

Vessel Specifications



General Information

2014/ 93m/ DP2 Self-Propelled Pontoon Ship

Category	Details
Vessel Type	Dynamic Positioning Service Vessel
Built	2014
Complement	12 persons
DWT (Scantling/DWCC)	4,462 t / 3,840 t
Length (LF / LOA)	88.34 m / 92.9 m
Breadth	22 m
Depth	4.5 m
Draught (laden / ballast)	2.968 m / 1.290 m
GRT / NRT	2,569 t / 771 t
Air Draught	24.21 m (Ref: lightship)
Deck Area (L x B)	1,540 m ² (70 m x 22 m)
Allowable Deck Load (Seagoing)	Min: 10 t/m ² - Max: 15 t/m ² (Refer to Loading Plan)
Allowable Deck Load (Harbour)	Min: 10 t/m ² - Max: 25 t/m ² (Refer to Loading Plan)

Dimensions and Tonnages

Category	Details
Hull Gross Tonnage	2,569 t
Net Tonnage	771 t
Deadweight	3,906 t
Overall Length	92.9 m
LPP (Length Between Perpendiculars)	90.67 m
Breadth	22 m
Depth	4.5 m
Draught	3.25 m
Freeboard	1,546 mm

Classification and Survey

Category	Details
Classification Society	Bureau Veritas (BV)
Classification Notation	BV, Class <i>IHullMachPontoon Assisted Propulsion</i> Coastal Area*Dynapos-SAM, Inwatersurvey
Navigation Notation	Coastal area - temporary unrestricted navigation; Limited to 100 miles from Filyos Port Zonguldak
Add. Class Notation	Machinery: INWATERSURVEY, Dynapos SAM
Survey Type	Normal (Hull)

Speed

Condition	Number of Engines	Engine Load (%)	Speed
Laden (6.5 knots)	2 Engines	90% load	6.5 knots
Ballast (6.5 knots)	2 Engines	80% load	6.5 knots
Laden (8.5 knots)	4 Engines	85% load	8.5 knots
Ballast (8.5 knots)	4 Engines	75% load	8.5 knots

Fuel Consumption

Condition	Number of Engines	Engine Load (%)	Fuel Consumption (t/day)
6.5 knots Laden	2 Engines	90% load	~ 3.6 t/day
6.5 knots Ballast	2 Engines	80% load	~ 3.2 t/day
8.5 knots Laden	4 Engines	85% load	~ 6.9 t/day
8.5 knots Ballast	4 Engines	75% load	~ 6 t/day
Auxiliary Generator Sets (Idle)	-	-	~ 0.5 t/day
Auxiliary Generator Sets (Ballast)	-	-	~ 0.8 t/day

Dynamic Positioning and Navigation Equipment

Category	Details
Dynamic Positioning System	Praxis Megaguard DP0 (Dynapos-SAM)
IMO DP Notation	DP0 (Dynapos-SAM)
Accuracy	Up to 0.5 m
DGPS & MRU (Inclinometer)	Yes
DP Modes	Manual Joystick, Auto Joystick, Auto Positioning, Auto Pilot, Auto Tracking, Auto Heading
Navigation Equipment	JRC JMA 3314 RADAR, JRC GPS 124 Antenna for JLR-7500, JRC JHS 770S VHF Transceiver, JOTRON Tron Sart20 Radar Transponder, TRON TR 20 GMDSS VHF Radio, IMARINE B CLASS Model: TB CS Transponder

Ballast System

Category	Details
Number of Ballast Tanks	15
Ballast Tank Capacity	Total 4,050 m ³
Ballast Pumps	2 pumps, 500 m ³ /h (each)
Coating	Jotun, PSPC Certification for Ballast Tanks
Anti-Heeling System	Besi, 900 m ³ /h at 0.45 bar, 50 Hz
Anti-Trim System	Besi, 900 m ³ /h at 0.45 bar, 50 Hz

Machinery

Category	Details
Propulsion System	Veth Propulsion / 4 x 405 kW (each) Thrusters + Scania / 4 x 405 kW (each) Diesel Engines
Generator Sets	Scania / 2 x 330 kW Auxiliary diesel generator sets + Deutz / 1 x 75 kW Emergency & Harbour diesel generator set
Dynamic Positioning System	Praxis Megaguard DP0 (Dynapos-SAM)
Anti-Heeling/Anti-Trim System	Besi / 900 m ³ /h Anti-heeling and Anti-trim pump (each)

Electrical Installation

Category	Details
Generators	2 Generators 413 kVA (330 kW), 400 V, 50 Hz
Emergency Generator	1 Emergency generator 94 kVA (75 kW), 400 V, 50 Hz

Anchoring and Equipment

Category	Details
Main Anchors	2 Main anchors, chain diameter 38 mm, steel quality very high tensile strength steel

Maintenance Summary

Maintenance Activity	Date	Details
Docking for 5-Year Certification Renewal	Last Week of January	<ul style="list-style-type: none">- Thickness measurements on the shell plate- Renewal of shell plate painting- Replacement of anodes on the shell plate- Cleaning of sea chests- Maintenance of side valves- Chain measurements- Inspection of ballast tank painting
Safety Equipment Inspection	Last Week of January	<ul style="list-style-type: none">- Safety equipment was inspected, and certification was renewed.
4-Year Tail Shaft Survey	Last Week of June	<ul style="list-style-type: none">- Dismantling of four shaft/propeller systems- Blasting and re-painting of shafts- Replacement of anodes- Collection of oil samples for laboratory testing- Dismantling of four propellers; replacement of blocking rings, liners, seal housings, and gaskets, followed by re-assembly of propellers- Polishing of propeller blades

