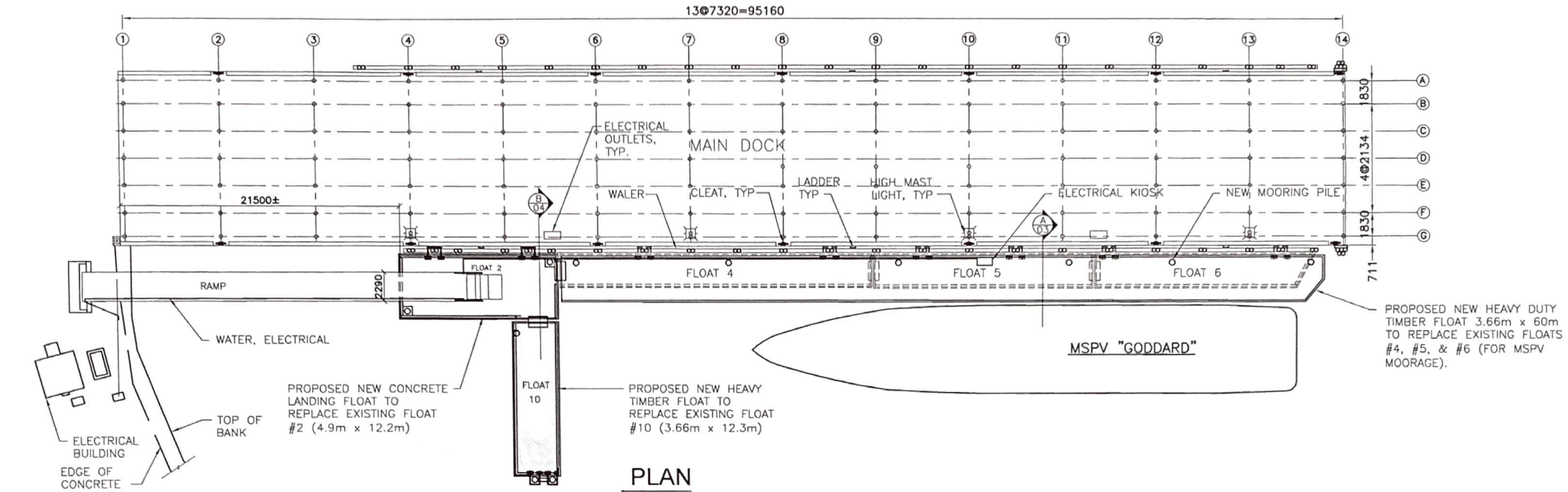
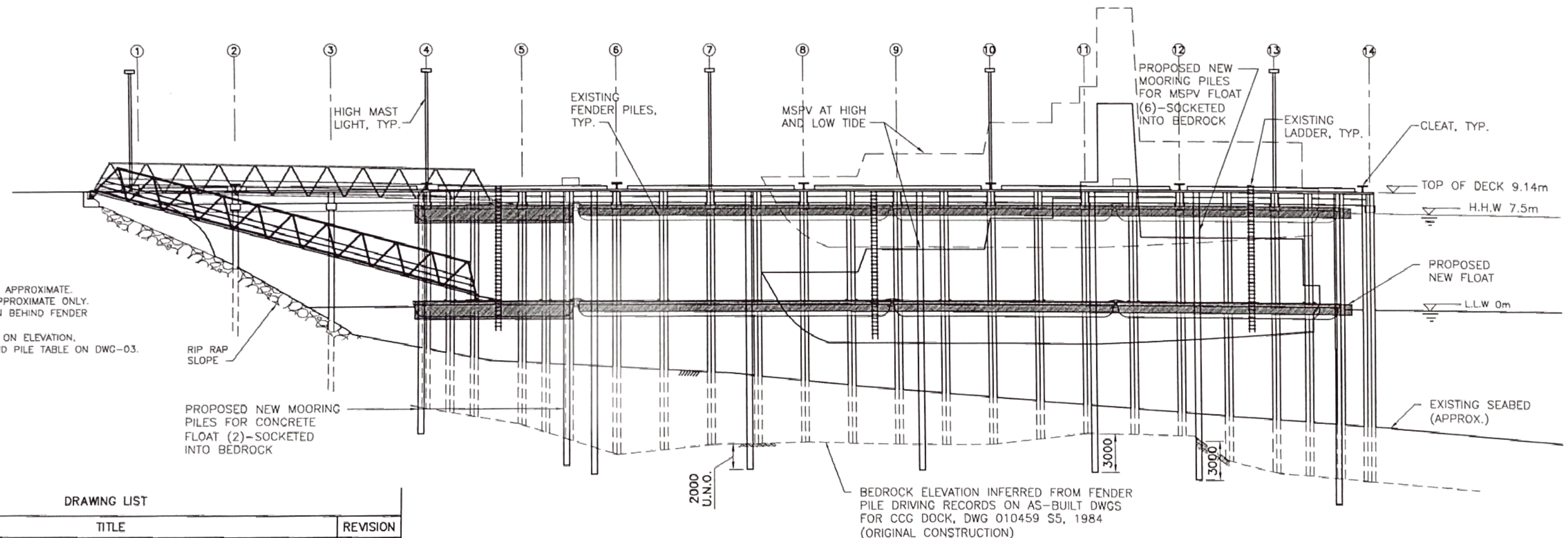


PLAN
1:400



ELEVATION
1:400

NOTES:
1. SHORELINE AND SEABED APPROXIMATE.
2. SHAPE OF VESSEL IS APPROXIMATE ONLY.
3. DOCK PILES NOT SHOWN BEHIND FENDER PILES ON ELEVATION.
4. FLOAT #10 NOT SHOWN ON ELEVATION.
5. SEE GENERAL NOTES AND PILE TABLE ON DWG-03. (B)

NOTE:
- IF OVERBURDEN ≥ 4m, SOCKET DEPTH = 2m
- IF OVERBURDEN < 4m, SOCKET DEPTH = 3m

0 1m 5m 10m 20m

DRAWING LIST

DWG. #	TITLE	REVISION
E968–01	NEW FLOATS – GENERAL ARRANGEMENT	B
E968–02	NEW FLOATS – PLANS: NEW VS. EXISTING	B
E968–03	NEW FLOAT FOR MSPV – SECTION A, NOTES	B
E968–04	NEW FLOATS #2 AND #10 – SECTION B	A
E968–05	NEW FLOATS – PLAN DETAILS	B
E968–06	NEW FLOAT FOR MSPV – FLOAT AND PILE WELL DETAILS	B
E968–07	NEW FLOAT FOR MSPV – CLEAT REINFORCEMENT DETAILS, SHEET 1	B
E968–08	NEW FLOAT FOR MSPV – CLEAT REINFORCEMENT DETAILS, SHEET 2	A
E968–09	NEW CONCRETE FLOAT (FLOAT #2) – PLANS	B
E968–10	NEW CONCRETE FLOAT (FLOAT #2) – REINFORCING DETAILS	A
E968–11	PILE BRACKETS AND TRANSITION PLATES – DETAILS	A

(B)

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

A	ISSUED FOR TENDER	FEB. 2020
B	NEW DWG–11 ADDED TO DRAWING LIST	JUL. 2020

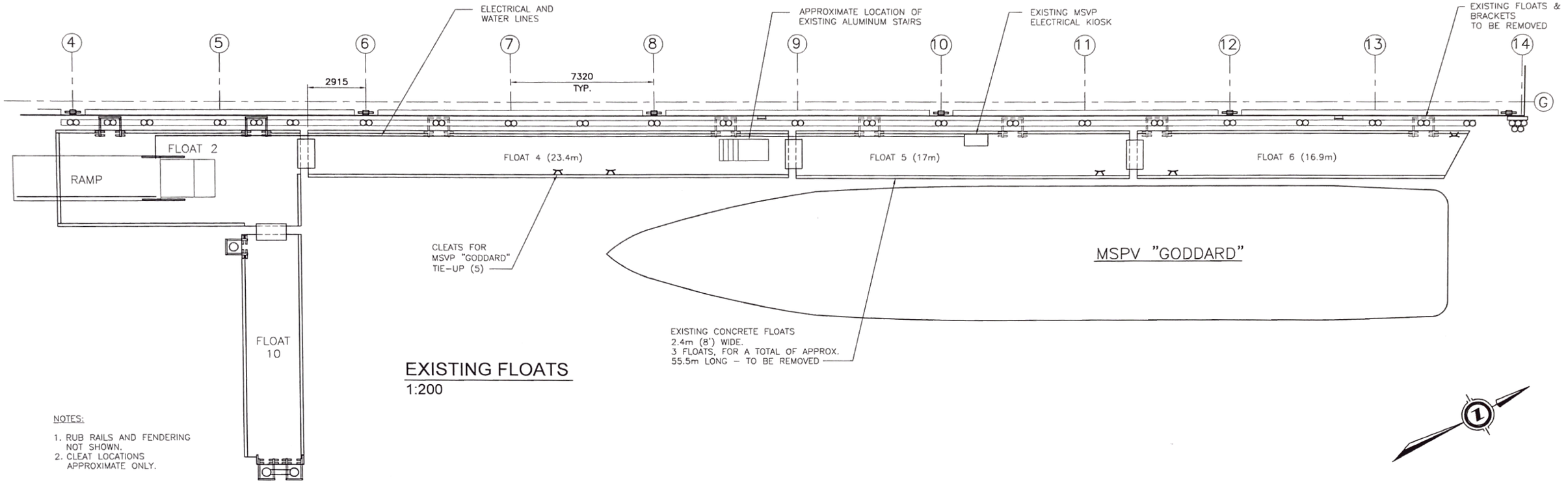
Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW FLOATS – GENERAL ARRANGEMENT
Client: DFO – REAL PROPERTY
Scale: 1:400
Drwn: LB/CW Chkd: JT Dwg: E968–01
Date: JAN. 2019
B

