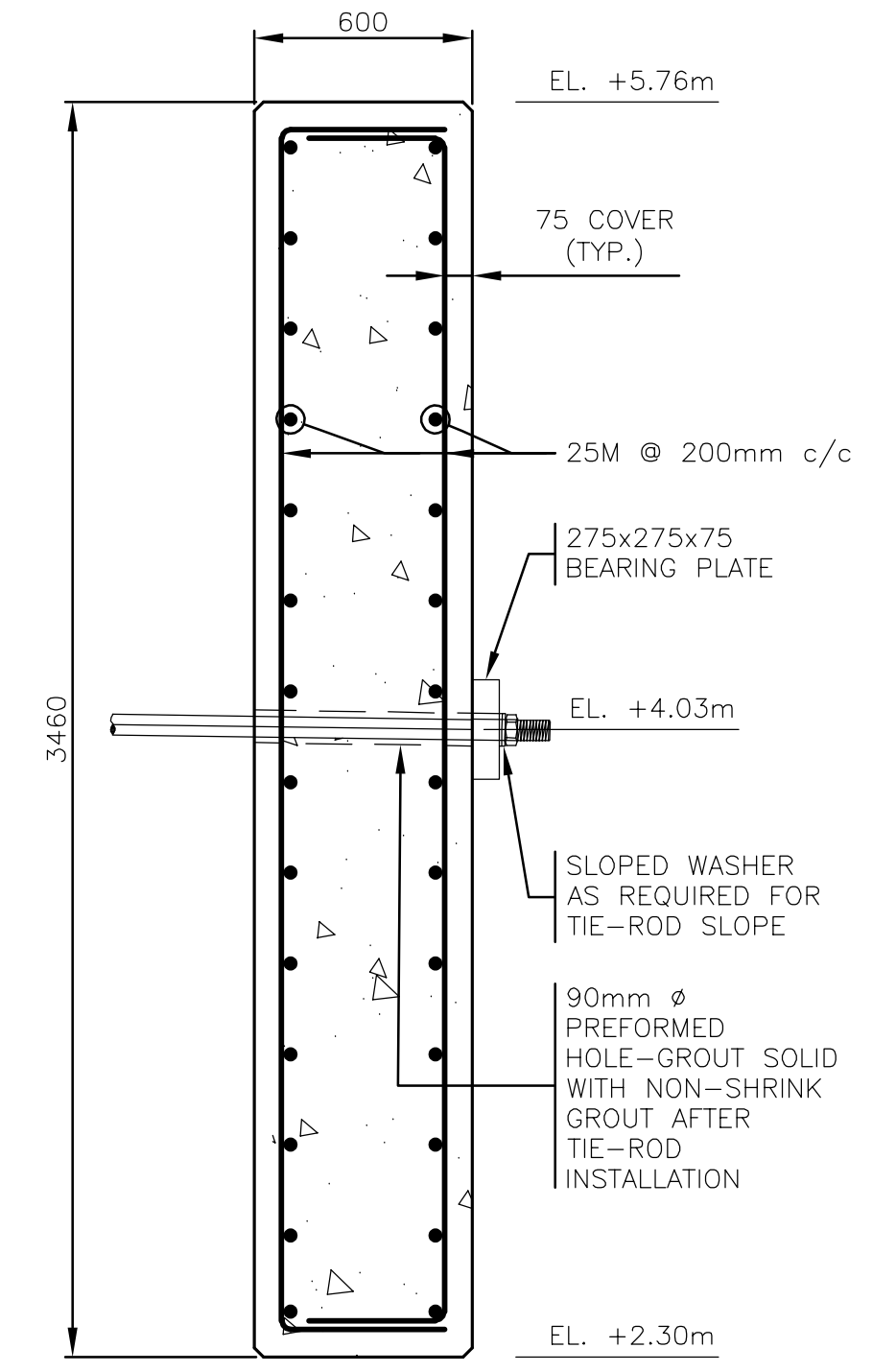
7 SECTION  
16 1:10



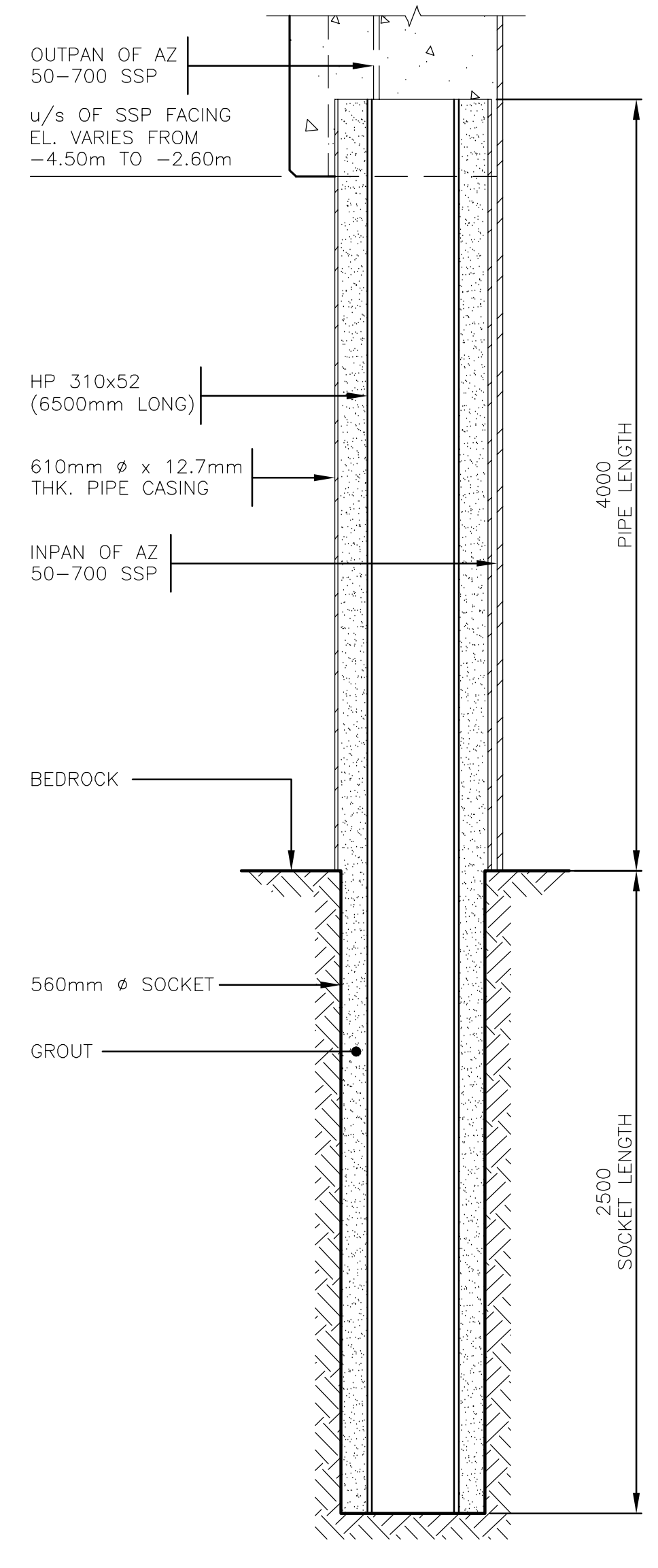
1 PARTIAL PLAN – SSP TOE PINNING  
16 1:10



3 PARTIAL PLAN – PRECAST ANCHOR WALL  
16 1:20



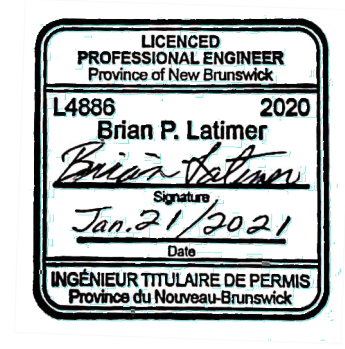
4 SECTION – PRECAST ANCHOR WALL  
16 1:20



2 SECTION – SSP TOE PINNING  
16 1:20

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
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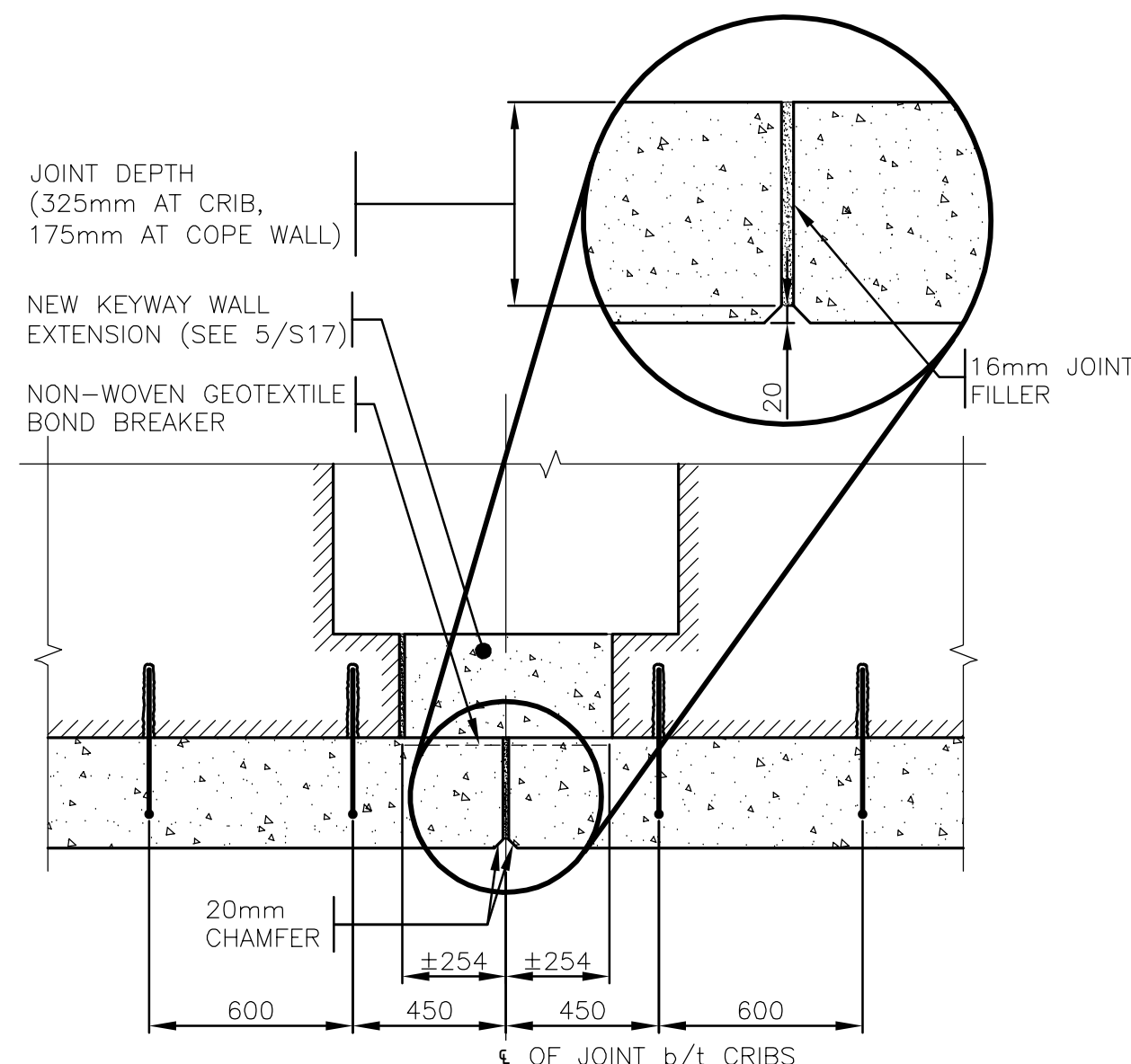
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DRAWN	PB	CHECKED BY	WH
DATE	January 22, 2021		
SCALE	AS SHOWN		

SEAWALL REFURBISHMENT  
 SAINT JOHN, NB

SECTION AND DETAILS -  
 SSP TOE PINNING, ANCHOR  
 WALL AND TRANSITIONS

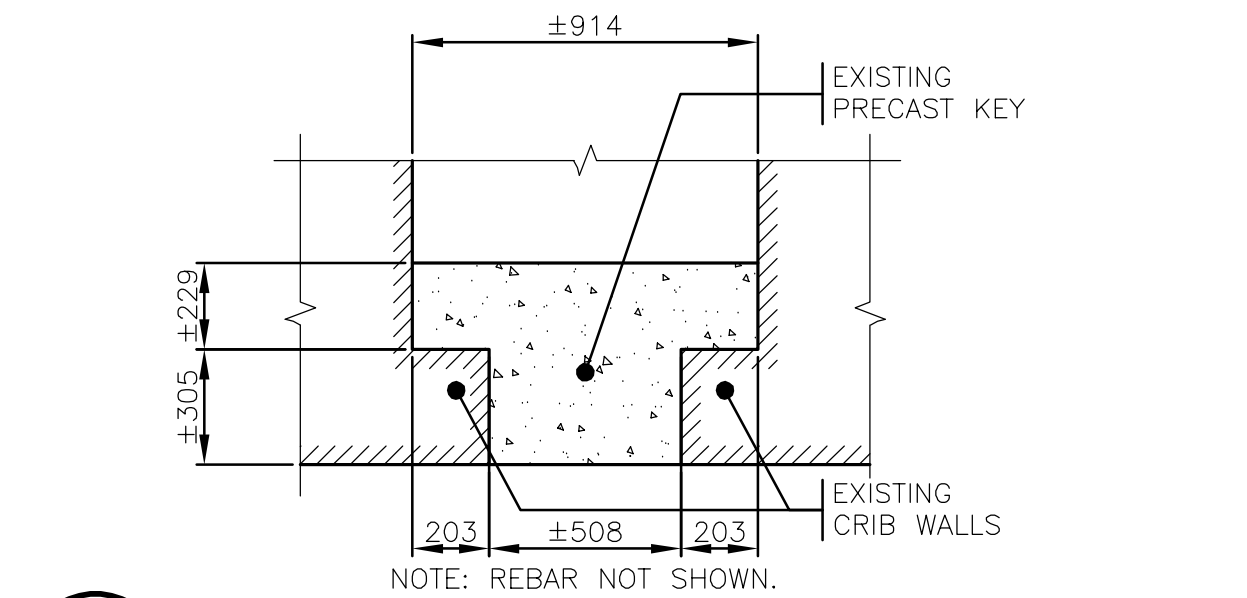
PROJECT NO.  
20-2454

SHEET NO.  
**S16**

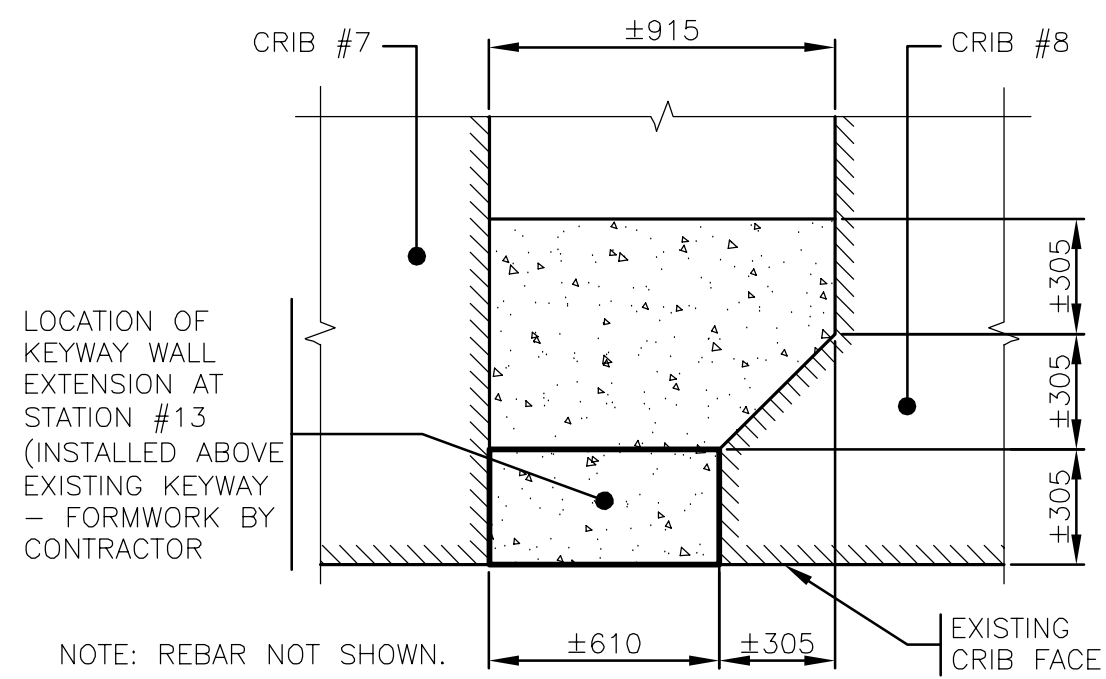


NOTE: LOCATION OF FIRST COLUMN OF DOWELS SIMILAR BELOW AND ABOVE HEIGHT OF NEW KEYWAY WALL EXTENSION.

**6**  
17 1:20  
DETAIL - DOWEL LOCATIONS AT KEYWAY WALL EXTENSION LOCATIONS

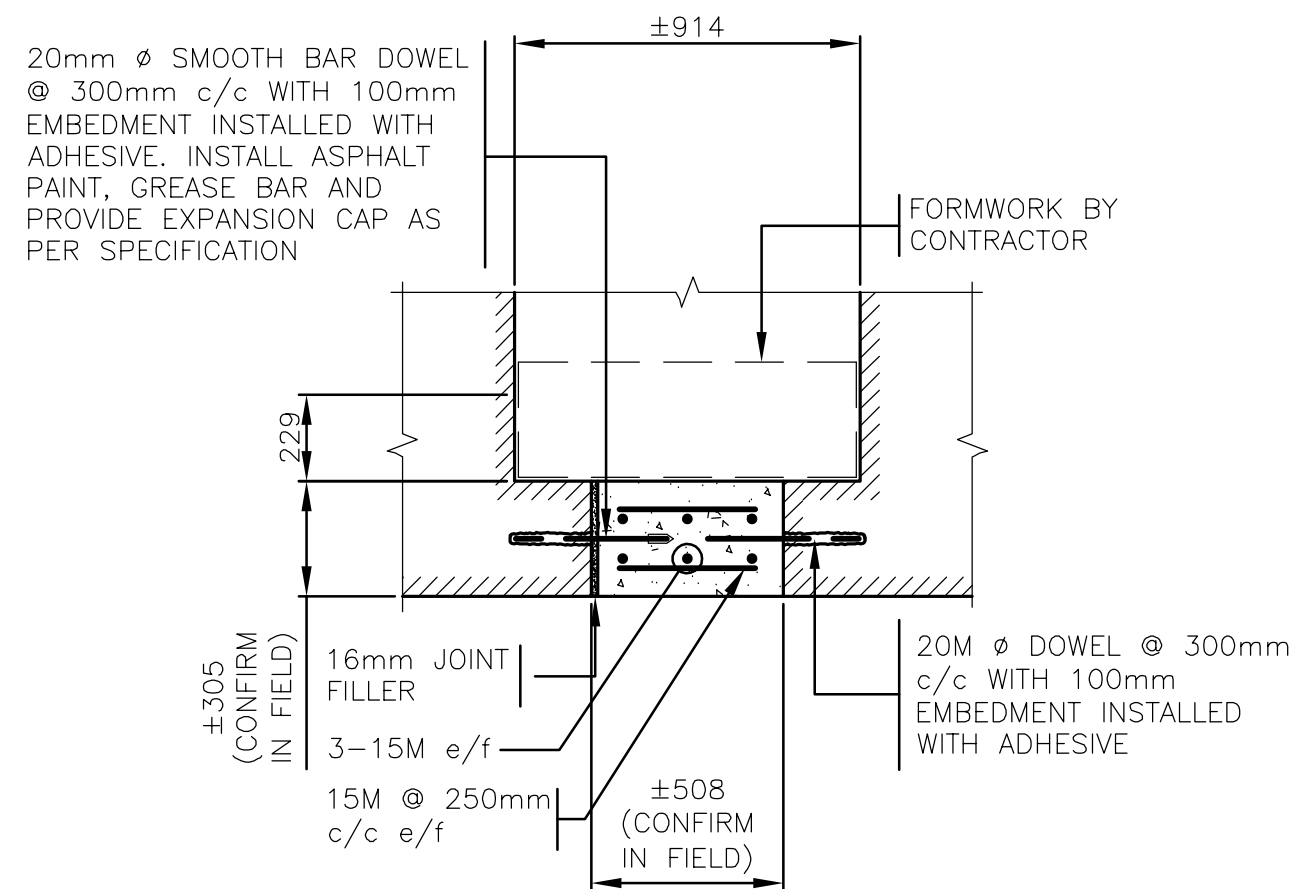


**3**  
17 1:20  
SECTION - EXISTING PRE-CAST KEY



LOCATION OF KEYWAY WALL EXTENSION AT STATION #13 (INSTALLED ABOVE EXISTING KEYWAY - FORMWORK BY CONTRACTOR)