Attachments

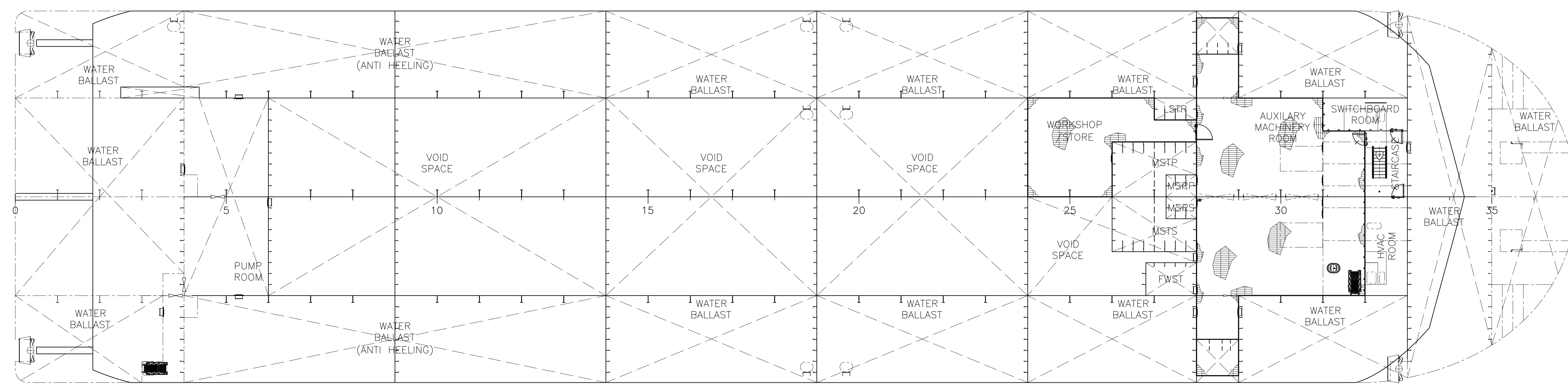
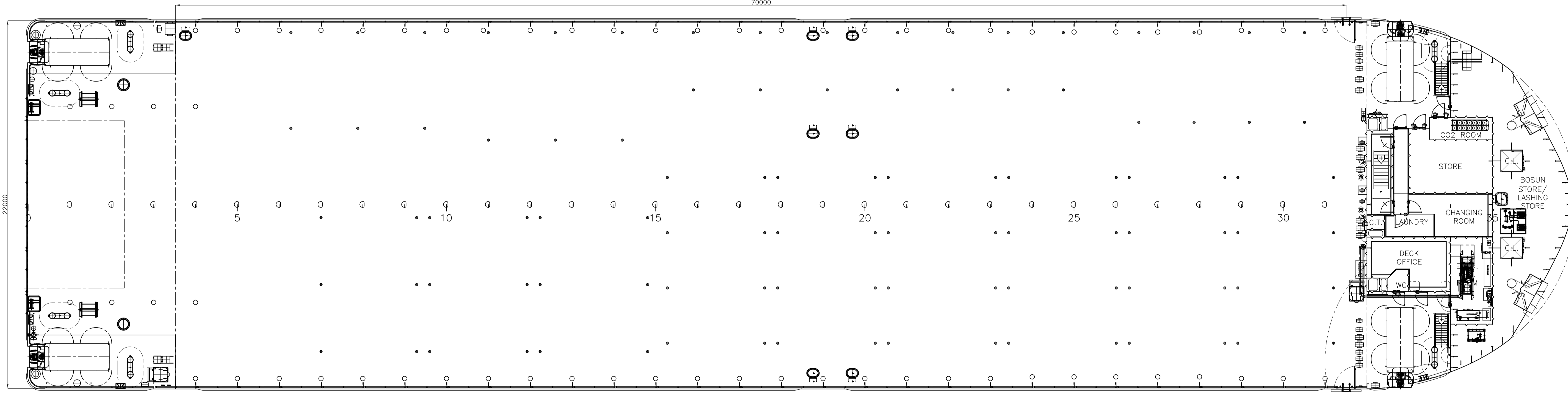
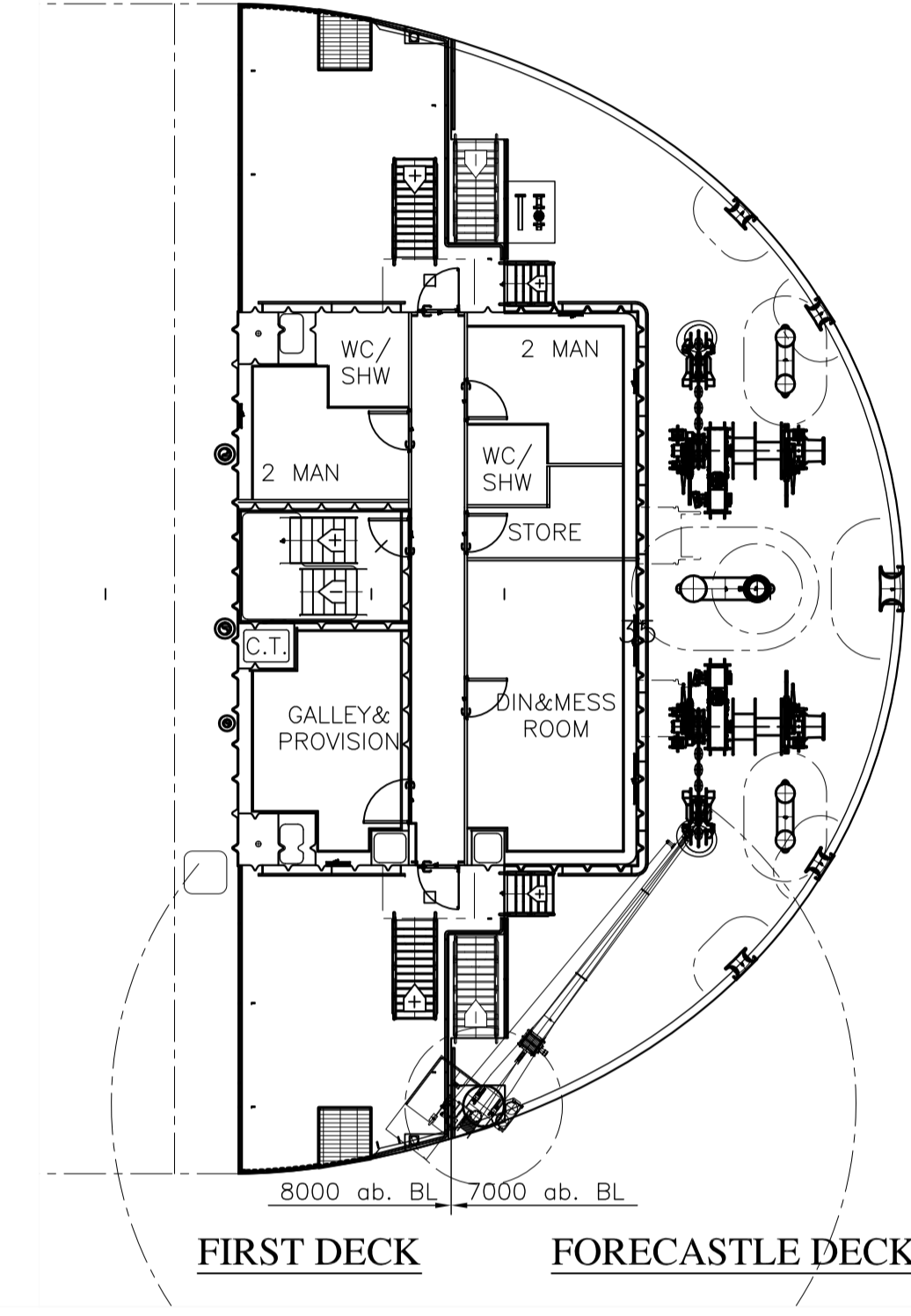
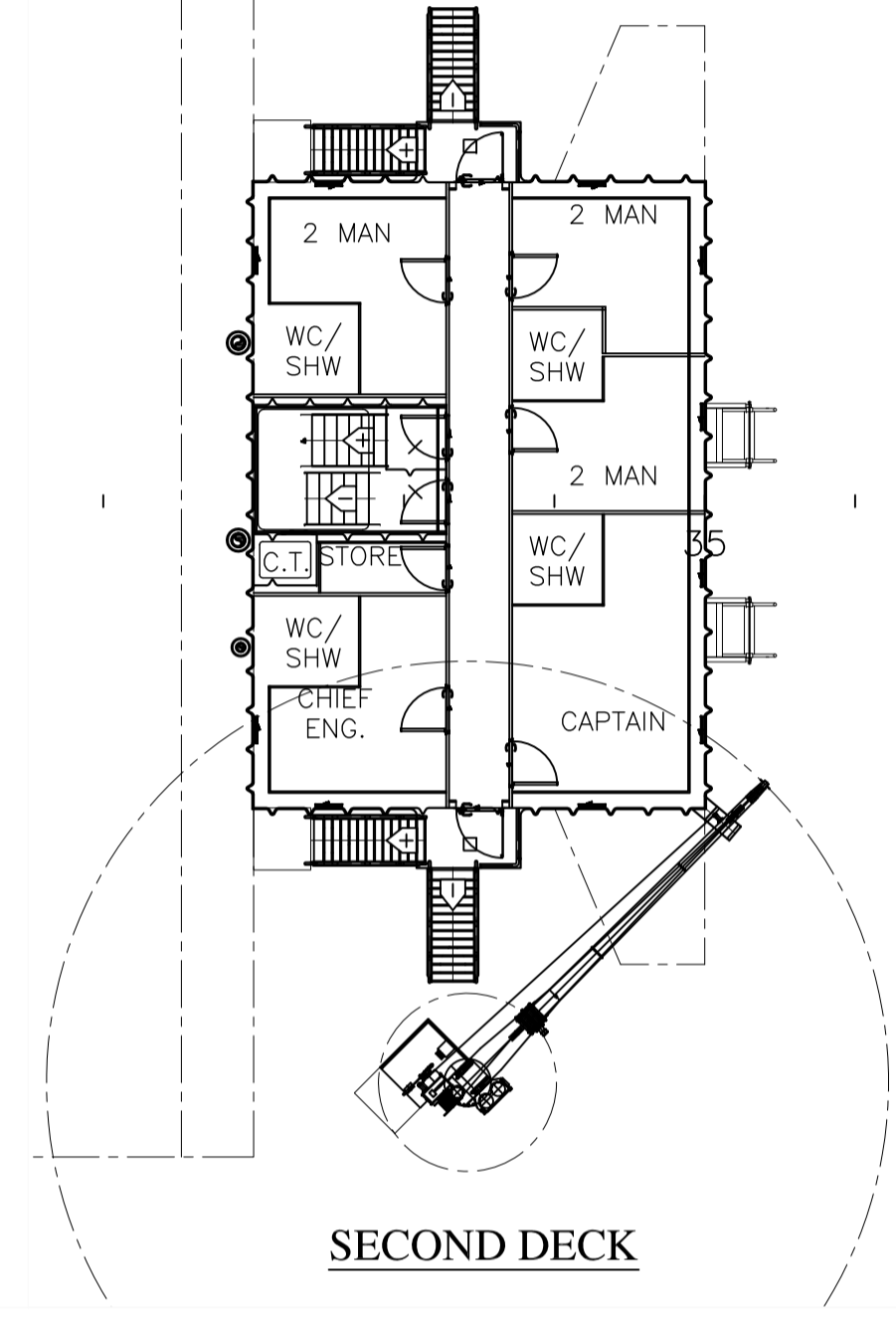
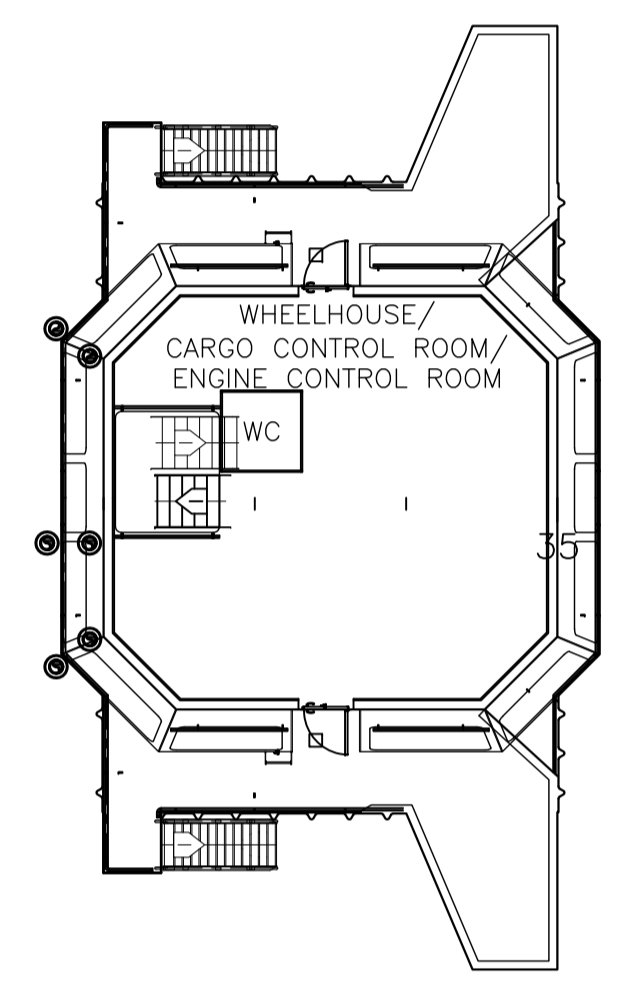
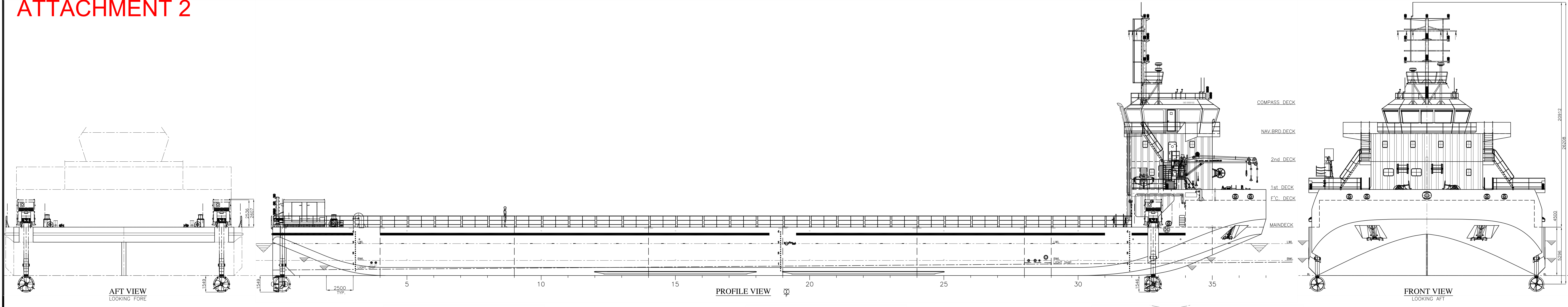
1. Makers List
2. General Arrangement drawing
3. Accommodation drawing
4. Loading Plan
5. Tank Plan
6. Dynamic Positioning Classification vs GMK-1

