

# LOCK 24 CONCRETE CANAL WALL REHABILITATION

## TRENT SEVERN WATERWAY, ONTARIO

### DRAWING INDEX:


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 MA-02 - EXISTING CONDITIONS, DEMOLITION AND REMOVALS  
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 C-02 - NEW STRUCTURE LAYOUT  
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 C-04 - TYP. SECTIONS AND DETAILS  
 C-05 - TYP. SECTIONS AND DETAILS

D-01 - TYP. DETAILS

L-01 - NEW LANDSCAPE PLAN AND TYP. DETAILS

 TRENT SEVERN WATERWAY,  
 NATIONAL HISTORIC SITE OF CANADA,  
 PARKS CANADA AGENCY



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revision	description	date
0	ISSUED FOR TENDER	07/02/2015

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- A Detail No.  
No. du détail
- B drawing no. - where detail required  
dessin no. - où détail exigé
- C drawing no. - where detailed  
dessin no. - où détaillé

project title  
titre du projet  
**PETERBOROUGH ONTARIO**

CONCRETE CANAL WALL REHABILITATION  
 LOCK 24, TRENT SEVERN WATERWAY, PARKS  
 CANADA AGENCY

drawing title  
titre du dessin  
**TITLE PAGE**

drawn by  
dessine par  
**A.MARCZENKO**

designed by  
conc par  
**P.L. / W.H. / A.M.**

approved by  
approuve par  
**P.LAMPKIN**

tender  
soumission  
**DUNCAN MANSER** project manager  
administrateur  
de projets

project date  
date du projet  
**JUNE 16, 2015**

project no.  
no. du projet  
**30025771-4272-34**

drawing no.  
dessine no.  
**TP-00**



0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 millimetres

• Soundings are valid only for the date and time they were taken.  
 • This plan is NOT FOR NAVIGATION  
 • In the ordinary practice of good seamanship, navigators use updated hydrographic charts for navigation of their vessels.

- LEGEND:**
- ⊕ BM# BENCHMARK
  - × 213.21 ELEVATIONS RELATIVE TO SITE BENCHMARK
  - 210.7 SOUNDINGS RELATIVE TO SITE BENCHMARK
  - EXISTING PIPE BOLLARDS AND MOORING RINGS
  - ▲ EXISTING CAST IRON BUTTON BOLLARDS

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CONCRETE CANAL WALL REHABILITATION  
 LOCK 24, TRENT SEVERN WATERWAY, PARKS  
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drawing title / titre du dessin  
**LOCK 24 EXISTING CONDITIONS**

drawn by / dessiné par  
**A.MARCZENKO**

designed by / conçu par  
**P.L. / W.H. / A.M.**

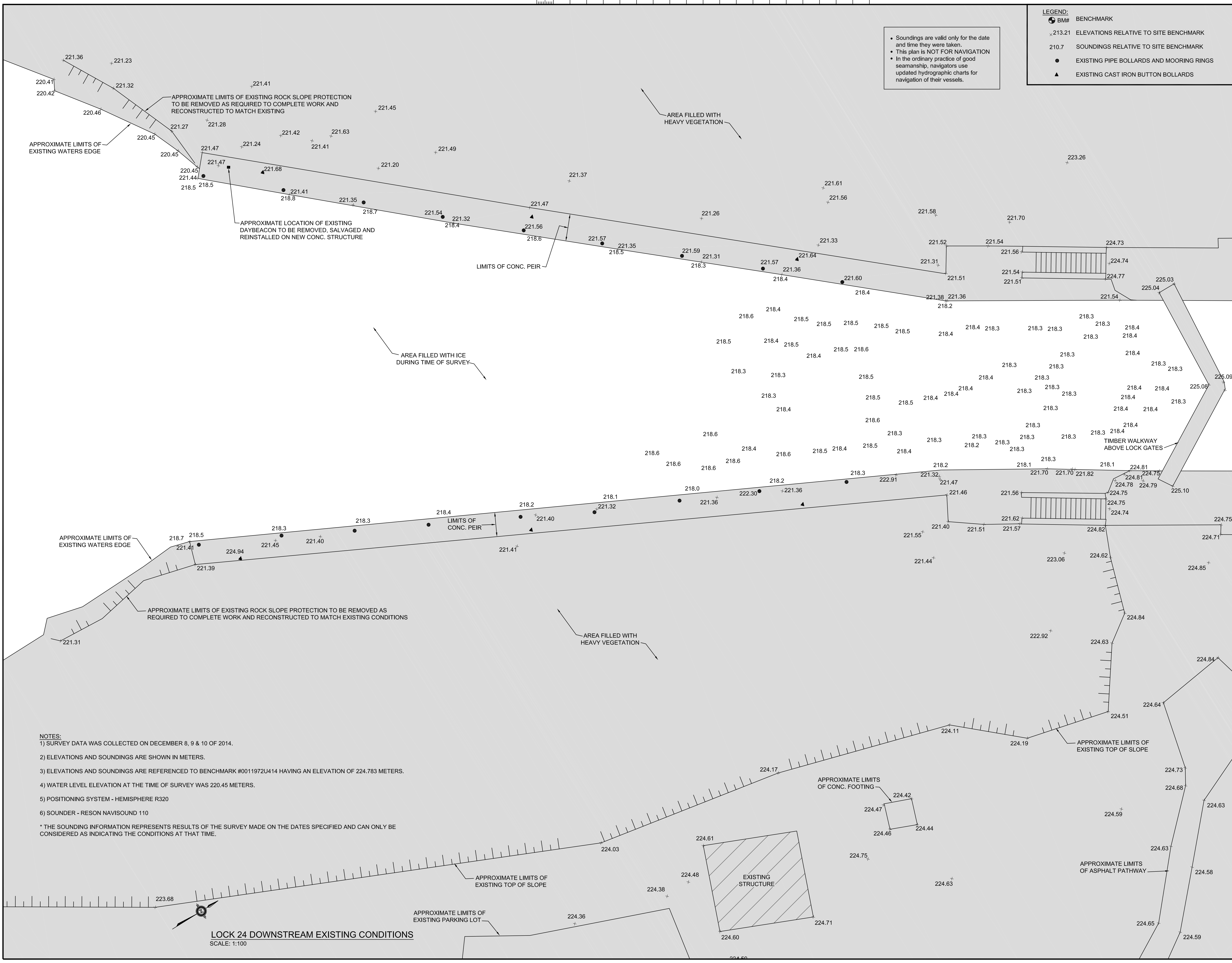
approved by / approuvé par  
**P.LAMPKIN**

tender submission / soumission de projet  
**DUNCAN MANSER** project manager / administrateur de projets

project date / date du projet  
**JUNE 16, 2015**

project no. / no. du projet  
**30025771-4272-34**

drawing no. / dessin no.  
**MA-01**

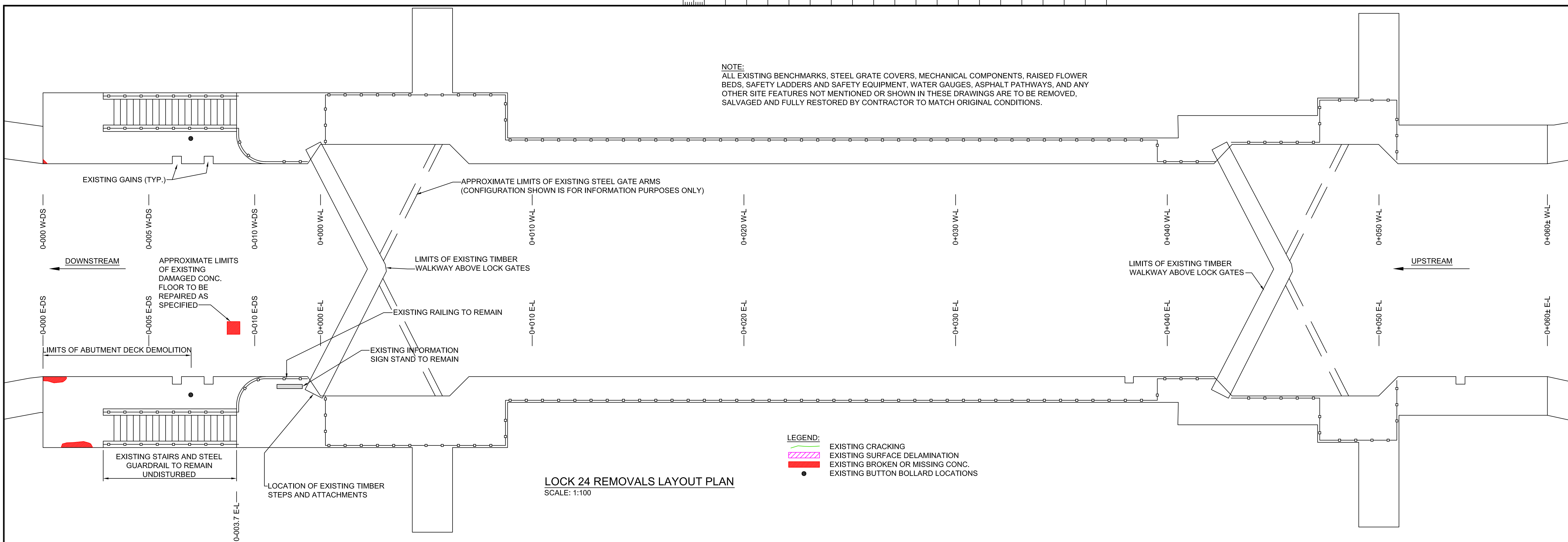


- NOTES:**
- 1) SURVEY DATA WAS COLLECTED ON DECEMBER 8, 9 & 10 OF 2014.
  - 2) ELEVATIONS AND SOUNDINGS ARE SHOWN IN METERS.
  - 3) ELEVATIONS AND SOUNDINGS ARE REFERENCED TO BENCHMARK #0011972U414 HAVING AN ELEVATION OF 224.783 METERS.
  - 4) WATER LEVEL ELEVATION AT THE TIME OF SURVEY WAS 220.45 METERS.
  - 5) POSITIONING SYSTEM - HEMISPHERE R320
  - 6) SOUNDER - RESON NAVISOUND 110
- \* THE SOUNDING INFORMATION REPRESENTS RESULTS OF THE SURVEY MADE ON THE DATES SPECIFIED AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THAT TIME.



0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 millimetres

NOTE:  
ALL EXISTING BENCHMARKS, STEEL GRATE COVERS, MECHANICAL COMPONENTS, RAISED FLOWER BEDS, SAFETY LADDERS AND SAFETY EQUIPMENT, WATER GAUGES, ASPHALT PATHWAYS, AND ANY OTHER SITE FEATURES NOT MENTIONED OR SHOWN IN THESE DRAWINGS ARE TO BE REMOVED, SALVAGED AND FULLY RESTORED BY CONTRACTOR TO MATCH ORIGINAL CONDITIONS.

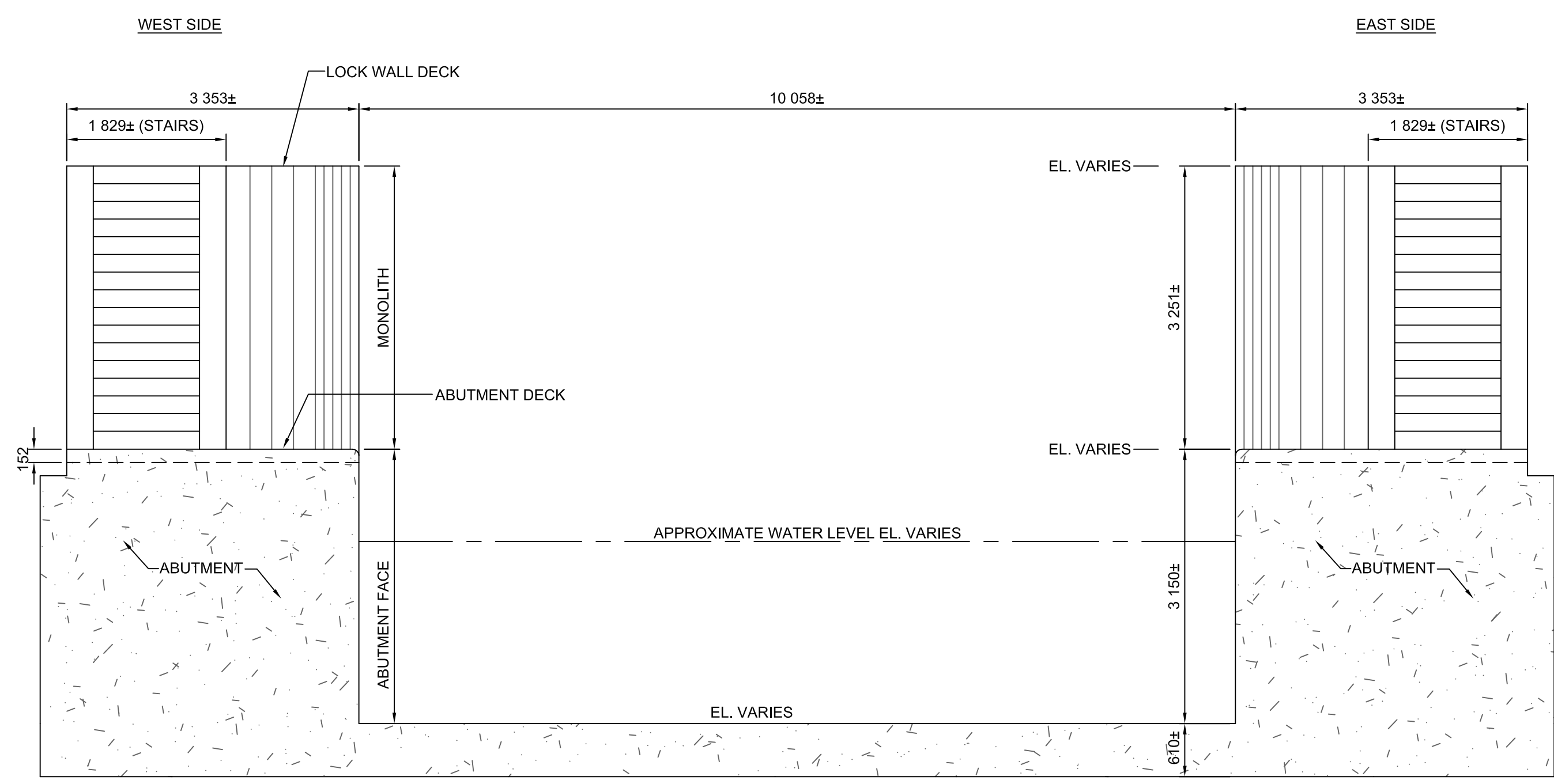


LOCK 24 REMOVALS LAYOUT PLAN  
SCALE: 1:100

NOTE:  
THE PHOTOGRAPH SHOWN OF THE EAST WALL HAS BEEN MIRRORED SO THE ORIENTATION IS A MATCH WITH THE STATIONING SHOWN ON THE REMOVALS LAYOUT PLAN. THE PHOTOGRAPH SHOWN IS FOR INFORMATION PURPOSES ONLY TO HELP WITH THE VISUALIZATION OF THE EXISTING DAMAGES ON THE VERTICAL FACE OF THE LOCK WALLS.



LOCK 24 ELEVATION VIEW (EAST WALL)  
SCALE: N.T.S.

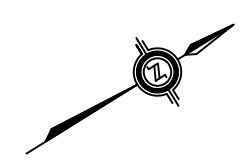


EXISTING STRUCTURE CONSTRUCTION (DOWNSTREAM) - 0-000 DS TO 0-010 DS  
SCALE: 1:50

NOTE:  
1) DIMENSIONS SHOWN IN THESE DETAILS ARE FROM HISTORIC DRAWING RECORDS AND ARE FOR INFORMATION PURPOSES ONLY.  
2) THE LEVELS AND FLOWS CONTAINED WITHIN THE ATTACHED HAVE BEEN PROVIDED TO THE CONTRACTOR FOR GUIDANCE ONLY AND SHOULD NOT BE ASSUMED TO BE ABSOLUTE. ANOMALIES IN WEATHER AND OTHER FORCES BEYOND THE CONTROL OF PARKS CANADA HAVE THE ABILITY TO GENERATE CONDITIONS UNFORESEEN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE CONSTRUCTED WORKS HAVE THE ABILITY TO WITHSTAND THESE CONDITIONS.

