



B2D2 Project

B2 Design Drawings Report

REP-B2D2-0003

Revision	Date	Reason for Issue	Author	Approver
1	Apr 24, 2023	Use	NBT	Victoria Burdett-Coutts
0	Oct 13, 2022	Permit	Neptune	Victoria Burdett-Coutts
A	Aug 17, 2022	Review		

Contributors				
Envirochem	Advisian	CWA	EMS Tech	Dynamic Ocean



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1 INTRODUCTION

1.1 Neptune Terminal Location

Neptune Bulk Terminals (Canada) Ltd. (NBT) is on the north shore of Vancouver Harbour in Burrard Inlet's Inner Harbour and is approximately 6.0 km southeast from the Lions Gate Bridge and 2.5 km northwest from the Second Narrows Bridge (49° 18.218'N, 123° 2.913'W) (see Figure 1-1). NBT, located at 1001 Low Level Road, in the City of North Vancouver, British Columbia (BC), is a bulk materials handling venture of Canpotex and Teck Resources Ltd. The Terminal consists of covered and open stockpile storage areas, a rail yard, materials handling areas, and five shiploaders at three berths (the Terminal). The Terminal sits entirely in the Vancouver Fraser Port Authority (Port Authority) jurisdiction and is operated under tenancy by NBT. The Terminal is bounded on the south by the Inner Harbour of Burrard Inlet, and on the north by Low Level Road and commercial land-users, on the west and east by neighbours Cargill Grain Terminal (Cargill) and G3 Terminal (G3). North of Low Level Road there are residential neighbours.

1.2 Terminal Description

Metallurgical coal is stored in open-air piles and exported through Berth 1 (B1), while potash is stored in two dry sheds and exported through Berths 2 (B2) and 3 (B3). Water is sprayed on coal piles and coal handling areas to dampen the surface and reduce wind-generated dust. Equipment washing stations are used to reduce spreading of coal dust around or off the grounds around the Terminal.

NBT exports 12.5 million metric tonnes (MMT) of coal and 10.5 MMT of potash annually. Each product has associated storage yards or sheds at the Terminal and equipment for loading and unloading of railcars and vessels. NBT receives potash from inland potash producers via Canpotex unit trains which consists of 205 railcars. The railcars are staged on entry to the Terminal and then directed through either the existing Potash Dumper No. 1 (D1) or Potash Dumper No. 2 (D2) and delivered into a conveyor system feeding into the bulk storage buildings and to the B2 and B3 shiplading systems. D1 was upgraded in 2010 and has a capacity of 6,000 tonnes per hour (t/h) while D2, constructed in 1991, has a capacity of 4,000 t/h. B1, B2 and B3 can accommodate 250,000 dead weight tonnes (DWT), 125,000 DWT and 65,000 DWT sized vessels respectively. The existing B2 West Potash Shiploader and East Potash Shiploader were installed in 1969. The shiploaders are fed from the B2 potash surge bin via feed Conveyors 9 and 12 (C9 and C12). The current B2 total loading capacity is approximately 5,000 t/h.

Figure 1-1 depicts the location of the B2 Project. The land portion of the Terminal is approximately 29 hectares (ha), and the marine portion is comprised of four water lots (B, C, C1, C2) totaling approximately 10 ha.

The B2 Shiploader Project (B2 Project) is considered maintenance works to facilitate ongoing operations (see Sections 1.3.1 of the B2 Construction Environmental Management Plan (CEMP) (NBT, 2023)).






1.3 Document Purpose

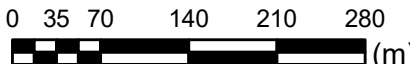
This document has been prepared to summarize and provide a comprehensive drawing package for pertinent Regulatory Authorities (RAs) for the Berth 2 Project which includes the Port Authority Project Environmental Review (PER) application for the B2 (PER No. 21-068) and the Fisheries and Oceans Canada – Fish and Fish Habitat Protection Program (DFO-FFHPP) Application for Authorization (AFA) (No. 23-HPAC-00168).



LEGEND

-  Property Line
-  Water Lot Boundary
-  Berth 2 Project Footprint
-  Berth2 Study Area

SCALE:



Scale: 1:6,000

SOURCE / NOTE:
- Aerial image is downloaded from Google EarthPro.(2021)

PROJECT:
SYSTEM:
ASSET:
DISCIPLINE

REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED
ISSUES/REVISIONS				

VENDOR



ISSUED AS RECORD COPY (YES/NO) NO



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TITLE:
Project Site, Berth 2 Footprint and Study Area

Figure 1-1

SCALE: 1:6000	SHEET 1	OF 1	DRAWING NO:
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2 CONSTRUCTION ACTIVITY AND DESIGN DRAWINGS

Engineering design for the B2 Project has been completed by Advisian, CWA Engineers Inc. (CWA), and EMS-Tech Inc (EMS-Tech). A summary of drawings is provided in Table 2-1, and drawing packages are provided in Appendix A through Appendix G. A high-level summary of construction activities associated with each Project is provided below.

The construction activities for the B2 Project will occur within the B2 water lot and on land. Within the water lot, construction activities will occur above and below the high-water line. B2 construction activities will include:

- Berth demolition, including excavation (e.g., shiploader, conveyors, quadrant beams, wharfhead, sheet pile wall including anchor rods and anchor wall, existing dolphins, walkways, shore mooring, and associated upland buildings, structures, and foundations).
- Pile driving (permanent and temporary; Installation/removal).
- Drilling to support pile installation/removal (potential).
- Berth construction (e.g., service platform installation, marine structure installation, combi-wall installation including anchor rods and anchor wall, gangway landing platform installation, Conveyor No. 242 (C242), Conveyor No. 243 (C243), gallery installation, and shiploader installation).
- Concrete (cast-in-place and pre-cast).
- Scour protection removal/displacement and reinstatement/installation.
- Dredging.
- Infill.
- Stone column installation (GI).
- Electrical and controls installation.

General arrangement drawings are provided as below:

- Berth 2 Shiploader Project. Marine and Civil. General Arrangement. [Advisian]. Drawing No. 317071-00041-03-MA-DGA-1501 (Appendix B)
- B2 Shiploader 250. Overall General Arrangement and Sections. [EMS-Tech]. Drawing No. 20091-G-001 (Appendix F)



Table 2-1: Design Drawings for the B2 Project

Project	Component	Drawing No	Drawing Title	Produced By	Design Drawing Appendix No
B2D2	NBT Site Plans	Lease Plan No. 2015-079	Neptune Bulk Terminals (Canada) Ltd. Lease Areas	Port Authority	Appendix A
		09-917-1-008	Site (Basic Layout)	NBT	
		09-900-1-029-30	Neptune Bulk Terminals Emergency Response Plan	NBT	
		09-917-1-008	Fire Hydrants	NBT	
B2	B2 Site Plans	307071-00041-03-MA-DGA-1500	Existing Site and Demolition Plan	Advisian	Appendix B
		317071-00041-03-MA-DGA-1501	General Arrangement		
		317071-00041-02-MA-DGA-1590	Landside Excavation Phases and Laydown Plan and Marine Construction Equipment Plan		
	B2 Buildings, Structures, and Equipment	317071-00041-03-MA-DGA-1540	Conveyor 244 Foundations – Plan and Details	Advisian	Appendix C
		317071-00041-03-MA-DGA-1542	Transfer Tower 261 Foundations – Plan and Sections		
		317071-00041-03-MA-DGA-1570	Conveyor 243 Support Foundations – Plan and Details		
		317071-00041-03-MA-DGA-1573	Transfer Tower 260 Foundations – Plan and Details		
		317071-00041-03-MA-DGA-1574	Electrical Room 211 – Plan and Sections		
		317071-00041-03-MA-DGA-1576	Landside Excavation and Laydown – Plan and Sections		
		21028-244-55-001	Conveyor 244 General Arrangement	CWA	Appendix D
		21028-244-55-002	Conveyor 244 General Sections – Sheet 1		
		21028-244-55-003	Conveyor 244 General Sections – Sheet 2		
		21028-244-55-004	Conveyor 244 Data Sheet		
		21028-244-55-005	Conveyor 244 Tail End and Camelback Area General Arrangement – Sheet 1		
21028-244-55-006	Conveyor 244 Tail End and Camelback Area General Arrangement – Sheet 2				



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Project	Component	Drawing No	Drawing Title	Produced By	Design Drawing Appendix No
		21028-244-55-007	Conveyor 244 Drive and Take-Up Area General Arrangement – Sheet 1		
		21028-244-55-008	Conveyor 244 Drive and Take-Up Area General Arrangement – Sheet 2		
		21028-244-55-009	Conveyor 244 Drive and Take-Up Area General Arrangement – Sheet 3		
		21028-244-55-010	Conveyor 244 Drive and Take-Up Area General Arrangement – Sheet 4		
		21028-244-55-011	Conveyor 244 Head End Area General Arrangement		
	B2 Marine Structures	317071-00041-03-GE-DGA-1000	Cover Sheet and Drawing List	Advisian	Appendix E
		317071-00041-03-GE-DGA-1001	Design Criteria		
		317071-00041-03-GE-DGA-1002	General Notes		
		317071-00041-03-MA-DGA-1502	Mooring Arrangement – Panamax Pinchat		
		317071-00041-03-MA-DGA-1503	Mooring Arrangement – Handy and Handymax Class		
		317071-00041-03-MA-DGA-1504	Scour Protection Removal and Dredging - Plan		
		317071-00041-03-MA-DGA-1505	Rock Removal and Dredging - Sections		
		317071-00041-03-MA-DGA-1506	Ground Improvement – Plan and Sections		
		317071-00041-03-MA-DGA-1507	Scour Protection – Plan and Sections		
		317071-00041-03-MA-DGA-1508	Scour Protection – Sections		
		317071-00041-03-MA-DGA-1510	Shiploader Foundation – Plan		
		317071-00041-03-MA-DGA-1511	Shiploader Foundation – Typical Sections		
		317071-00041-03-MA-DGA-1512	Marine Structures – Pile Plan – Sheet 1		
		317071-00041-03-MA-DGA-1513	Marine Structures – Pile Plan – Sheet 2		
		317071-00041-03-MA-DGA-1514	Marine Structures – Pile List		
		317071-00041-03-MA-DGA-1515	Shiploader Foundation – Pile Typical Details		
		317071-00041-03-MA-DGA-1516	Shiploader Foundation – Pile Caps – Sheet 1		
		317071-00041-03-MA-DGA-1517	Shiploader Foundation – Pile Caps – Sheet 2		
		317071-00041-03-MA-DGA-1518	Shiploader Foundation – Pile Caps – Sheet 3		
		317071-00041-03-MA-DGA-1519	Shiploader Foundation – Pile Caps - Sections		



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 Doc Ref #:
 Doc Rev #:

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Project	Component	Drawing No	Drawing Title	Produced By	Design Drawing Appendix No
		317071-00041-03-MA-DGA-1520	Shiploader Foundation – Pile Caps - Details		
		317071-00041-03-MA-DGA-1521	Shiploader Foundation – Rail Beams - Details		
		317071-00041-03-MA-DGA-1522	Shiploader Foundation – Rail Beam Walkway - Plan		
		317071-00041-03-MA-DGA-1523	Shiploader Foundation – Rail Beam Walkway - Details		
		317071-00041-03-MA-DGA-1524	Fender Panel and Mooring Hook Platform – Sections and Details		
		317071-00041-03-MA-DGA-1525	Service Platform – Plan		
		317071-00041-03-MA-DGA-1526	Service Platform – Sheet 1		
		317071-00041-03-MA-DGA-1527	Service Platform – Sheet 2		
		317071-00041-03-MA-DGA-1530	Combi-Wall – Sections and Details		
		317071-00041-03-MA-DGA-1531	Combi-Wall – Details		
		317071-00041-03-MA-DGA-1532	Combi-Wall Walkway – Plan and Details		
		317071-00041-03-MA-DGA-1533	Shore Mooring 3 – Plan and Details		
		317071-00041-03-MA-DGA-1534	Berth 1 Temporary Mooring Arrangement - Plan		
		317071-00041-03-MA-DGA-1535	Berth 1 Temporary Mooring Dolphin – Plan and Details		
		317071-00041-03-MA-DGA-1536	Berth 1 Temporary Mooring Dolphin Walkway – Plan and Details		
		317071-00041-03-MA-DGA-1537	Marine Structures - Berth 1 Pony Wall Modification – Plan and Sections		
		317071-00041-03-MA-DGA-1550	East Gangway Landing Platform – Plan and Sections		
		317071-00041-03-MA-DGA-1551	East Gangway Landing Platform – Details – Sheet 1		
		317071-00041-03-MA-DGA-1552	East Gangway Landing Platform – Details – Sheet 2		
		317071-00041-03-MA-DGA-1553	East Gangway Landing Platform – Walkway – Plan and Details		
		317071-00041-03-MA-DGA-1554	East Gangway Landing Platform – Walkway – Details		



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Project	Component	Drawing No	Drawing Title	Produced By	Design Drawing Appendix No		
		317071-00041-03-MA-DGA-1555	Shiploader Foundation - West Gangway Landing Platform – Sheet 1				
		317071-00041-03-MA-DGA-1556	Shiploader Foundation - West Gangway Landing Platform – Sheet 2				
		317071-00041-03-MA-DGA-1560	Mooring Dolphin – Plan and Details				
		317071-00041-03-MA-DGA-1561	Mooring Dolphin Walkway – Plan and Details				
		317071-00041-03-MA-DGA-1564	Miscellaneous Details – Sheet 1				
		317071-00041-03-MA-DGA-1565	Miscellaneous Details – Sheet 2				
		317071-00041-03-MA-DGA-1577	Construction Sequence – Sections				
		01-MA-DSK-0004	Combi-Wall Concept Design - Ground Improvement				
		20091-G001 – Sheet 1	B2 Shiploader 250 Overall General Arrangement and Sections (Sheet 1)			EMS Tech	Appendix F
		20091-G001 – Sheet 2	B2 Shiploader 250 Overall General Arrangement and Sections (Sheet 2)				
		20091-G002 – Sheet 1	Site Plan and Elevation Arrangements (Sheet 1)				
		20091-G002 – Sheet 2	Site Plan and Elevation Arrangements (Sheet 2)				
		20091-G005 – Sheet 1	B2 Shiploader 250 Access Arrangement (Sheet 1)				
	20091-G005 – Sheet 2	B2 Shiploader 250 Access Arrangement (Sheet 2)					
	20091-G009 – Sheet 1	B2 Shiploader 250 Operating Positions and Clearances (Sheet 1)					
	20091-G009 – Sheet 2	B2 Shiploader 250 Operating Positions and Clearances (Sheet 2)					
	B2 Lot Grading and Utilities	317071-00041-02-MA-DGA-1580	Marine Structures Site Drainage – Plan	Advisian	Appendix G		
		317071-00041-02-MA-DGA-1581	Marine Structures Site Drainage – Elevation				
		317071-00041-02-MA-DGA-1582	Marine Structures Site Drainage - Pipe Support Details				



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3 REFERENCES

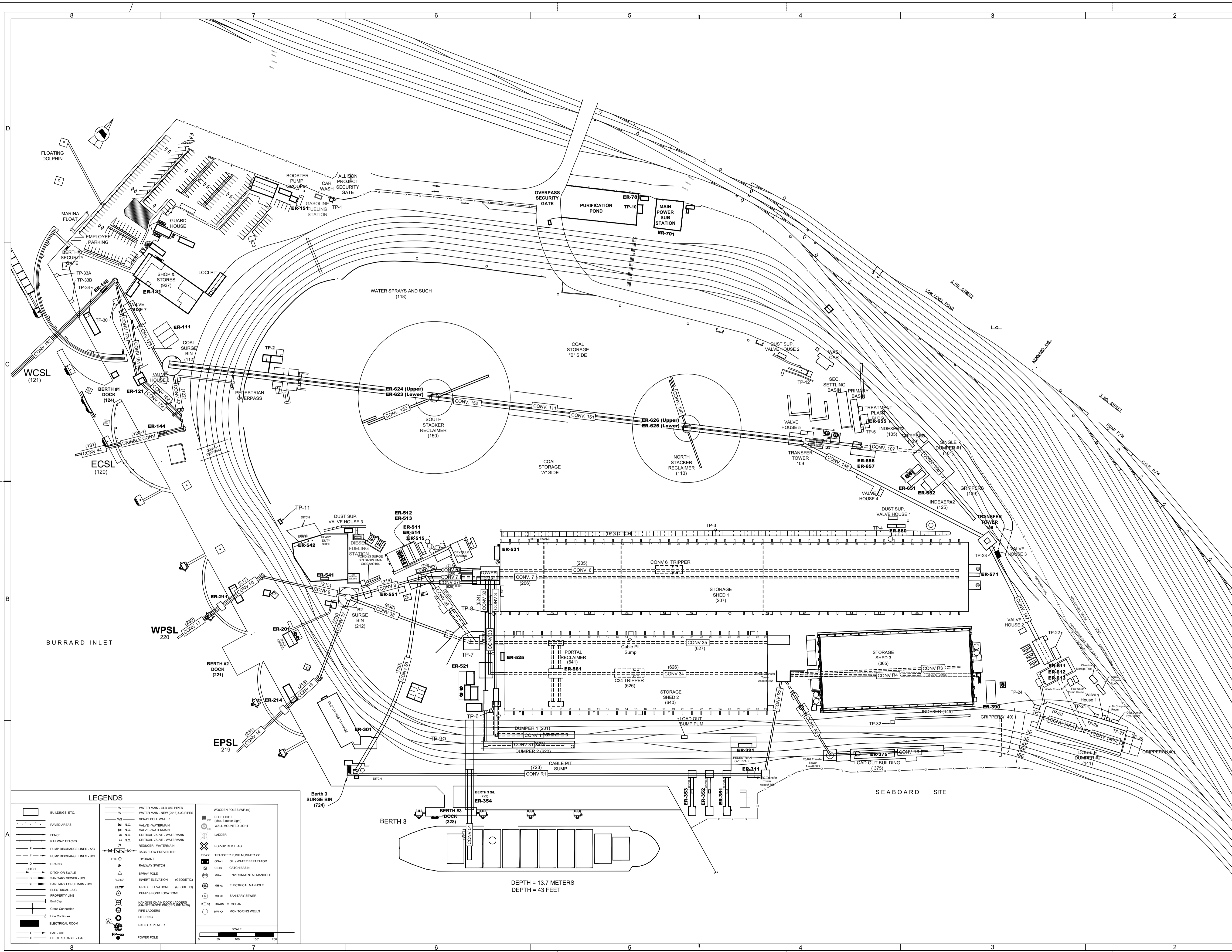
NBT. (2023). Berth 2 Shiploader Replacement Project Construction Environmental Management Plan.
Doc No: PLAN-B2D2-0013. April 24, 2023. Rev0.



Doc Title:
Doc Ref #:
Doc Rev #:

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APPENDIX A: NBT SITE PLANS



Revision				
Number	Date	Issue	By	
103	2023-01-13	AEDBS removed	AF/B	
102	2022-07-25	Underground Water and FH Revised	AF/KH	
101	2022-03-22	Added a new AED #16	AF/KH	

No.	DRAWING NO.	DRAWING TITLE

REV.	DATE	ISSUED FOR	DRAWN	CHECK	SUPR.	APPROVED

Neptune TERMINALS P.O. Box 86367 North Vancouver, B.C., V7L 4K6
 Phone (604)985-7451 Fax (604)985-8941

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DRAWING TITLE: **SITE (BASIC LAYOUT)**

SH: OF: DWG No. **09-917-1-008** SCALE: 1:1200

LEGENDS

<ul style="list-style-type: none"> — BUILDINGS, ETC. — PAVED AREAS — FENCE — RAILWAY TRACKS — PUMP DISCHARGE LINES - AG — DITCH — DITCH OR SWALE — SANITARY BINDER - UG — SANITARY FORCE MAIN - UG — ELECTRICAL - AG — PROPERTY LINE — End Cap — Line Connection — Line Continues — ELECTRICAL ROOM — GAS - UG — ELECTRIC CABLE - UG 	<ul style="list-style-type: none"> — WATER MAIN - OLD UG PIPES — WATER MAIN - NEW (2023) UG PIPES — SPRAY POLE WATER — N.C. VALVE - WATERMAN — N.O. VALVE - WATERMAN — N.C. CRITICAL VALVE - WATERMAN — N.O. CRITICAL VALVE - WATERMAN — REDUCER - WATERMAN — BACK FLOW PREVENTER — HYD — HYDRANT — RAILWAY SWITCH — SPRAY POLE — INVERT ELEVATION (GEODETTIC) — GRADE ELEVATIONS (GEODETTIC) — PUMP & POND LOCATIONS — MAINTENANCE DRAIN COVERS (MAINTENANCE PROCEDURE M-30) — PIPE LADDERS — LIFE RING — RADIO REPEATER — POWER POLE 	<ul style="list-style-type: none"> — WOODEN POLES (60P #4) — POLE LIGHT (60W 3 Meter Light) — WALL MOUNTED LIGHT — LADDER — POP-UP RED FLAG — TP-XX TRANSFER PUMP NUMBER XX — CB-XX OIL WATER SEPARATOR — CB-XX CATCH BASIN — MH-XX ENVIRONMENTAL MANHOLE — MH-XX ELECTRICAL MANHOLE — MH-XX SANITARY SEWER — DRAIN TO OCEAN — MH-XX MONITORING WELLS
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SCALE: 1:1200

BERTH 3
 DOCK (228)
 DEPTH = 13.7 METERS
 DEPTH = 43 FEET

SITE MAP (EMERGENCY RESPONSE)

LEGEND:

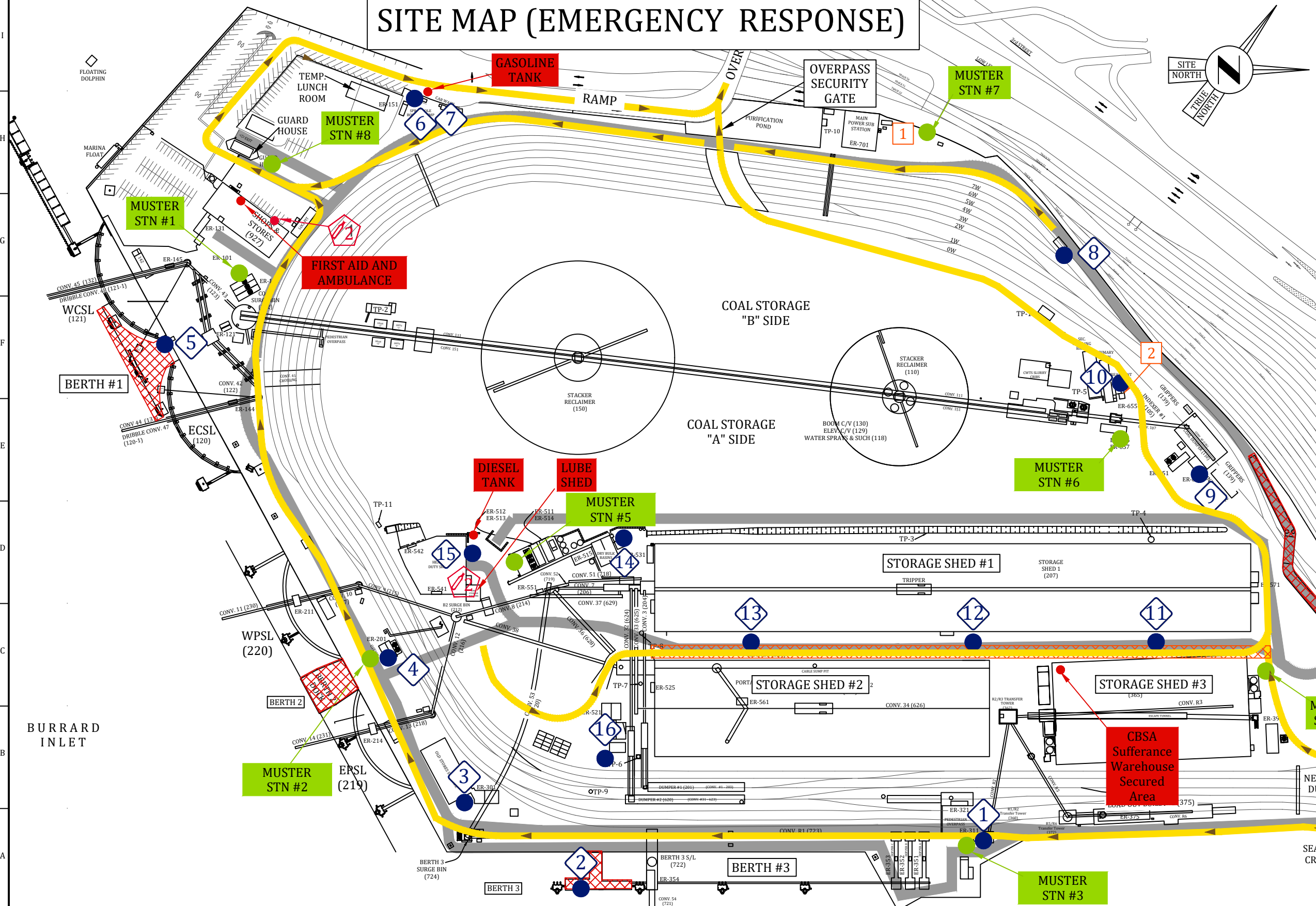
- OXY ACETYLENE COMPRESSED GAS:
 1. Maintenance Office - Beside Loci Pit
 2. Heavy Duty Shop
- NO RE-FUELING AREAS
- RE-FUEL WITH CAUTION
- EVACUATION ROUTE
- MUSTER STATION

SPILL KITS:

- 1. R1/R2 Transfer Tower
- 2. Berth #3 Dock
- 3. Dock Office (Berth #3)
- 4. Dock Office (Berth #2)
- 5. Berth #1 Dock
- 6. Emergency Portable Trailer (Near Gas Tank)
- 7. ER-151 (Near Gas Tank)
- 8. Loci Rail Siding
- 9. Coal Dumper 101
- 10. Coal Water Treatment Plant
- 11. Potash Shed 1, Bay 11
- 12. Potash Shed 1, Bay 8
- 13. Potash Shed 1, Bay 5
- 14. Dry Bulk Treatment Pond 6
- 15. Heavy Duty Shop (Beside Fuel Tank)
- 16. C3/C31 Hydraulic Power Units (HPU Shed)
- 17. Coal Dumper 141

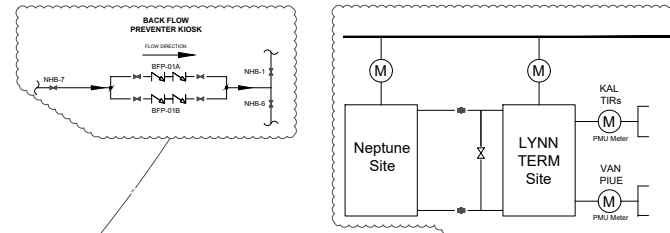
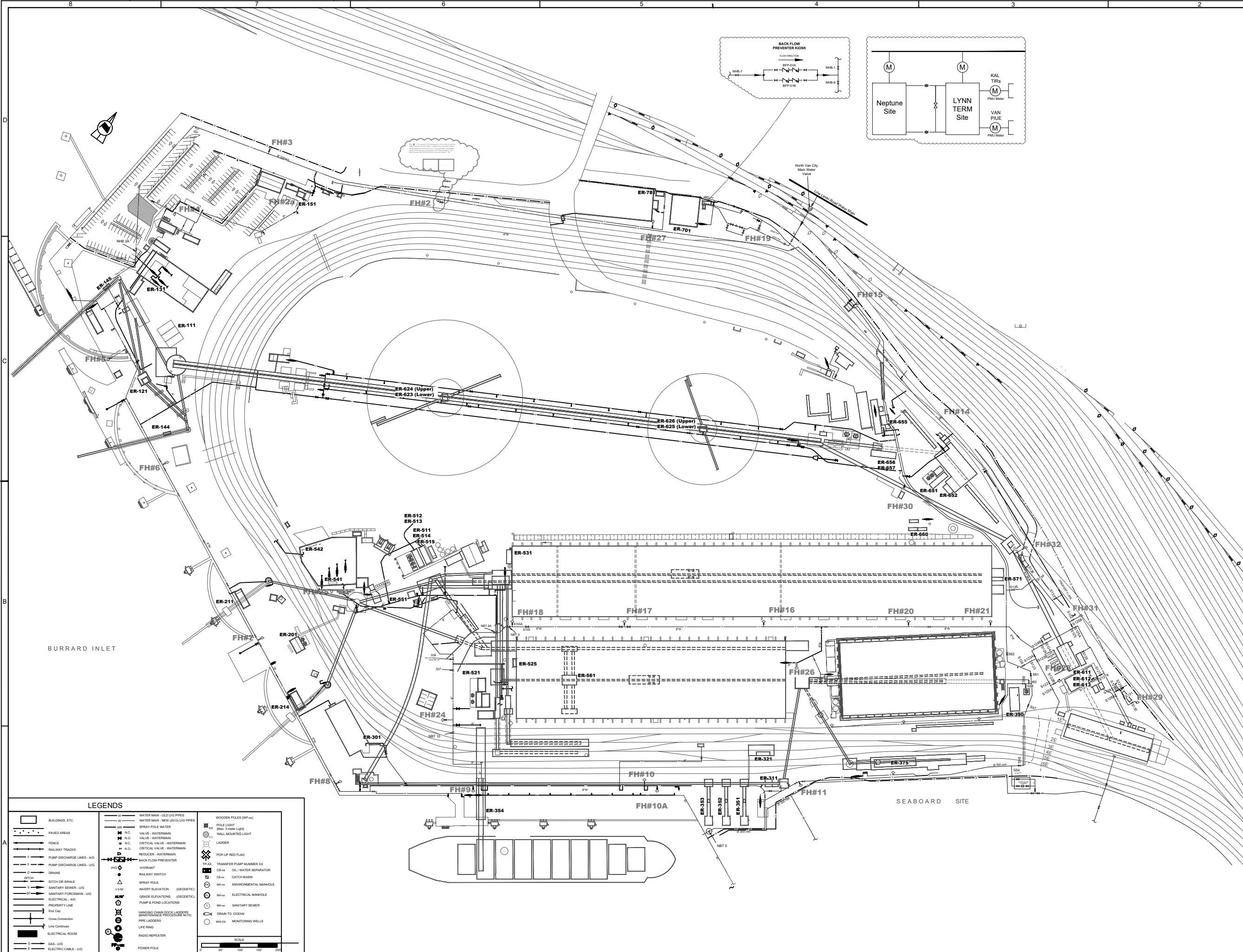
HAZARDOUS MATERIAL STORAGE:

- 1. Purification Pond
- 2. Tote of 25% caustic solution
- 3. CWTS Plant
- (2) totes of coagulant & (2) flocculant



C:\USERS\GREYS\ONEDRIVE - NEPTUNE BULK TERMINALS (CANADA) LTD\09-900-1-029-33 SITE MAP EMERGENCY RESPONSE.DWG DATE: 2022-05-26

		PROJECT / W.O.: N/A	33 22/06/16 Modified Spill Kit Locations KM SB/JF	ENGINEERING SEAL:	VENDOR:	ISSUED AS RECORD COPY? (YES/NO) NO	TITLE: NEPTUNE BULK TERMINALS (CANADA) LTD. EMERGENCY RESPONSE PLAN	
		SYSTEM: SITE	32 22/05/26 Modified Spill Kit Locations KM SB/JF				SCALE: N.T.S. SHEET 1 OF 1 DRAWING NO. 09-900-1-029	
		ASSET: 900	31 22/05/11 Modified Spill Kit Locations KM SB/JF				REV: 33	
DRAWING NO. DRAWING DESCRIPTION / TITLE		DISCIPLINE: 1	30 21/07/08 Modified Muster Station Locations AF KL/JF			THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.		
REFERENCE DRAWINGS / DESIGN STANDARDS			29 21/05/18 Modified Muster Station Locations AF KL/JF					
			REV YYYY-MM-DD DESCRIPTION DRAWN APPROVED	ISSUES / REVISIONS				



FIRE HYDRANT LIST		
ITEM	HYDRANT VALVE#	LOCATION
1	FH #1	
2	FH #2	NORTH WEST OF TP-1
3	FH #2A	NORTH EAST OF TP-1
4	FH #3	BETWEEN PARKING ARE BORDER OF NBT AND CARGILL
5	FH #4	NORTH OF GUARD HOUSE
6	FH #5	WC SL QUADRANT
7	FH #6	EC SL QUADRANT
8	FH #7	BERTH#2 DOCK
9	FH #8	SOUTH OF SURGE BIN TOWER #3 NEAR EA WALL
10	FH #9	BERTH#3 DOCK
11	FH #10 & 10A	NORTH MID OF R1 CONVEYOR
12	FH #11	BY ER-311 AND R1 TOWER
13	FH #12	
14	FH #13	NORTH OF SHED #3
15	FH #14	NORTH OF COAL DUMPER #1
16	FH #15	BY LOCI SPUR
17	FH #16	BETWEEN SHED 1 AND 2 EAST SIDE
18	FH #17	BETWEEN SHED 1 AND 2 EAST SIDE
19	FH #18	BETWEEN SHED 1 AND 2 EAST SIDE
20	FH #19	NORTH WEST OF MAIN SUB STATION BUILDING
21	FH #20	BETWEEN SHED 1 AND 2 WEST SIDE
22	FH #21	BETWEEN SHED 1 AND 2 WEST SIDE
23	FH #22	NORTH OF CID #2 (OUT OF SERVICE TBR)
24	FH #23 (Removed)	EAST OF TRAVELING HOPPERS HAS BEEN REMOVED. SEE WDG 3102201
25	FH #24	NEAR CRUD BINS IN DRY BULK INNER CIRCLE
26	FH #25	SOUTH OF HEAVY DUTY SHOP
27	FH #26	BETWEEN SHED 2 AND 3
28	FH #27	BY PURIFICATION POND TP-10
29	FH #28	NORTH OF SHED #3
30	FH #29	NORTH OF CID 141
31	FH #30	SOUTH WES OF CID 101
32	FH #31	NORTH OF UNDERPASS CID 101
33	FH #32	NORTH OF UNDERPASS CID 101

Revision			
Number	Date	Issue	By
101	2023-01-13	AED#8 removed	AF/IB
102	2022-07-29	Underground Water and FH Revised	AF/KH
101	2022-03-22	Added a new AED #16	AF/KH

DRAWING NO.		DRAWING TITLE	

P.O. Box 86367 North Vancouver, B.C., V7L 4K6
 Phone (604)985-7461 Fax (604)985-8941

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ASSET TITLE:
DRAWING TITLE: FIRE HYDRANTS

REV.	DATE	ISSUED FOR	DRAWN	CHECK	SUPR.	APPROVED

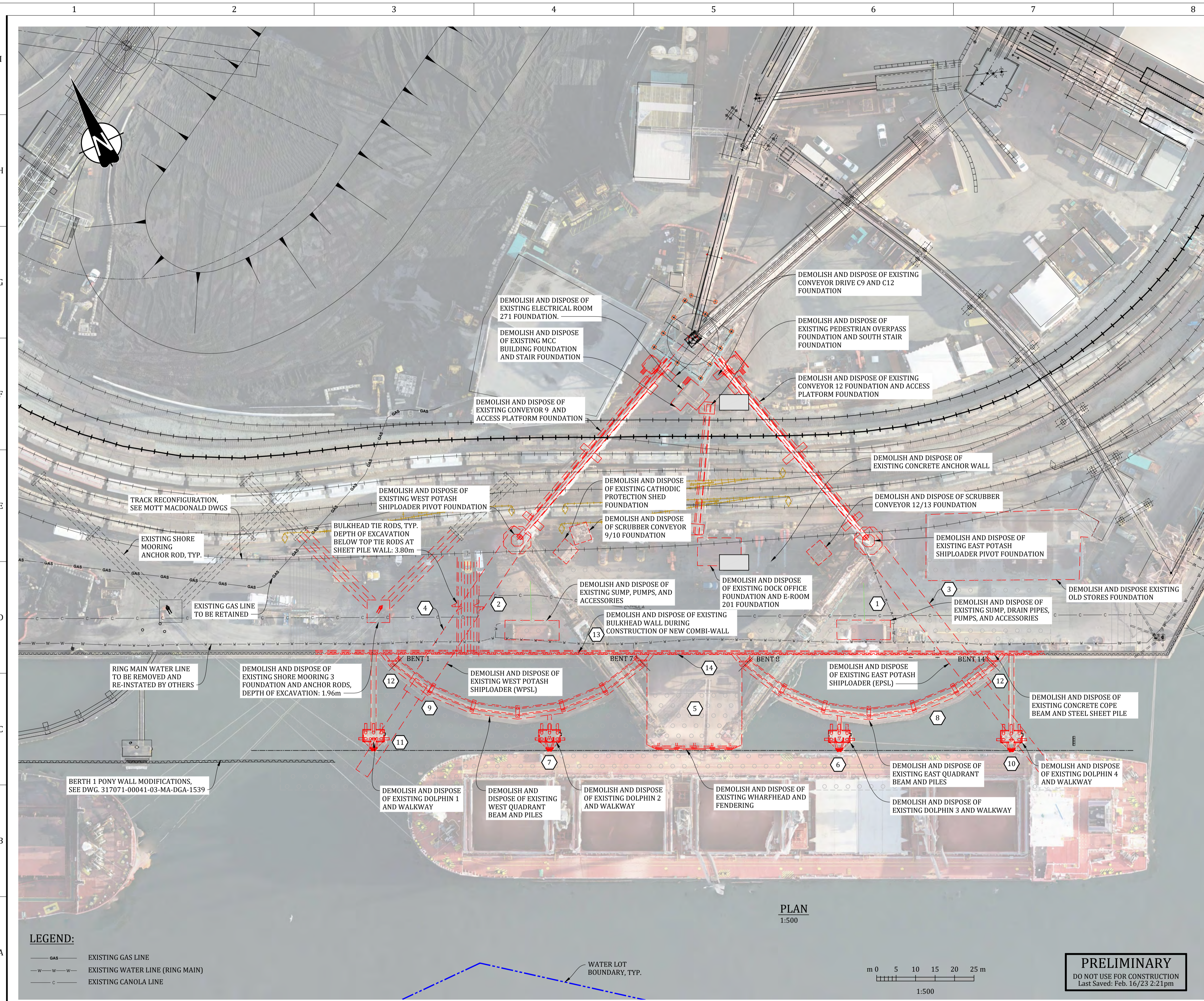
SH: OF: DWG No. 09-917-1-008 SCALE: 1:1200
 REV:



Doc Title:
Doc Ref #:
Doc Rev #:

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APPENDIX B: B2 SITE PLANS (ADVISIAN)



MARINE DEMOLITION SEQUENCING FOR REFERENCE:

- STEP:
1. POSITION EAST POTASH SHIPLOADER (EPSL) IN PARKED POSITION TO THE WEST TOWARDS THE EXISTING WHARFHEAD.
 2. POSITION WEST POTASH SHIPLOADER (WPSL) IN PARKED POSITION TO THE EAST TOWARDS THE EXISTING WHARFHEAD.
 3. PERFORM IN WATER WORKS NECESSARY TO REMOVE EPSL. REMOVE EPSL.
 4. PERFORM IN WATER WORKS NECESSARY TO REMOVE WPSL. REMOVE WPSL.
 5. REMOVE WHARFHEAD.
 6. REMOVE DOLPHIN 3 AND WALKWAY.
 7. REMOVE DOLPHIN 2 AND WALKWAY.
 8. REMOVE EAST QUADRANT BEAM FROM BENTS 14 TO 9 (PROCEED FROM EAST TO WEST).
 9. REMOVE WEST QUADRANT BEAM FROM BENTS 2 TO 6 (PROCEED FROM WEST TO EAST).
 10. REMOVE DOLPHIN 4 AND WALKWAY.
 11. REMOVE DOLPHIN 1 AND WALKWAY.
 12. REMOVE REMAINING QUADRANT BEAM SECTIONS.
 13. REMOVE ALL ONSHORE DEMOLITION WORK.
 14. REMOVE BULKHEAD WALL DURING CONSTRUCTION OF COMBI-WALL.
- * CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION SEQUENCING

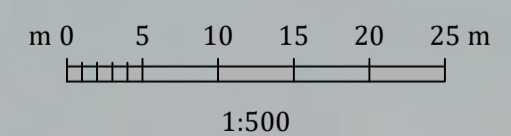
NOTES:

1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
2. FOR SCOUR PROTECTION REMOVAL AND DREDGING, SEE DWG. 317071-00041-03-MA-DGA-1504.
3. THE MARINE DEMOLITION SEQUENCING IS A PROPOSED SEQUENCE FOR CONDUCTING THE WORK. THE MARINE DEMOLITION SEQUENCING AND THE ORDER OF ACTIVITIES SHALL BE DEVELOPED BY THE CONTRACTOR.
4. LOCATION OF RING MAIN PIPES ARE AS SHOWN ON BINNIE DWG. 74-059-UT-010, DATED DECEMBER 18TH, 2020. LOCATION OF RAILS AS SHOWN ON UNDERHILL DWG. L-157C, DATED APRIL 24, 2020.
5. FOR BOTH EXISTING SUMPS, DEMOLISH, DISPOSE, AND BACKFILL UNDERGROUND DISCHARGE LINE AND TRENCH FROM SUMP TO EXISTING SHIPLOADER PIVOT FOUNDATION.
6. RETAIN ONE OF THE EXISTING DOLPHIN RUBBER FENDERS (WITH BRACKET) THAT IS IN THE BEST CONDITION TO BE RE-USED FOR NEW MOORING DOLPHIN.

LEGEND:

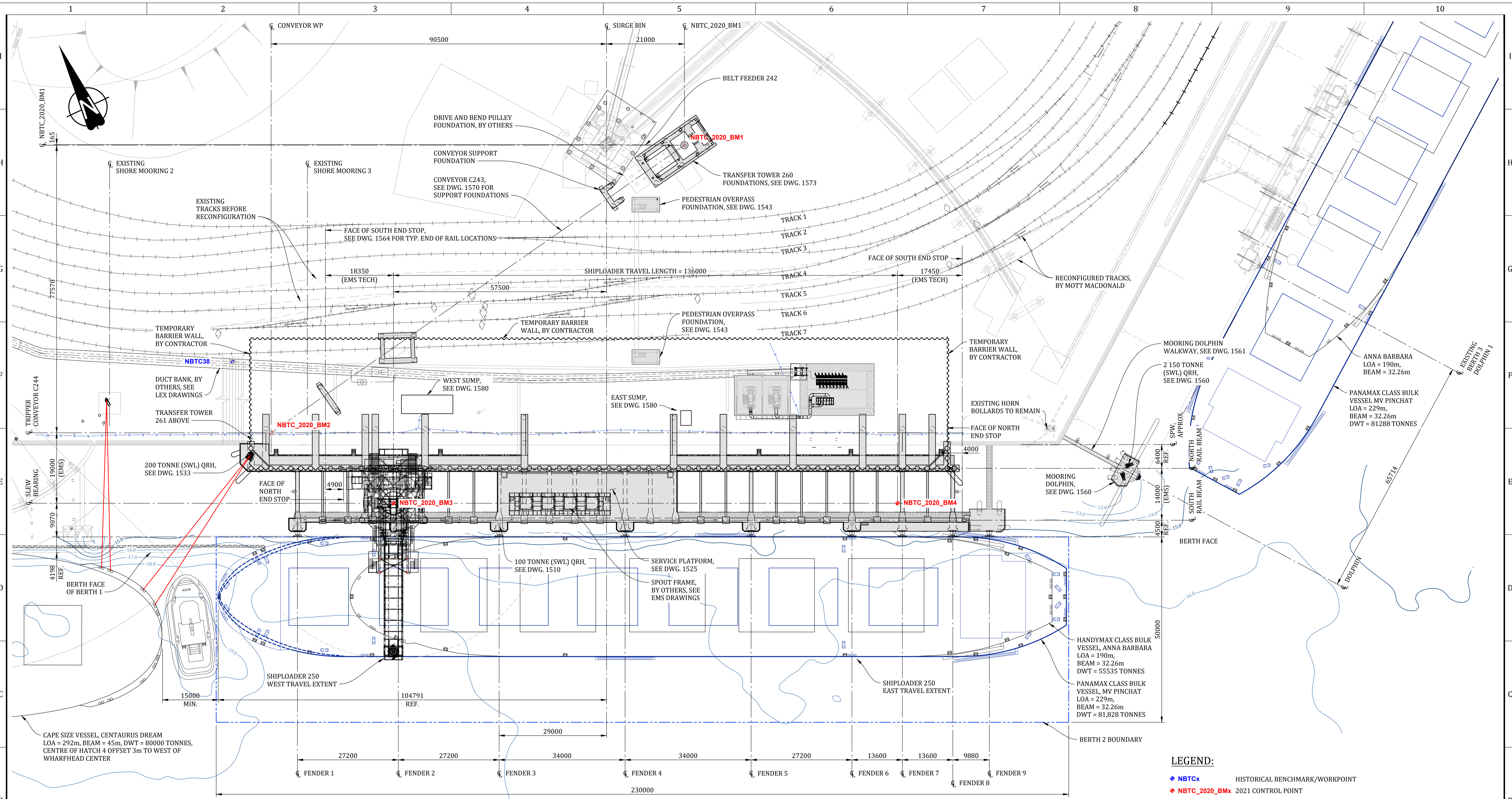
— GAS —	EXISTING GAS LINE
— W — W —	EXISTING WATER LINE (RING MAIN)
— C —	EXISTING CANOLA LINE

PLAN
1:500



PRELIMINARY
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Last Saved: Feb. 16/23 2:21pm