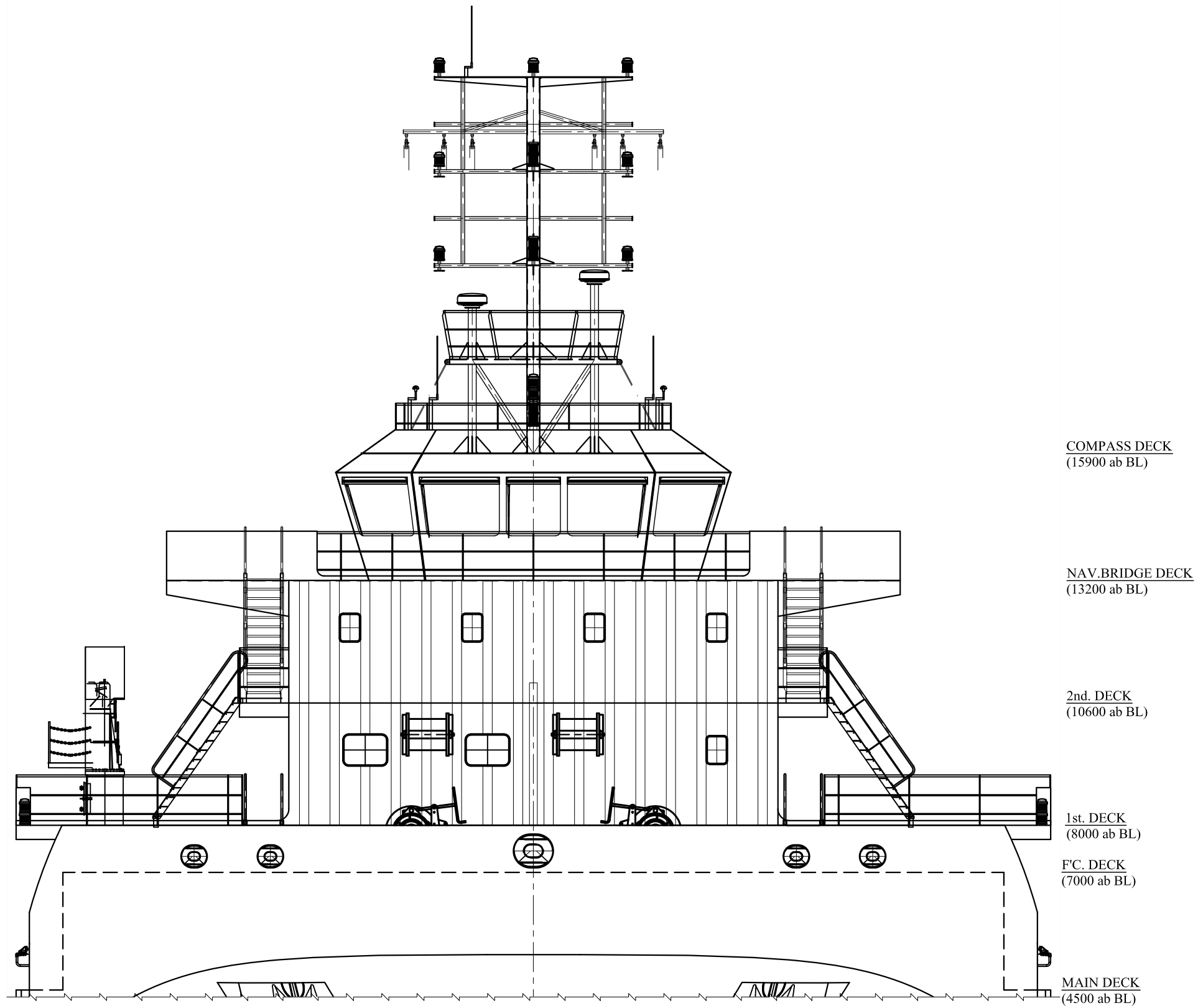
ATTACHMENT - 1

MAKERS LIST OF DYNAMIC POSITIONING SERVICE VESSEL

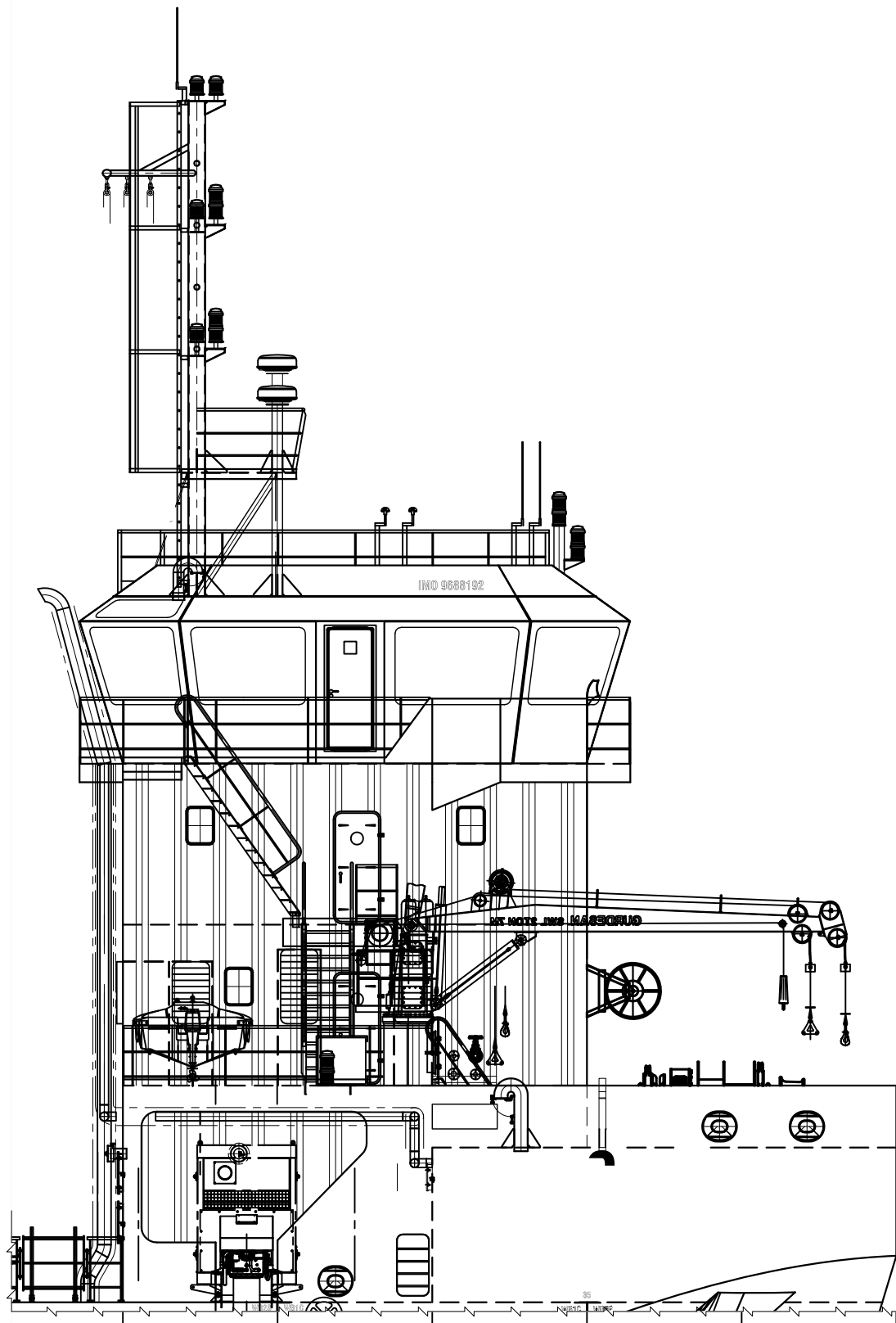
NO	DESCRIPTION	MAKER
1	Deck Mounted Propulsion System	Veth Propulsion / The Netherlands
2	Diesel engine inside propulsion system	Scania / Sweden
3	Dynamic Positioning System	Praxis / The Netherlands
4	Auxiliary Diesel Generator Sets	Scania / Sweden
5	Emergency/Harbour Diesel Generator Set	Deutz / Germany
6	Anti-heeling / trim systems	BESI / Germany
7	HVAC System	Heinen Hopman / The Netherlands
8	Pumps	Desmi / Denmark
9	Loading Computer	Kockum Sonics / Sweden
10	Lashing Equipment	International Lashing Systems / Belgium
11	Navigation Equipment	Polar Marine Electronics (JRC)
12	Deck Machinery	Gürdesan / Turkey
13	Alarm & Monitoring System	Selco / Denmark
14	Oily Bilge Separator	Kockum Sonics / Sweden
15	MDO Separator	Alfa Laval / Sweden

ATTACHMENT 2





FRONT VIEW
(Looking From FORE to AFT)



COMPASS DECK
(15900 ab BL)

NAV. BRIDGE DECK
(13200 ab BL)

2nd. DECK
(10600 ab BL)

