

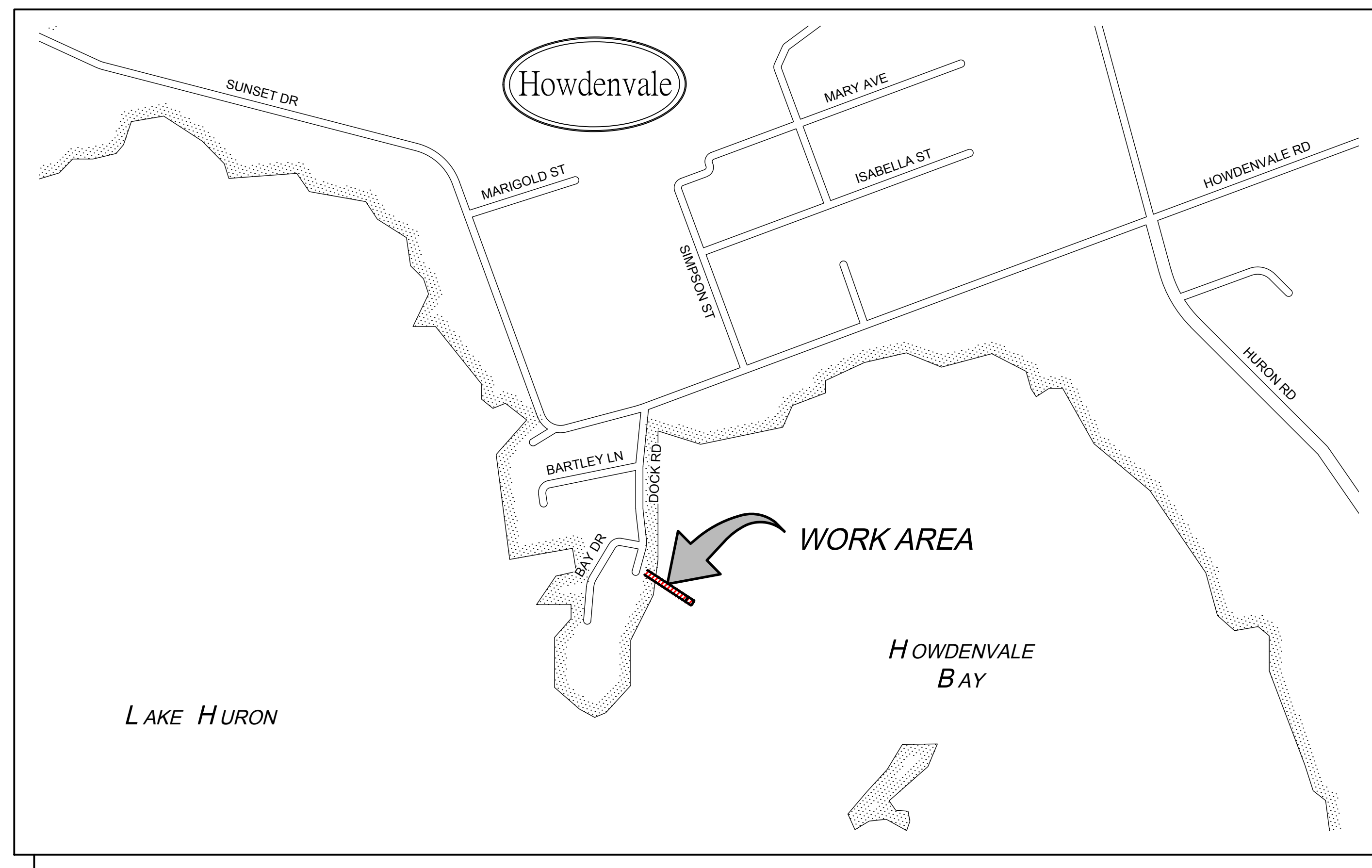
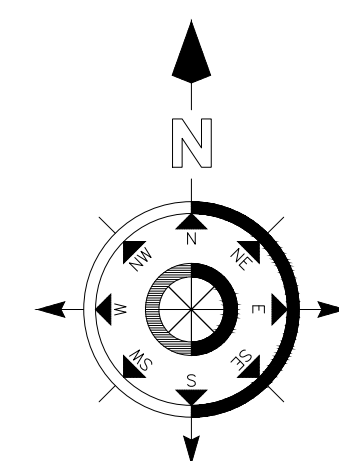
HOWDENVALE, ONTARIO

WHARF REHABILITATION (LOCATOR CODE 4639)



AECOM

London, Ontario
519.673.0510
PROJECT No. 60555400



LIST OF DRAWINGS :

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S-03	EXISTING AND REMOVALS PLAN AND SECTION
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S-09	BOLLARD / FENDER LAYOUT AND DETAILS
S-10	PILING DETAILS
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ISSUED FOR TENDER, SEPTEMBER 16, 2019

GENERAL NOTES :

1. SAFEGUARD ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH WILL BE AFFECTED BY THE WORK OF THIS CONTRACT.
2. BEFORE PROCEEDING WITH THE WORK, CHECK AND VERIFY ALL DIMENSIONS AND ALL ELEVATIONS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENVIRONMENTAL PROTECTION AND CONSTRAINTS DURING PERFORMANCE OF THE WORK.
4. ACCESS PERMISSION FOR INSTALLATION SHALL BE COORDINATED WITH SMALL CRAFT HARBOURS.
5. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF AN UNDERWATER DIVER TO GUIDE THE REMOVAL OF OBSTRUCTIONS ALONG SHEET PILE WORK.
6. ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED.
7. THE USE OF THE TERM "TYPICAL" AND "TYP." DENOTES A COMMON DIMENSION, FEATURE, FORM OF CONSTRUCTION AND SCOPE OF WORK, WHICH IS APPLICABLE TO OTHER LOCATIONS ON THE DRAWING (TO AVOID REPETITION).

CONSTRUCTION NOTES :

1. THE LOCATION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UTILITIES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED.
2. BEFORE STARTING WORK THE CONTRACTOR SHALL LOCATE ALL UTILITIES AND SHALL PROTECT THEM FROM DAMAGE.
3. ALL WORK SHALL MEET THE MINIMUM STANDARDS OF THE SPECIFICATIONS AND THE OCCUPATIONAL HEALTH AND SAFETY ACT (OHSA).
4. ENVIRONMENTAL APPLICATIONS HAVE BEEN FILED WITH VARIOUS AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENVIRONMENTAL PROTECTION AND CONSTRAINTS DURING PERFORMANCE OF THE WORK.
5. ALL TREES, FACILITIES AND MISCELLANEOUS OBSTRUCTIONS TO THE WORK ARE NOT NECESSARILY SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL COMPLETE A VISUAL SITE REVIEW PRIOR TO THE BID AND PRIOR TO UNDERTAKING THE WORK.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A SECURE SITE PERIMETER FENCE AT ALL TIMES DURING CONSTRUCTION. FENCING SHALL INCLUDE SIGNAGE NOTIFYING PUBLIC OF HAZARDS. LOCKABLE GATES SHALL BE INSTALLED TO PROVIDE VEHICLE AND PERSONNEL ACCESS.
7. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
8. THE CONTRACTOR SHALL PREPARE AND MAINTAIN A WORKING AS BUILT FULL SIZE 'REDLINE' MARKUP SET OF THE CONTRACT DRAWINGS. WORKING AS BUILTS SHALL BE KEPT CURRENT ON A WEEKLY BASIS AND BE AVAILABLE ON THE JOB SITE AT ALL TIMES. THE 'REDLINE' SET SHALL DEPICT ALL CURRENT VARIATIONS/DEVIATIONS (INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: ADDENDUMS, CHANGE ORDERS, FIELD ADJUSTMENTS, EXISTING AND NEW UTILITY LINES). MEASUREMENTS ARE TO BE SHOWN FOR ALL CHANGE OF DIRECTION POINTS AND ALL COMPONENTS. THESE SHALL BE SHOWN WITH TWO OFFSET DISTANCES TO PERMANENTLY FIXED FEATURES.

SHEET PILE NOTES :

1. CORNER SECTIONS SHALL BE PROVIDED AT ALL BENDS TO SHEETING.
2. MECHANICAL COUPLERS/TURNBUCKLES WITH LOCK NUTS FOR DYWIDAG TIES SHALL BE PROVIDED AS REQUIRED TO SUIT THE TIE LENGTHS.
3. LOCATIONS/DETAILS OF WALER SPLICE PLATES ARE SHOWN ON THE DRAWINGS. THE NUMBER AND ACTUAL LOCATION OF EACH WALER SPLICE PLATE IS TO BE DETERMINED BY THE CONTRACTOR TO SUIT THE WALER PIECE LENGTHS.
4. DRIVING CAPS SHALL BE USED TO PROTECT THE PILE TOPS DURING INSTALLATION.
5. TOP DRIVING GUIDES SHALL BE USED FOR SHEET PILE ALIGNMENT.
6. INSTALL SHEET PILES (OF VARIOUS SPECIFIED LENGTHS) TO SUIT TOP ELEVATIONS. IF REFUSAL IS ENCOUNTERED, ATTEMPT TO COMPLETE DRIVING AT A LATER TIME. CUT TOPS OF PILES TO SUIT.

MATERIAL SPECIFICATIONS :

1. CONCRETE : IN ACCORDANCE WITH CSA STANDARD A23.1 AND A23.2.
CLASS OF CONCRETE : 30 MPa
CLEAR COVER TO REINFORCING STEEL : 70 ± 20mm UNLESS NOTED OTHERWISE
2. STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED: 30 MPa AT 28 DAYS, EXPOSURE CLASSIFICATION F-1.
3. REINFORCING STEEL: CSA STANDARD G30.18, GRADE 400, DEFORMED BARS.
4. STRUCTURAL STEEL: CSA STANDARD G40.20/G40.21, GRADE 350W ROLLED SECTIONS, 300W PLATES.
5. SHEET PILING: CSA STANDARD G40.21, GRADE 350W OR ASTM A572, GRADE 50.
6. BOLTS: ASTM A3125M (25mm DIAMETER, UNLESS NOTED OTHERWISE).
7. ANCHORS: ASTM A307.
8. TIE BACKS: DYWIDAG GRADE 75, #10 OR EQUAL.
9. WELDING: CSA STANDARD W59 PERFORMED BY WELDERS MEETING THE REQUIREMENTS OF CSA STANDARD W47.
10. UNLESS OTHERWISE NOTED THE MINIMUM FILLET WELD SHALL BE AS FOLLOWS:

MATERIAL THICKNESS OF THICKER PART JOINED (mm)	MINIMUM SIZE OF SINGLE PASS FILLET WELD (mm)
TO 12 INCLUSIVE	5
OVER 12 TO 20	6
OVER 20 TO 40	8
OVER 40 TO 60	10
OVER 60 TO 80	12
11. DOWELS INTO CONCRETE: CHEMICAL ADHESIVE TYPE. DRILL HOLES SHALL BE DOWEL DIAMETER +4mm. MODIFY DIAMETER AS REQUIRED TO SUIT THE REQUIREMENTS OF THE CHEMICAL ADHESIVE MANUFACTURER.
12. TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE TO CSA STANDARD 0141 (S-P-F No.1/No.2 OR BETTER, PRESSURE TREATED).

GEOTECHNICAL :

1. GEOTECHNICAL REPORT BY GOLDER ASSOCIATES.

ROCK SPECIFICATIONS :

1. CLEAR STONE :
- TYPE 1 - 19 - 75 DIAMETER
- TYPE 2 - 19 DIAMETER

REFERENCE PLANS :

EXISTING DETAILS OF PIERS HAVE BEEN DERIVED FROM DRAWINGS BY PUBLIC WORKS OF CANADA, HOWDENVALE ONTARIO, DATED JULY 1972 AND MAY 1979.

SURVEY INFORMATION :

1. SURVEY INFORMATION PROVIDED BY SMALL CRAFT HARBOURS, NOVEMBER 2017.
2. BENCHMARK :
TABLET IN TOP OF CONCRETE ABUTMENT
ELEVATION = 177.69
3. ELEVATIONS ARE PROVIDED IN RELATION TO CHART DATUM (LEVEL 0.00) RELATIVE TO IGLD 1985 (ELEVATION 176.00), UNLESS OTHERWISE NOTED.

DESIGN LOADING :

PIER LIVE LOAD : 7.2 kPa

SHEET PILING :

DESIGN AND ARRANGEMENT WAS BASED ON A Z75 SECTION. ALTERNATE EQUIVALENT PRODUCTS MEETING THE FOLLOWING SECTION PROPERTIES. (CONTRACTOR SHALL ADJUST ALL ARRANGEMENTS AND DIMENSIONS TO SUIT ALTERNATE PRODUCTS.

SECTION MODULUS = 839 cm³/m

THICKNESS = 7.5 mm

LENGTH :

TYPE I = 6.4m (21 FOOT)

- BASED ON TOE EL. -4.47m AND WASTAGE OF 0.1m

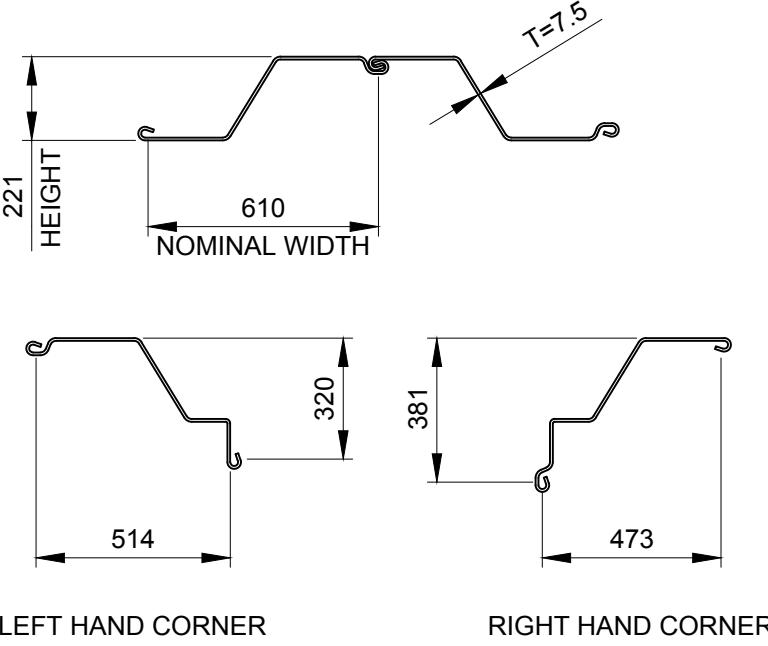
- MINIMUM EMBEDMENT DEPTH = 2.55m

TYPE II = 7.6m (25 FOOT)

- BASED ON TOE EL. -5.67m AND WASTAGE OF 0.1m

- MINIMUM EMBEDMENT DEPTH = 2.90m

WHERE TOE ELEVATION AND/OR MINIMUM EMBEDMENT CANNOT BE ACHIEVED, PROVIDE TOE ANCHOR.



ABBREVIATIONS :

BOT.	BOTTOM	m	METERS
CONC.	CONCRETE	MAX.	MAXIMUM
CL.	CENTRE LINE	MIN.	MINIMUM
C.J.	CONSTRUCTION JOINT	MISC.	MISCELLANEOUS
CONT.	CONTINUOUS	mm	MILLIMETERS
DIA.	DIAMETER	N.T.S.	NOT TO SCALE
DWG.	DRAWING	PL.	PLATE
E.F.	EACH FACE	R/W	RETAINING WALL
EL.	ELEVATION	SQ.	SQUARE
E.W.	EACH WAY	SSP	STEEL SHEET PILING
E.J.	EXPANSION JOINT	T/C	TOP OF CONCRETE
EX.	EXISTING	TYP.	TYPICAL
GRAN.	GRANULAR	U.O.N.	UNLESS OTHERWISE NOTED
HWL	HIGH WATER LEVEL	U/S	UNDERSIDE
I.G.L.D.	INTERNATIONAL GREAT LAKES DATUM	WL	WATER LEVEL
LWL	LOW WATER LEVEL	W.P.	WORKING POINT

LEGEND :

	SECTION NUMBER		RIP RAP
	DRAWING LOCATION		CONCRETE REMOVAL
	DETAIL LETTER		FILL MATERIAL REMOVAL
	DRAWING LOCATION		GRANULAR 'A'
	ORIGINAL ELEVATION		GRANULAR 'B'
	FINAL ELEVATION		CLEAR STONE (19 DIA.)
	TREE		CONCRETE
	CHAIN LINK FENCE		
	BRUSH		

BID SCENARIOS :

THE CONTRACTOR SHALL PROVIDE A TENDER BID COST FOR THE FOLLOWING SCENARIOS, AS SHOWN ON THE CONTRACT DRAWINGS.

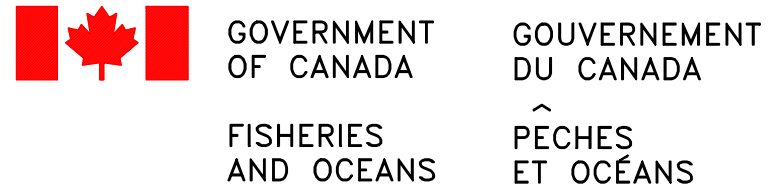
SCENARIO 'A' : SEE PLAN DWG. S-04

WHARF EXTENSION TO BE ± 3 m (BEYOND EXISTING LENGTH)

SCENARIO 'B' : SEE PLAN DWG. S-04

WHARF EXTENSION TO BE ± 11.4 m (BEYOND EXISTING LENGTH).

DETAILS AND ARRANGEMENT NOT DESIGNATED FOR EITHER SCENARIO, SHALL BE CONSIDERED COMMON TO ALL SCENARIOS.



SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION



AECOM

London, Ontario
519.673.0510

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NOTES:



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No.	REVISIONS	DATE
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SCALE:	CLASS:
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PROJECT:
**SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO**