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>Worley Group</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL EXISTING SITE PLAN AND DEMOLITION PLAN								
SYSTEM: POTASH																
ASSET: 221																
DISCIPLINE: STRUCTURAL		REV: A		2023-02-16		ISSUED FOR CLIENT REVIEW		AAL		AMT						
DRAWING NO. REFERENCE DRAWINGS / DESIGN STANDARDS		REV: YYY-MM-DD		DESCRIPTION		DRAWN		APPROVED		VENDOR P2P:						
1		2		3		4		5		6						
				ISSUES / REVISIONS												
										OEM:						
										<p>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</p>						
										<table border="1"> <tr> <td>SCALE: SHOWN</td> <td>SHEET 1</td> <td>OF 1</td> <td>DRAWING NO. 317071-00041-03-MA-DGA-1500</td> <td>REV: A</td> </tr> </table>		SCALE: SHOWN	SHEET 1	OF 1	DRAWING NO. 317071-00041-03-MA-DGA-1500	REV: A
SCALE: SHOWN	SHEET 1	OF 1	DRAWING NO. 317071-00041-03-MA-DGA-1500	REV: A												
1		2		3		4		5		6						



PLAN
1:500

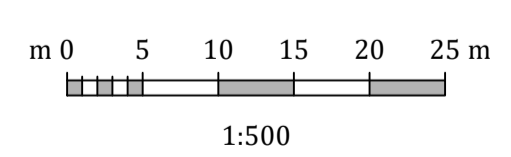
HISTORICAL BENCHMARK LOCATIONS							
BENCHMARK ID	NBTC NORTHING (m)	NBTC EASTING (m)	UTM NORTHING (m)	UTM EASTING (m)	ELEVATION GEODETIC (m)	ELEVATION CHART (m)	MONUMENT LOCATION DESCRIPTION
NBTC9	5461315.890	496054.759	5461316.034	496055.039	3.67	6.66	BRASS TABLET IN CONCRETE PAD, AT COAL SURGE BIN
NBTC38	5461247.696	496145.513	5461247.867	496145.757	3.59	6.59	BRASS TABLET

2021 CONTROL POINT LOCATIONS						
CONTROL POINT	NBTC NORTHING (m)	NBTC EASTING (m)	UTM NORTHING (m)	UTM EASTING (m)	ELEVATION GEODETIC (m)	ELEVATION CHART (m)
NBTC_2020_BM1	5461248.629	496280.687	5461248.799	496280.877	*	1 *
NBTC_2020_BM2	5461225.823	496146.782	5461226.003	496147.025	---	---
NBTC_2020_BM3	5461194.594	496168.571	5461194.787	496168.806	---	---
NBTC_2020_BM4	5461136.766	496291.664	5461136.981	496291.850	---	---

* TO BE CONFIRMED BY NEPTUNE

LEGEND:

NEW STRUCTURE

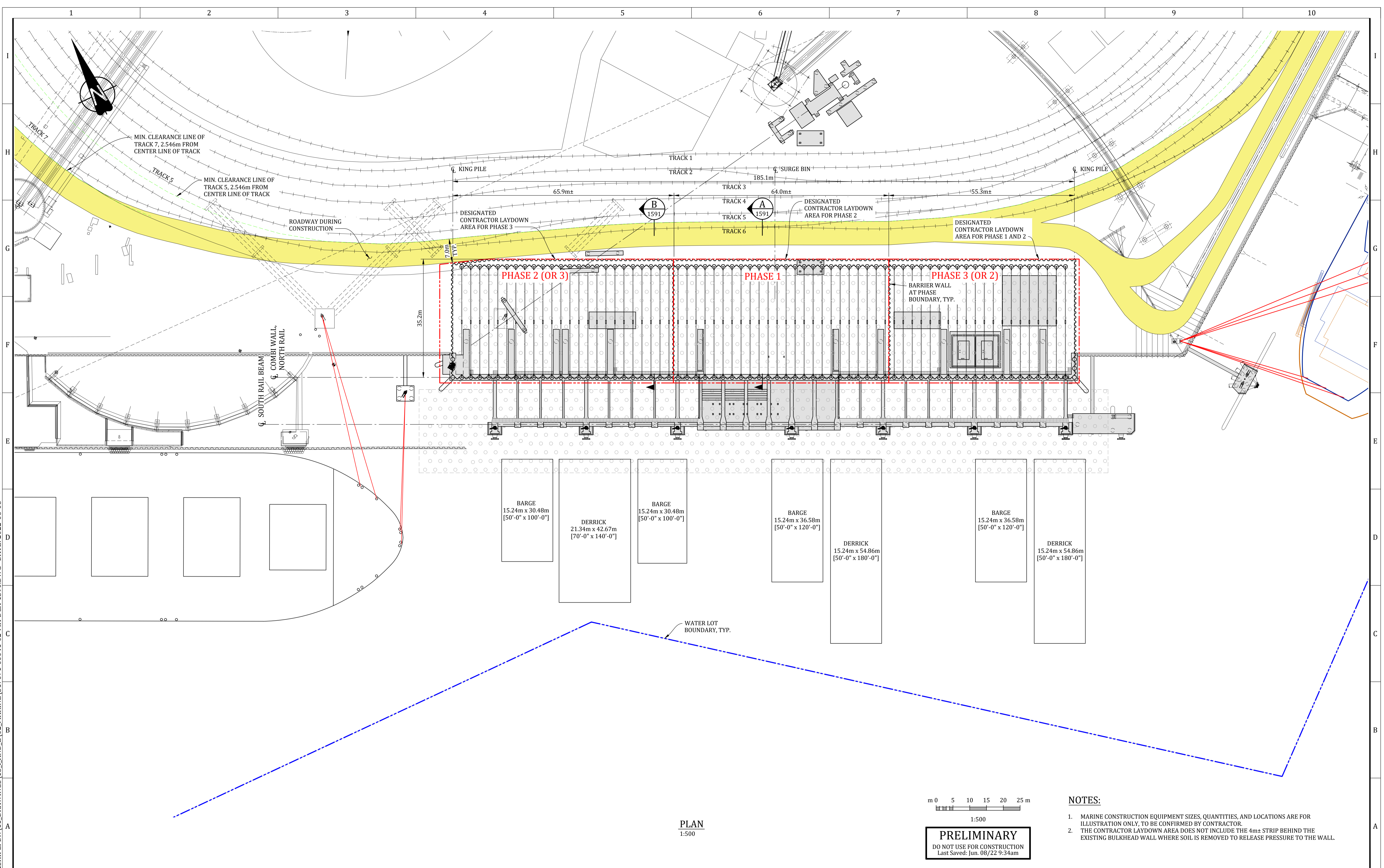


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Last Saved: Feb. 16/23 6:11pm

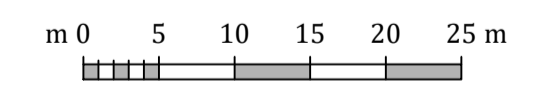
- LEGEND:**
- NBTCx HISTORICAL BENCHMARK/WORKPOINT
 - NBTC_2020_BmX 2021 CONTROL POINT

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - THIS PLAN SHOWS NBTC GROUND LEVEL MEASURED DISTANCES. TO CONVERT GROUND LEVEL NBTC COORDINATES TO UTM NAD83 ZONE 10 NORTH COORDINATES FIRST ADD 2172.427 TO NORTHING AND 197.590 TO EASTING THEN SCALE ABOUT 0.0 BY A COMBINED SCALE FACTOR OF 0.99960240.
 - EXISTING BENCHMARK LOCATIONS WERE OBTAINED FROM SURVEY INFORMATION PROVIDED BY UNDERHILL (2009) AND MCELHANNAY (2020).
 - SEABED CONTOURS DERIVED FROM 2020 BATHYMETRIC SURVEY CONDUCTED BY FRONTIER GEOSCIENCES INC. PROVIDED JANUARY 21, 2021.
 - THE TEMPORARY BARRIER WALL IS TO BE DESIGNED BY THE CONTRACTOR. THE CRANE LOAD OR OTHER HEAVY CONSTRUCTION TRAFFIC LOAD ON THE ADJACENT AREA OF THE BARRIER WALL SHALL BE CONSIDERED CASE BY CASE BASED ON THE ACTUAL CONSTRUCTION SITUATION, SUCH AS, THE ACTUAL WATER TABLE DIFFERENCE AND THE SOIL ELEVATION DIFFERENCE ON EACH SIDE OF THE BARRIER WALL AT THE TIME OF THE LOADING.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL GENERAL ARRANGEMENT	
SYSTEM: POTASH		B 2023-02-16 ISSUED FOR CLIENT REVIEW		AAL AMT				SCALE: 1:750	
ASSET: 251		A 2022-11-30 ISSUED FOR PERMITTING		AAL AMT				SHEET 1 OF 1	
DISCIPLINE: STRUCTURAL		REV YYYY-MM-DD DESCRIPTION		DRAWN APPROVED		DRAWING NO. 317071-00041-03-MA-DGA-1501		REV: B	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:					



PLAN
1:500



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Last Saved: Jun. 08/22 9:34am

- NOTES:**
- MARINE CONSTRUCTION EQUIPMENT SIZES, QUANTITIES, AND LOCATIONS ARE FOR ILLUSTRATION ONLY, TO BE CONFIRMED BY CONTRACTOR.
 - THE CONTRACTOR LAYDOWN AREA DOES NOT INCLUDE THE 4m± STRIP BEHIND THE EXISTING BULKHEAD WALL WHERE SOIL IS REMOVED TO RELEASE PRESSURE TO THE WALL.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT			
SYSTEM: POTASH								LANDSIDE EXCAVATION PHASES AND LAYDOWN PLAN AND			
ASSET: 251								MARINE CONSTRUCTION EQUIPMENT PLAN			
DISCIPLINE: STRUCTURAL		REV: 0		2022-06-08		ISSUED FOR PRELIMINARY DESIGN		AAL		AMT	
DRAWING NO.		DRAWING DESCRIPTION / TITLE		REV		YYYY-MM-DD		DESCRIPTION		DRAWN APPROVED	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							
1	2	3	4	5	6	7	8	9	10	11	12

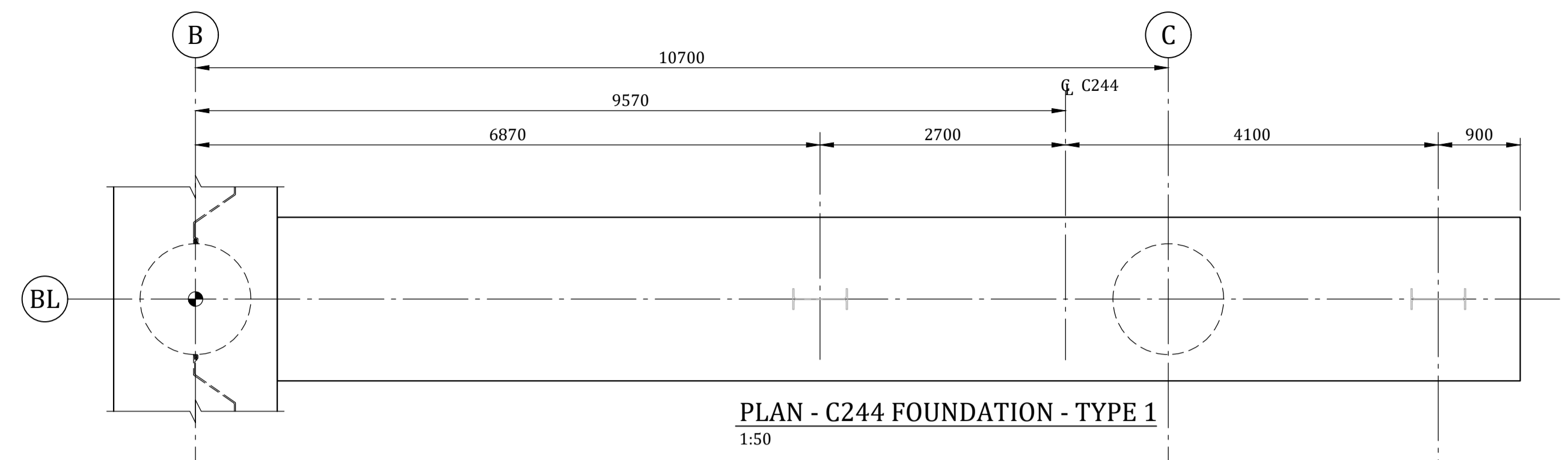
U:\VVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-02-MA-DGA-1590.DWG DATE: 2022-06-08



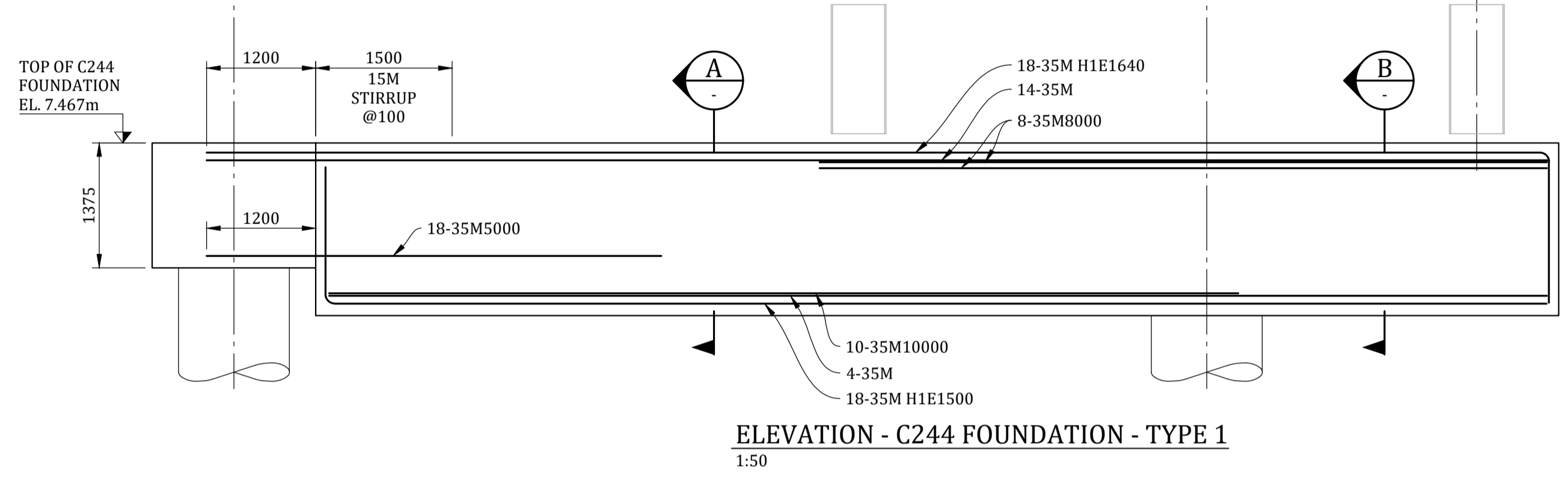
Doc Title:
Doc Ref #:
Doc Rev #:

B2 Design Drawing Report
REP-B2D2-0003
1

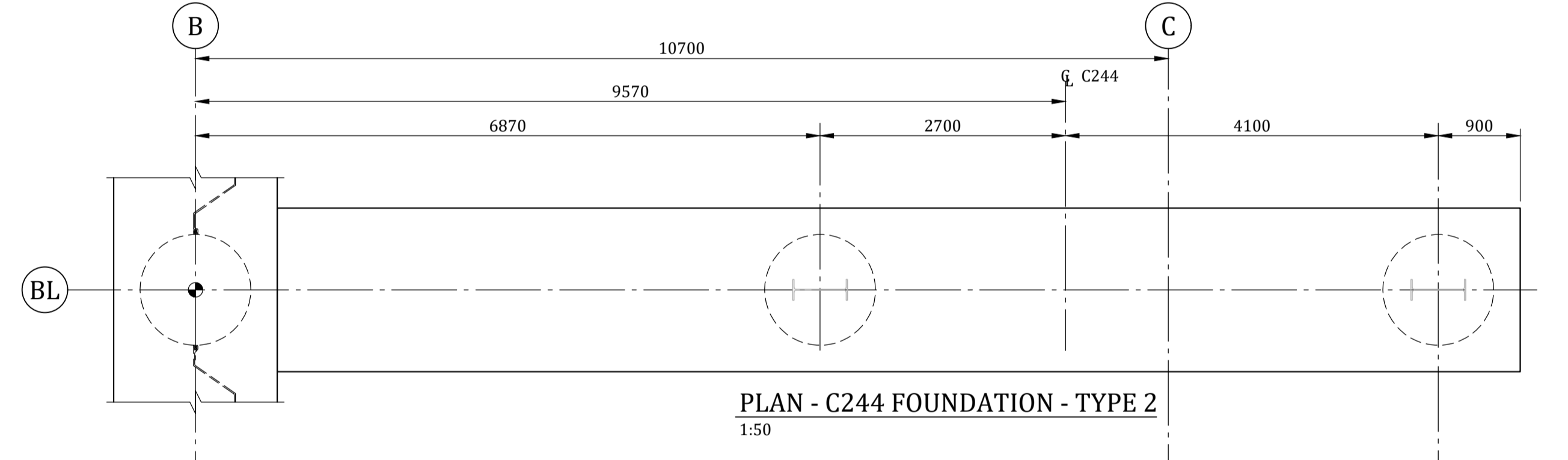
APPENDIX C: B2 BUILDINGS, STRUCTURES AND EQUIPMENT (ADVISIAN)



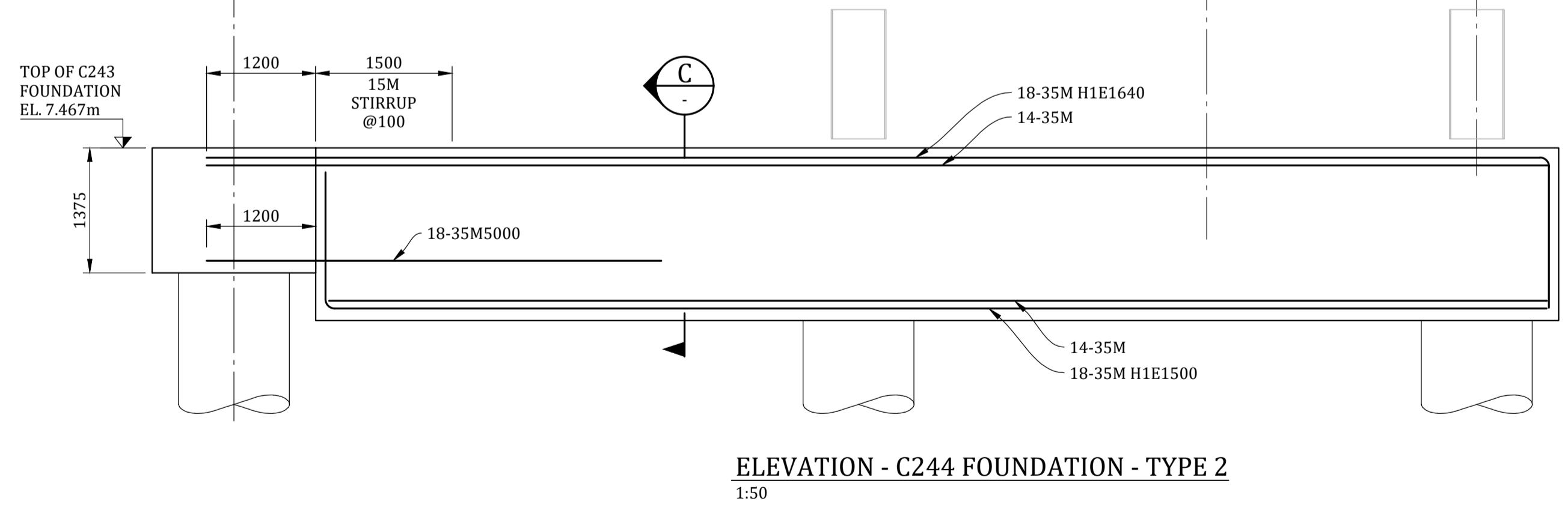
PLAN - C244 FOUNDATION - TYPE 1
1:50



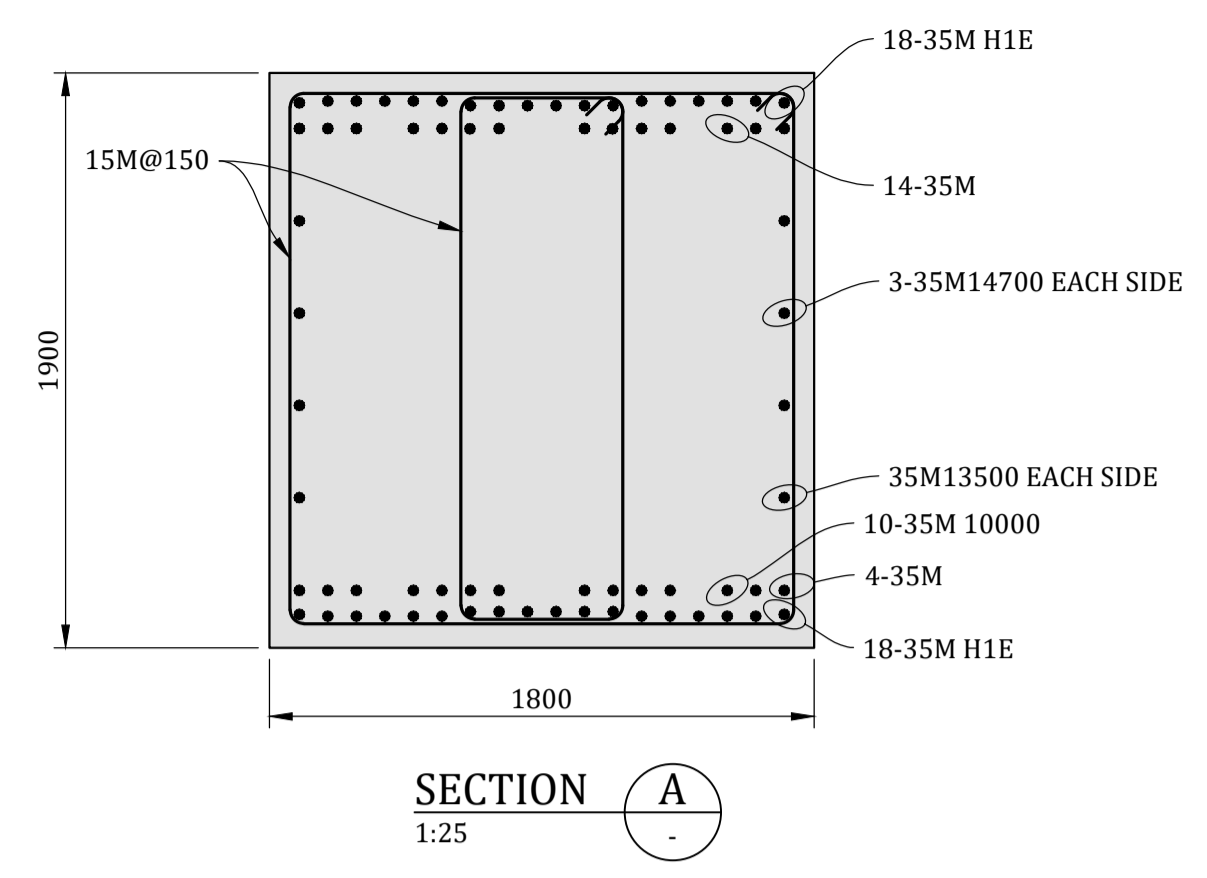
ELEVATION - C244 FOUNDATION - TYPE 1
1:50