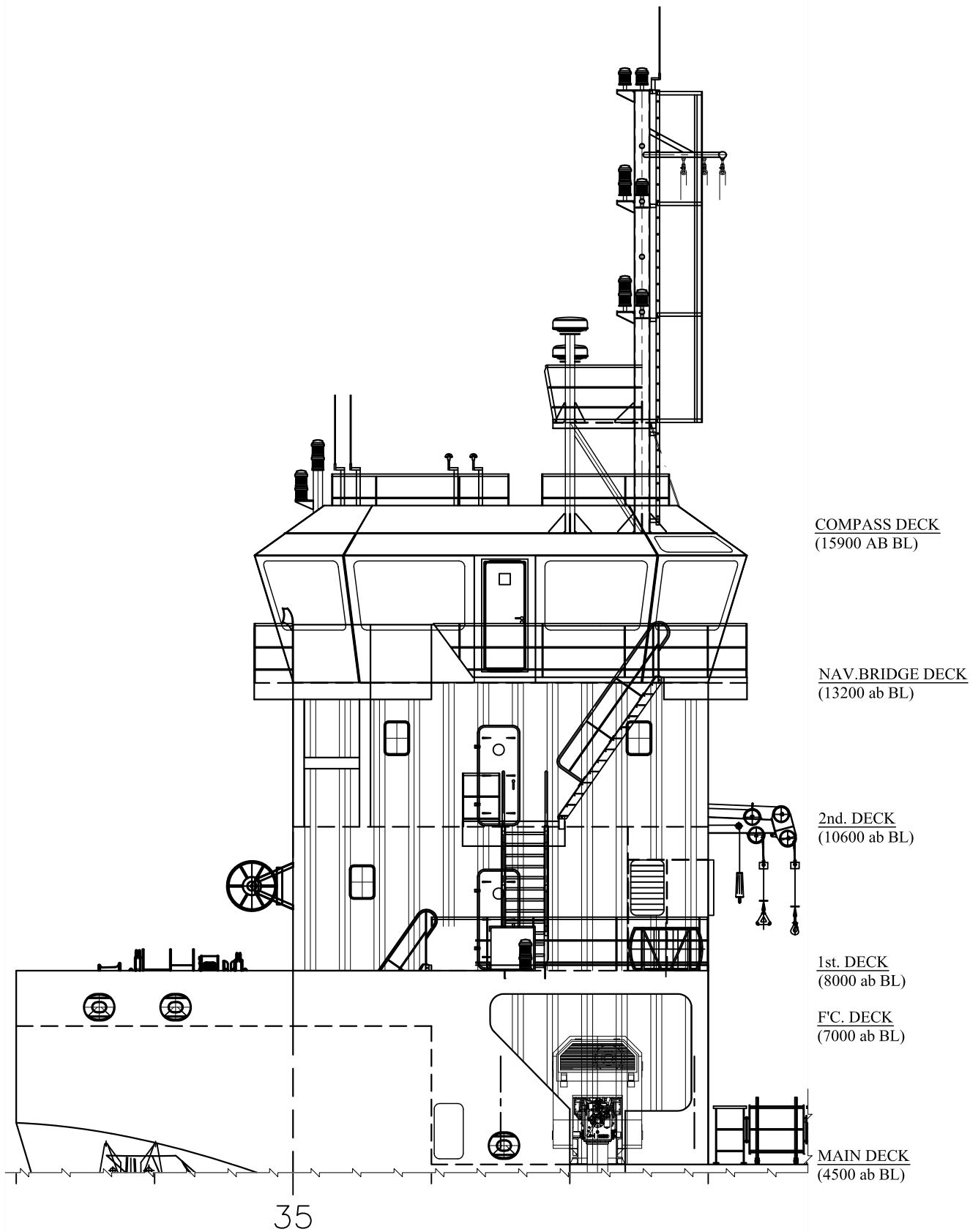
1st. DECK
(8000 ab BL)

F'C. DECK
(7000 ab BL)

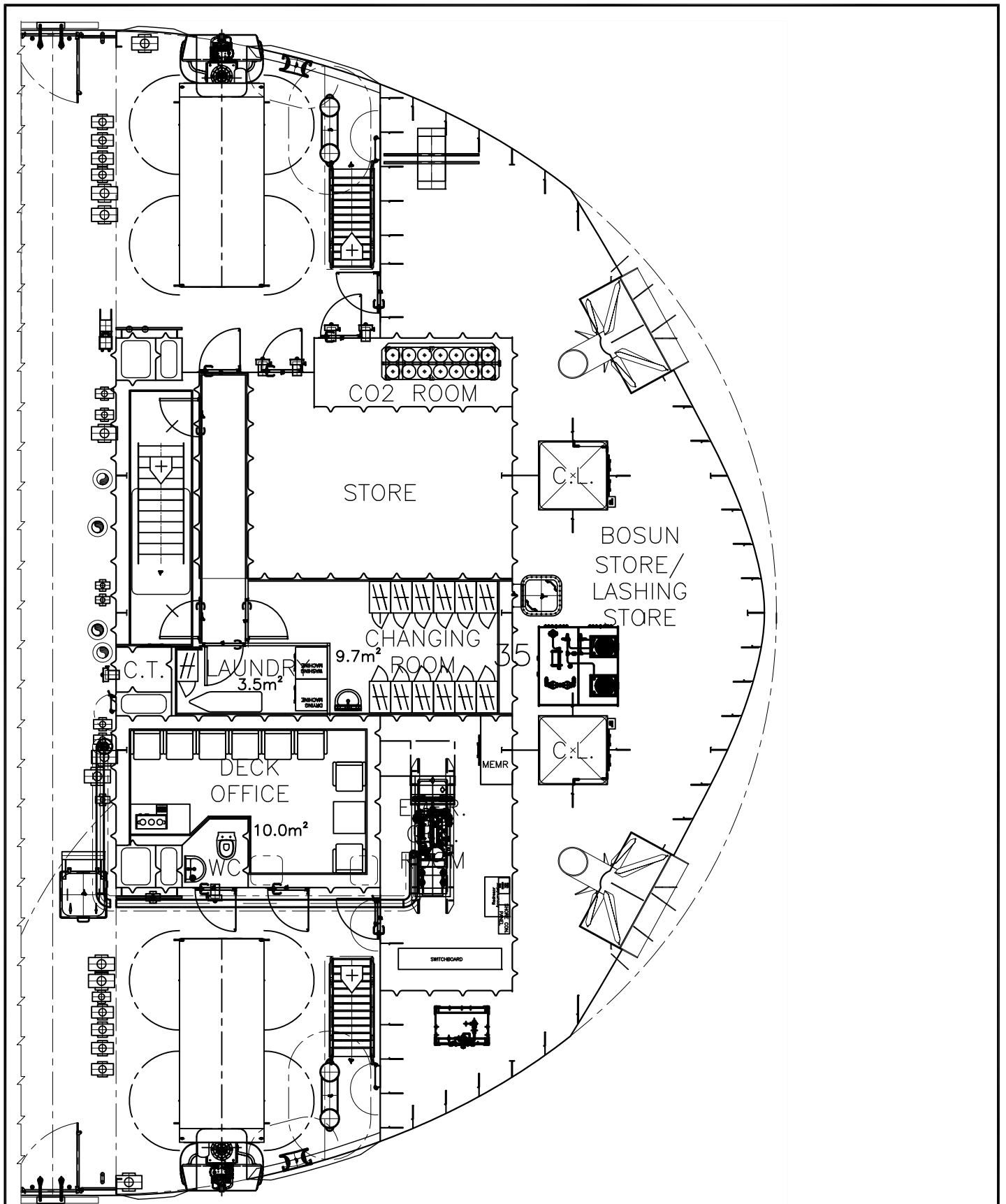
MAIN DECK
(4500 ab BL)