TRENT SEVERN WATERWAY,  
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Detail No. No. du détail	drawing no. - where detail required dessin no. - où détail exigé
A	
B	
C	

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LOCK 24, TRENT SEVERN WATERWAY, PARKS  
CANADA AGENCY

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**LOCK 24 EXISTING  
CONDITIONS, DEMOLITION  
AND REMOVALS**

drawn by  
dessiné par  
**A.MARCZENKO**

designed by  
conc par  
**P.L. / W.H. / A.M.**

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**P.LAMPKIN**

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**DUNCAN MANSER** project manager  
administrateur de projets

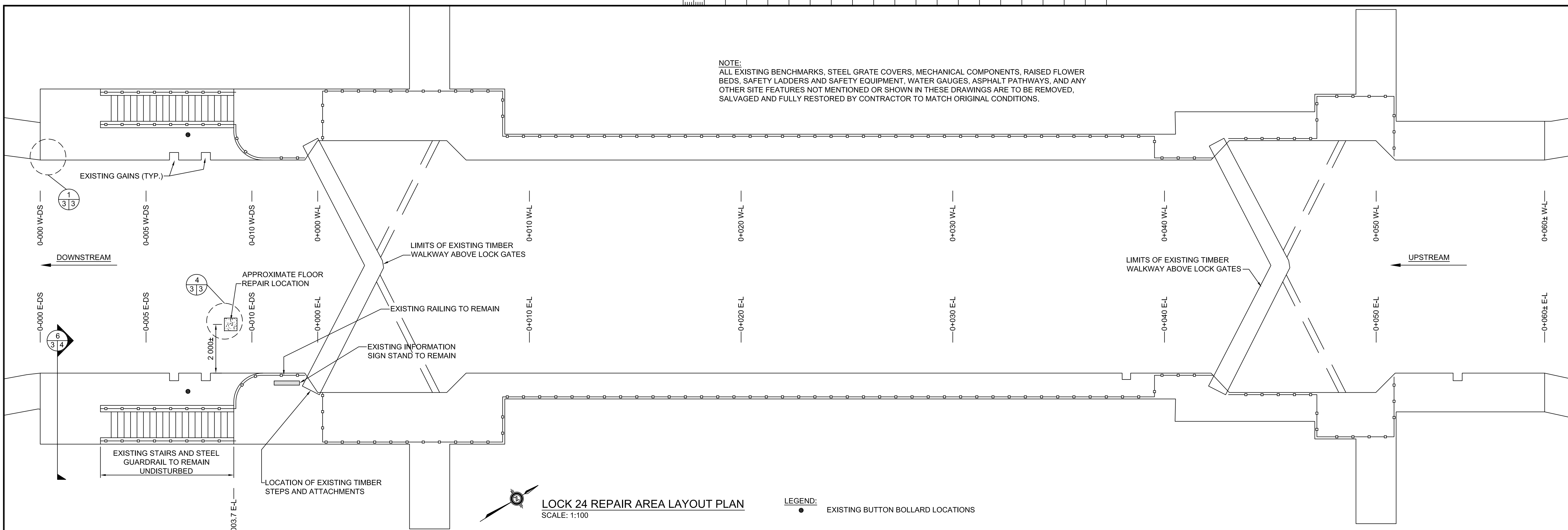
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drawing no.  
dessiné no.  
**MA-02**

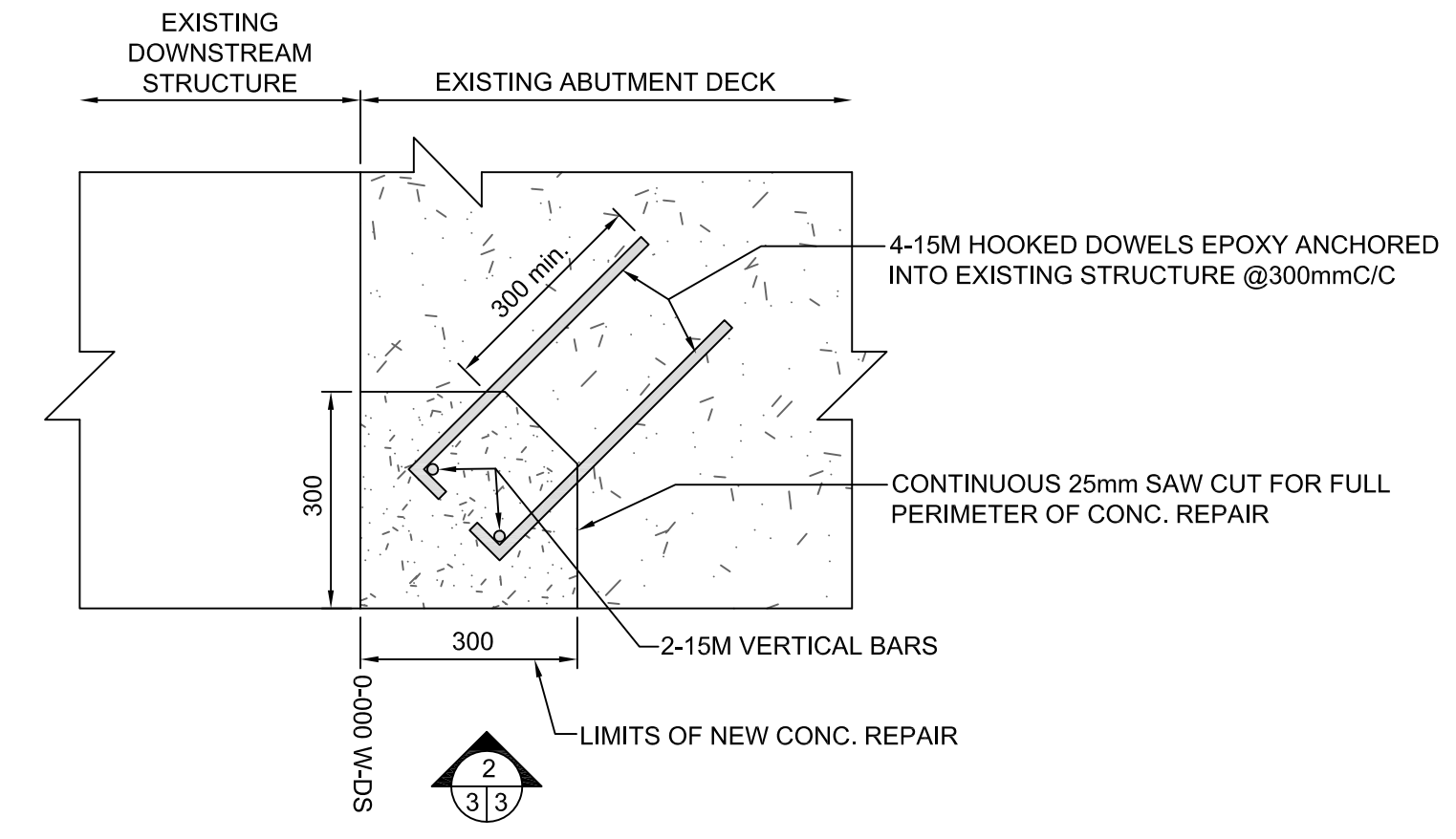
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 millimetres

**NOTE:**  
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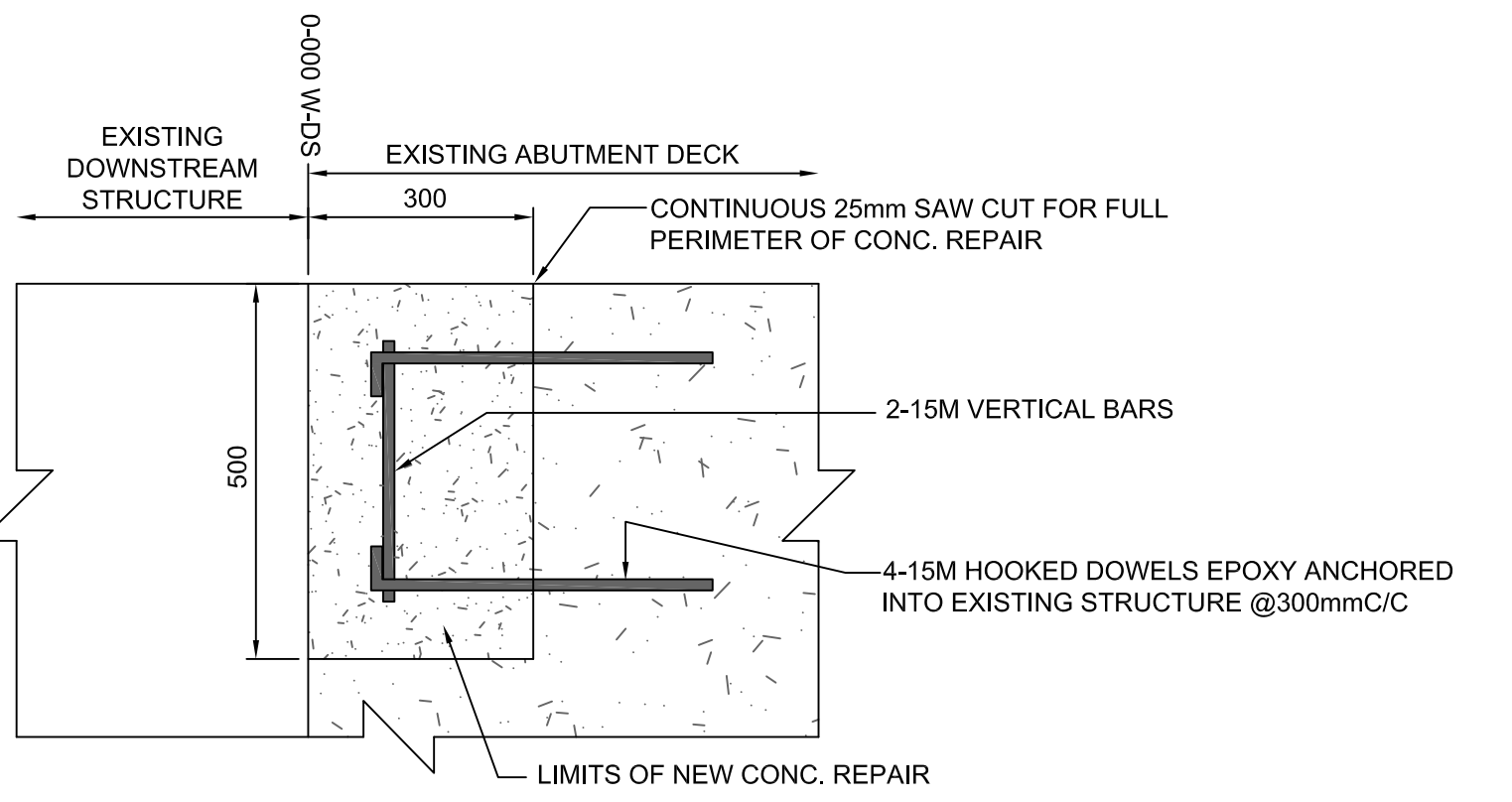


**LOCK 24 REPAIR AREA LAYOUT PLAN**  
SCALE: 1:100

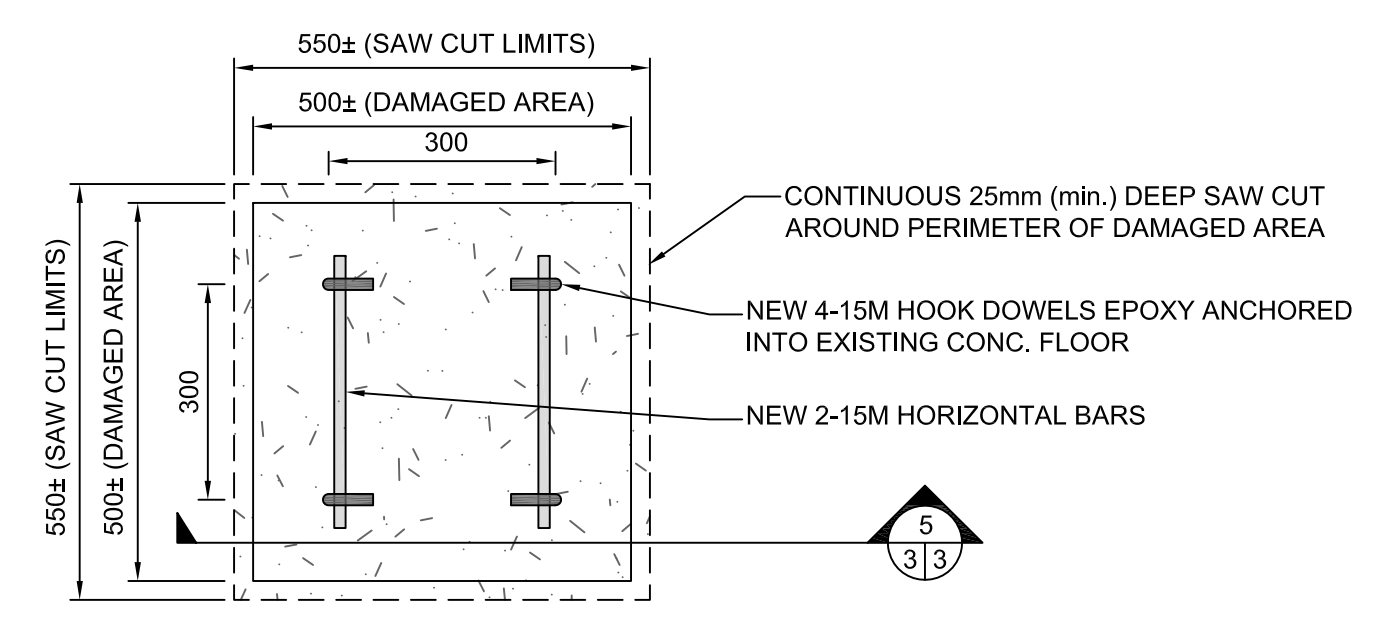
**LEGEND:**  
● EXISTING BUTTON BOLLARD LOCATIONS



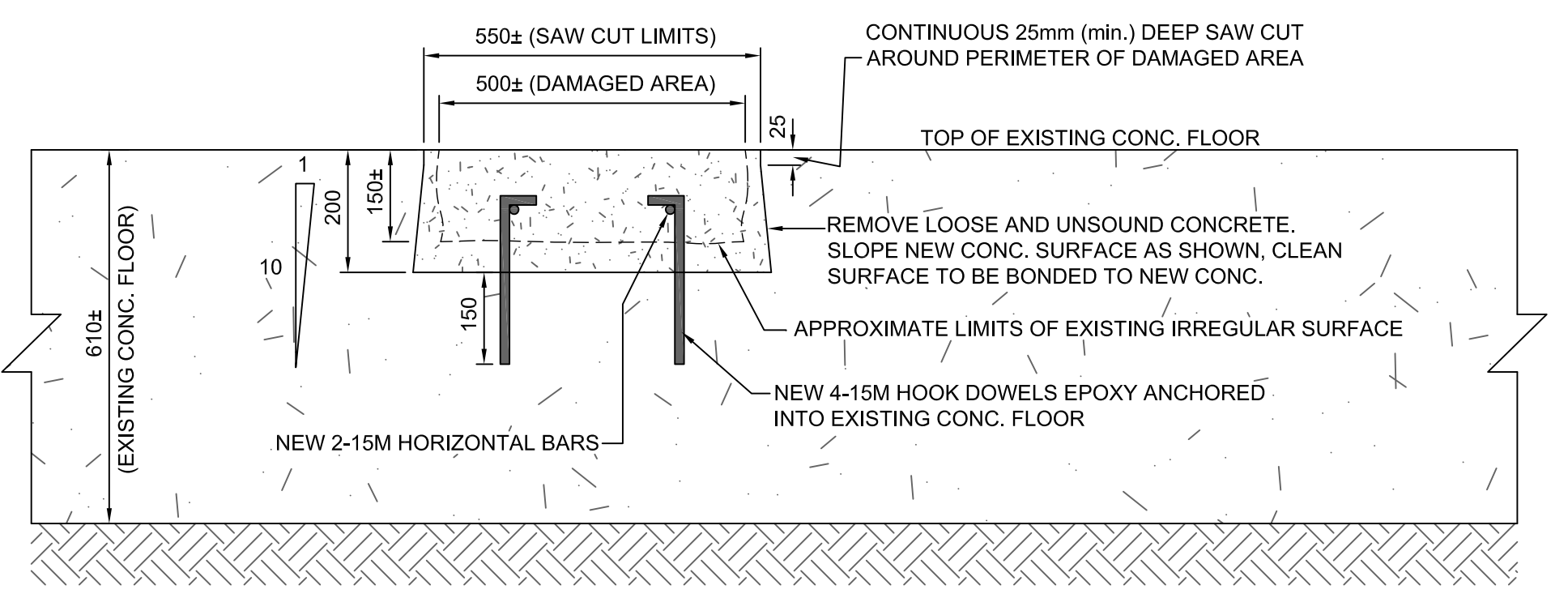
**1 CONCRETE DECK CORNER REPAIR DETAIL WEST SIDE DOWNSTREAM - (0-000 W-DS)**  
SCALE: 1:10