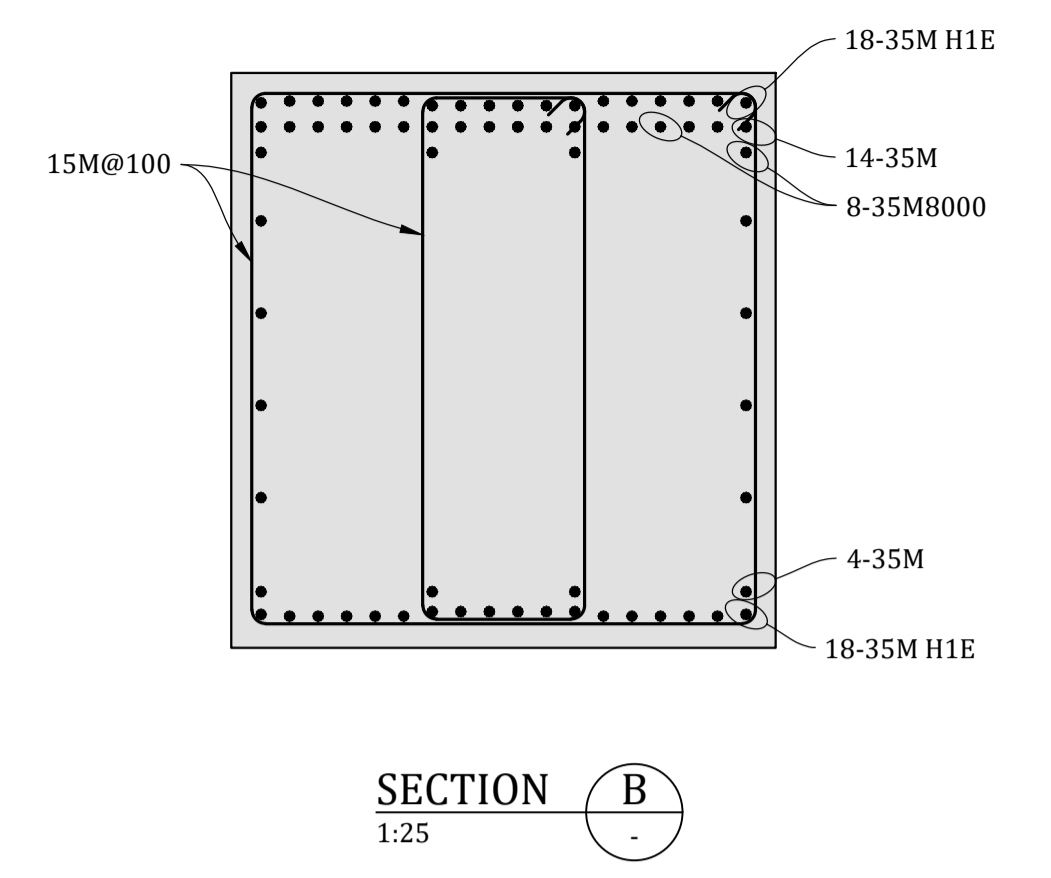
PLAN - C244 FOUNDATION - TYPE 2
1:50



ELEVATION - C244 FOUNDATION - TYPE 2
1:50

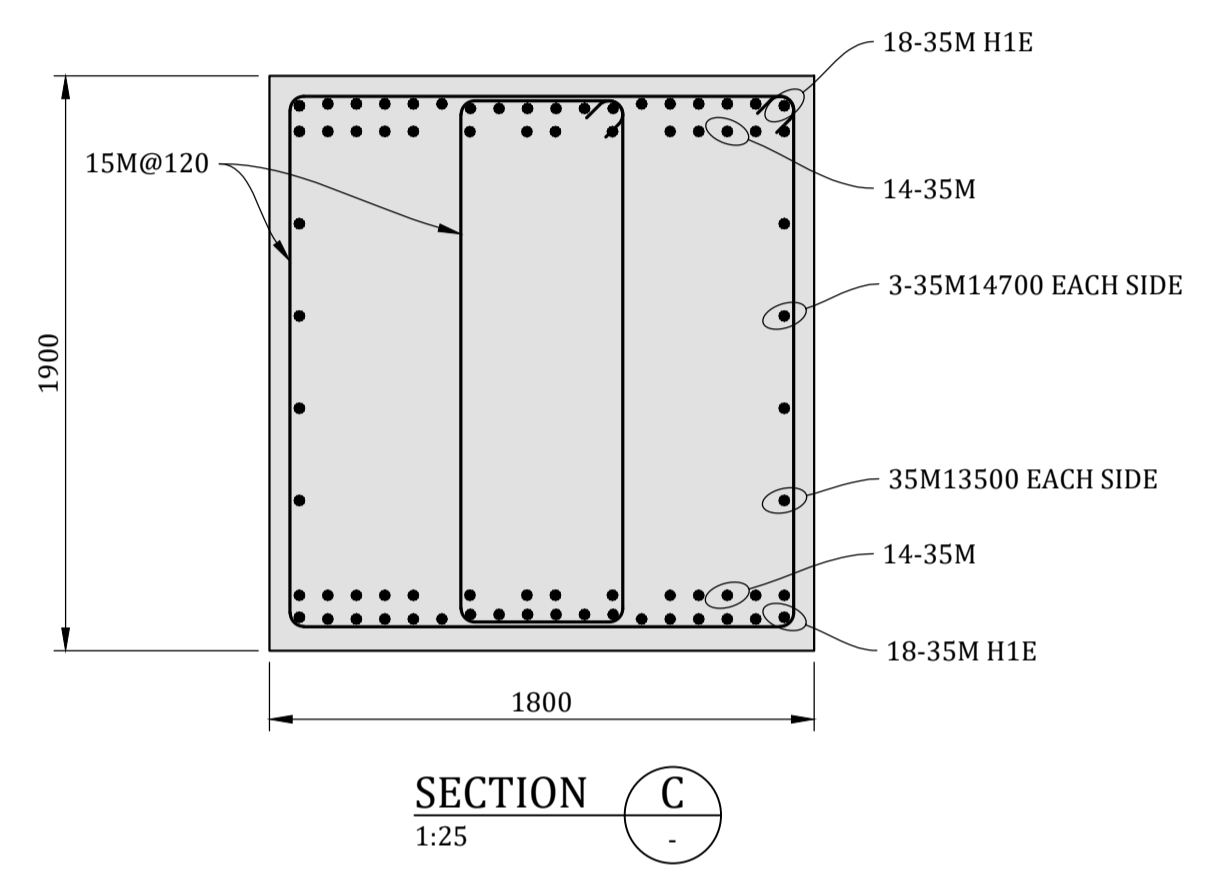


SECTION A
1:25

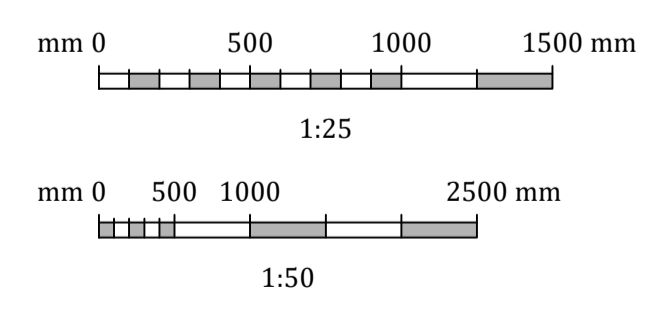


SECTION B
1:25

SEE SECTION-A FOR SIMILAR INFORMATION NOT SHOWN



SECTION C
1:25

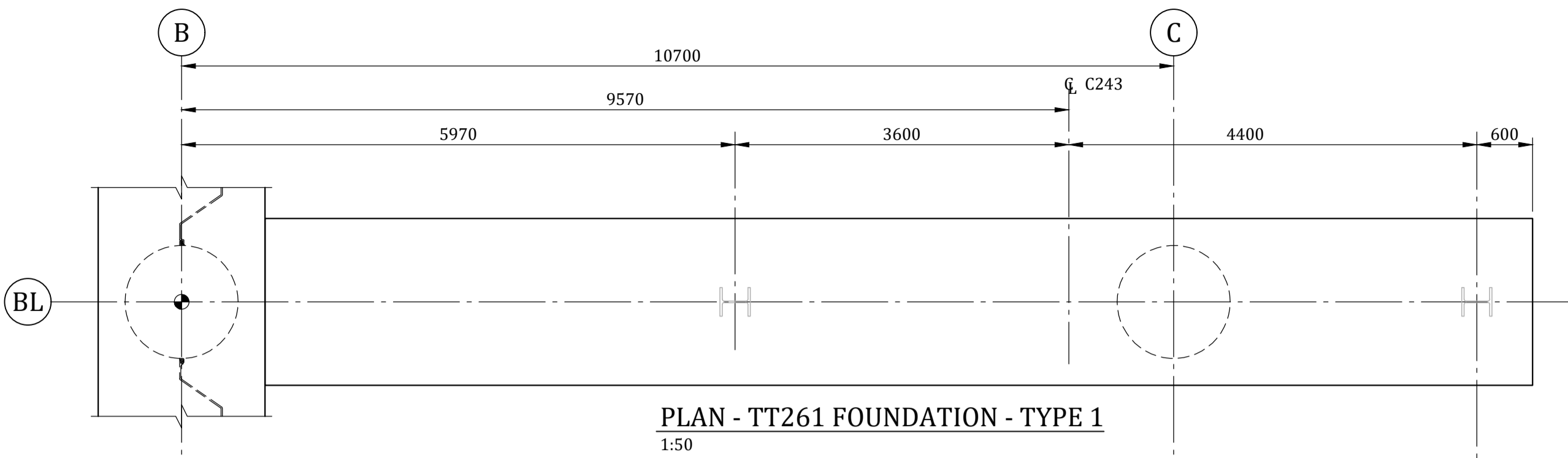


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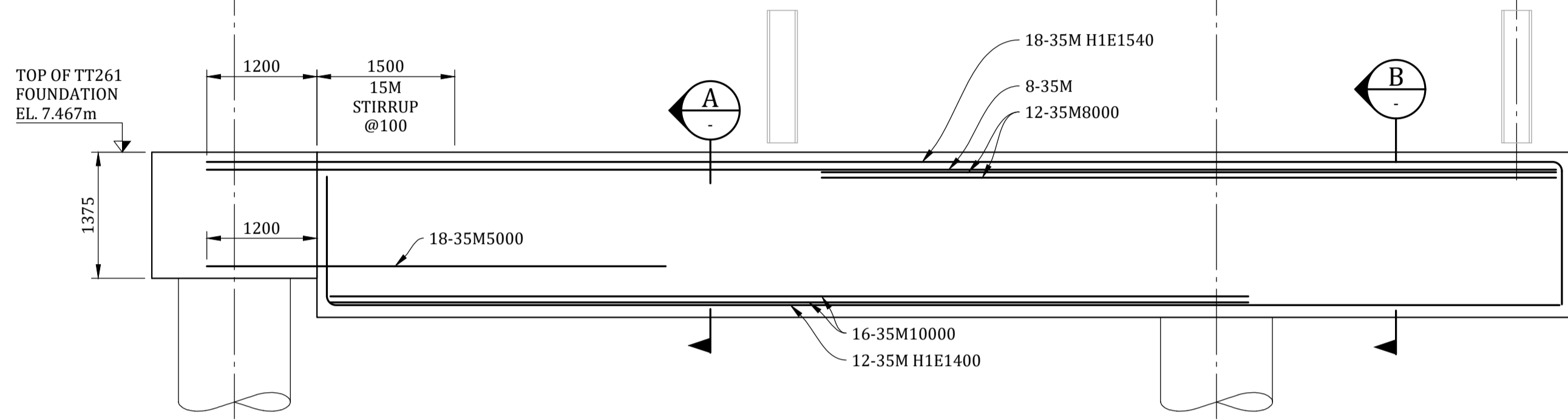
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL CONVEYOR 244 FOUNDATIONS PLAN AND DETAILS						
SYSTEM: POTASH		REV B 2023-02-16 ISSUED FOR CLIENT REVIEW		GL AMT		 <small>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</small>		SCALE: SHOWN		SHEET 1 OF 1		DRAWING NO. 317071-00041-03-MA-DGA-1540		REV: B
ASSET: 244		REV A 2022-11-30 ISSUED FOR PERMITTING		GL AMT				DRAWING NO. 317071-00041-03-MA-DGA-1540						
DISCIPLINE: STRUCTURAL		REV		DESCRIPTION		DRAWN		APPROVED		VENDOR P2P:				
DRAWING NO.		DRAWING DESCRIPTION / TITLE		DISCIPLINE:		REFERENCE DRAWINGS / DESIGN STANDARDS								

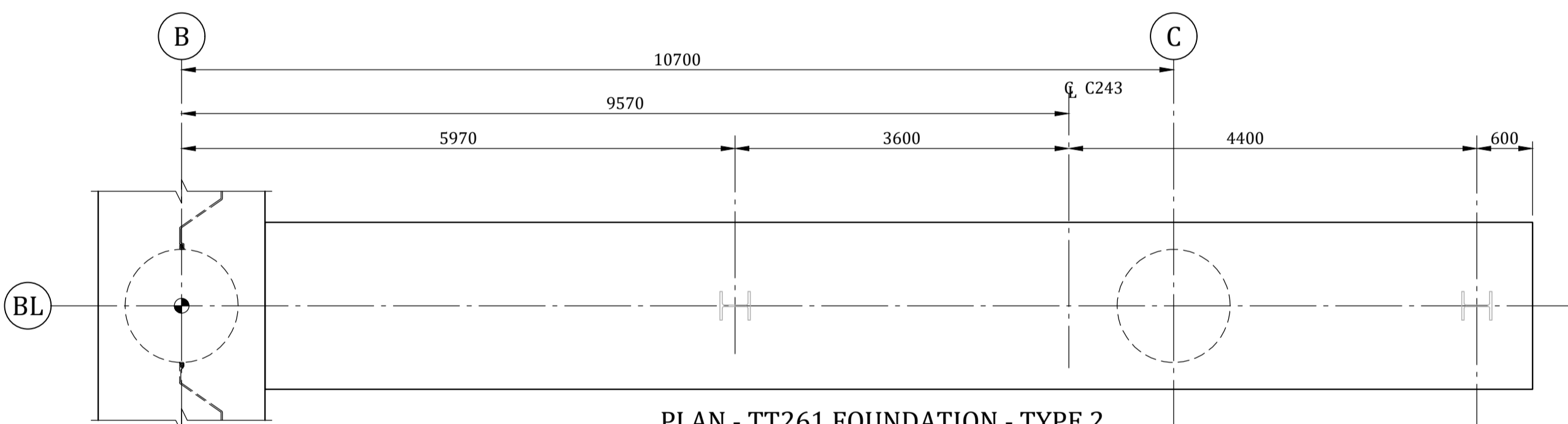
U:\VVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1540-1541-1542.DWG DATE: 2023-02-15



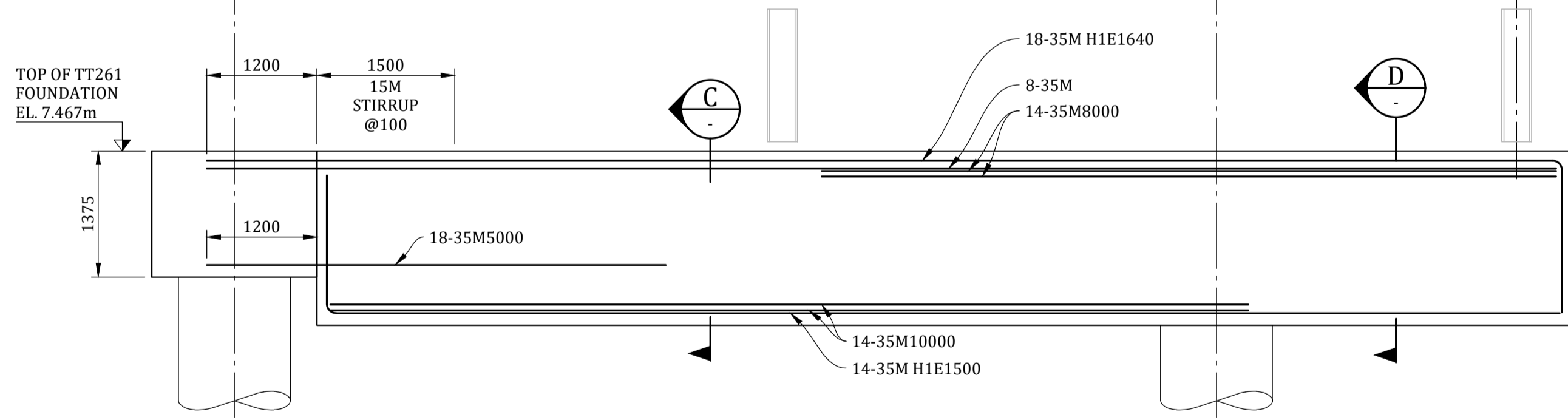
PLAN - TT261 FOUNDATION - TYPE 1
1:50



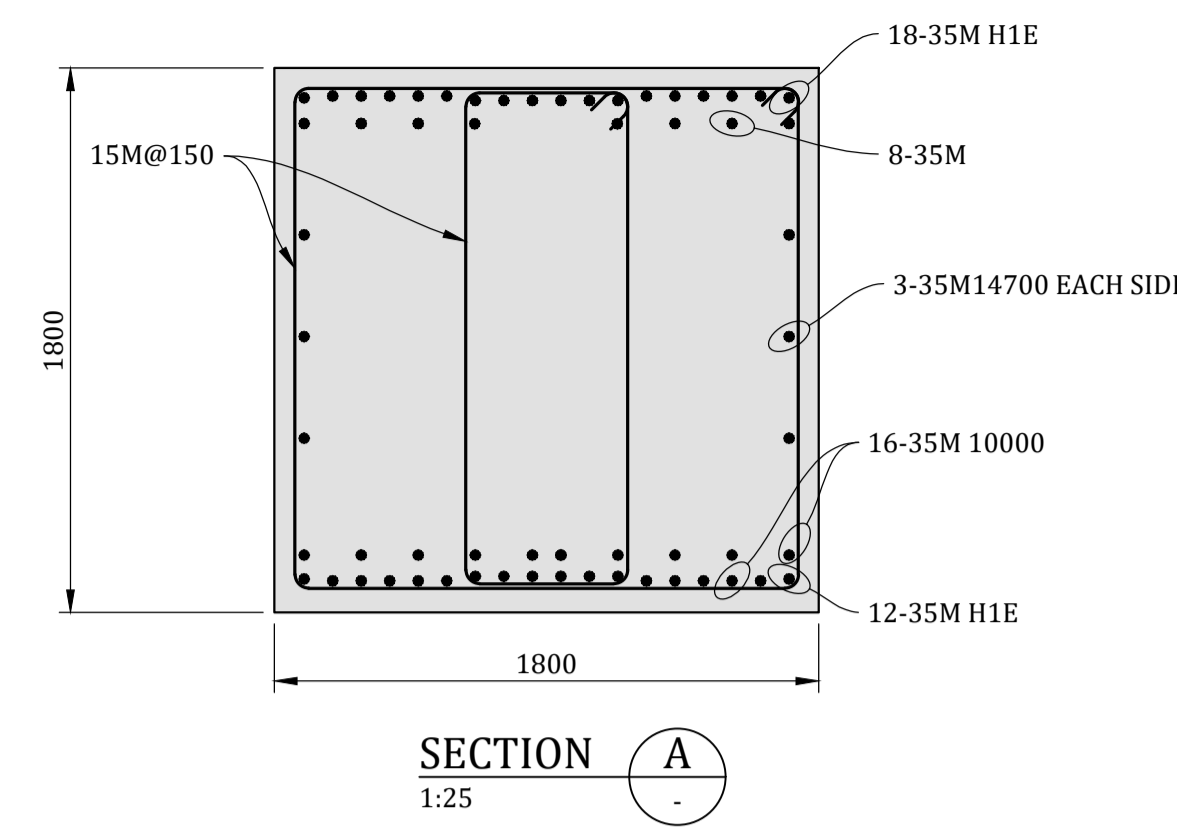
ELEVATION - TT261 FOUNDATION - TYPE 1
1:50