35

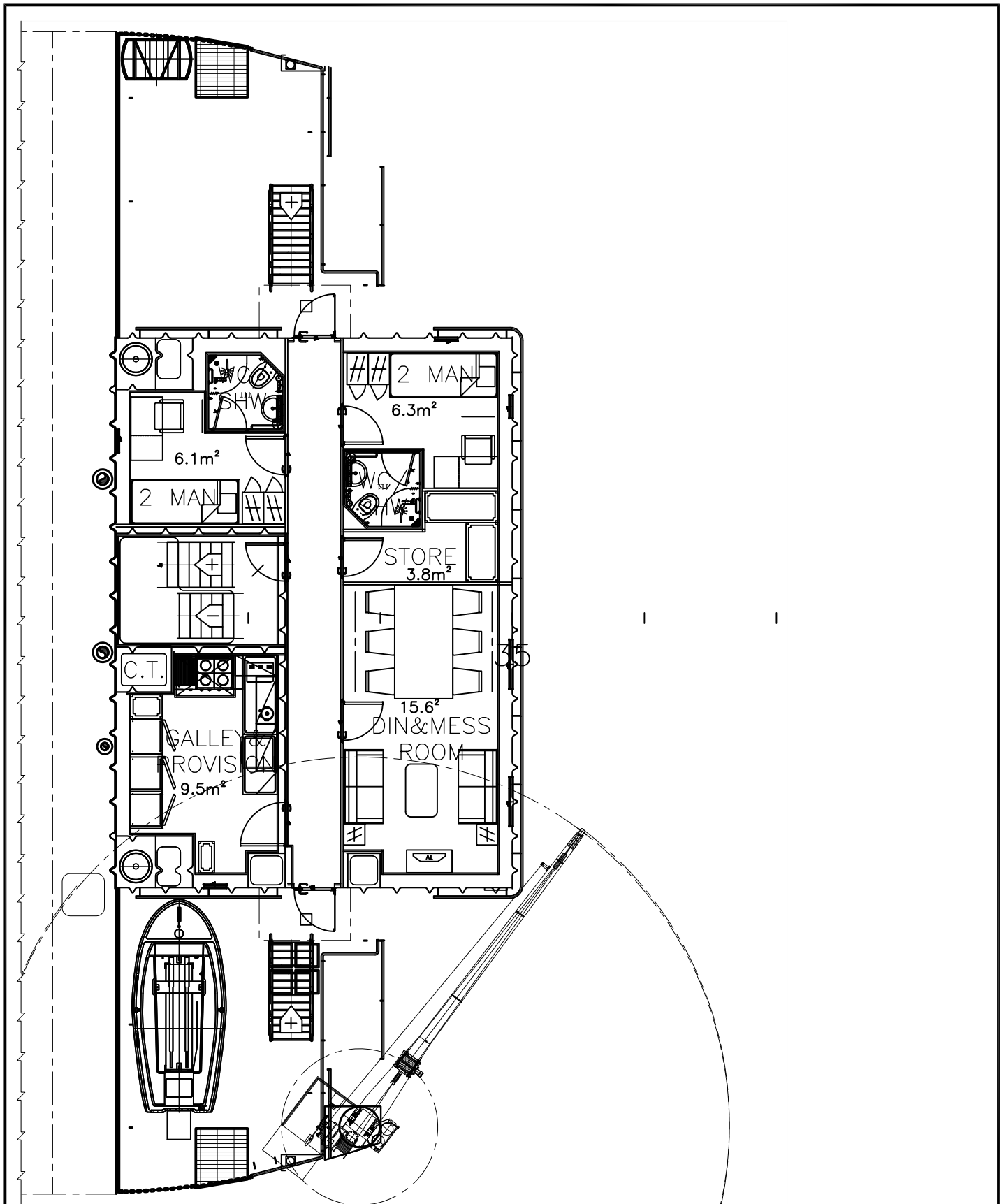
**PROFILE VIEW
(STARBOARD SIDE)**



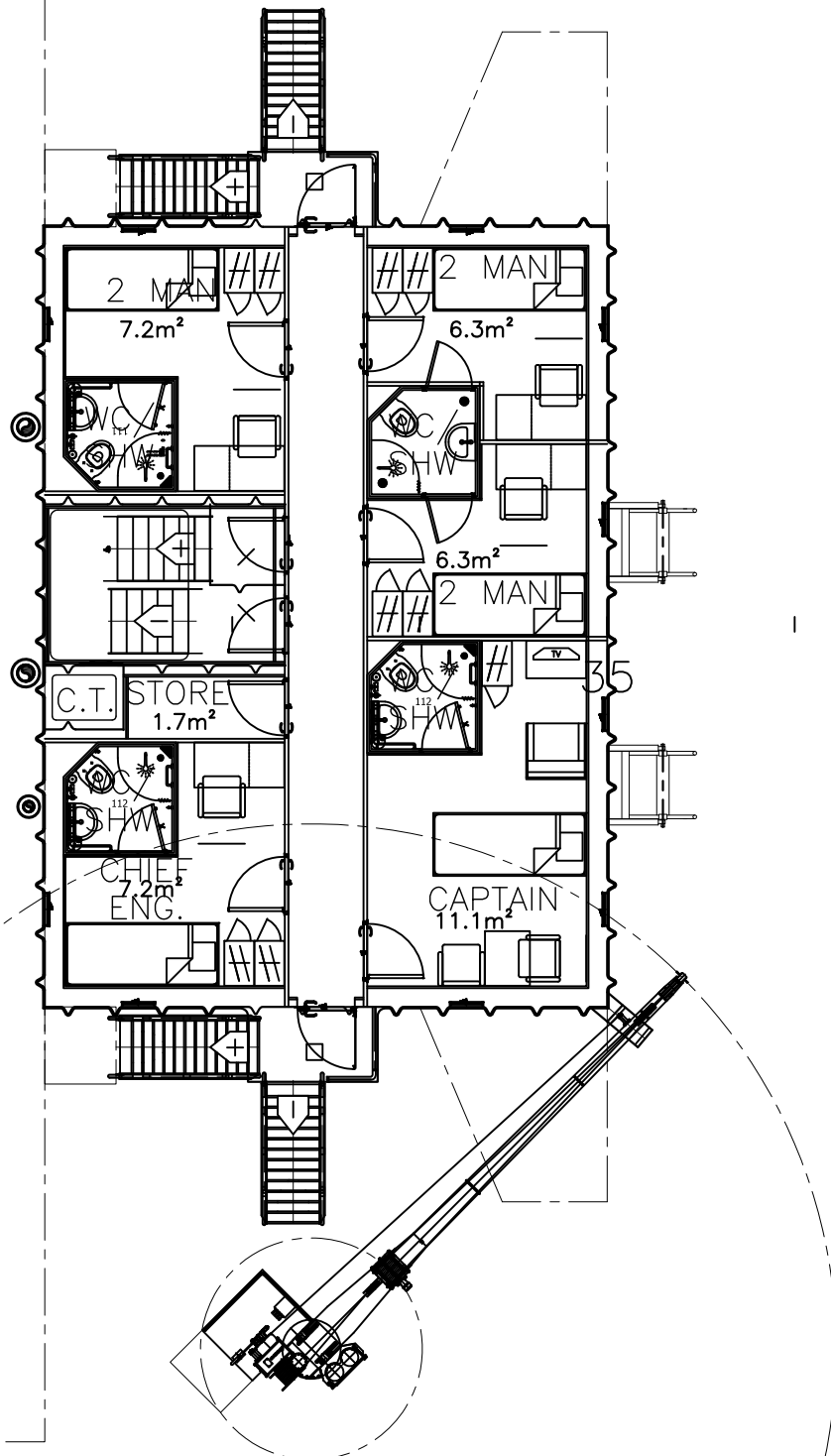
PROFILE VIEW
(PORT SIDE)



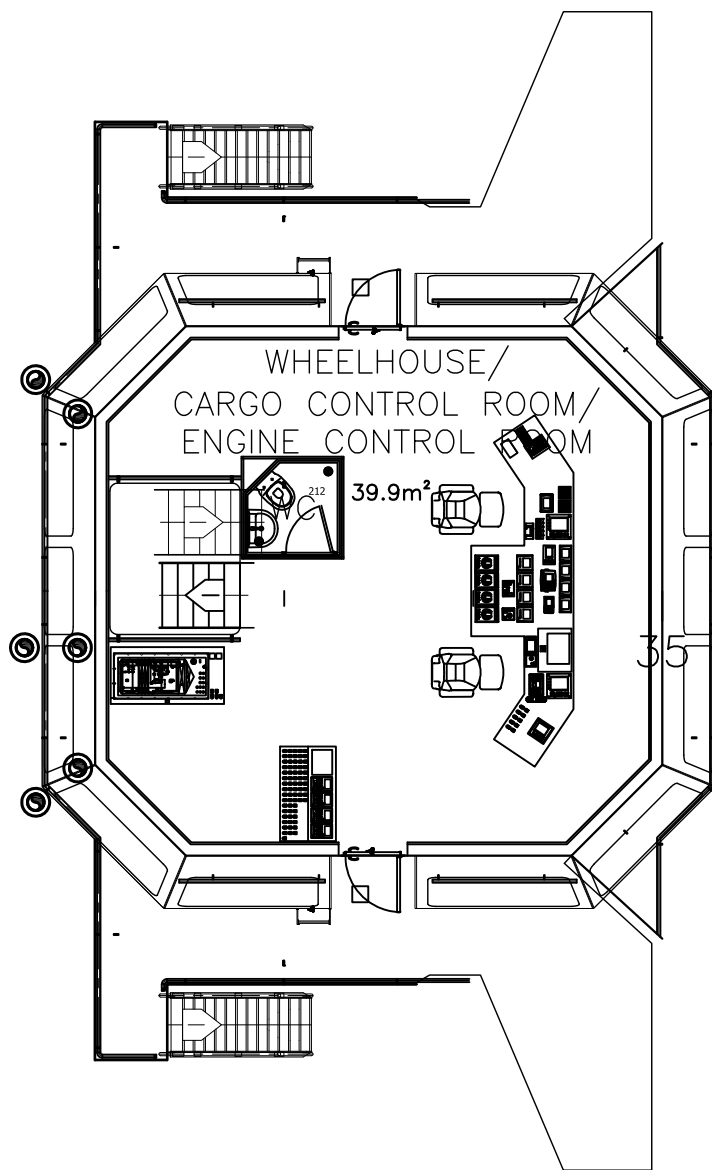
MAIN DECK
(4500 ab BL)



1st. DECK
(8000 ab BL)

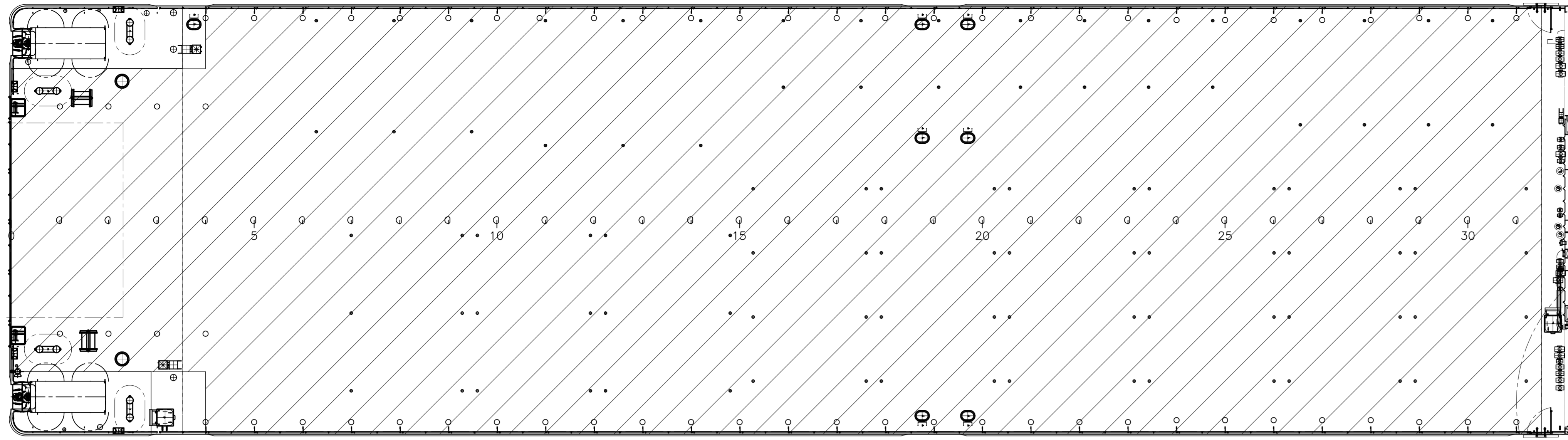


2nd. DECK
(10600 ab BL)



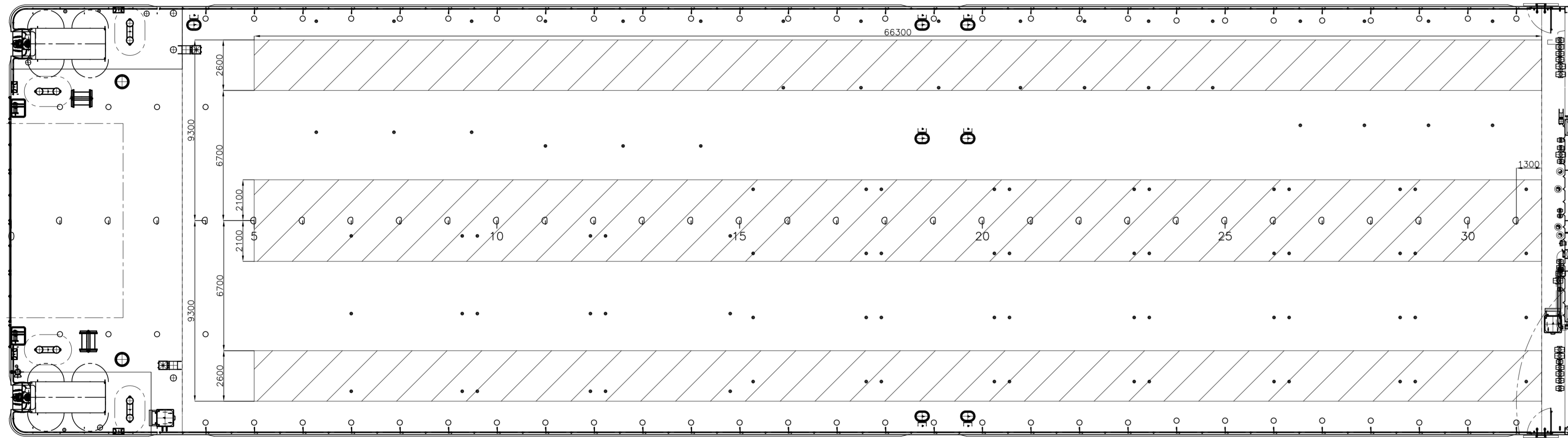
NAV. BRIDGE DECK
(13200 ab BL)