**2 CONCRETE DECK CORNER REPAIR DETAIL WEST SIDE DOWNSTREAM - (0-000 W-DS)**  
SCALE: 1:10



**4 PLAN VIEW OF NEW CONCRETE FLOOR REPAIR**  
SCALE: 1:10



**5 TYPICAL SECTION OF NEW CONCRETE FLOOR REPAIR**  
SCALE: 1:10

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**LOCK 24 REPAIR LIMITS  
AND TYP. DETAILS**

drawn by / dessiné par  
**A.MARCZENKO**

designed by / conçu par  
**P.L. / W.H. / A.M.**

approved by / approuvé par  
**P.LAMPKIN**

tender submission / soumission de soumission  
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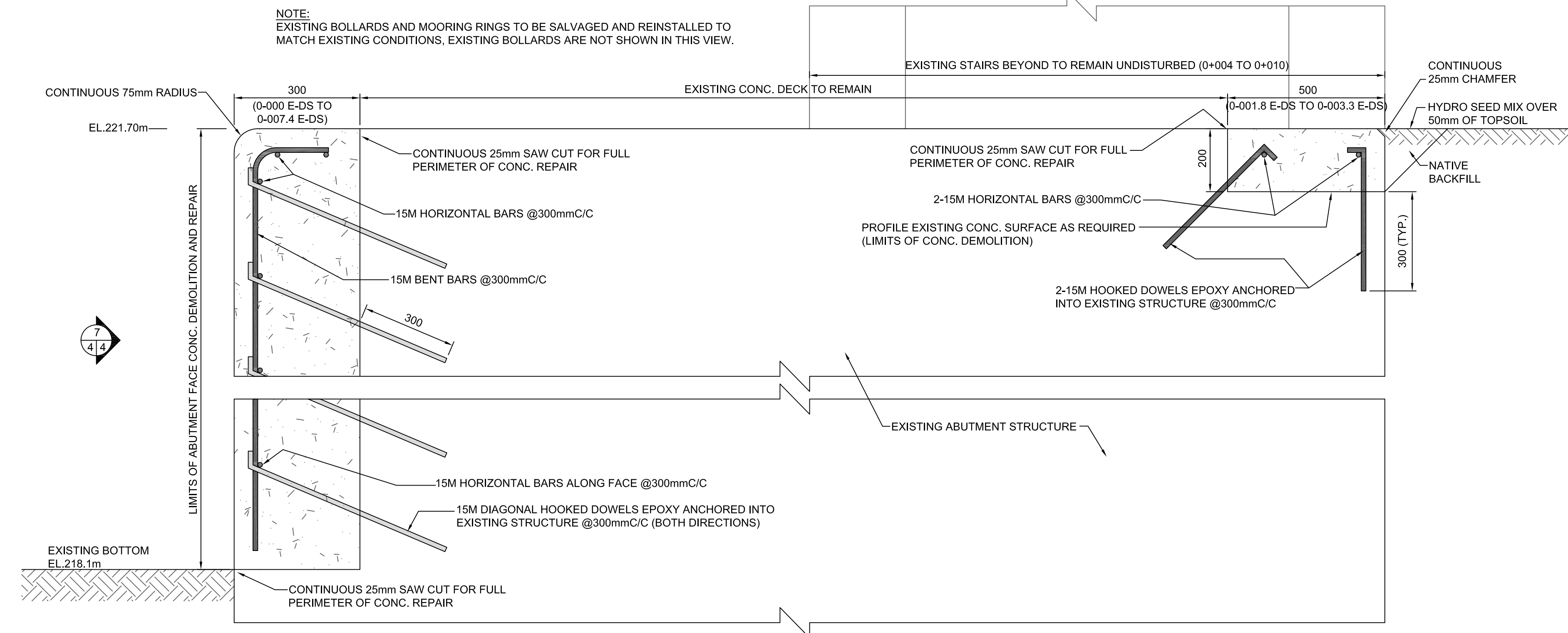
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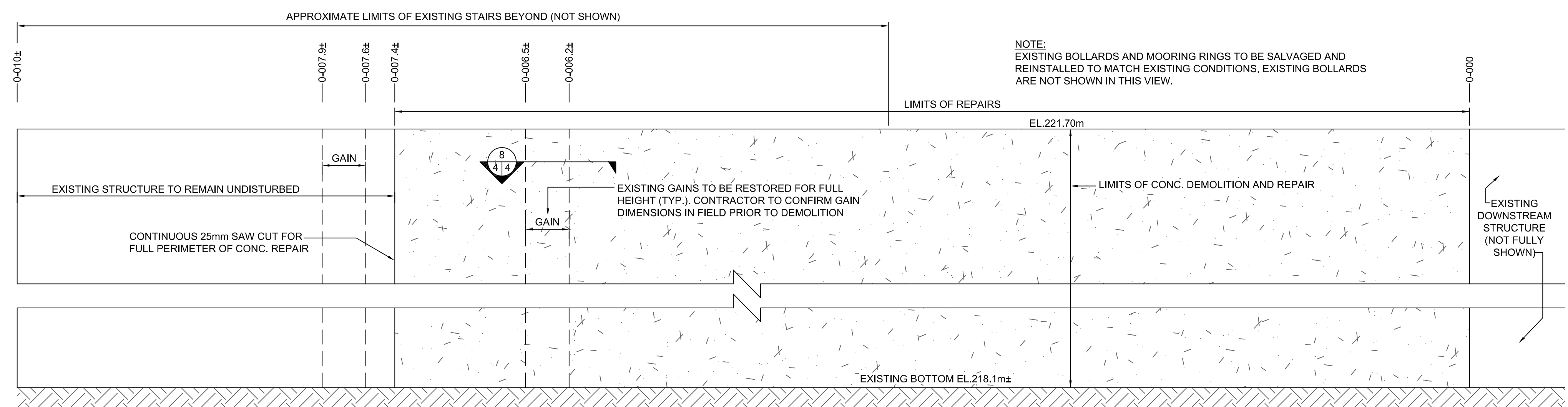
drawing no. / dessin no.  
**MA-03**



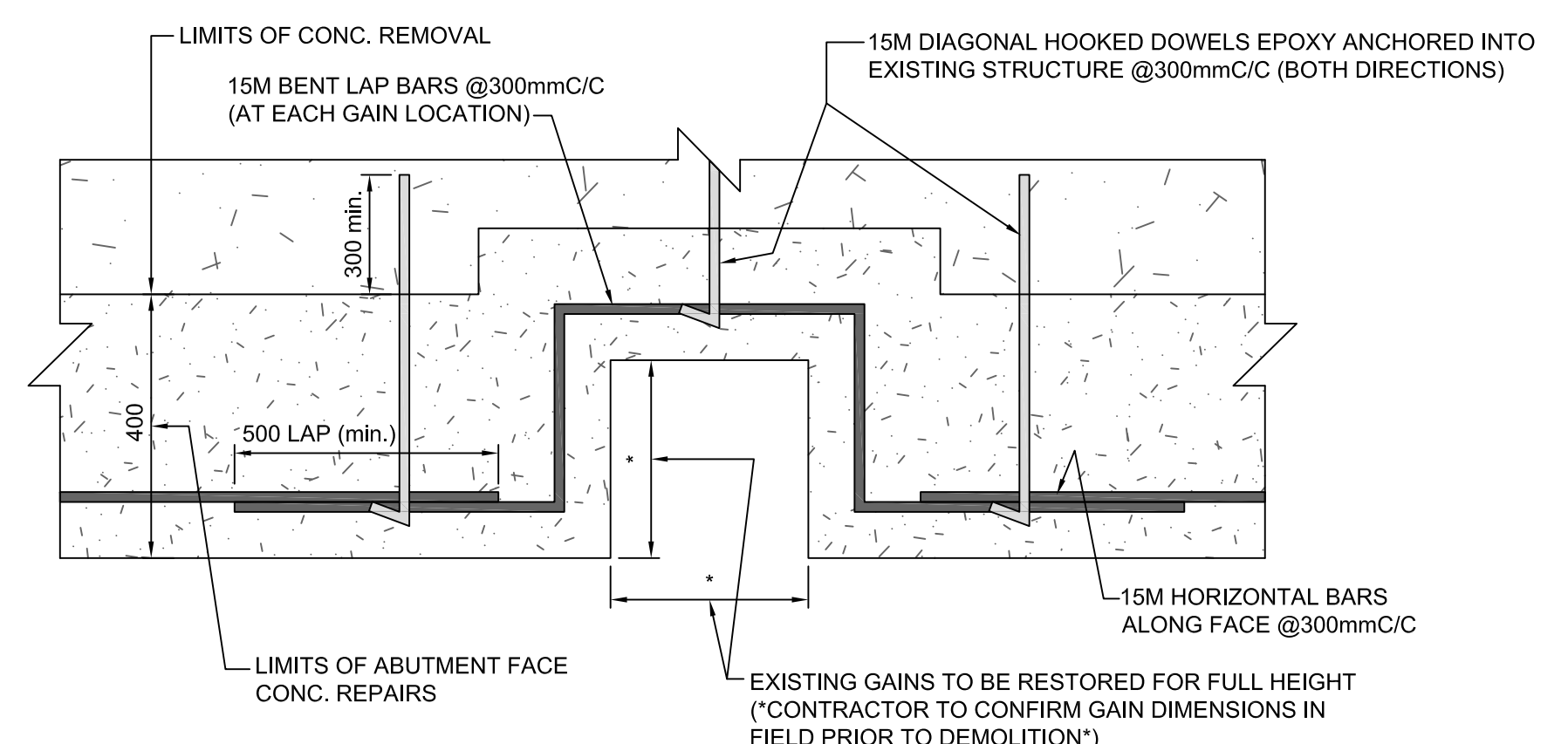
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 millimetres



6  
3/14  
CONC. DECK REPAIR DETAIL EAST SIDE DOWNSTREAM - (0-000 E-DS TO 0-007.4 E-DS)  
SCALE: 1:10



7  
4/14  
ELEVATION OF ABUTMENT FACE CONC. REPAIR LIMITS EAST SIDE DOWNSTREAM - (0-000 E-DS TO 0-010 E-DS)  
SCALE: 1:20



8  
4/14  
TYP. GAIN REBAR DETAIL  
SCALE: 1:10



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drawing title  
titre du dessin  
LOCK 24  
TYP. DETAILS

drawn by  
dessiné par  
A.MARCZENKO

designed by  
conc par  
P.L. / W.H. / A.M.

approved by  
approuvé par  
P.LAMPKIN

tender  
soumission  
DUNCAN MANSER

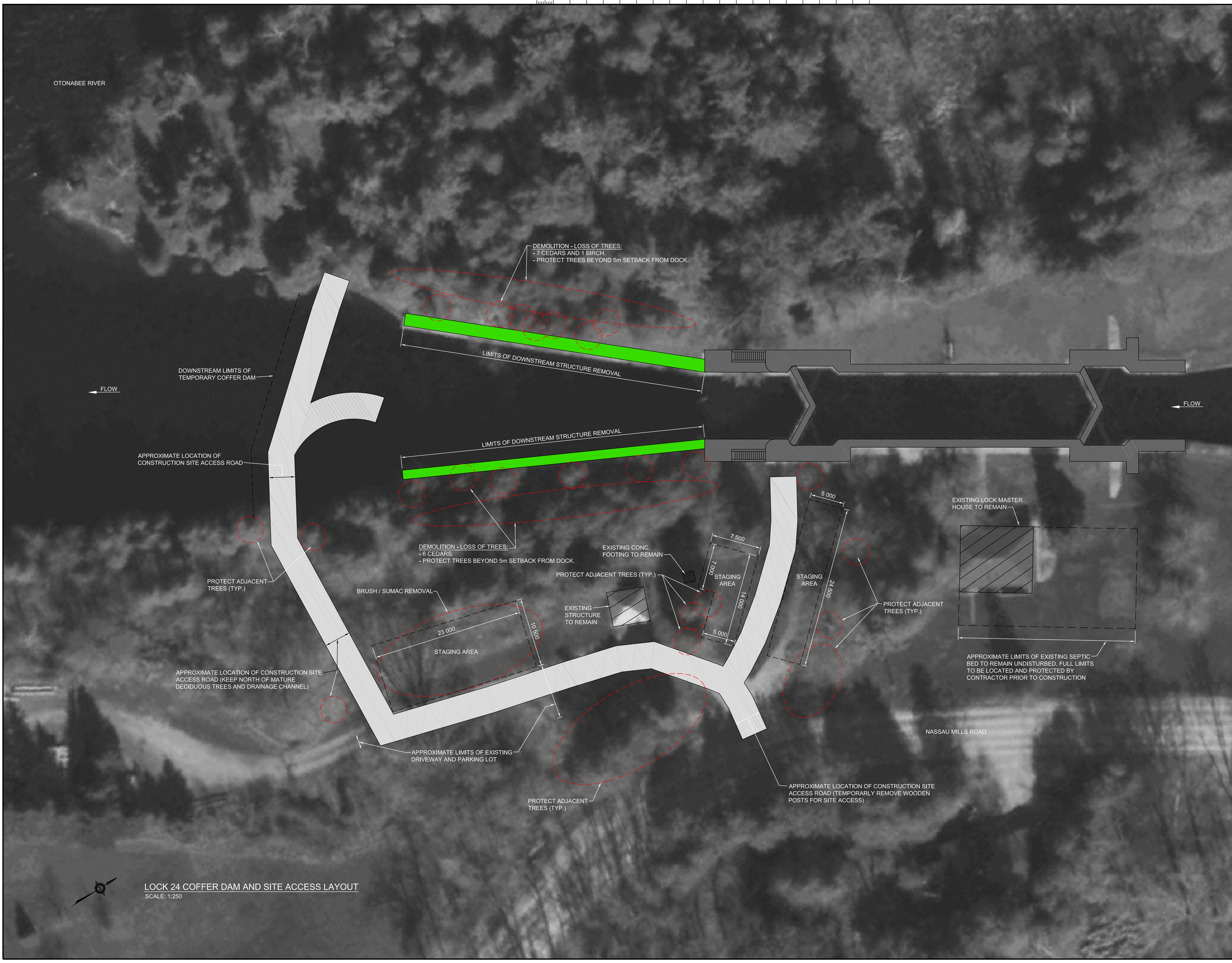
project manager  
administrateur  
de projets

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drawing no.  
dessiné no.  
MA-04