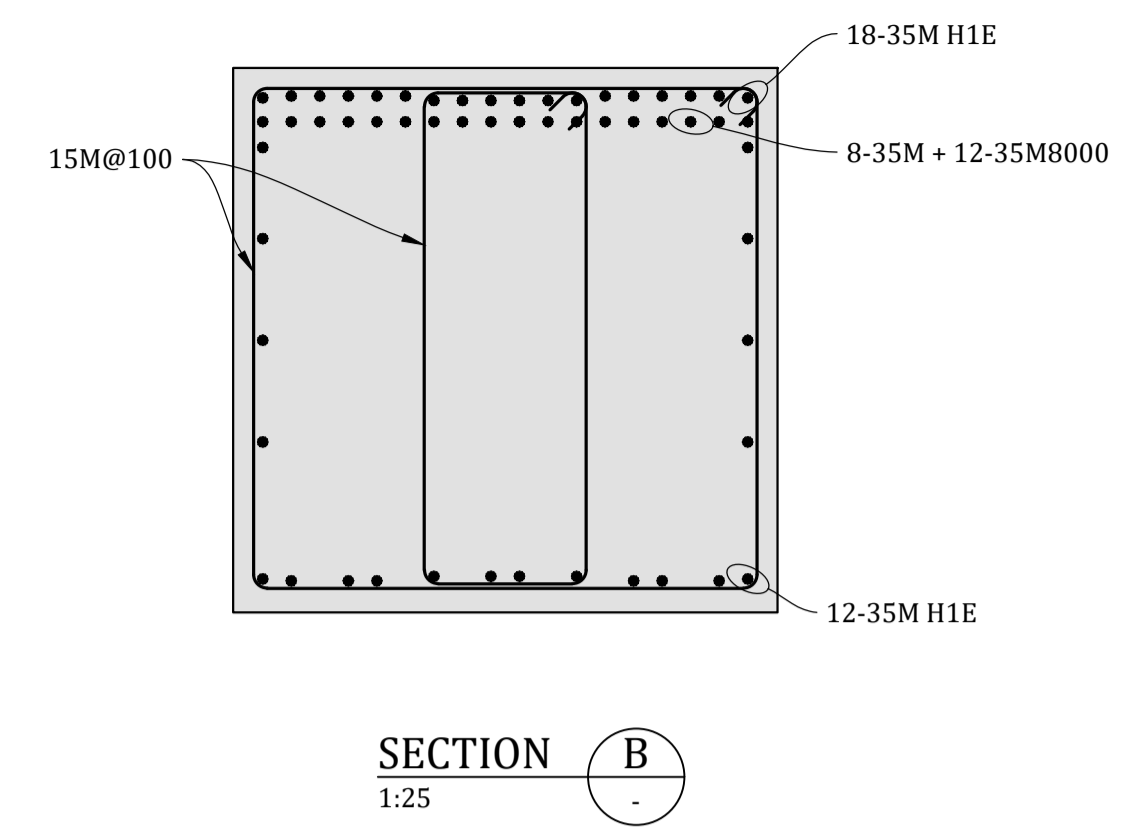
PLAN - TT261 FOUNDATION - TYPE 2
1:50



ELEVATION - TT261 FOUNDATION - TYPE 2
1:50

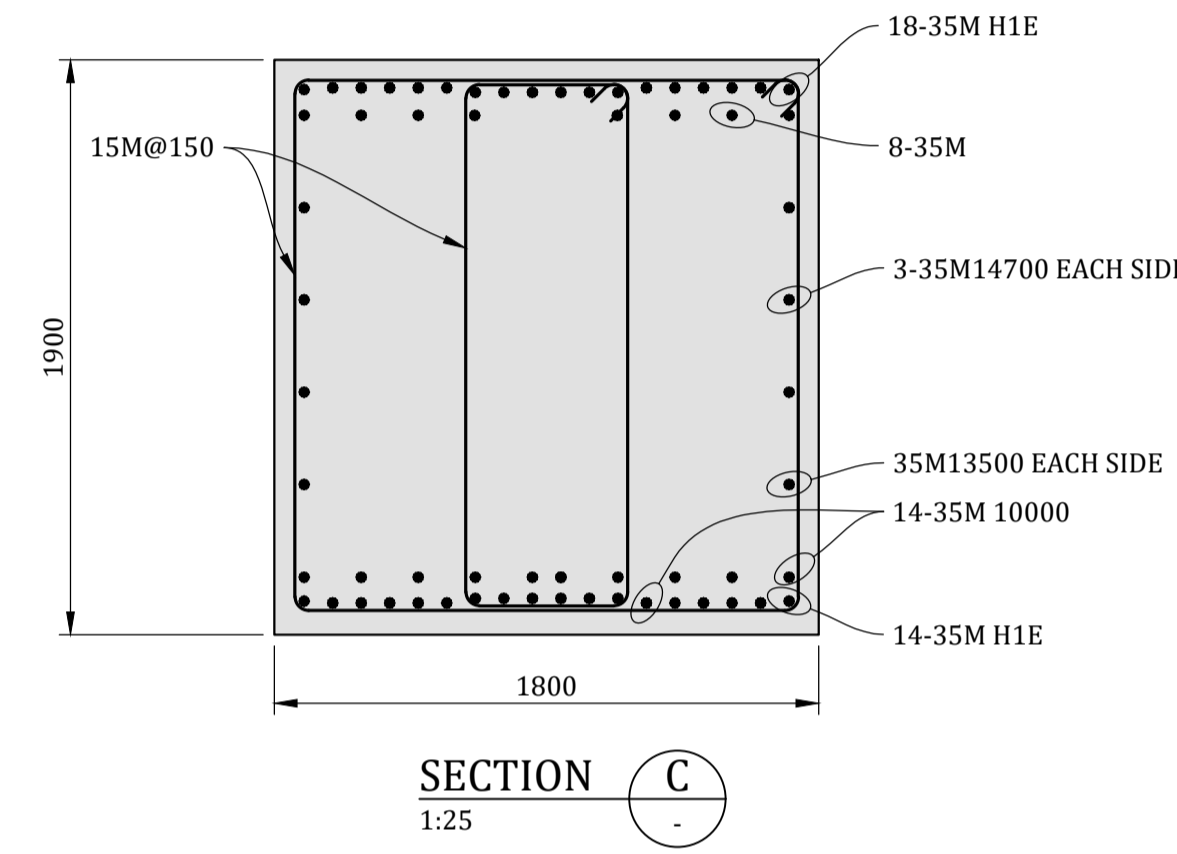


SECTION A
1:25

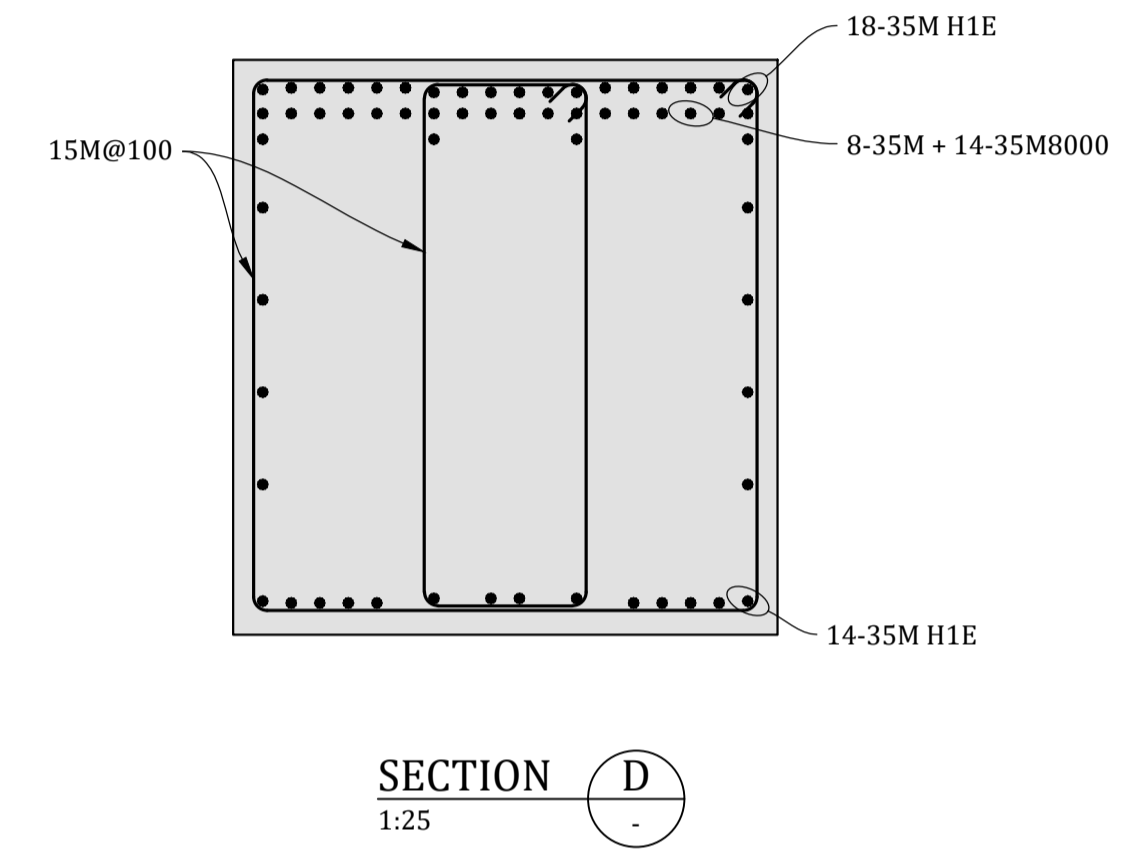


SECTION B
1:25

SEE SECTION-A FOR SIMILAR INFORMATION NOT SHOWN

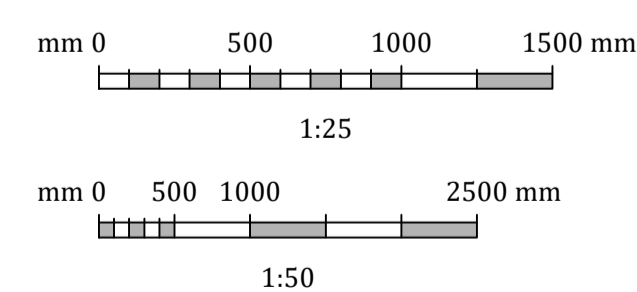


SECTION C
1:25



SECTION D
1:25

SEE SECTION-C FOR SIMILAR INFORMATION NOT SHOWN

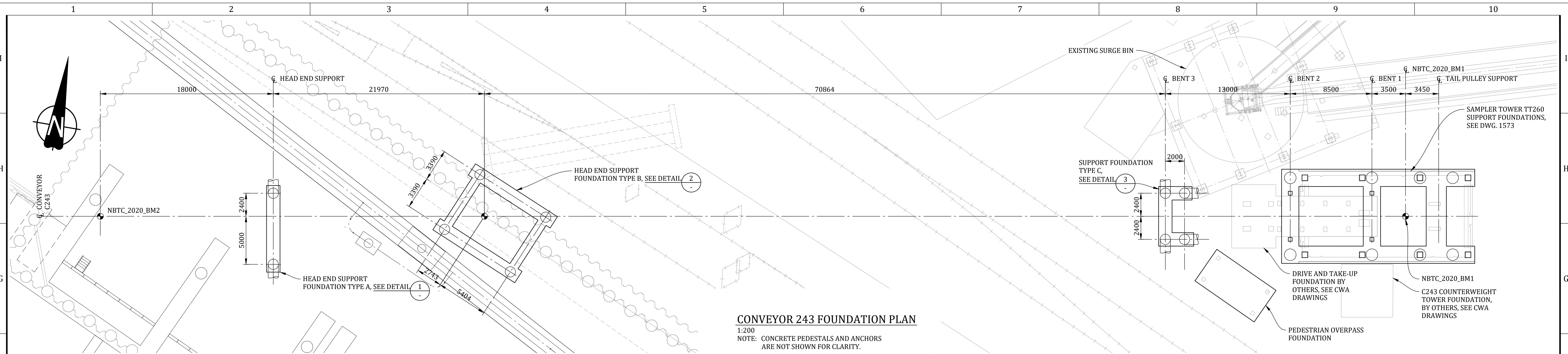


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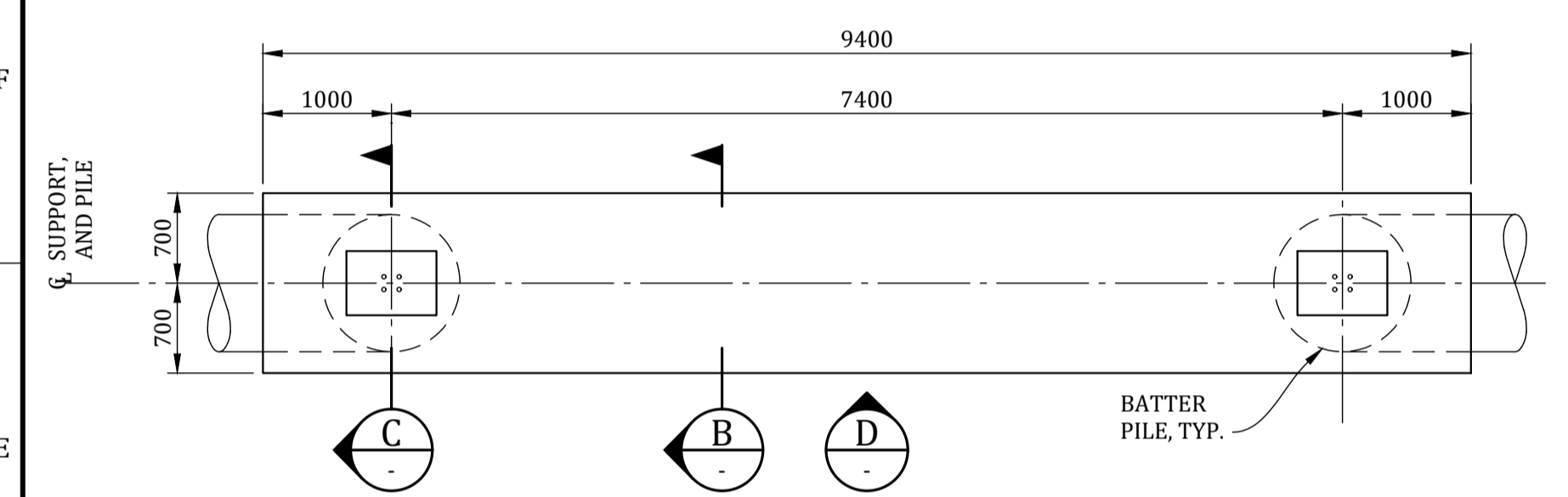
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>Worley Group</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL TRANSFER TOWER 261 FOUNDATIONS PLAN AND SECTIONS						
SYSTEM: POTASH		REV B 2023-02-16 ISSUED FOR CLIENT REVIEW		AAL AMT		 <small>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</small>		SCALE: SHOWN		SHEET OF 1 1		DRAWING NO. 317071-00041-03-MA-DGA-1542		REV: B
ASSET: 261		REV A 2022-11-30 ISSUED FOR PERMITTING		GL AMT				DRAWING NO. 317071-00041-03-MA-DGA-1542						
DISCIPLINE: STRUCTURAL		REV YYY-MM-DD DESCRIPTION		DRAWN APPROVED										
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:										

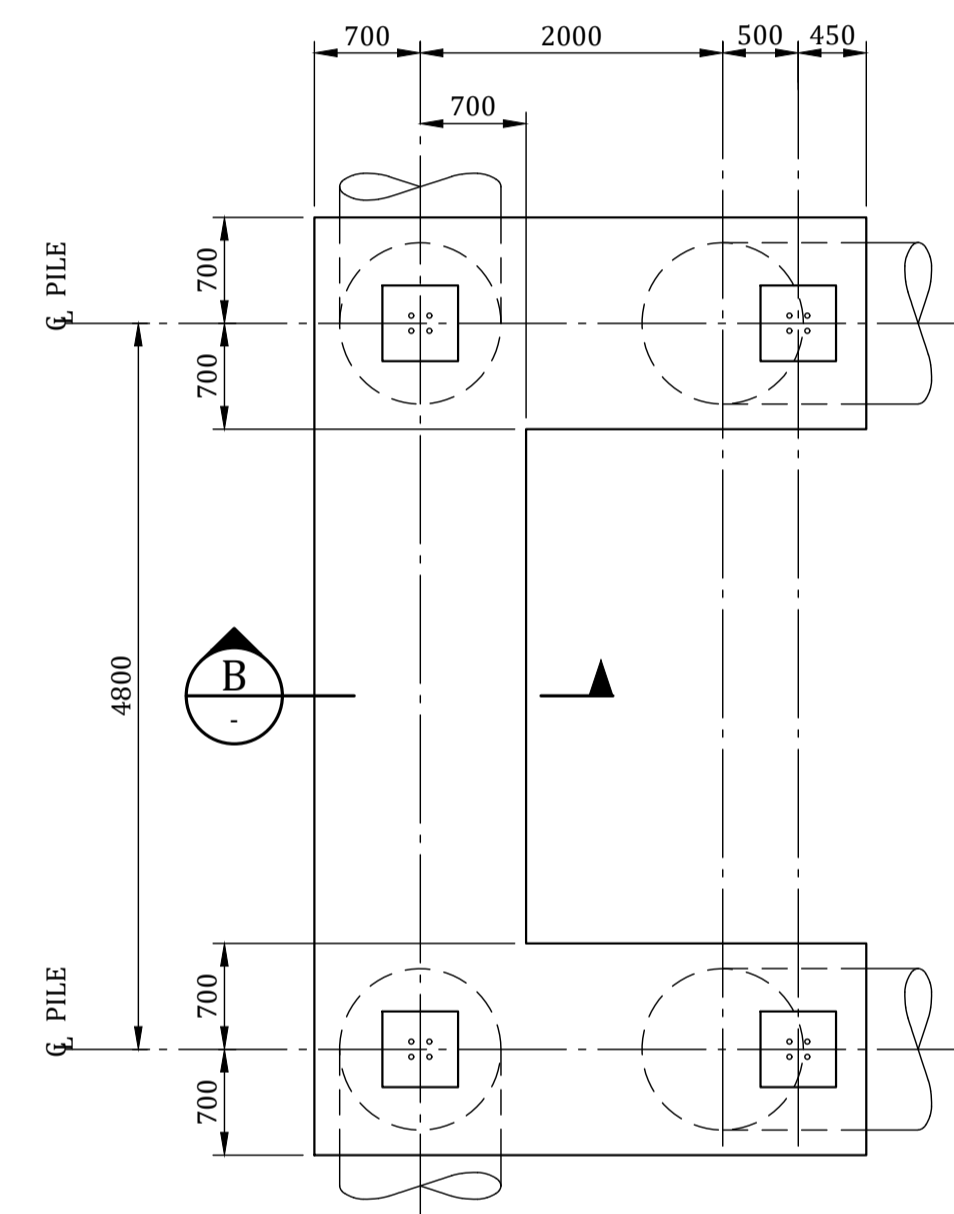
U:\VVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1540-1541-1542.DWG DATE: 2023-02-15



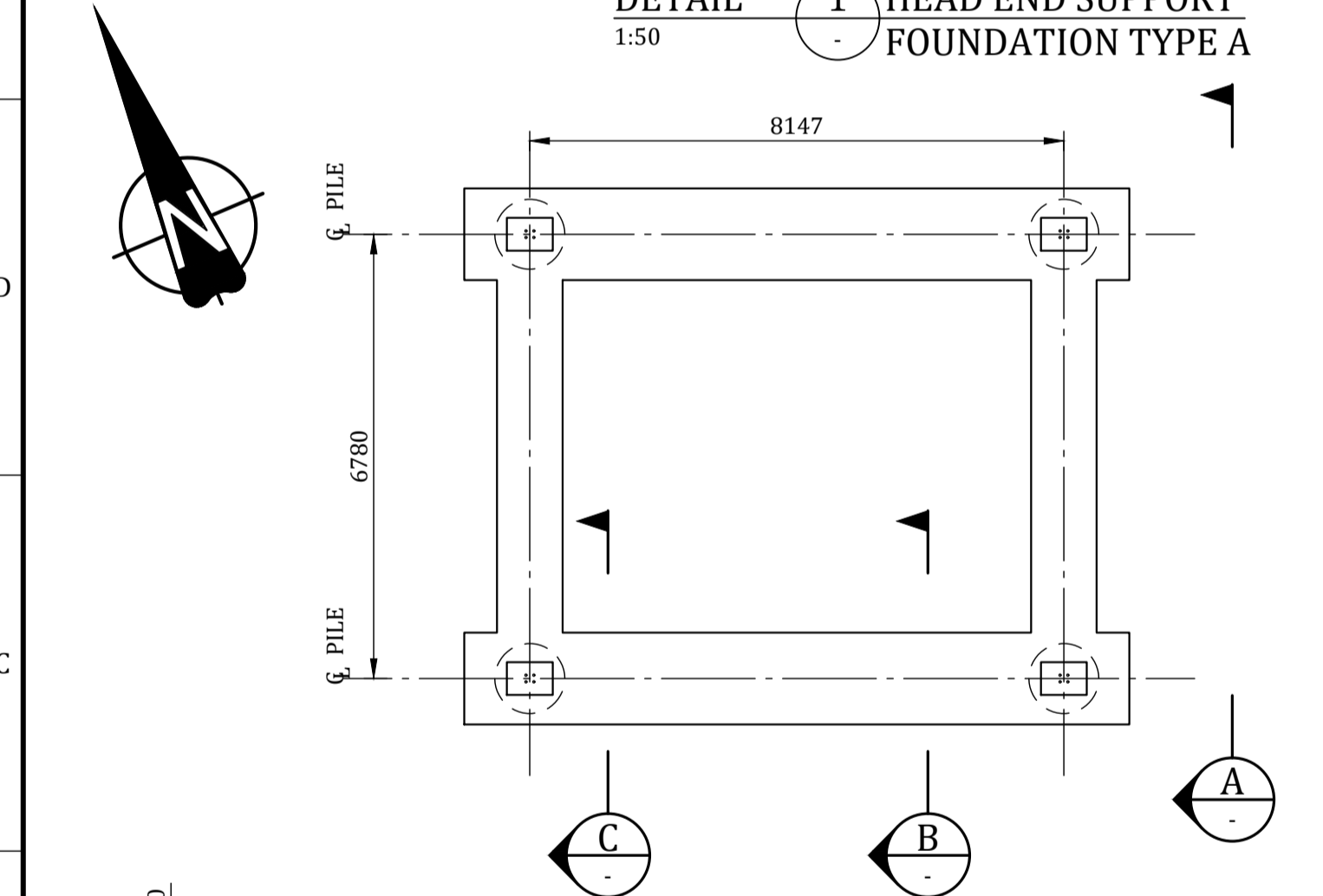
CONVEYOR 243 FOUNDATION PLAN
1:200
NOTE: CONCRETE PEDESTALS AND ANCHORS ARE NOT SHOWN FOR CLARITY.