LOAD CASE-1: SEAGOING CONDITION: Homogeneously distributed deck load = 10 ton/m²



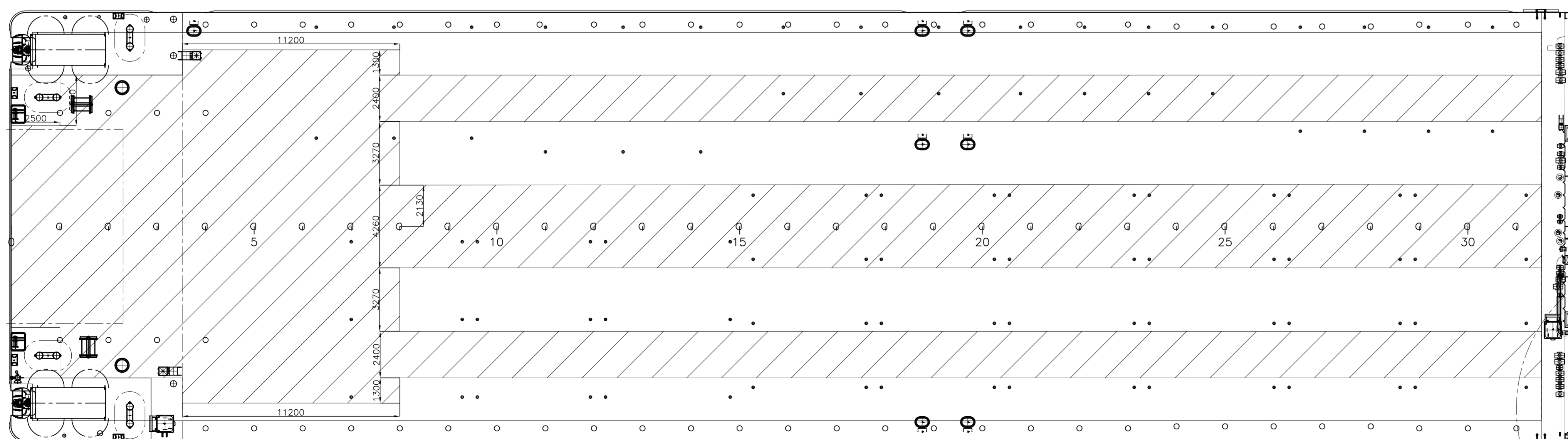
MAIN DECK

LOAD CASE-2: SEAGOING CONDITION: Deck reinforced area for 15 ton/m²



MAIN DECK

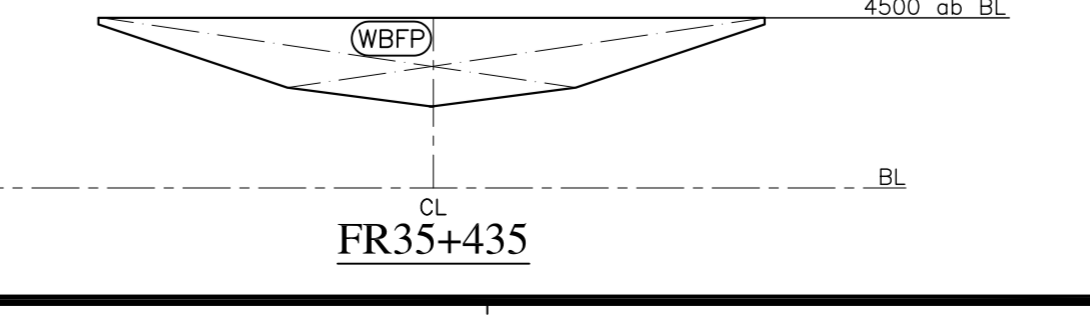
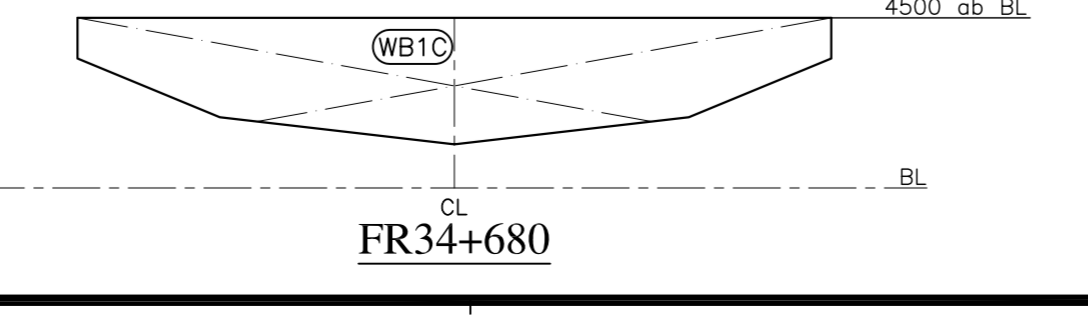
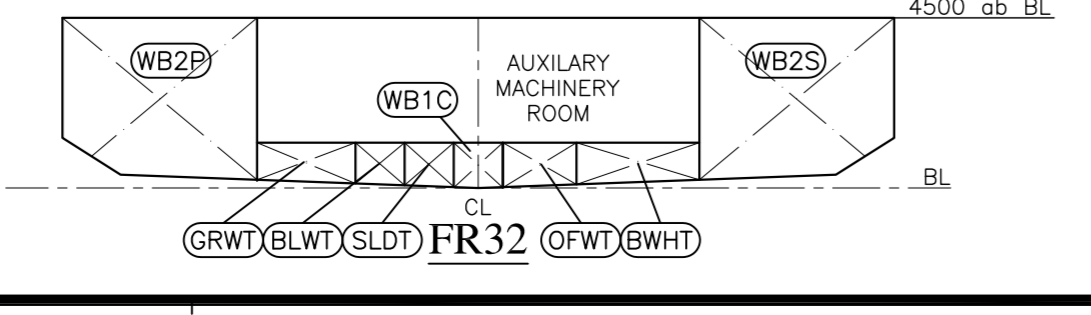
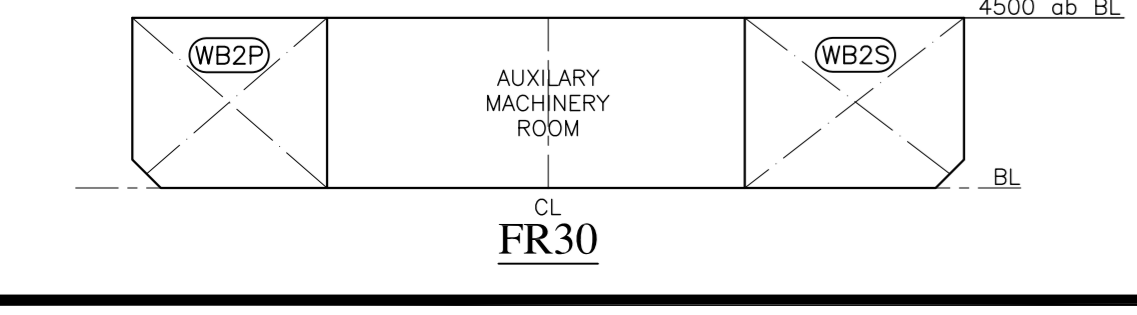
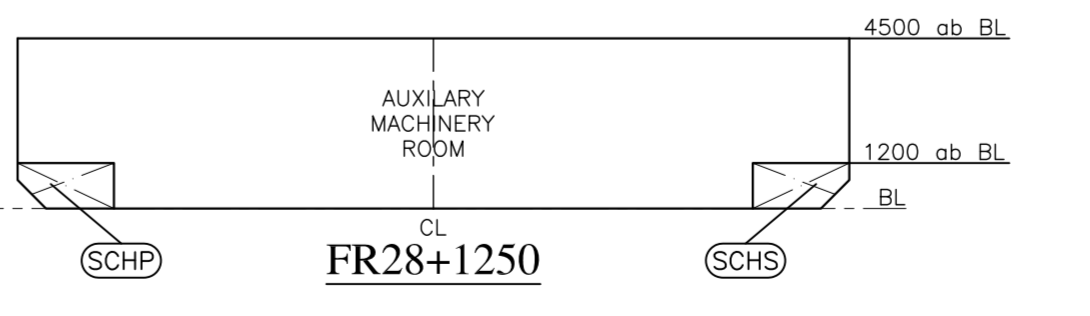
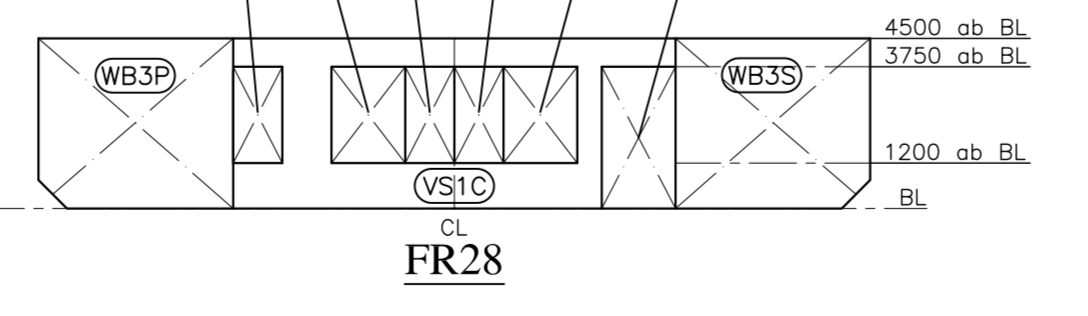
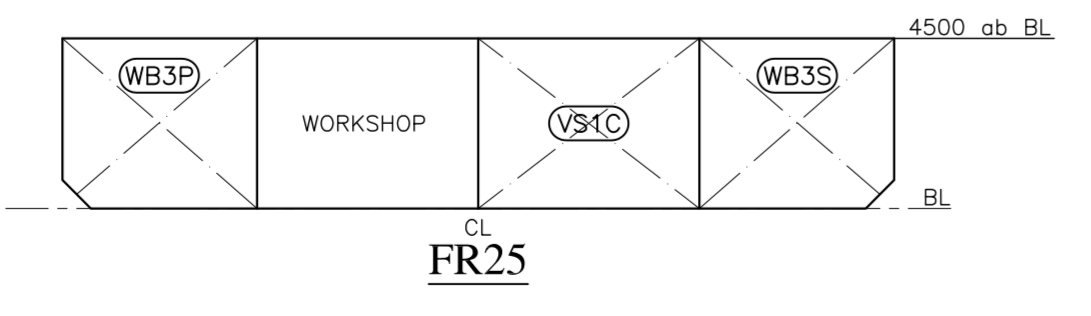