PROFESSIONAL ENGINEER J. D. TONEFF 15/07/20

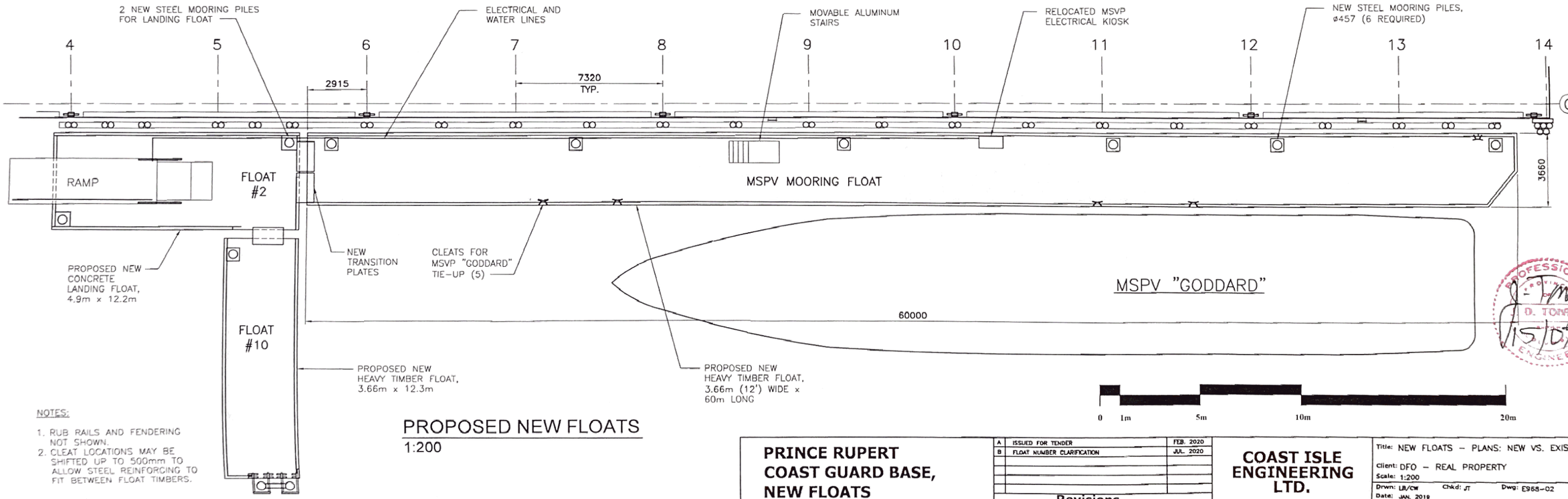
Wednesday, July 15, 2020 4:42:27 PM



EXISTING FLOATS
1:200

NOTES:

1. RUB RAILS AND FENDERING NOT SHOWN.
2. CLEAT LOCATIONS APPROXIMATE ONLY.



PROPOSED NEW FLOATS
1:200

NOTES:

1. RUB RAILS AND FENDERING NOT SHOWN.
2. CLEAT LOCATIONS MAY BE SHIFTED UP TO 500mm TO ALLOW STEEL REINFORCING TO FIT BETWEEN FLOAT TIMBERS.

PROFESSIONAL ENGINEER
J. TONER
11/5/20

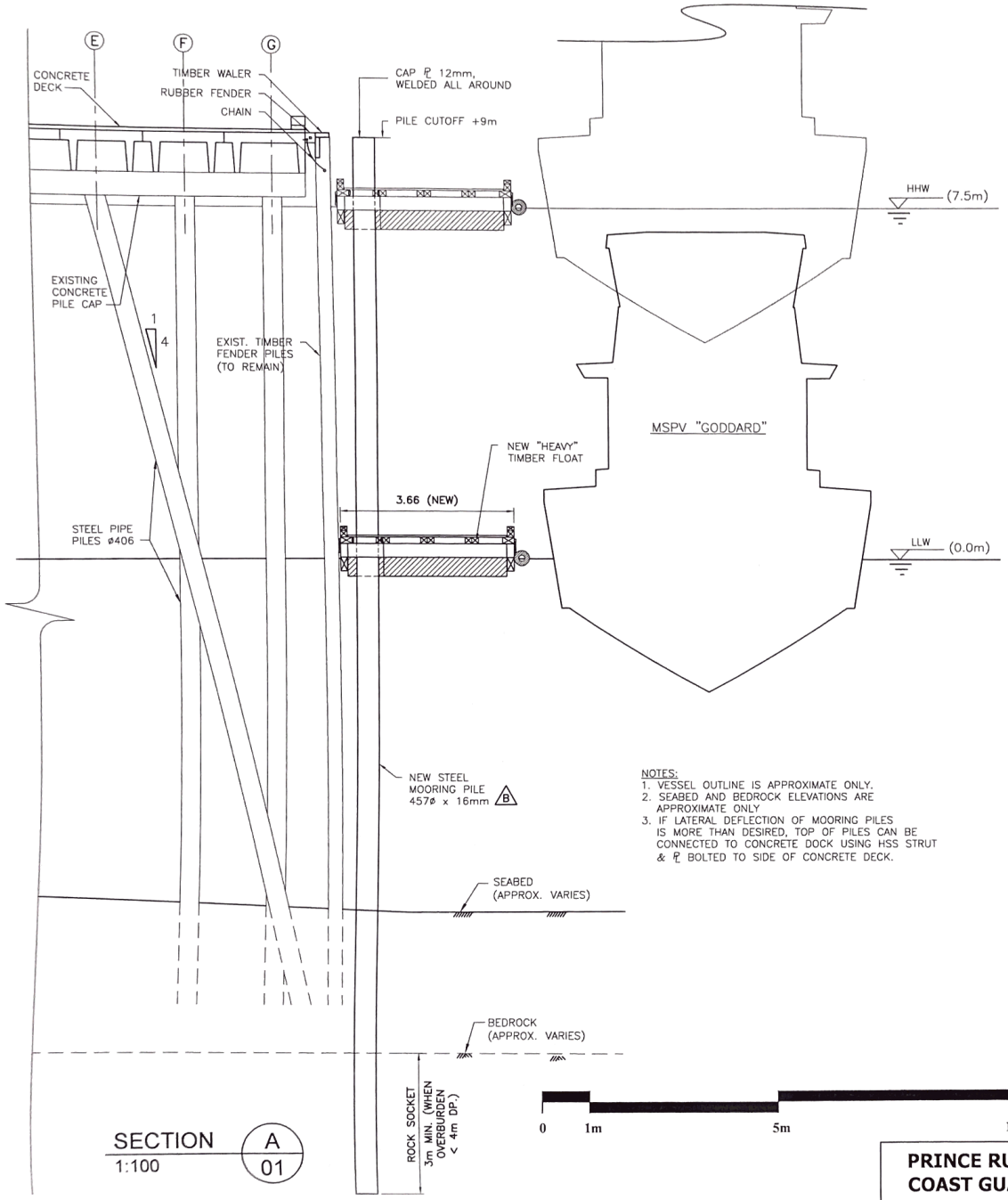
PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

	Revisions	
A	ISSUED FOR TENDER	FEB. 2020
B	FLOAT NUMBER CLARIFICATION	JUL. 2020

COAST ISLE ENGINEERING LTD.

Title: NEW FLOATS – PLANS: NEW VS. EXISTING
Client: DFO – REAL PROPERTY
Scale: 1:200
Drwn: LB/CW Chkd: JT Dwg: E968-02
Date: JAN. 2019
8

Plotted: Apr 15, 2020 4:42:27 PM



SECTION A
1:100

NOTES:
1. VESSEL OUTLINE IS APPROXIMATE ONLY.
2. SEABED AND BEDROCK ELEVATIONS ARE APPROXIMATE ONLY
3. IF LATERAL DEFLECTION OF MOORING PILES IS MORE THAN DESIRED, TOP OF PILES CAN BE CONNECTED TO CONCRETE DOCK USING HSS STRUT & ℄ BOLTED TO SIDE OF CONCRETE DECK.

NOTES

GENERAL:
1. All dimensions are in mm, unless noted otherwise. Elevations are in metres, to tide and chart datum (0 = LLW).
2. See specifications for material and fabrication requirements.

DESIGN CRITERIA:
1. Maximum uniform live load on ramp and floats to be 1.4 kPa (30 psf).
2. Maximum ATV/utility vehicle load on ramp, and concrete float is 17.8 kN (4,000 lb). Vehicle capacity of heavy timber floats will be lower; allowable vehicle load on timber floats to be confirmed.
3. Lateral design load on floats & mooringpiles (wind + wave) to be min 2 kN/m (137 lb/ft).

TIMBER FLOAT FOR MSPV MOORAGE:
1. New heavy timber floats are to be supplied by the contractor. Timber layout dimensions are taken from DFO drawings FM12–HV, "3.657m Wide Heavy Float Module Assembly", 2005 and 2011 revisions (see Reference Drawings). Confirm all dimensions before construction. New floats may require more than the usual amount of floatation in these heavy duty floats because of the additional steel reinforcement. Confirm weight of permanent items to be installed on the floats before fabrication, including steel reinforcement at cleat locations and adjust floatation as necessary.
2. Float freeboard to be approximately 450 mm before installation of any items on deck (but allowing for steel reinforcement in float structure).
3. See specifications for float material and assembly requirements.
4. Confirm location for mooring piles (6) and cleats (5) with float fabricator before fabrication.
5. Cleats for MSPV are to be located to suit requirements of Canada Coast Guard vessel, the Goddard. Exact location of cleats may be adjusted by +/– 500 mm to suit float structure and allow installation of steel framing/reinforcement without interference with existing bolts in float. These locations must be confirmed and approved by CCG personnel before fabrication.