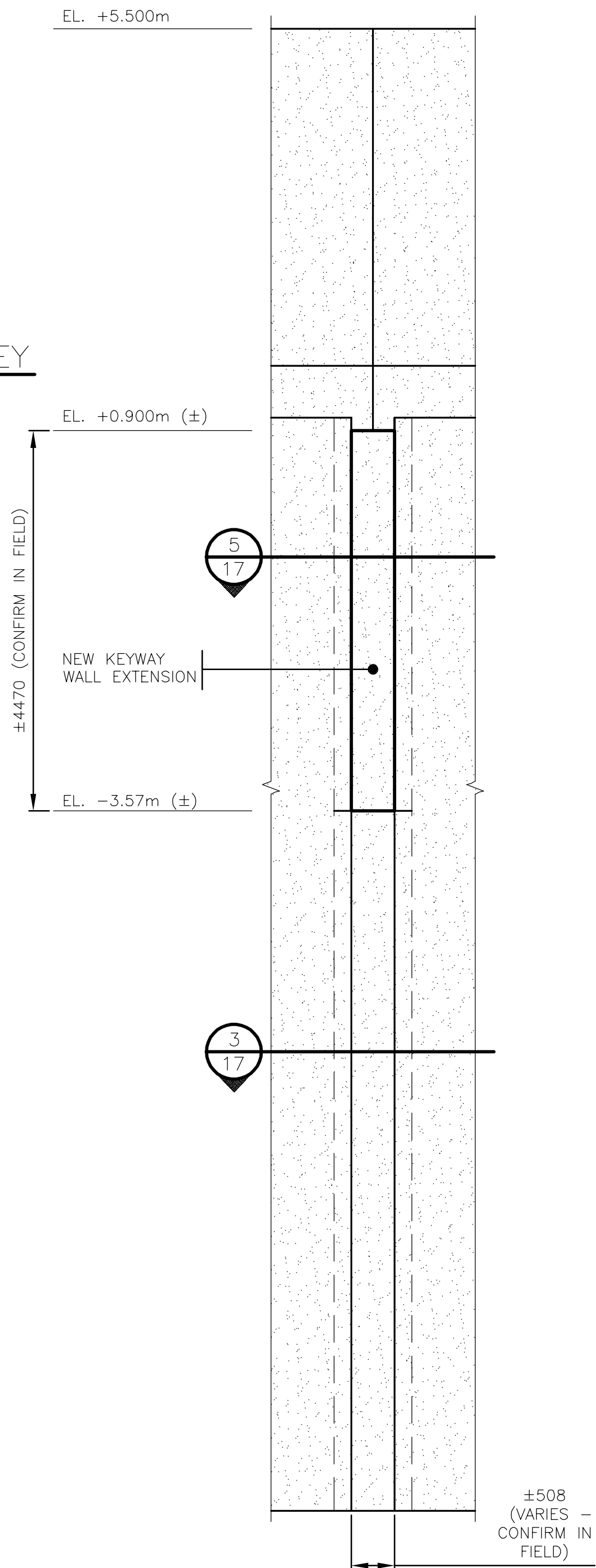
**4**  
17 1:20  
DETAIL - EXISTING AND NEW KEYWAY WALL AT STATION #13



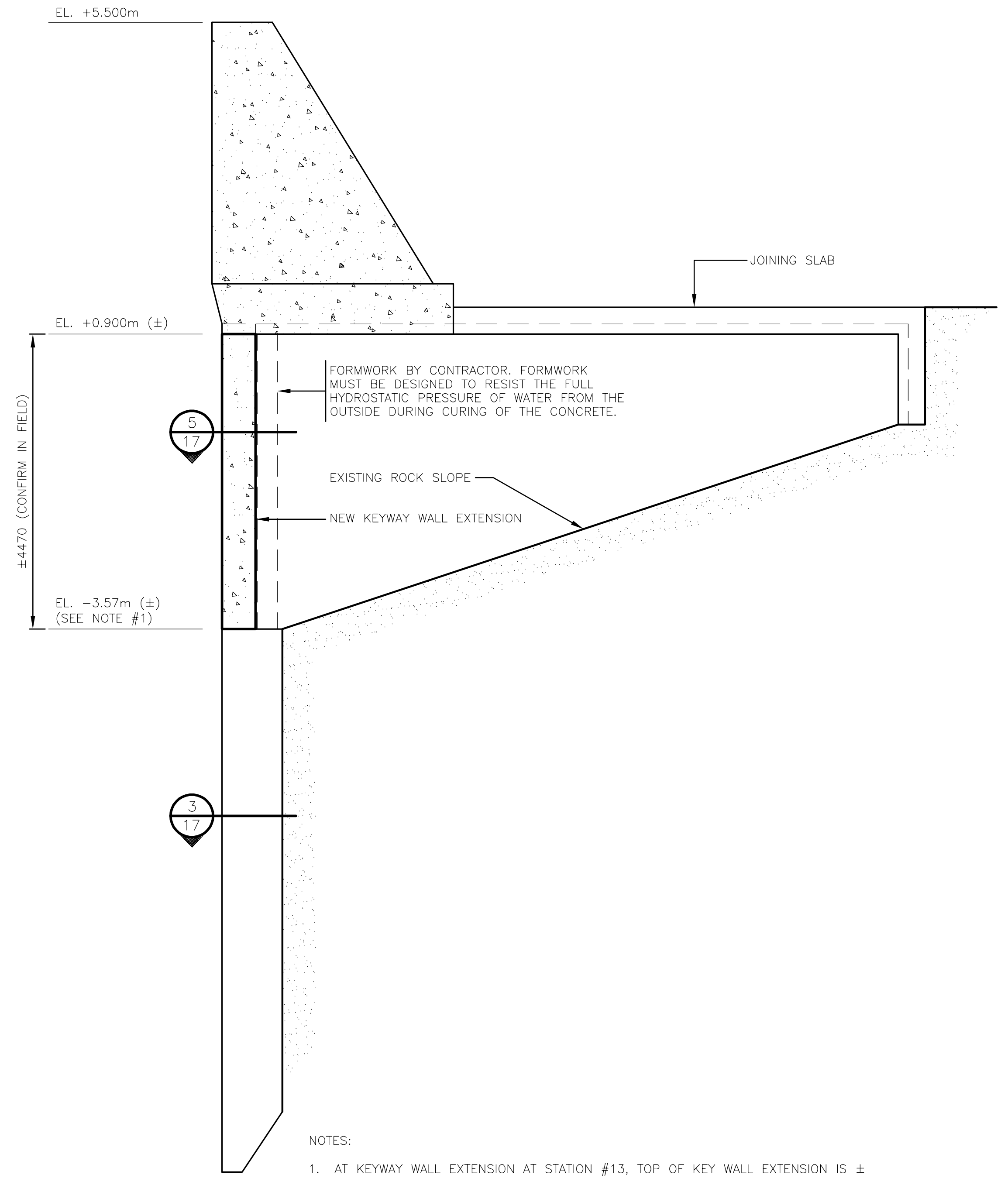
NOTES:

- 75mm COVER TO REINFORCING STEEL.
- AT STATION #13, CRIB #8 WALL IS NOT AS SHOWN IN THIS SECTION. REFER TO 4/S17.
- REFER TO 7/S17 FOR GEOTEXTILE BOND BREAKER REQUIRED ON FACE OF NEW KEYWAY WALL EXTENSION.

**5**  
17 1:20  
SECTION - KEYWAY WALL EXTENSION



**2**  
17 1:50  
ELEVATION - JOINT BETWEEN EXISTING CRIBS



NOTES:

- AT KEYWAY WALL EXTENSION AT STATION #13, TOP OF KEY WALL EXTENSION IS ± +2.52m, AND TOP OF EXISTING KEY BELOW -3.87m. REFER TO 4/S17 FOR SECTION OF KEYWAY AT STATION #13. THERE WILL BE NO ADDITIONAL PAYMENT FOR THE ADDITIONAL KEYWAY WALL EXTENSION HEIGHT OR DIFFERENCE IN FORMWORK REQUIRED AT STATION #13.
- CRIB AND COPEWALL REFACING IS NOT SHOWN.

**1**  
17 1:50  
SECTION - CRIB KEYWAY WALL EXTENSION BETWEEN EXISTING CRIBS

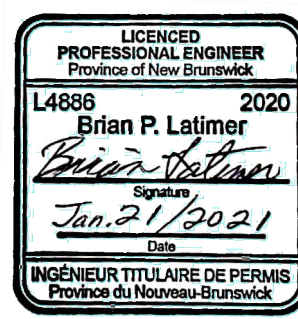
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PLOT DATE: 2021-01-21 @ 1:59:20 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.ctb

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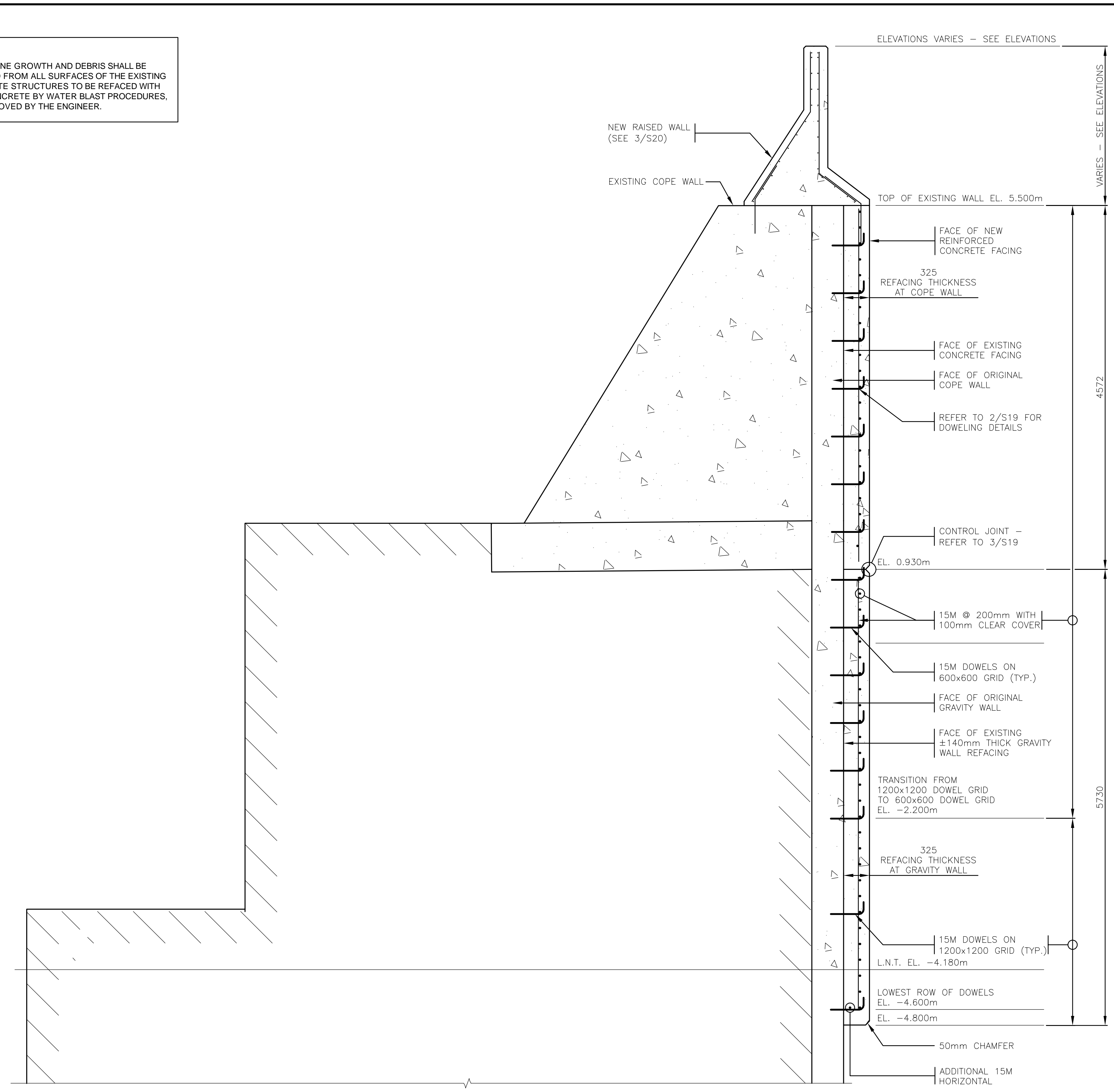
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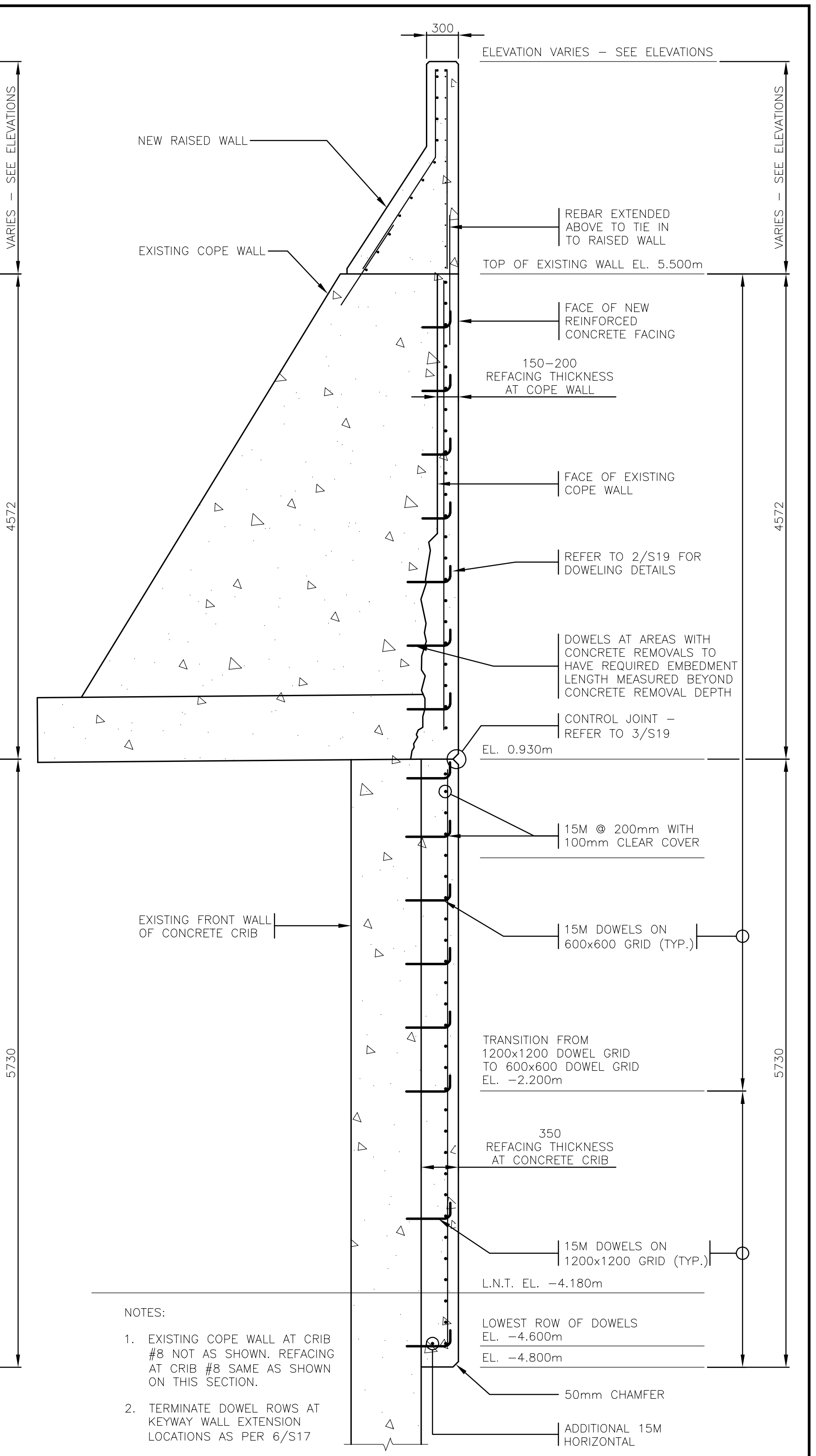
DESIGN	REVIEWED BY
WH	BL
DRAWN	CHECKED BY
PB	WH
DATE	January 22, 2021
SCALE	AS SHOWN

SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO.
KEYWAY WALL EXTENSION		20-2454
		SHEET NO.
		S17

NOTE:  
ALL MARINE GROWTH AND DEBRIS SHALL BE CLEANED FROM ALL SURFACES OF THE EXISTING CONCRETE STRUCTURES TO BE REFACED WITH NEW CONCRETE BY WATER BLAST PROCEDURES, AS APPROVED BY THE ENGINEER.



2 SECTION - GRAVITY WALL REFACING  
18 1:30



1 SECTION - CONCRETE CRIB REFACING  
18 1:30

- NOTES:
- EXISTING COPE WALL AT CRIB #8 NOT AS SHOWN. REFACING AT CRIB #8 SAME AS SHOWN ON THIS SECTION.
  - TERMINATE DOWEL ROWS AT KEYWAY WALL EXTENSION LOCATIONS AS PER 6/S17

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - RD.DWG - PLOTTED BY: BAILEY, PHILIP  
PLOT DATE: 2021-01-21 @ 1:58:37 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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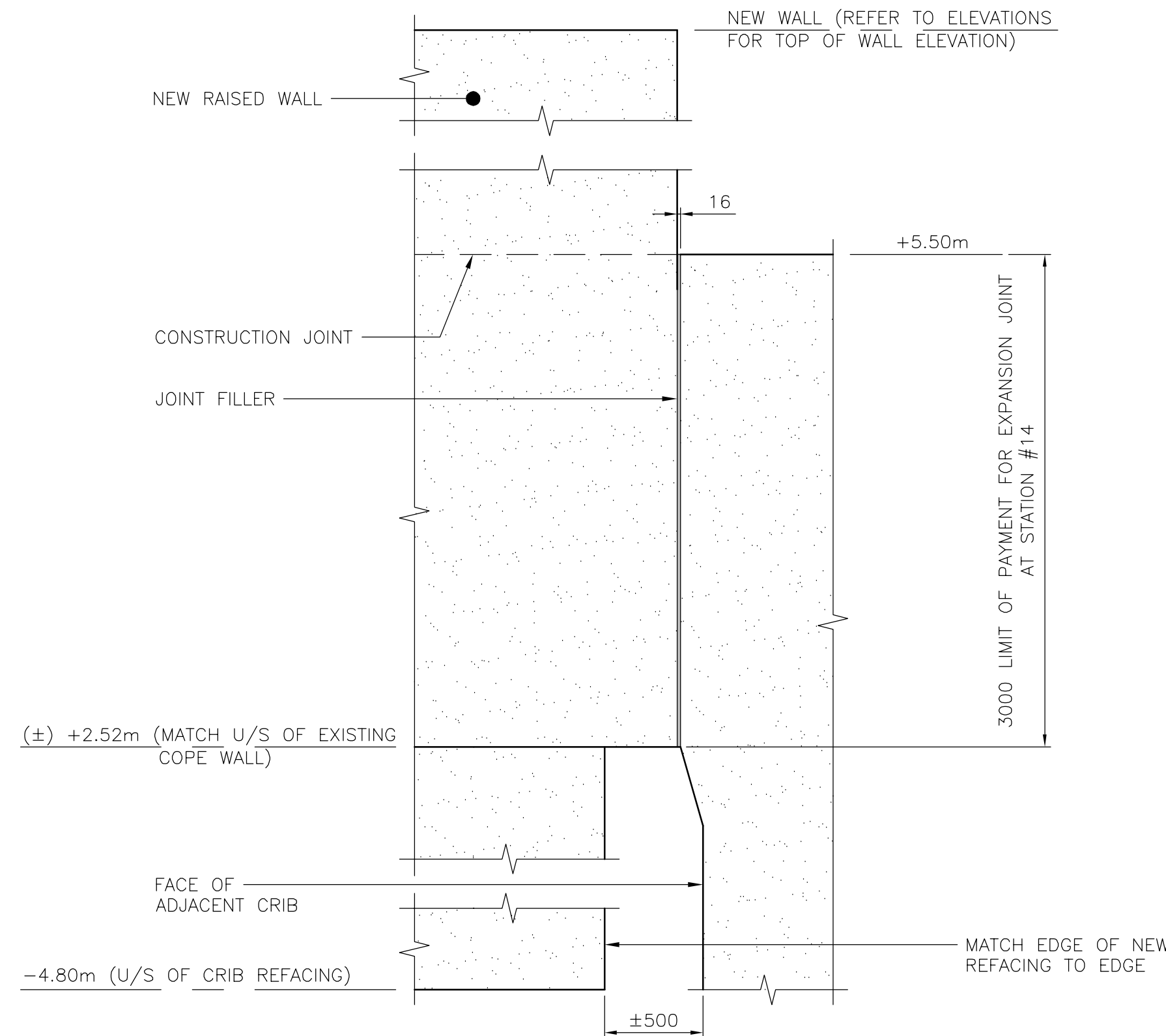
DATE	SCALE
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SEAWALL REFURBISHMENT  
SAINT JOHN, NB