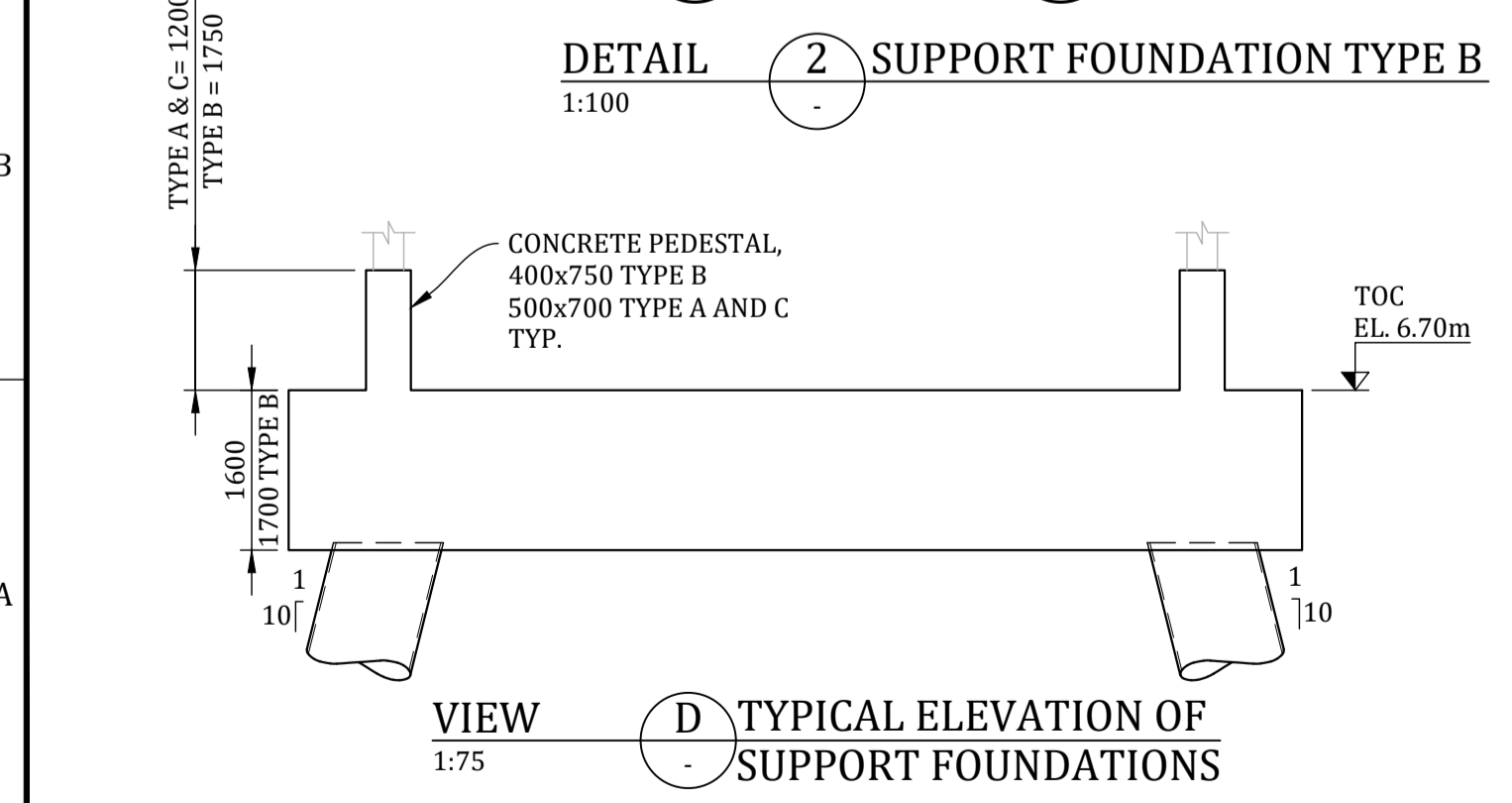
DETAIL 1 HEAD END SUPPORT FOUNDATION TYPE A
1:50



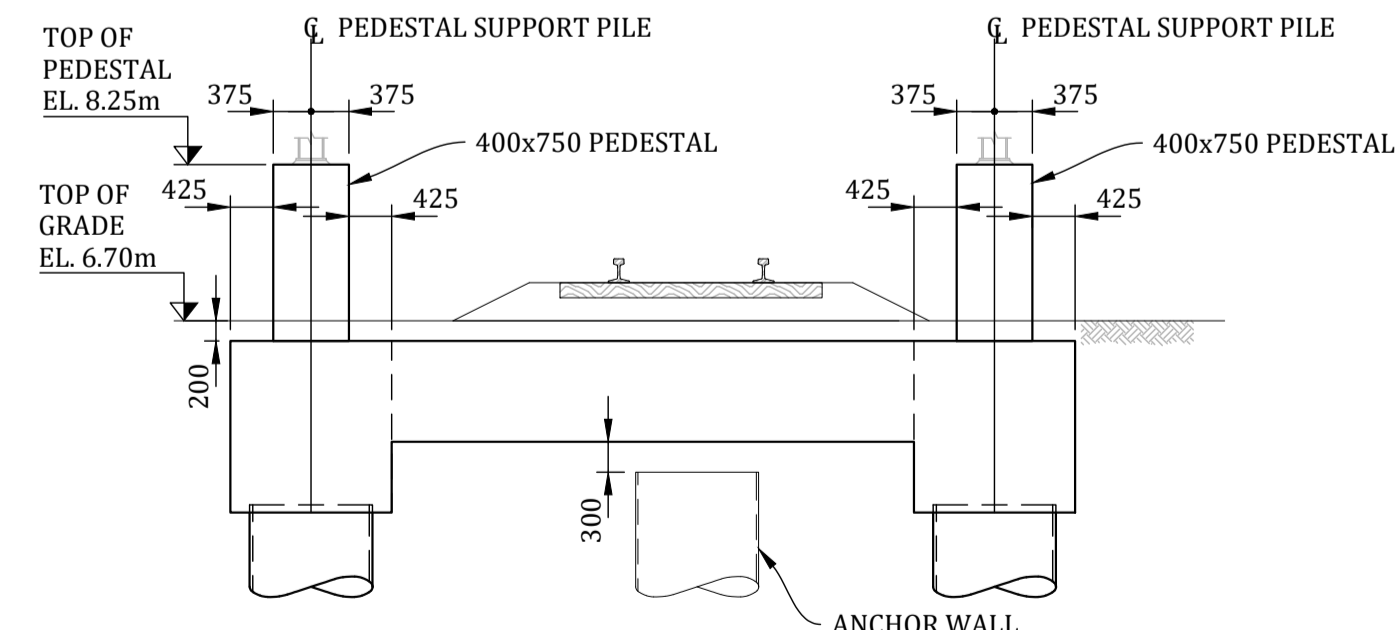
DETAIL 3 SUPPORT FOUNDATION TYPE C
1:50



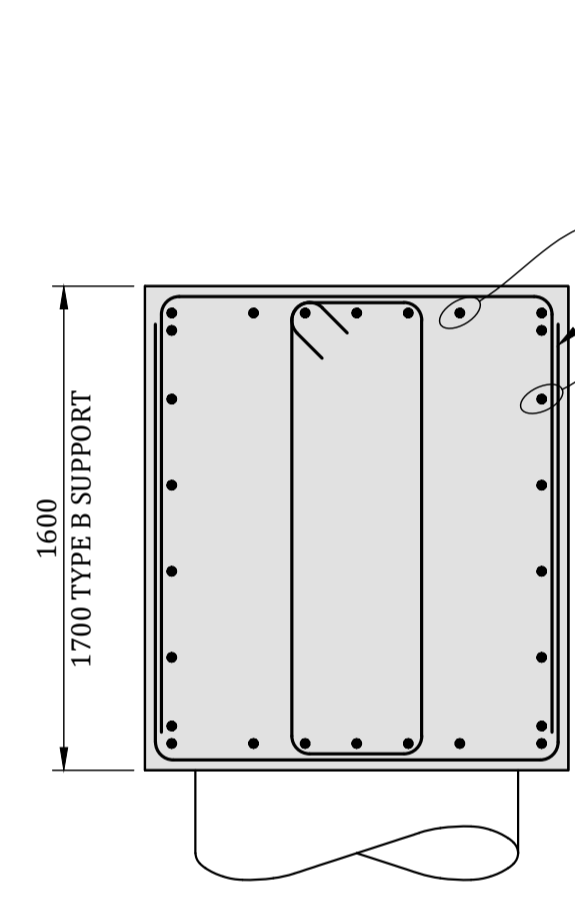
DETAIL 2 SUPPORT FOUNDATION TYPE B
1:100



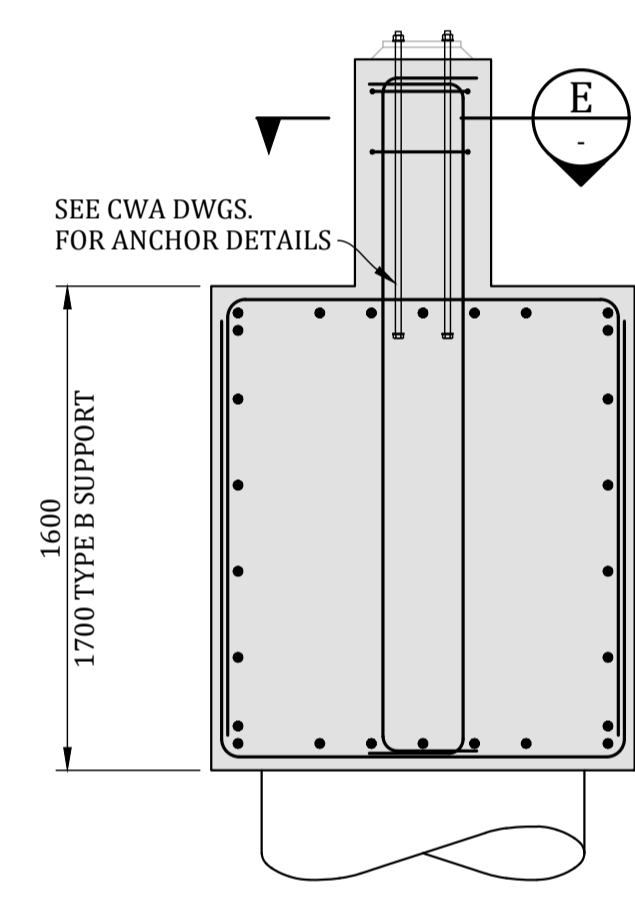
VIEW D TYPICAL ELEVATION OF SUPPORT FOUNDATIONS
1:75



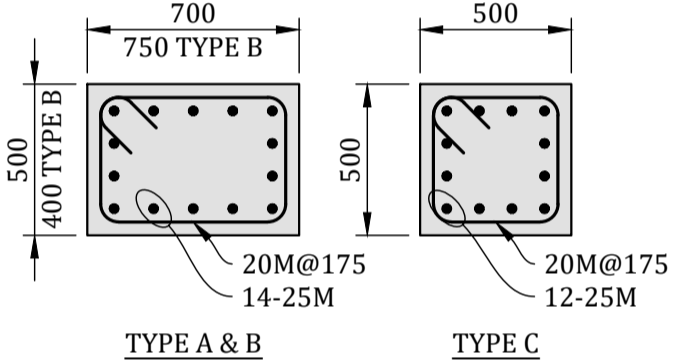
SECTION A SUPPORT FOUNDATION TYPE B
1:75



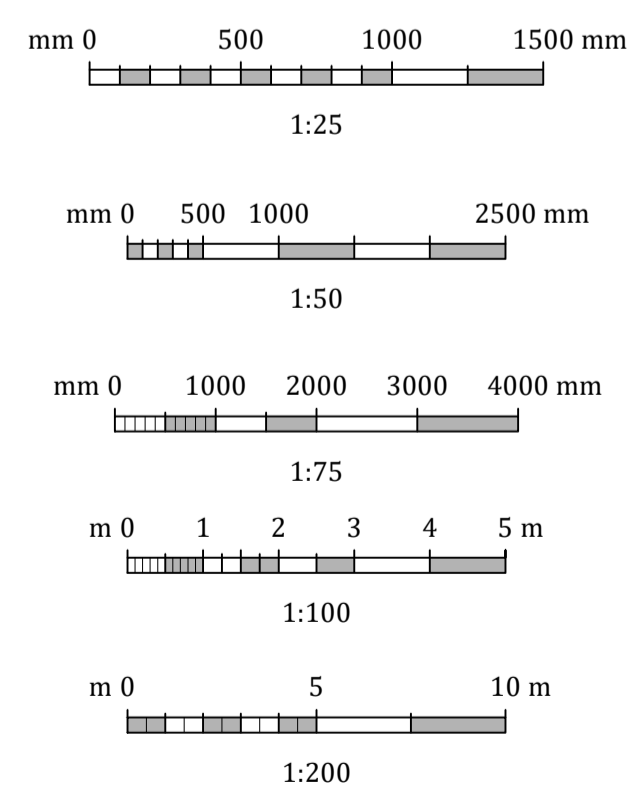
SECTION B
1:25



SECTION C
1:25



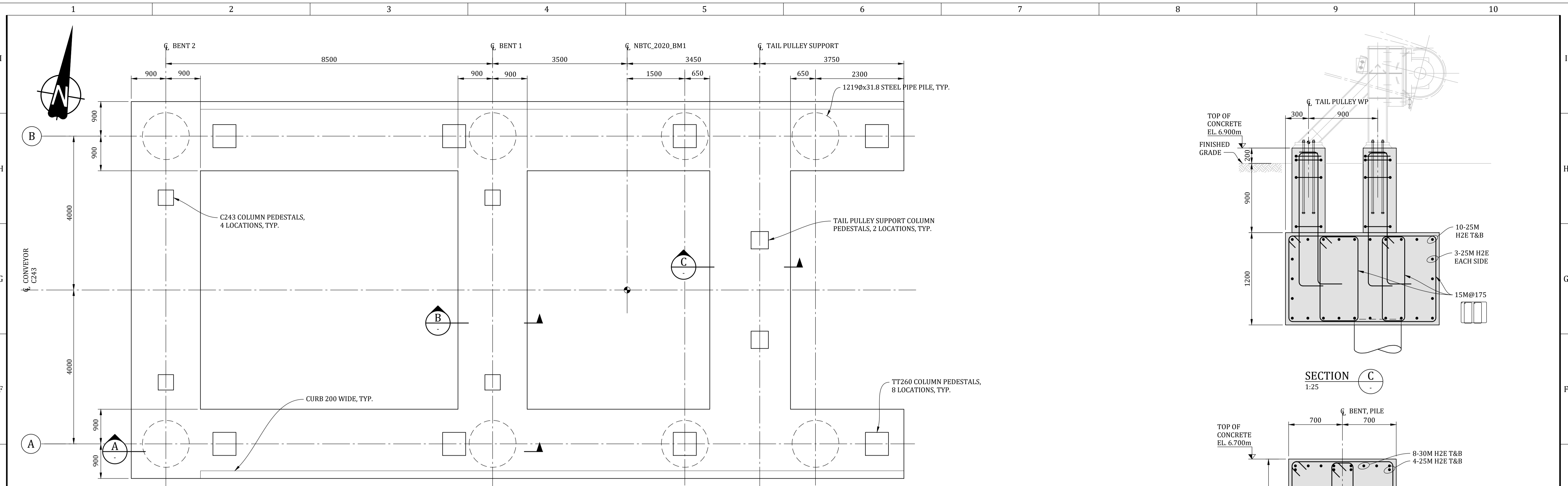
SECTION E PEDESTAL REINFORCEMENT
1:25



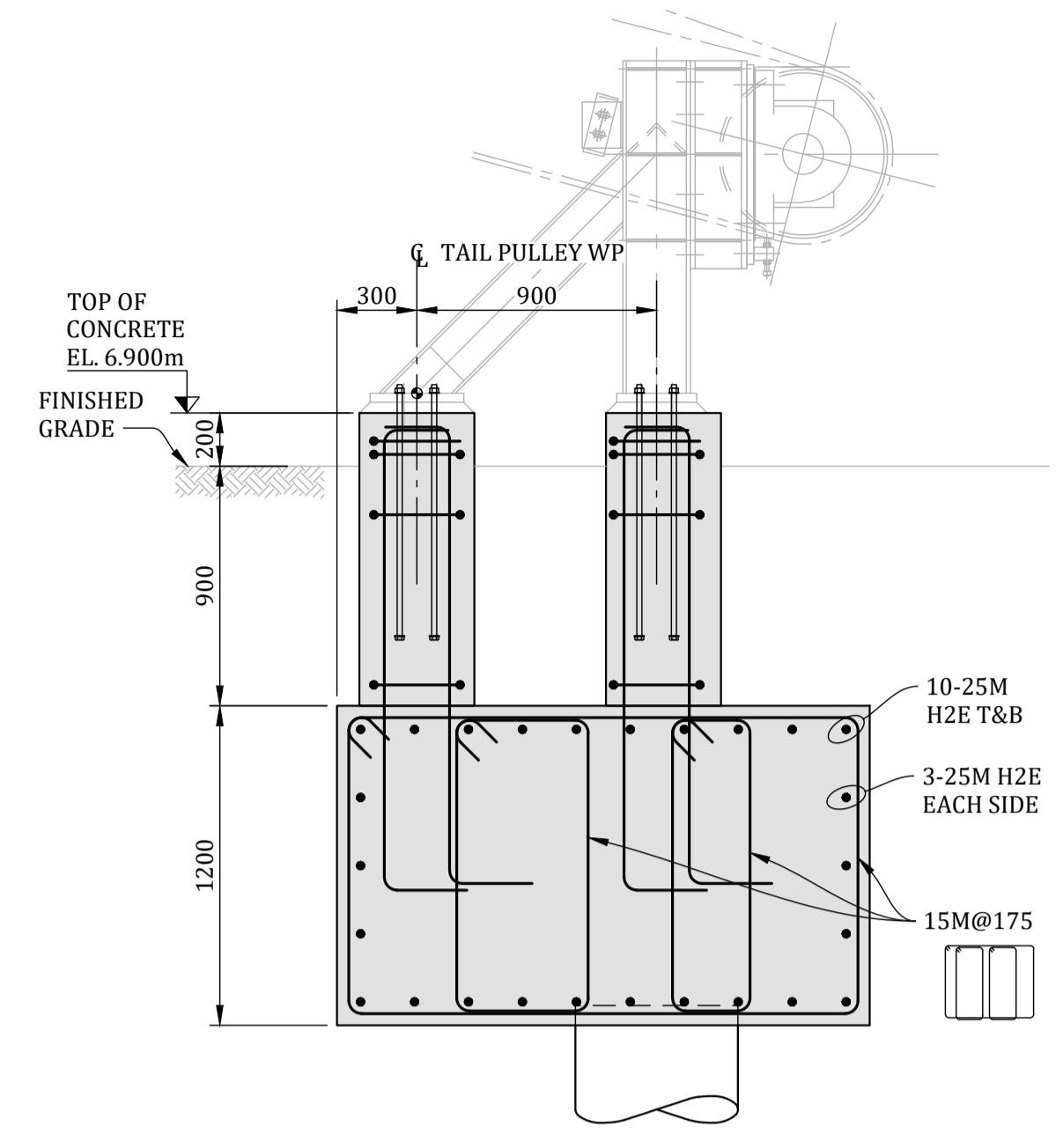
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR PILE PLAN, SEE DWG. 317071-00041-03-MA-DGA-1513.
 - FOR PILE LIST, SEE DWG. 317071-00041-03-MA-DGA-1514.

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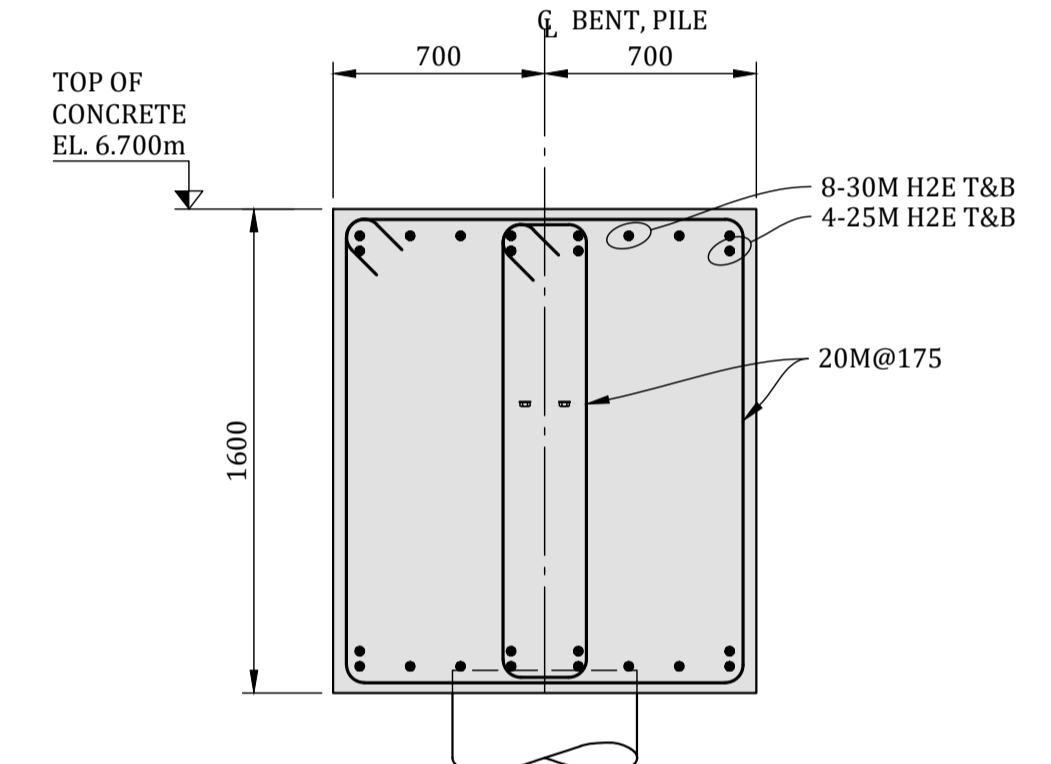
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL CONVEYOR 243 SUPPORT FOUNDATIONS PLAN AND DETAILS			
SYSTEM: POTASH		REV: 2023-02-16 ISSUED FOR CLIENT REVIEW		AAL AMT		Neptune TERMINALS		SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-03-MA-DGA-1570 B			
ASSET: 243		REV: 2022-11-30 ISSUED FOR PERMITTING		AAL AMT		THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.					
DISCIPLINE: STRUCTURAL		REV: YYYY-MM-DD DESCRIPTION		DRAWN APPROVED							
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							