B 6. Run electrical cables in conduit on surface of deck along west side of float.

7. Additional holes will have to be drilled for steel reinforcement around cleats and for pile well timbers. All holes to be drilled before treatment of timber. If any holes must be drilled on site after treatment, they must be approved by Departmental Representative and are to be treated with minimum two coats of preservative while dry and bolt to be dipped in preservative before installation.

CONCRETE FLOAT FOR RAMP SUPPORT:
1. See specifications for concrete and fabrication requirements.
2. Weight of existing steel ramp (2.13 m wide x 30.7 m long), calculated to be approximately 11,000 kg (to be confirmed by test lift before construction).
3. Freeboard of new float (with ramp dead load on the float) to be not less than 450 mm.

STEEL MOORING PILES:
1. See specifications for material, fabrication and coating requirements, as well as piledriving requirements.
2. New steel mooring piles for MSPV Float are to be located to suit float structure. The pile spacing decreases towards the north end of the float to account for greater water depth. Exact locations of mooring piles are to be reviewed with float fabricator before fabrication.

B 3. All new steel piles to have hanging anodes installed. Anodes to be cast aluminum, 76 mm diameter x 1524 mm long, cast onto 14mm galvanized cable. Plate tabs 100 x 100 x 9.5 mm with 2 pairs of holes for cable clips to be welded to piles, above high water. Anode to hang below low water elevation. Chemical composition of aluminum anode to be submitted for review before ordering.

4. Survey to confirm location of existing mooring piles for Float #10 (3). Provide 2 brackets to attach 2 mooring piles at east end of float.

B

PILE TABLE					
PILE LOCATION (REFER TO WHARF GRID LINES)	FLOAT	APPROX. DEPTH OF SEABED (m)	APPROX. DEPTH OF BEDROCK (m)	EXPECTED SOCKET LENGTH (m) MIN.	EXPECTED PILE LENGTH (m) (ALLOW 2m FOR CUTOFF)
4	LANDING FLOAT #2 (SE)	–4.0	–9 (EST)	2	22
5.5	LANDING FLOAT #2 (NW)	–4.5	–10	2	23
5.7	MSPV FLOAT (S)	–4.5	–11	2	24
7.4	MSPV FLOAT	–5.5	–11	2	24
9.3	MSPV FLOAT	–6.5	–11	2	24
11.1	MSPV FLOAT	–7.5	–10	3	24
12.2	MSPV FLOAT	–8.0	–10	3	24
13.7	MSPV FLOAT (N)	–8.5	–13	2	26
5.1	FLOAT #10 (SW)	–4.0	–	0	REUSE EXISTING

NOTES:
1. DEPTHS ARE TO CHART DATUM (0=LLW).
2. DEPTHS ARE APPROXIMATE ONLY. THEY ARE TAKEN FROM 1984 FENDER PILE RECORDS AND TEST PILE INFO FOR CONSTRUCTION OF MAIN WHARF. ADDITIONAL PILE LENGTH SHALL BE ON HAND IN CASE CONDITIONS VARY.
3. IF PILE LOCATIONS ARE SHIFTED TO ACCOMMODATE FLOAT GEOMETRY, SEABED AND ROCK DEPTHS MAY CHANGE ALSO.
4. IF OVERBURDEN DEPTH > 4m, REQUIRED MINIMUM SOCKET DEPTH = 2m.
   IF OVERBURDEN DEPTH < 4m, REQUIRED MINIMUM SOCKET DEPTH = 3m.

PROFESSIONAL ENGINEER D. TONEFF 15/07/20

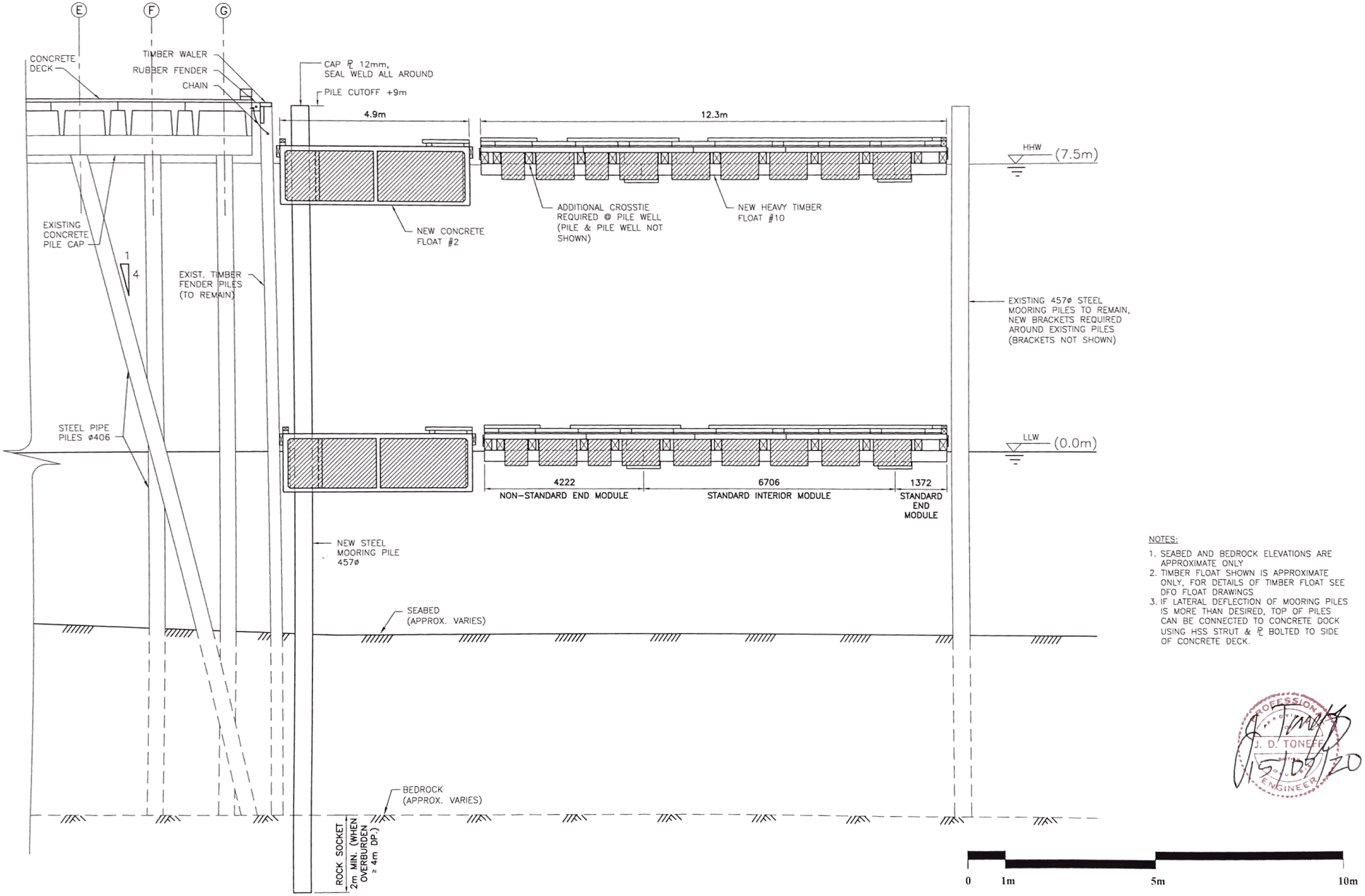
PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

A	ISSUED FOR TENDER	FEB. 2020
B	PILE THICKNESS INCREASE, PAINT DELETED, PILE TABLE	JUL. 2020

Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW FLOAT FOR MSPV – SECTION A, NOTES
Client: DFO – REAL PROPERTY
Scale: 1:100
Drwn: LB Chkd: JT Dwg: E968–03
Date: JAN. 2019
8



NOTES:

1. SEABED AND BEDROCK ELEVATIONS ARE APPROXIMATE ONLY.
2. TIMBER FLOAT SHOWN IS APPROXIMATE ONLY, FOR DETAILS OF TIMBER FLOAT SEE DFO FLOAT DRAWINGS
3. IF LATERAL DEFLECTION OF MOORING PILES IS MORE THAN DESIRED, TOP OF PILES CAN BE CONNECTED TO CONCRETE DOCK USING HSS STRUT & ℄ BOLTED TO SIDE OF CONCRETE DECK.