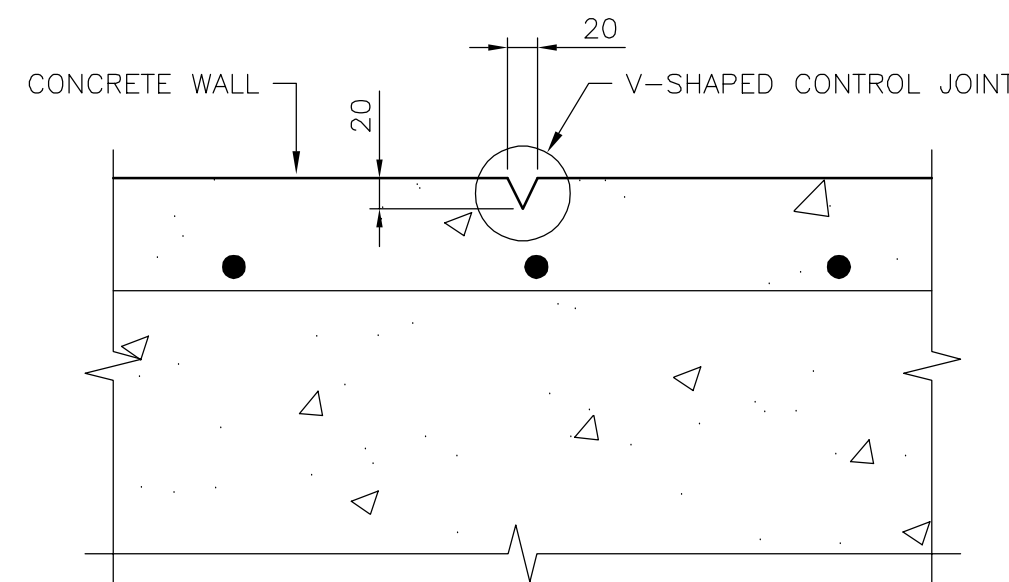
PROJECT NO. 20-2454

SHEET NO. S18

SECTIONS - CRIB AND GRAVITY WALL REFACING



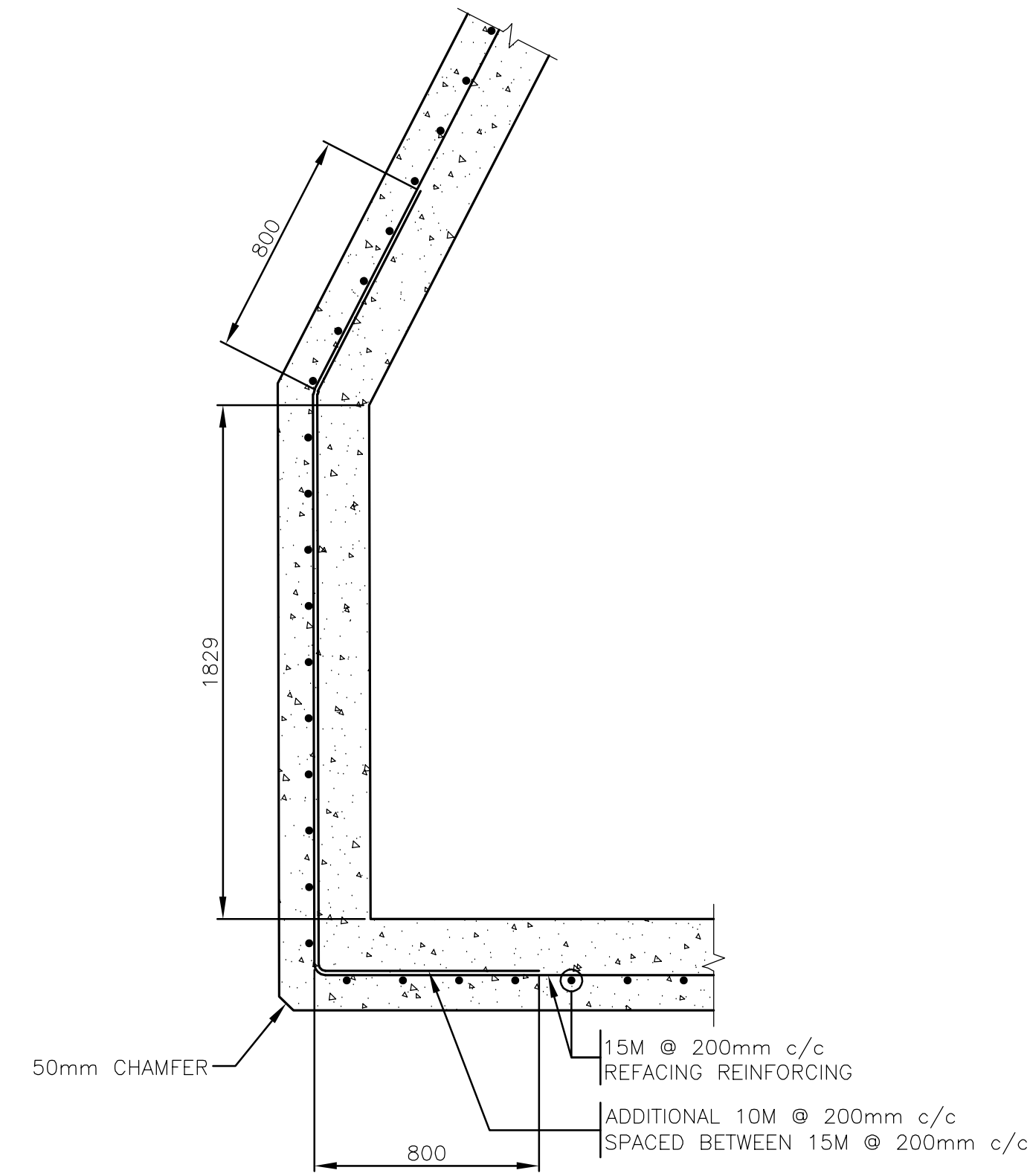
6 ELEVATION – TERMINATION OF CRIB #8 REFACING  
19 1:25



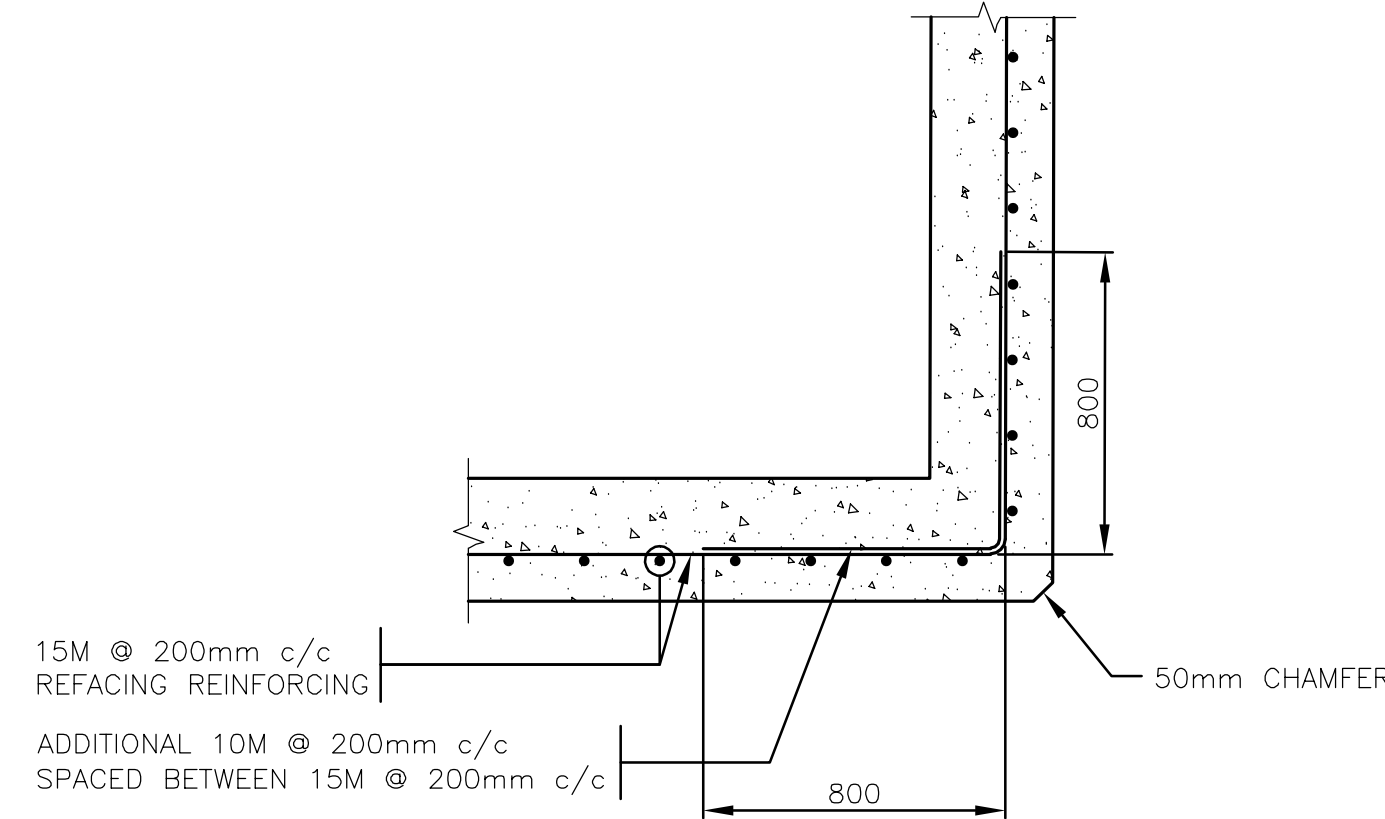
PLAN VIEW

- NOTES:
1. REBAR CONTINUOUS THROUGH JOINT AS SHOWN.
  2. LOCATION OF JOINTS AS INDICATED ON ELEVATIONS.

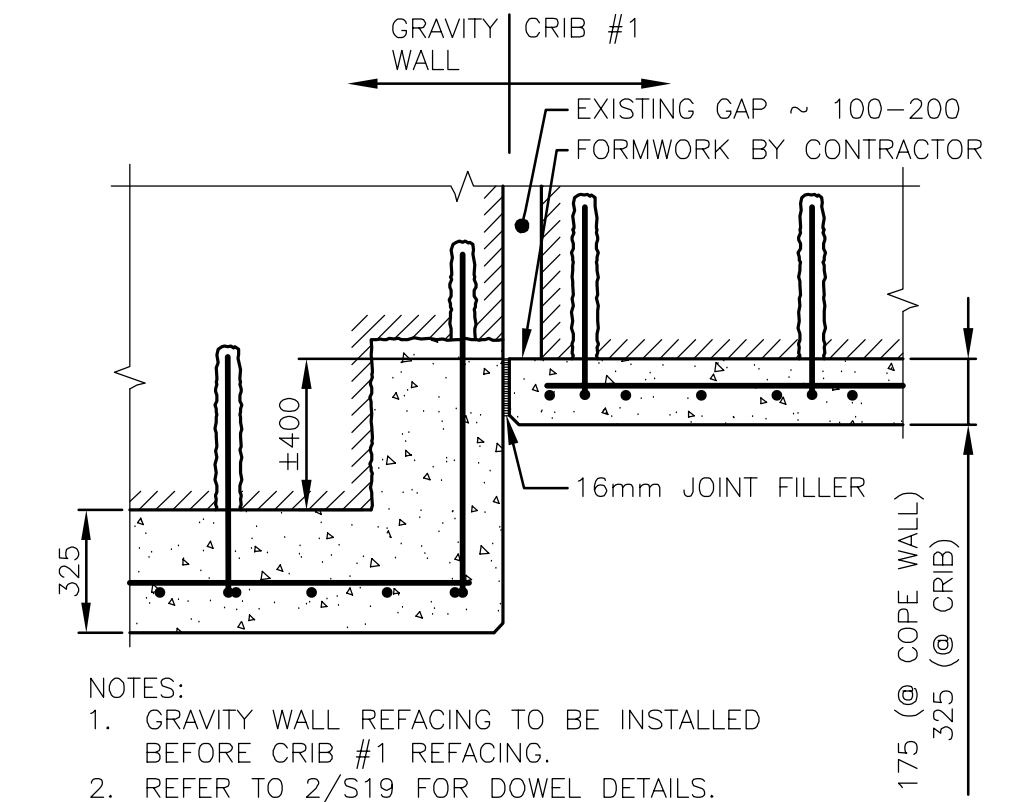
7 DETAIL – CONTROL JOINT  
19 1:10



4 DETAIL – ADDITIONAL REFACING REINFORCING AT STATION #5  
19 1:20

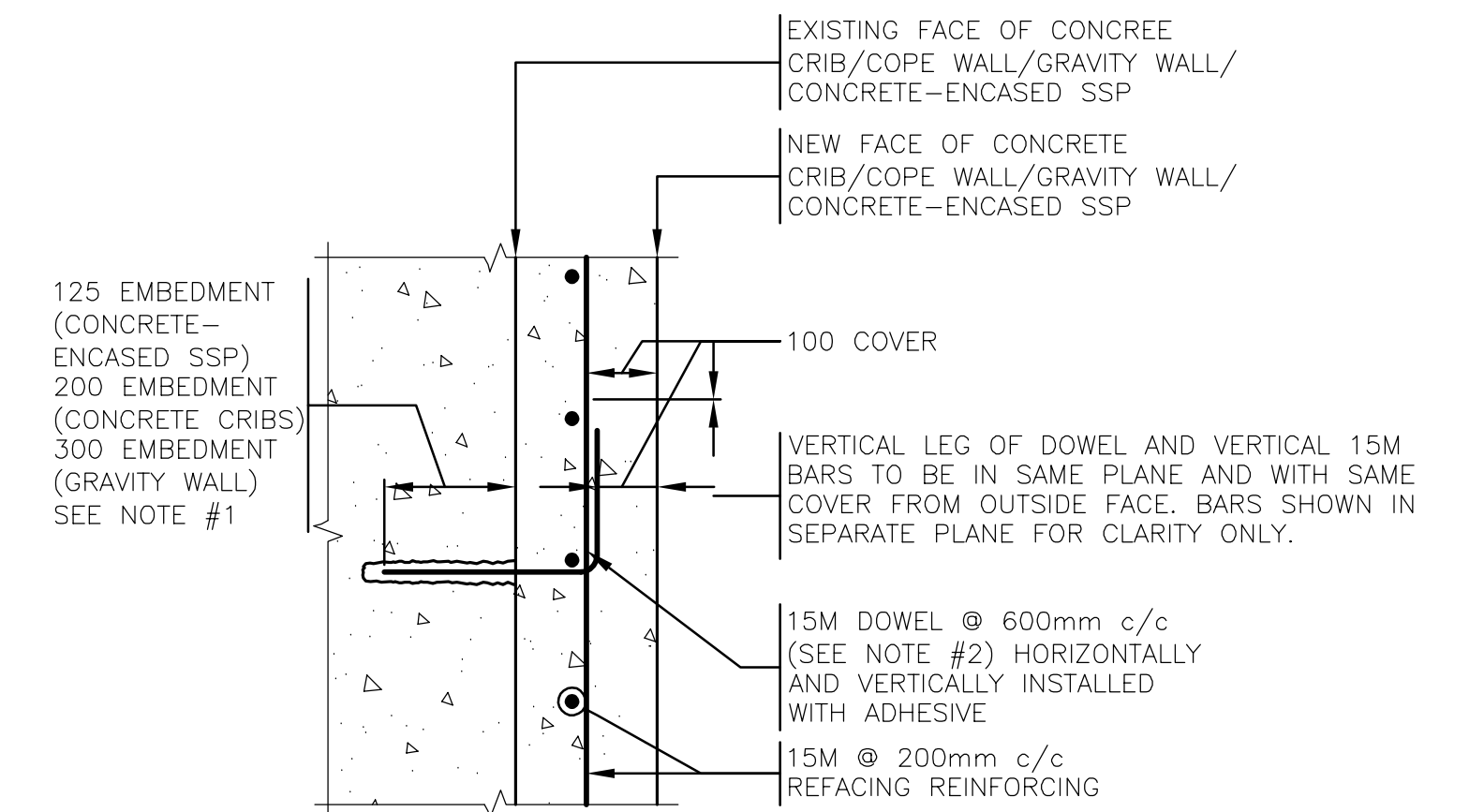


5 DETAIL – ADDITIONAL REFACING REINFORCING AT STATION #10  
19 1:20



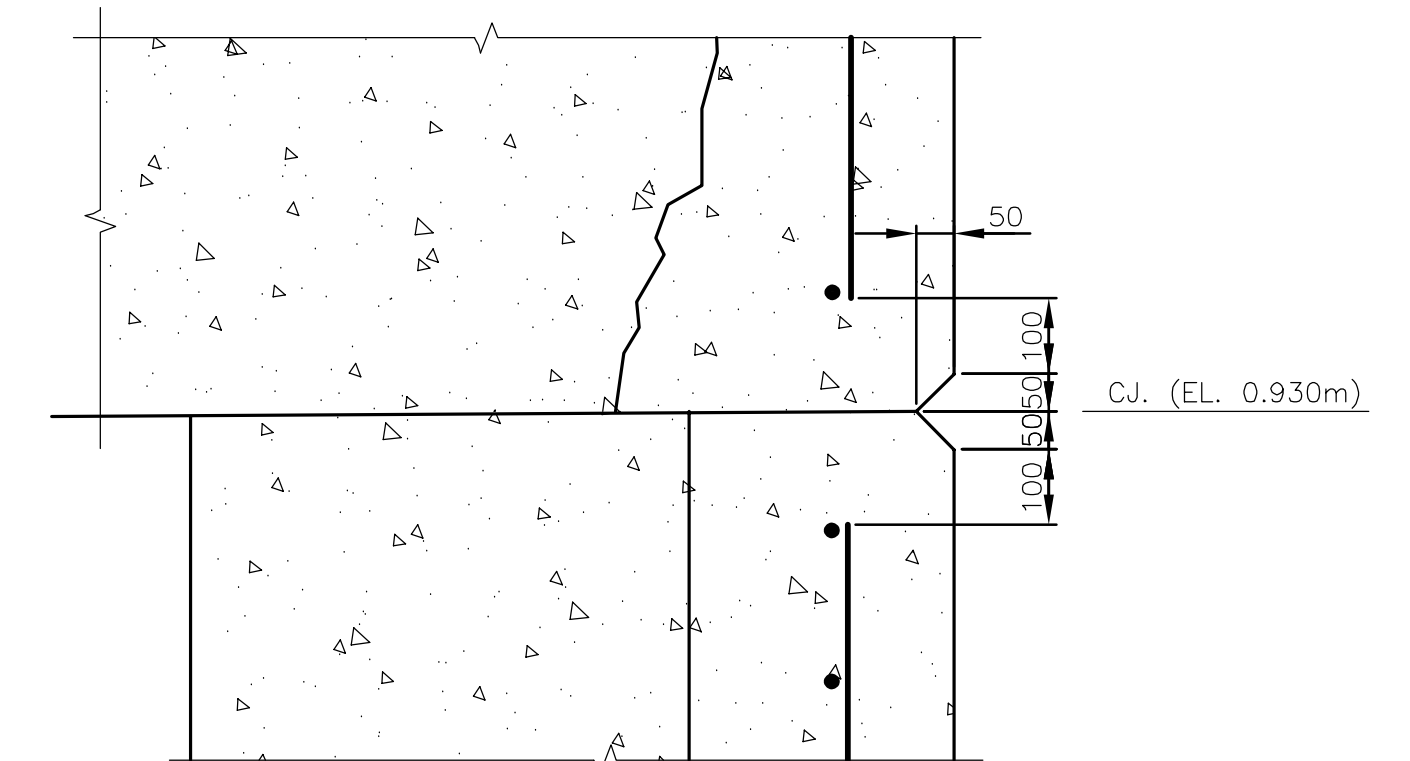
- NOTES:
1. GRAVITY WALL REFACING TO BE INSTALLED BEFORE CRIB #1 REFACING.
  2. REFER TO 2/S19 FOR DOWEL DETAILS.