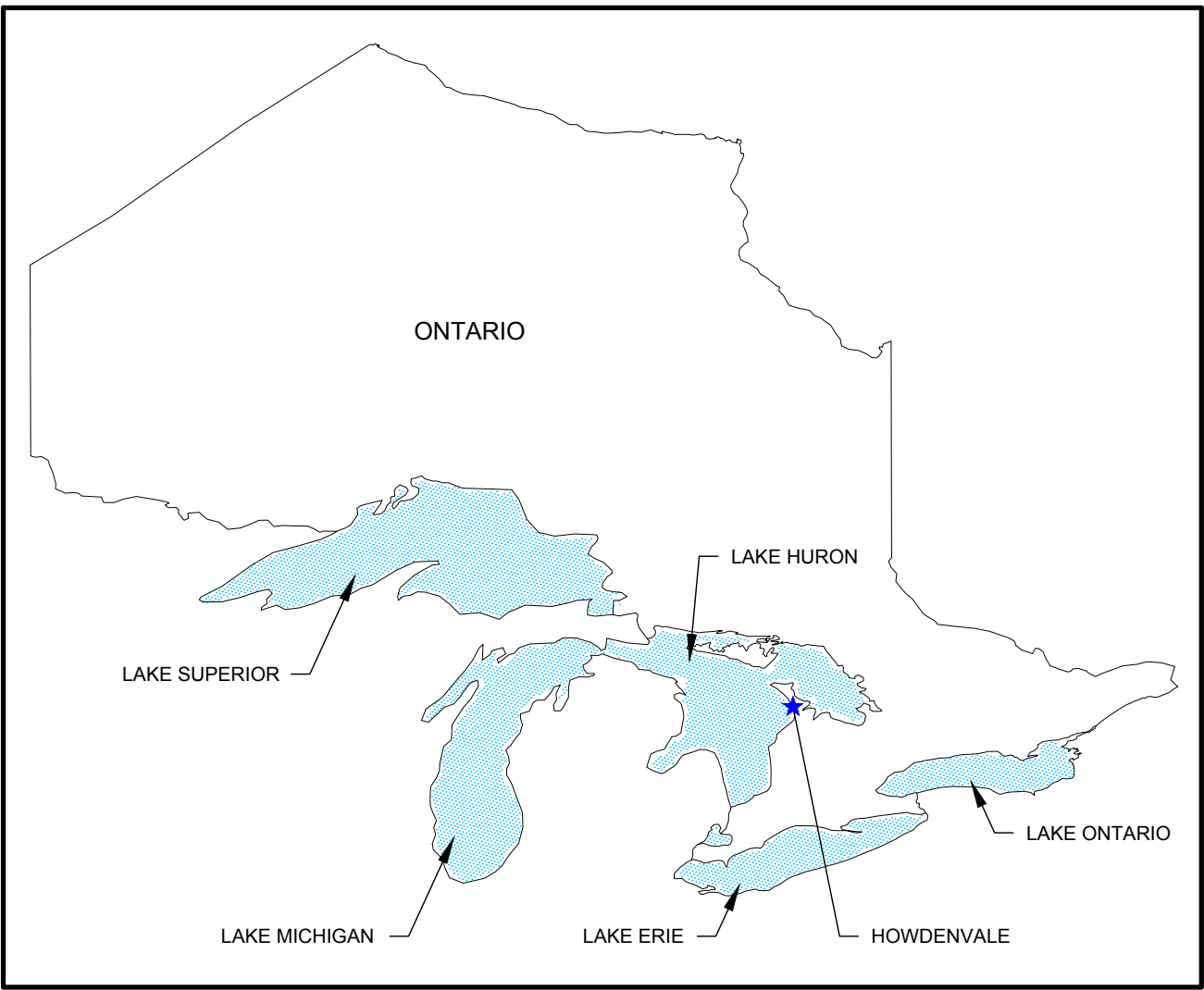
WHARF REHABILITATION

DESCRIPTION:
**NOTES, ABBREVIATIONS
AND LEGENDS**

DRAWN: T.G.	APPROVED: J.P.
DATE: 2019	DATE: SEPTEMBER 2019

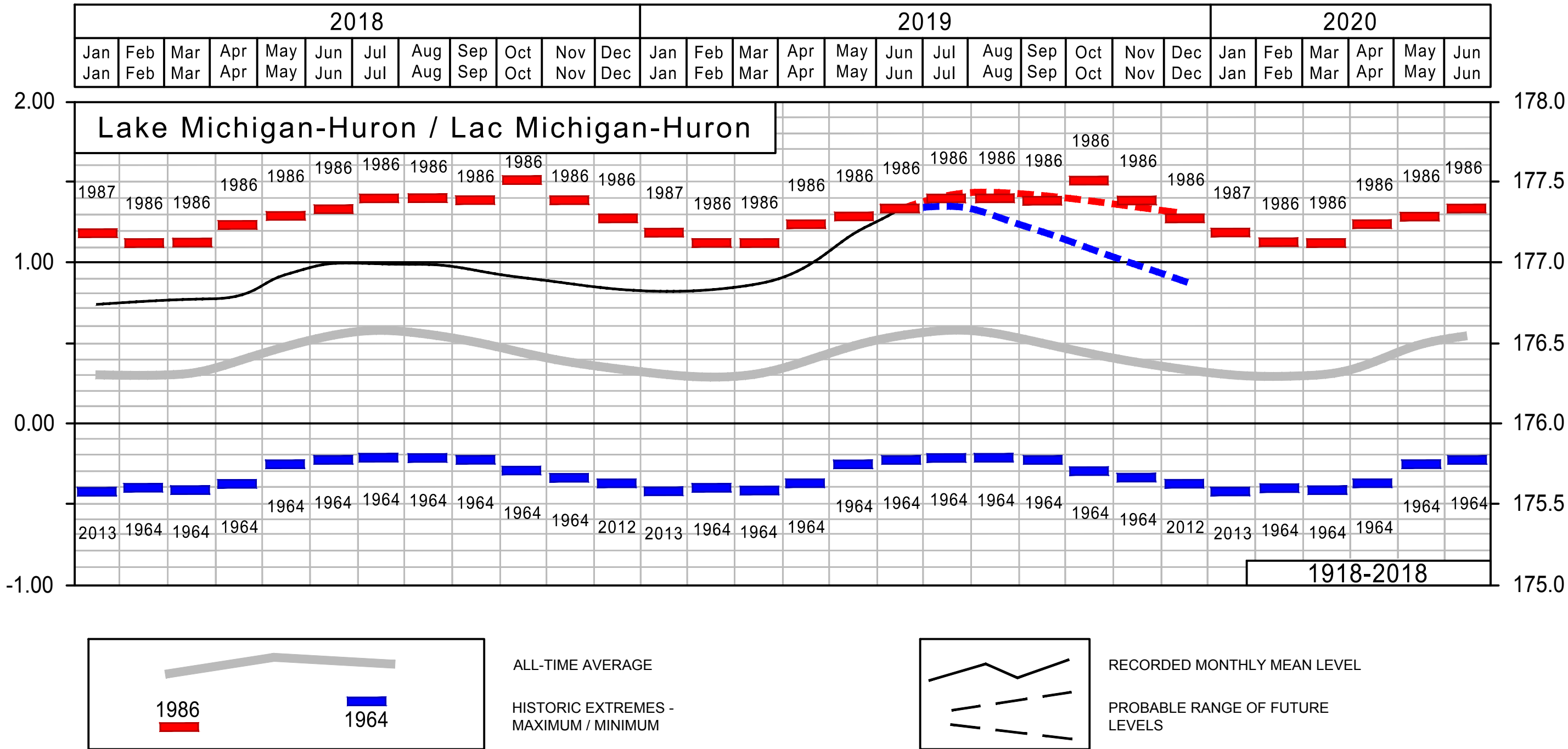
LOCATION:
HOWDENVALE ONTARIO

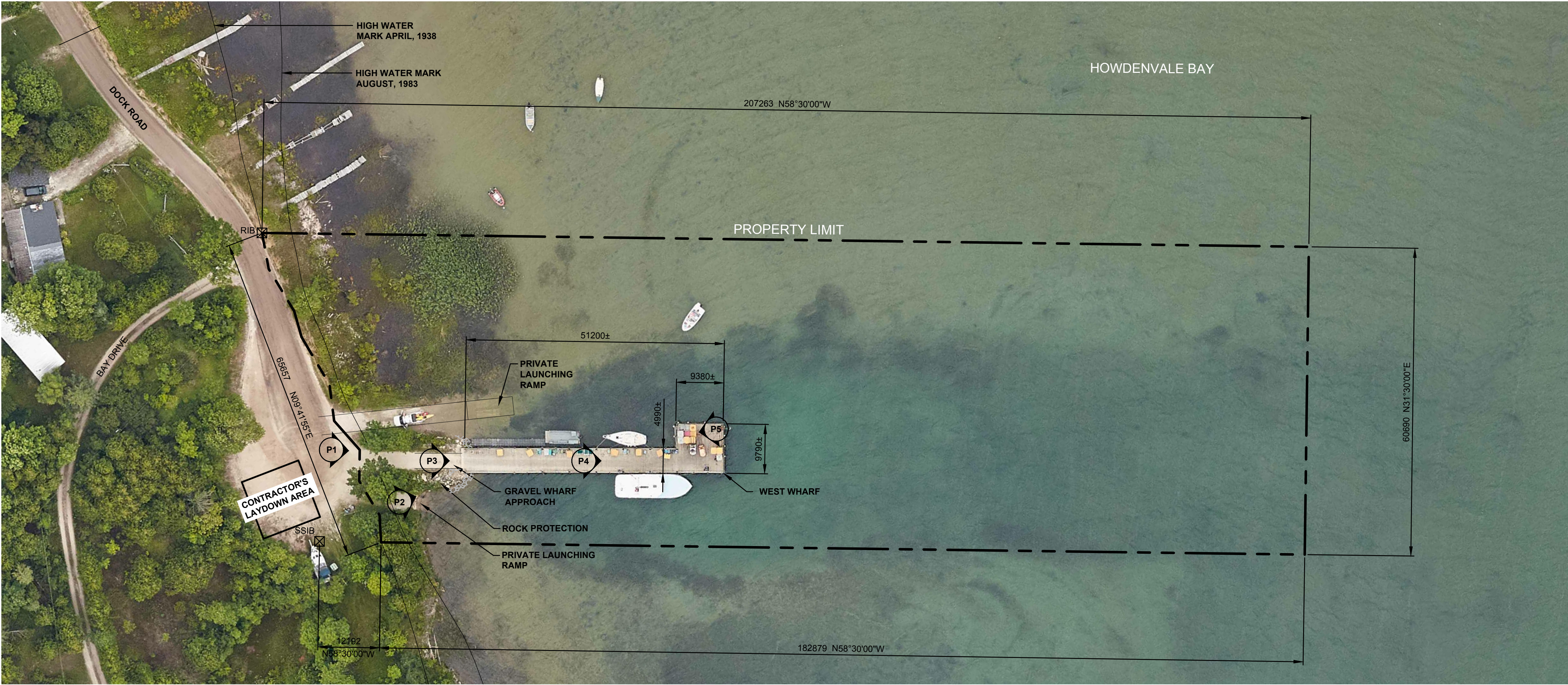
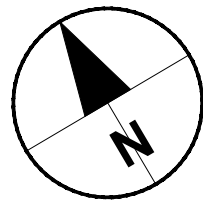
DRAWING NO.: S-01	LOCATOR CODE: 4639
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KEY MAP

WATER LEVEL CHART : (WATER LEVELS TAKEN FROM www.waterlevels.gc.ca)





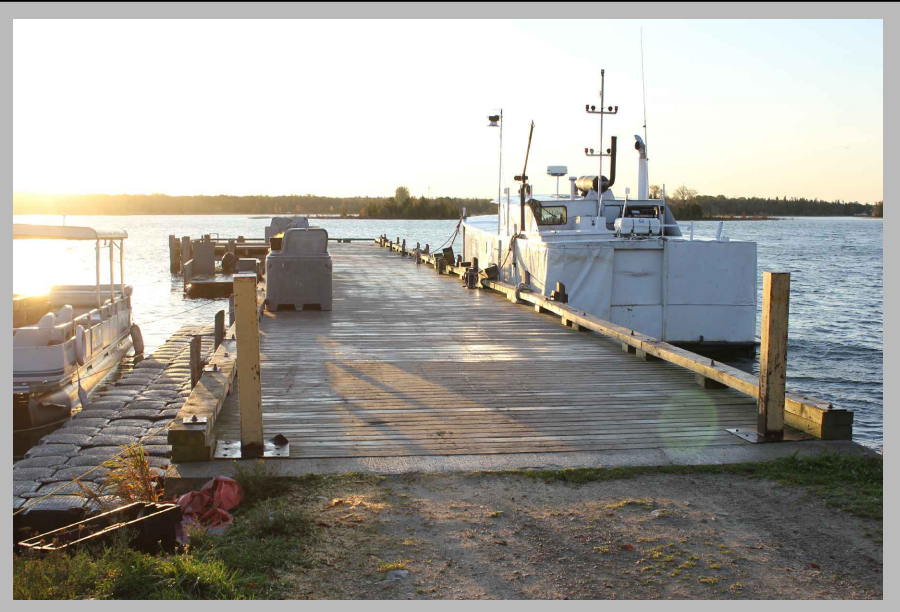
PROPERTY PLAN
N.T.S.



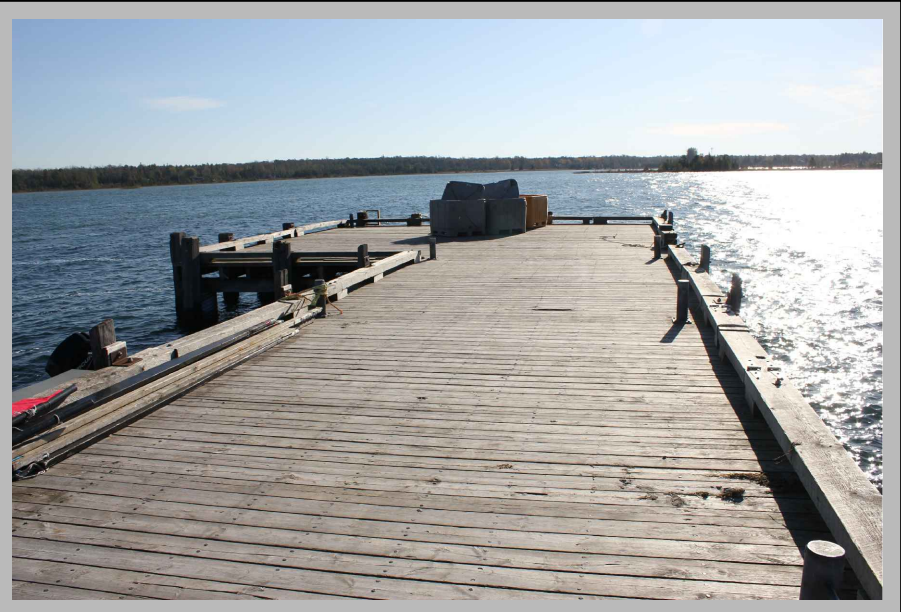
P1 LOOKING EAST FROM
DOCK ROAD



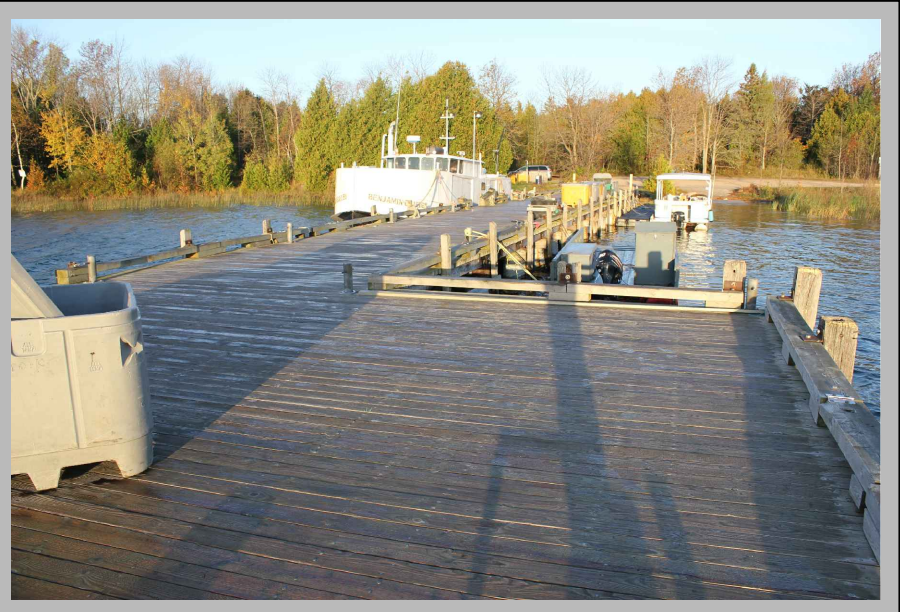
P2 LOOKING NORTHEAST
AT WHARF



P3 LOOKING EAST OVER
WHARF



P4 LOOKING EAST FROM
MID WHARF



P5 LOOKING WEST FROM
EAST END

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION



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NOTES:

1. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-01.



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PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

AERIAL AND
PROPERTY PLAN

DRAWN:

T.G.

APPROVED:

J.P.

DATE:

2019

DATE:

SEPTEMBER 2019

LOCATION:

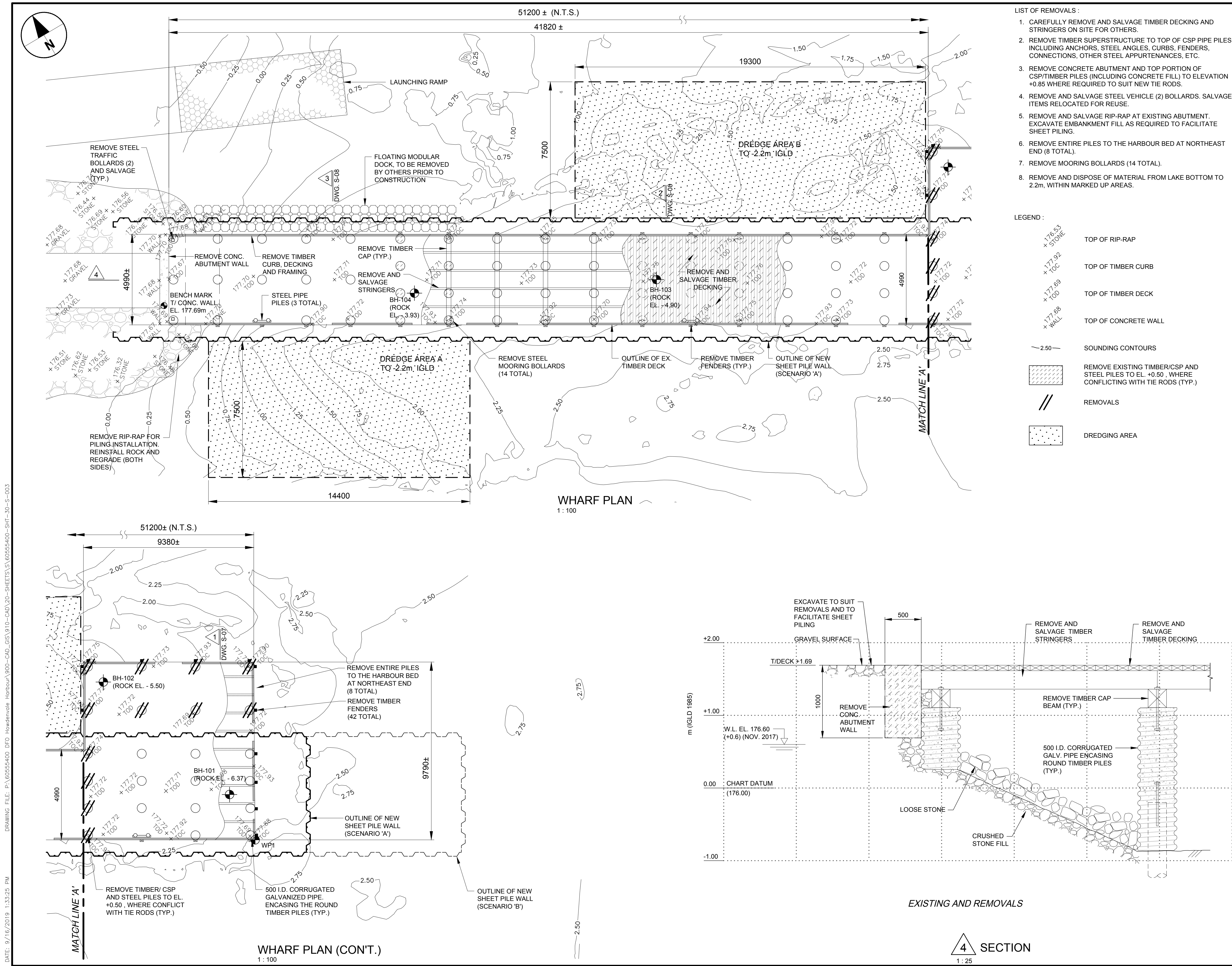
HOWDENVALE ONTARIO

DRAWING NO.:

S-02


LOCATOR CODE:

4639




- LIST OF REMOVALS :
- CAREFULLY REMOVE AND SALVAGE TIMBER DECKING AND STRINGERS ON SITE FOR OTHERS.
 - REMOVE TIMBER SUPERSTRUCTURE TO TOP OF CSP PIPE PILES, INCLUDING ANCHORS, STEEL ANGLES, CURBS, FENDERS, CONNECTIONS, OTHER STEEL APPURTENANCES, ETC.
 - REMOVE CONCRETE ABUTMENT AND TOP PORTION OF CSP/TIMBER PILES (INCLUDING CONCRETE FILL) TO ELEVATION +0.85 WHERE REQUIRED TO SUIT NEW TIE RODS.
 - REMOVE AND SALVAGE STEEL VEHICLE (2) BOLLARDS. SALVAGED ITEMS RELOCATED FOR REUSE.
 - REMOVE AND SALVAGE RIP-RAP AT EXISTING ABUTMENT. EXCAVATE EMBANKMENT FILL AS REQUIRED TO FACILITATE SHEET PILING.
 - REMOVE ENTIRE PILES TO THE HARBOUR BED AT NORTHEAST END (8 TOTAL).
 - REMOVE MOORING BOLLARDS (14 TOTAL).
 - REMOVE AND DISPOSE OF MATERIAL FROM LAKE BOTTOM TO 2.2m, WITHIN MARKED UP AREAS.


- LEGEND :
- TOP OF RIP-RAP
 - TOP OF TIMBER CURB
 - TOP OF TIMBER DECK
 - TOP OF CONCRETE WALL
 - SOUNDING CONTOURS
 - REMOVE EXISTING TIMBER/CSP AND STEEL PILES TO EL. +0.50, WHERE CONFLICTING WITH TIE RODS (TYP.)
 - REMOVALS
 - DREDGING AREA




GOVERNMENT OF CANADA
FISHERIES AND OCEANS



GOUVERNEMENT DU CANADA
PÊCHES ET Océans



Small Craft Harbours
Ports pour petits bateaux





London, Ontario
519.673.0510

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NOTES:

- FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-01.
- ALL SOUNDINGS ARE SHOWN IN METRES BELOW CHART DATUM.
- CHART DATUM FOR LAKE HURON/GEORGIAN BAY IS 176.00 ABOVE IGLD.
- SURVEY INFORMATION PROVIDED BY SMALL CRAFT HARBOURS CENTRAL AND ARCTIC REGION, NOVEMBER 2017.



PROVINCE OF ONTARIO

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SCALE:

CLASS:

PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

EXISTING AND REMOVALS
PLAN AND SECTION

DRAWN:

T.G.

APPROVED:

J.P.