PROFESSIONAL ENGINEER J. D. TONEFF 15/04/20

SECTION B 01
1:100

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

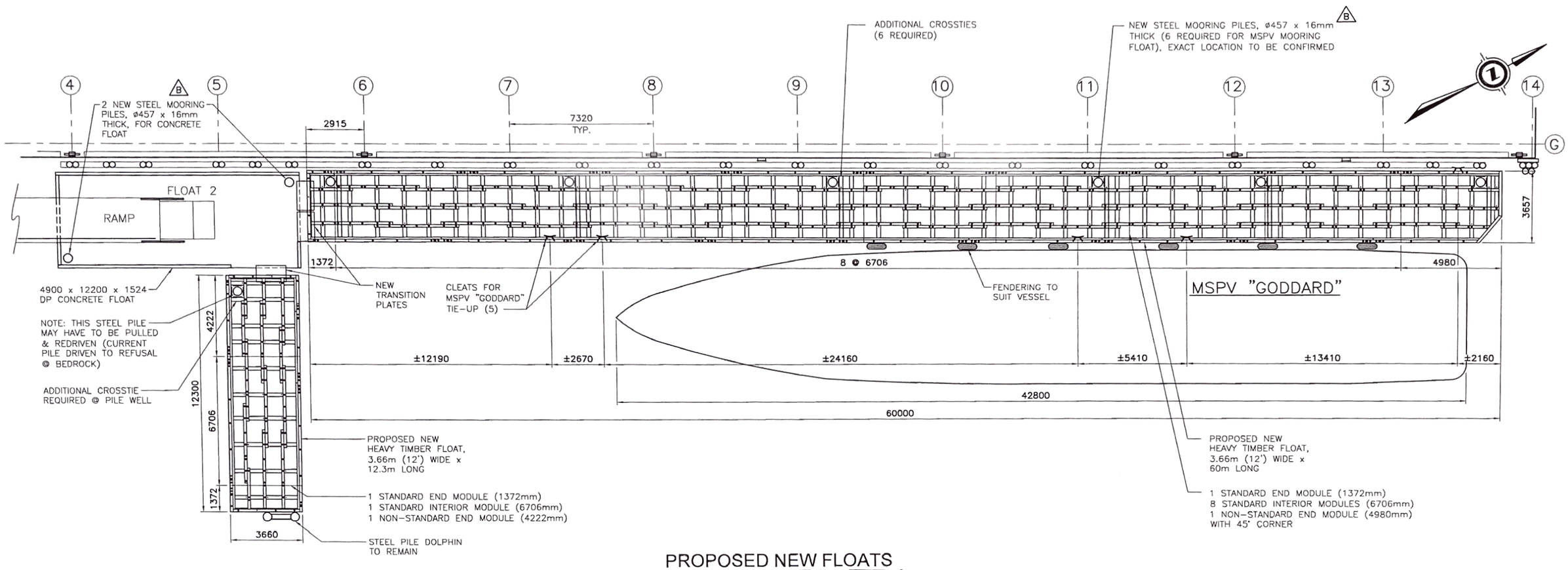
A	ISSUED FOR TENDER	FEB. 2020

Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW FLOATS #2 AND #10 – SECTION B
Client: DFO – REAL PROPERTY
Scale: 1:100
Drwn: CW Chkd: JT Dwg: E968-04
Date: NOV. 2019
A

Apr 15, 2020 4:42:27 PM



PROPOSED NEW FLOATS
1:200

NOTES:

1. RUB RAILS AND FENDERING NOT SHOWN.
2. CLEAT LOCATIONS TO ACCOMMODATE STEEL REINFORCING FRAMES BETWEEN FLOAT TIMBERS. APPROXIMATE DIMENSIONS BETWEEN CLEATS SHOWN. CLEAT LOCATIONS TO BE CONFIRMED & APPROVED BY CCG PERSONNEL BEFORE FLOAT FABRICATION. ADJUST DEPTH OF FLOATATION BILLETS AROUND CLEAT REINFORCING TO ACCOMMODATE ADDITIONAL WEIGHT OF STEEL & KEEP FREEBOARD UNIFORM.

NOTES FOR FRP GRATING REQUIRED ON HEAVY TIMBER FLOATS: (B)

1. FIBERGLASS GRATING DECK REQUIRED FOR MSPV MOORING FLOAT AND FOR FLOAT#10. GRATING TO BE STRONGWELL DURAGATE MINI MESH OR APPROVED EQUAL. GRATING TO BE 38mm DEEP, HAVE 19mm (MAX) MESH OPENING ON TOP, BE ABLE TO SAFELY SPAN 914mm BETWEEN JOISTS WITH 4.8kPa UNIFORM LIVE LOAD OR ATV WHEEL LOAD (MAGNITUDE TO BE CONFIRMED.)
2. GRATING TO HAVE GRIT-IMPREGNATED NON-SLIP TOP SURFACE.
3. MINI MESH GRATING TO BE ATTACHED TO EACH JOIST USING MANUFACTURER-SUPPLIED CLIPS OR WASHERS (STAINLESS STEEL), AND #18 (7.5mm DIA) STAINLESS STEEL WOOD SCREWS WITH 115mm OF PENETRATION INTO JOISTS. HOLES IN JOISTS TO BE PREDRILLED WITH 5mm DIA. PILOT HOLE, AND TREATED WITH COPPER NAPTHANATE BEFORE INSTALLING SCREW. SPACING OF SCREWS TO BE MAX 500mm (IE 4ft WIDE GRATING PANELS REQUIRE 3 SCREWS PER JOIST). SCREWS TO BE MIN 150mm CLEAR FROM END OF JOIST OR ANY EXISTING BOLT HOLE.

PROFESSIONAL ENGINEER — J. D. TONER — PROVINCE OF BRITISH COLUMBIA

15.07.20

0 1m 5m 10m 20m

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

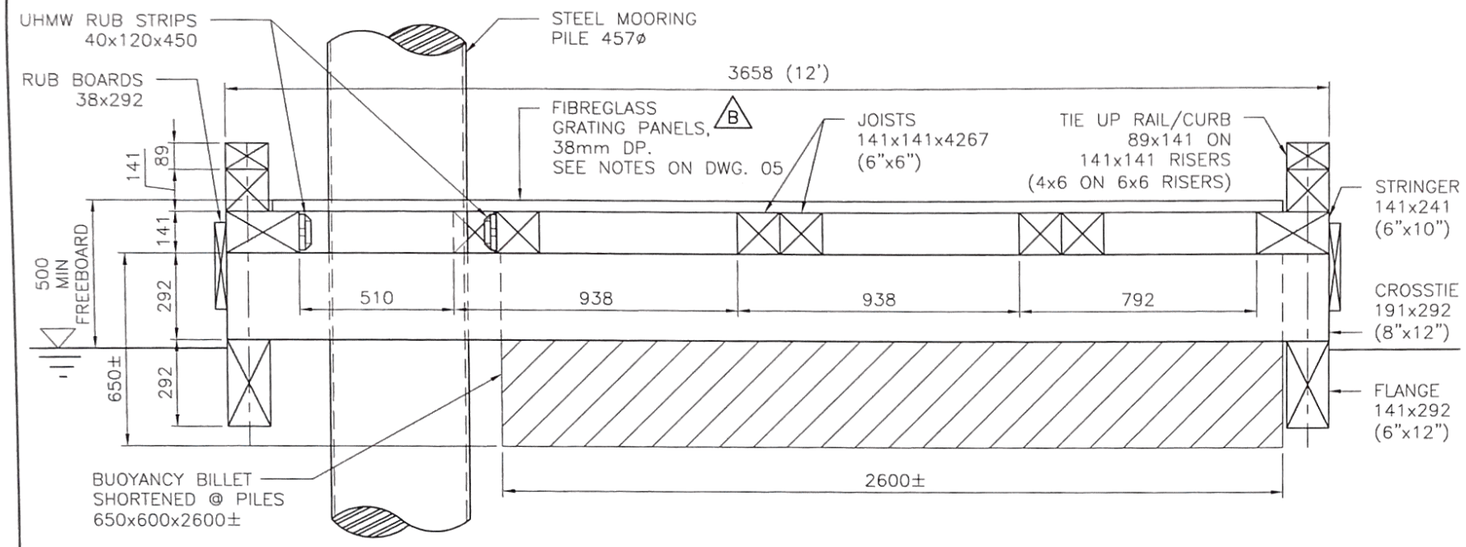
A	ISSUED FOR TENDER	FEB. 2020
B	FIBREGLASS DECK AND PILE THICKNESS	JUL. 2020

Revisions

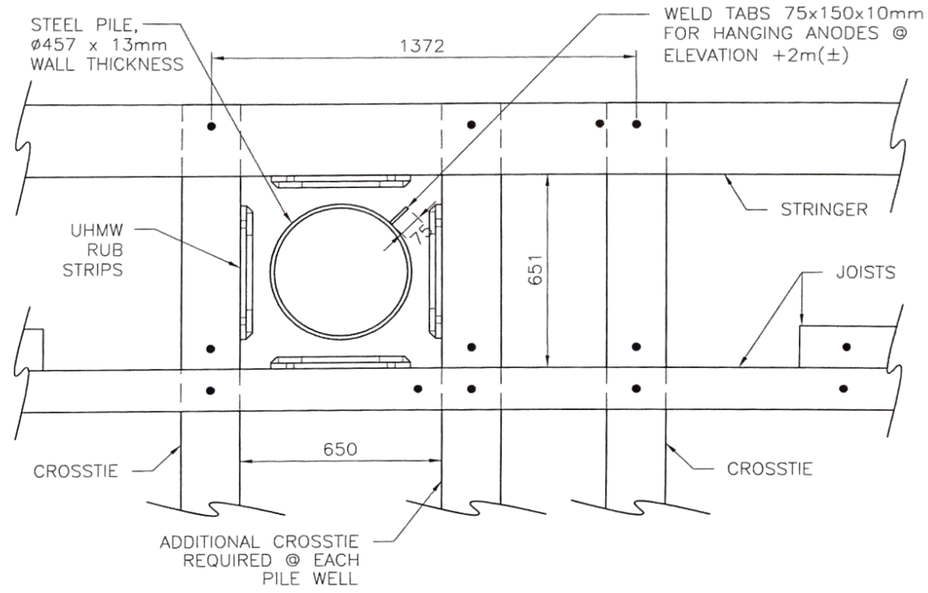
COAST ISLE ENGINEERING LTD.