1 DETAIL – TRANSITION FROM GRAVITY WALL TO CONCRETE CRIB  
19 1:20



- NOTES:
1. AT LOCATIONS WITH CONCRETE REMOVALS, EMBEDMENT DEPTH OF DOWEL TO EXTEND BEYOND REMOVAL DEPTH.
  2. DOWEL SPACING OF 1200mm c/c IN LOW WATER ZONE AT CONCRETE CRIBS AND GRAVITY WALL AS INDICATED ON 1&2/S18

2 DETAIL – DOWELS  
19 1:10



3 DETAIL – REFACING HORIZONTAL CONTROL JOINT  
19 1:10

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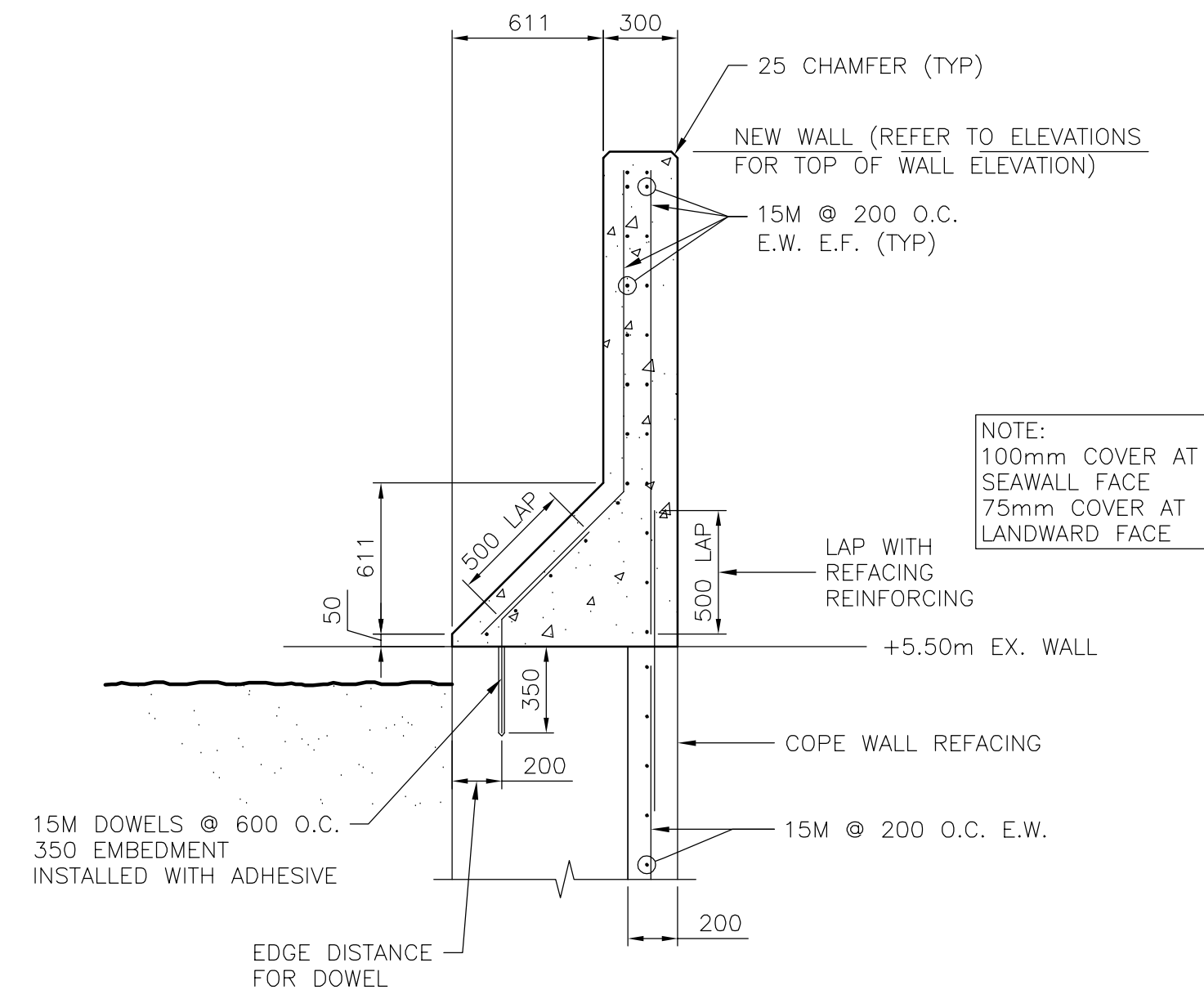
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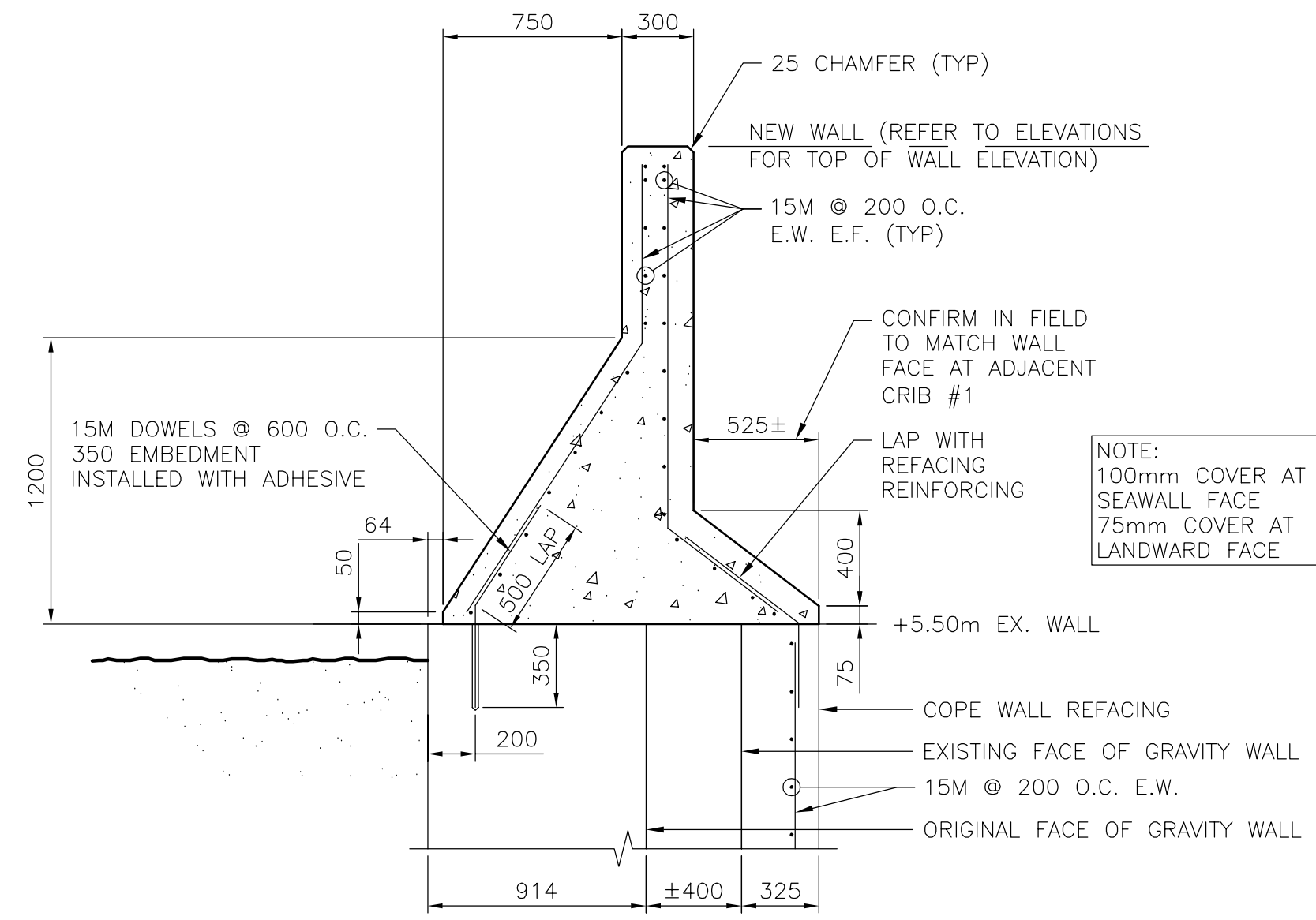
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PB	WH
DATE	July 22, 2021
SCALE	AS SHOWN

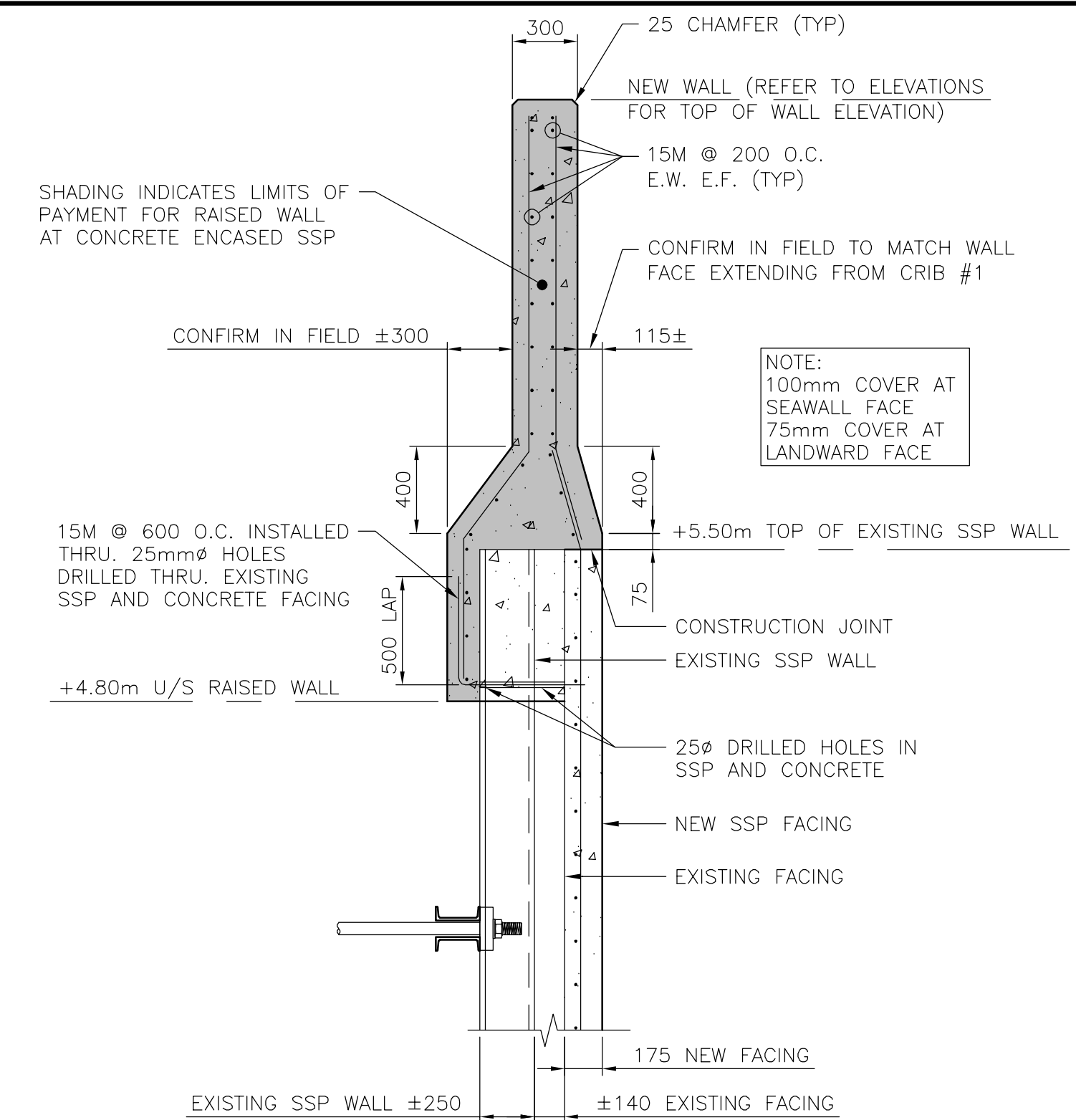
SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO. 20-2454
DETAILS - CRIB AND GRAVITY WALL REFACING		SHEET NO. <b>S19</b>



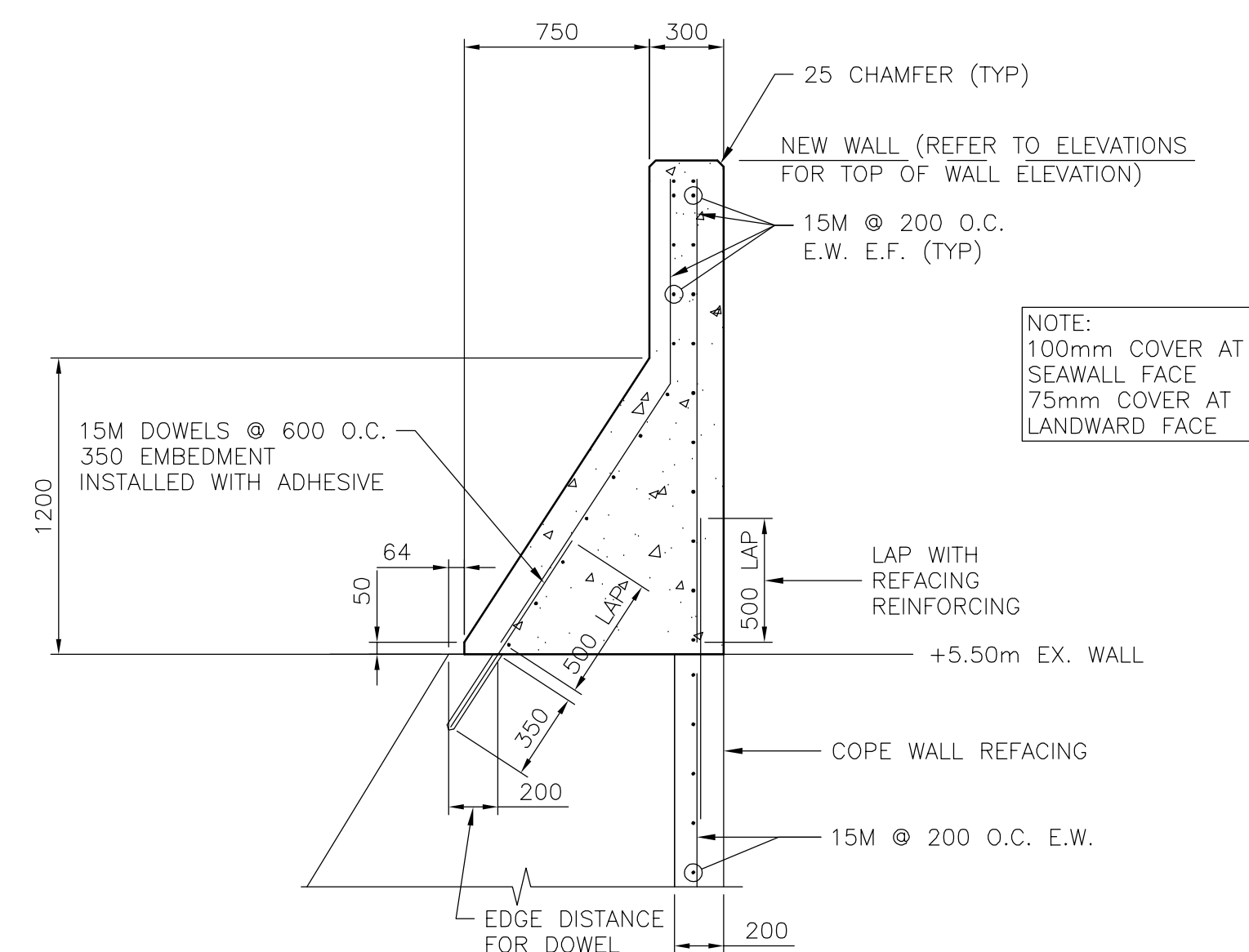
5 SECTION - RAISED WALL @ CRIB 8  
1:25



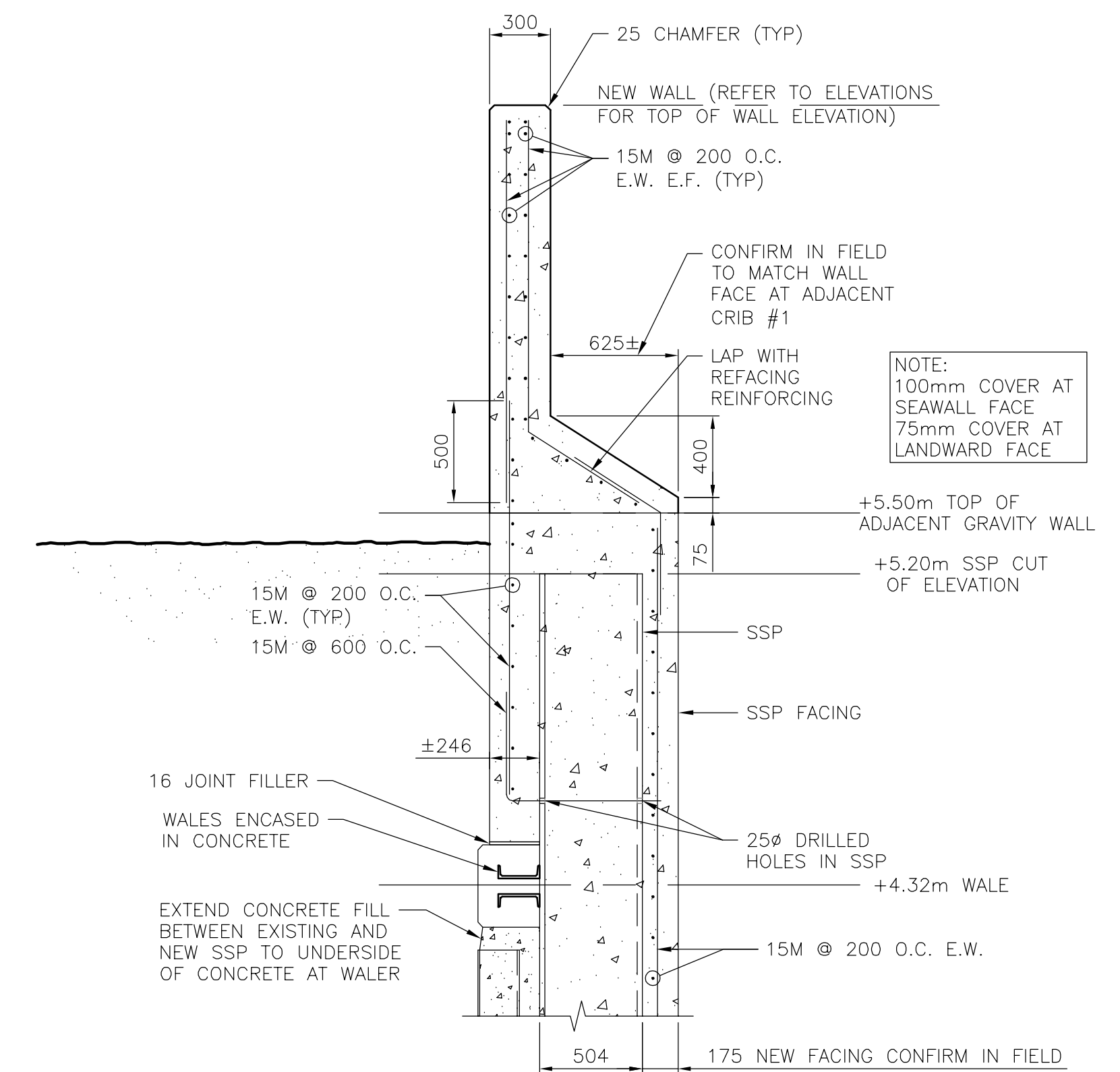
3 SECTION - RAISED WALL @ GRAVITY WALL  
1:25