FLOW

FLOW

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**LOCK 24  
SITE ACCESS**

drawn by  
dessiné par  
**A.MARCZENKO**

designed by  
conc par  
**P.L. / W.H. / A.M.**

approved by  
approuvé par  
**P.LAMPKIN**

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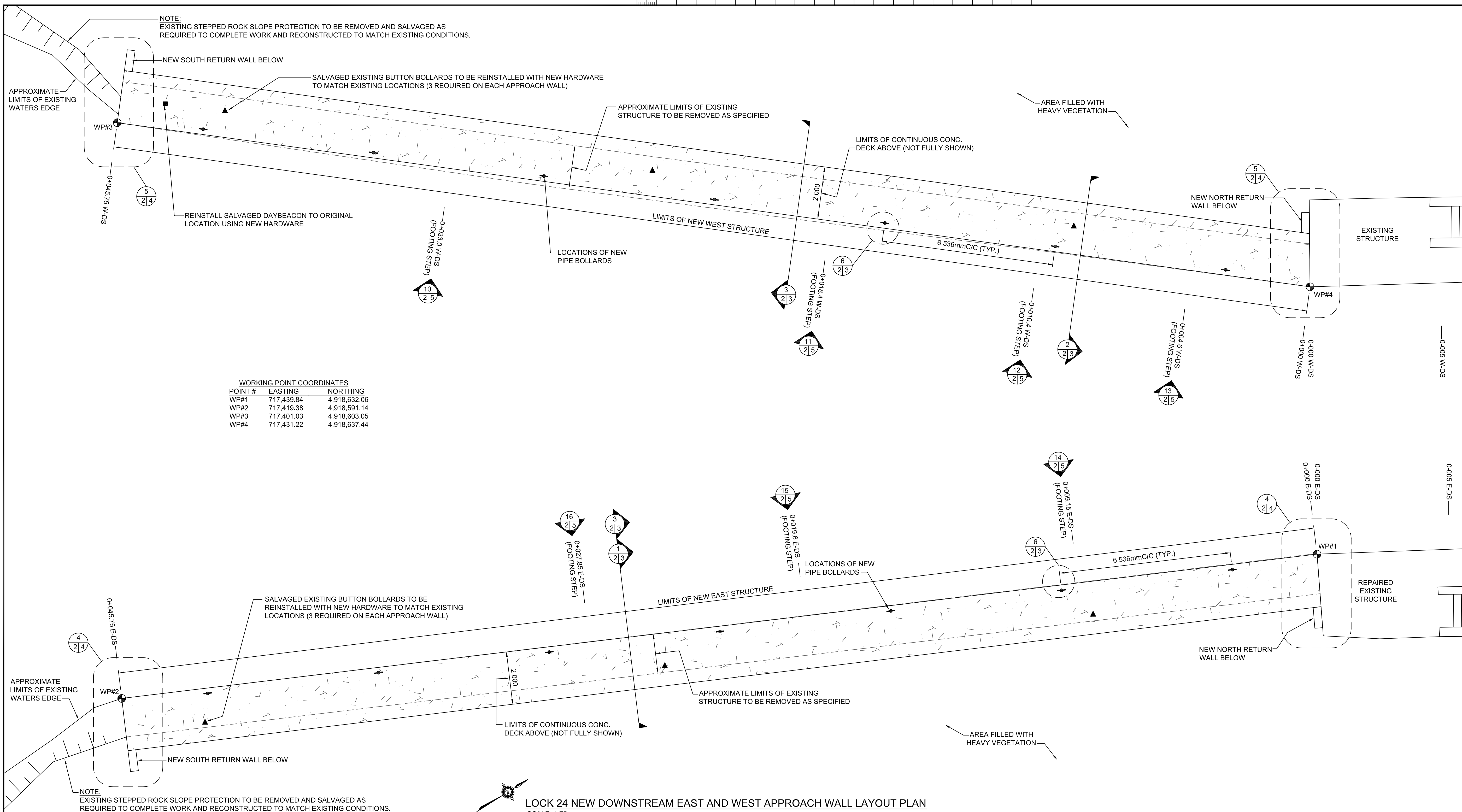
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drawing no.  
dessiné no.  
**C-01**

**LOCK 24 COFFER DAM AND SITE ACCESS LAYOUT**  
SCALE: 1:250



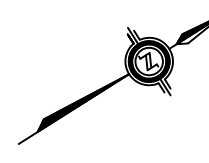
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WORKING POINT COORDINATES

POINT #	EASTING	NORTHING
WP#1	717,439.84	4,918,632.06
WP#2	717,419.38	4,918,591.14
WP#3	717,401.03	4,918,603.05
WP#4	717,431.22	4,918,637.44

NOTE:  
EXISTING STEPPED ROCK SLOPE PROTECTION TO BE REMOVED AND SALVAGED AS REQUIRED TO COMPLETE WORK AND RECONSTRUCTED TO MATCH EXISTING CONDITIONS.



**LOCK 24 NEW DOWNSTREAM EAST AND WEST APPROACH WALL LAYOUT PLAN**

SCALE: 1:75

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NEW STRUCTURE LAYOUT**

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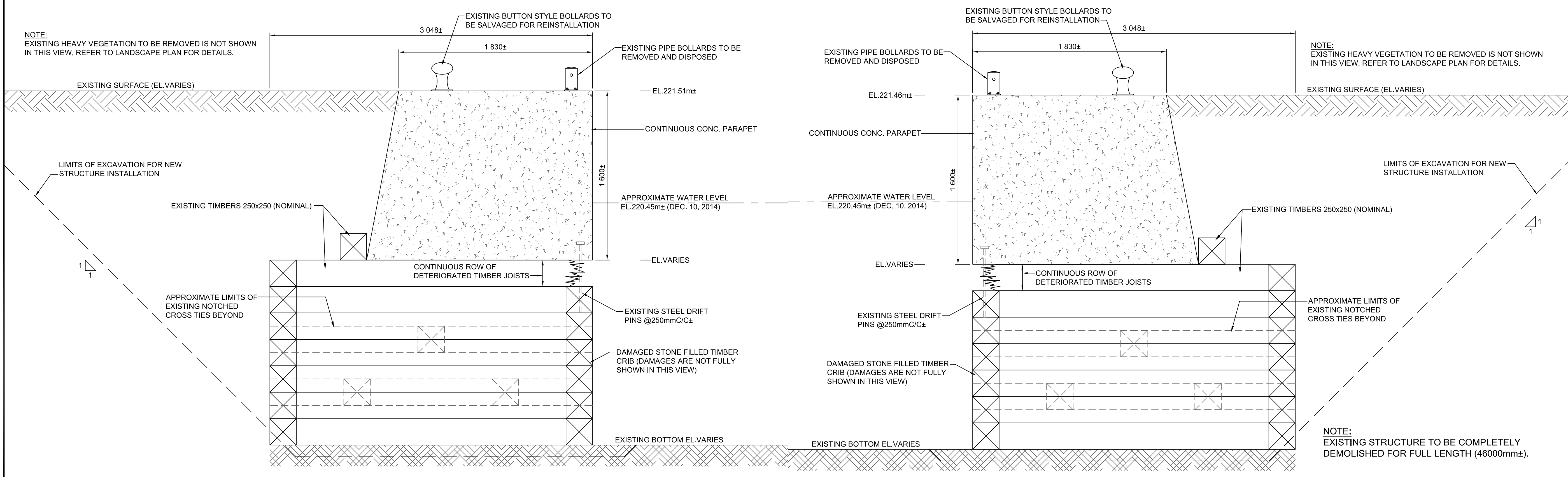
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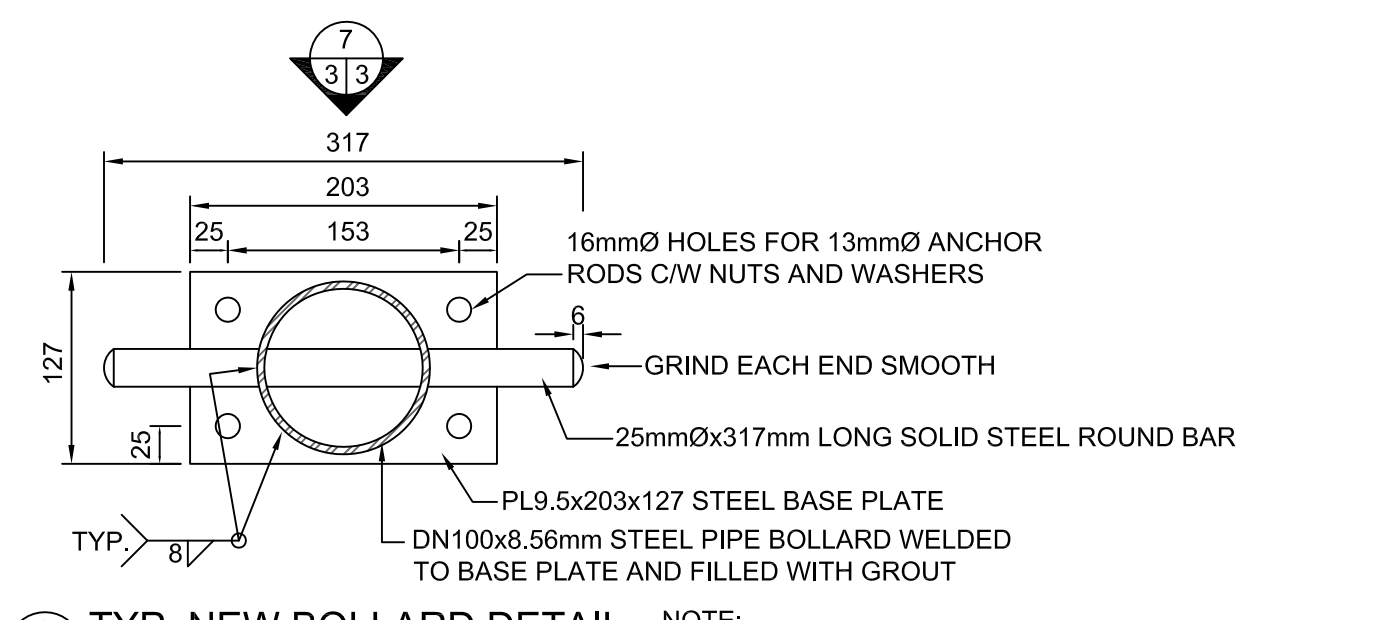
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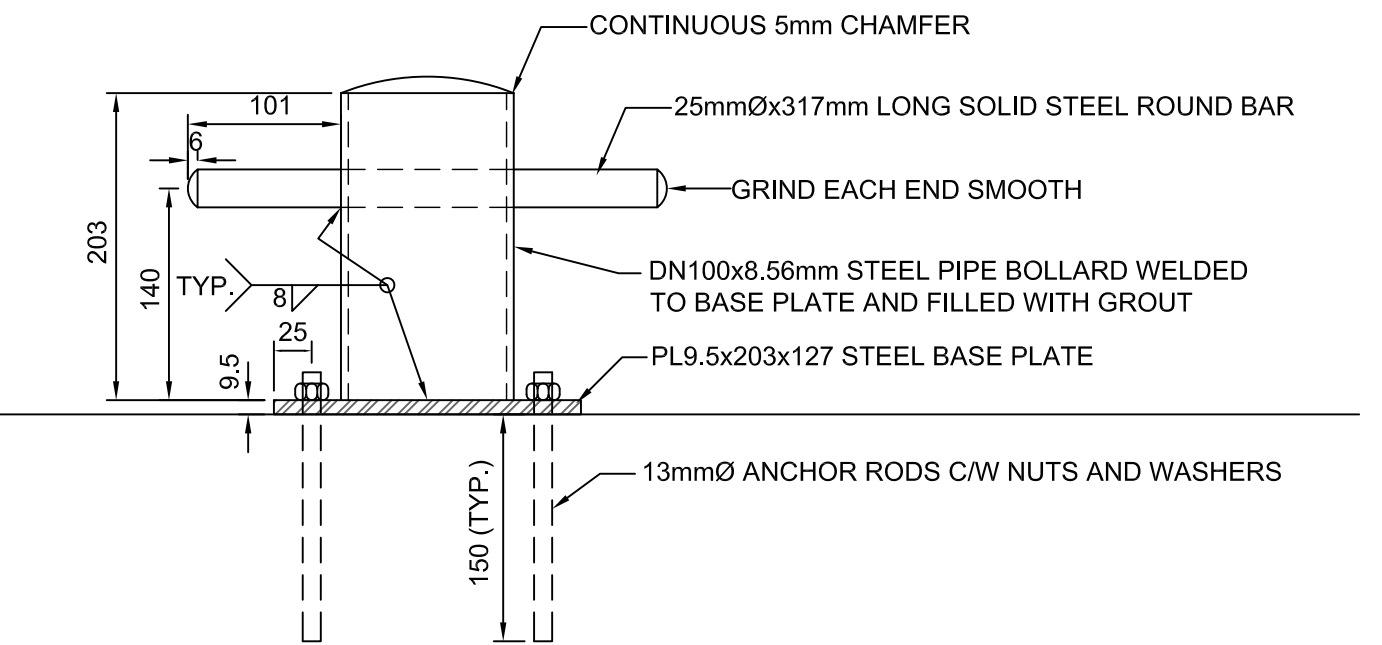
2 TYP. SECTION OF EXISTING WEST STRUCTURE - 0+000 W-DS TO 0+045.75 W-DS  
SCALE: 1:20

NOTE:  
EXISTING STRUCTURE TO BE COMPLETELY  
DEMOLISHED FOR FULL LENGTH (46000mm±).

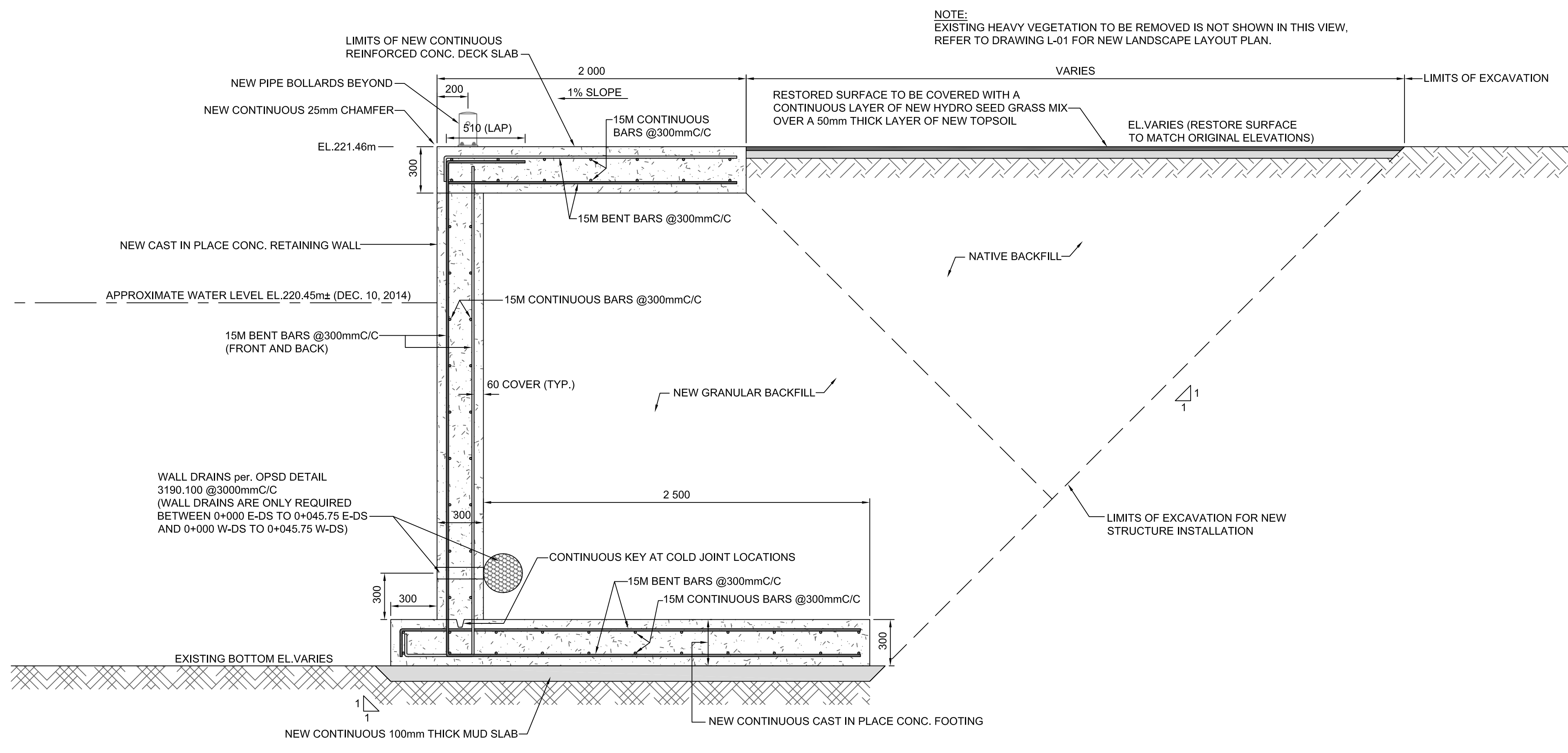
1 TYP. SECTION OF EXISTING EAST STRUCTURE - 0+000 E-DS TO 0+045.75 E-DS  
SCALE: 1:20



6 TYP. NEW BOLLARD DETAIL  
SCALE: 1:5  
NOTE:  
ALL NEW BOLLARDS AND HARDWARE TO BE GALVANIZED  
AFTER FABRICATION AND PRIOR TO INSTALLATION.