Title: NEW FLOATS – PLAN DETAILS
Client: DFO – REAL PROPERTY
Scale: 1:200
Drwn: NL/CW Chkd: JT Dwg: E968-05
Date: FEB. 2018
B

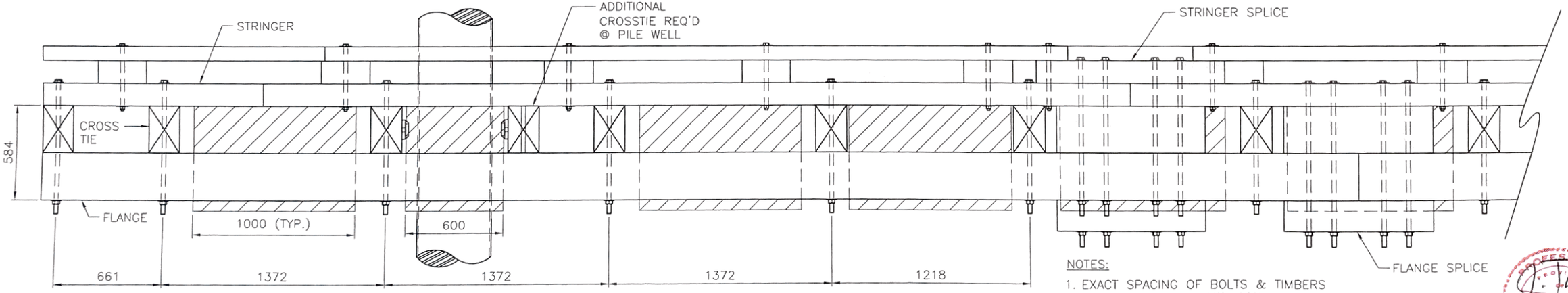
PRINTED: JUL 15, 2020 4:52:27 PM



FLOAT SECTION
1:20



PILE WELL PLAN (AT TOP OF JOISTS)
1:20



FLOAT SIDE VIEW
1:25

NOTES:

1. EXACT SPACING OF BOLTS & TIMBERS MAY NOT BE CORRECT. CONFIRM WITH FLOAT FABRICATION DWGS.
2. SPLICE BLOCKS SHOWN SHADED FOR CLARITY.
3. FOR DETAILS OF TIMBER FLOAT SEE DFO FLOAT DRAWINGS.

PROFESSIONAL ENGINEER
J. D. TONNEE
15/04/20

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

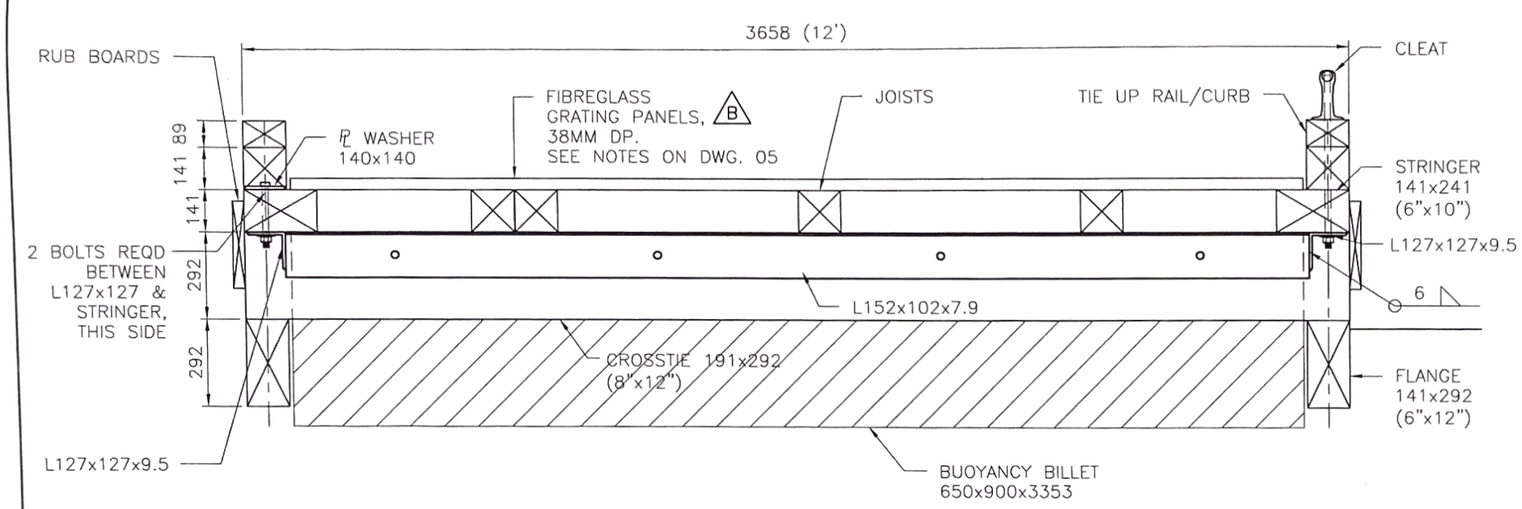
A	ISSUED FOR TENDER	FEB. 2020
B	FIBREGLASS DECKING	JUL. 2020

Revisions

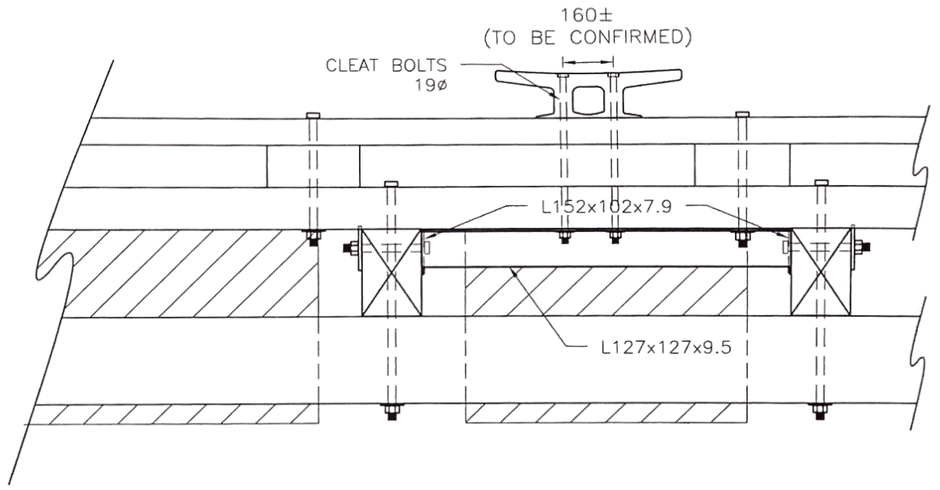
COAST ISLE ENGINEERING LTD.

Title: NEW FLOAT FOR MSPV – FLOAT AND PILE WELL DETAILS
Client: DFO – REAL PROPERTY
Scale: 1:20 & 1:25
Drwn: NM Chkd: JT Dwg: E968-06
Date: JAN. 2018
B