1 SECTION - RAISED WALL @ CONCRETE ENCASED SSP WALL  
1:25



4 SECTION - RAISED WALL @ CRIBS 1-7  
1:25



2 SECTION - RAISED WALL @ NEW SSP WALL  
1:25

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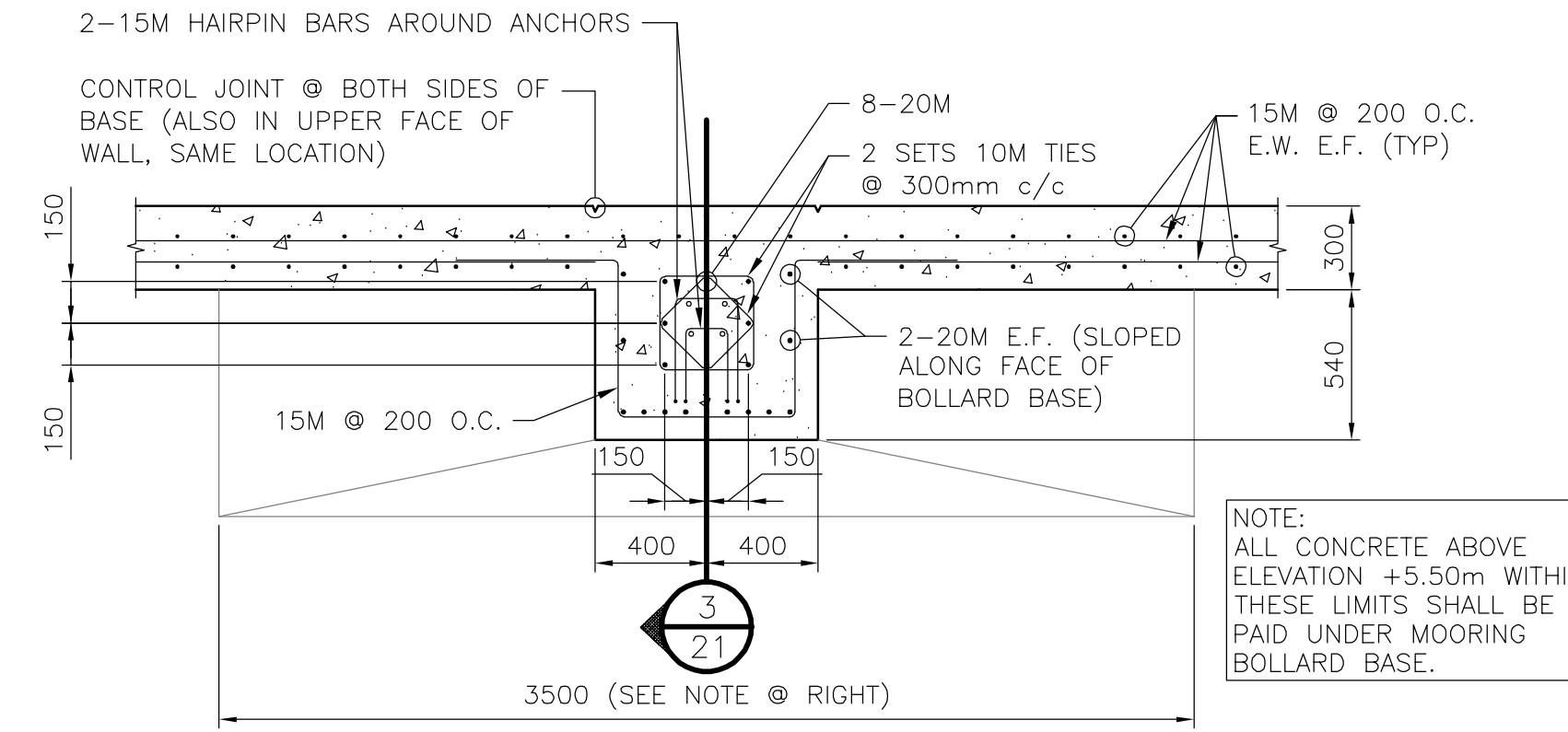
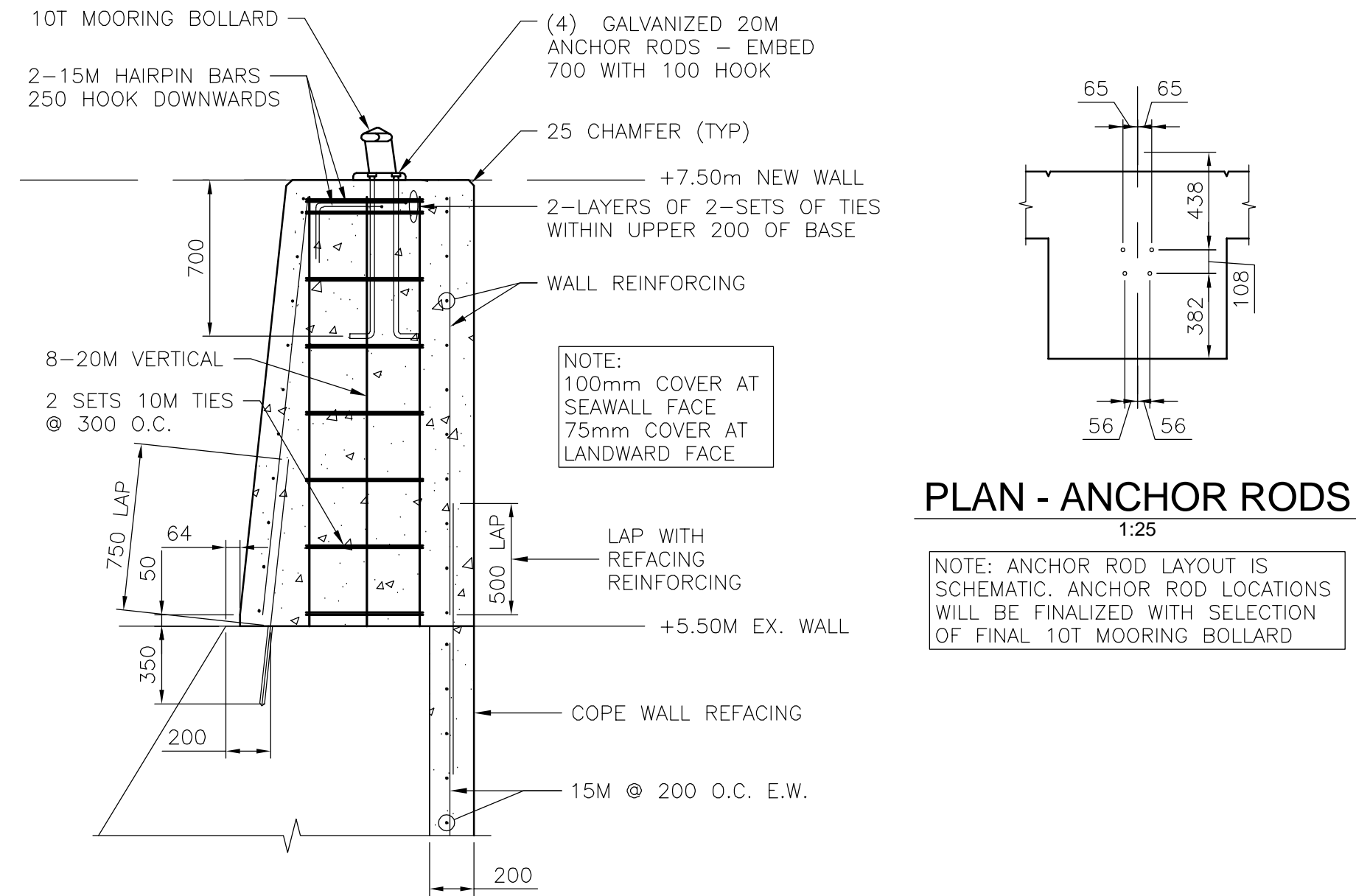
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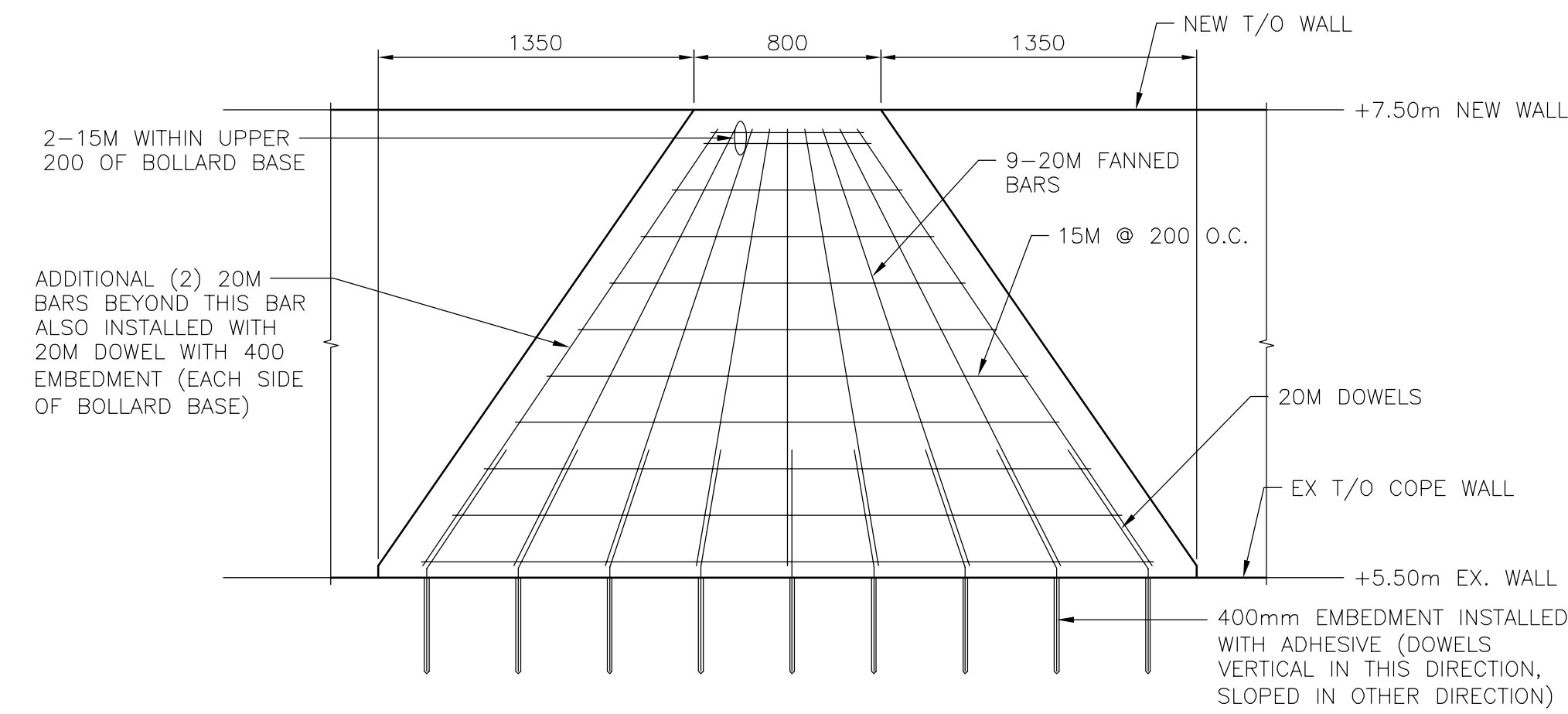
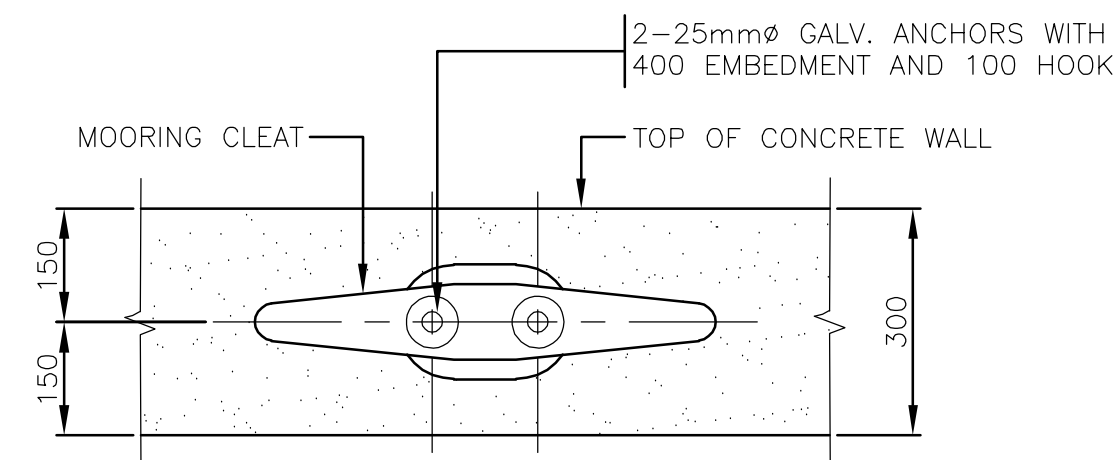
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SAINT JOHN, NB  
  
NEW RAISED WALL

PROJECT NO.  
20-2454  
  
SHEET NO.  
S20



3 SECTION - RAISED WALL @ BOLLARD  
21 1:25

1 PLAN DETAIL - 10T MOORING BOLLARD  
21 1:25



- NOTES:
1. CENTER CLEAT ON WALL AS SHOWN.
  2. 4 TONNE CAST IRON MOORING CLEAT.
  3. CLEAT AND BOLTS SHOWN. FINAL CLEAT AND BOLTS SHALL BE BASED ON APPROVED SHOP DRAWINGS.

2 ELEVATION - 10T MOORING BOLLARD  
21 1:25

4 DETAIL - 4 TONNE MOORING CLEAT  
21 1:10

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\20-2454 - STRUCT SEA WALL - S1-22 - R.DWG - PLOTTED BY: BAILEY, PHILIP  
PLOT DATE: 2021-01-21 @ 2:01:13 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.ctb

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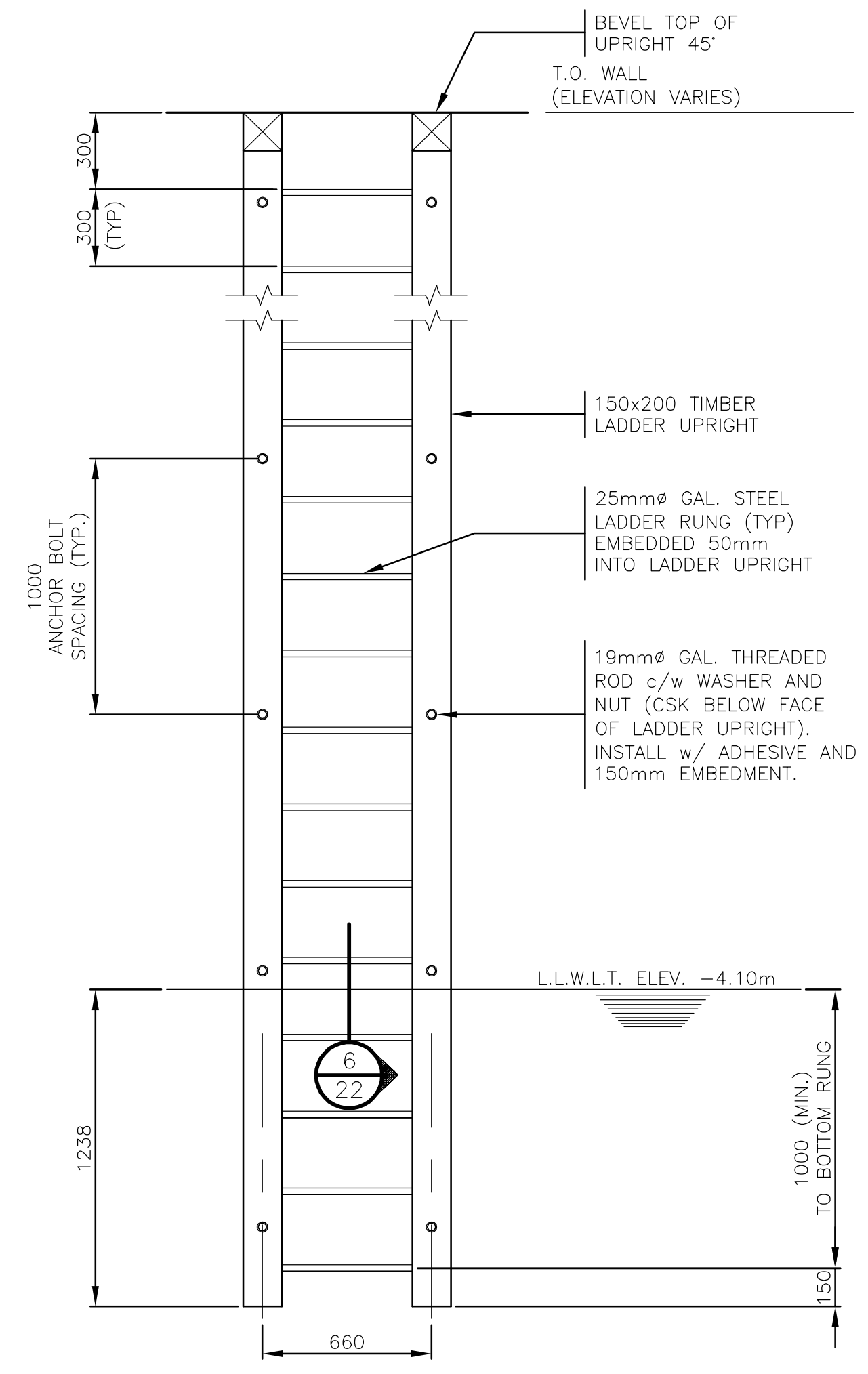


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D	ISSUED FOR 99% REVIEW	22-12-20	PB
C	ISSUED FOR DRAFT CONCEPT DESIGN REPORT	09-09-20	PB
B	ISSUED FOR INSPECTION AND EVALUATION REPORT	23-07-20	PB
A	ISSUED FOR DRAFT GHG ASSESSMENT REPORT	15-04-20	PB

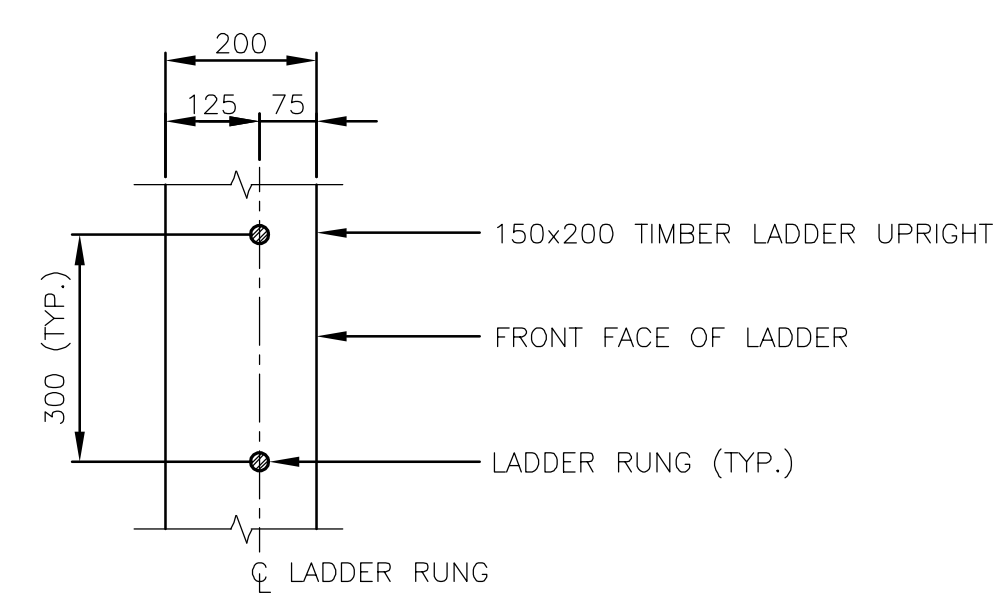
  

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DRAWN	PB	CHECKED BY	WH
DATE	January 22, 2021		
SCALE	AS SHOWN		

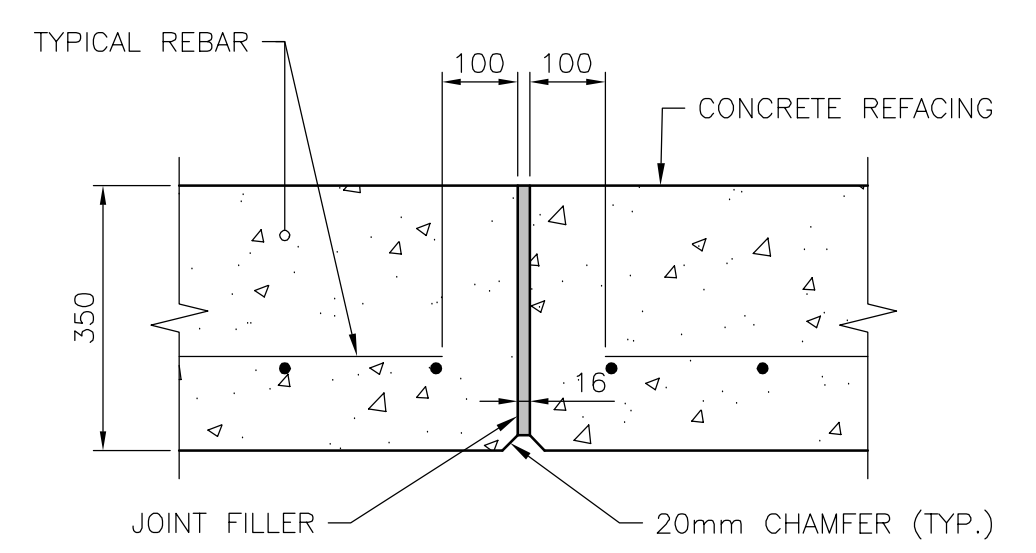
SEAWALL REFURBISHMENT SAINT JOHN, NB		PROJECT NO. 20-2454
MOORING BOLLARD AND CLEAT SECTIONS AND DETAILS		SHEET NO. <b>S21</b>



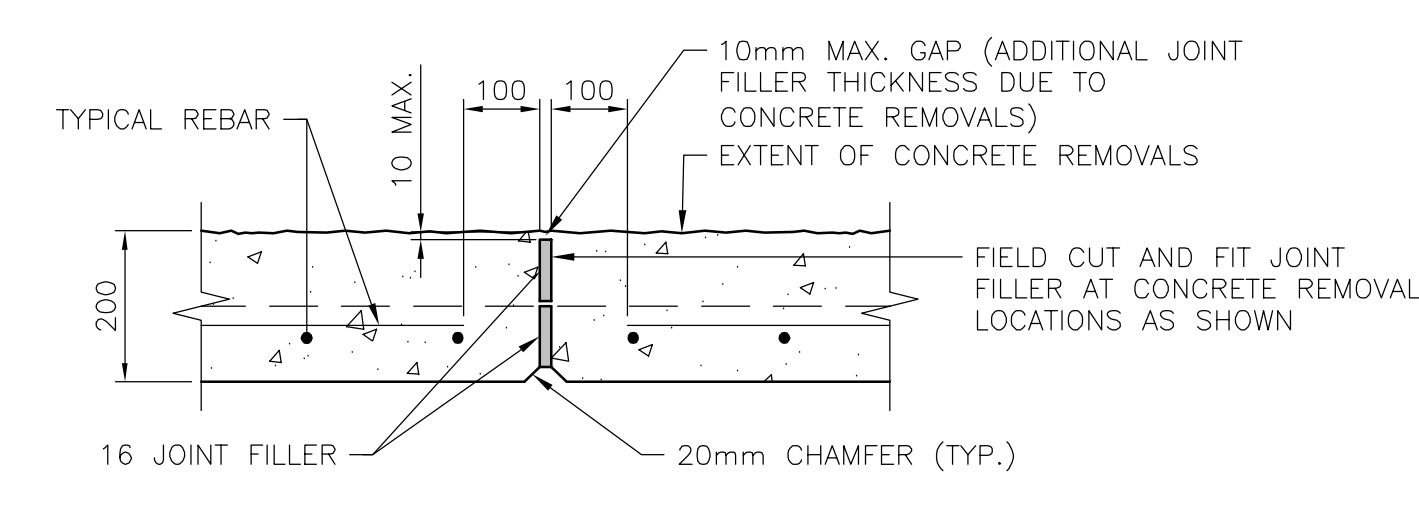
5 ELEVATION - TYP. SAFETY LADDER  
22 1:20