7 TYP. NEW BOLLARD ELEVATION DETAIL  
SCALE: 1:5



3 TYP. SECTION OF NEW EAST AND WEST STRUCTURE - (0+000 E-DS TO 0+045.75 E-DS AND 0+000 W-DS TO 0+045.75 W-DS)  
SCALE: 1:20

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AND DETAILS**

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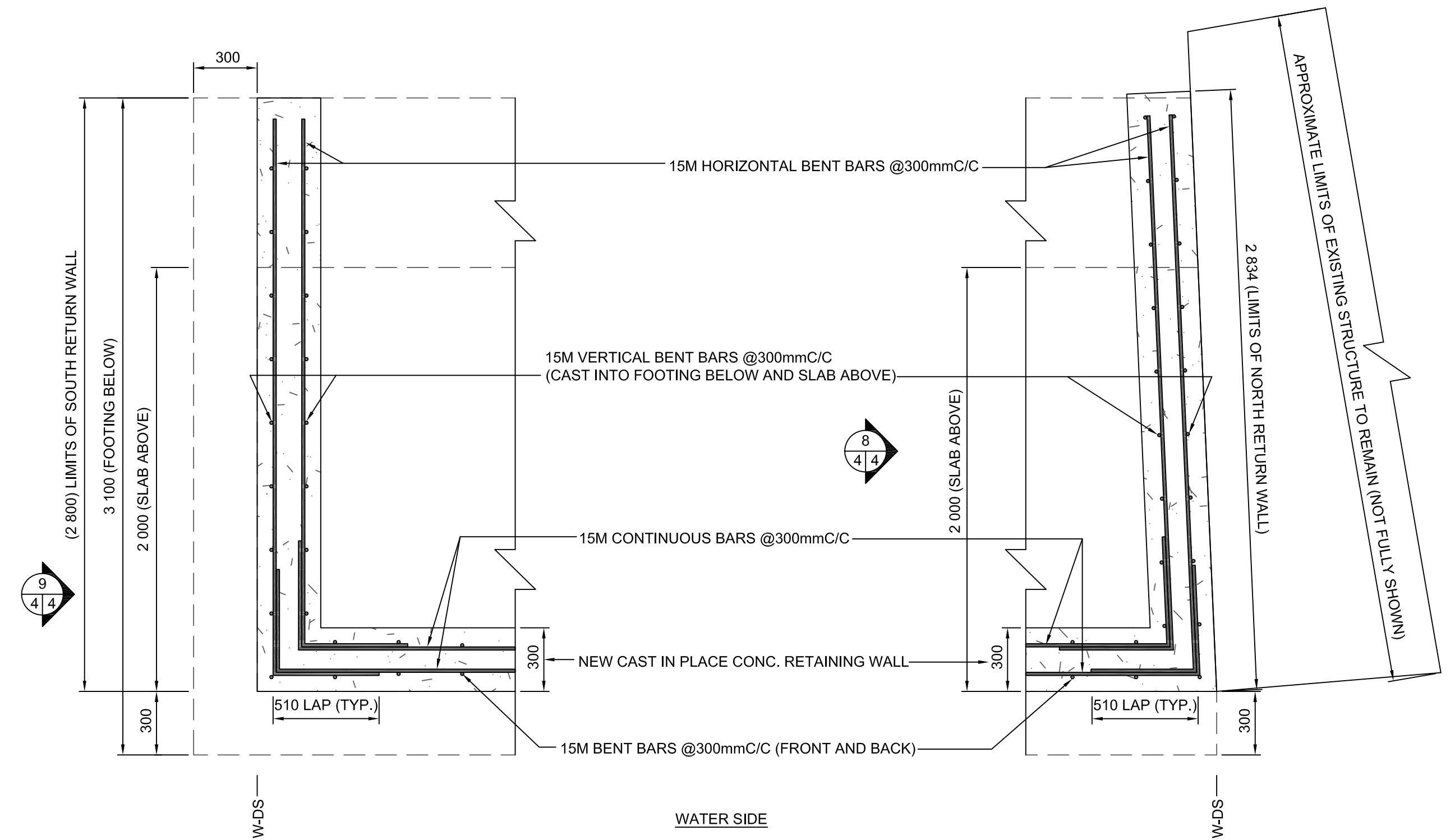
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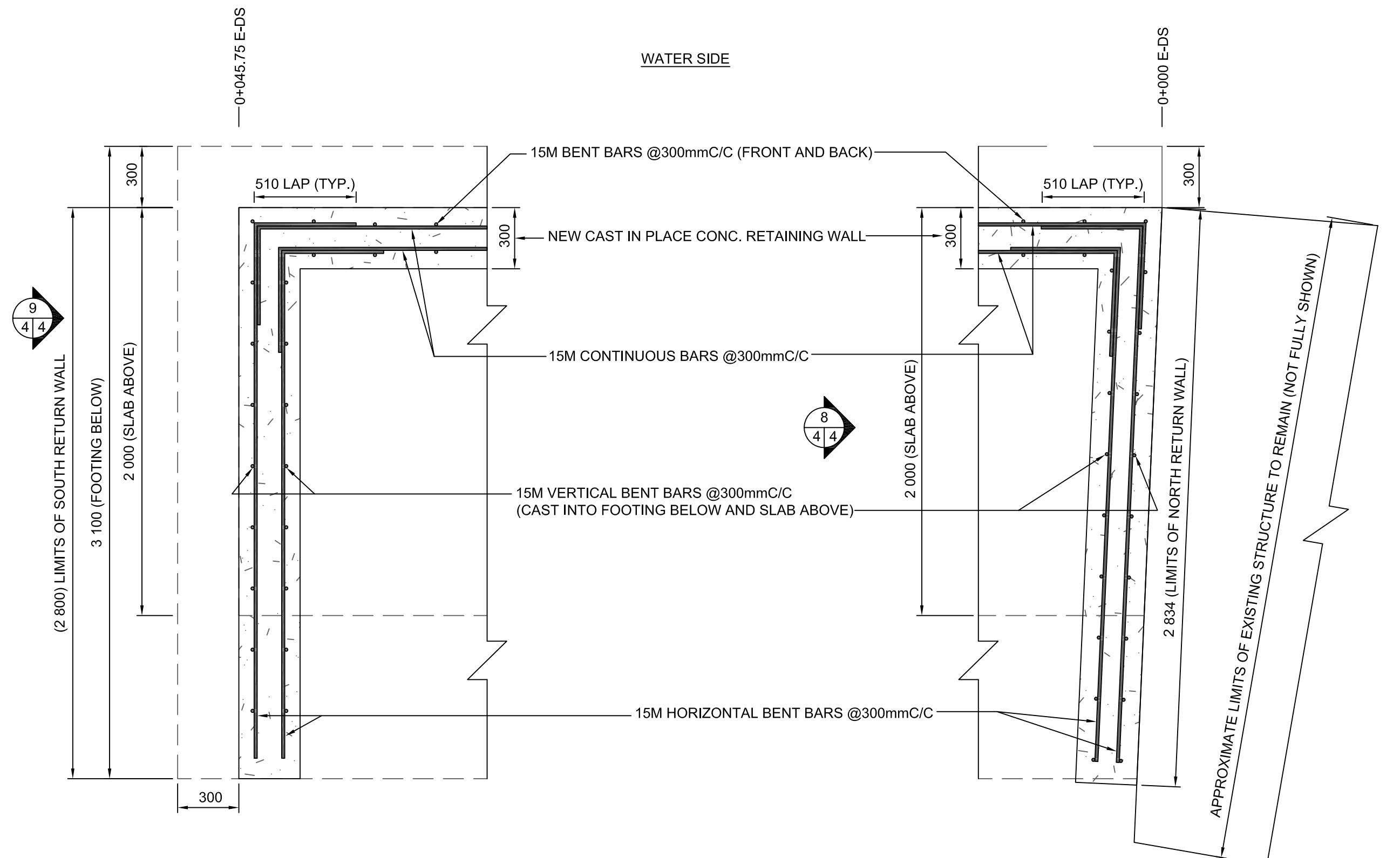
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**JUNE 16, 2015**

project no.  
no. du projet  
**30025771-4272-34**

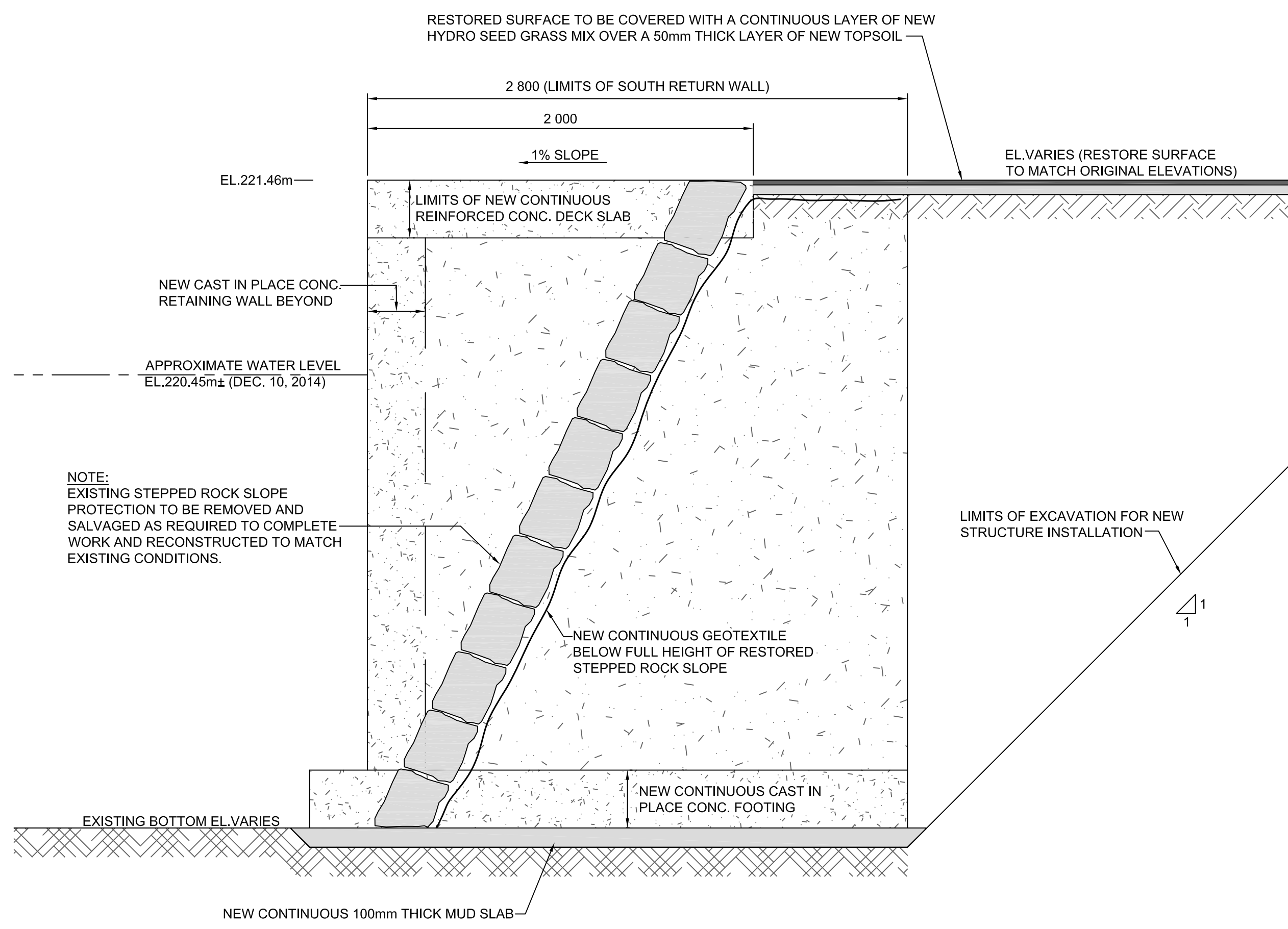
drawing no.  
dessiné no.  
**C-04**



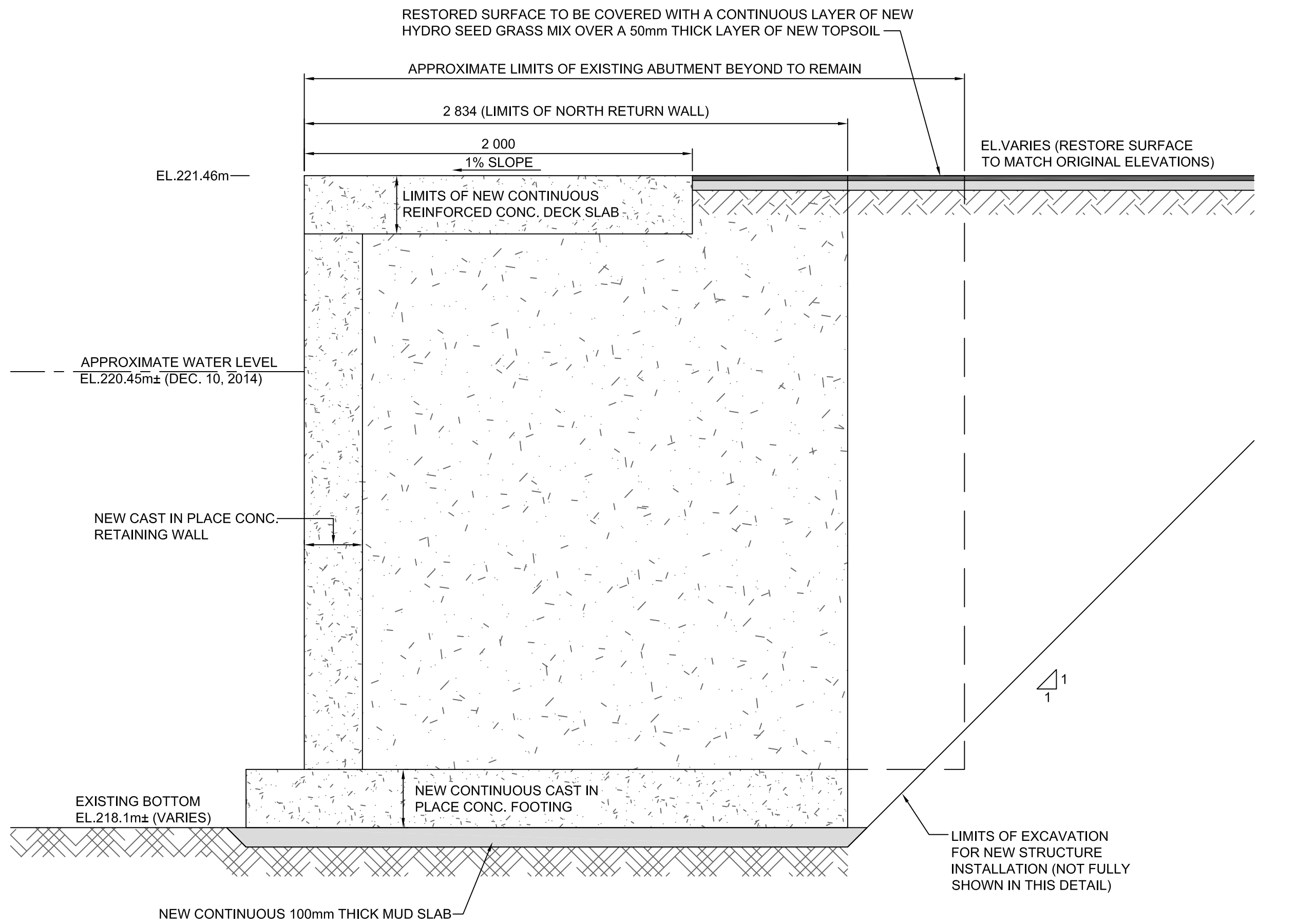
**WEST SIDE - TYP. REBAR LAYOUT OF NEW RETURN WALLS**  
SCALE: 1:20