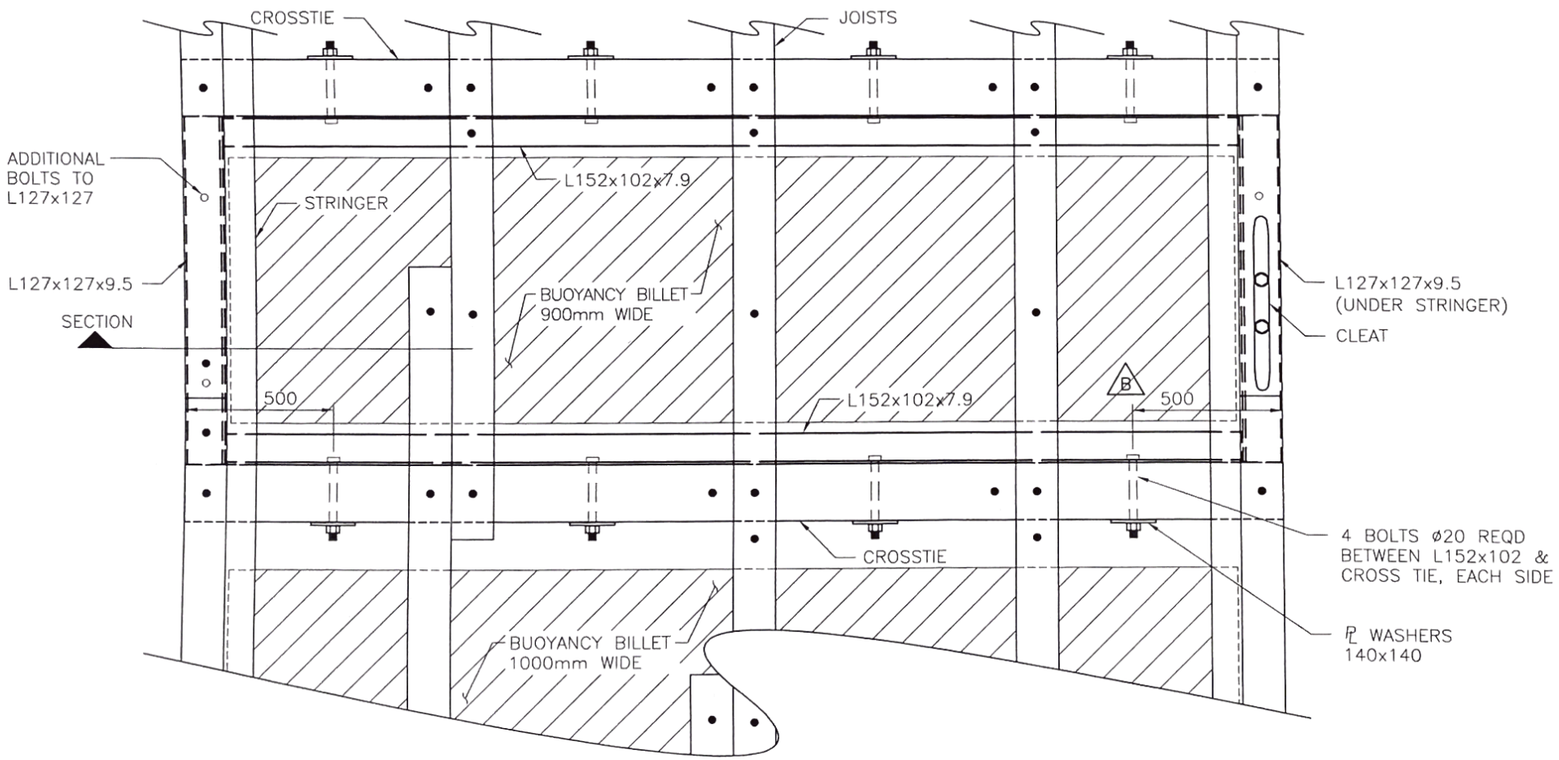
Apr 15, 2020 4:42:27 PM



FLOAT SECTION
1:20



CLEAT ELEVATION
1:20



ANGLE FRAMING PLAN
1:20

NOTES:

1. HSS FRAMING NOT SHOWN THIS PAGE. SEE DWG E968-08 FOR ADDITIONAL STEEL HSS FRAMING.
2. ANGLE FRAMING TO BE FABRICATED & FIT TO TIMBER FLOAT FRAMING BEFORE GALVANIZING. DRILL HOLES IN TIMBERS FOR ANGLE FRAMING BEFORE TREATMENT.

PROFESSIONAL ENGINEER J. D. TONER 15/07/20

0 0.2m 1m 2m

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

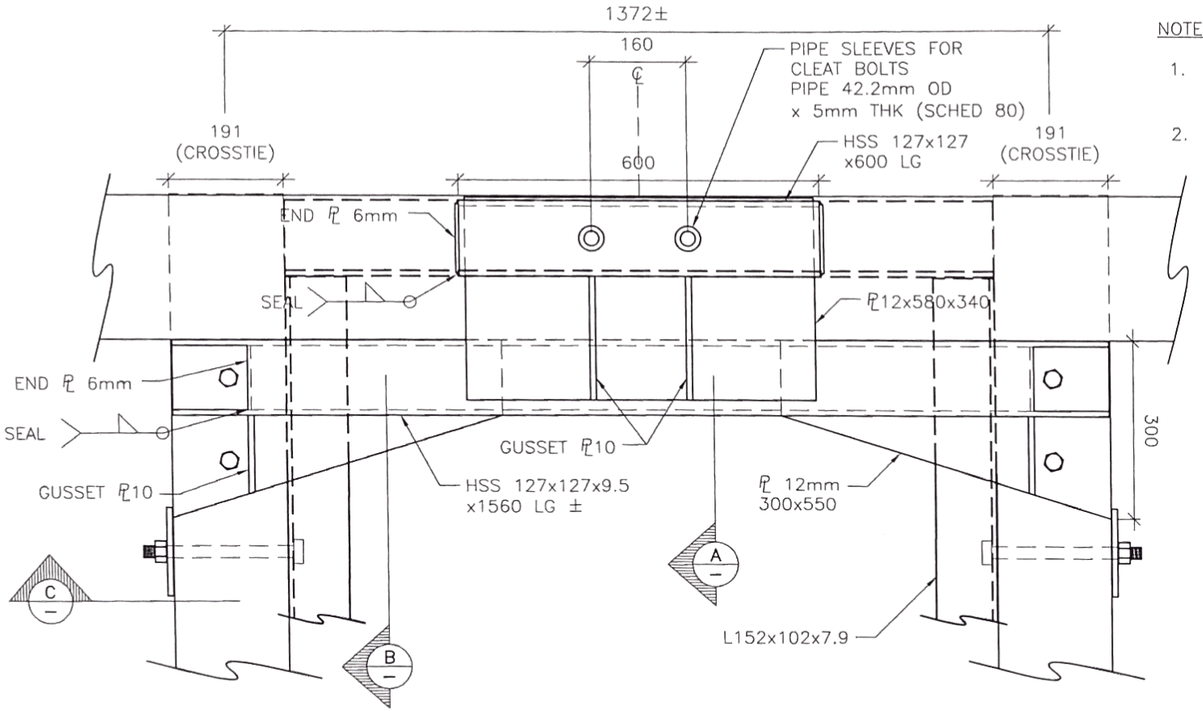
A	ISSUED FOR TENDER	FEB. 2020
B	FIBREGLASS DECKING	JUL. 2020

Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW FLOAT FOR MSPV – CLEAT REINFORCEMENT DETAILS, SHEET 1
Client: DFO – REAL PROPERTY
Scale: 1:20
Drwn: NM Chkd: JT Dwg: E968-07
Date: JAN. 2019
B

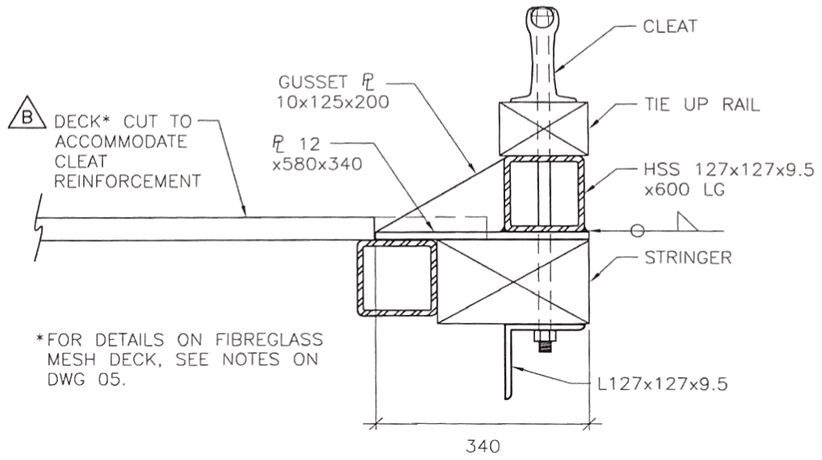
PRINTED ON: Jul 15, 2020 4:52:27 PM



CLEAT REINFORCEMENT PLAN
1:10

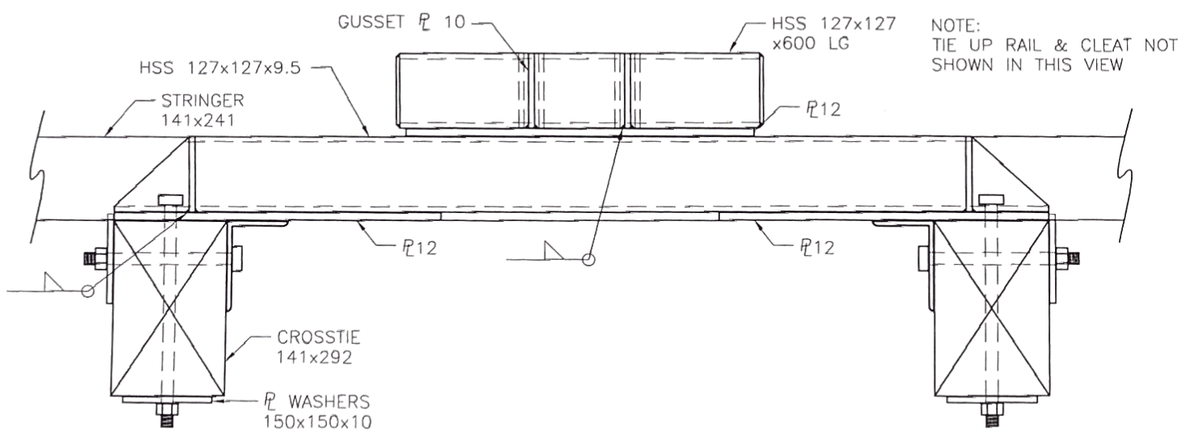
NOTES:

1. TIE UP RAIL & CLEAT NOT SHOWN IN THIS VIEW (FOR CLARITY)
2. LARGER FLOATATION BILLET REQUIRED TO COMPENSATE FOR ADDITIONAL WEIGHT OF STEEL REINFORCEMENT @ CLEATS

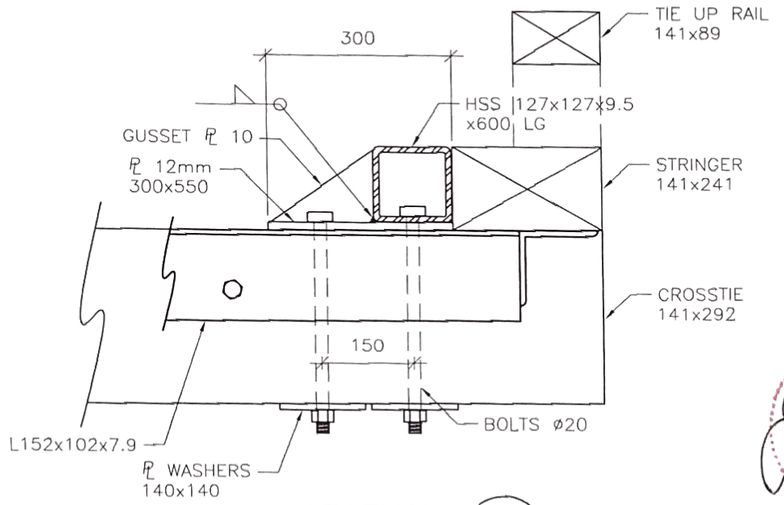


*FOR DETAILS ON FIBREGLASS MESH DECK, SEE NOTES ON DWG 05.