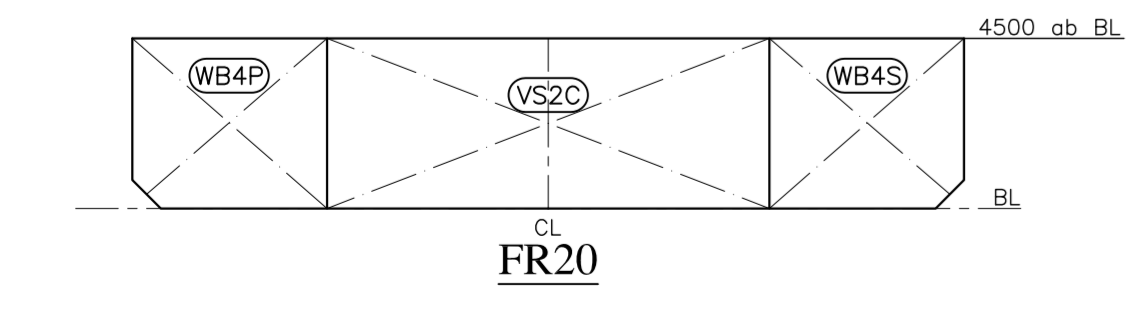
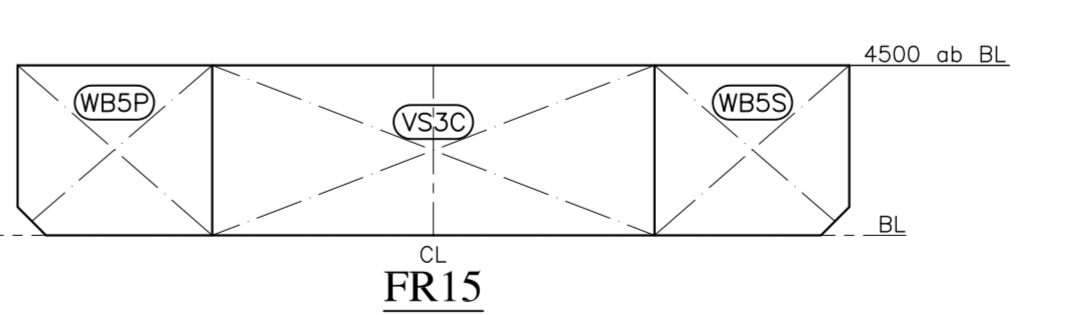
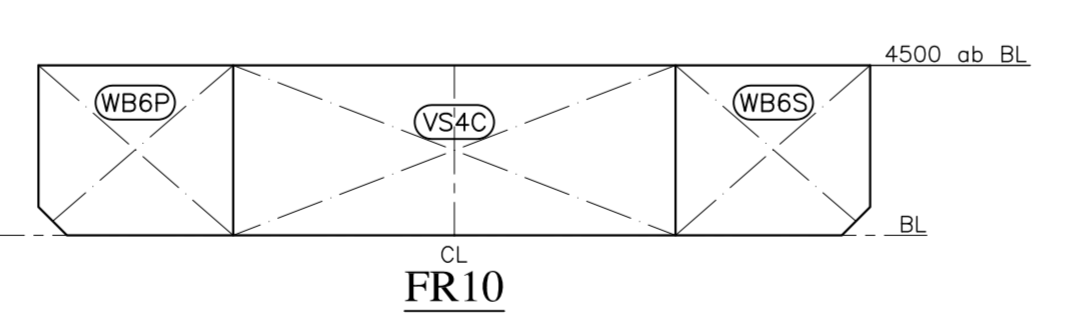
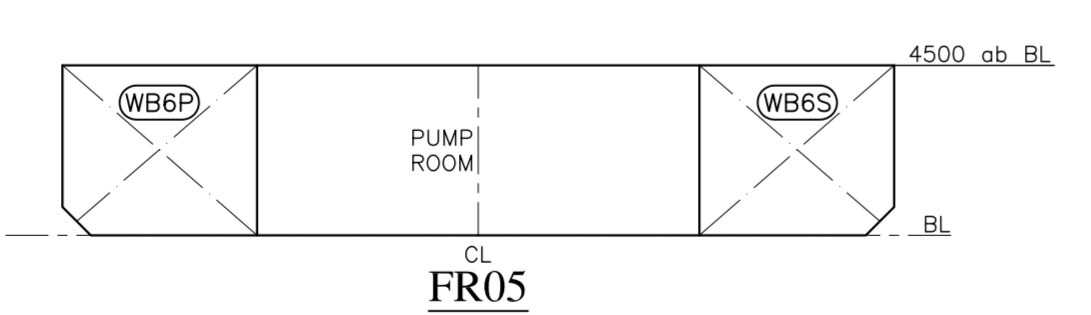
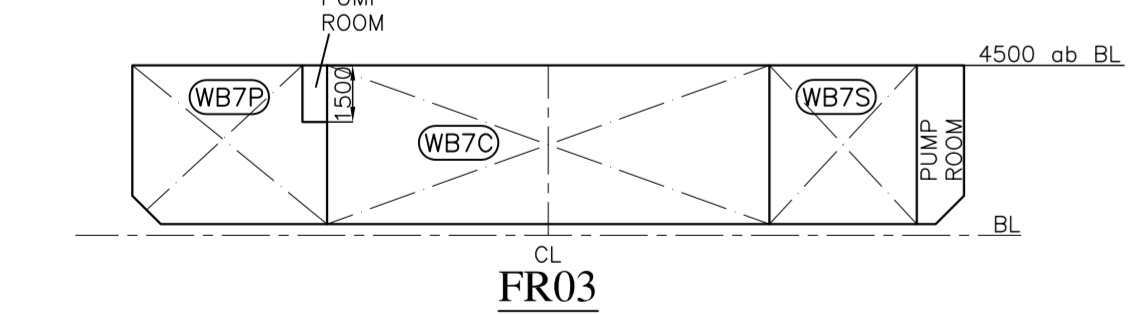
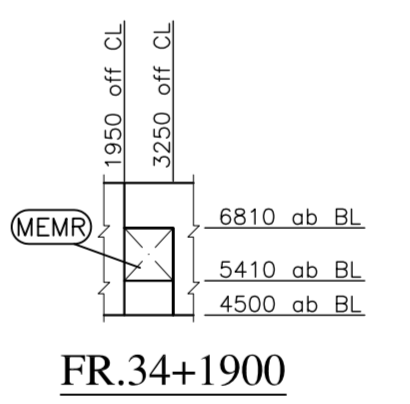
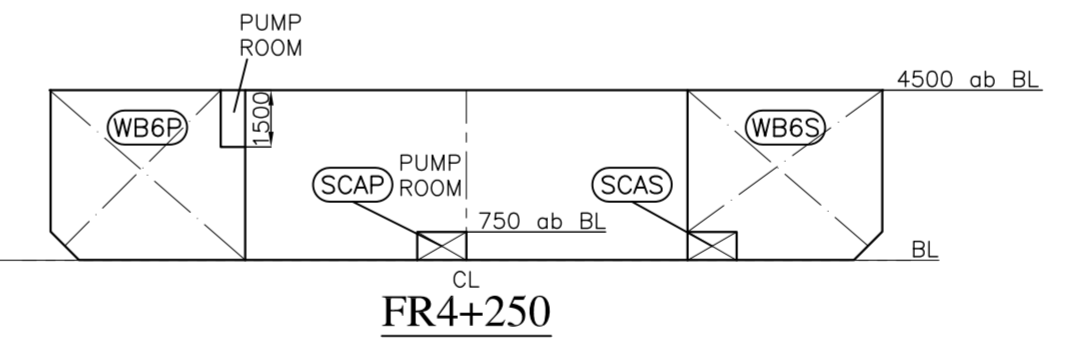
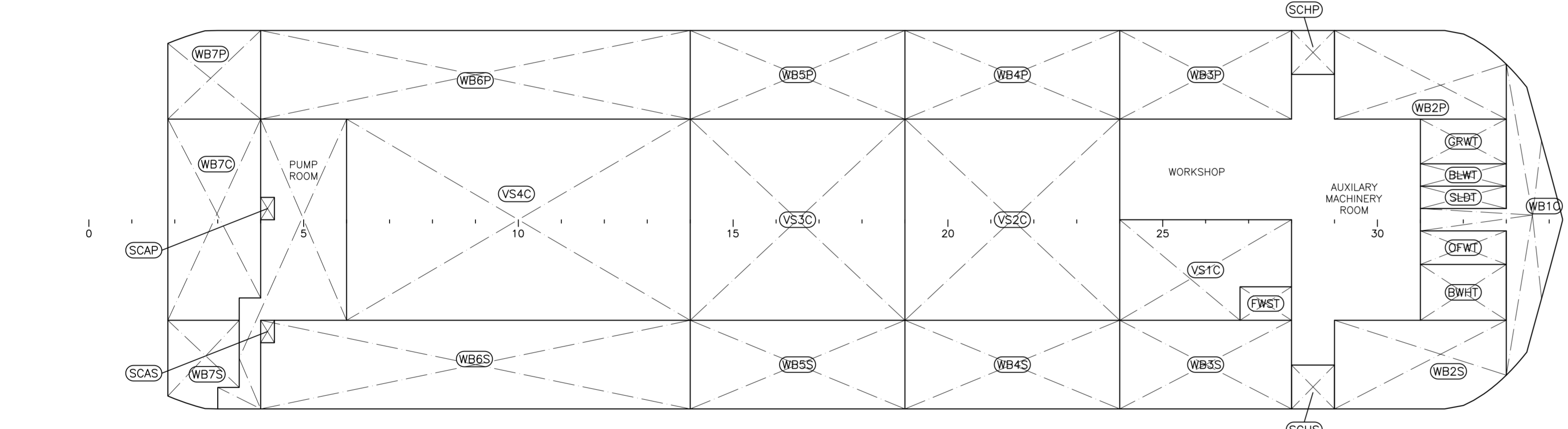
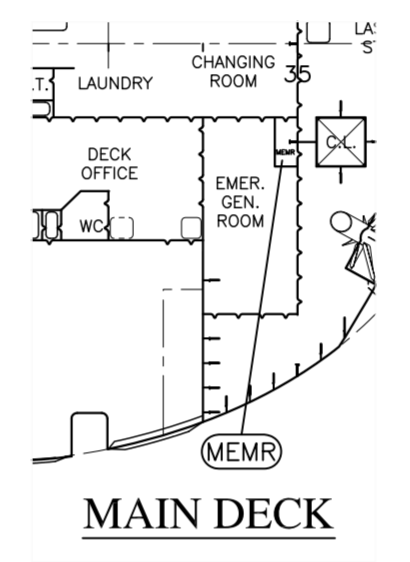
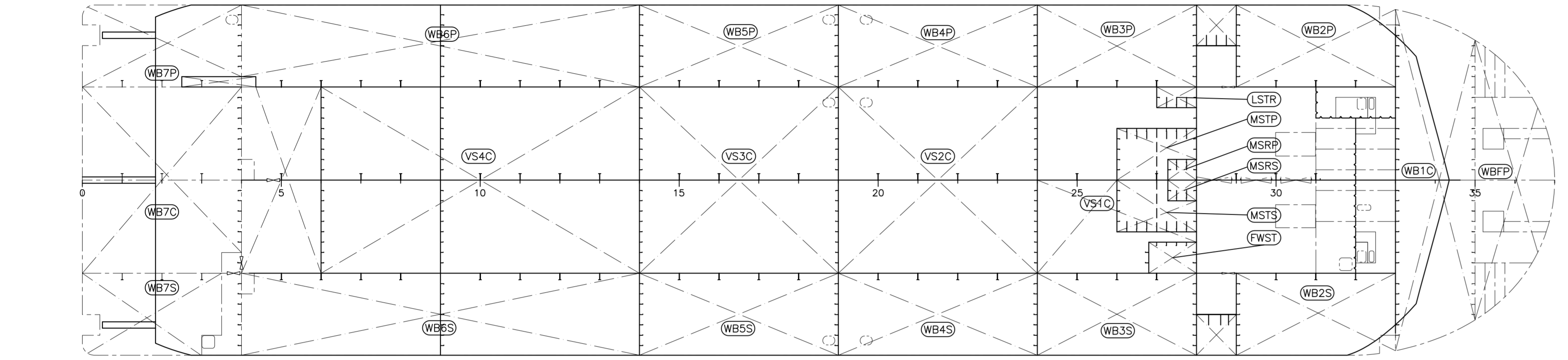
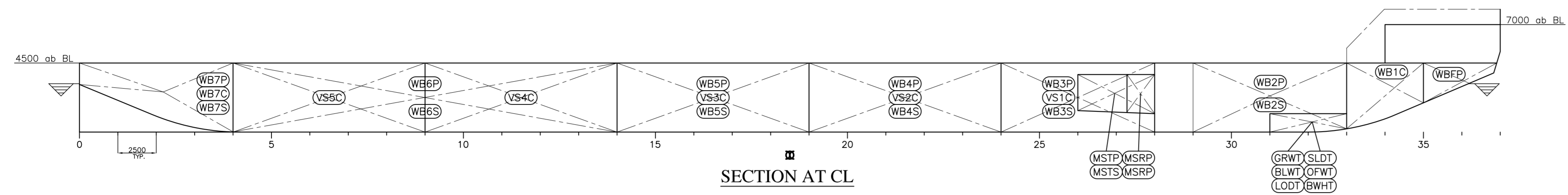
LOAD CASE-3: HARBOUR CONDITION: Deck reinforced area for 25 ton/m²