**EAST SIDE - TYP. REBAR LAYOUT OF NEW RETURN WALLS**  
SCALE: 1:20

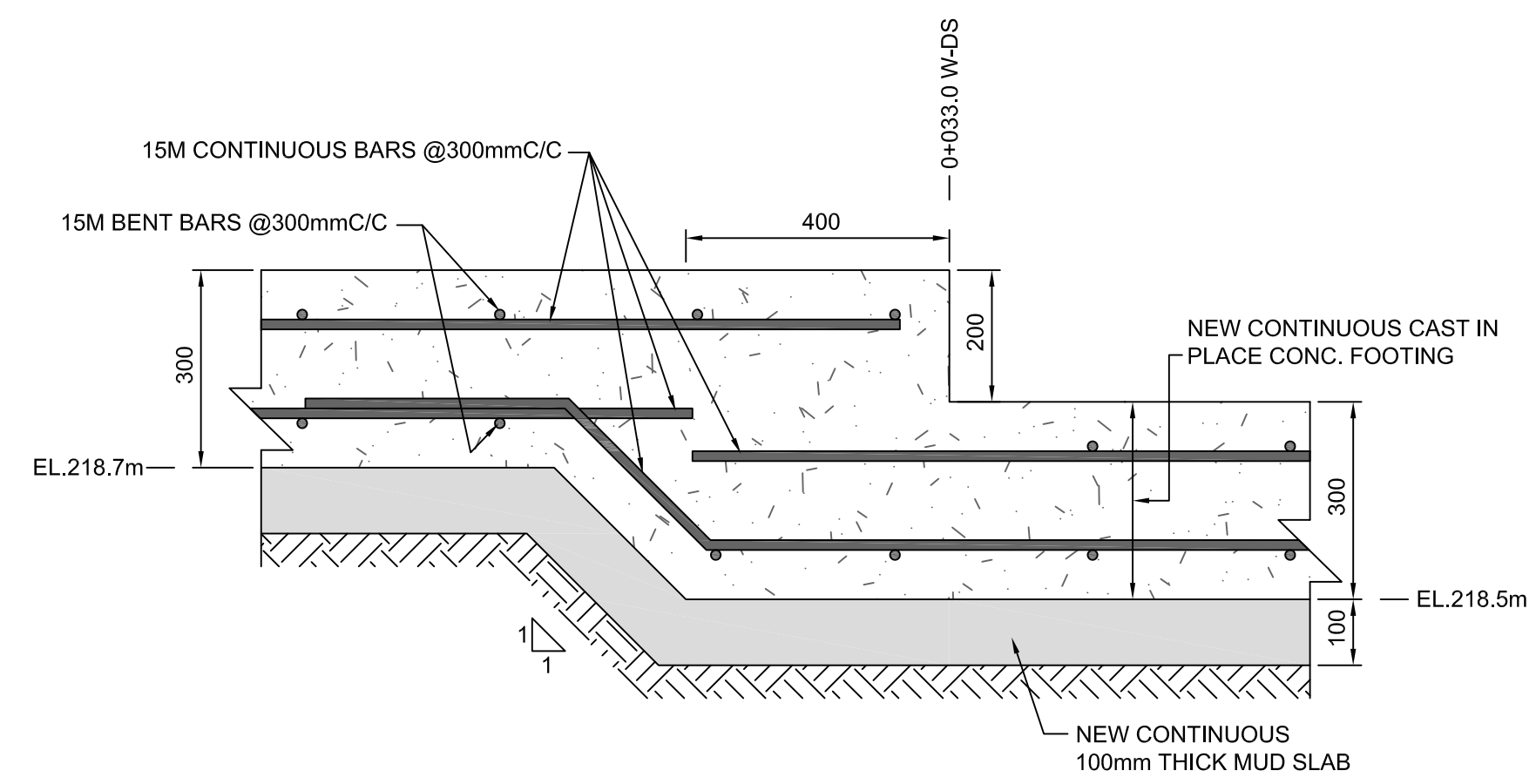


**ELEVATION OF NEW (EAST & WEST) SOUTH RETURN WALL**  
SCALE: 1:20

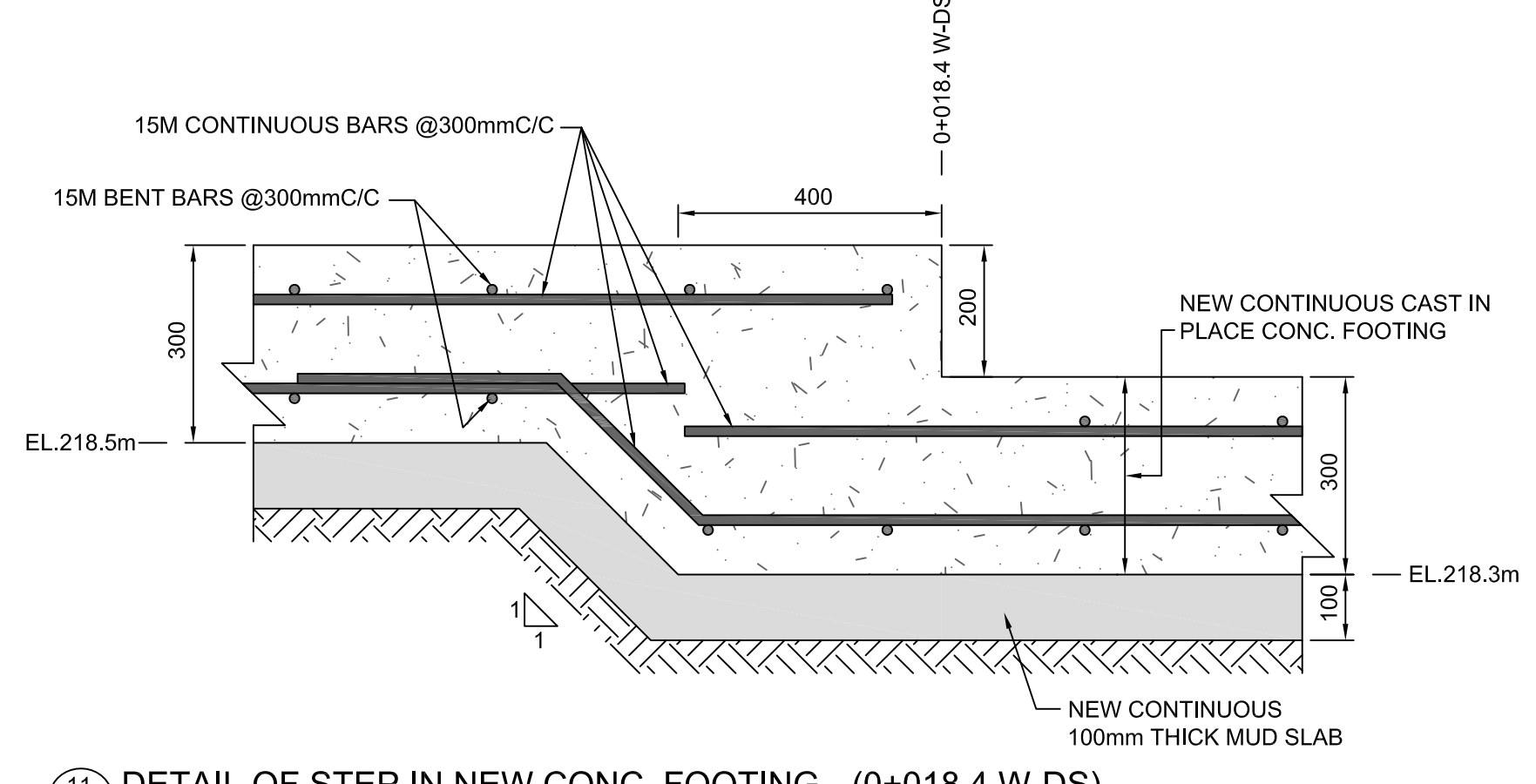


**ELEVATION OF NEW (EAST & WEST) NORTH RETURN WALL**  
SCALE: 1:20

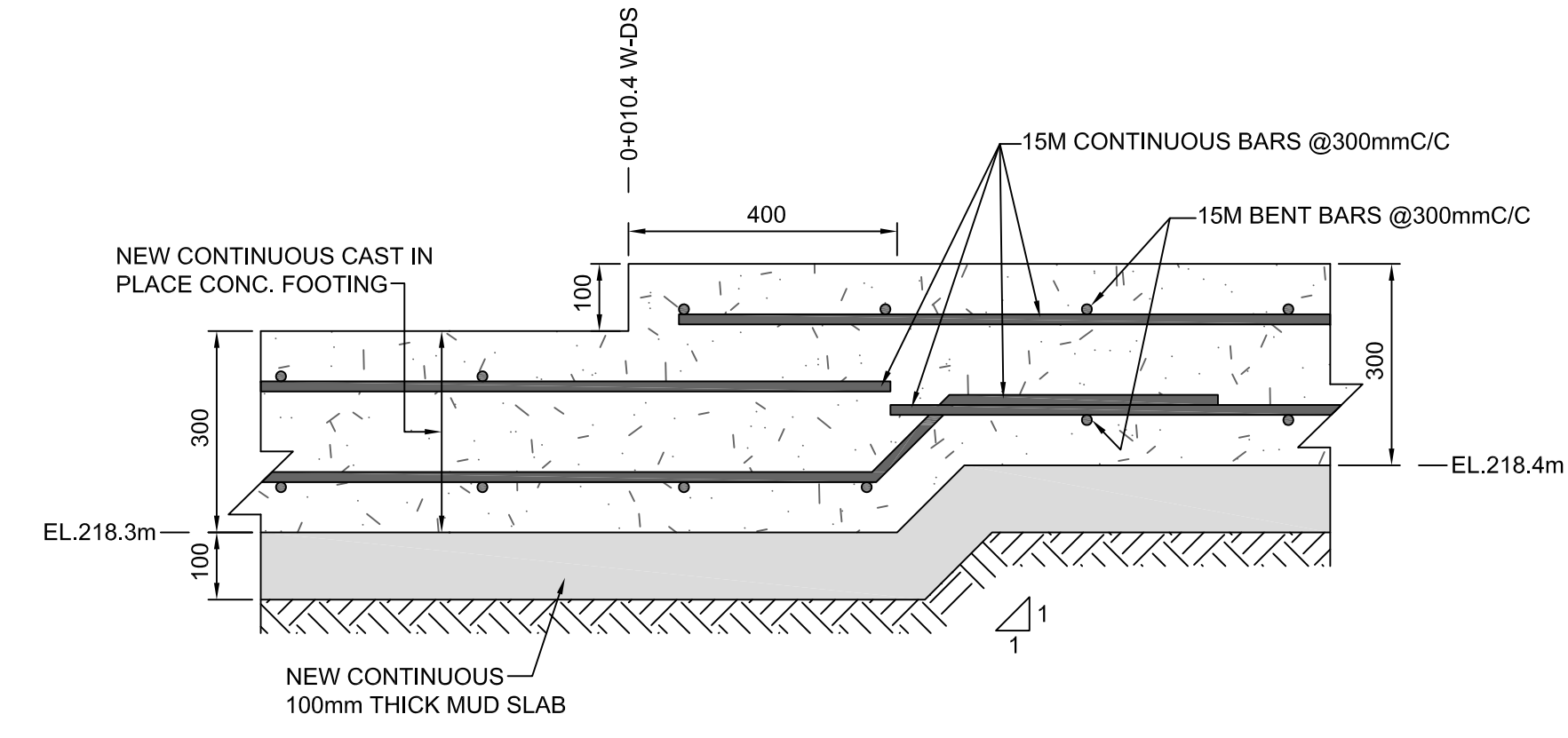




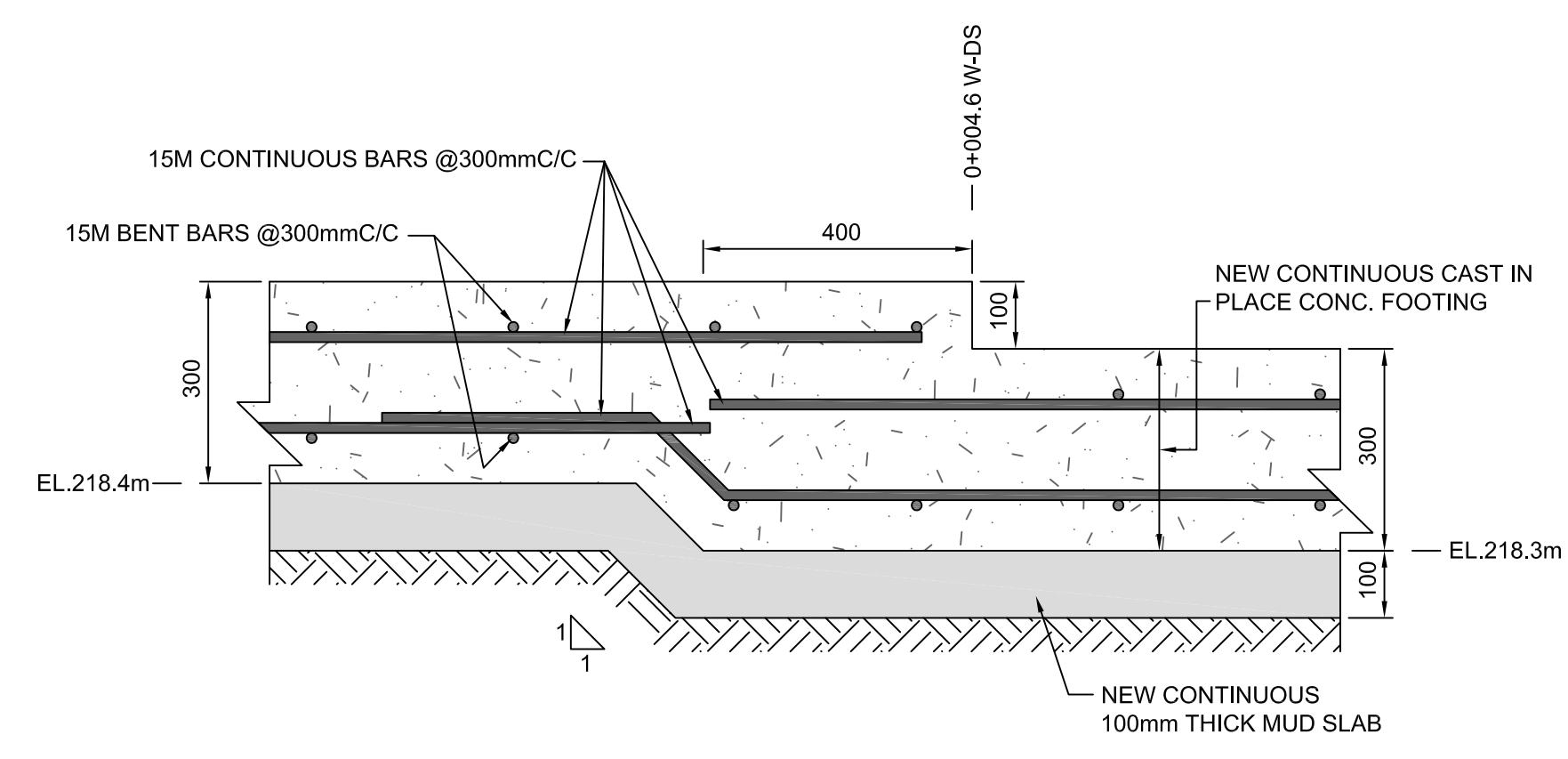
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2/5 DETAIL OF STEP IN NEW CONC. FOOTING - (0+033.0 W-DS)  
SCALE: 1:10