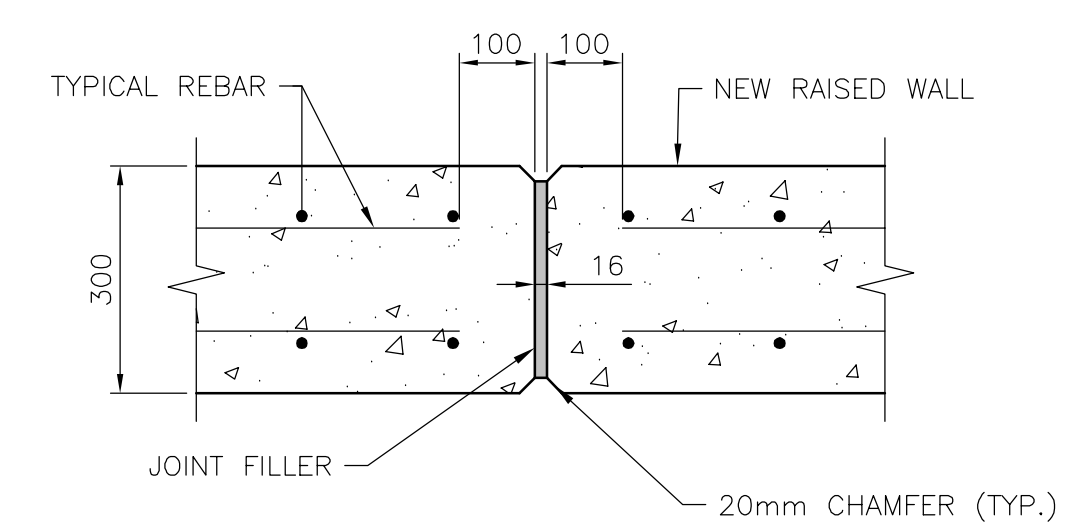
6 SECTION THRU LADDER RUNG (TYP.)  
22 1:10



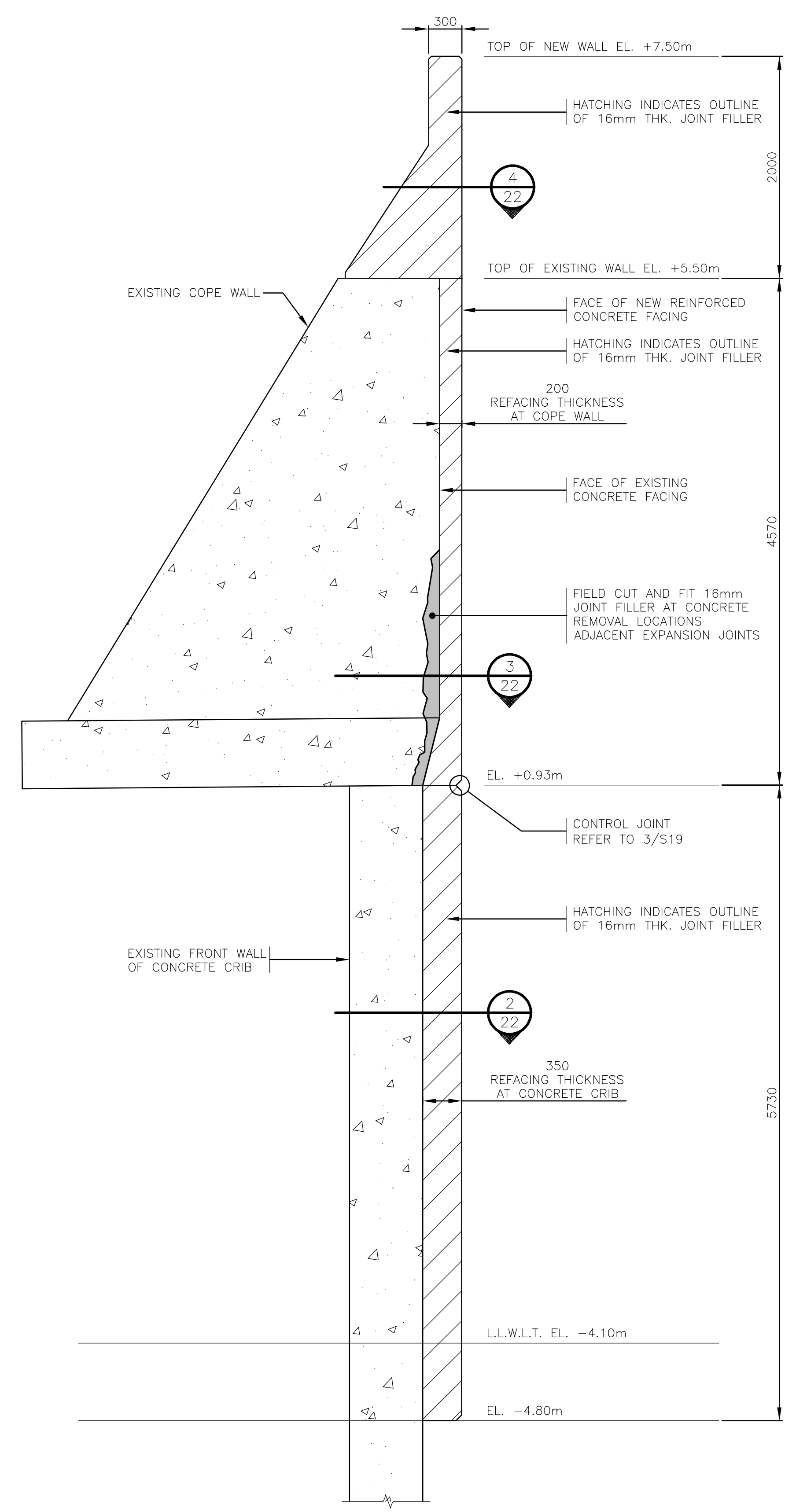
2 SECTION - EXPANSION JOINT @ 350 THK. REFACING  
22 1:10



3 SECTION - EXPANSION JOINT @ 200 THK. REFACING  
22 1:10



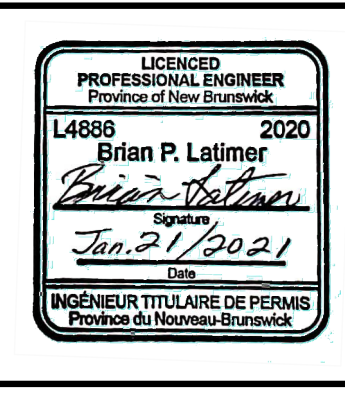
4 SECTION - EXPANSION JOINT @ NEW RAISED WALL  
22 1:10



1 SECTION - EXPANSION JOINT  
22 1:30

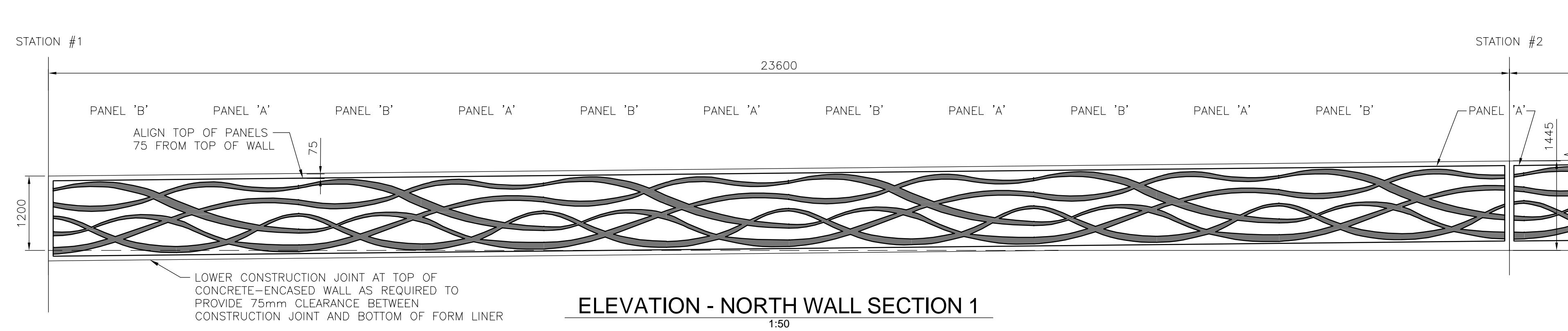
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 PLOT DATE: 2021-01-21 @ 2:01:37 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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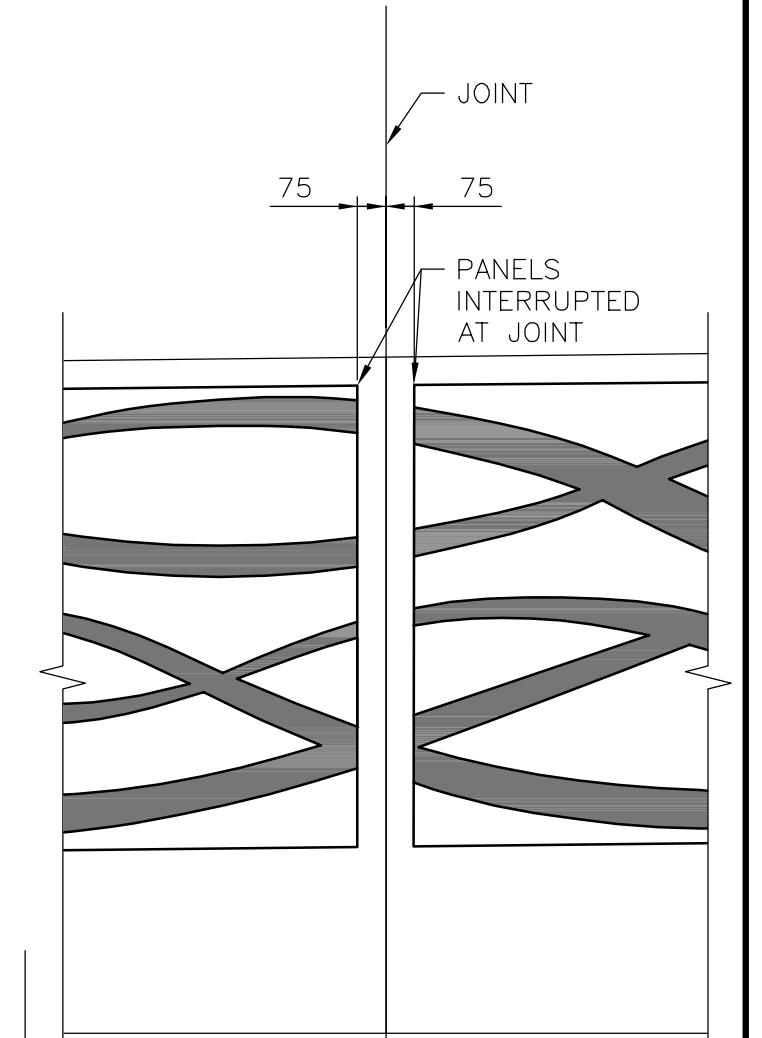


No.	ISSUED FOR	DATE	BY
0	ISSUED FOR TENDER	22-01-21	PB
D	ISSUED FOR 99% REVIEW	22-12-20	PB
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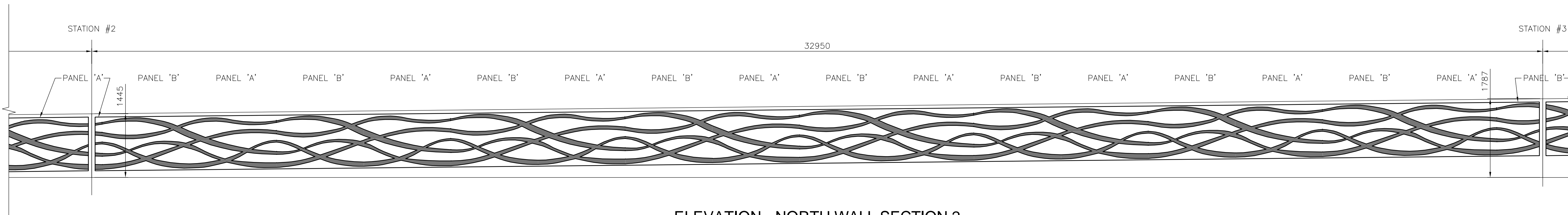
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DRAWN: PB	CHECKED BY: WH		
DATE: July 22, 2021		EXPANSION JOINT AND SAFETY LADDER	SHEET NO: S22
SCALE: AS SHOWN			



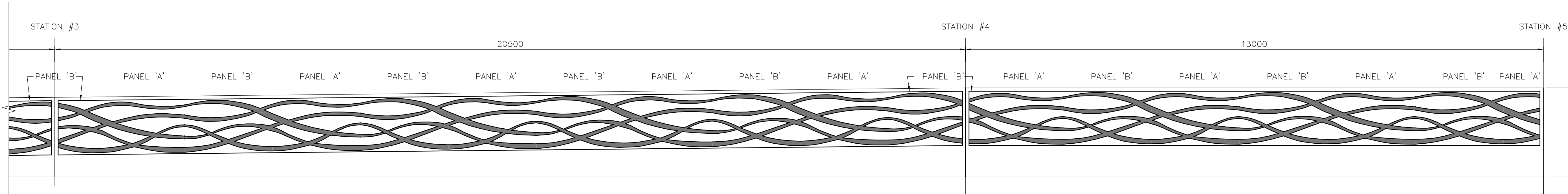
**ELEVATION - NORTH WALL SECTION 1**  
1:50



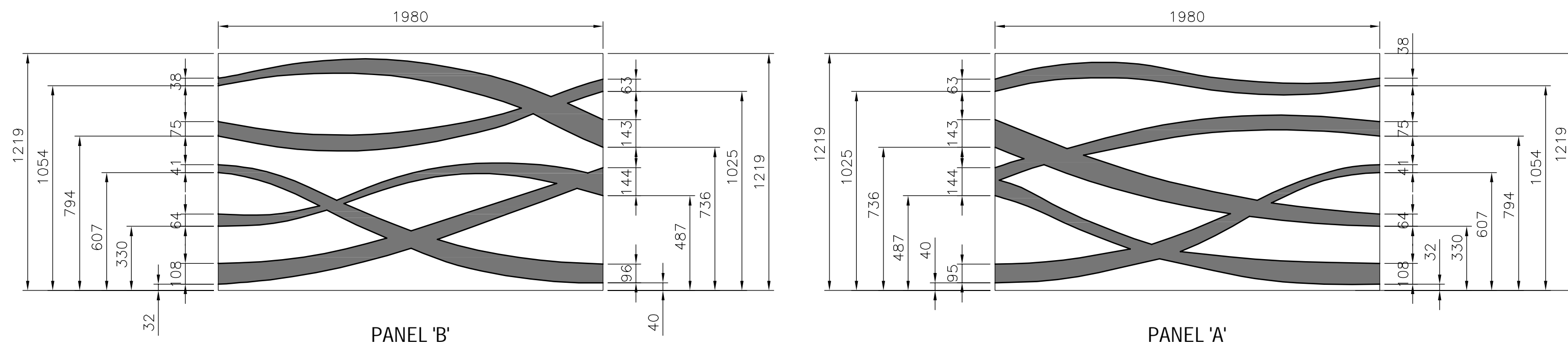
**PANELS AT JOINTS**  
1:10



**ELEVATION - NORTH WALL SECTION 2**  
1:50



**ELEVATION - NORTH WALL SECTION 3**  
1:50

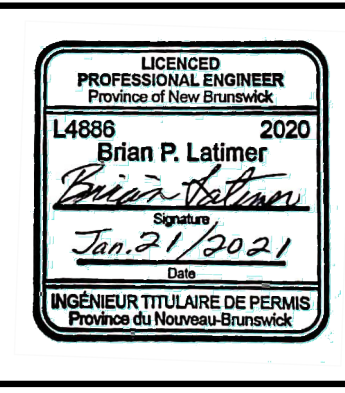


**PANEL ELEVATIONS - ALOHA WAVE PATTERN BY FITZGERALD FORM LINERS**  
1:20

- NOTES:**
1. FORM LINER PATTERN IS ALOHA WAVE PATTERN BY FITZGERALD FORM LINERS.
  2. CONTRACTOR TO CUT FORM LINER PANEL AS REQUIRED IN A CLEAN VERTICAL CUT AT JOINT, AND USE OTHER PORTION OF CUT PIECE TO BEGIN PATTERN ON OTHER SIDE OF JOINT IN ORDER TO ENSURE CONSISTENT PATTERN.
  3. REFER TO SPECIFICATION FOR MOCK-UP REQUIREMENTS FOR FORM LINERS.
  4. CONTRACTOR TO PROVIDE FORM LINER BACKING AS REQUIRED TO PROVIDE ADEQUATE SUPPORT FOR FORM LINER DURING PLACEMENT OF CONCRETE.
  5. 100mm CONCRETE COVER REQUIREMENTS TO REINFORCING STEEL AT AREAS WITH FORM LINERS TO BE RELATIVE TO OUTSIDE FACE OF WALL, AND NOT RELATIVE TO 19 MM FORM LINER INDENT BEYOND OUTSIDE FACE OF WALL.
  6. FORM LINER RELEASE AGENT USED AT FORM LINER LOCATIONS AS PER SPECIFICATION. CONTRACTOR TO FOLLOW ALL RECOMMENDATIONS FOR INSTALLATION BY THE FORM LINER SUPPLIER.

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEAWALL\DWG\2024\202454\_PATERN\_S23\_824 - REDWG - PLOTTED BY: BAILEY, PHILIP  
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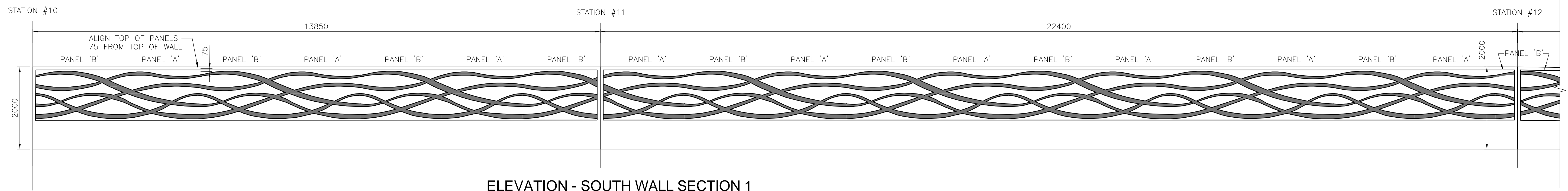
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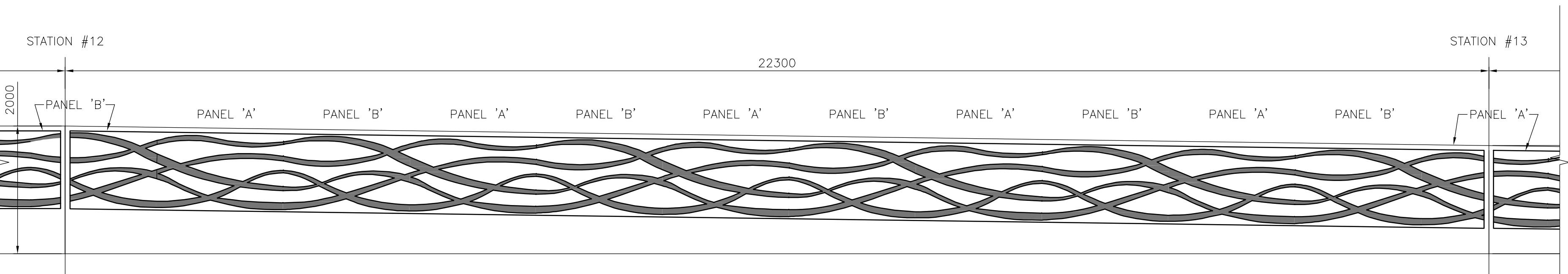
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DRAWN	PDR	CHECKED BY	WH
DATE	January 22, 2021		
SCALE	AS SHOWN		
ISSUED FOR TENDER	22-01-21	PB	
ISSUED FOR 99% REVIEW	22-12-20	PB	
ISSUED FOR	DATE	BY	

SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO. 20-2454
ARCHITECTURAL FORM LINER TREATMENT AT NORTH WALL (STATIONS #1-5)	SHEET NO. <b>S23</b>