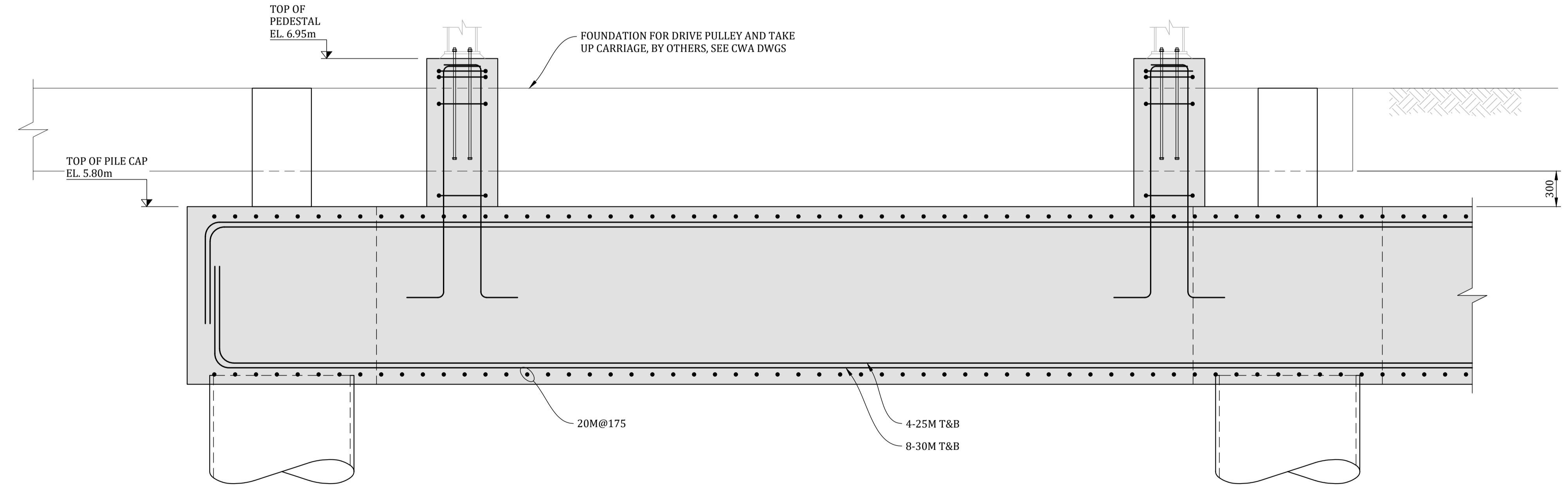
PLAN - TT260 SUPPORT FOUNDATION
1:50



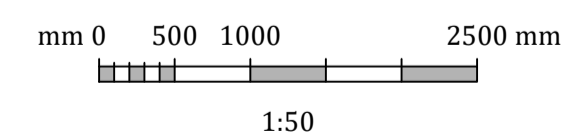
SECTION C
1:25



SECTION B
1:25



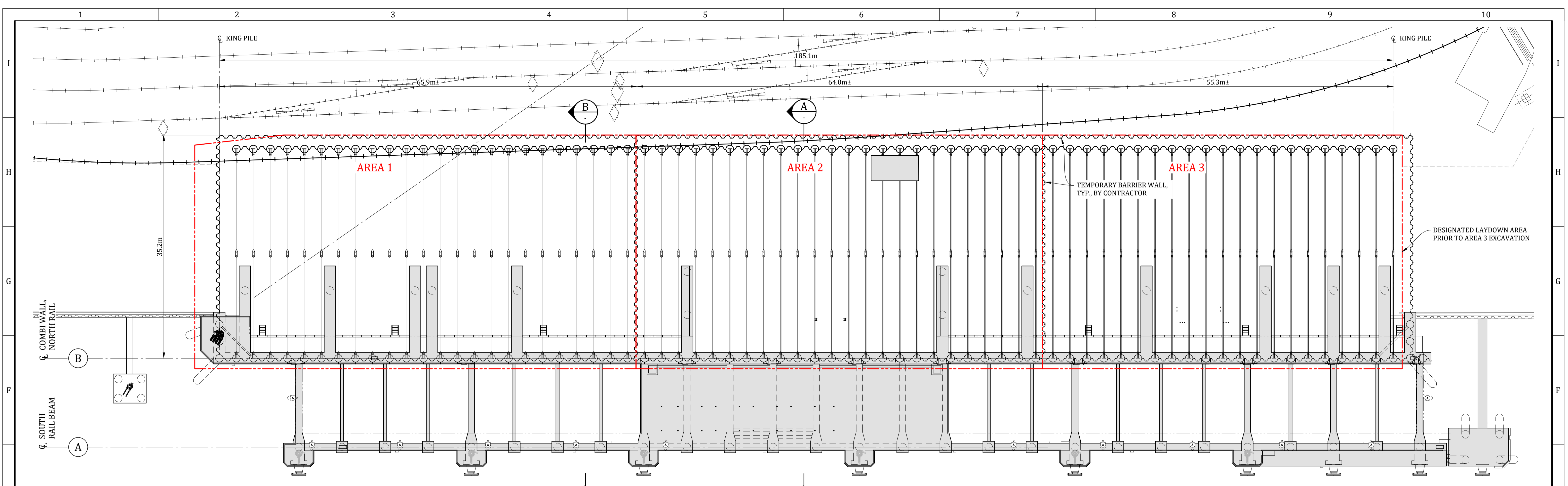
SECTION A
1:25



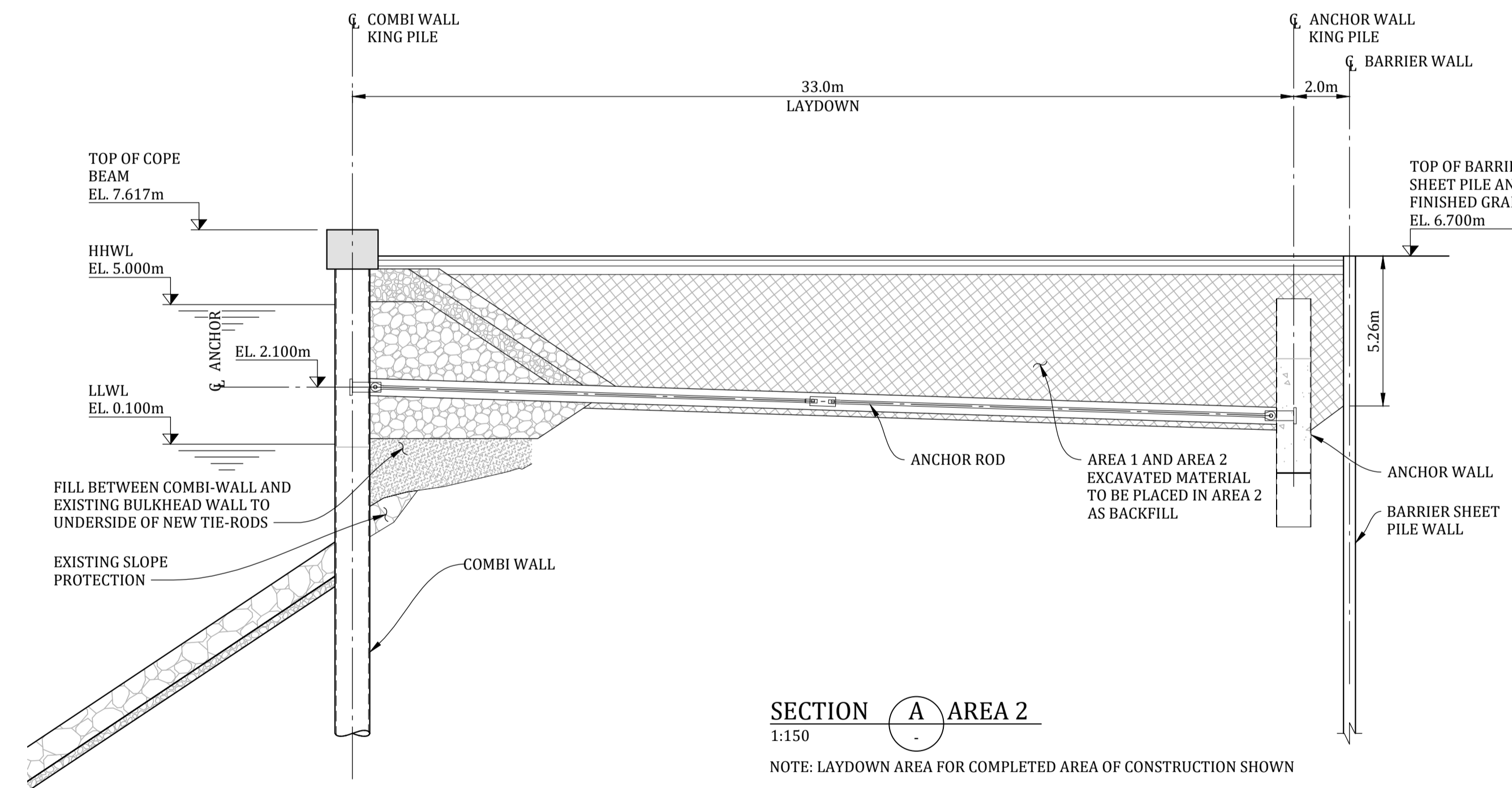
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Last Saved: Feb. 16/23 8:14pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR PILE PLAN, SEE DWG. 317071-00041-03-MA-DGA-1513.
 - FOR PILE LIST, SEE DWG. 317071-00041-03-MA-DGA-1514.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>Worley Group</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL TRANSFER TOWER 260 FOUNDATIONS PLAN AND DETAILS			
SYSTEM: POTASH											
ASSET: 260		REV: 2023-02-16		ISSUED FOR CLIENT REVIEW							
DISCIPLINE: STRUCTURAL		REV: 2022-11-30		ISSUED FOR PERMITTING							
DRAWING NO. 317071-00041-03-MA-DGA-1573		DRAWING DESCRIPTION / TITLE		DESCRIPTION		DRAWN		APPROVED		REV: B	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:		OEM:		SCALE: SHOWN		SHEET 1 OF 1	
1		2		3		4		5		6	
7		8		9		10		11		12	

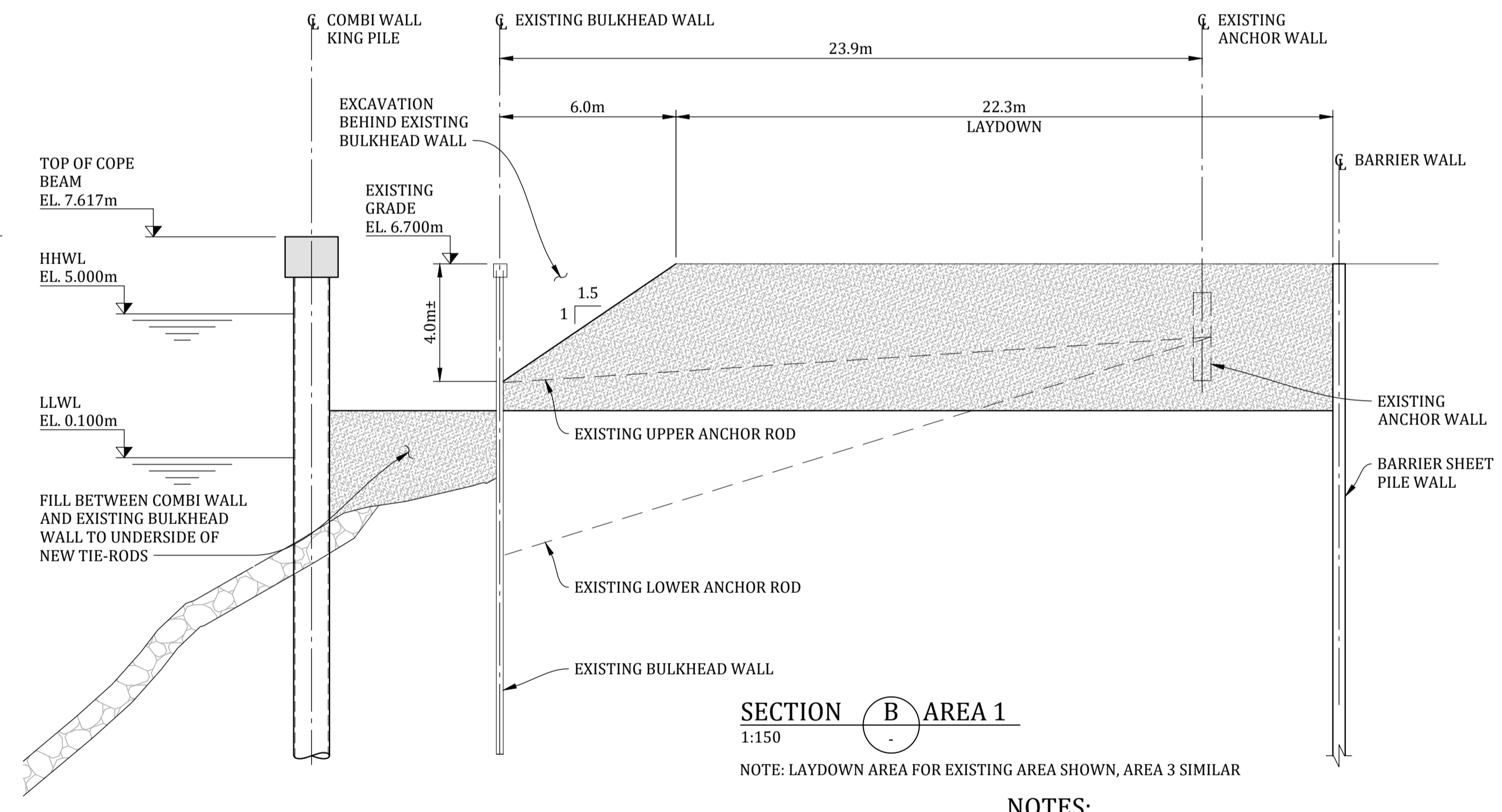


PLAN
1:300



SECTION A-A AREA 2
1:150

NOTE: LAYDOWN AREA FOR COMPLETED AREA OF CONSTRUCTION SHOWN

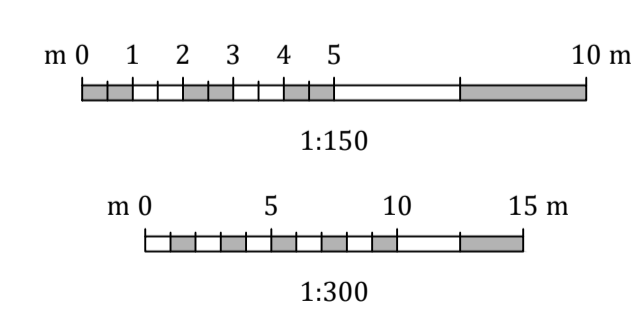


SECTION B-B AREA 1
1:150

NOTE: LAYDOWN AREA FOR EXISTING AREA SHOWN, AREA 3 SIMILAR

NOTES:

- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
- LOADING FOR EXISTING AREA SHALL BE LIMITED TO 5KPa FROM 6.0m BEHIND THE EXISTING BULKHEAD WALL.
- LOADING FOR NEWLY CONSTRUCTED WALL SHALL BE LIMITED TO 24KPa.
- THE CONTRACTOR LAYDOWN AREA DOES NOT INCLUDE THE 6.0m± STRIP BEHIND THE EXISTING BULKHEAD WALL WHERE SOIL IS REMOVED TO RELEASE PRESSURE TO THE WALL.
- THE TEMPORARY BARRIER WALL IS TO BE DESIGNED BY THE CONTRACTOR. THE CRANE LOAD OR OTHER HEAVY CONSTRUCTION TRAFFIC LOAD ON THE ADJACENT AREA OF THE BARRIER WALL SHALL BE CONSIDERED CASE BY CASE BASED ON THE ACTUAL CONSTRUCTION SITUATION, SUCH AS, THE ACTUAL WATER TABLE DIFFERENCE AND THE SOIL ELEVATION DIFFERENCE ON EACH SIDE OF THE BARRIER WALL AT THE TIME OF THE LOADING.



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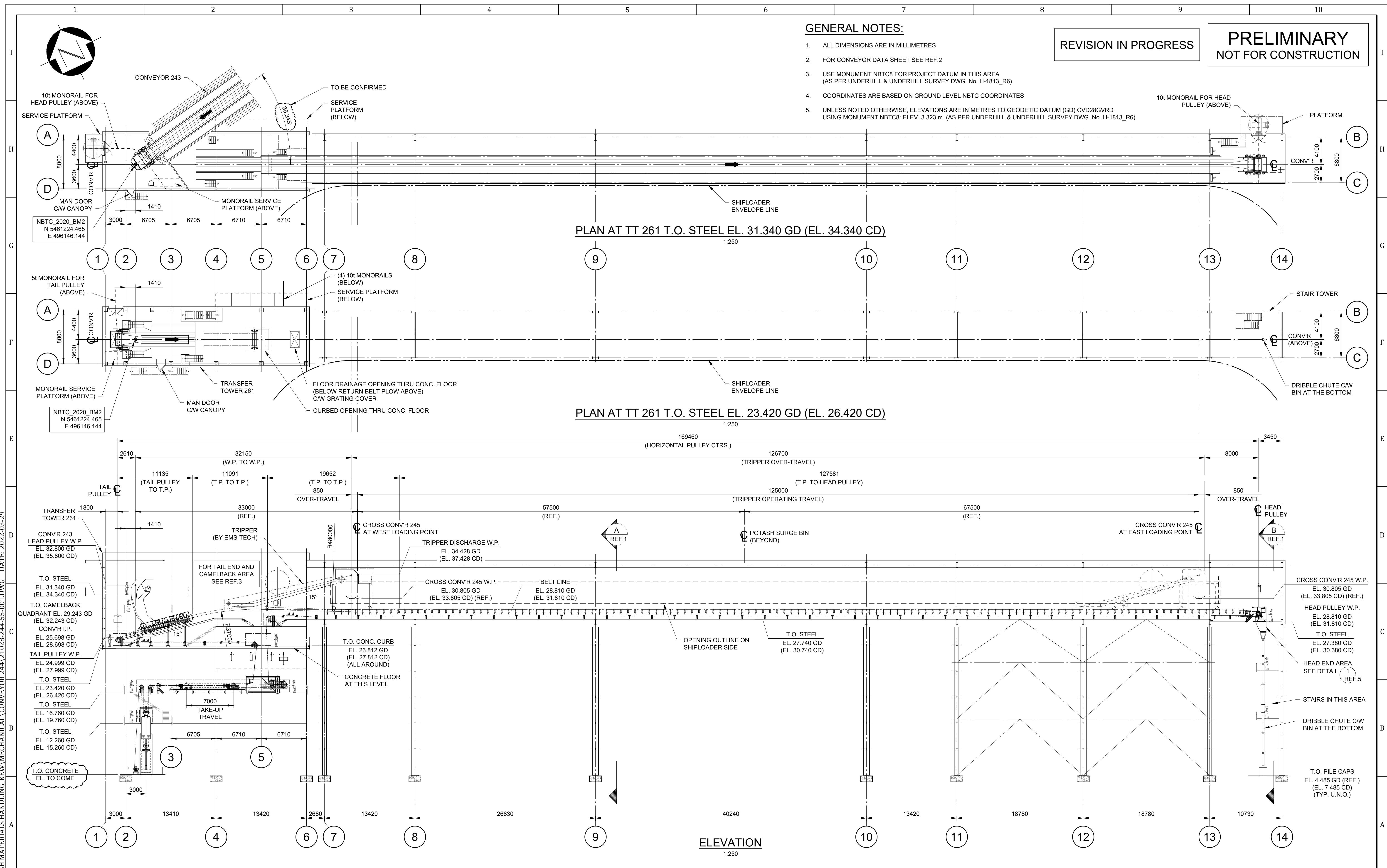
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>Worley Group</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL LANDSIDE EXCAVATIONS AND LAYDOWN PLAN AND SECTIONS			
SYSTEM: POTASH								SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-03-MA-DGA-1576 A			
ASSET: 251		REV: 2023-02-16		ISSUED FOR CLIENT REVIEW		AAL					
DISCIPLINE: STRUCTURAL		REV: YYYY-MM-DD		DESCRIPTION		DRAWN		APPROVED			
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							



Doc Title:
Doc Ref #:
Doc Rev #:

B2 Design Drawing Report
REP-B2D2-0003
1

APPENDIX D: B2 BUILDINGS, STRUCTURES AND EQUIPMENT (CWA)



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. FOR CONVEYOR DATA SHEET SEE REF.2
3. USE MONUMENT NBTC8 FOR PROJECT DATUM IN THIS AREA (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)
4. COORDINATES ARE BASED ON GROUND LEVEL NBTC COORDINATES
5. UNLESS NOTED OTHERWISE, ELEVATIONS ARE IN METRES TO GEODETIC DATUM (GD) CVD28GVRD USING MONUMENT NBTC8: ELEV. 3.323 m. (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)

REVISION IN PROGRESS

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NOT FOR CONSTRUCTION

G:\2021\21028 - NBTL - POTASH MATERIALS HANDLING - MECHANICAL\CONVEYOR 244\21028-244-55-001.DWG DATE: 2022-03-29

5	21028-244-55-011	CONVEYOR 244 - HEAD END AREA - G.A.
4	21028-244-55-007	CONVEYOR 244 - DRIVE AND TAKE-UP AREA - G.A. - SHT.1
3	21028-244-55-005	C 244 - TAIL END AND CAMELBACK AREA - G.A. - SHT. 1
2	21028-244-55-004	CONVEYOR 244 - DATA SHEET
1	21028-244-55-002	CONVEYOR 244 - GENERAL SECTIONS - SHEET 1
REF	DRAWING NO.	DRAWING DESCRIPTION / TITLE
REFERENCE DRAWINGS / DESIGN STANDARDS		

PROJECT / W.O.:	B2 CONVEYORS
SYSTEM:	POTASH
ASSET:	244
DISCIPLINE:	MECHANICAL
ISSUES / REVISIONS	

ENGINEERING SEAL:	
VENDOR:	CWA PROJECT No. 21028

ISSUED AS RECORD COPY? (YES/NO) NO

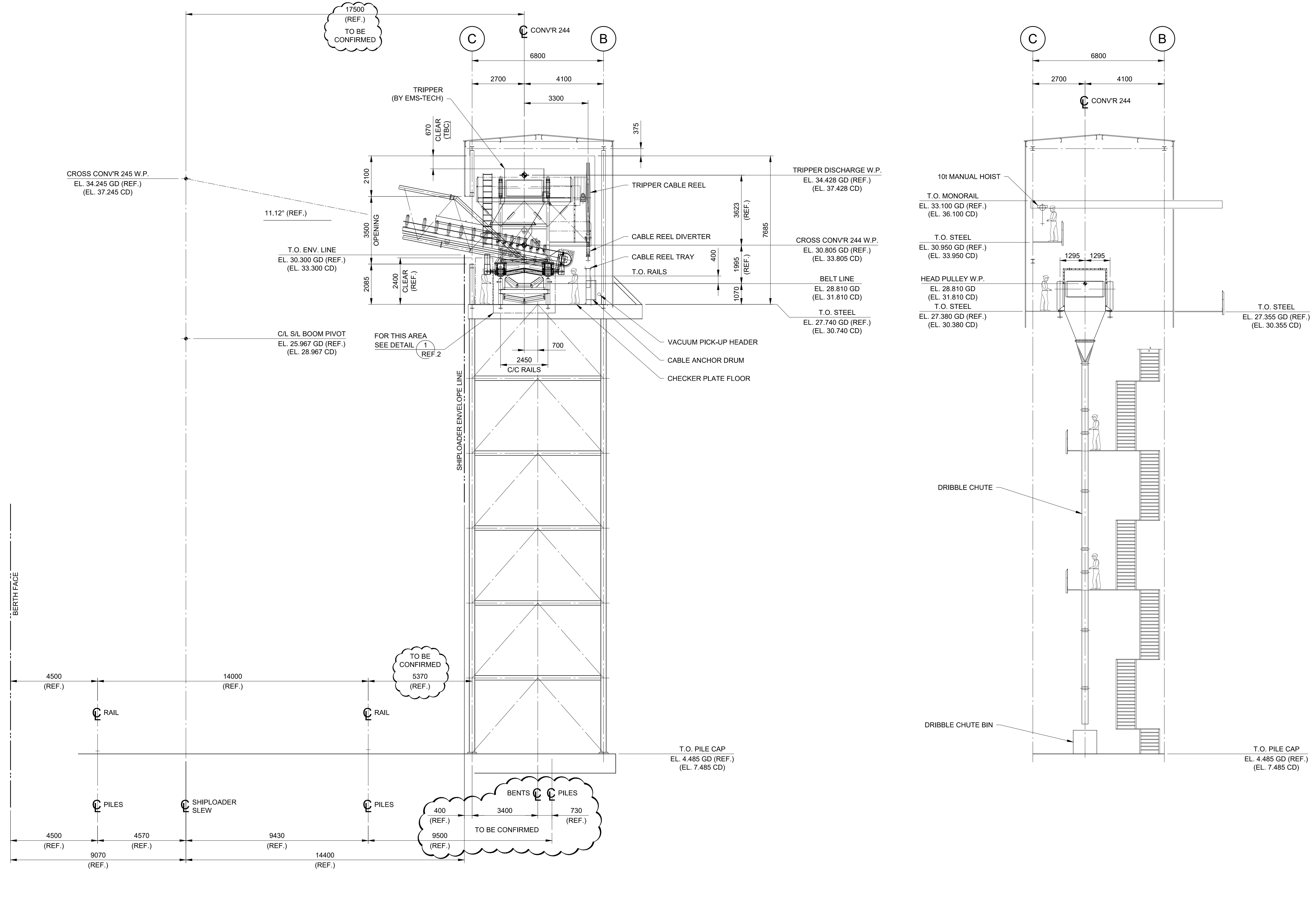
Neptune TERMINALS

THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.