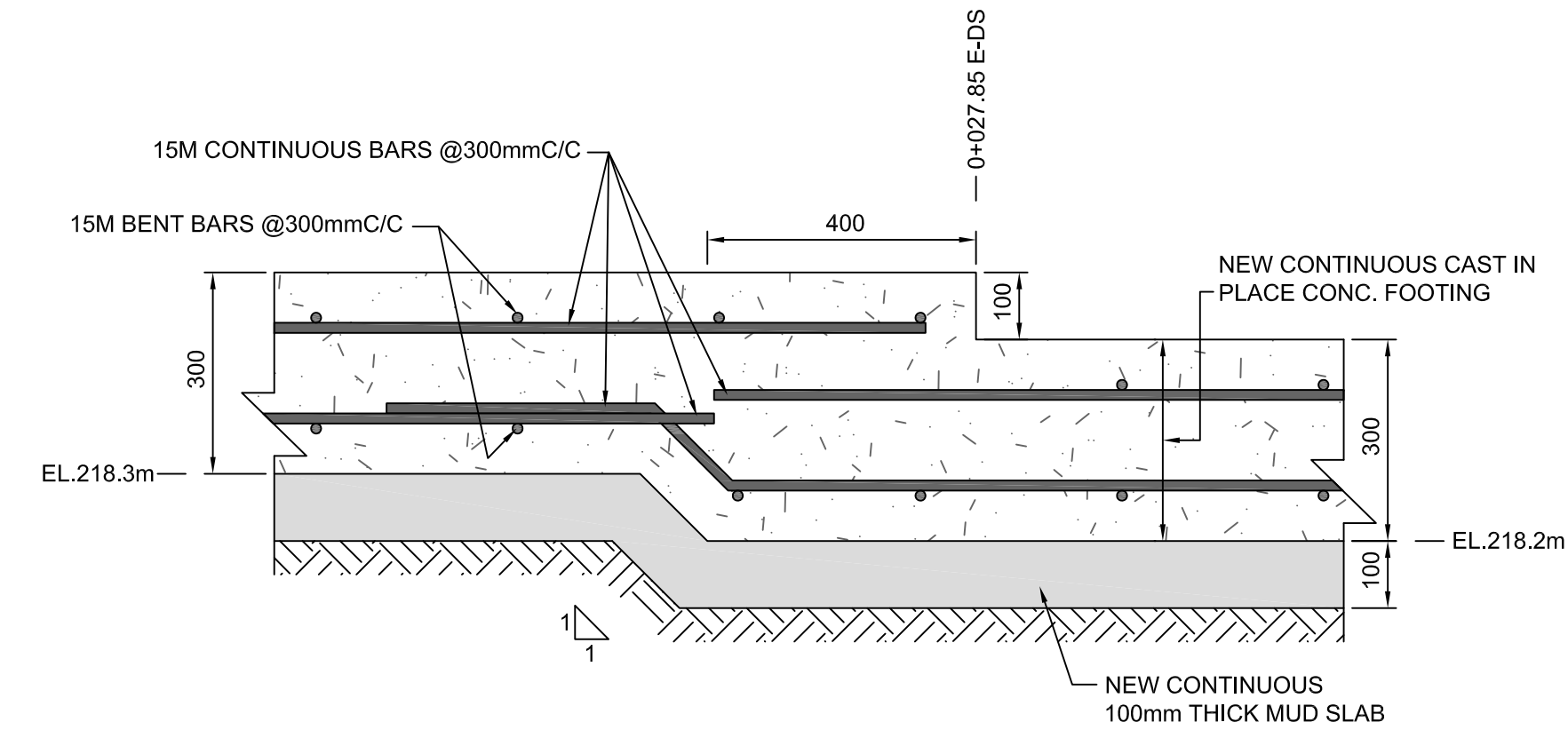
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SCALE: 1:10



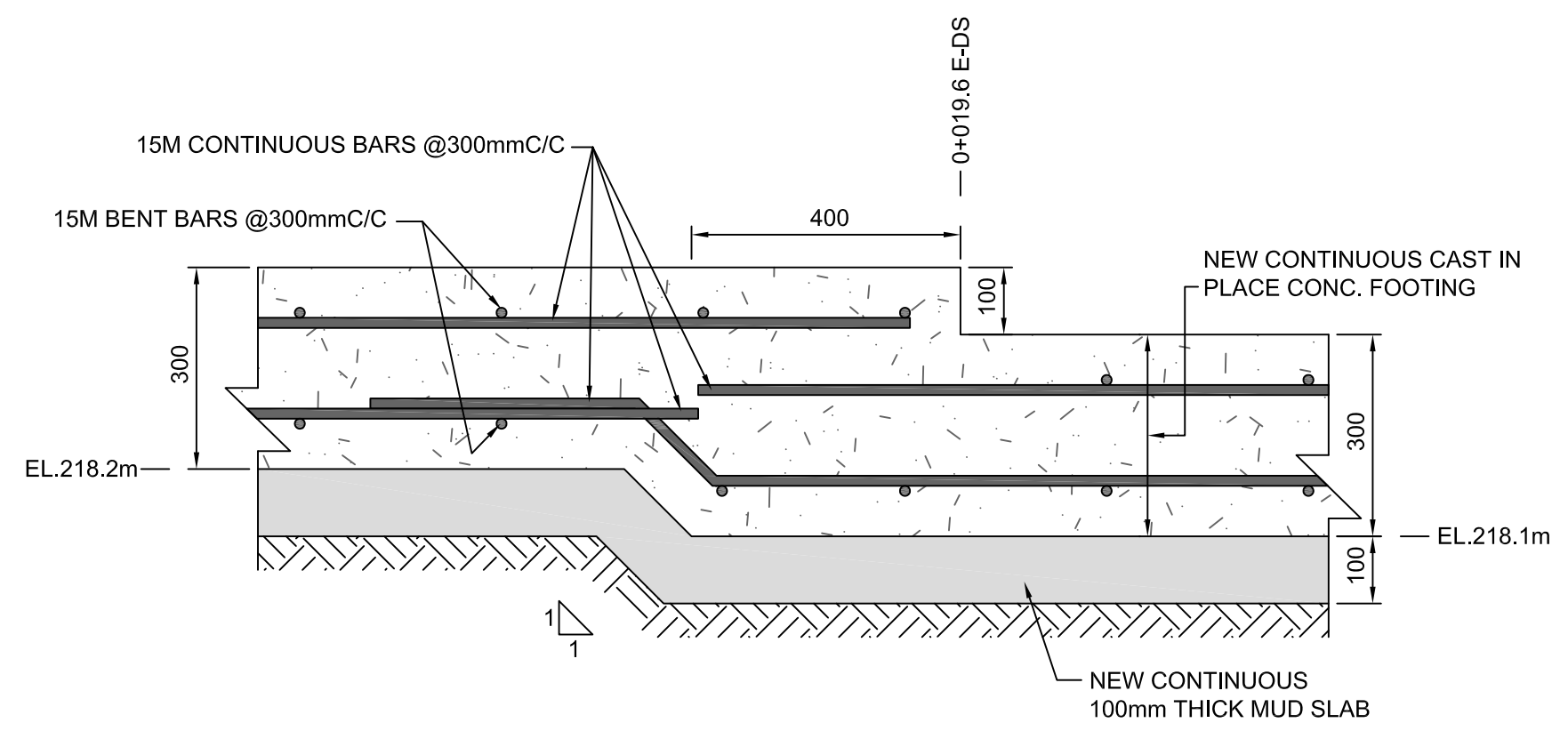
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SCALE: 1:10



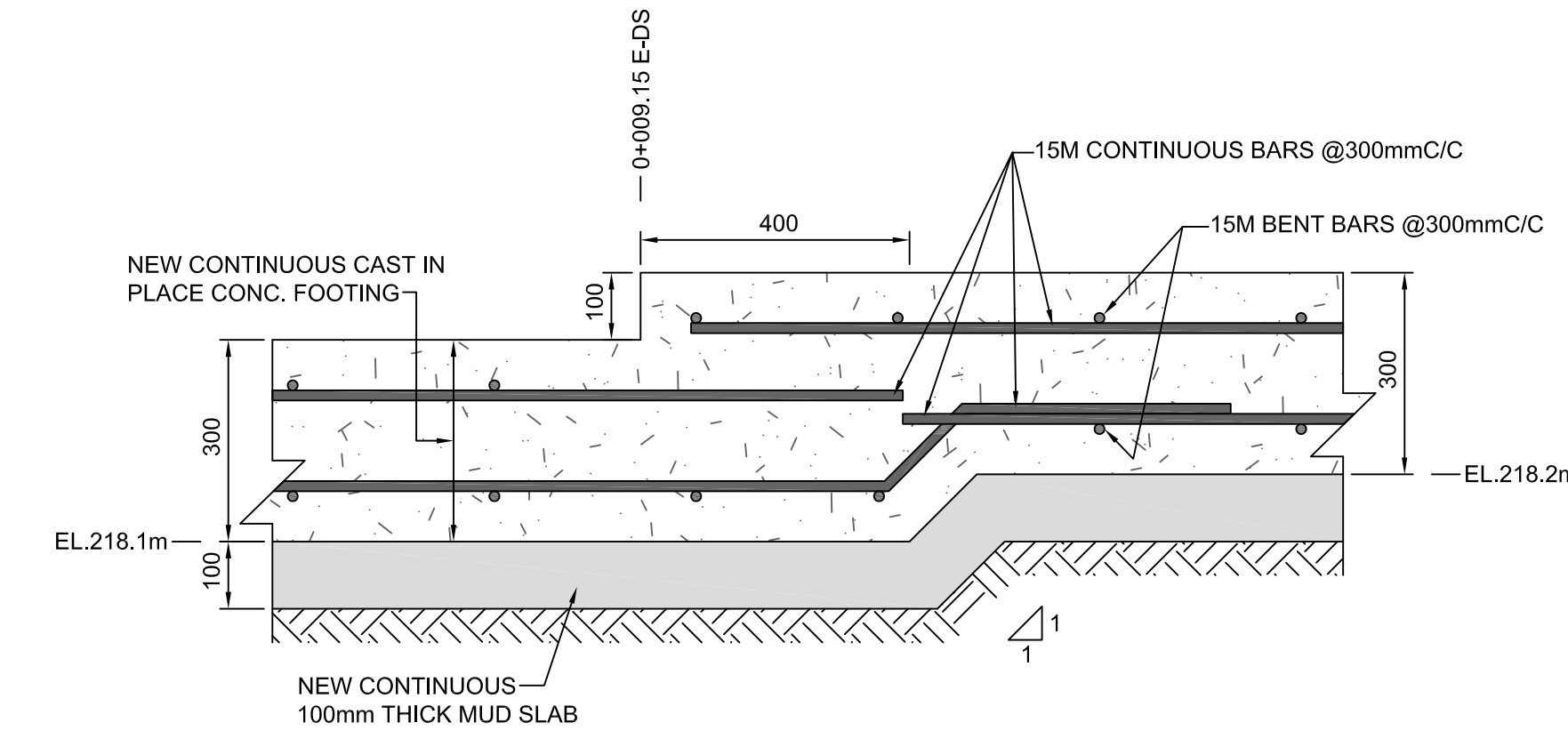
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2/5 DETAIL OF STEP IN NEW CONC. FOOTING - (0+004.6 W-DS)  
SCALE: 1:10



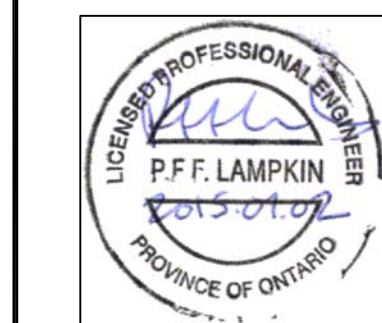
16  
2/5 DETAIL OF STEP IN NEW CONC. FOOTING - (0+027.85 E-DS)  
SCALE: 1:10



15  
2/5 DETAIL OF STEP IN NEW CONC. FOOTING - (0+019.6 E-DS)  
SCALE: 1:10



14  
2/5 DETAIL OF STEP IN NEW CONC. FOOTING - (0+009.15 E-DS)  
SCALE: 1:10



revision	description	date
0	ISSUED FOR TENDER	07/02/2015

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

	A	B	C
	Detail No.	drawing no. - where detail required	drawing no. - where detailed
	No. du détail	dessin no. - où détail exigé	dessin no. - où détaillé

project title  
titre du projet  
**PETERBOROUGH ONTARIO**

CONCRETE CANAL WALL REHABILITATION  
LOCK 24, TRENT SEVERN WATERWAY, PARKS  
CANADA AGENCY

drawing title  
titre du dessin  
**LOCK 24  
TYP. SECTIONS  
AND DETAILS**

drawn by  
dessiné par  
**A.MARCZENKO**

designed by  
conc par  
**P.L. / W.H. / A.M.**

approved by  
approuvé par  
**P.LAMPKIN**

tender  
soumission  
**DUNCAN MANSER**

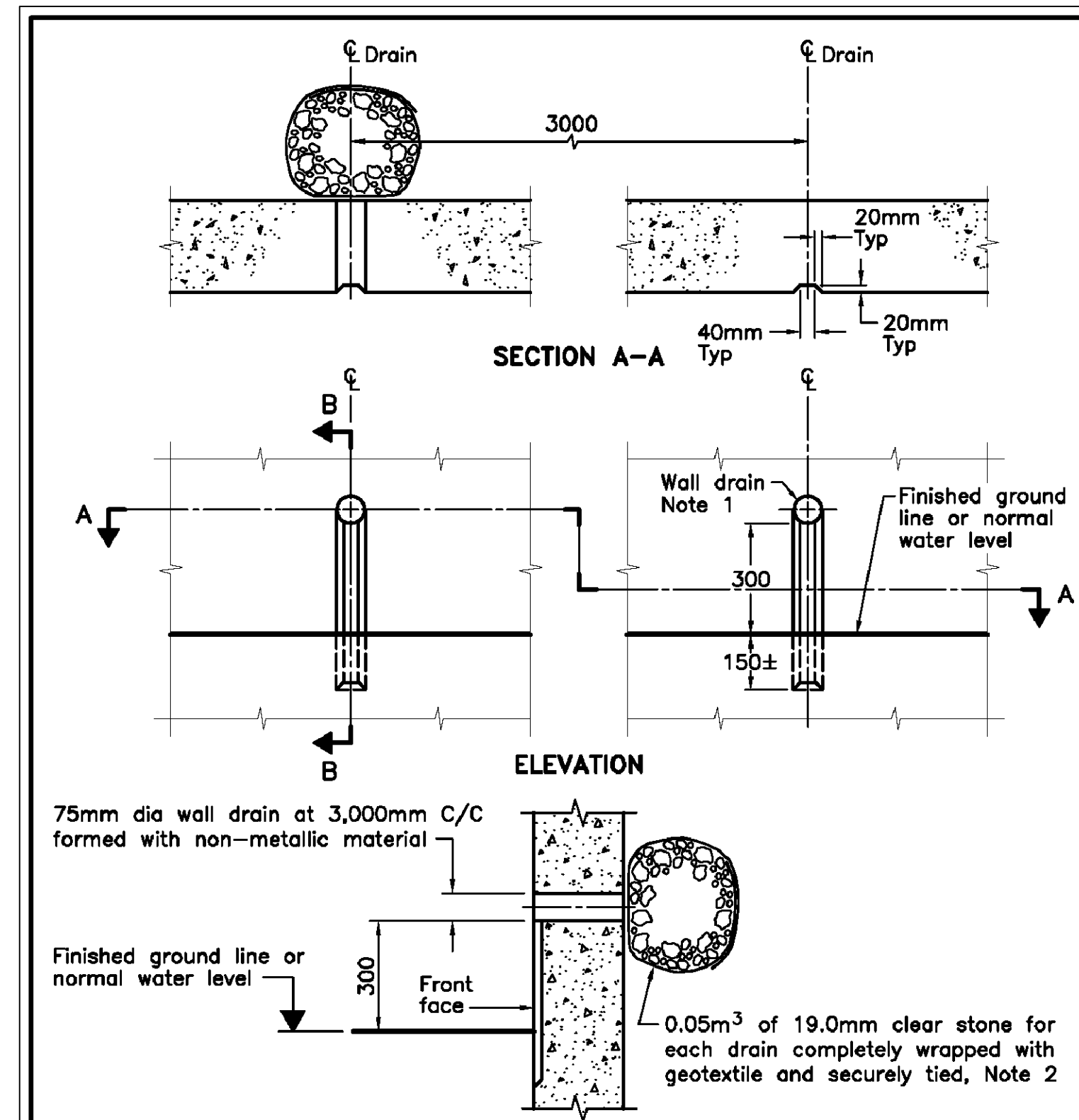
project manager  
administrateur  
de projets

project date  
date du projet  
**JUNE 16, 2015**


project no.  
no. du projet  
**30025771-4272-34**

drawing no.  
dessiné no.  
**C-05**





**NOTES:**  
 1 Bottom half of drain to be contoured to shape of vertical groove after removal of formwork.  
 2 Geotextile shall be non-woven, Class II, with an FOS of 125-250 µm.  
 A Minimum cover to reinforcing bars shall be measured from the base of the groove.  
 B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Apr 2011	Rev 2	
<b>WALLS RETAINING AND ABUTMENT WALL DRAIN</b>			
<b>OPSD 3190.100</b>			