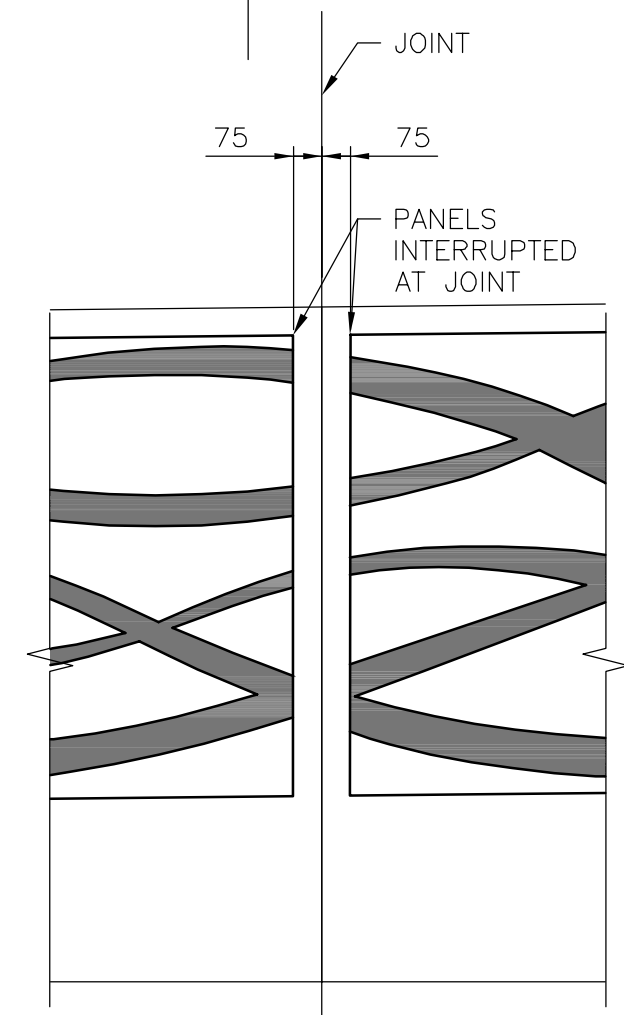




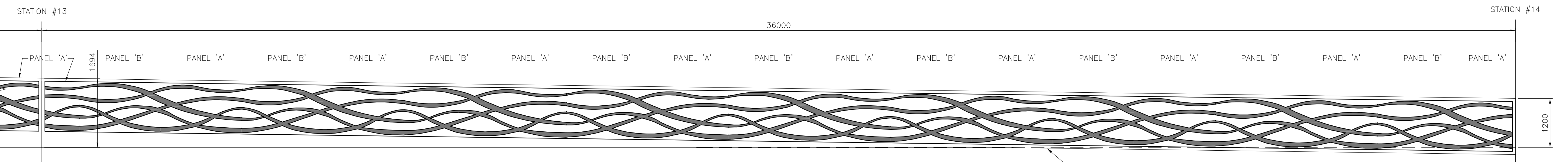
ELEVATION - SOUTH WALL SECTION 1  
1:50



ELEVATION - SOUTH WALL SECTION 2  
1:50

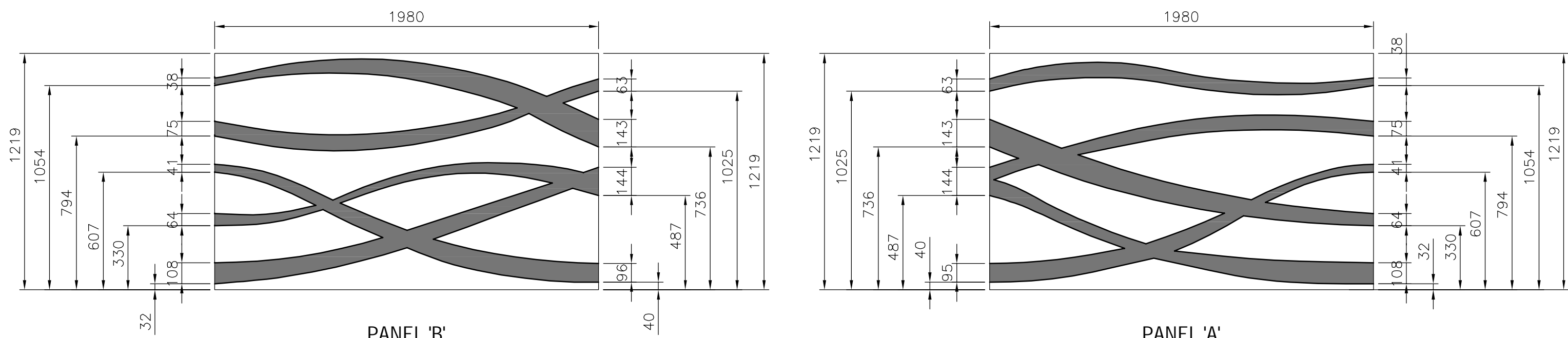


PANELS AT JOINTS  
1:10



ELEVATION - NORTH WALL SECTION 3  
1:50

LOWER CONSTRUCTION JOINT AT TOP OF CONCRETE  
REFACING AS REQUIRED TO PROVIDE 75mm  
CLEARANCE BETWEEN CONSTRUCTION JOINT AND  
BOTTOM OF FORM LINER

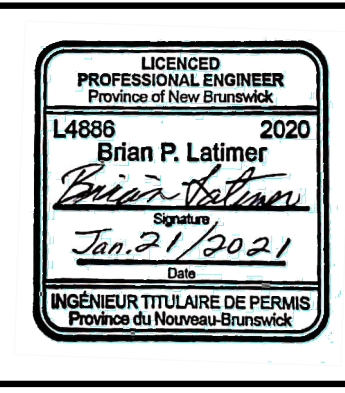


PANEL ELEVATIONS - ALOHA WAVE PATTERN BY FITZGERALD FORM LINERS  
1:20

- NOTES:
- FORM LINER PATTERN IS ALOHA WAVE PATTERN BY FITZGERALD FORM LINERS.
  - CONTRACTOR TO CUT FORM LINER PANEL AS REQUIRED IN A CLEAN VERTICAL CUT AT JOINT, AND USE OTHER PORTION OF CUT PIECE TO BEGIN PATTERN ON OTHER SIDE OF JOINT IN ORDER TO ENSURE CONSISTENT PATTERN.
  - REFER TO SPECIFICATION FOR MOCK-UP REQUIREMENTS FOR FORM LINERS.
  - CONTRACTOR TO PROVIDE FORM LINER BACKING AS REQUIRED TO PROVIDE ADEQUATE SUPPORT FOR FORM LINER DURING PLACEMENT OF CONCRETE.
  - 100mm CONCRETE COVER REQUIREMENTS TO REINFORCING STEEL AT AREAS WITH FORM LINERS TO BE RELATIVE TO OUTSIDE FACE OF WALL, AND NOT RELATIVE TO 19 MM FORM LINER INDENT BEYOND OUTSIDE FACE OF WALL.
  - FORM LINER RELEASE AGENT USED AT FORM LINER LOCATIONS AS PER SPECIFICATION. CONTRACTOR TO FOLLOW ALL RECOMMENDATIONS FOR INSTALLATION BY THE FORM LINER SUPPLIER.

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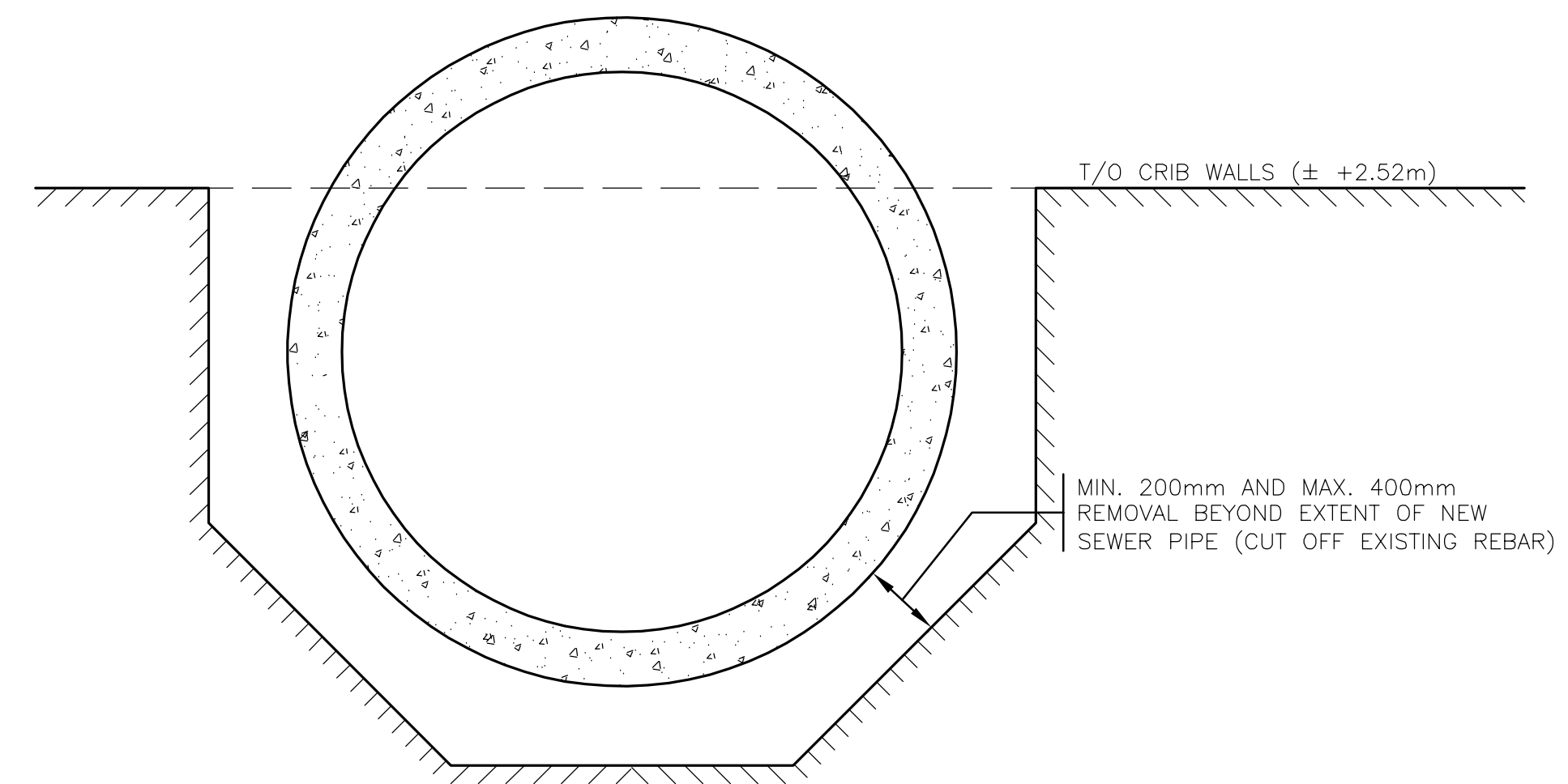
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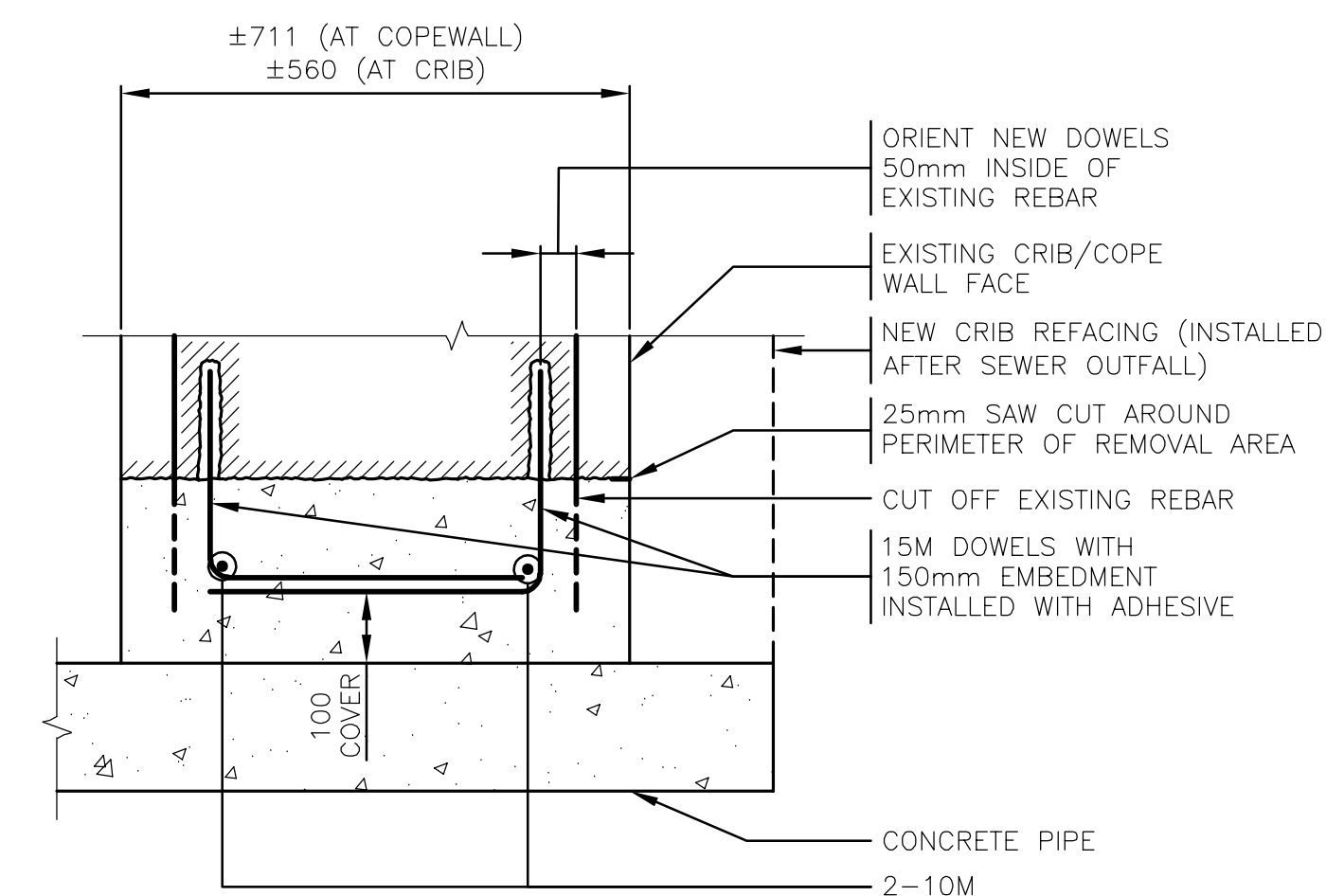
No.	ISSUED FOR	DATE	BY
0	ISSUED FOR TENDER	22-01-21	PB
D	ISSUED FOR 99% REVIEW	22-12-20	PB
	ISSUED FOR		

DESIGN WH	REVIEWED BY BL	SEAWALL REFURBISHMENT SAINT JOHN, NB	PROJECT NO. 20-2454
DRAWN PDR	CHECKED BY WH		
DATE January 22, 2021		ARCHITECTURAL FORM LINER TREATMENT AT SOUTH WALL (STATIONS #10-14)	SHEET NO. S24
SCALE AS SHOWN			

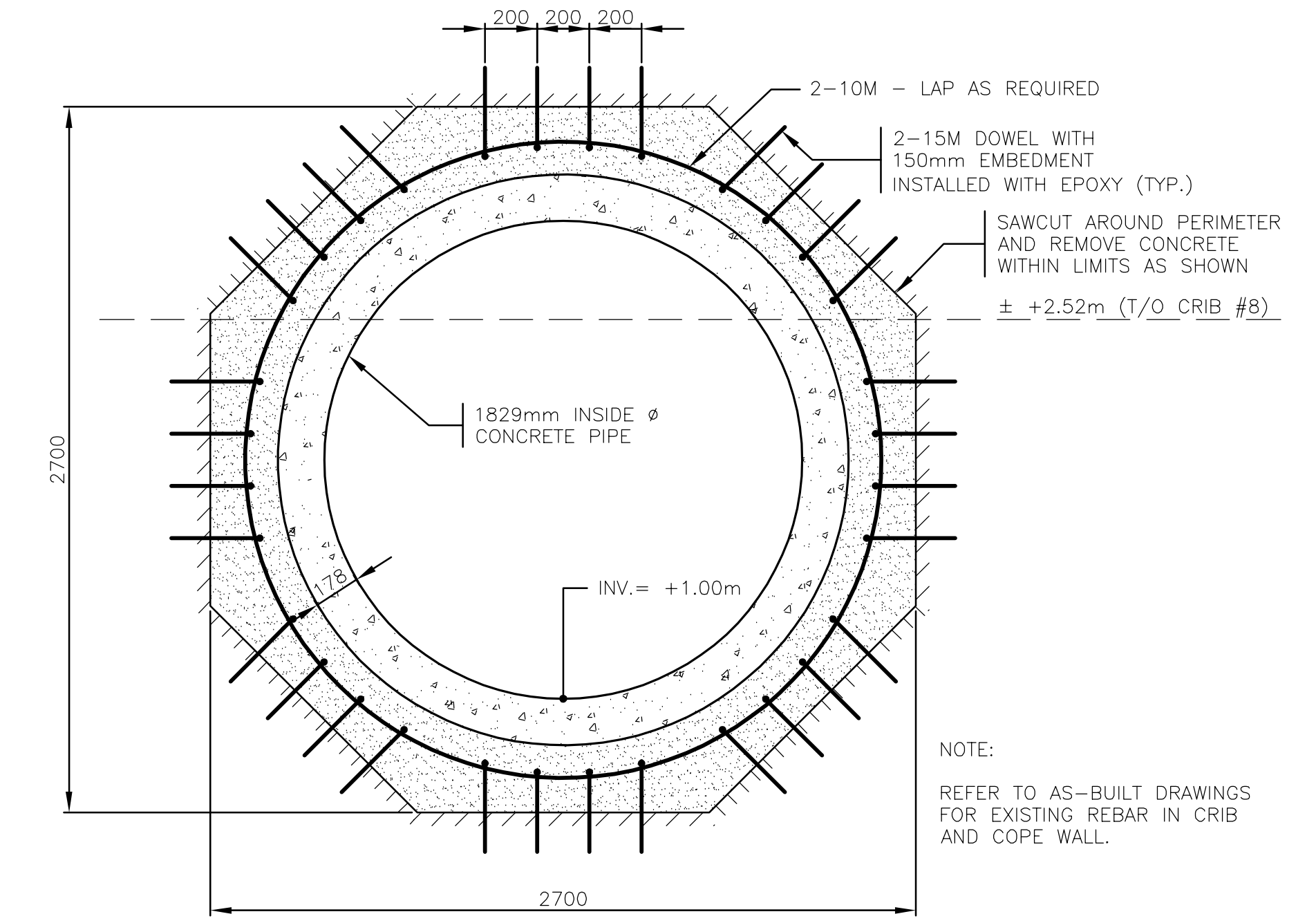
+5.50m (T/O EXISTING COPE WALL)



3 SECTION - TYPICAL CRIB WALL REMOVAL  
25 1:20



2 SECTION - CONCRETE REPLACEMENT AT OUTFALL  
25 1:10



1 ELEVATION - CONCRETE REMOVALS & REPLACEMENT AT OUTFALL  
25 1:20

FILENAME: C:\PW\WORKING\PROJECTS\2020\SEWERS\MS2454\20-2454 - STRUCT SEA WALL - S25.DWG PLOTTED BY: BAILEY, PHILIP  
PLOT DATE: 2021-01-22 @ 10:54:44 AM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

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No.	ISSUED FOR	DATE	BY
0	ISSUED FOR TENDER	22-01-21	PB
D	ISSUED FOR 99% REVIEW	22-12-20	PB
	ISSUED FOR		

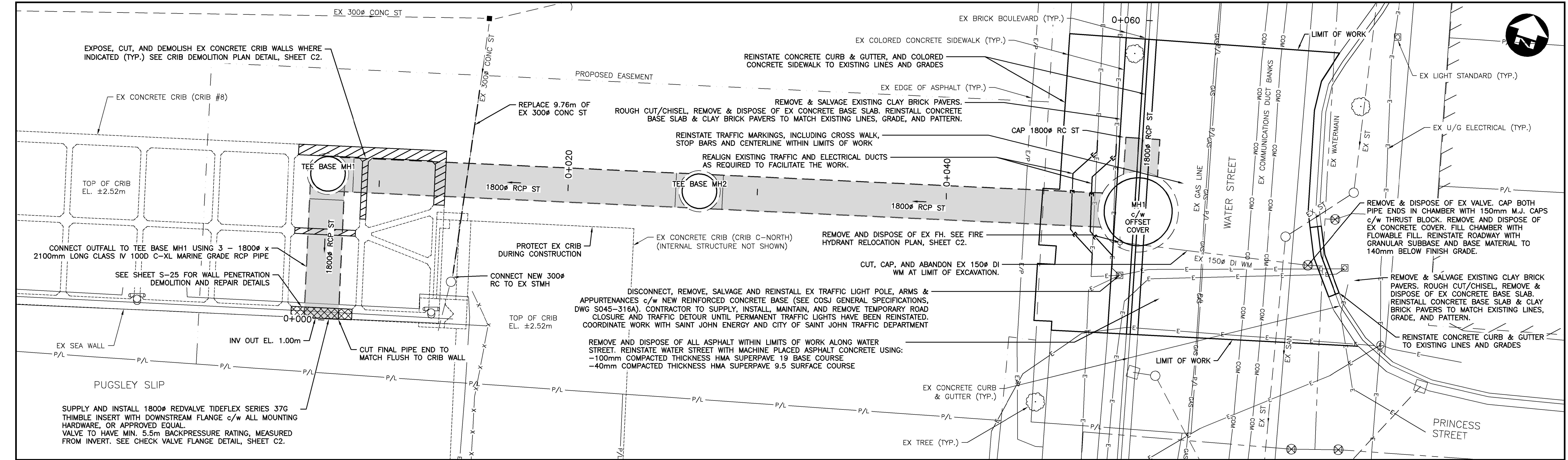
DESIGN	REVIEWED BY
WH	BL
DRAWN	CHECKED BY
PB	WH
DATE	January 22, 2021
SCALE	AS SHOWN