SECTION A
1:10



ELEVATION C
1:10



SECTION B
1:10

0 0.1m 0.5m 1m

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

A	ISSUED FOR TENDER	FEB. 2020
B	FIBREGLASS DECK	JUL. 2020

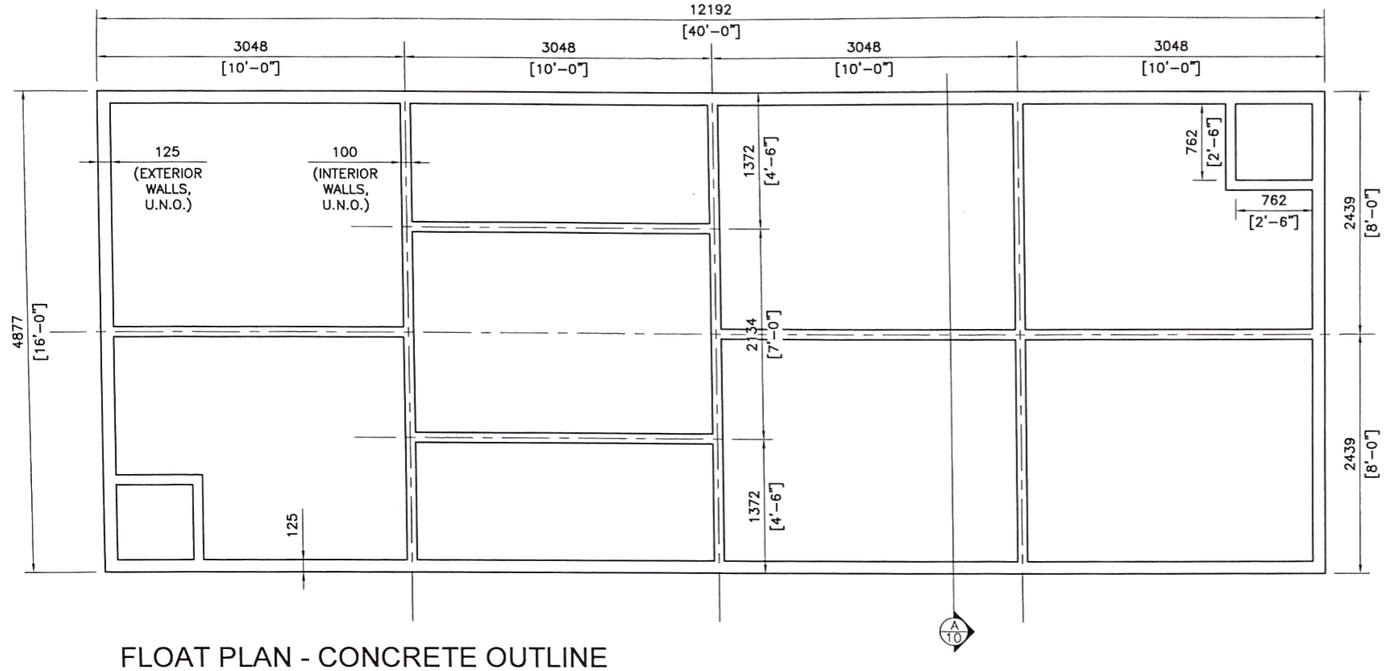
Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW FLOAT FOR MSPV – CLEAT REINFORCEMENT DETAILS, SHEET 2
Client: DFO – REAL PROPERTY
Scale: 1:10
Drwn: NM Chkd: JT Dwg: E968-08
Date: JAN. 2019
B

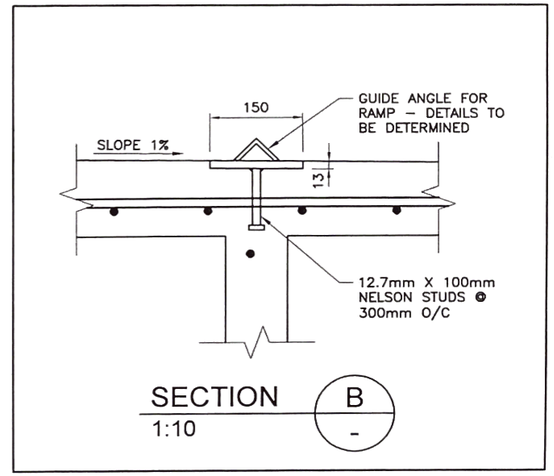
PROFESSIONAL ENGINEER J. D. TONEFF 15/07/20

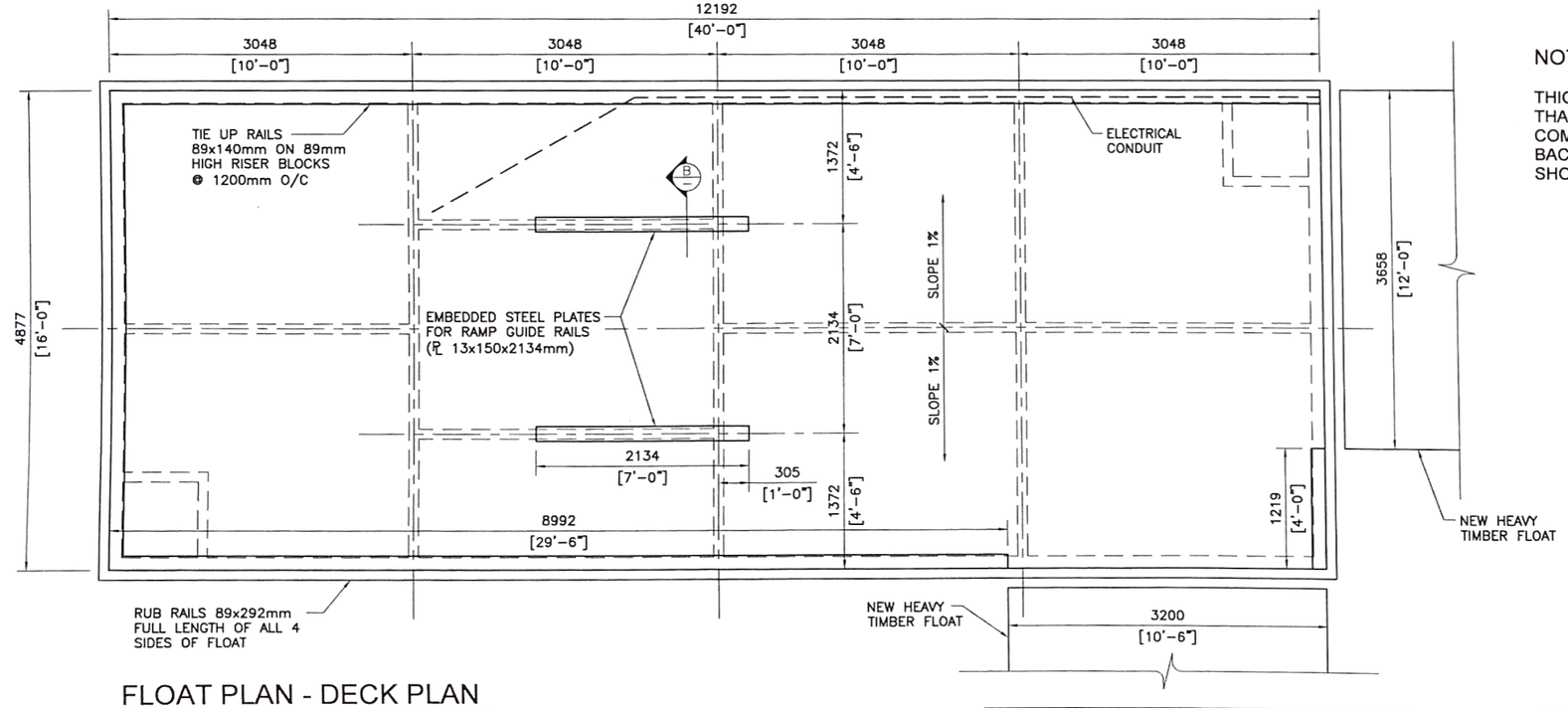
Plotted: Jul 15, 2020 4:42:27 PM



FLOAT PLAN - CONCRETE OUTLINE

1:60





FLOAT PLAN - DECK PLAN

1:60

0 0.5m 2.5m 5m

NOTE:

THICKNESS OF FLOAT WALLS TO BE ADJUSTED AS NECESSARY TO ENSURE THAT FLOAT SITS LEVEL IN THE WATER WITH RAMP DEAD LOAD (ie TO COMPENSATE FOR RAMP WEIGHT AND FLOAT CENTRE OF MASS BEING LOCATED BACK FROM THE CENTRE OF THE FLOAT).
SHOP DRAWINGS OF FLOAT TO BE SUBMITTED FOR REVIEW BEFORE FABRICATION.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. D. TONEFF