DATE:

2019

DATE:

SEPTEMBER 2019

LOCATION:

HOWDENVALE ONTARIO

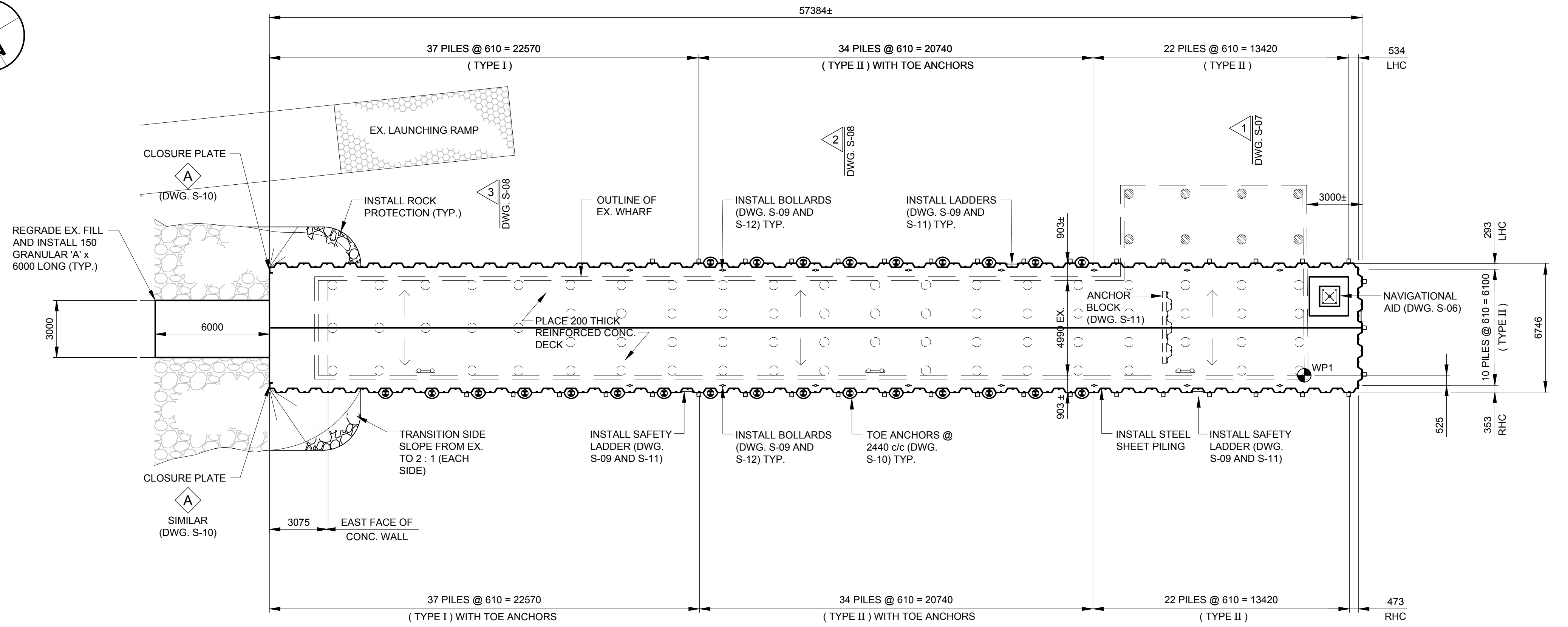
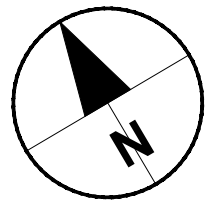
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S-03

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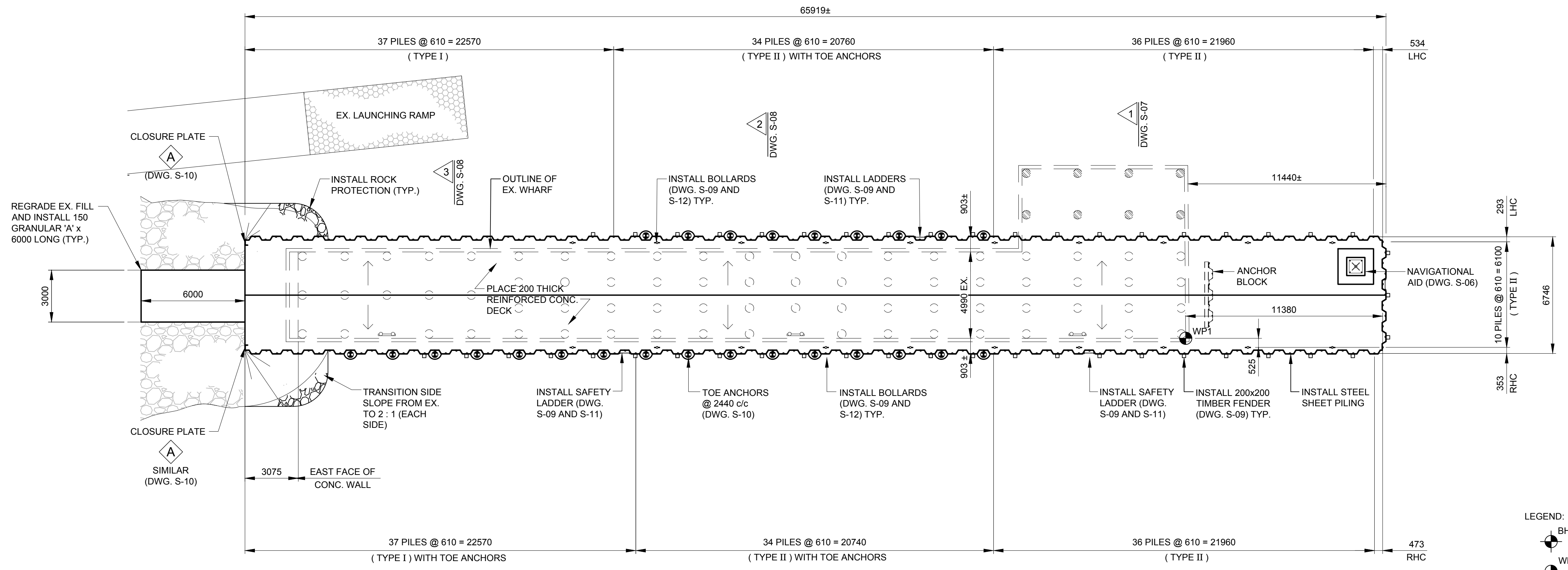
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REHABILITATED

WHARF PLAN - SCENARIO 'A'
1:150




REHABILITATED


WHARF PLAN - SCENARIO 'B'
1:150

LEGEND:
BH-103 APPROXIMATE BOREHOLE LOCATION
WP1 WORKING POINT


WP	ELEVATION TOP OF WHARF	CO-ORDINATES	
		NORTHING	EASTING
1	EL. 177.75	4983118.296	475919.748



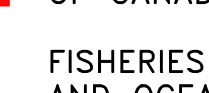
GOVERNMENT
OF CANADA



GOVERNMENT
DU CANADA




FISHERIES
AND OCEANS




PÊCHES
ET Océans

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION



Small Craft Harbours
Ports pour petits bateaux



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NOTES:


1. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-01.

2. PROVIDE SHEET PILE CAP AT NEW SHEET PILES (SEE DWG. S-11).


3. TOP OF CONCRETE SLAB SHALL HAVE A ROUGH BROOM FINISH.

4. INSPECT AND REVIEW HARBOUR BED (BY UNDERWATER DIVING) AROUND PERIMETER PRIOR TO CONSTRUCTION.

5. FOR PILING TYPES SEE DRAWING S-01.



LICENSED PROFESSIONAL ENGINEER
J. PUCCHIO
16/09/2019
PROVINCE OF ONTARIO



LICENSED PROFESSIONAL ENGINEER
K. CHOROSTECKI
100173534
16/09/2019
PROVINCE OF ONTARIO

REVISION:

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SCALE:

CLASS:

PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

WHARF
GENERAL ARRANGEMENT
REHABILITATED

DRAWN:

T.G.

APPROVED:

J.P.

DATE:

2019

DATE:

SEPTEMBER 2019

LOCATION:

HOWDENVALE ONTARIO

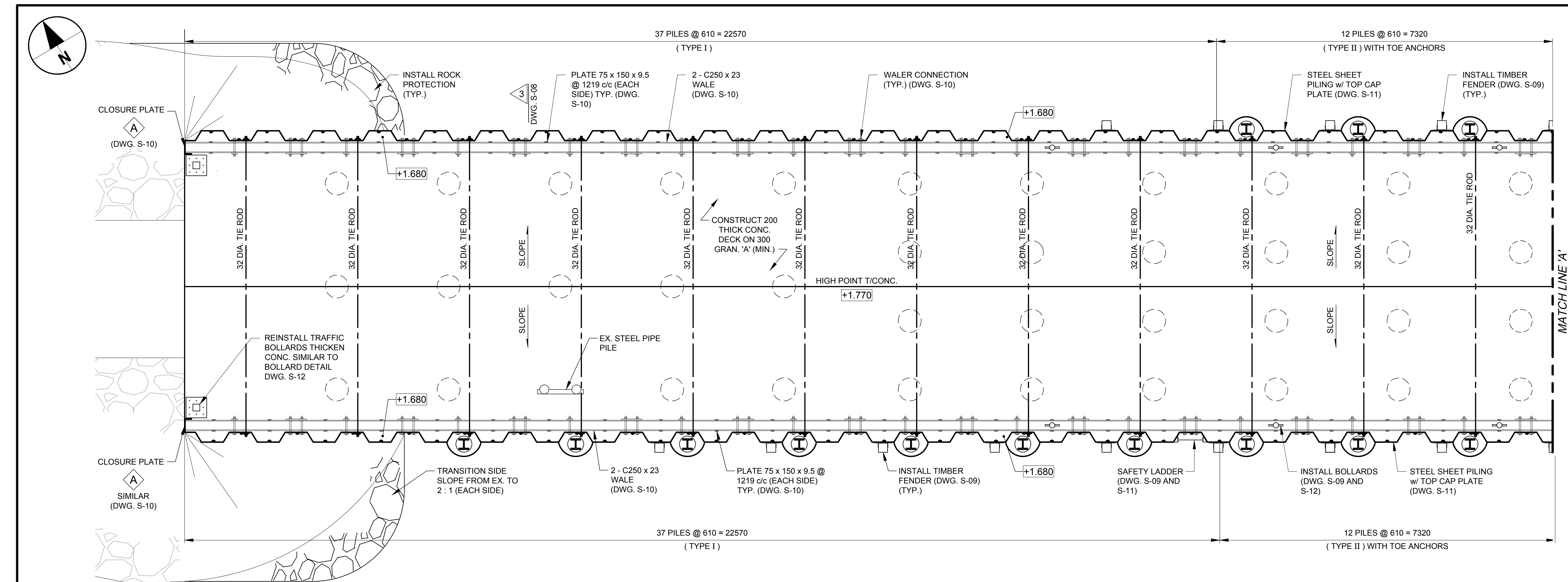
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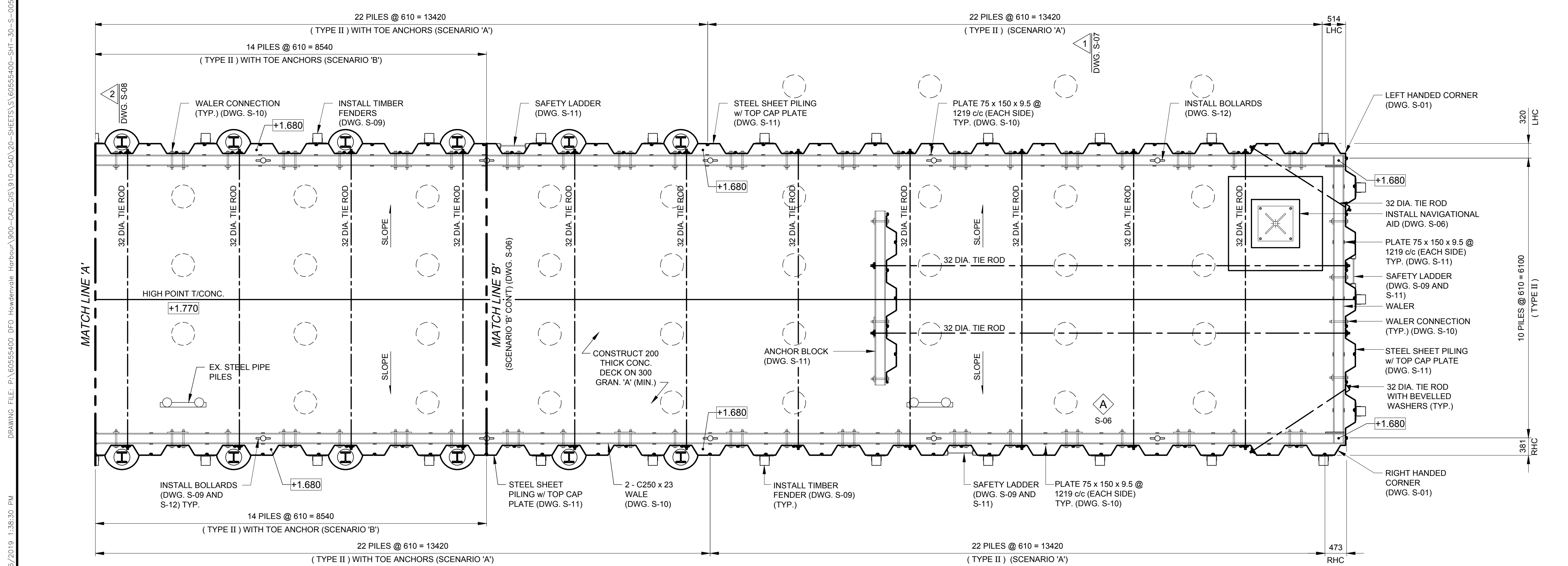
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PARTIAL PLAN - SCENARIO 'A' AND 'B'
1:50



PARTIAL PLAN - SCENARIO 'A' AND 'B'
1:50



GOVERNMENT OF CANADA
FISHERIES AND OCEANS



GOVERNEMENT DU CANADA
PÊCHES ET Océans

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION



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NOTES:

- FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-01.
- FOR SHEET PILE NOTES AND TYPES SEE DRAWING S-01.
- TOP OF SLAB SHALL BE ROUGH BROOM FINISH.
- MANUALLY SCREED DECK FROM CENTRE TO EXISTING EDGE OF STEEL SHEET PILE.

LEGEND:

+1.680 TOP OF CONCRETE ELEVATION



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PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

REHABILITATED
PARTIAL PLAN - 1

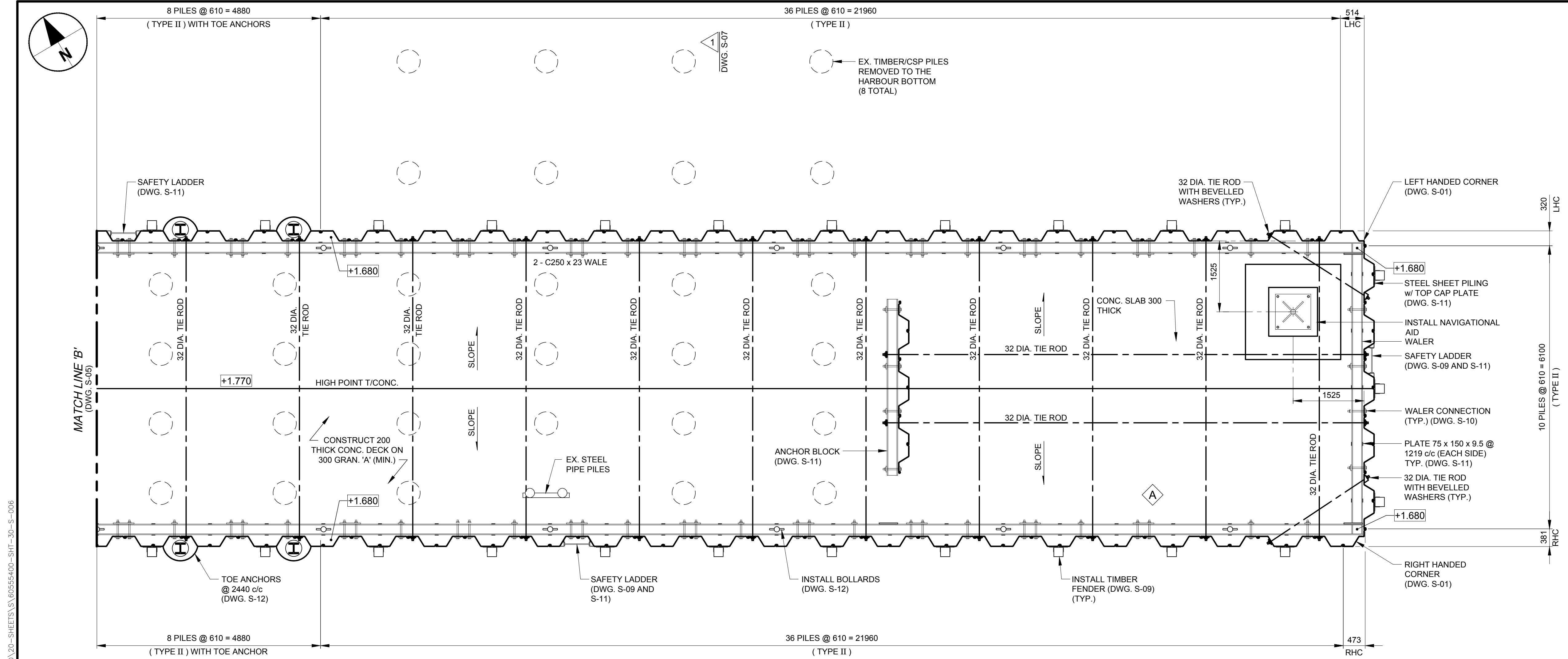
DRAWN:	APPROVED:
T.G.	J.P.

DATE:	DATE:
2019	SEPTEMBER 2019

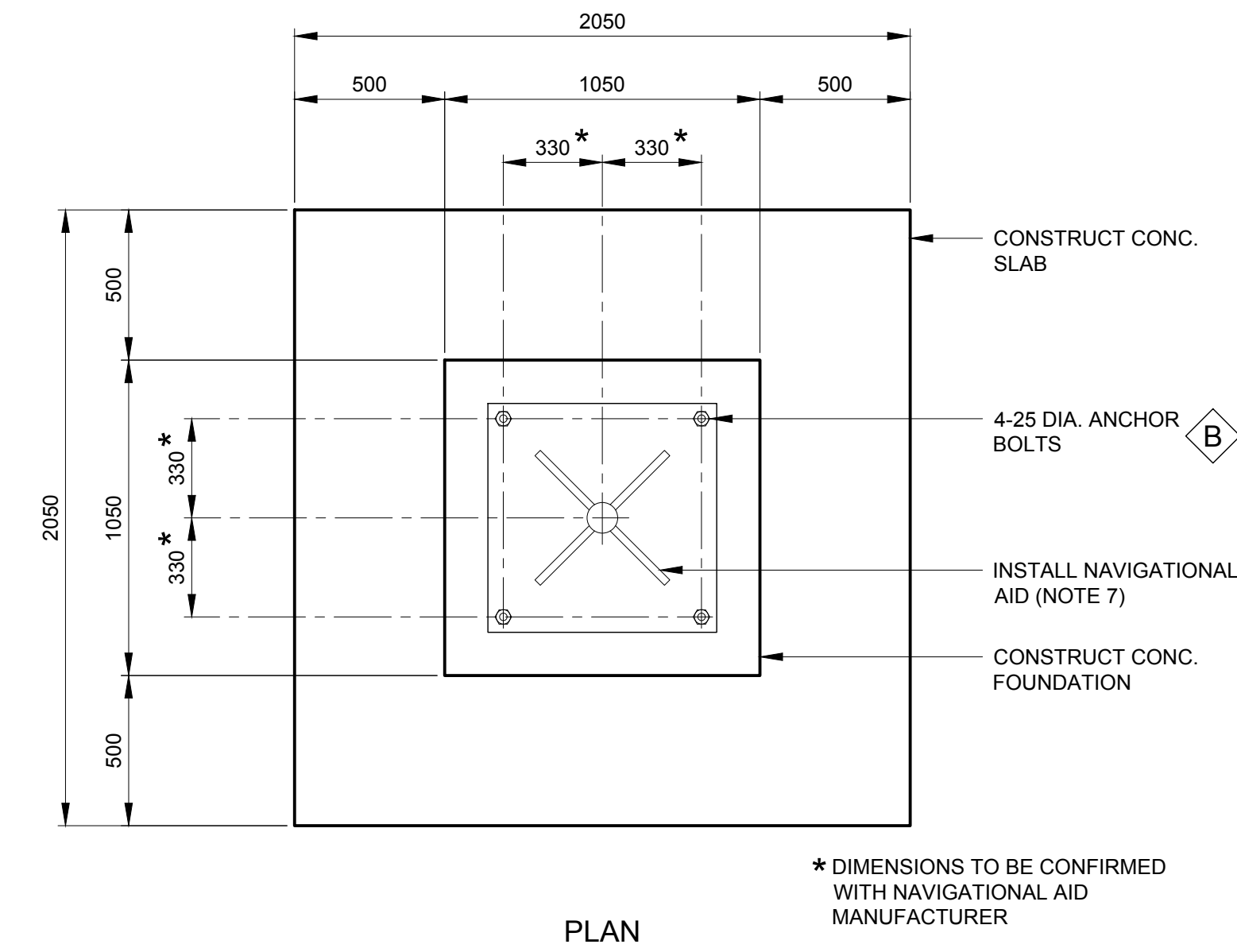
LOCATION:

HOWDENVALE ONTARIO

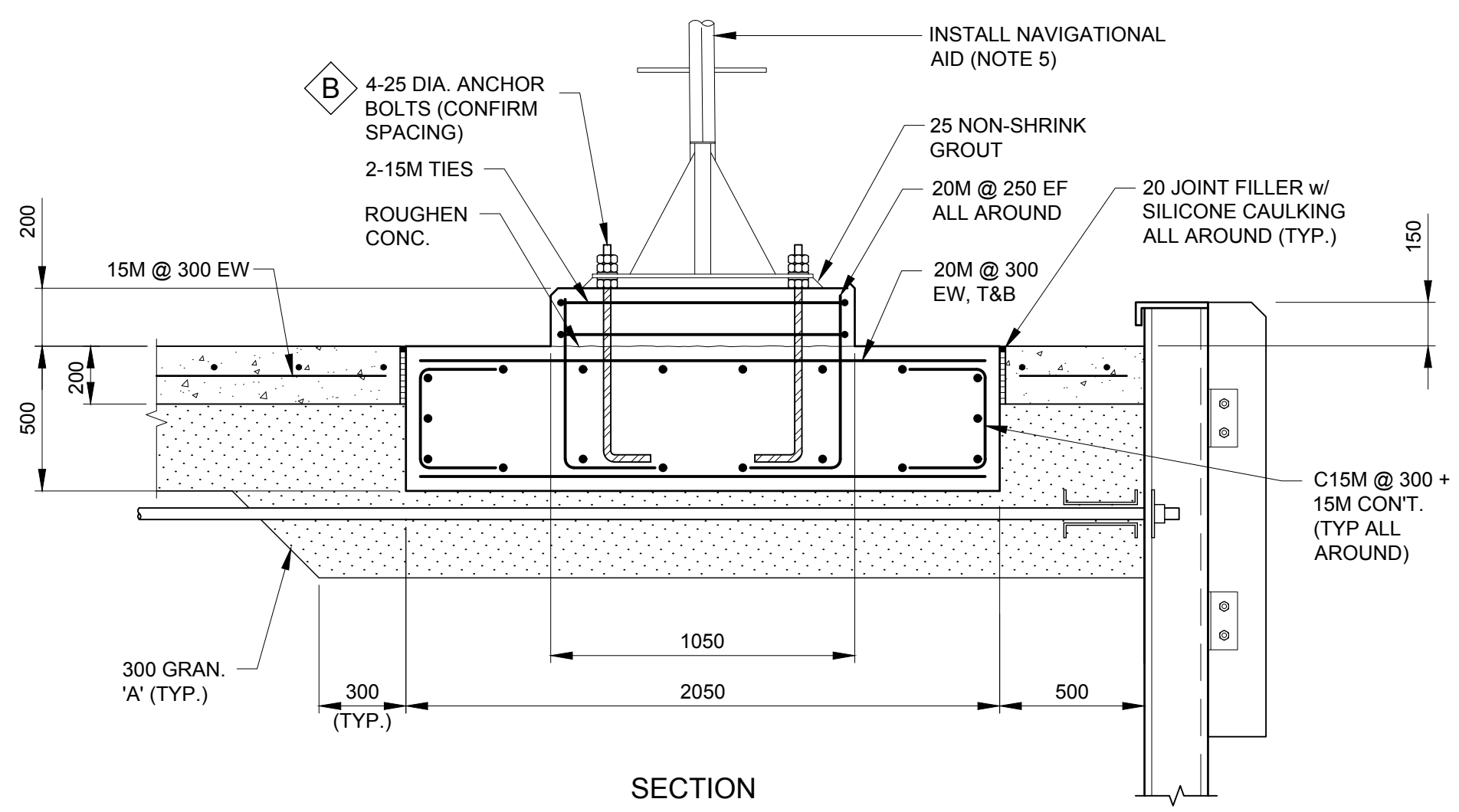
DRAWING NO.:	LOCATOR CODE:
S-05	4639



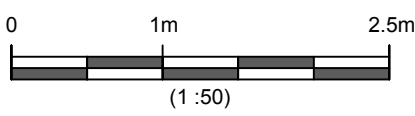
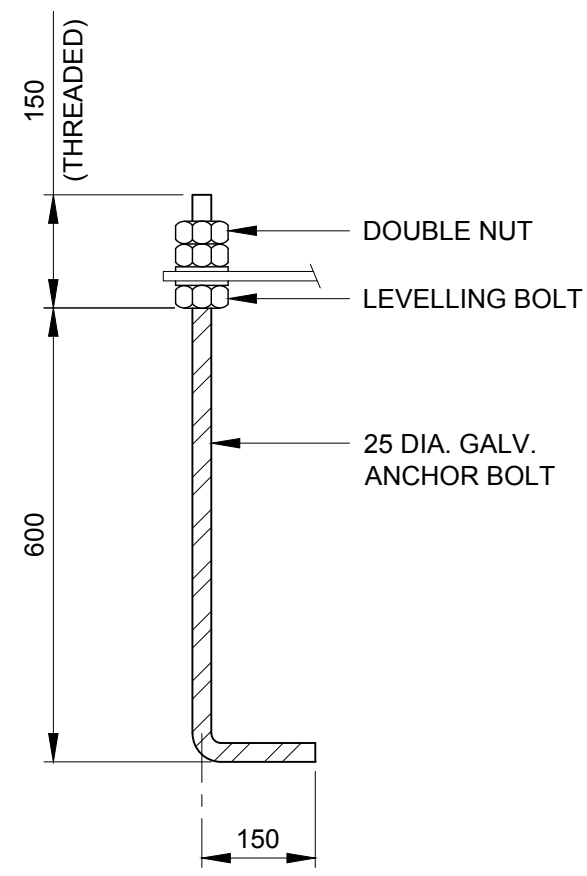
PARTIAL PLAN - SCENARIO 'B'
1 : 50




A NAVIGATIONAL AID
(1 TOTAL)
1 : 20




B ANCHOR BOLTS FOR NAVIGATION AID
(4 TOTAL)
1 : 10







GOVERNMENT OF CANADA
FISHERIES AND OCEANS



GOUVERNEMENT DU CANADA
PÊCHES ET Océans



Small Craft Harbours
Ports pour petits bateaux



London, Ontario
519.673.0510


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NOTES:


- FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-01.
- FOR SHEET PILE NOTES AND TYPES SEE DRAWING S-01.
- TOP OF SLAB SHALL BE ROUGH BROOM FINISH.
- MANUALLY SCREED DECK FROM CENTRE TO EXISTING EDGE OF STEEL SHEET PILE.
- SOLAR POWERED NAVIGATIONAL AID WILL BE SUPPLIED TO THE SITE. PRIOR TO CONSTRUCTING THE CONCRETE BASE, CONFIRM THE ANCHORAGE TEMPLATE.

LEGEND :

+1.680 TOP OF CONCRETE ELEVATION



LICENCED PROFESSIONAL ENGINEER
J. PUCCHIO
16/09/2019
PROVINCE OF ONTARIO



LICENCED PROFESSIONAL ENGINEER
K. CHOROSTECKI
16/09/2019
PROVINCE OF ONTARIO

REVISION:		
No.	REVISIONS	DATE
0	ISSUED FOR TENDER	09/16/2019

SCALE:

CLASS:

PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

REHABILITATED
PARTIAL PLAN - 2

DRAWN:

T.G.

APPROVED:

J.P.

DATE:

2019

DATE:

SEPTEMBER 2019

LOCATION:

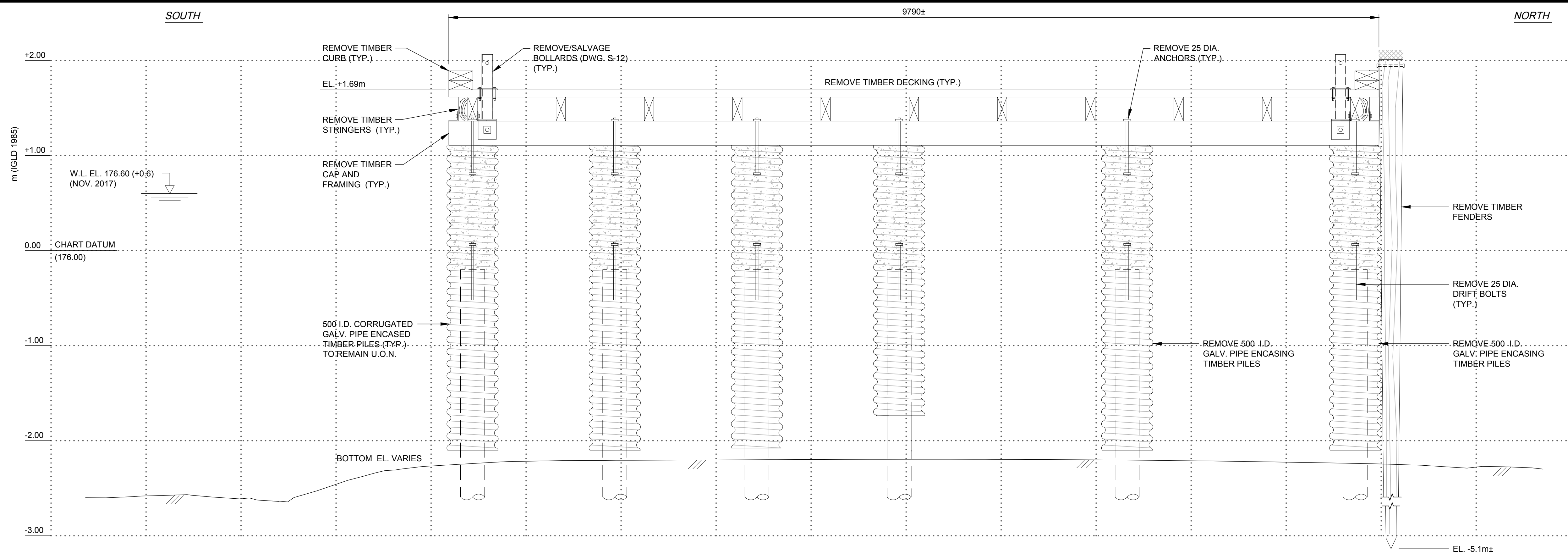
HOWDENVALE ONTARIO

DRAWING NO.:

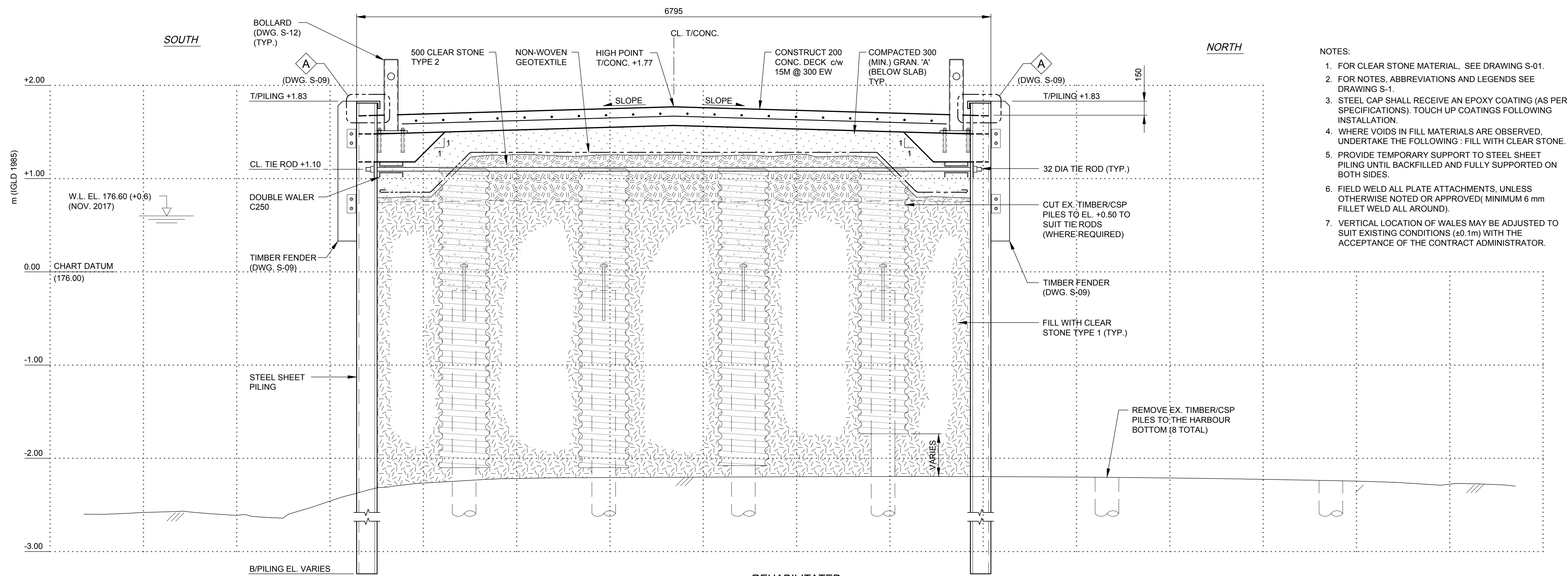
S-06

LOCATOR CODE:

4639



EXISTING AND REMOVALS



REHABILITATED

1 : 25

SECTION

(FOR LOCATION SEE DWG. S-04 AND S-06)



SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION

**AECOM**

London, Ontario
519.673.0510

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NOTES:

- NOTES:**
1. FOR CLEAR STONE MATERIAL, SEE DRAWING S-01.
 2. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-1.
 3. STEEL CAP SHALL RECEIVE AN EPOXY COATING (AS PER SPECIFICATIONS), TOUCH UP COATINGS FOLLOWING INSTALLATION.
 4. WHERE VOIDS IN FILL MATERIALS ARE OBSERVED, UNDERTAKE THE FOLLOWING : FILL WITH CLEAR STONE.
 5. PROVIDE TEMPORARY SUPPORT TO STEEL SHEET PILING UNTIL BACKFILLED AND FULLY SUPPORTED ON BOTH SIDES.
 6. FIELD WELD ALL PLATE ATTACHMENTS, UNLESS OTHERWISE NOTED OR APPROVED(MINIMUM 6 mm FILLET WELD ALL AROUND).
 7. VERTICAL LOCATION OF WALES MAY BE ADJUSTED TO SUIT EXISTING CONDITIONS ($\pm 0.1m$) WITH THE ACCEPTANCE OF THE CONTRACT ADMINISTRATOR.

[illegible]

SCALE:

CLASS:

PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVILLE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

SECTION 1

DRAWN:

T.G.

APPROVED:

J.P.

DATE: _____

2019

DATE:

SEPTEMBER 2019

LOCATION:

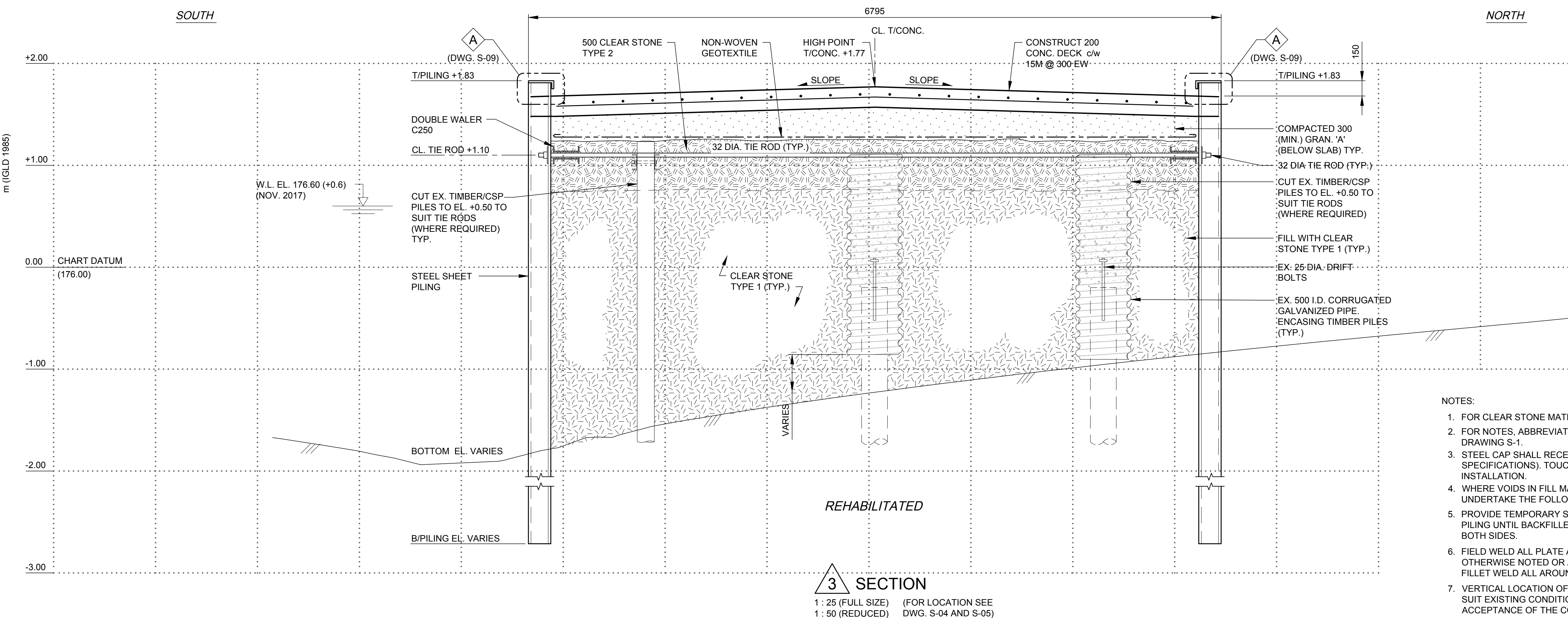
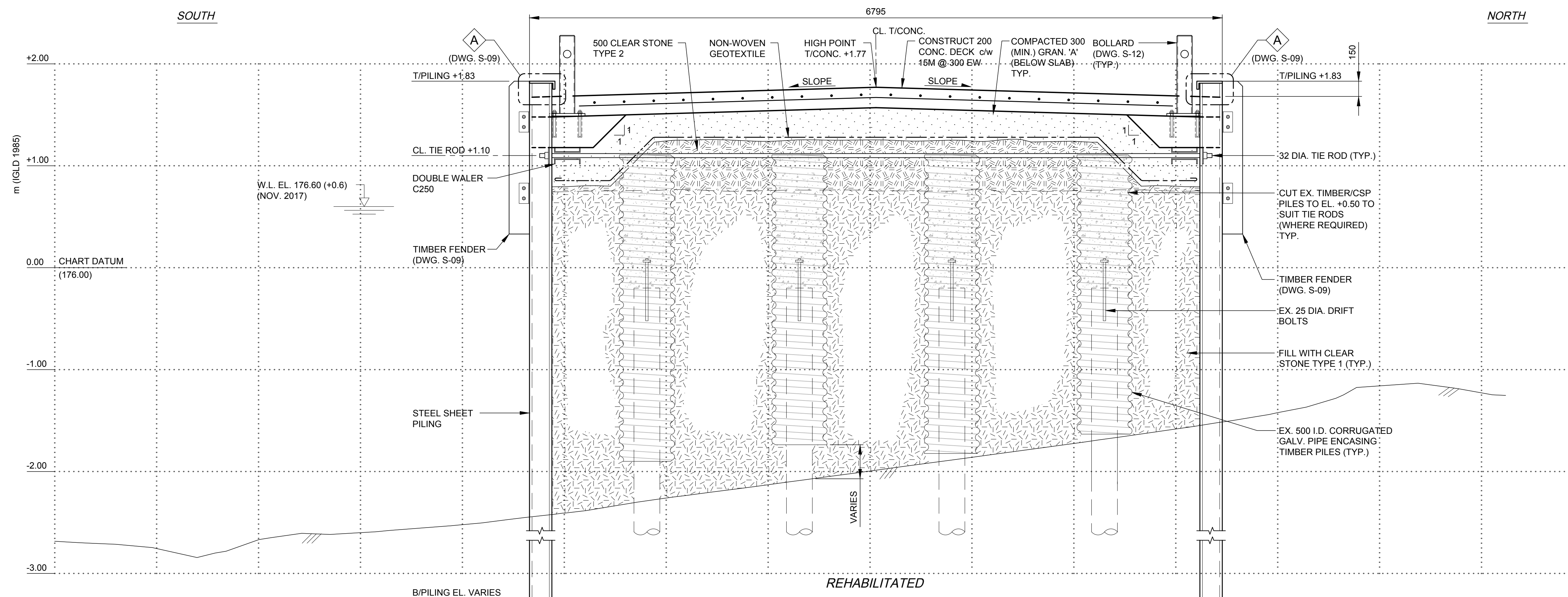
HOWDENVILLE ONTARIO

DRAWING NO.:

S-07

LOCATOR CODE:

4639

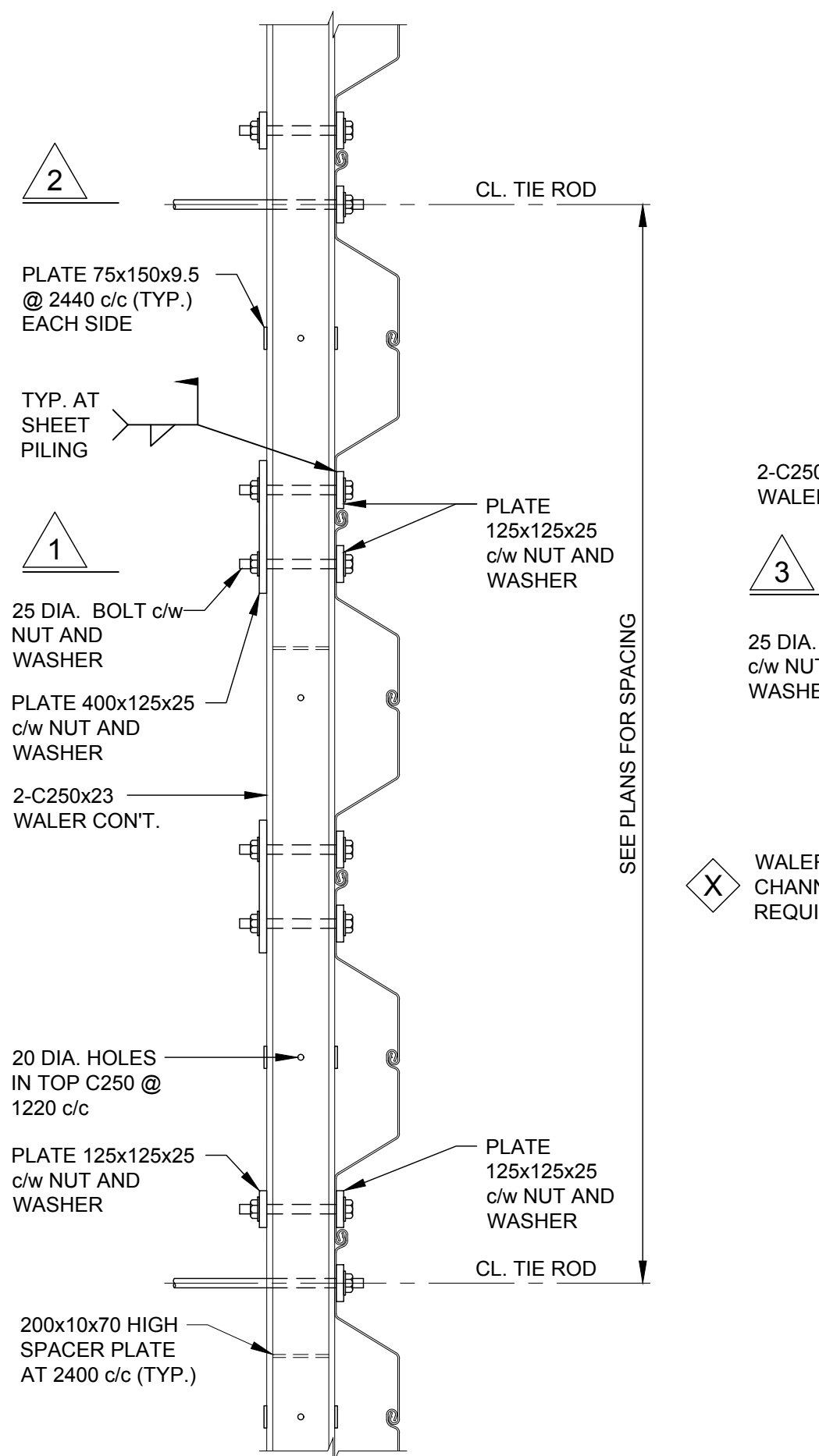


- NOTES:
1. FOR CLEAR STONE MATERIAL, SEE DRAWING S-01.
 2. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-1.
 3. STEEL CAP SHALL RECEIVE AN EPOXY COATING (AS PER SPECIFICATIONS). TOUCH UP COATINGS FOLLOWING INSTALLATION.
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 5. PROVIDE TEMPORARY SUPPORT TO STEEL SHEET PILING UNTIL BACKFILLED AND FULLY SUPPORTED ON BOTH SIDES.
 6. FIELD WELD ALL PLATE ATTACHMENTS, UNLESS OTHERWISE NOTED OR APPROVED(MINIMUM 6 mm FILLET WELD ALL AROUND).
 7. VERTICAL LOCATION OF WALES MAY BE ADJUSTED TO SUIT EXISTING CONDITIONS (±0.1m) WITH THE ACCEPTANCE OF THE CONTRACT ADMINISTRATOR.

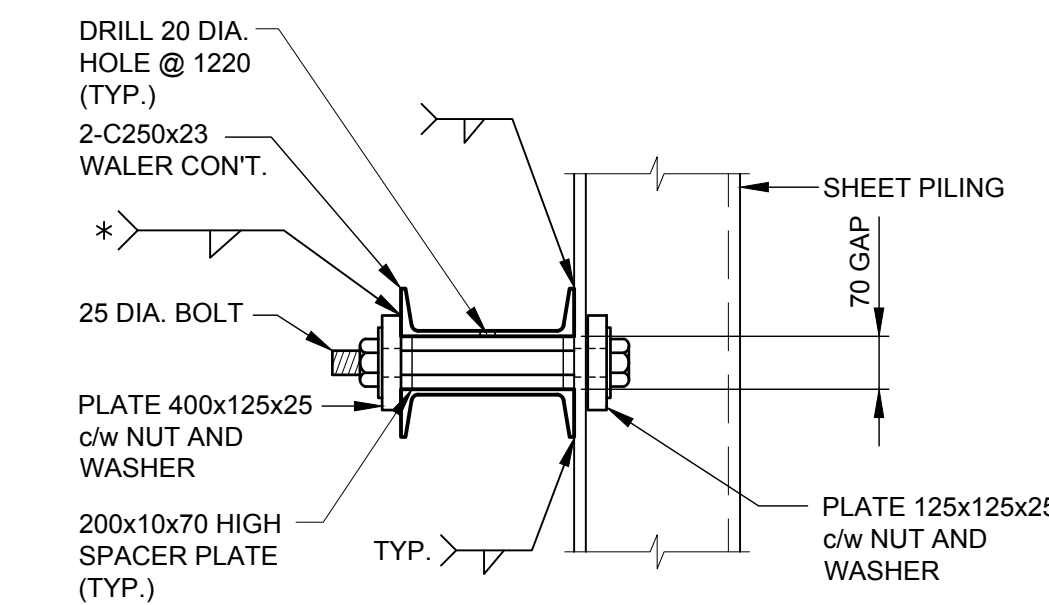


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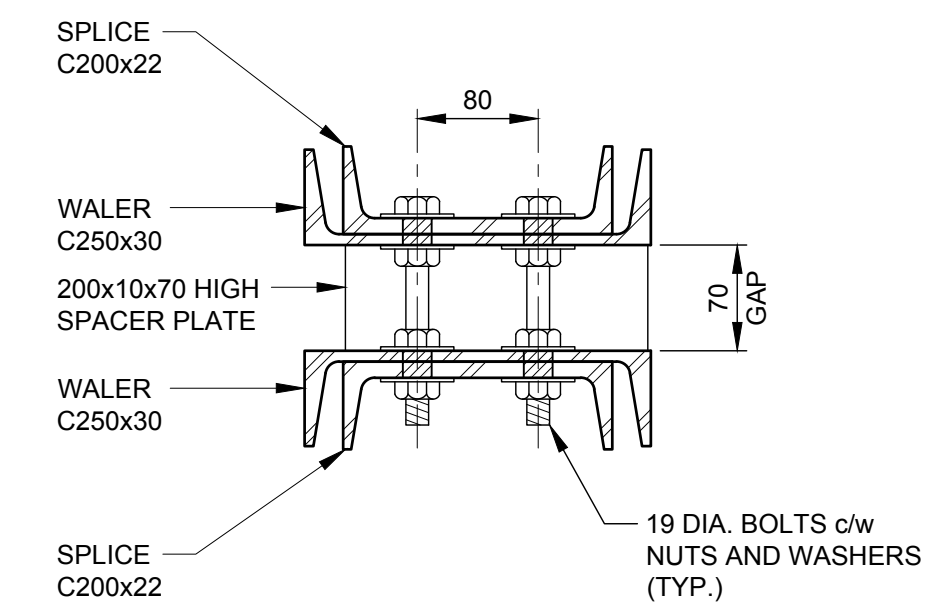
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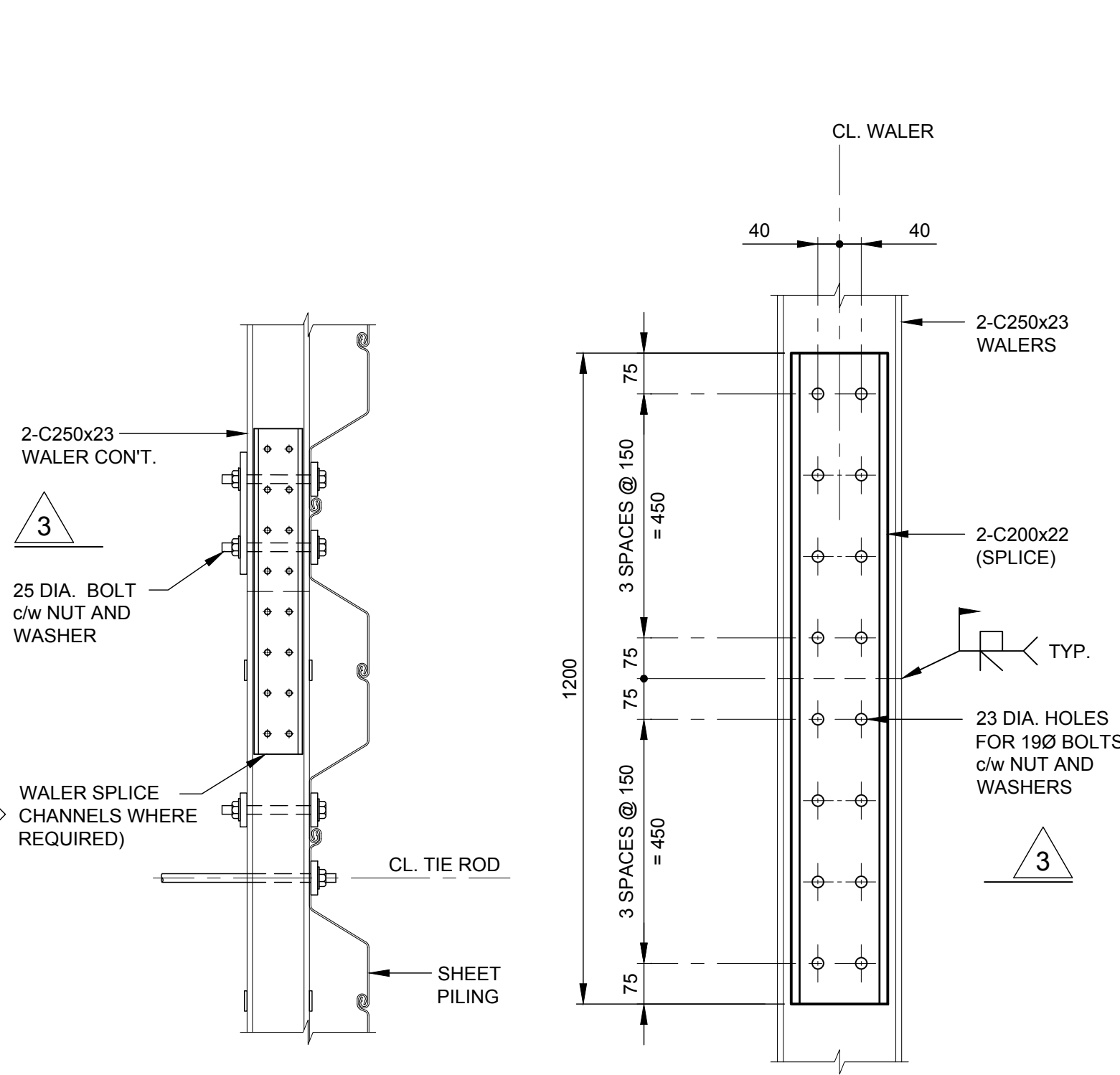
PLAN
WATER CONNECTION
1:20



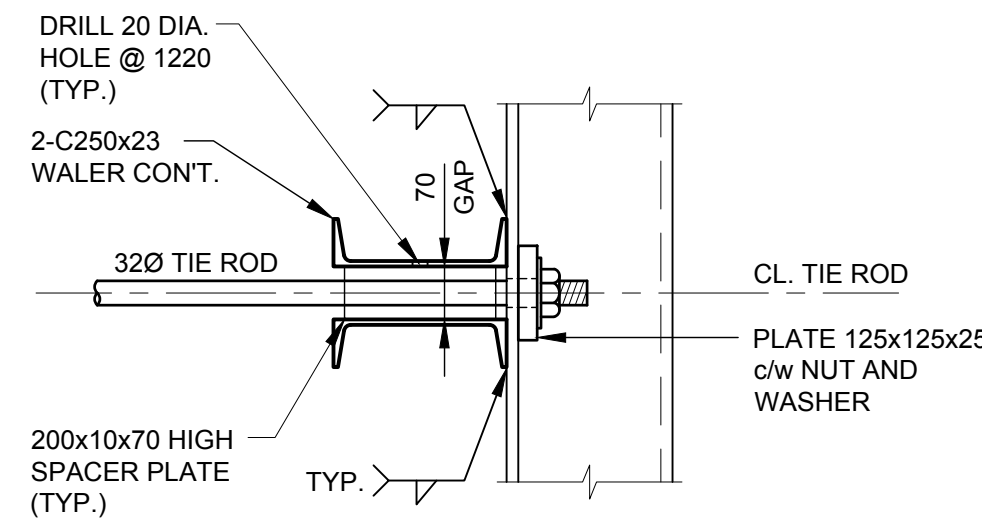
1
SECTION - WATER CONNECTION
1:10



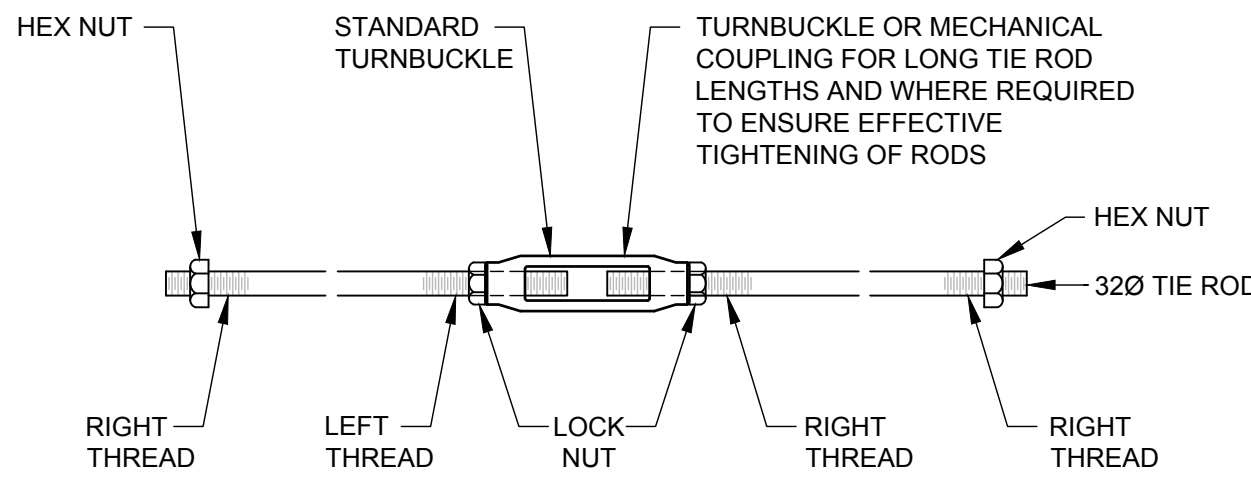
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SECTION
1:5



PLAN
WATER SPLICE CONNECTION
1:20

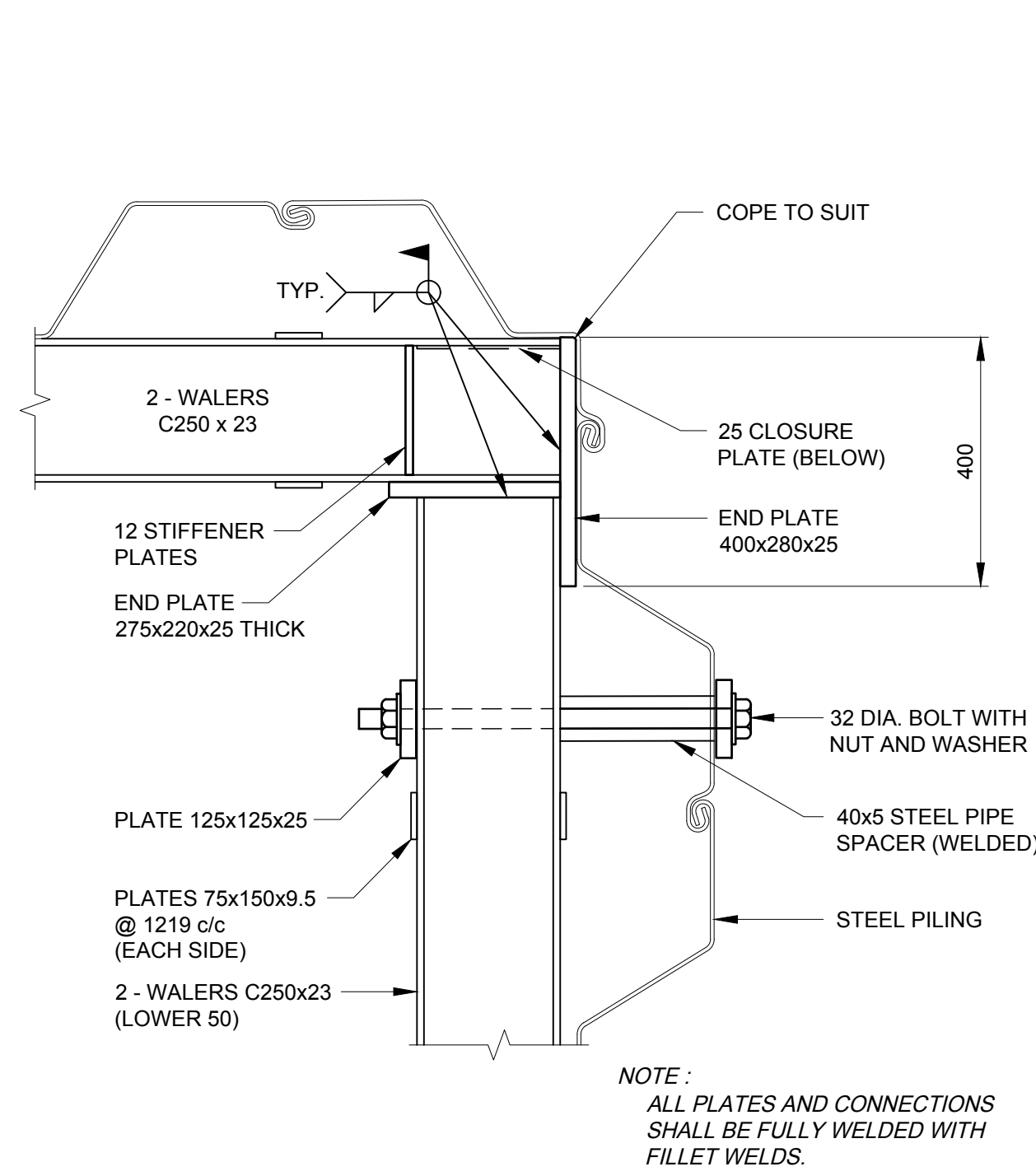


2
SECTION - TIE ROD CONNECTION
1:10

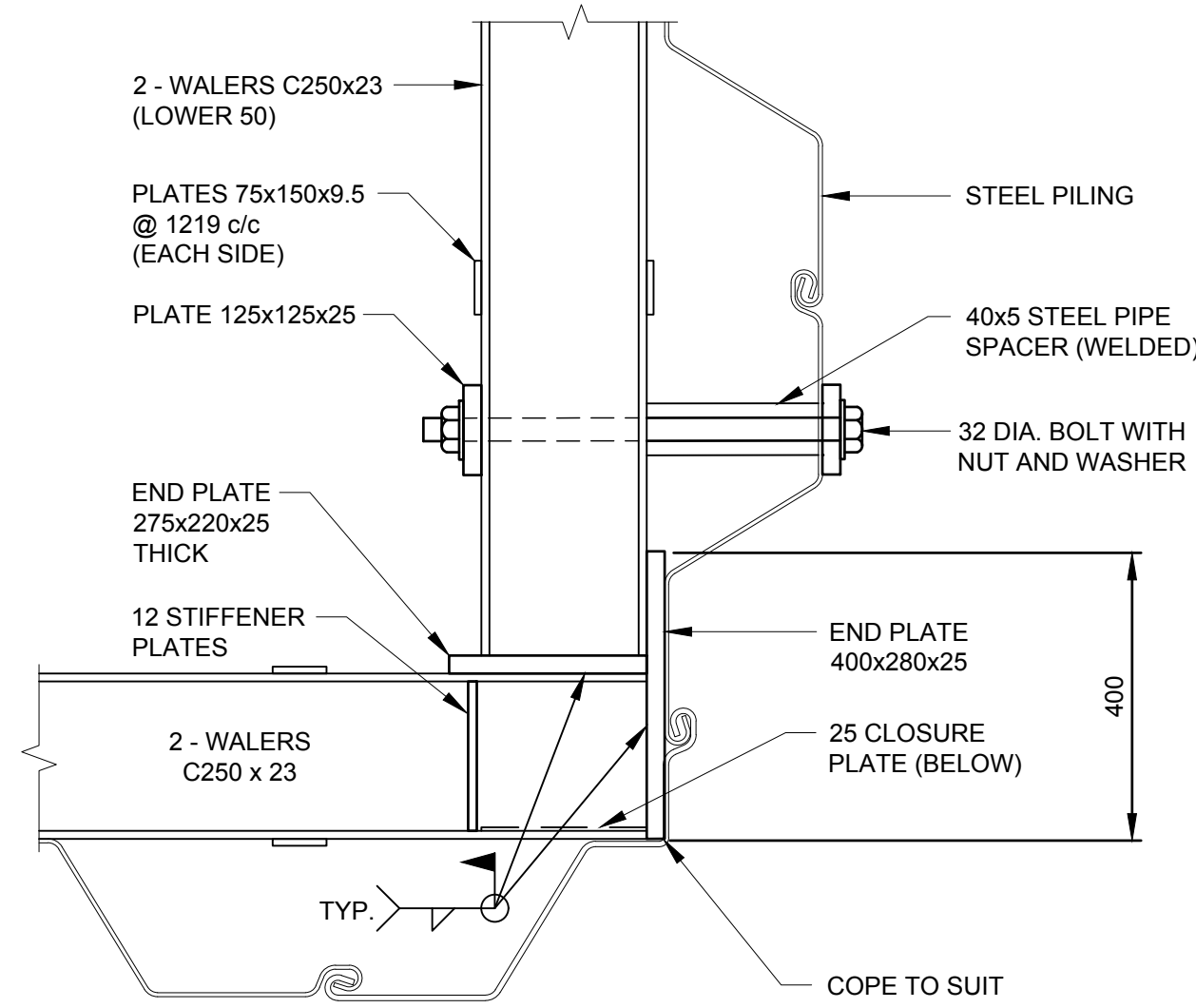


TURNBUCKLE DETAIL
1:10

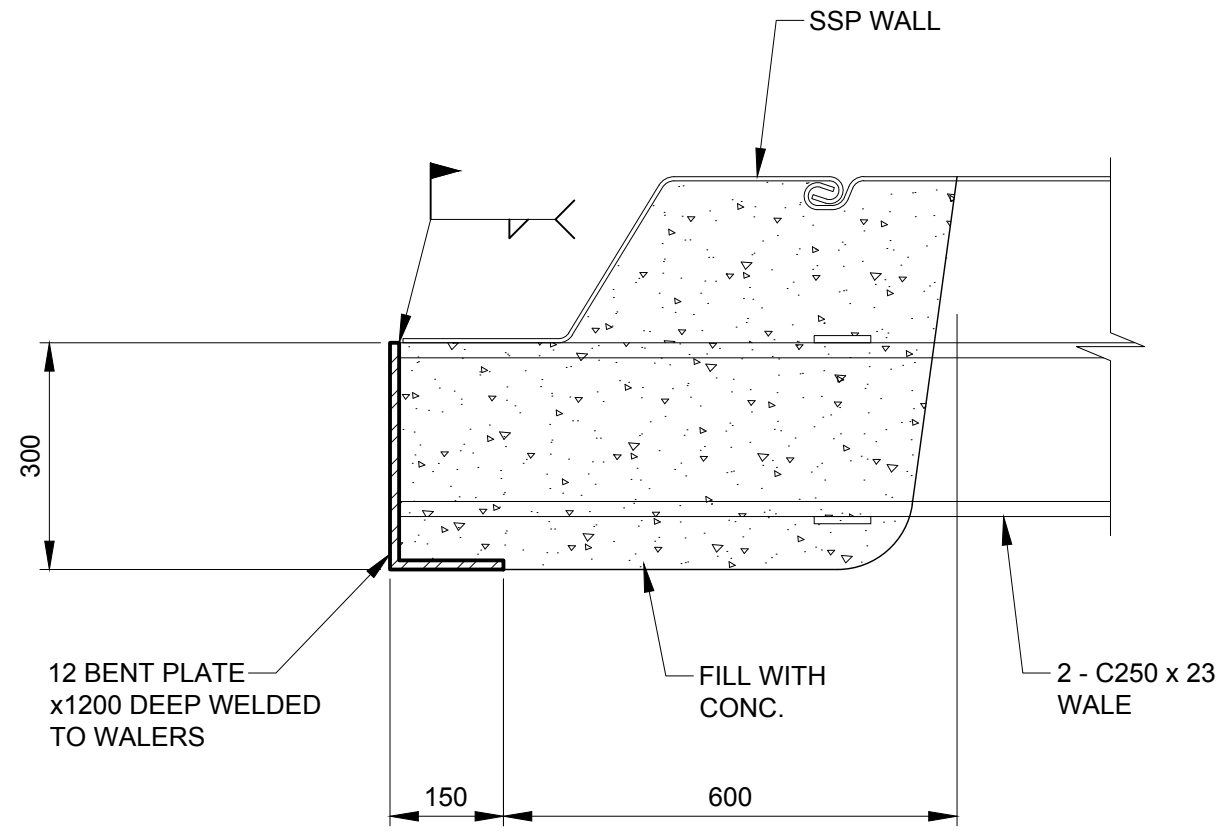
X
WATER SPLICE DETAIL
1:10



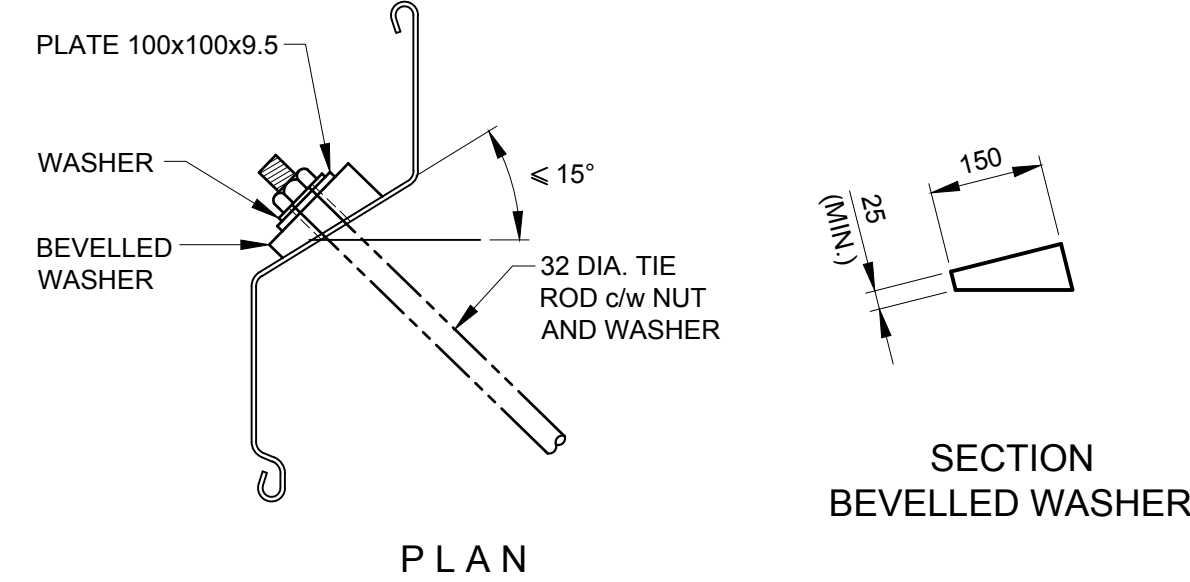
PLAN - CORNERS
1:10 (FOR LOCATION SEE DWG. S-04 AND S-06)



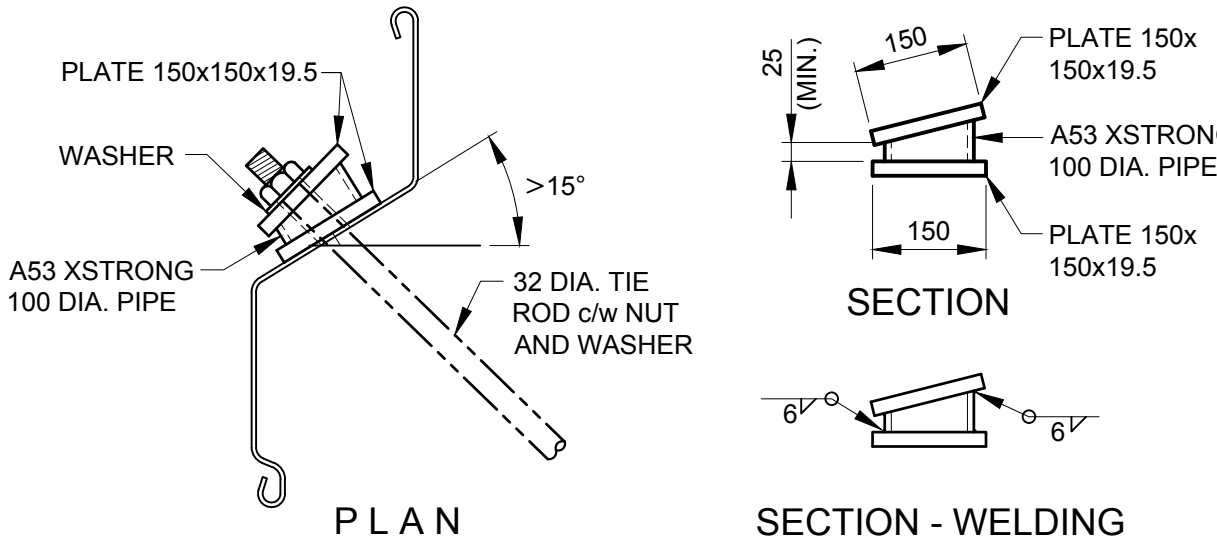
PLAN - CORNERS
1:10 (FOR LOCATION SEE DWG. S-04 AND S-06)



A
CLOSURE PLATE DETAIL
(FOR LOCATION SEE DWG. S-04 AND S-05)
1:10



TIE ROD CONNECTION WITH BEVELLED WASHER



BEVELLED TIE ROD CONNECTION WITH PIPE

BEVELLED TIE ROD CONNECTION

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION

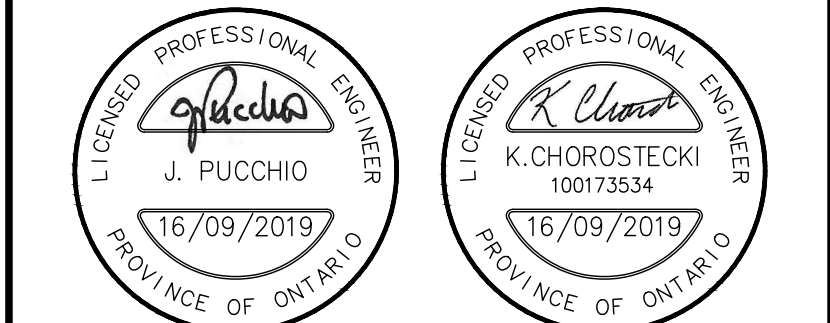


AECOM

London, Ontario
519.673.0510

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- NOTES:
- FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-1.
 - PROVIDE TEMPORARY SUPPORT TO STEEL SHEET PILING UNTIL BACKFILLED AND FULLY SUPPORTED ON BOTH SIDES.
 - FIELD WELD ALL PLATE ATTACHMENTS, UNLESS OTHERWISE NOTED OR APPROVED (MINIMUM 6 mm FILLET WELD ALL AROUND).



REVISION:		
No.	REVISIONS	DATE
0	ISSUED FOR TENDER	09/16/2019

SCALE:	CLASS:
--------	--------

PROJECT:
SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

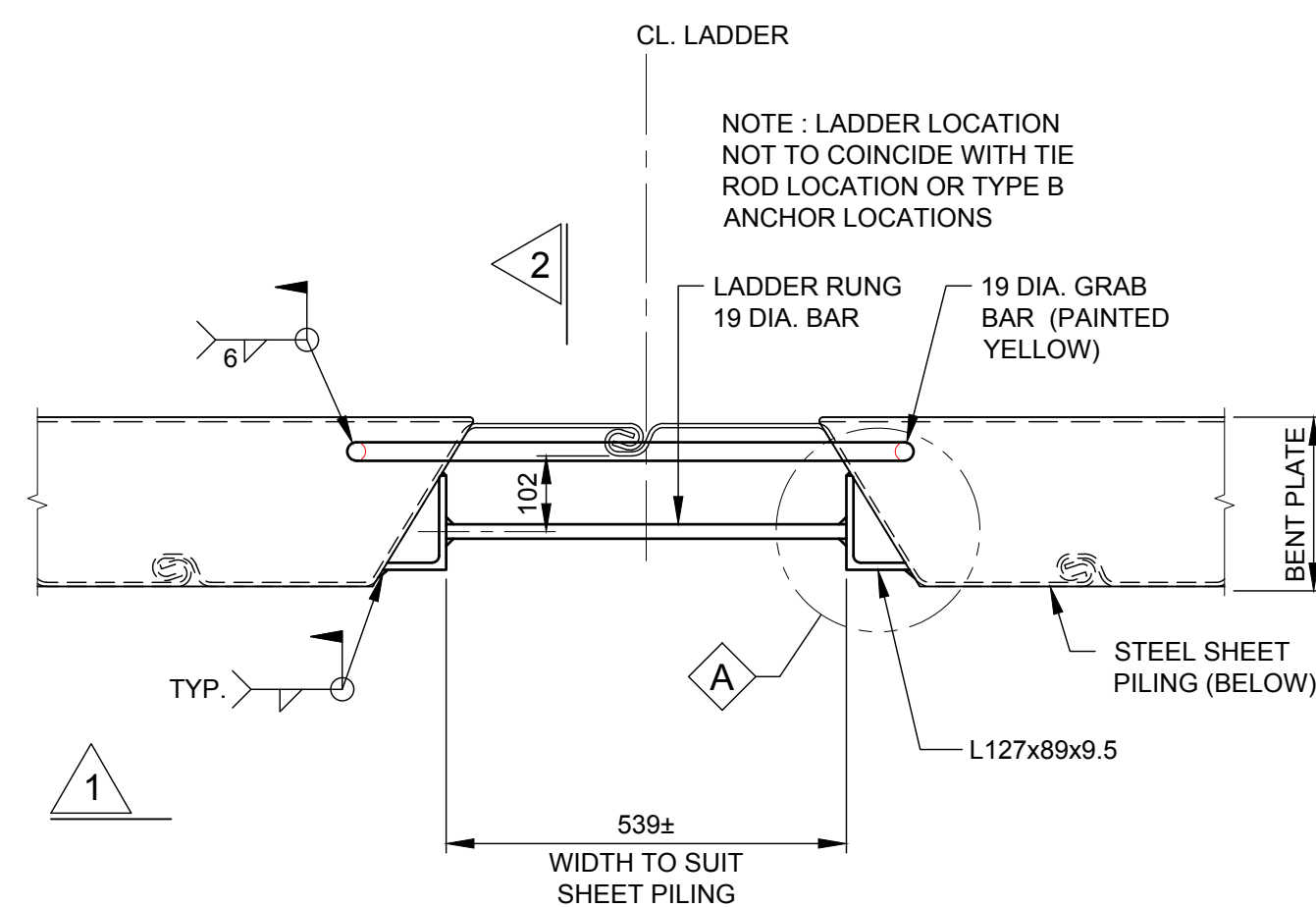
WHARF REHABILITATION

DESCRIPTION:
PILING DETAILS

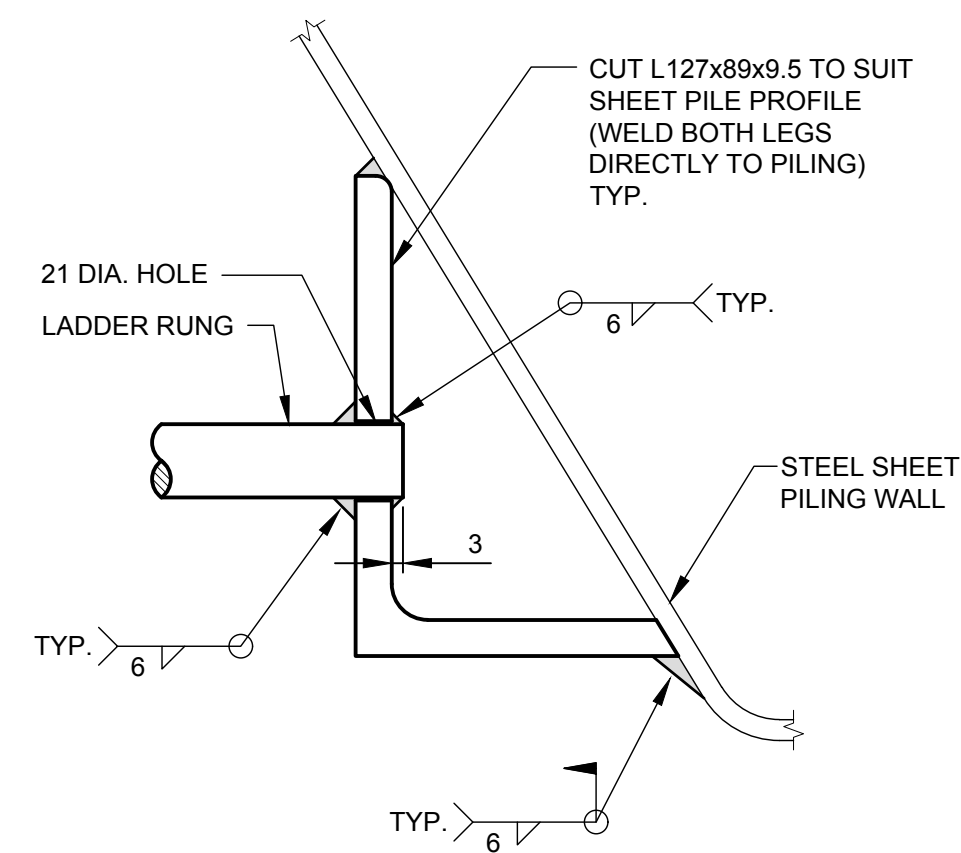
DRAWN: T.G.	APPROVED: J.P.
DATE: 2019	DATE: SEPTEMBER 2019

LOCATION:
HOWDENVALE ONTARIO

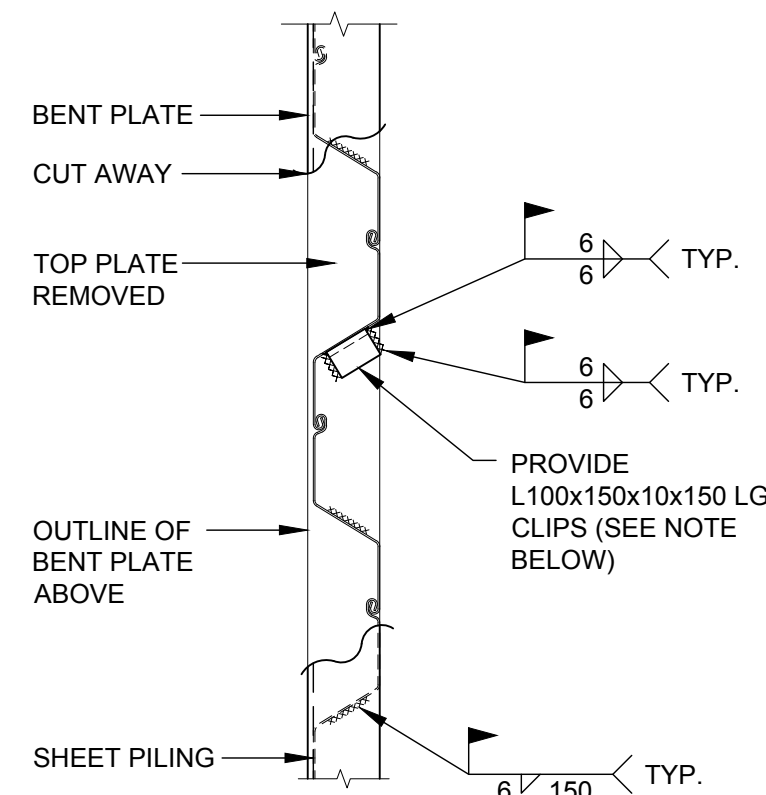
DRAWING NO.: S-10	LOCATOR CODE: 4639
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PLAN
1:10

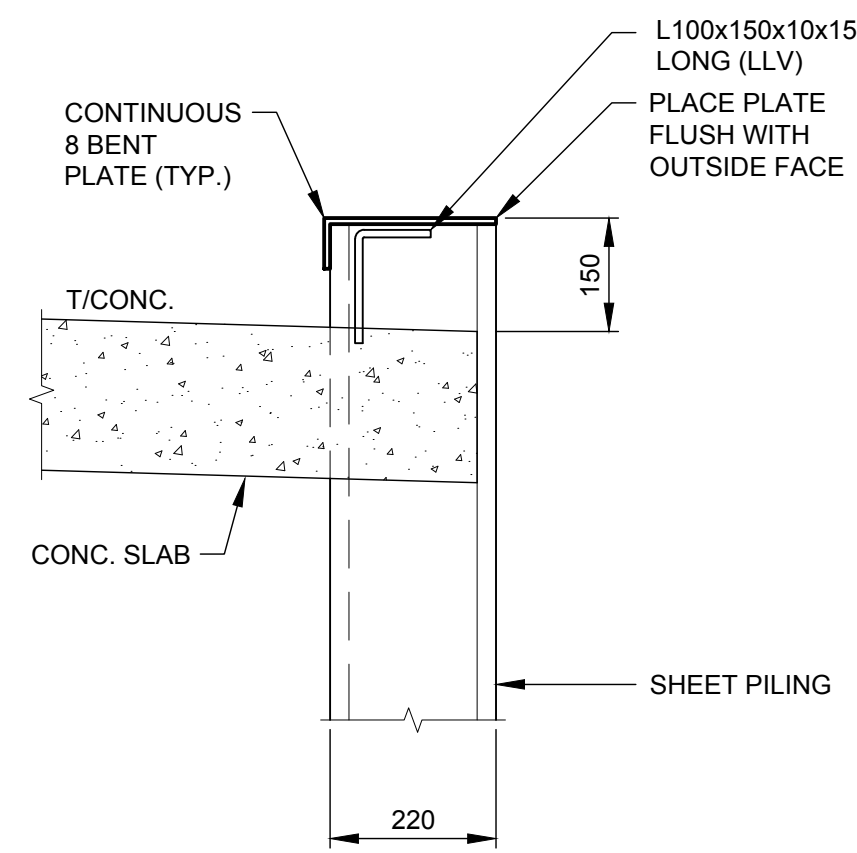


A DETAIL
1:2

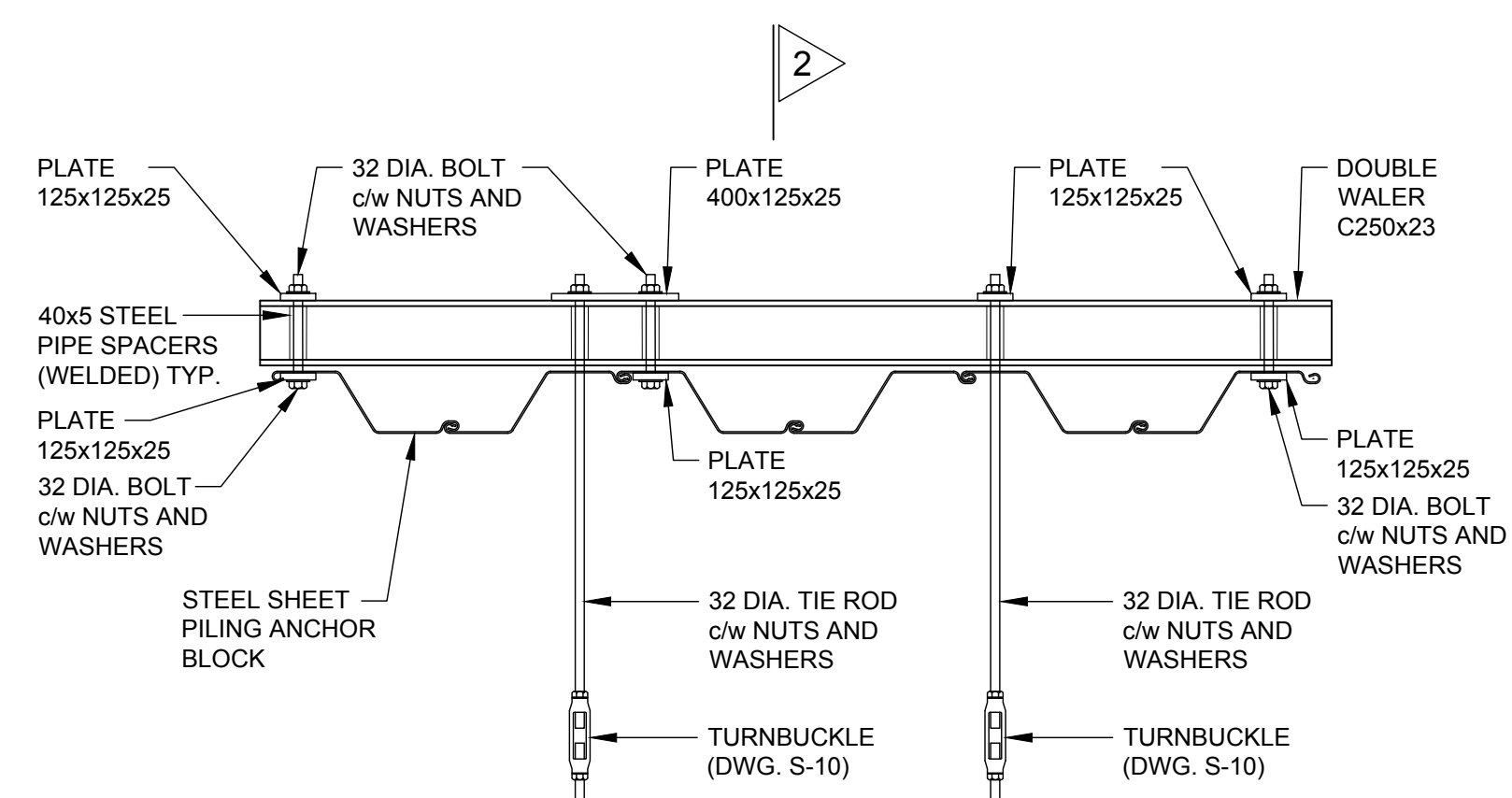


NOTE :
PROVIDE L100x150x10x150 LG CLIPS (LONG LEG VERTICAL), AS REQUIRED, AS A SECONDARY SOLUTION IN LIEU OF THE WELDING DETAIL BELOW, TO ENSURE CONTACT BETWEEN UNDERSIDE OF STEEL CAP AND TOP OF STEEL SHEET PILING TO FACILITATE WELDING.

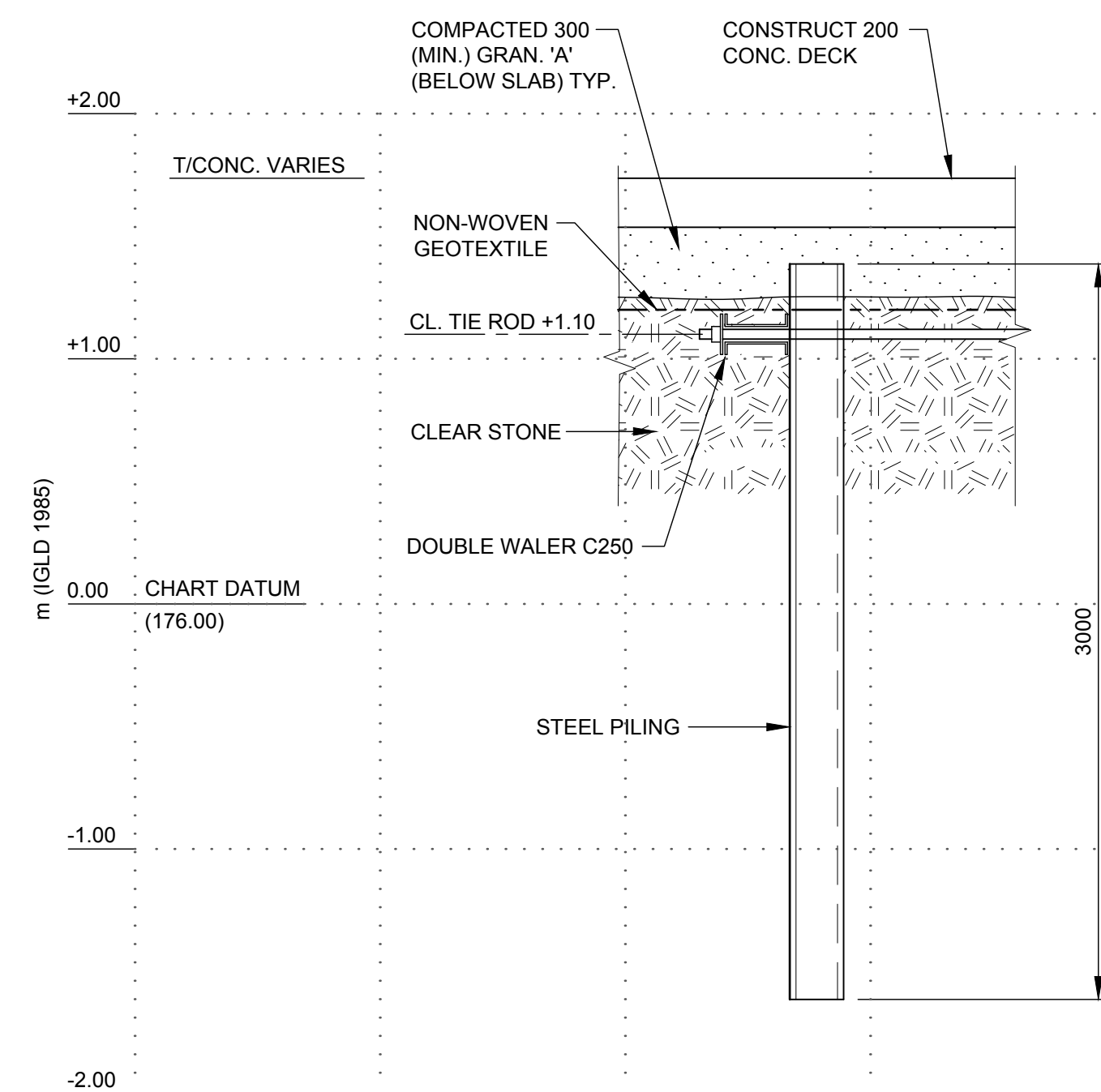
PLAN
1:25



BENT PLATE CAP DETAIL



PLAN
1:25



SECTION
1:25

ANCHOR BLOCK DETAIL
(FOR LOCATION SEE DWG. S-006)

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION



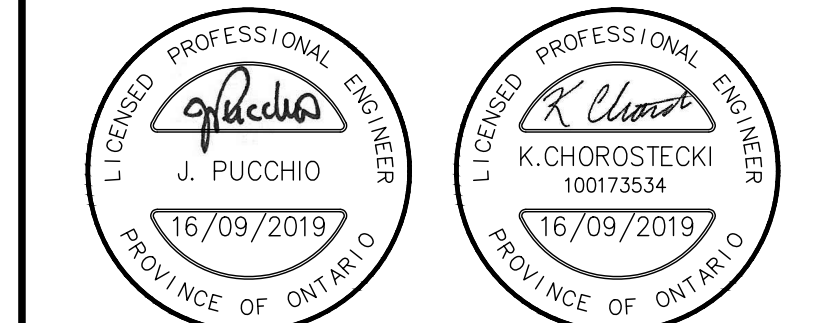
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NOTES:

1. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-1.
2. STEEL CAP SHALL RECEIVE AN EPOXY COATING (AS PER SPECIFICATIONS). TOUCH UP COATINGS FOLLOWING INSTALLATION.
3. WHERE VOIDS IN FILL MATERIALS ARE OBSERVED, UNDERTAKE THE FOLLOWING : FILL WITH CLEAR STONE.
4. PROVIDE TEMPORARY SUPPORT TO STEEL SHEET PILING UNTIL BACKFILLED AND FULLY SUPPORTED ON BOTH SIDES.
5. FIELD WELD ALL PLATE ATTACHMENTS, UNLESS OTHERWISE NOTED OR APPROVED (MINIMUM 6 mm FILLET WELD ALL AROUND).



REVISION:		
No.	REVISIONS	DATE
0	ISSUED FOR TENDER	09/16/2019

SCALE:	CLASS:
AS NOTED	

PROJECT:
SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

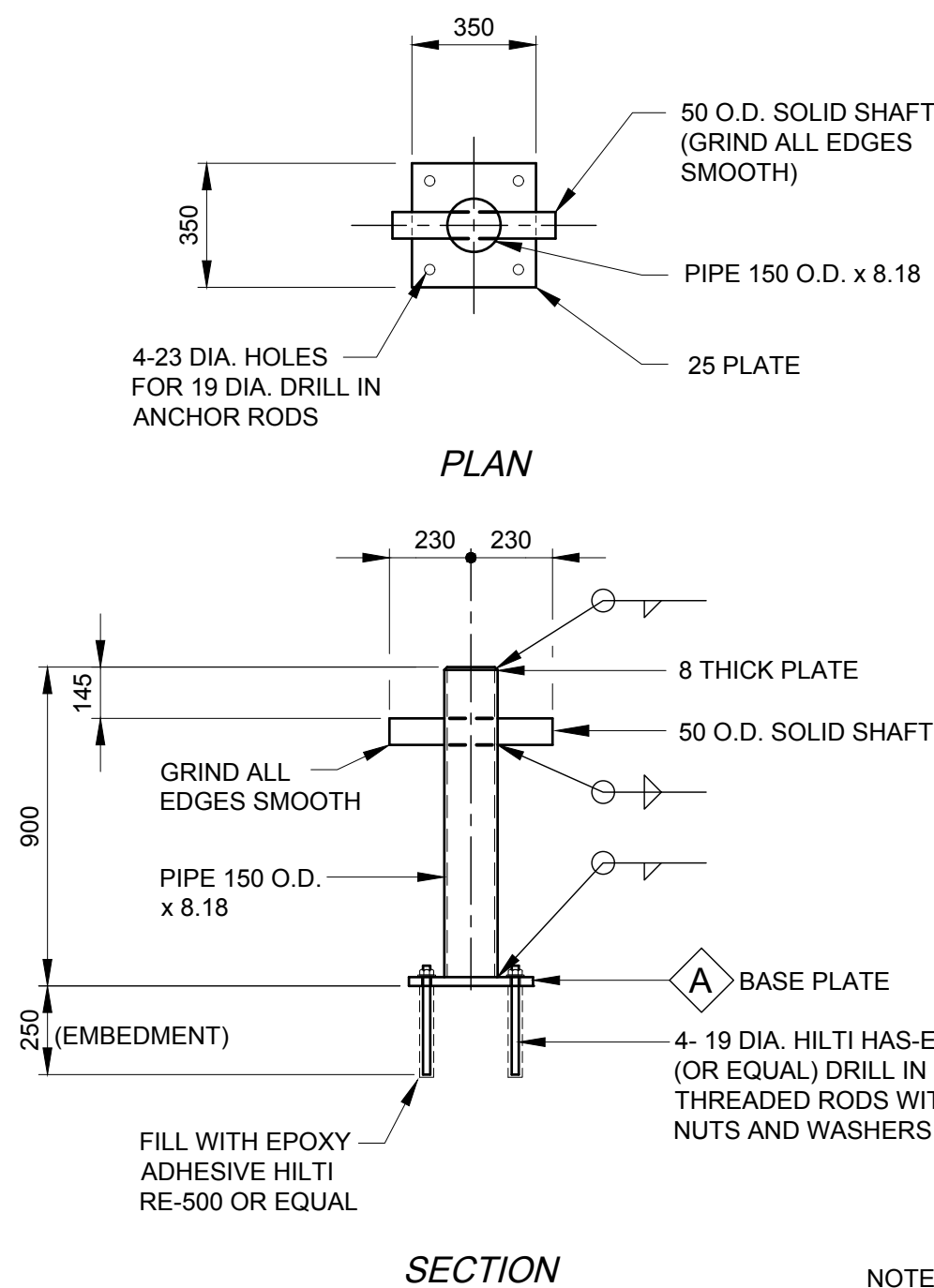
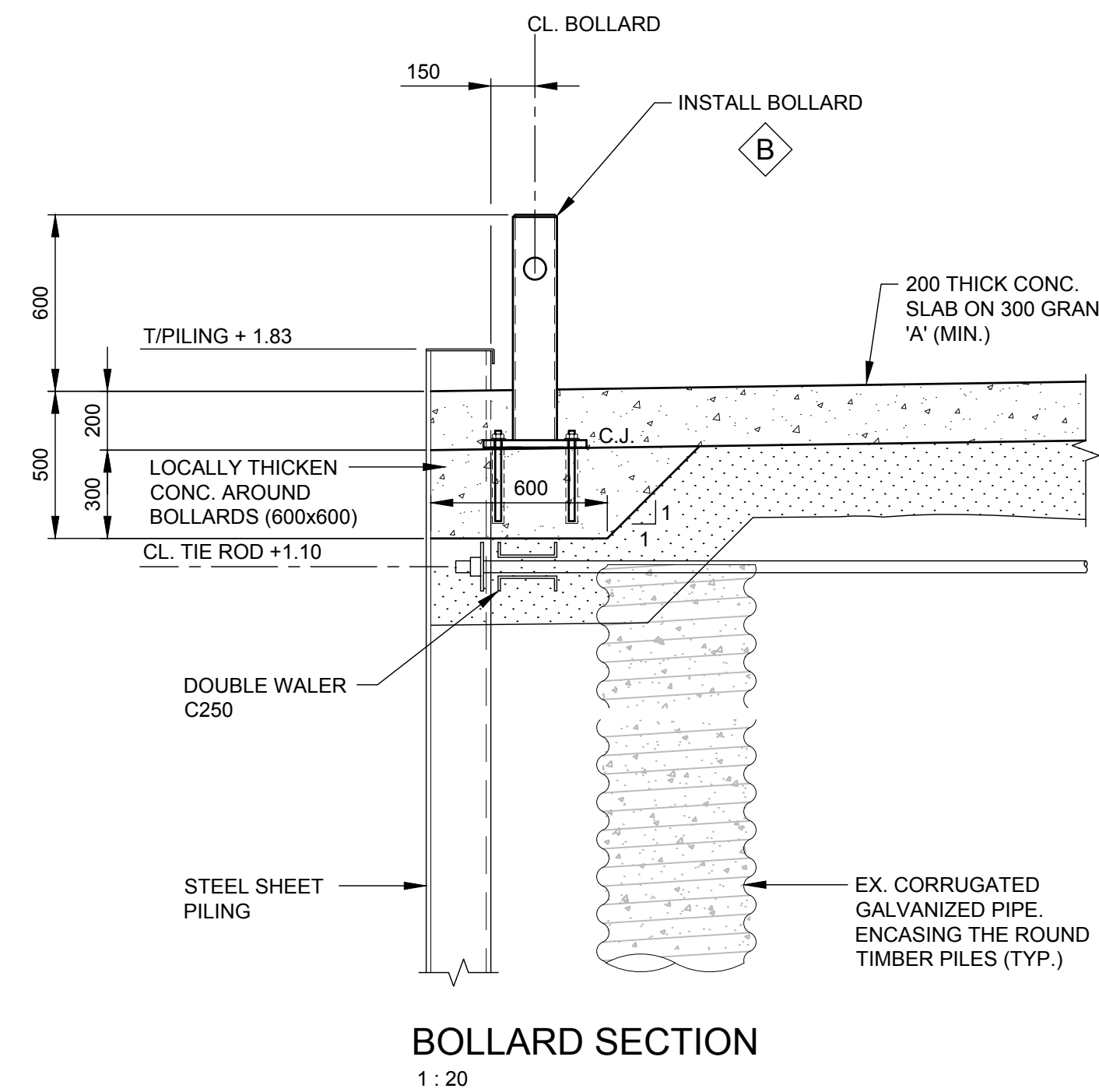
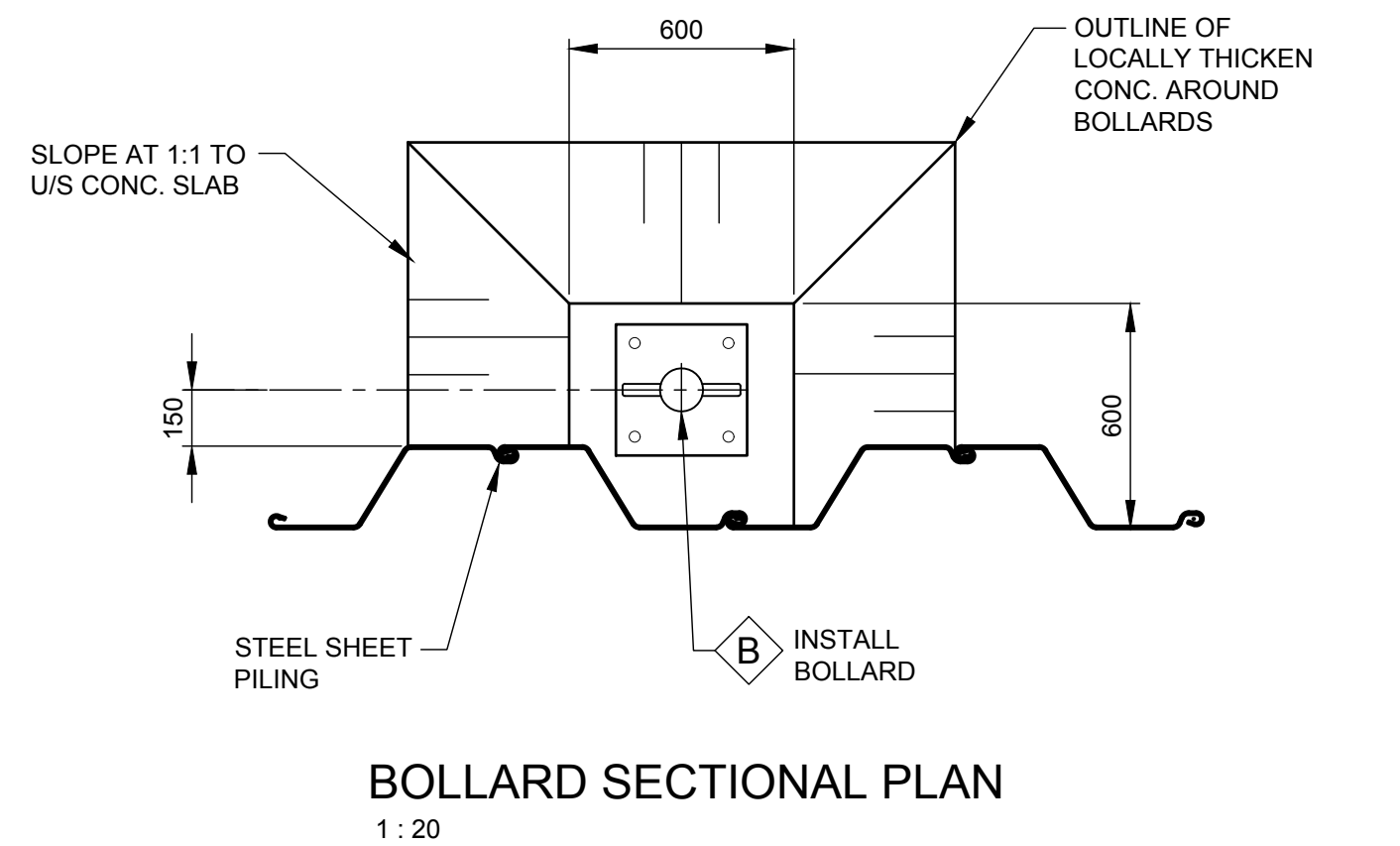
WHARF REHABILITATION

DESCRIPTION:
MISCELLANEOUS
DETAILS - 1

DRAWN: T.G.	APPROVED: J.P.
DATE: 2019	DATE: SEPTEMBER 2019

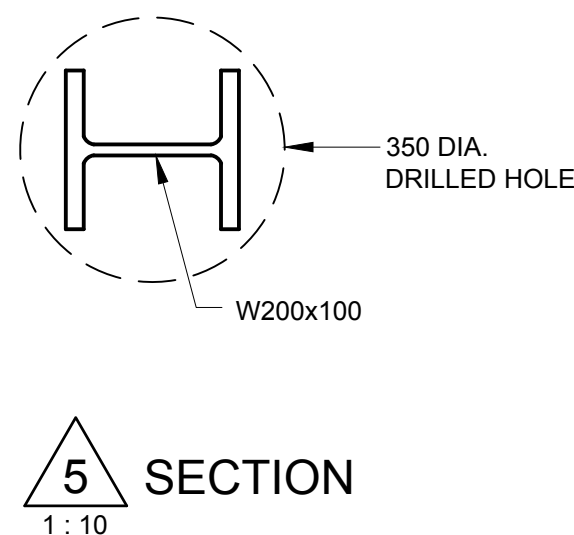
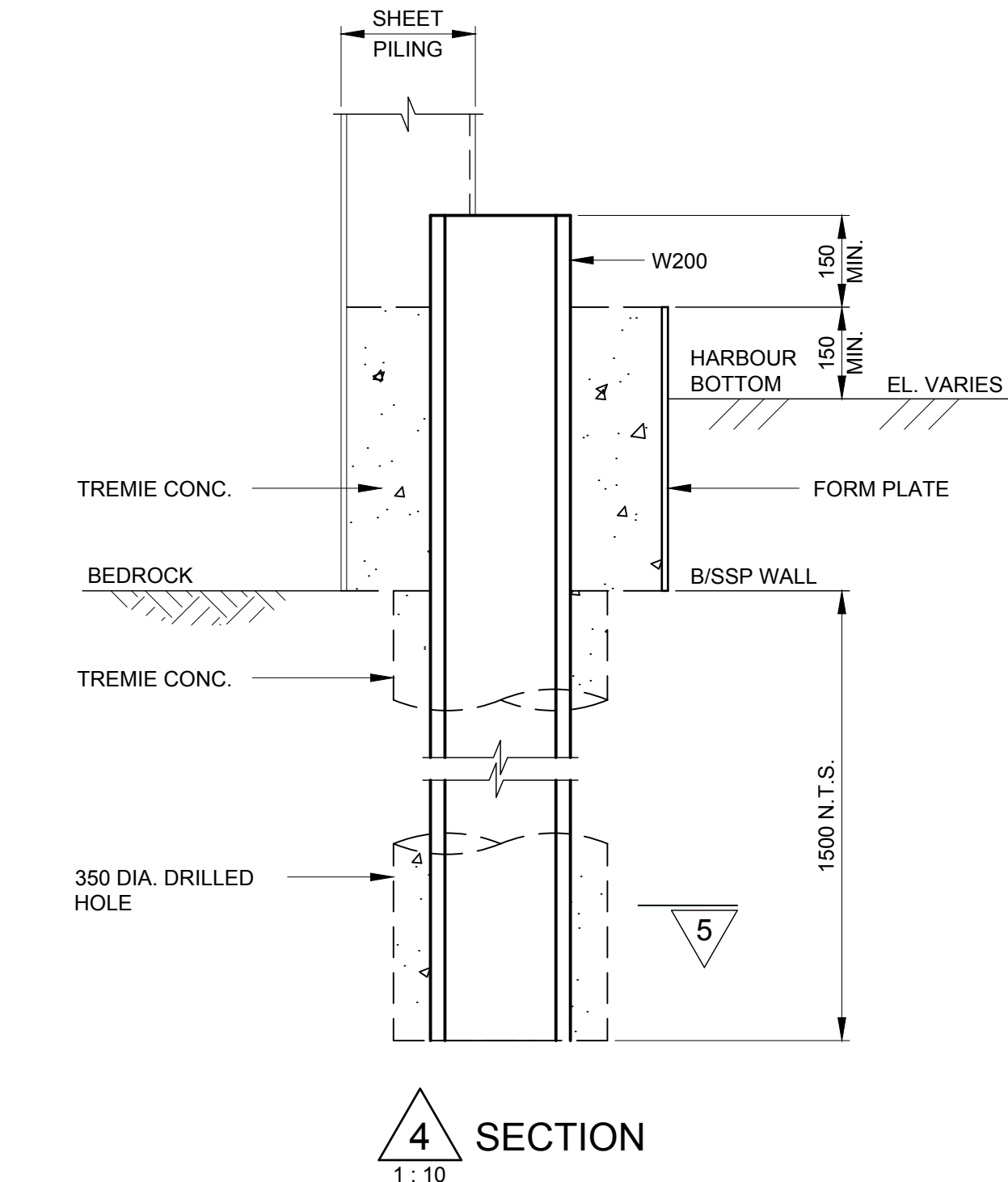
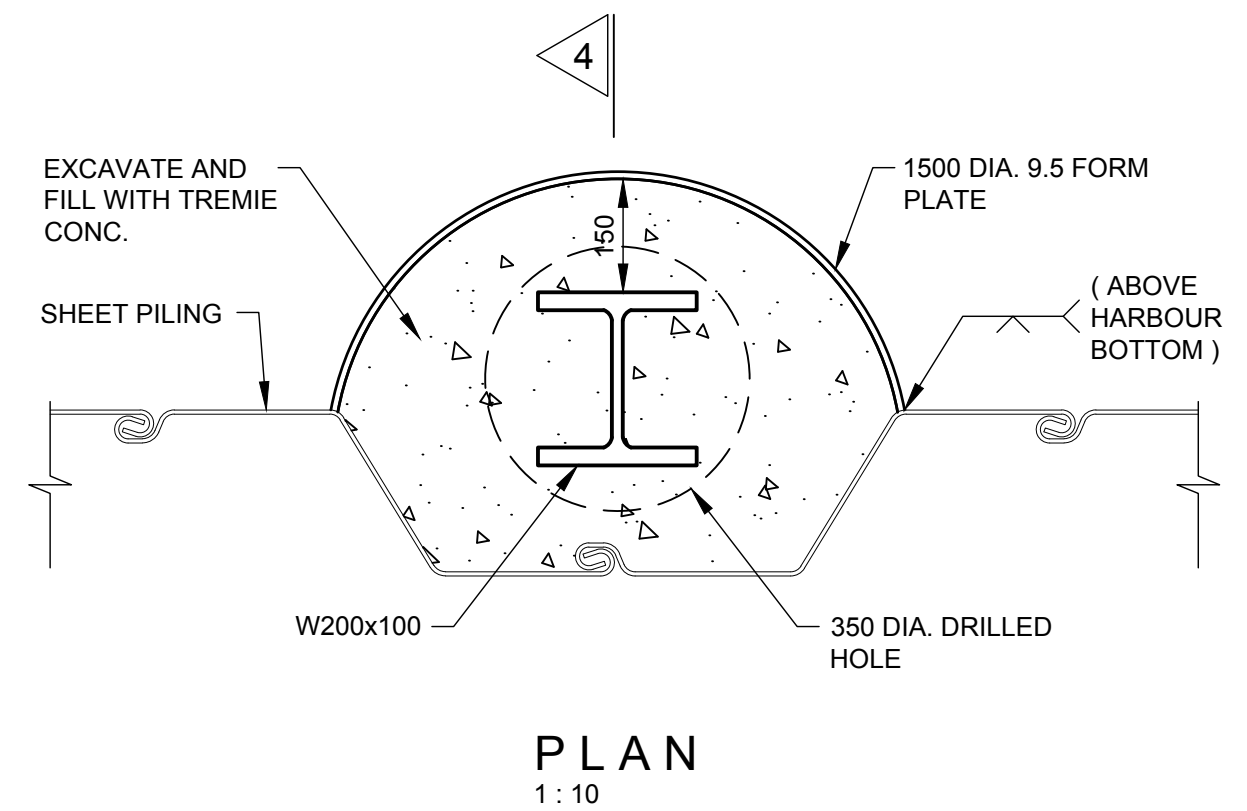
LOCATION:
HOWDENVALE ONTARIO

DRAWING NO.: S-11	LOCATOR CODE: 4639
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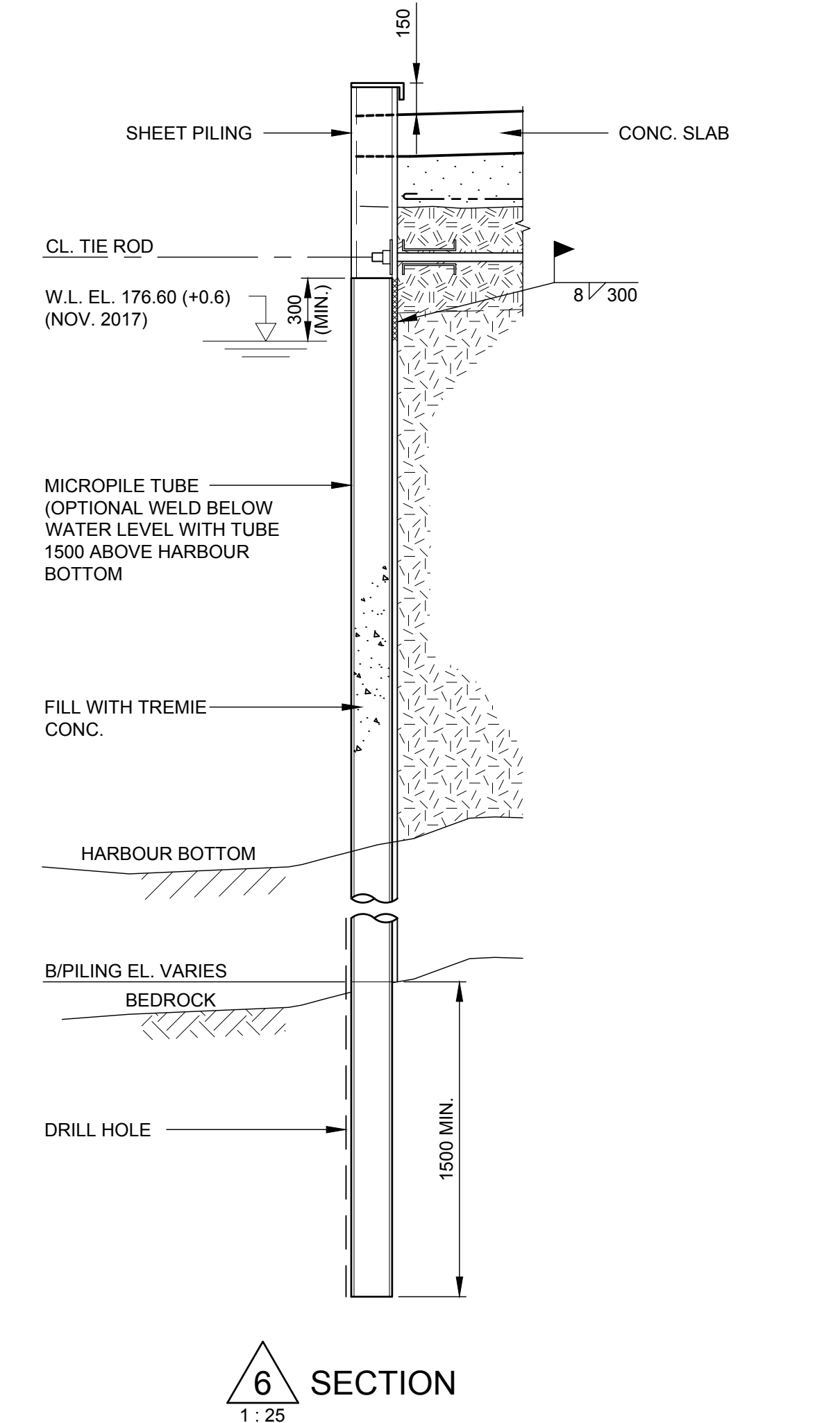
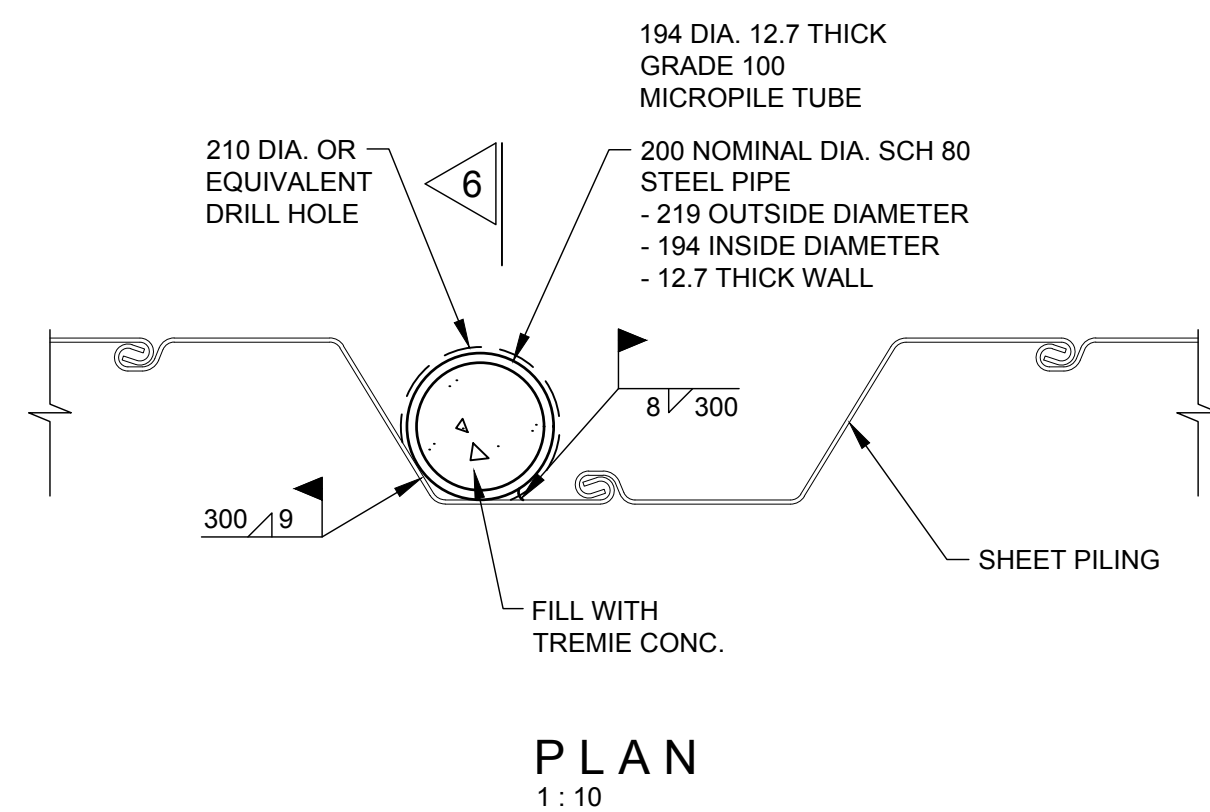


B BOLLARD DETAIL
1:20


- NOTES :
1. ALL MATERIALS TO BE GALVANIZED.
 2. RODS : GRADE 385 (55 GRADE)




SHEET PILE TOE ANCHOR TYPE 'A'



SHEET PILE TOE ANCHOR TYPE 'B'




GOVERNMENT OF CANADA
FISHERIES AND OCEANS



GOUVERNEMENT DU CANADA
PÊCHES ET Océans

Small Craft Harbours
Ports pour petits bateaux



AECOM

London, Ontario
519.673.0510

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NOTES:

1. FOR NOTES, ABBREVIATIONS AND LEGENDS SEE DRAWING S-1.

2. FIELD WELD ALL PLATE ATTACHMENTS, UNLESS OTHERWISE NOTED OR APPROVED (MINIMUM 6 mm FILLET WELD ALL AROUND).

3. ALL STEEL SHALL BE HOT DIPPED GALVANIZED TO CSA STANDARD ASTM A123.

4. CONTRACTOR TO SELECT SHEET PILE ANCHOR DETAIL TYPE 'A' OR TYPE 'B'.

5. DIMENSIONS OF MICROPILE TUBE IS PERMITTED TO VARY BY ± 10% DEPEND ON STOCK SECTIONS.

6. ALL UNITS IN mm UNLESS OTHERWISE NOTED.

LICENCED PROFESSIONAL ENGINEER
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100173534
16/09/2019
PROVINCE OF ONTARIO

LICENCED PROFESSIONAL ENGINEER
K. CHOROSTECKI
100173534
16/09/2019
PROVINCE OF ONTARIO

REVISION:

No.	REVISIONS	DATE
0	ISSUED FOR TENDER	09/10/2019

SCALE:

CLASS:

PROJECT:

SMALL CRAFT HARBOURS
CENTRAL AND ARCTIC REGION
HOWDENVALE, ONTARIO

WHARF REHABILITATION

DESCRIPTION:

MISCELLANEOUS
DETAILS - 2

DRAWN:

T.G.

APPROVED:

J.P.

DATE:

2019

DATE:

SEPTEMBER 2019

LOCATION:

HOWDENVALE ONTARIO

DRAWING NO.:

S-12

LOCATOR CODE:

4639