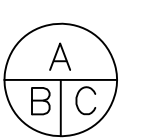


TRENT SEVERN WATERWAY,  
 NATIONAL HISTORIC SITE OF CANADA,  
 PARKS CANADA AGENCY

  
**RIGGS ENGINEERING** Ltd.  
 1240 COMMISSIONERS Rd. WEST  
 SUITE 205  
 LONDON, ONTARIO  
 N6K 1C7  
 (519)-657-1040  
 WWW.RIGGSENGINEERING.COM



0	ISSUED FOR TENDER	07/02/2015
revision		date

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	A Detail No. No. du détail
	B drawing no. - where detail required dessin no. - où détail exigé
	C drawing no. - where detailed dessin no. - où détaillé

project title  
titre du projet  
**PETERBOROUGH ONTARIO**  
 CONCRETE CANAL WALL REHABILITATION  
 LOCK 24, TRENT SEVERN WATERWAY, PARKS  
 CANADA AGENCY

drawing title  
titre du dessin  
**LOCK 24  
TYP. DETAILS**

drawn by  
dessine par  
**A.MARCZENKO**

designed by  
conc par  
**P.L. / W.H. / A.M.**

approved by  
approuve par  
**P.LAMPKIN**

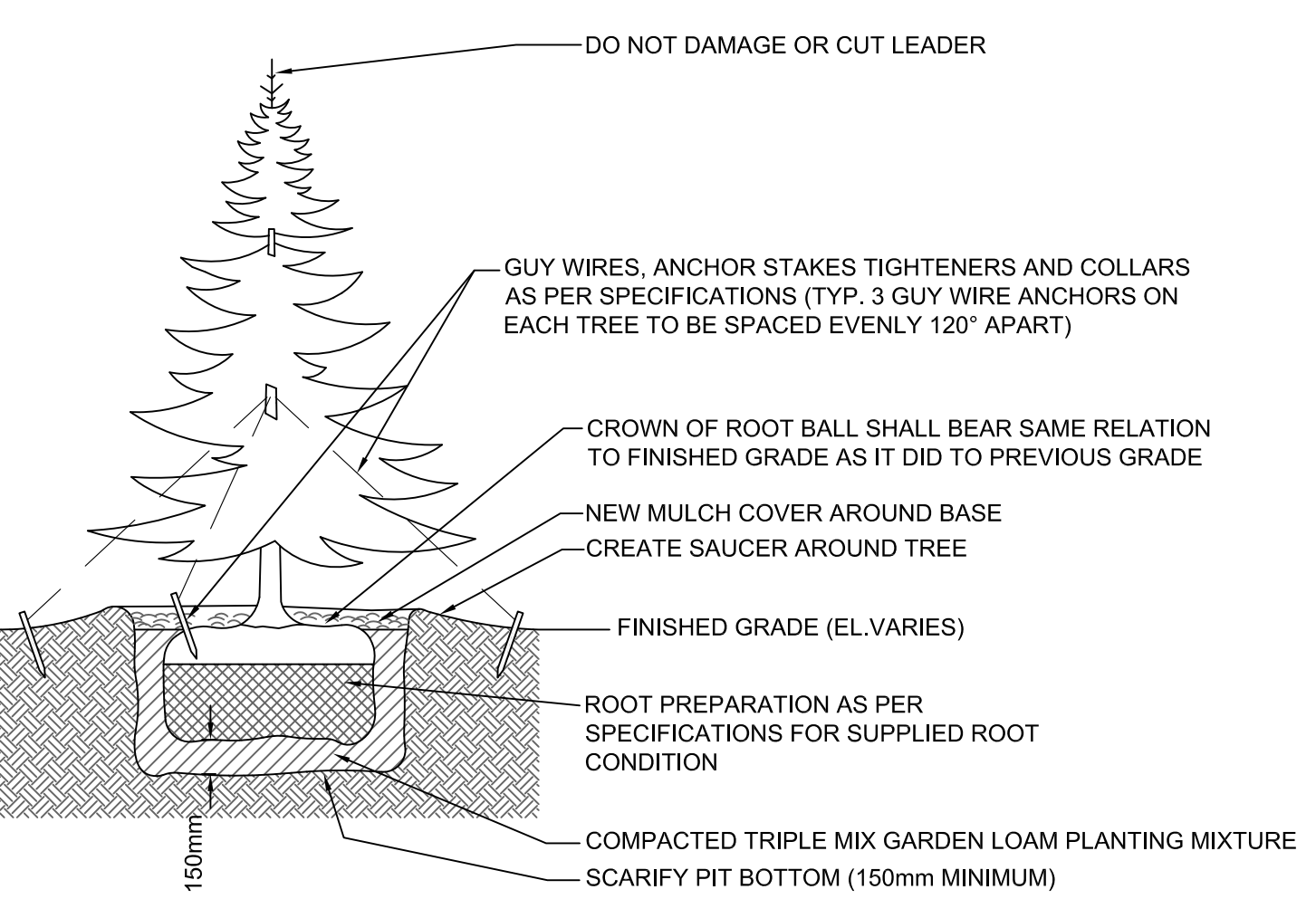
tender  
soumission  
**DUNCAN MANSER** project manager  
administrateur de projets

project date  
date du projet  
**JUNE 16, 2015**

project no.  
no. du projet  
**30025771-4272-34**

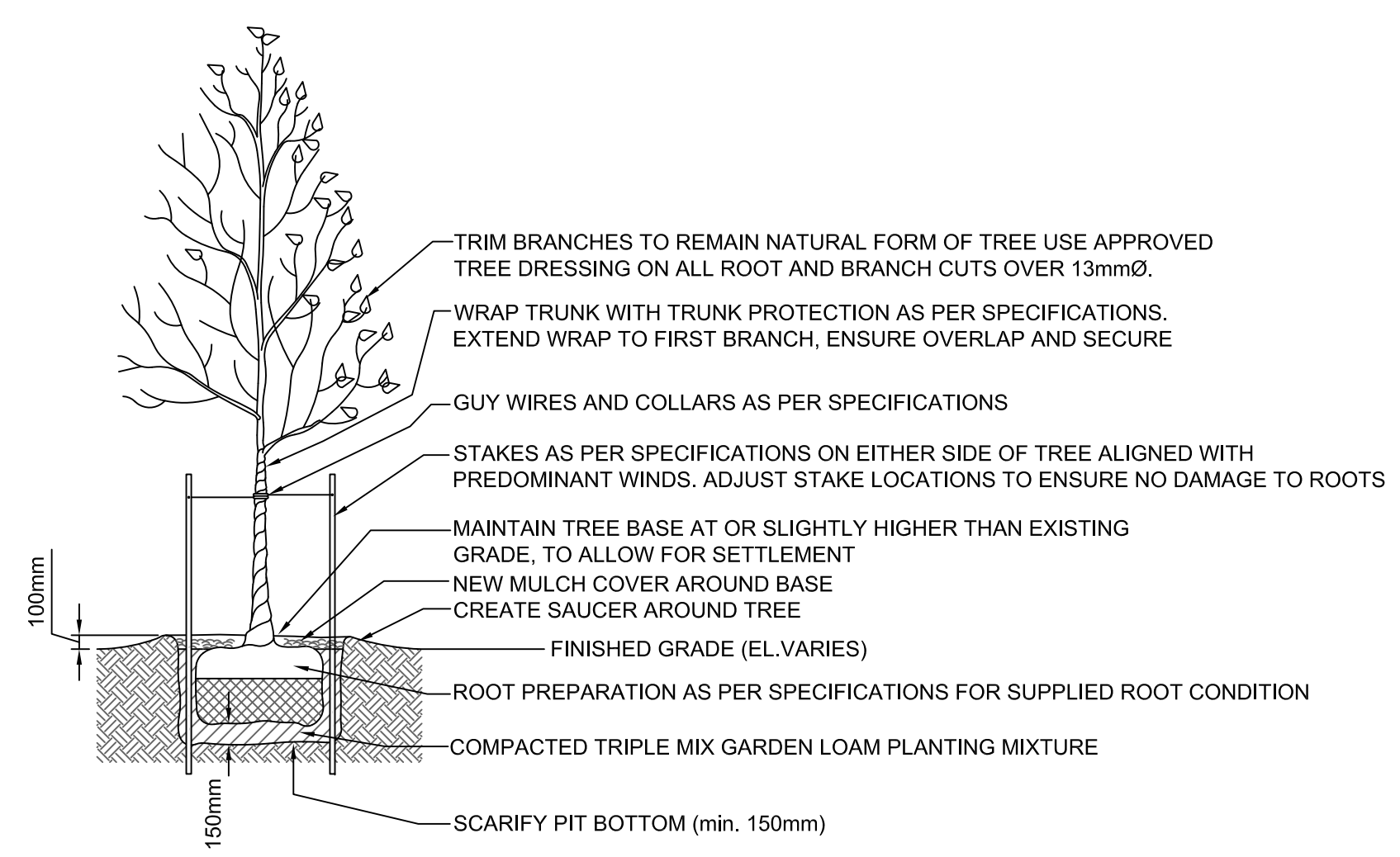
drawing no.  
dessine no.  
**D-01**





- NOTES:
- DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING STAKES.
  - WATER THOROUGHLY AFTER INSTALLATION. CONTINUE WATERING AS REQUIRED TO PROVIDE ADEQUATE MOISTURE FOR DURATION OF SPECIFIED MAINTENANCE PERIOD.
  - PROVIDED DRAINAGE FOR PLANTING PIT IN IMPERMEABLE SOIL.
  - MINIMUM LIMITS OF EXCAVATION, GARDEN MIXTURE AND MULCH COVER TO EXTEND TO THE DRIP LINE OF THE LONGEST BRANCH FOR FULL PERIMETER AROUND TREE BASE.

TYP. CONIFEROUS TREE PLANTING DETAIL  
SCALE: N.T.S.



- NOTES:
- DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING STAKES.
  - WATER THOROUGHLY AFTER INSTALLATION. CONTINUE WATERING AS REQUIRED TO PROVIDE ADEQUATE MOISTURE FOR DURATION OF SPECIFIED MAINTENANCE PERIOD.
  - PROVIDED DRAINAGE FOR PLANTING PIT IN IMPERMEABLE SOIL.
  - MINIMUM LIMITS OF EXCAVATION, GARDEN MIXTURE AND MULCH COVER TO EXTEND TO THE DRIP LINE OF THE LONGEST BRANCH FOR FULL PERIMETER AROUND TREE BASE.

TYP. DECIDUOUS TREE PLANTING DETAIL  
SCALE: N.T.S.

TREE MATERIAL SCHEDULE: LOCK 24					
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE (mm)	DIMENSION
Bp	2	BETULA Papyrifera	PAPER BIRCH	50	CALIPER
Co	2	Celtis occidentalis	HACKBERRY	50	CALIPER
Ov	1	Ostrya virginiana	IRONWOOD	50	CALIPER
To	13	Thuja occidentalis	ARBORVITAE / WHITE CEDAR	2400	HEIGHT



revision	date
0	ISSUED FOR TENDER 07/02/2015

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Detail No.	No. du détail
A	drawing no. - where detail required
B	dessin no. - où détail exigé
C	drawing no. - where detailed
	dessin no. - où détaillé

project title / titre du projet: PETERBOROUGH ONTARIO

CONCRETE CANAL WALL REHABILITATION LOCK 24, TRENT SEVERN WATERWAY, PARKS CANADA AGENCY

drawing title / titre du dessin: LOCK 24 NEW LANDSCAPE PLAN AND TYP. DETAILS

drawn by / dessiné par: A.MARCZENKO

designed by / conçu par: P.L. / W.H. / A.M.

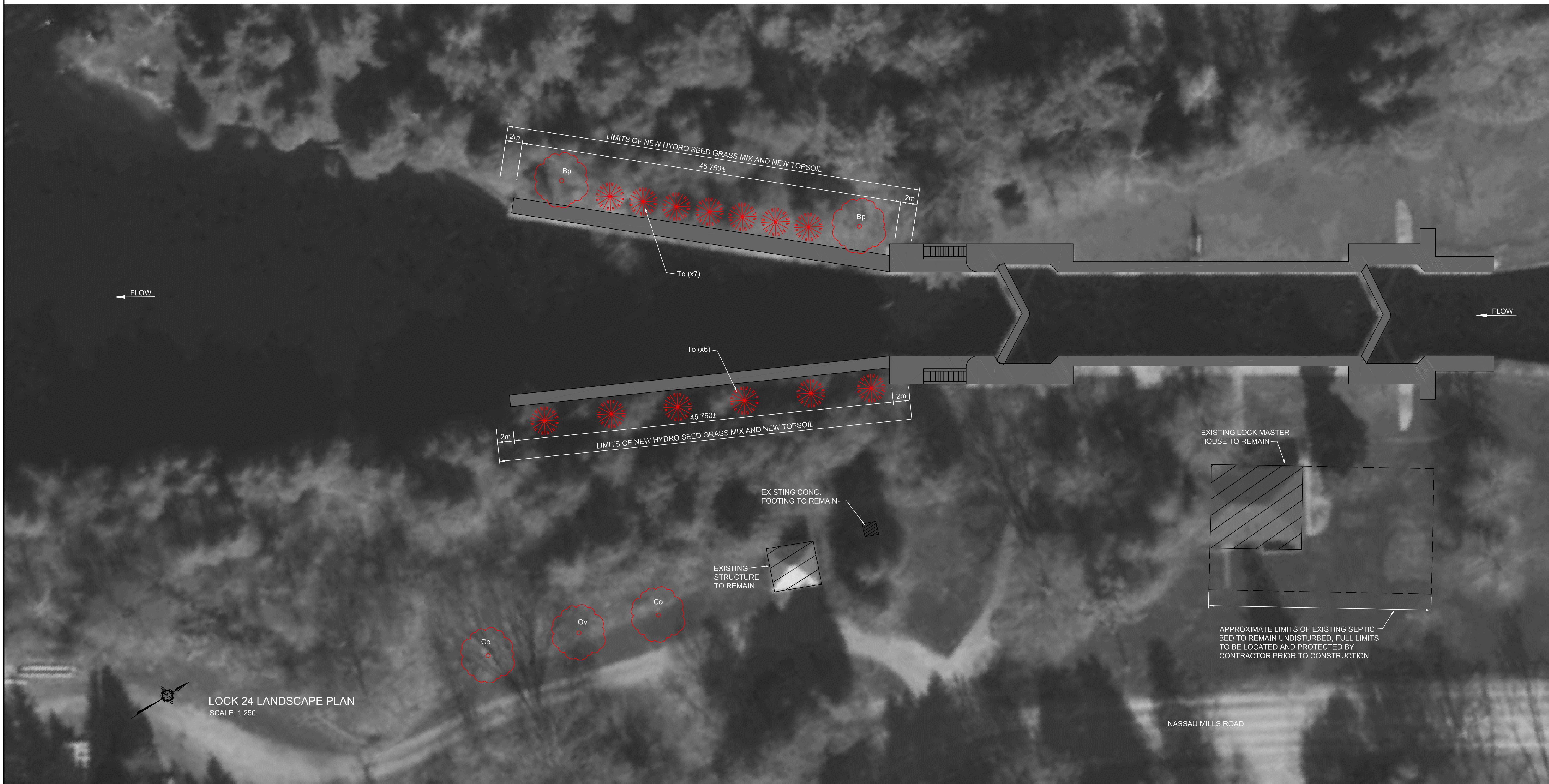
approved by / approuvé par: P.LAMPKIN

tender submission / soumission: DUNCAN MANSER project manager / administrateur de projets

project date / date du projet: JUNE 16, 2015

project no. / no. du projet: 30025771-4272-34

drawing no. / dessin no.: L-01



LOCK 24 LANDSCAPE PLAN  
SCALE: 1:250

NASSAU MILLS ROAD