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

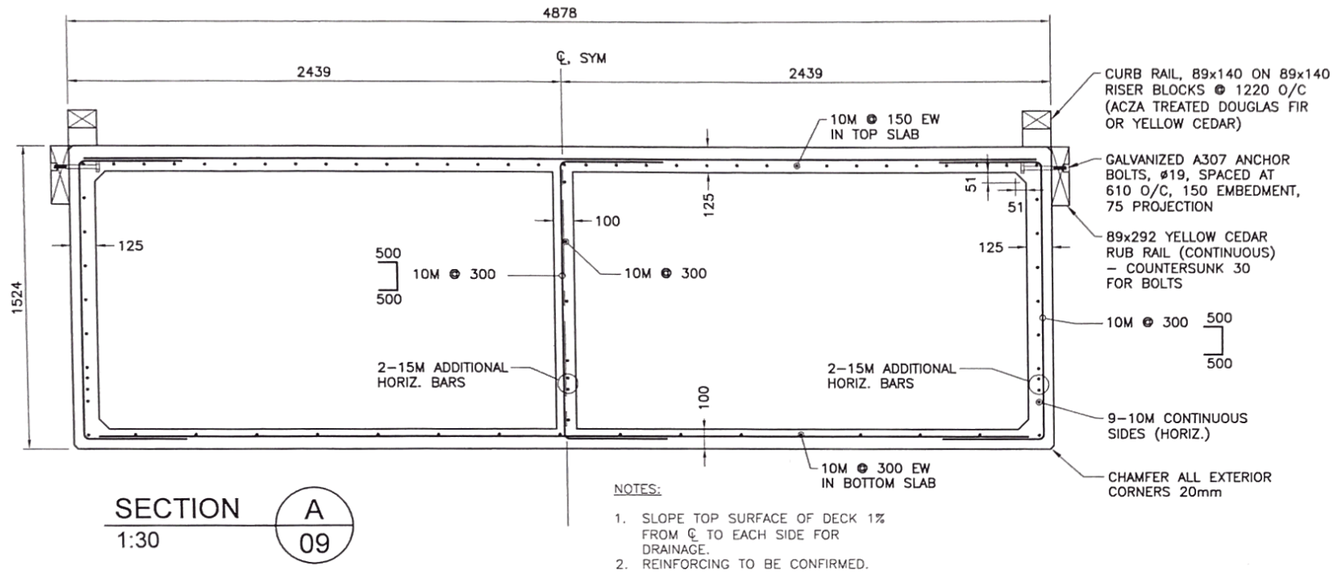
A	ISSUED FOR TENDER	FEB. 2020
B	NOTE	JNL '20

Revisions

COAST ISLE ENGINEERING LTD.

Title: NEW CONCRETE FLOAT (FLOAT #2) – PLANS
Client: DFO – REAL PROPERTY
Scale: 1:60
Drwn: CW Chkd: JT Dwg: E968-09
Date: NOV. 2019
B

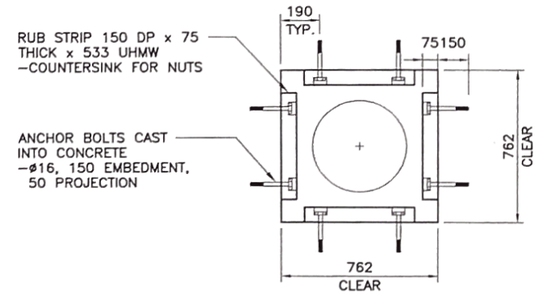
Nov 15, 2020 4:52:27 PM



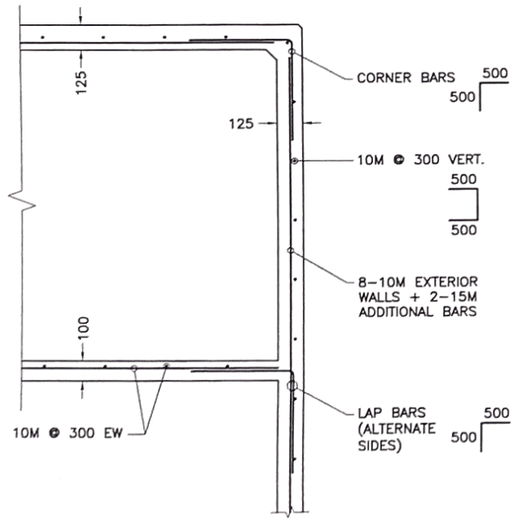
SECTION A 09
1:30

NOTES:

1. SLOPE TOP SURFACE OF DECK 1% FROM ℄ TO EACH SIDE FOR DRAINAGE.
2. REINFORCING TO BE CONFIRMED.



PILE WELL - PLAN
1:30



FLOAT WALLS - PLAN
1:30

0 0.2m 1m 2m

PRINTED: APR 15, 2020, 8:58:27 PM

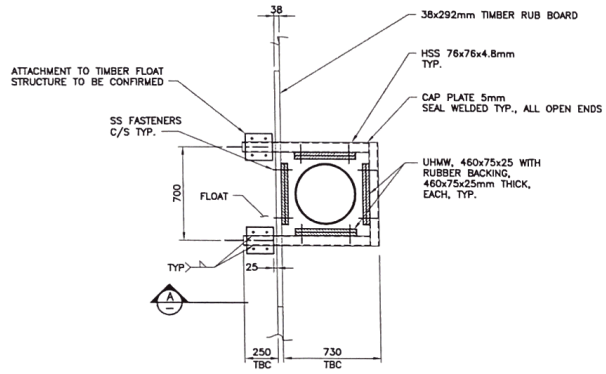
PRINCE RUPERT COAST GUARD BASE, NEW FLOATS

A	ISSUED FOR TENDER	FEB. 2020

Revisions

COAST ISLE ENGINEERING LTD.

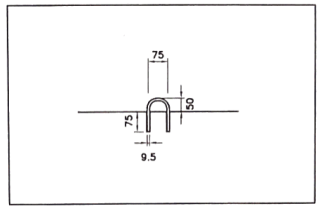
Title: NEW CONCRETE FLOAT (FLOAT #2) – REINFORCING DETAILS
Client: DFO – REAL PROPERTY
Scale: AS NOTED
Drwn: CW Chkd: JT Dwg: E968–10
Date: NOV. 2019
A



MOORING PILE BRACKET - PLAN

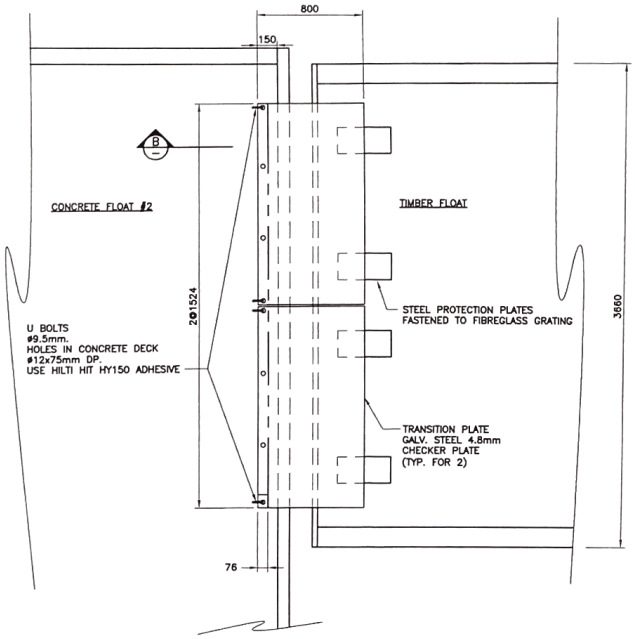
1:40 (2 REQ'D FOR FLOAT #10)

DETAILS & CONNECTION TO BE CONFIRMED TO SUIT BRACKET LOCATION



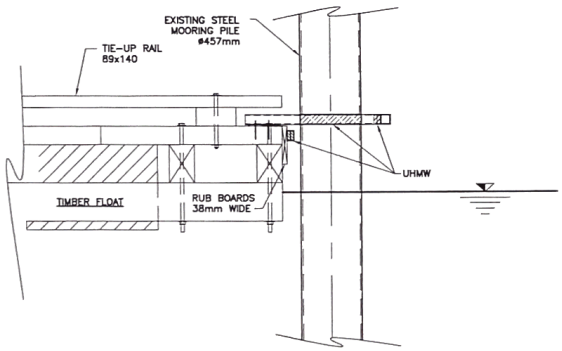
U-BOLT DETAIL

1:20 (ELEVATION)



TRANSITION PLATE DETAIL - PLAN

1:40 (2 PAIRS OF TRANSITION PLATES REQUIRED ON FLOAT #2)

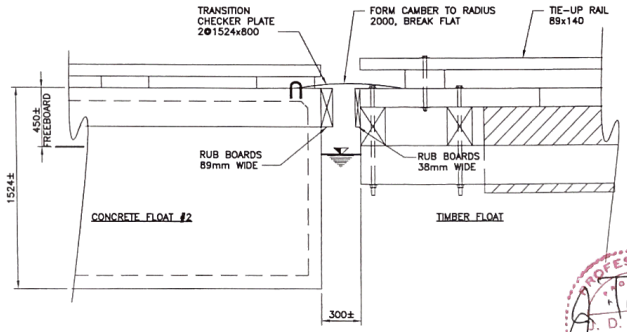


SECTION A

1:40

A

NEW DRAWING



SECTION B

1:40

PROFESSIONAL ENGINEER
J. D. TONDER
15/04/20

PRINCE RUPERT COAST GUARD BASE, NEW FLOATS	A ISSUED FOR TENDER — JUL. 2020 Revisions	**COAST ISLE ENGINEERING LTD.**

Title: TRANSITION PLATES AND PILE BRACKET DETAILS
Client: DFO – REAL PROPERTY
Scale: AS NOTED
Drwn: CW Chkd: JT Dwg: E958-11
Date: NOV. 2019
A

Plotted: Apr 15, 2020 - 4:52:27 PM