SEAWALL REFURBISHMENT  
SAINT JOHN, NB

SEWER OUTFALL  
DEMOLITION DETAILS

PROJECT NO.  
20-2454

SHEET NO.  
S25



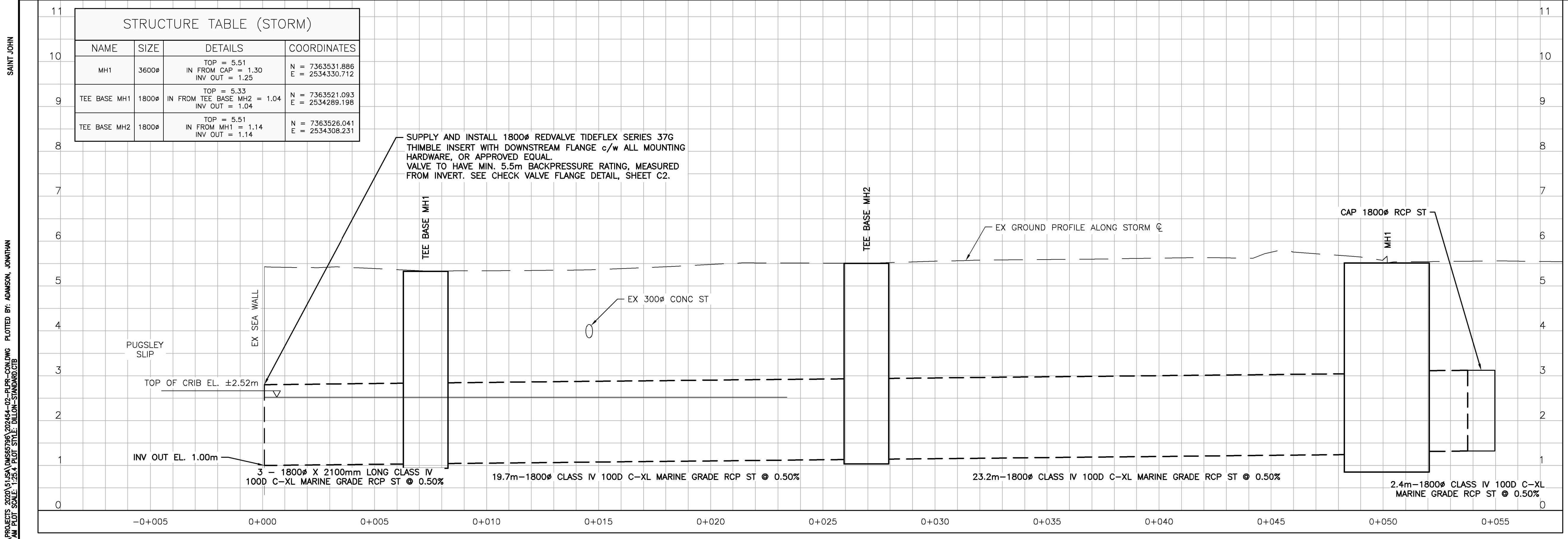
STRUCTURE TABLE (STORM)

NAME	SIZE	DETAILS	COORDINATES
MH1	3600ø	TOP = 5.51 IN FROM CAP = 1.30 INV OUT = 1.25	N = 7363531.886 E = 2534330.712
TEE BASE MH1	1800ø	TOP = 5.33 IN FROM TEE BASE MH2 = 1.04 INV OUT = 1.04	N = 7363521.093 E = 2534289.198
TEE BASE MH2	1800ø	TOP = 5.51 IN FROM MH1 = 1.14 INV OUT = 1.14	N = 7363526.041 E = 2534308.231

LEGEND

PROPERTY LINE	P/L
R.O.W.	---
PROPOSED EASEMENT	---
EXISTING STORM SEWER	---
PROPOSED STORM SEWER	---
EXISTING SANITARY SEWER	---
EXISTING WATERMAIN	---
EXISTING GAS MAIN	GAS
EXISTING COMMUNICATIONS	COM
EXISTING LIGHT STANDARD	⊠
EXISTING HYDRANT	⊙
EXISTING ELECTRICAL MH	⊕

- GENERAL NOTES:
- CONTRACTOR TO ENSURE THAT ALL MUNICIPAL INFRASTRUCTURE, PUBLIC UTILITIES, NATURAL GAS AND OTHER INFRASTRUCTURE ARE LOCATED IN THE FIELD PRIOR TO THE START OF EXCAVATION.
  - ALL TRENCHING, SHORING AND PROTECTION OF ADJACENT INFRASTRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  - CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, LABOUR AND MATERIALS NECESSARY TO DEWATER AND MAINTAIN DRY TRENCH AND WORK AREA FOR THE DURATION OF THE WORK.
  - ALL DIMENSIONS ARE IN MILLIMETRES. ELEVATIONS IN GEODETIC METRES AND CHAINAGES IN METRES. ELEVATIONS ON THIS PLAN ARE BASED ON THE CANADIAN GEODETIC VERTICAL DATUM OF 1928.
  - THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON-SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THE ENGINEER PRIOR TO CONSTRUCTION.
  - ALL PROPERTY LINE INFORMATION OBTAINED FROM S.N.B AND IS APPROXIMATE ONLY. EXISTING ELEVATIONS AND PIPE INVERTS SHALL BE CONFIRMED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL LIMIT ACTIVITY TO OWNER'S PROPERTY AND/OR EASEMENT IN THE OWNER'S NAME.
  - THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION.
  - IF ANY ITEMS NOT SHOWN ON THE DRAWINGS ARE DISCOVERED DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.



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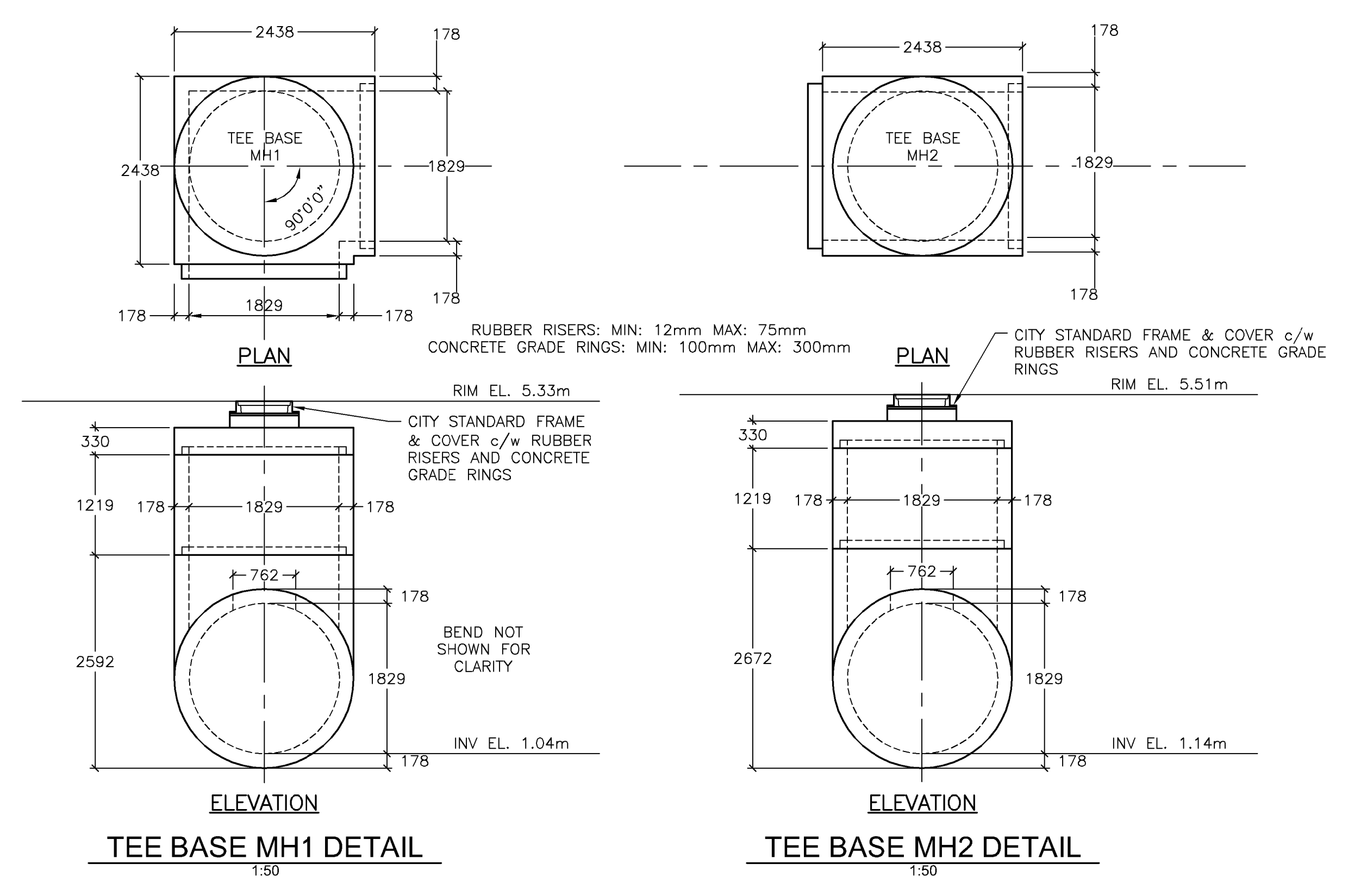
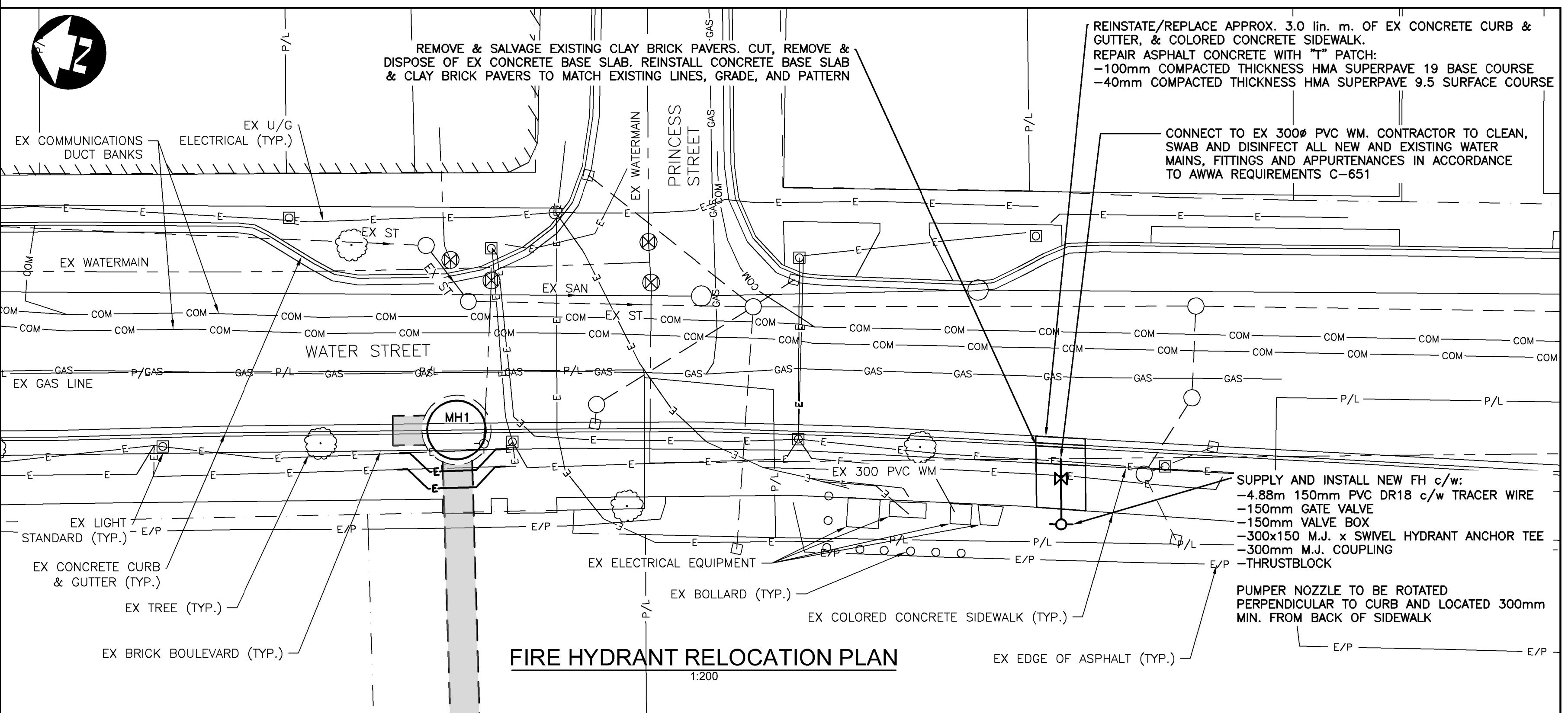
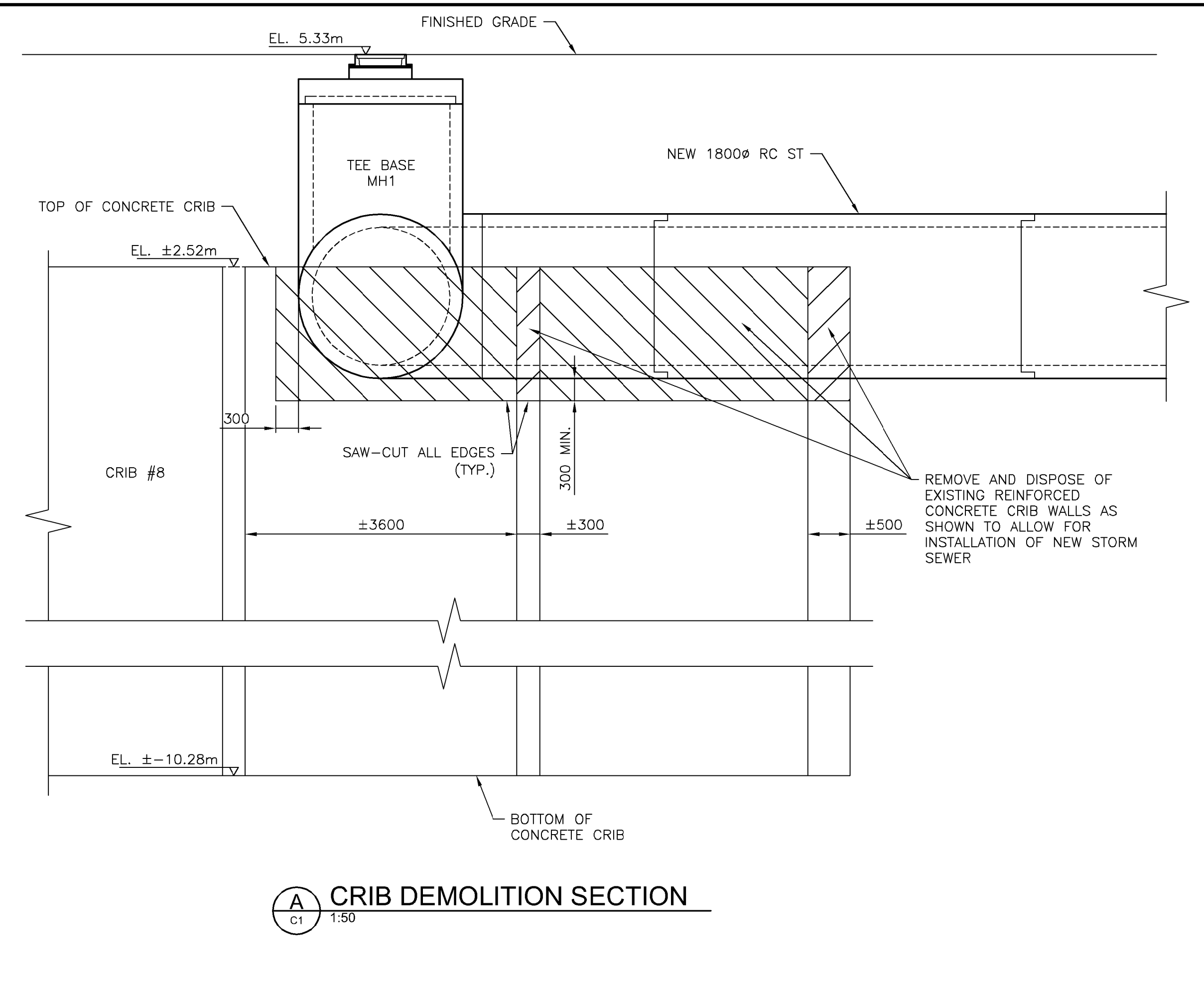
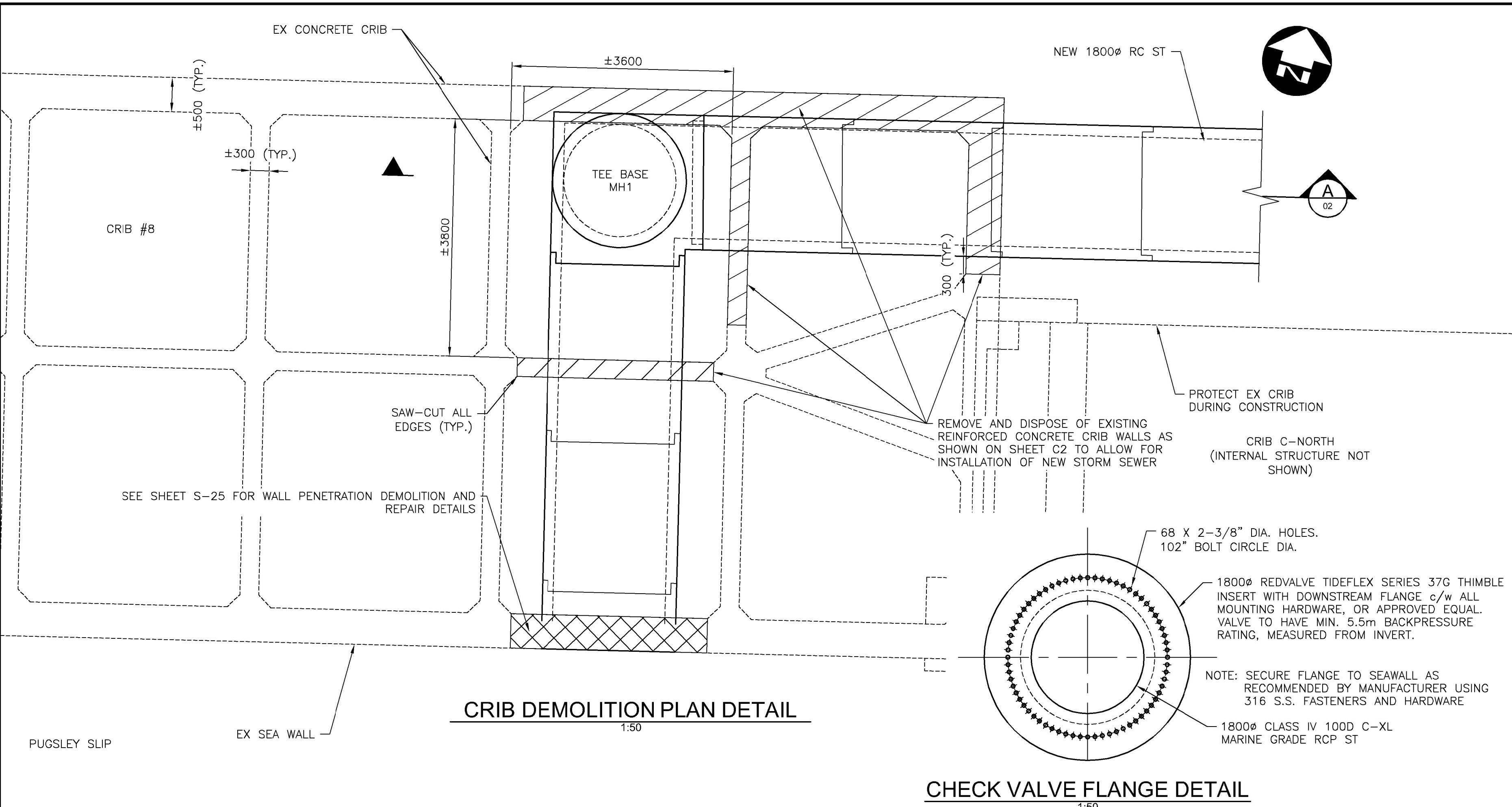
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DRAWN	JSA	CHECKED BY	JDH
DATE	January 22, 2021		
SCALE	H 1:100 V 1:50		
ISSUED FOR	ISSUED FOR	DATE	BY
0	ISSUED FOR TENDER	26-01-21	JDH
A	95% CLIENT REVIEW	18-01-21	JDH

SEAWALL REFURBISHMENT  
SAINT JOHN, NB

**STORM SEWER OUTFALL  
PLAN & PROFILE**  
STA. 0+000 - STA. 0+060

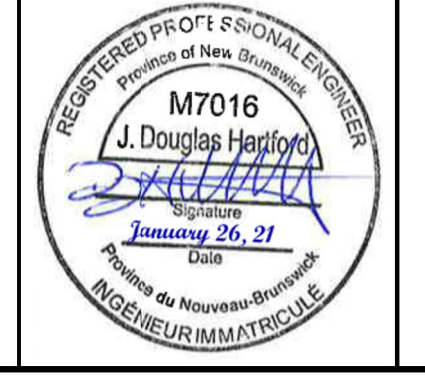
PROJECT NO. 20-2454  
SHEET NO. C1

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 PLOT DATE: 2021-01-26 @ 10:37:53 AM PLOT SCALE: 1:250 PLOT STYLE: DILLON-STD.ACT



FILENAME: C:\P\WORKING DIRECTORY\PROJECTS\2020\5\USA\DWG56789\202454-02-PLPR-CON.DWG PLOTTED BY: ADAMSON, JONATHAN  
 PLOT DATE: 2021-01-26 @ 10:43:11 AM PLOT SCALE: 1:250 PLOT STYLE: DILLON-STD.AWT  
 SAINT JOHN

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DESIGN	JDH	REVIEWED BY	DPH
DRAWN	JSA	CHECKED BY	JDH
DATE	January 22, 2021		
SCALE	AS NOTED		
ISSUED FOR	ISSUED FOR TENDER	DATE	26-01-21
	95% CLIENT REVIEW	DATE	18-01-21

SEAWALL REFURBISHMENT  
 SAINT JOHN, NB  
**STORM SEWER OUTFALL  
 DETAILS**

PROJECT NO. 20-2454  
 SHEET NO. **C2**