MAIN DECK

ATTACHMENT 5

GENERAL NOTE:
 * U.N.O. : UNLESS NOTED OTHERWISE
 * BL : BASE LINE
 * KL : KNUCKLE LINE
 * ALL TRANSVERSAL SECTIONS, DRAWN AS "LOOKING TO FORE" (PORT SIDES ARE SHOWN, U.N.O.)
 * ALL LONGITUDINAL SECTIONS, DRAWN AS "LOOKING FROM STB. SIDE TO PORT SIDE" (U.N.O.)
 * LCG : LONGITUDINAL CENTRE OF GRAVITY
 * TCG : TRANSVERSAL CENTRE OF GRAVITY, "-" FOR STARBOARD SIDE
 * VCG : VERTICAL CENTRE OF GRAVITY
 * M.E. : MAIN ENGINE
 * AUX. : AUXILIARY



TANK ID	TANK NAME	LOCATION (FR.NO.)	CATEGORY	DENSITY (ton/m3)	VOLUME (m3)	LCG (m)	TCG (m)	VCG (m)	IYmax (m4)
WBFP	WATER BALLAST FORE PEAK	35-37	BALLAST	1.025	56.3	88,898	0.000	3,712	818
WB1C	WATER BALLAST NO.1 CENTER	31-35	BALLAST	1.025	291.7	84,527	0.004	2,867	3292
WB2P	WATER BALLAST NO.2 PORT	29-33	BALLAST	1.025	209.2	77,245	8.331	2,366	109
WB2S	WATER BALLAST NO.2 STB	29-33	BALLAST	1.025	209.2	77,245	-8.331	2,366	109
WB3P	WATER BALLAST NO.3 PORT	24-28	BALLAST	1.025	224.4	65,000	8.396	2,275	114
WB3S	WATER BALLAST NO.3 STB	24-28	BALLAST	1.025	224.4	65,000	-8.396	2,275	114
WB4P	WATER BALLAST NO.4 PORT	19-24	BALLAST	1.025	280.4	53,750	8.396	2,275	142
WB4S	WATER BALLAST NO.4 STB	19-24	BALLAST	1.025	280.4	53,750	-8.396	2,275	142
WB5P	WATER BALLAST NO.5 PORT	14-19	BALLAST	1.025	280.4	41,250	8.396	2,275	142
WB5S	WATER BALLAST NO.5 STB	14-19	BALLAST	1.025	280.4	41,250	-8.396	2,275	142
WB6P	WATER BALLAST NO.6 PORT	4-14	BALLAST	1.025	560.0	22,519	8,400	2,271	285
WB6S	WATER BALLAST NO.6 STB	4-14	BALLAST	1.025	560.0	22,517	-8,399	2,275	285
WB7C	WATER BALLAST NO.7 CENTER	0-4	BALLAST	1.025	369.0	5,774	0.100	2,725	1290
WB7P	WATER BALLAST NO.7 PORT	0-4	BALLAST	1.025	156.8	5,885	8,424	2,700	107
WB7S	WATER BALLAST NO.7 STB	0-4	BALLAST	1.025	126.3	5,067	-8,271	2,831	91
TOTAL :					4109				
MSTP	MDO STORAGE PORT	26-28	MDO	0.840	31.9	67,263	1,794	2,480	11.4
MSTS	MDO STORAGE STB.	26-28	MDO	0.840	31.9	67,263	-1,794	2,480	11.4
MSRP	MDO SERVICE PORT	27+700-28	MDO	0.840	5.5	69,104	0.650	2,443	0.3
MSRS	MDO SERVICE STB.	27+700-28	MDO	0.840	5.5	69,104	-0.650	2,443	0.3
MEMR	EMER. GENERATOR MDO TANK	34+1900-35	MDO	0.840	1.1	87.2	-2.6	6.11	0.1
TOTAL :					75.9				
FWST	FRESH WATER TANK	26+2000-28	FW	1.000	21.5	68,500	-4,875	1,875	2.0
TOTAL :					21.5				
LSTR	LUB OIL STORAGE	27-28	LUB.	0.900	7.6	68,759	-5,200	2,450	0.5
TOTAL :					7.6				
BLWT	BLACK WATER	31-33	OTHER	1.000	6.8	79,866	2,595	0.662	0.9
GRWT	GREY WATER	31-33	OTHER	1.000	12.6	79,795	4,534	0.694	7.3
BWHT	BILGE WATER	31-33	OTHER	1.000	15.9	79,808	-4,191	0.689	14.3
SLDT	SLUDGE TANK	31-33	OTHER	1.000	7.1	79,907	1,295	0.639	0.9
OFWT	OVERFLOW TANK	31-33	MDO	0.840	10.5	79,897	-1,614	0.645	3.1
VS1C	VOID SPACE NO : 1	24-28	VOID						
VS2C	VOID SPACE NO : 2	19-24	VOID						
VS3C	VOID SPACE NO : 3	14-19	VOID						
VS4C	VOID SPACE NO : 4	6-14	VOID						
* LOOSE TANK									
SCAP	SEA CHEST AFT PORT	4-4+800			0.78	10.4	0.65	0.38	
SCAS	SEA CHEST AFT STARBOARD	4-4+800			0.78	10.4	-6.5	0.38	
SCHP	SEA CHEST FORE PORT	28-29			6.9	71.25	9.62	0.64	
SCHS	SEA CHEST FORE STARBOARD	28-29			6.9	71.25	-9.62	0.64	

		BV Rules				GMK-1 Status
Titles		Dynapos-SAM (DP0)	Dynapos AM/AT (DP1)	Dynapos AM/AT R (DP2)	Dynapos AM/AT RS (DP3)	
Equipment	Main switchboard	According to SOLAS and the present rules	According to SOLAS and the present rules	1 unit with bus tie circuit breaker (2 circuits equally distributed)	2 switchboards, tie circuit-breakers normally open, located in separate rooms	1 unit with bus tie circuit breaker (2 circuits equally distributed)
	Distribution system			redundant ⁽¹⁾	redundant in separate rooms	1 unit, redundant
	Electric generators			redundant	redundant in separate rooms	2 aux units (each 330 kW) + 1 emerg. Unit (75 kW)
	Thrusters and associated control systems			redundant	redundant in separate rooms	4 units (each 405 kW)
Power Management System	Power management system			redundant	redundant in separate rooms	1 set, redundant
Dynamic Positioning System	UPS	-	-	2 units	no statement defined	No UPS, 2 battery units
	Position reference system (DGPS)	1 unit	2 units	3 units	3 units, one of them connected to backup control station	1 unit
	Vertical reference system (MRU)	1 unit	1 unit	2 units	2 units, one of them connected to backup control station	1 unit
	Wind sensor	1 unit	1 unit	2 units	2 units, one of them connected to backup control station	1 unit
	Gyro compass	1 unit	2 units	3 units	3 units, one of them connected to backup control station	1 unit
	DP workstation with DP controller and operator panel	1 unit	1 unit	2 units	2 units, one of them connected to backup control station	1 unit
	Independent Joystick Control system with JC controller and operator panel	-	1 unit	1 units	2 units, one of them connected to backup control station	-
	Thruster I/O controller	1 unit	2 units	3 units (2x for DP, 1x for Joystick Control)	3 units (2x for DP, 1x for Joystick Control)	1 unit

Notes

1. Definition of redundancy: the ability to withstand, while on DP mode, the loss of equipment which is online, without losing position and/or heading.