TITLE:	CONVEYOR 244 GENERAL ARRANGEMENT
SCALE:	NOTED
SHEET OF:	1 OF 1
DRAWING NO.:	21028-244-55-001
REV:	B

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. USE MONUMENT NBTC8 FOR PROJECT DATUM IN THIS AREA (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)
3. COORDINATES ARE BASED ON GROUND LEVEL NBTC COORDINATES
4. UNLESS NOTED OTHERWISE, ELEVATIONS ARE IN METRES TO GEODETIC DATUM (GD) CVD28GVRD USING MONUMENT NBTC8; ELEV. 3.323 m. (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)



SECTION A REF.1
1:100

SECTION B REF.1
1:100

PRELIMINARY
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C:\2021\21028 - NBTL - POTASH MATERIALS HANDLING_KEM\Mechanical\CONVEYOR 244\21028-244-55-002 & 003.DWG DATE: 2022-03-29

REF	DRAWING NO.	DRAWING DESCRIPTION / TITLE
2	21028-244-55-003	CONVEYOR 244 - GENERAL SECTIONS - SHEET 2
1	21028-244-55-001	CONVEYOR 244 - GENERAL ARRANGEMENT

PROJECT / W.O.:	B2 CONVEYORS
SYSTEM:	POTASH
ASSET:	244
DISCIPLINE:	MECHANICAL

REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED
B	2022-03-31	ISSUED FOR ESTIMATE	BSR	
A	2022-02-11	ISSUED FOR REVIEW	SJM	
REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED

ENGINEERING SEAL:	
VENDOR:	

CWA
PROJECT No. 21028

This drawing has been prepared by CWA Engineers Inc. as an instrument of service and is the exclusive property of CWA. This drawing shall be used solely for the purpose of this project. The client agrees that this drawing shall not be used for purposes other than those intended, and shall hold the engineer harmless for any other such use.

ISSUED AS RECORD COPY? (YES/NO) NO

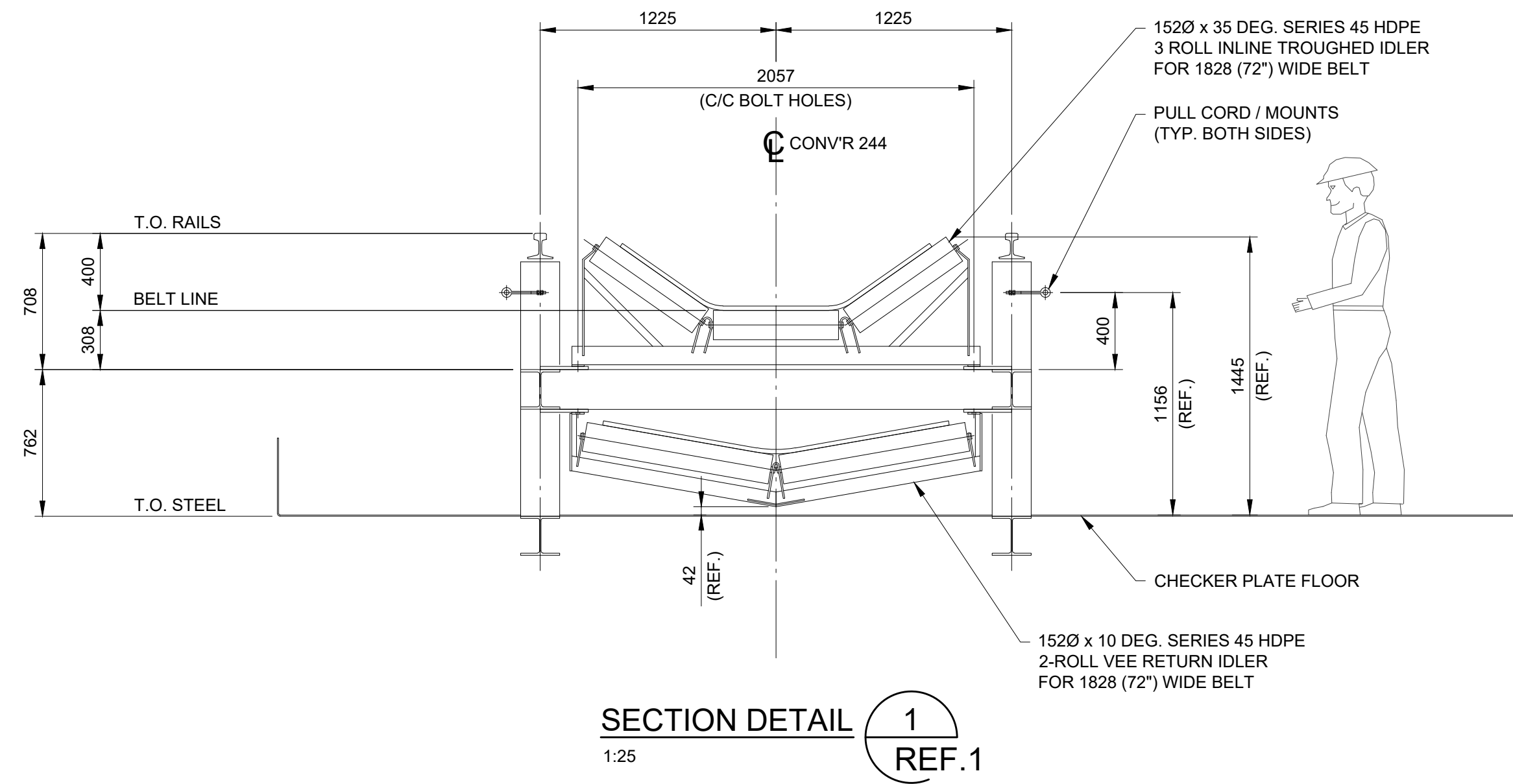
Neptune TERMINALS

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TITLE:	CONVEYOR 244 GENERAL SECTIONS - SHEET 1			
SCALE:	SHEET	OF	DRAWING NO.	REV:
NOTED	1	1	21028-244-55-002	B

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES



SECTION DETAIL 1
1:25
REF.1

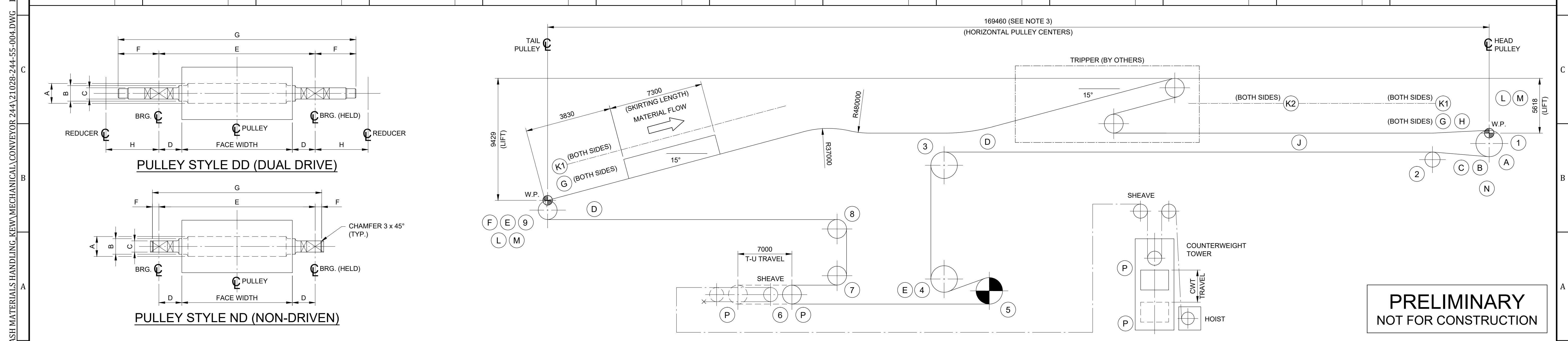
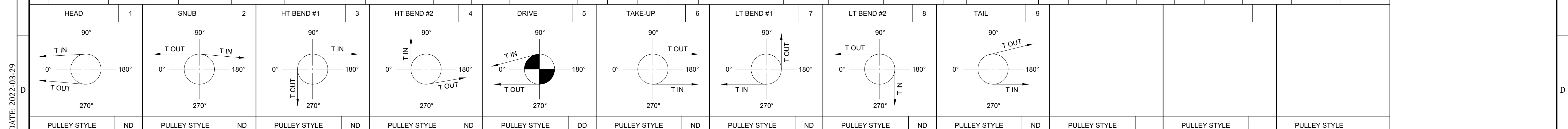
PRELIMINARY
NOT FOR CONSTRUCTION

C:\2021\21028 - NPTL - POTASH MATERIALS HANDLING - KEW\MECHANICAL\CONVEYOR 244\21028-244-55-002 & 003.DWG DATE: 2022-03-29

PROJECT / W.O.: B2 CONVEYORS		ENGINEERING SEAL:		VENDOR: CWA PROJECT No. 21028		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: CONVEYOR 244 GENERAL SECTIONS - SHEET 2	
SYSTEM: POTASH		B 2022-03-31 ISSUED FOR ESTIMATE SJM		This drawing has been prepared by CWA Engineers Inc. as an instrument of service and is the exclusive property of CWA. This drawing shall be used solely for the purpose of this project. The client agrees that this drawing shall not be used for purposes other than those intended, and shall hold the engineer harmless for any other such use.				SCALE: NOTED SHEET OF 1 1 DRAWING NO. 21028-244-55-003 REV: B	
ASSET: 244		A 2022-02-11 ISSUED FOR REVIEW SJM							
DISCIPLINE: MECHANICAL		REV YYYY-MM-DD DESCRIPTION DRAWN APPROVED		THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.					
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS							

GENERAL		BELT		TAKE-UP		IDLERS					REDUCERS (2 REQ'D)		MOTORS (2 REQ'D)		ACCESSORIES					
CONVEYOR NUMBER	244	WIDTH	1829 (72')	TYPE	COUNTERWEIGHT	MANUFACTURER					MANUFACTURER	SUMITOMO	MANUFACTURER	BALDOR	ITEM					
DRIVE NUMBER	---	MANUFACTURER	CONTINENTAL	TRAVEL DIST. (PULLEY)	7.0 m	SERIES					TYPE	BEVEL HELICAL	POWER	447 kW (600 HP)	PRIMARY CLEANER					
CONVEYED FROM	CONVEYOR 243	TYPE	PLYLON PLUS	TRAVEL DIST. (CWT)	5.5 m (MAX.)	PROK (OR AS NOTED)					MODEL No.	PHD9085R2	CATALOGUE No.	A50-0040-0280	SECONDARY CLEANER					
CONVEYING TO	CONVEYOR 245	COVER COMPOUND		TOTAL WEIGHT REQ'D	21,420 kg	TRANSITION (ADJUSTABLE)					RATIO	15.75:1	TYPE	TEFC	TERTIARY CLEANER					
HRS OF OPERATION/DAYS PER YR	24 / 365	RATED OPERATING TENSION		FRAME WEIGHT	620 kg	TROUGHED CARRYING					SERVICE FACTOR	1.5	RPM	1800	RETURN BELT FLOW (V-TYPE)					
MATERIAL	POTASH	NUMBER OF PLYS		CONC. WEIGHT REQ'D	19,968 kg	TROUGHED CARRYING RETRACTABLE (LOADING AREA)					OUTPUT RPM	111	VOLTAGE	460	ZERO SPEED SWITCH					
RATED CAPACITY	6300 th	ELASTIC MODULUS		PLATE WEIGHT REQ'D	840 kg	TROUGHED CARRYING TRAINER ('ASGCO' TRU-TRAINER)					BACKSTOP @ HSS	YES, MIN x Nm	FRAME SIZE	G5012Z	TAIL PULLEY OVER DIAMETER					
CEMA LOADING	TBD %	TOP COVER THICKNESS				VEE RETURN					BRAKE @ HSS	YES, MIN x Nm	SHAFT DIA.	x mm	BELT MISALIGNMENT SWITCH					
MATERIAL LIFT ON BELT	x mm	BOTTOM COVER THICKNESS		BELT LENGTH		VEE RETURN TRAINER ('ASGCO' TRU-TRAINER)					RTD REQ'D	YES	V.F.D. REQ'D	YES	BELT SPILL DETECTOR					
BULK DENSITY	1155 kg/m ³	BELT THICKNESS (APPROX.)		TAPE LENGTH	400.0 m	FLAT RETURN					FAN REQ'D	YES	SERVICE FACTOR	1.15	BELT LENGTH SENSOR					
LUMP SIZE (MAX.)	x mm	WEIGHT/UNIT LENGTH (t)		SPLICE LENGTH	2.5 m	FLAT RETURN TRAINER ('ASGCO' TRU-TRAINER)					L/S COUPLINGS		H/S COUPLINGS		PULL CORD SWITCH (SINGLE END)					
SURCHARGE ANGLE	15 DEG.	COVER STANDARD		No. OF SPLICES REQ'D	1	TOTAL LENGTH REQ'D					MANUFACTURER		LOVEJOY	MANUFACTURER		LOVEJOY	PULL CORD SWITCH (DOUBLE END)			
BELT SPEED (T RUN)	6.0 m/s (1181 F.P.M.)	PERMANENT ELONGATION									TYPE/MODEL No.		FARR 6E RIGID	TYPE/MODEL No.		FABDFS 3.5	START-UP HORN			
POWER REQ'D (T RUN)	TBD kW (TBD HP)	ELASTIC ELONGATION									SERVICE FACTOR		2.0	SERVICE FACTOR		1.5	START-UP STROBE			
DRIVE ARRANGEMENT	(1) DUAL DRIVE	CONSTRUCTION									MANUFACTURER		LOVEJOY	MANUFACTURER		LOVEJOY	HIGH LEVEL SWITCH (PLUGGED CHUTE)			
AMBIENT TEMPERATURE	-10°C TO +30°C										TYPE/MODEL No.		FARR 6E RIGID	TYPE/MODEL No.		FABDFS 3.5	TAKE-UP OVER TRAVEL LIMIT SWITCH			
											SERVICE FACTOR		2.0	SERVICE FACTOR		1.5				

PULLEYS														LOCKINGS		BEARINGS				DESIGN LOADS						NOTES							
No.	IDENTIFICATION	LUBE METHOD	STYLE	QTY.	DIA.	FACE WIDTH	LAGGING THK. / TYPE	SHAFT MATERIAL	A (Ø)	B (Ø)	C (Ø)	D	E	F	G	H	HUB	MODEL No.	SUPPLIER	HOUSING No.	SEAL	QTY.	BEARING TYPE	T MAX IN (kN)	T MAX OUT (kN)	T MNP IN (kN)	T MNP OUT (kN)	T RUN IN (kN)	T RUN OUT (kN)	WRAP ANGLE (TOTAL)	TEN. VECTOR ANGLE T IN	TEN. VECTOR ANGLE T OUT	
1	HEAD	SPL	ND	1	762	1981	13 / URETHANE	F4140HT	330.2	280	260	304.5	2590	111	2812	-		SKF	SNLD 3156	SS LER / LOR	2	23156 CCKW33	440	440			177	184					
2	SNUB	SPL	ND	1	355.6	1981	13 / URETHANE	HR4140HT	165.1	?	150.8125	304.5	2590	78.5	2747	-		SKF	SAFD 534	SS LER / LOR	2	22234 CCKW33	440	440			184	184					
3	HT BEND #1	AUTO	ND	1	762	1981	13 / URETHANE	F4140HT	330.2	280	260	304.5	2590	111	2812	-		SKF	SNLD 3156	SS LER / LOR	2	23156 CCKW33	440	440			187	188					
4	HT BEND #2	AUTO	ND	1	762	1981	13 / URETHANE	F4140HT	330.2	280	260	304.5	2590	111	2812	-		SKF	SNLD 3156	SS LER / LOR	2	23156 CCKW33	440	440			185	186					
5	DRIVE	AUTO	DD	1	914.4	1981	15 / CERAMIC	HR4140HT	279.4	?	201.6125	304.5	2590	508	3606	1140		SKF	SAFD 544	SS LER / LOR	2	22244 CCKW33	440	113			187	105					
6	TAKE-UP	AUTO	DD	1	609.6	1981	13 / URETHANE	HR4140HT	241.3	190	150.8125	304.5	2590	78.5	2747	-		SKF	SAFD 534	SS LER / LOR	2	22234 CCKW33	113	113			105	106					
7	LT BEND #1	AUTO	ND	1	609.6	1981	13 / URETHANE	HR4140HT	241.3	190	150.8125	304.5	2590	78.5	2747	-		SKF	SAFD 534	SS LER / LOR	2	22234 CCKW33	113	113			106	107					
8	LT BEND #2	AUTO	ND	1	609.6	1981	13 / URETHANE	HR4140HT	241.3	190	150.8125	304.5	2590	78.5	2747	-		SKF	SAFD 534	SS LER / LOR	2	22234 CCKW33	113	113			109	110					
9	TAIL	AUTO	ND	1	609.6	1981	13 / URETHANE	HR4140HT	241.3	190	150.8125	304.5	2590	78.5	2747	-		SKF	SAFD 534	SS LER / LOR	2	22234 CCKW33	113	113			111	112					

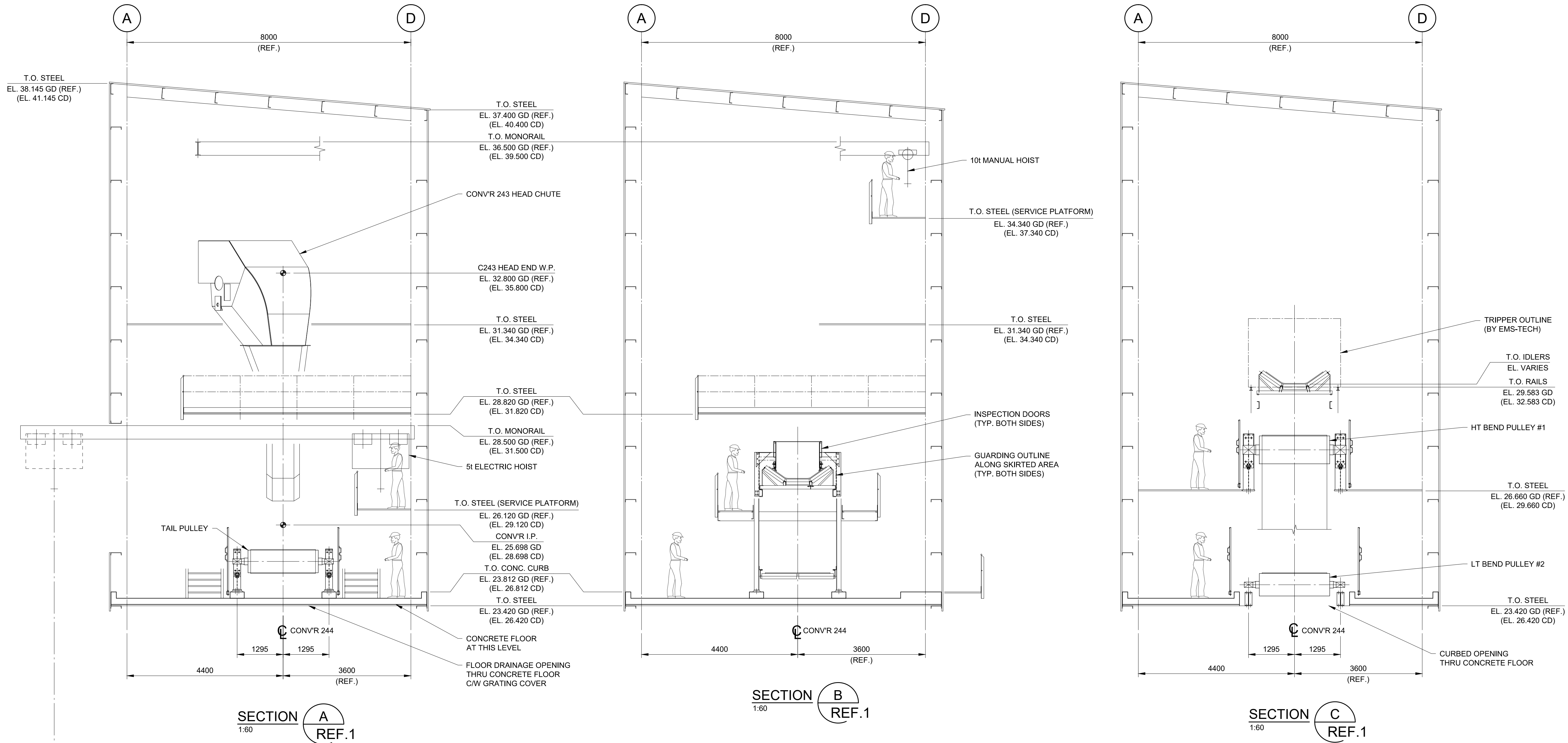


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PROJECT / W.O.: B2 CONVEYORS		ENGINEERING SEAL:		VENDOR: CWA PROJECT No. 21028		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: CONVEYOR 244 DATA SHEET	
SYSTEM: POTASH		B 2022-03-31 ISSUED FOR ESTIMATE SJM		This drawing has been prepared by CWA Engineers Inc. as an instrument of service and is the exclusive property of CWA. This drawing shall be used solely for the purpose of this project. The client agrees that this drawing shall not be used for purposes other than those intended, and shall hold the engineer harmless for any other such use.				SCALE: NTS	
ASSET: 244		A 2022-02-11 ISSUED FOR REVIEW SJM						SHEET OF 1 1	
DISCIPLINE: MECHANICAL		REV YYYY-MM-DD DESCRIPTION DRAWN APPROVED						DRAWING NO. 21028-244-55-004	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS						REV: B	

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. USE MONUMENT NBT8 FOR PROJECT DATUM IN THIS AREA (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)
3. COORDINATES ARE BASED ON GROUND LEVEL NBTC COORDINATES
4. UNLESS NOTED OTHERWISE, ELEVATIONS ARE IN METRES TO GEODETIC DATUM (GD) CVD28GVRD USING MONUMENT NBT8; ELEV. 3.323 m. (AS PER UNDERHILL & UNDERHILL SURVEY DWG. No. H-1813_R6)



**PRELIMINARY
NOT FOR CONSTRUCTION**

C:\2021\21028 - NPTL - POTASH MATERIALS HANDLING_KEM\MATERIALS HANDLING_KEM\MECHANICAL\CONVEYOR 244\21028-244-55-005 & 006.DWG DATE: 2022-03-29

PROJECT / W.O.: B2 CONVEYORS		ENGINEERING SEAL:		VENDOR: CWA PROJECT No. 21028		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: CONVEYOR 244 TAIL END AND CAMELBACK AREA GENERAL ARRANGEMENT - SHEET 2	
SYSTEM: POTASH		B 2022-03-31 ISSUED FOR ESTIMATE SJM		This drawing has been prepared by CWA Engineers Inc. as an instrument of service and is the exclusive property of CWA. This drawing shall be used solely for the purpose of this project. The client agrees that this drawing shall not be used for purposes other than those intended, and shall hold the engineer harmless for any other such use.		Neptune TERMINALS		SCALE: NOTED SHEET OF DRAWING NO. REV:	
ASSET: 244		A 2022-02-11 ISSUED FOR REVIEW SJM				NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.		1 1 21028-244-55-006 B	
DISCIPLINE: MECHANICAL		REV YYYY-MM-DD DESCRIPTION DRAWN APPROVED							
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS							