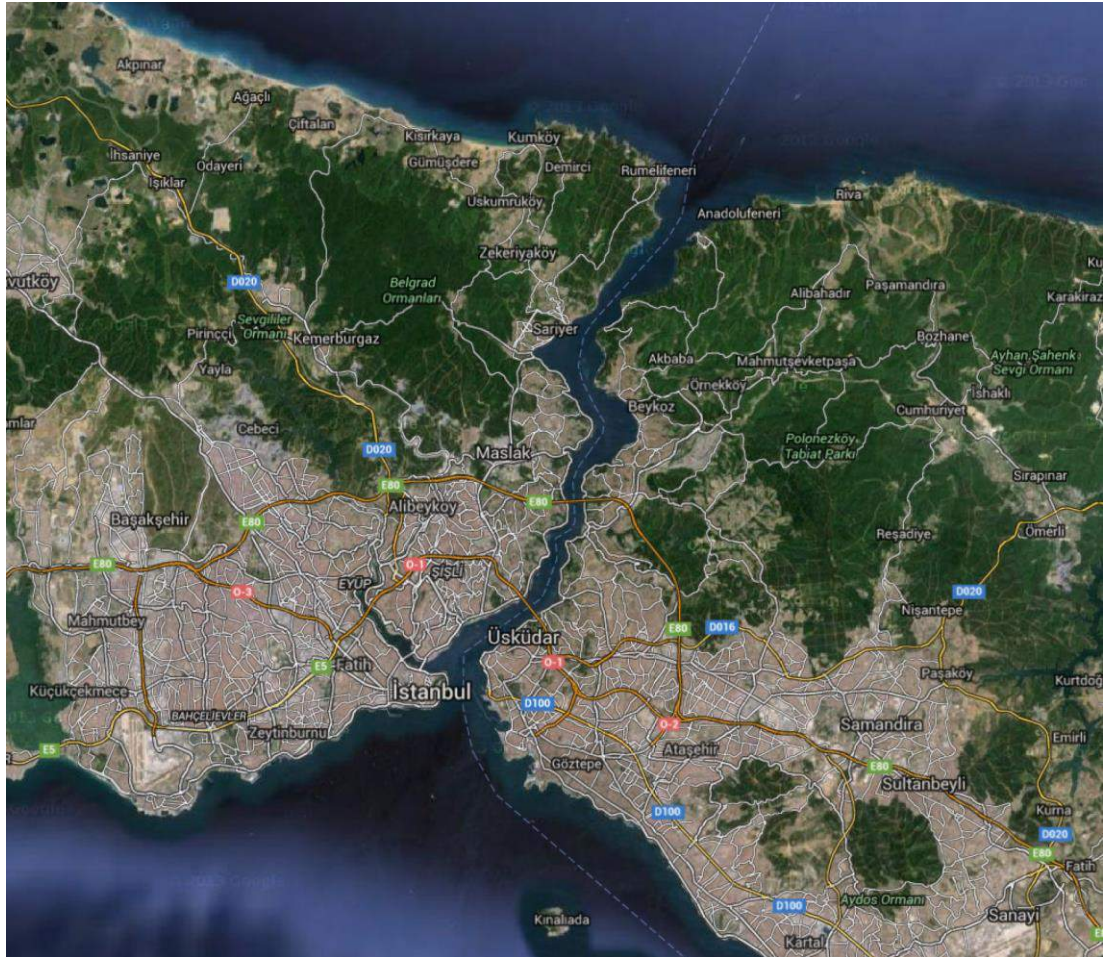


APPENDIX A

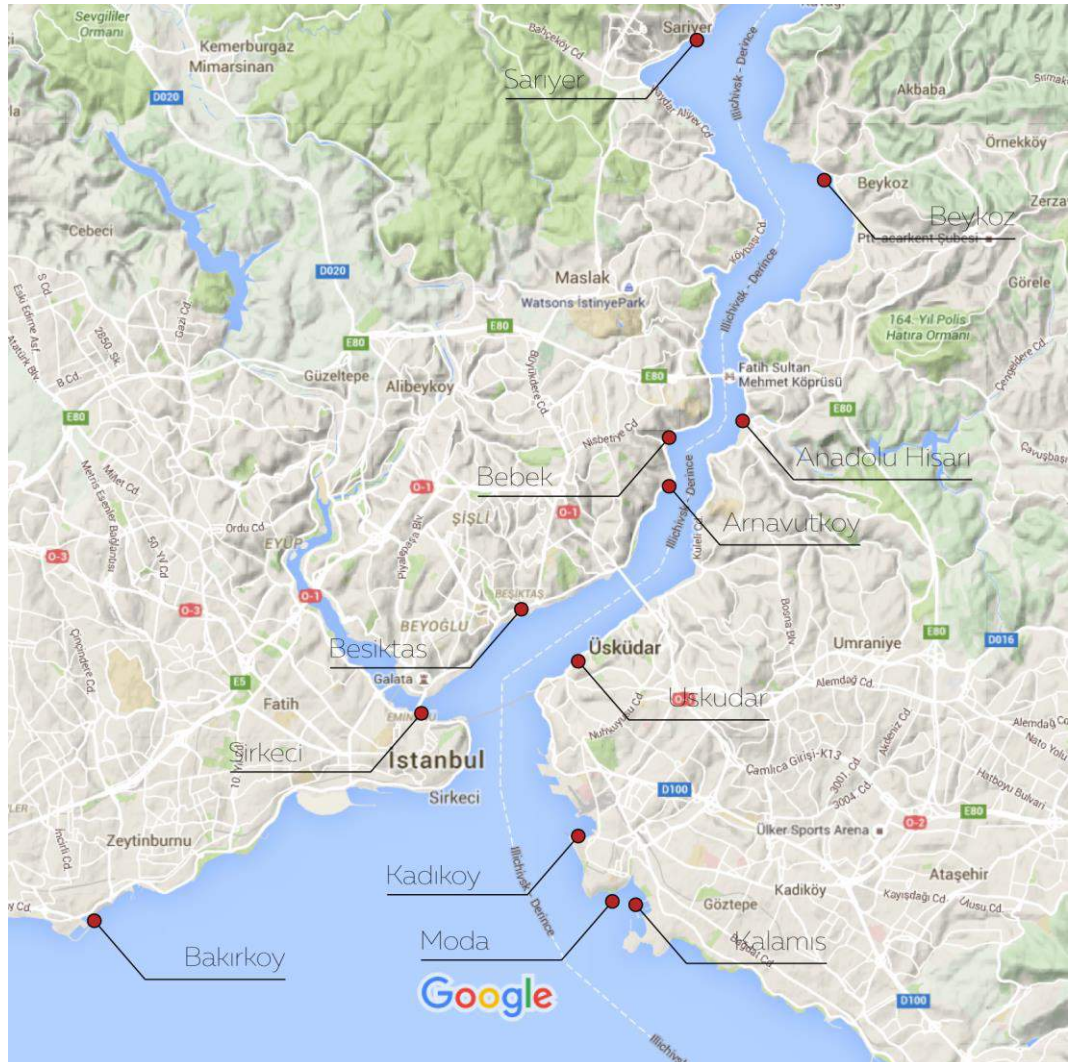
MAPS

- Bosphorus Strait Physical Map



Map was taken from Google Maps [24].

- Mentioned Districts

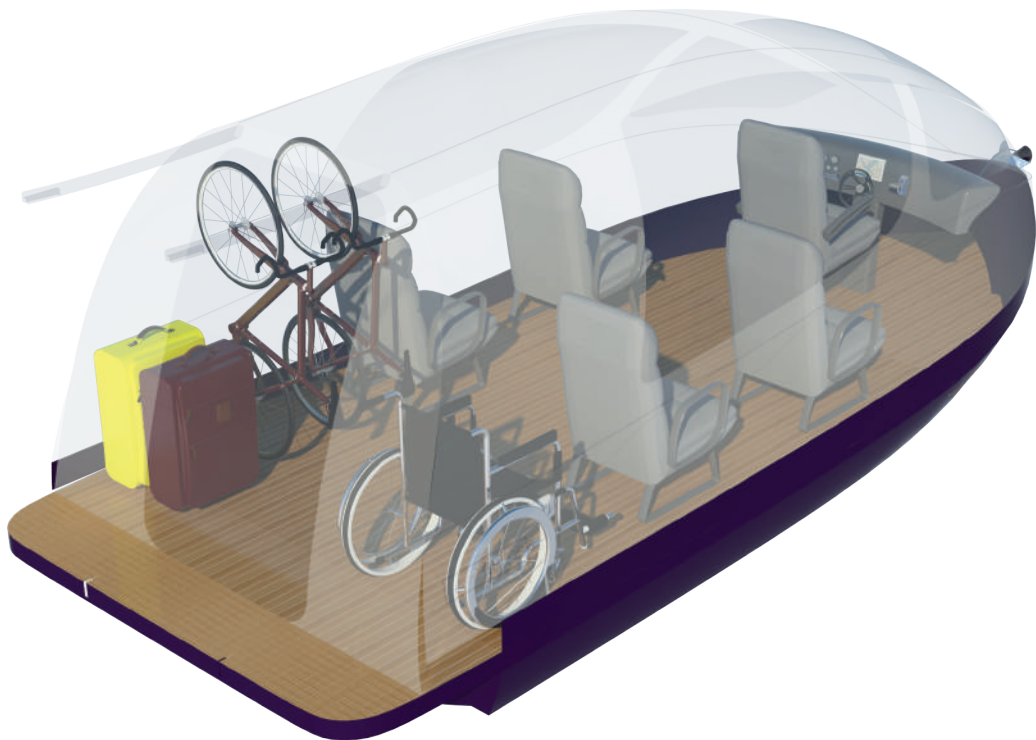
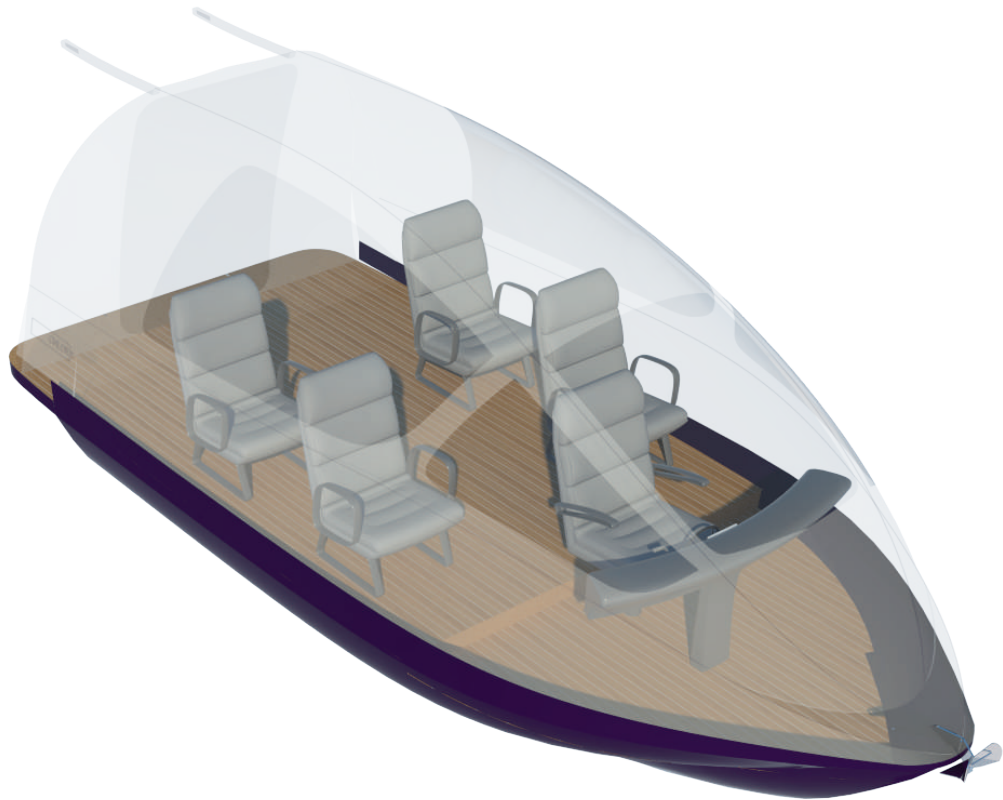


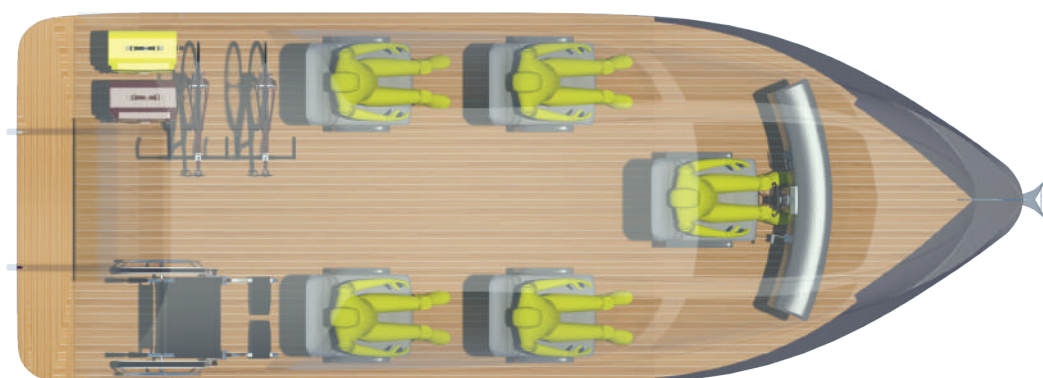
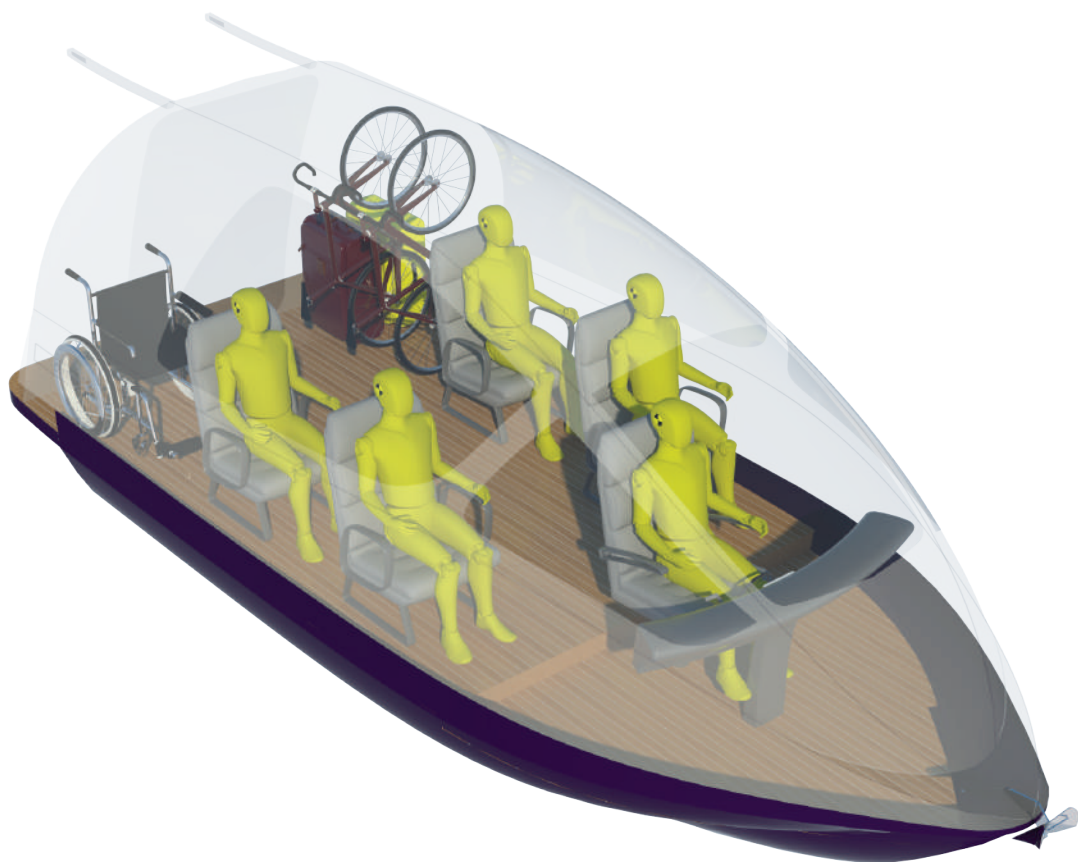
Original map was taken from Google Maps [24].

APPENDIX B

GENERAL ARRANGEMENT

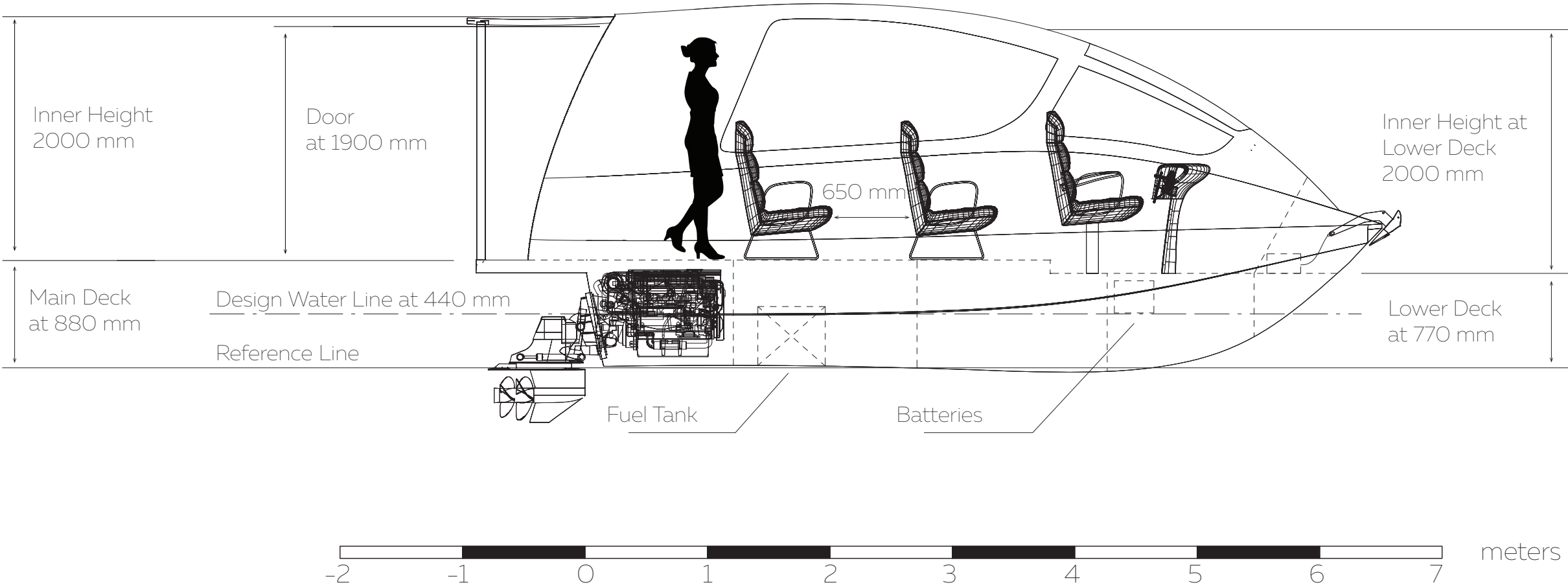
- General Arrangement Renderings





CHLOR S

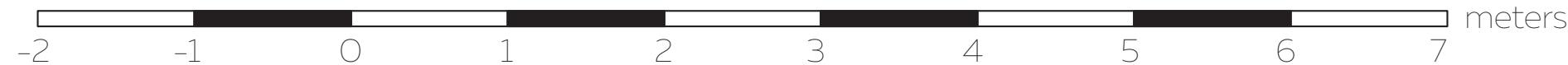
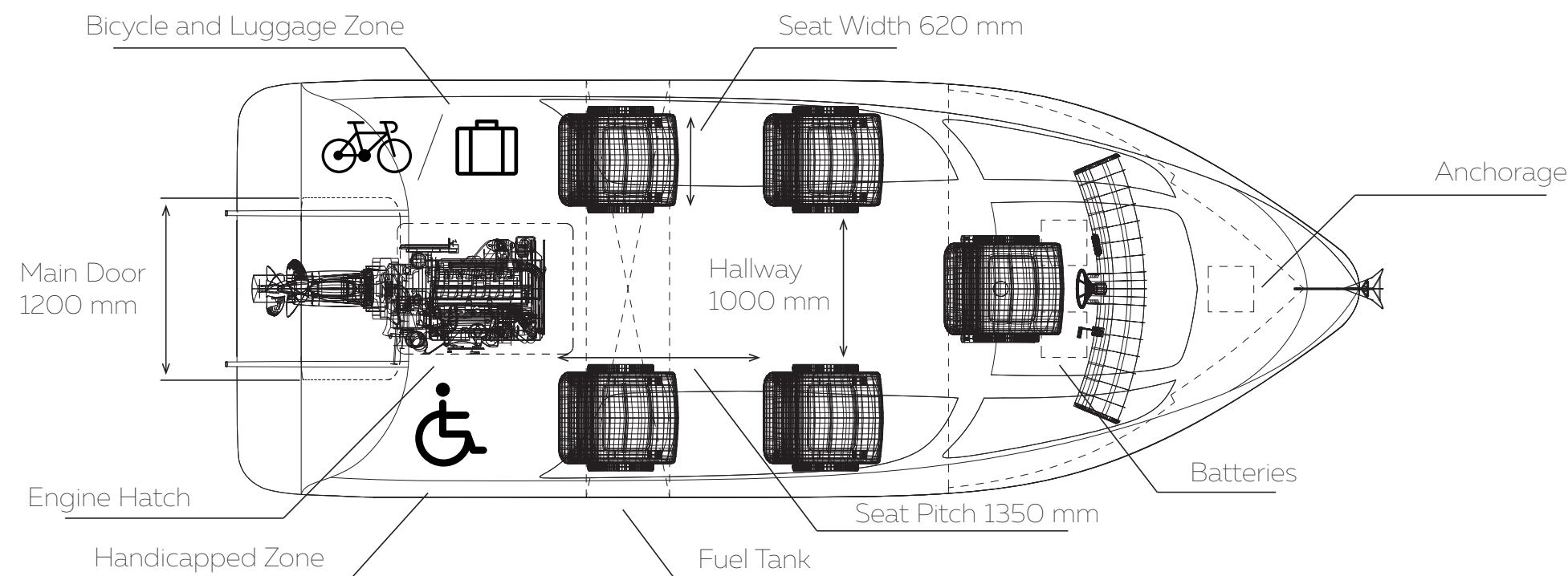
General Arrangement Profile Drawing



Scale 1:40

CHLORIS

General Arrangement Plan Drawing



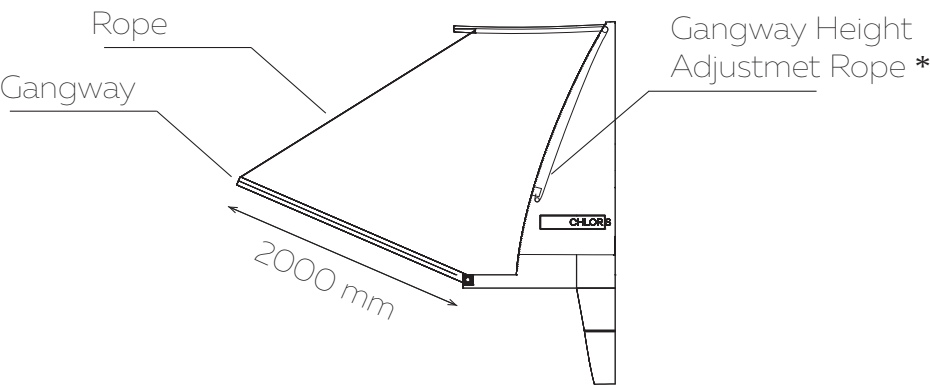
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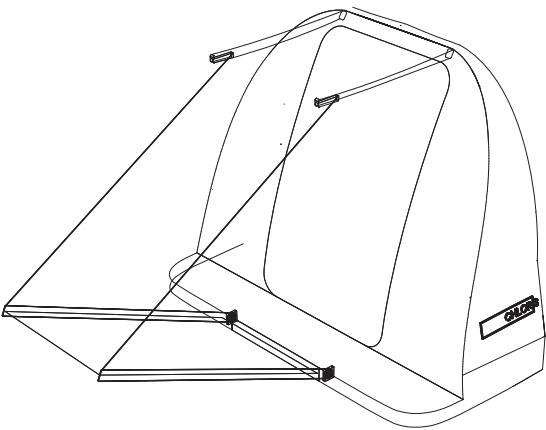
Gangway Drawing

Profile View

Scale 1:60

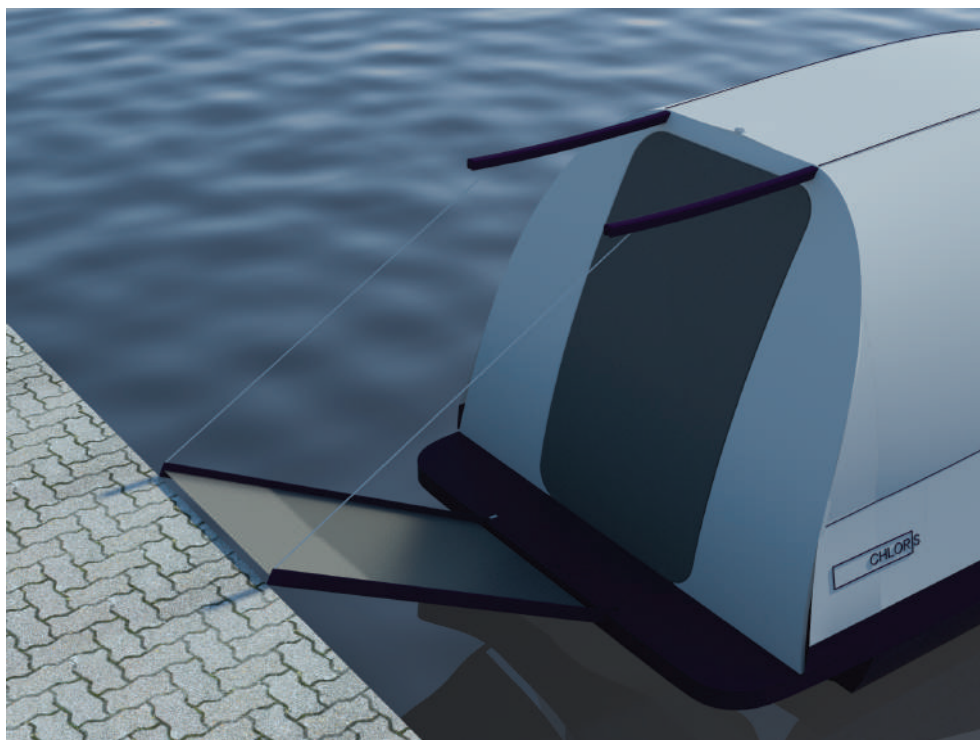
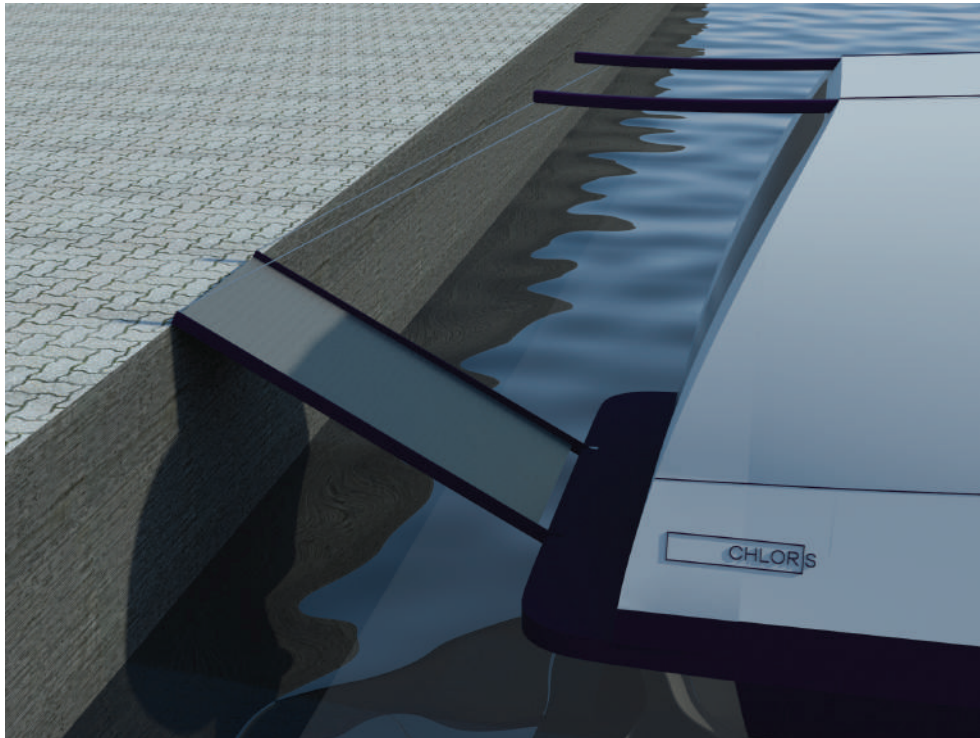


Isometric View



*Can be driven either manpower or electric motor

- Gangway Perspective Renderings



APPENDIX C

HULL FORM

- Hull Form Perspective View



- Hull Form Profile View



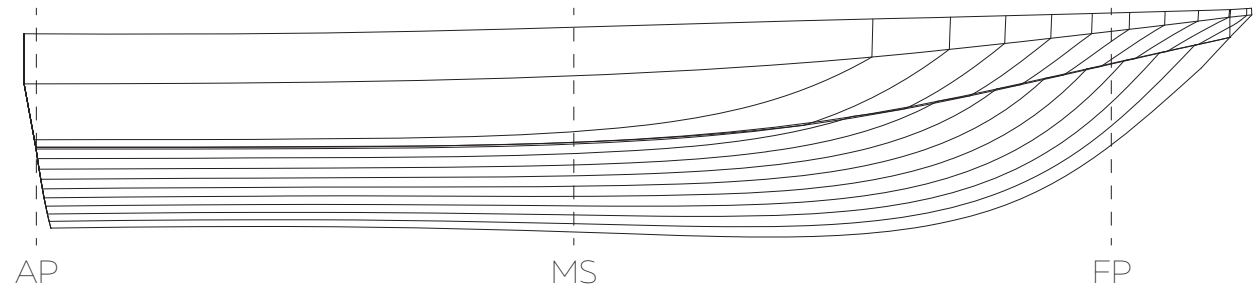
- Hull Form Fore View



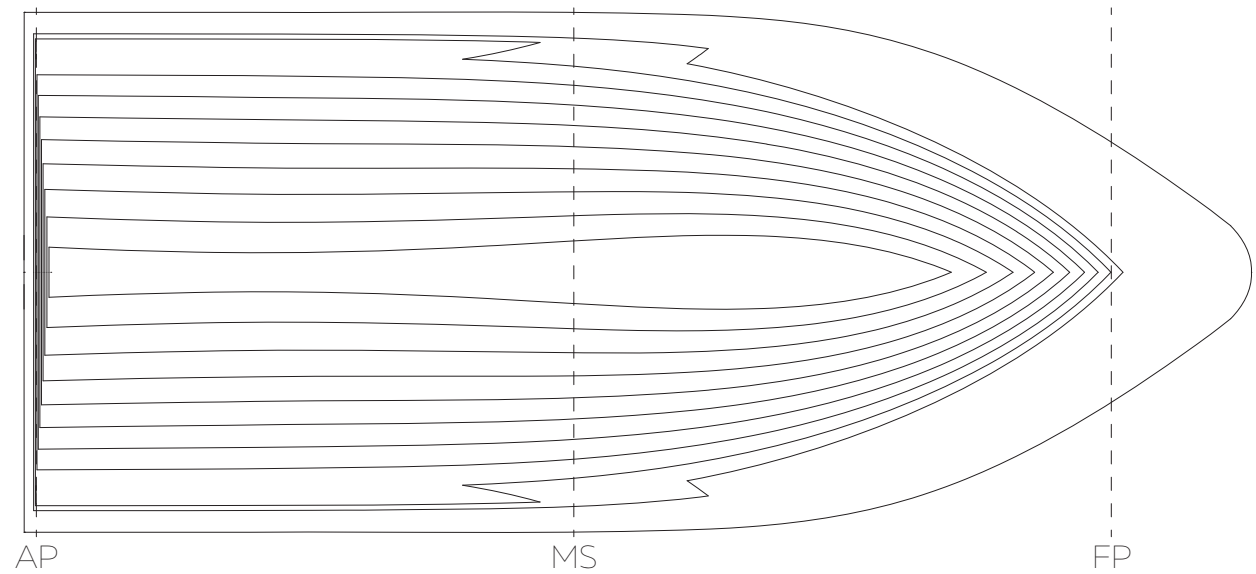
CHLORIS

Lines Plan

Buttocks

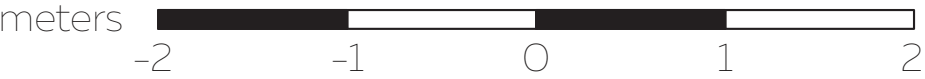
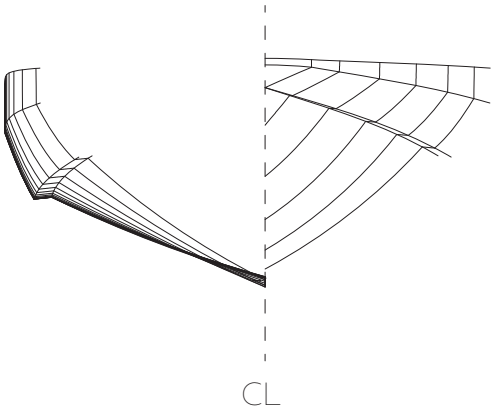


Waterlines



Scale 1:40

Sections



APPENDIX D

RESISTANCE

- Resistance Calculation

Speed	Froude No	Savitsky Planning Resistance	Savitsky Planning Power	Blount and Fox Planning Resistance	Blount and Fox Planning Power
(knots)		(kN)	(kW)	(kN)	(kW)
10	0.69	3.4	32.043	3.7	34.159
10.625	0.733	3.6	35.31	3.9	38.472
11.25	0.776	3.7	38.423	4.0	42.285
11.875	0.819	3.7	41.333	4.1	45.588
12.5	0.862	3.8	44.024	4.1	48.419
13.125	0.905	3.8	46.506	4.1	50.844
13.75	0.948	3.8	48.806	4.1	52.944
14.375	0.991	3.8	50.961	4.1	54.799
15	1.034	3.8	53.006	4.0	56.485
15.625	1.077	3.8	54.977	4.0	58.065
16.25	1.12	3.7	56.906	3.9	59.593
16.875	1.164	3.7	58.823	3.9	61.111
17.5	1.207	3.7	60.752	3.8	62.655
18.125	1.25	3.7	62.714	3.8	64.252
18.75	1.293	3.7	64.729	3.8	65.924
19.375	1.336	3.7	66.812	3.7	67.688
20	1.379	3.7	68.977	3.7	69.558
20.625	1.422	3.7	71.237	3.7	71.546
21.25	1.465	3.7	73.602	3.7	73.659
21.875	1.508	3.7	76.081	3.7	75.907
22.5	1.551	3.7	78.683	3.7	78.295
23.125	1.595	3.8	81.415	3.7	80.829
23.75	1.638	3.8	84.285	3.8	83.515
24.375	1.681	3.8	87.298	3.8	86.355
25	1.724	3.9	90.46	3.8	89.356
25.625	1.767	3.9	93.777	3.9	92.519
26.25	1.81	4.0	97.254	3.9	95.85
26.875	1.853	4.0	100.896	4.0	99.352
27.5	1.896	4.1	104.707	4.0	103.027
28.125	1.939	4.1	108.691	4.1	106.88
28.75	1.982	4.2	112.852	4.1	110.913
29.375	2.025	4.3	117.196	4.2	115.129
30	2.069	4.3	121.725	4.3	119.533
30.625	2.112	4.4	126.444	4.3	124.127
31.25	2.155	4.5	131.355	4.4	128.913
31.875	2.198	4.6	136.464	4.5	133.896
32.5	2.241	4.7	141.773	4.6	139.079
33.125	2.284	4.8	147.286	4.7	144.464
33.75	2.327	4.8	153.007	4.8	150.054
34.375	2.37	4.9	158.939	4.8	155.854
35	2.413	50.	165.085	4.9	161.865

- Power – Speed Diagram



- Resistance – Power Diagram



APPENDIX E

EQUIPMENT

- Detailed Equipment List

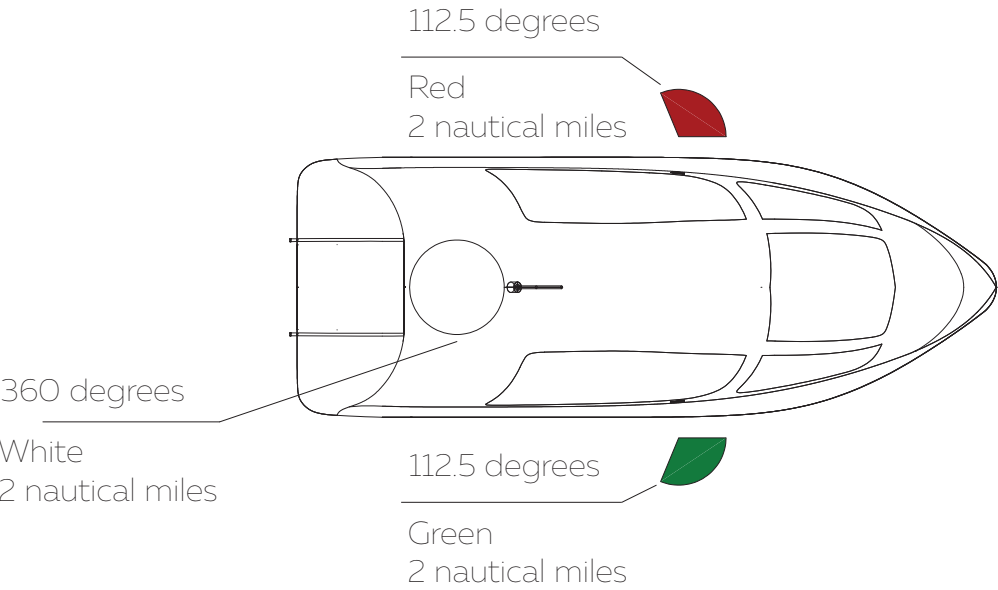
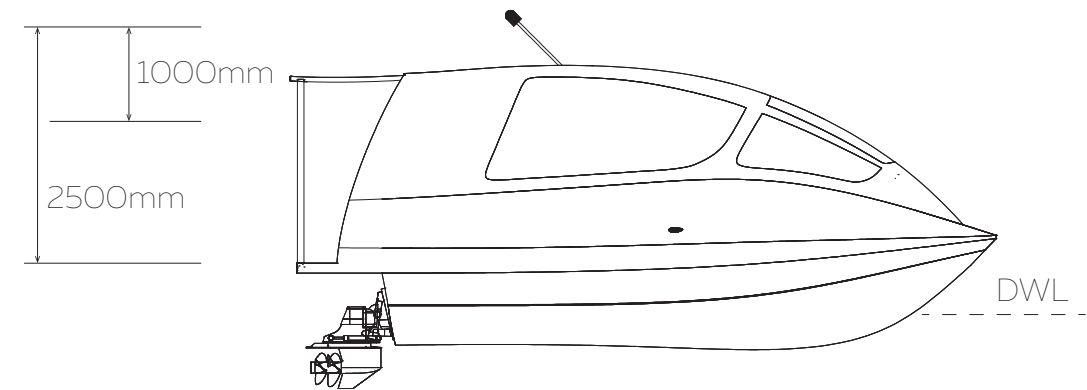
<i>Equipment</i>	<i>Brand</i>	<i>Description</i>	<i>Specifications</i>	<i>Price (\$)</i>
<i>Bilge Pump</i>	Rule Industries	1500gph Rule-Mate, 12V, 4.8A Draw, 1-1/8" Port, 6"H x 7-1/4"W	1500gph -95lpm-	190
<i>Bilge Pump</i>	West Marine	Cartridge Bilge Pump, 1250 gph	1250gph -80lpm-	60
<i>Battery</i>	Mastervolt	AGM 12/130 12V AGM, Group N/A, 130 Ah, 935 CCA, 16 1/8"L x 9"W x 7"H, Weighs 83lb.	130 Ah - 38kg	440
<i>Battery</i>	Mastervolt	AGM 12/130 12V AGM, Group N/A, 130 Ah, 935 CCA, 16 1/8"L x 9"W x 7"H, Weighs 83lb.	130 Ah - 38kg	440
<i>Navigation Lights</i>	Attwood	Red Quasar Sidelight Black Housing	COLREG 72	20
<i>Navigation Lights</i>	Attwood	Green Quasar Sidelight Black Housing	COLREG 72	20
<i>Navigation Lights</i>	Attwood	Stonwaway 24" All-Round Light	COLREG 72	27
<i>Windlass</i>	Lewmar	CRW400 Captive Reel Windlass	up to 250kg	350
<i>Compass</i>	Ritchie	Flush-Mount Voyager Compass, PowerDamp Flat Dial, Black	Magnetic	120
<i>Fire Extinguisher</i>	Kidde	KIDDE Mariner 5 Dry Chemical Fire Extinguisher Twin-Pack	x 2	60
<i>Horn</i>	AFI	AFI Stainless-Steel Compact Electric Horn - Single	Approved	30
<i>SART</i>	Seven Star	S-701 - Search and Rescue Transponder	9 GHz	765
<i>VHF Radio Fixed</i>	Standard Horizon	GX1600 Compact VHF, Black	-	140
<i>GPS</i>	GARMIN	GPSMAP 527 Chartplotter, World Wide Basemap	5"	650
<i>Anchor</i>	Lewmar	Delta Fast Set 14lb. Galvanized-Manganese, 21'-31'L Boat, 23-3/8"L x 10-3/8"W x 10-1/4"H	6 kg	150
<i>Steering Wheel</i>	UFLEX	Nisida B/S Steering Wheel	Thermoplastic	140
<i>Cleats</i>	West Marine	Stainless-Steel Yacht Cleat, 6"	-	120
<i>Tide Tables</i>	OceanGrafix	2015 Tide Tables - High Low Water Predictions	-	20
<i>Tidal Stream Atlas</i>	Paradise Cay	Pilot charts for all oceans of the world	-	20
<i>Radar Reflector</i>	Plastimo	Aluminum Radar Reflector Tube	-	60
<i>Interior Light</i>	West Marine	Stainless Steel Surface-Mount 3" LED Light, White	x6 200mA	190
<i>Vessel Systems Monitor</i>	Blue Sea Systems	Battery, Tank and Bilge Monitor	-	280
<i>Battery Switch</i>	Blue Sea Systems	m-Series Mini Battery Switches	-	30
<i>Passenger Seat</i>	Moeller Marine	ST2080-HD	x4	700
<i>Captains Seat</i>	Moeller Marine	Captains Pilot Chair Seat Base and Pedestal	-	250
<i>Life Vests</i>	Stearns	Ocean Mate, Life Vest Adult Type SOLAS-compliant	x5	500

APPENDIX F

COLREG DRAWING

CHLORIS

COLREG 72 Drawing

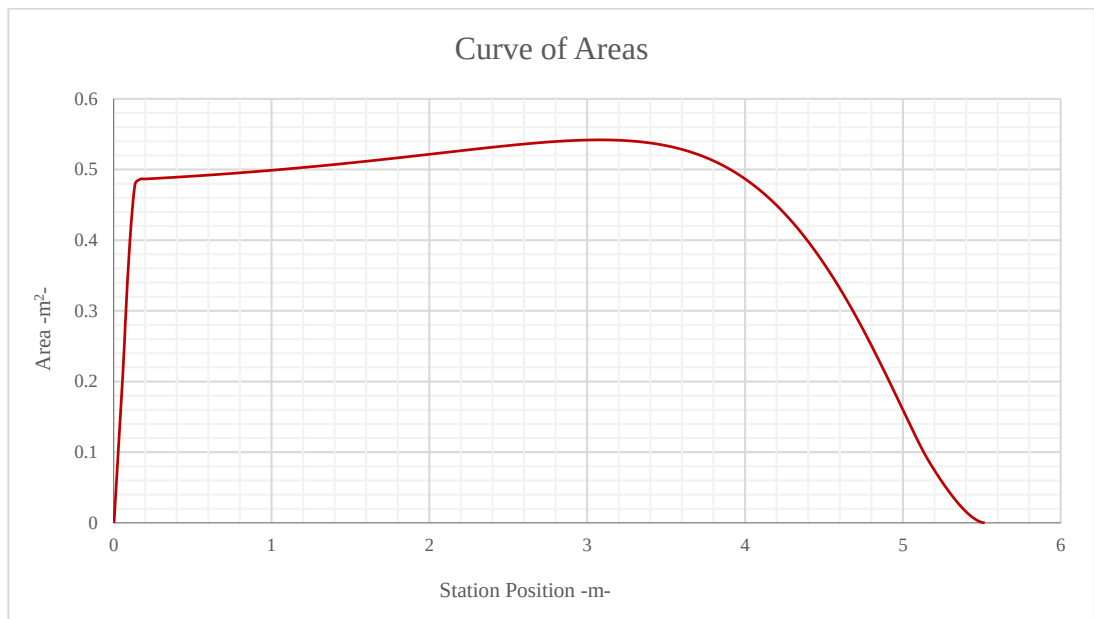


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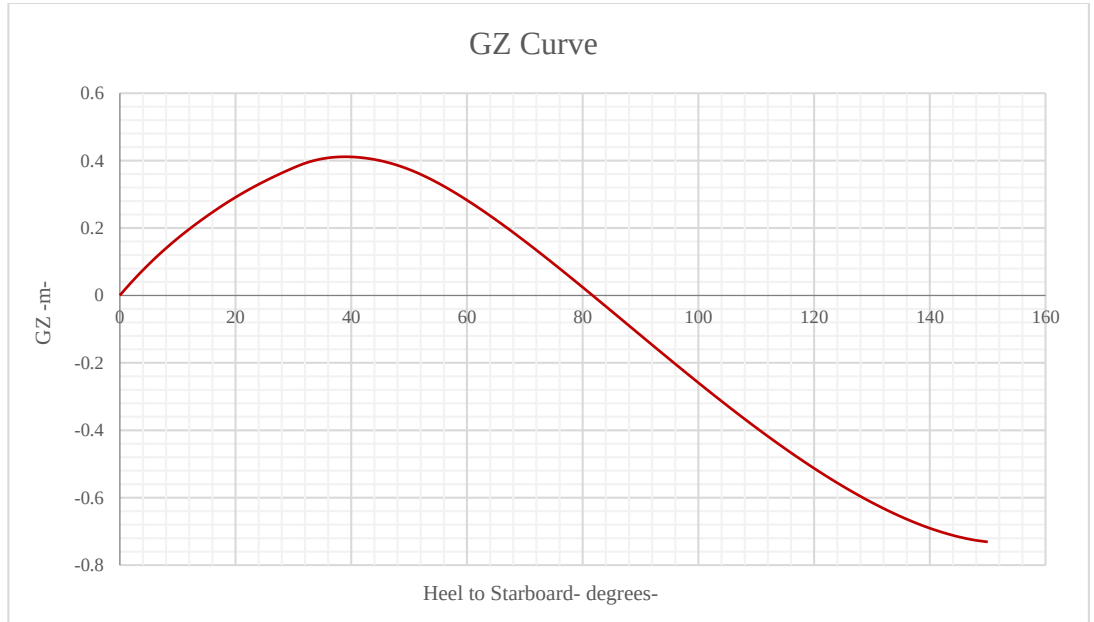
APPENDIX G

STABILITY

- Curve Of Areas

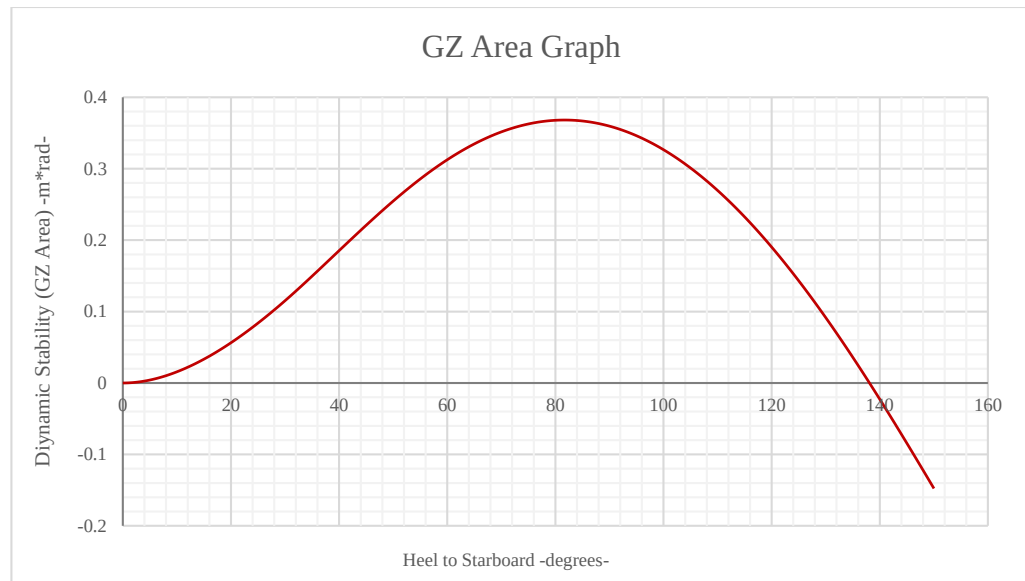


- GZ Curve



Maximum GZ occurs at 38.9 degrees with 0.411 m

- GZ Area



- Stability Criteria

Code	Criteria	Value	Units	Actual	Status	Margin %
HSC 2000 Annex 8 Monohull. Intact	1.1 Weather criterion from IMO A.749(18)				Pass	
	Wind arm: $a P A (h - H) / (g \text{ disp.}) \cos^n(\phi)$					
	constant: $a =$	0.99966				
	wind pressure: $P =$	504	Pa			
	area centroid height (from zero point): $h =$	0	m			
	additional area: $A =$	0	m ²			
	$H =$ vert. centre of projected lat. u'water area	0.227	m			
	cosine power: $n =$	0				
	gust ratio	1.5				
	Area2 integrated to the lesser of					
	roll back angle from equilibrium (with steady heel arm)	25.0 (-22.7)	deg	-22.7		
	Area 1 upper integration range, to the lesser of:					
	spec. heel angle	50	deg	50		
	first downflooding angle	86.2	deg			
	angle of vanishing stability (with gust heel arm)	76.9	deg			
	Angle for GZ(max) in GZ ratio, the lesser of:					
	spec. heel angle	0	deg	0		
	Select required angle for angle of steady heel ratio:					
	Criteria:				Pass	
	Angle of steady heel shall not be greater than ($\leq$)	16	deg	2.3	Pass	85.47
	Angle of steady heel / Marginline immersion angle shall be less than ($\leq$)	80	%	8.57	Pass	89.29
	Area1 / Area2 shall not be less than ($\geq$)	100	%	199.37	Pass	99.37
	Intermediate values					
	Model windage area		m ²	3.958		
	Model windage area centroid height (from zero point)		m	0.773		
	Total windage area		m ²	3.958		
	Total windage area centroid height (from zero point)		m	0.773		
	Heel arm amplitude		m	0.045		
	Equilibrium angle with steady heel arm		deg	2.3		
	Equilibrium angle with gust heel arm		deg	3.6		
	Marginline immersion angle		deg	27.1		
	Area1 (under GZ), from 3.6 to 50.0 deg.		m.rad	0.2525		
	Area1 (under HA), from 3.6 to 50.0 deg.		m.rad	0.0546		
	Area1, from 3.6 to 50.0 deg.		m.rad	0.1979		
	Area2 (under GZ), from -22.7 to 3.6 deg.		m.rad	-0.0684		
	Area2 (under HA), from -22.7 to 3.6 deg.		m.rad	0.0308		
	Area2, from -22.7 to 3.6 deg.		m.rad	0.0993		

HSC 2000 Annex 8 Monohull. Intact	1.2 Area 0 to 30 or GZmax				Pass	
	from the greater of					
	spec. heel angle	0	deg	0		
	to the lesser of					
	spec. heel angle	30	deg	30		
	angle of first GZ peak	38.9	deg			
	angle of max. GZ	38.9	deg			
	first downflooding angle	86.2	deg			
	lower heel angle	15	deg			
	required GZ area at lower heel angle	0.07	m.rad			
	higher heel angle	30	deg			
	required GZ area at higher heel angle	0.055	m.rad			
	shall not be less than ($\geq$)	0.055	m.rad	0.1152	Pass	109.41
HSC 2000 Annex 8 Monohull. Intact	1.3 Area 30 to 40				Pass	
	from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	40	deg	40		
	first downflooding angle	86.2	deg			
	angle of vanishing stability	81.7	deg			
	shall not be less than ($\geq$)	0.03	m.rad	0.0701	Pass	133.69
HSC 2000 Annex 8 Monohull. Intact	1.4 Max GZ at 30 or greater				Pass	
	in the range from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	180	deg			
	angle of max. GZ	38.9	deg	38.9		
	shall not be less than ($\geq$)	0.2	m	0.411	Pass	105.5
	Intermediate values					
	angle at which this GZ occurs		deg	38.9		
HSC 2000 Annex 8 Monohull. Intact	1.5 Angle of maximum GZ				Pass	
	shall not be less than ($\geq$)	15	deg	38.9	Pass	159.39
HSC 2000 Annex 8 Monohull. Intact	1.6 Initial GMt				Pass	
	spec. heel angle	0	deg			
	shall not be less than ($\geq$)	0.15	m	1.206	Pass	704

12217-3: Non-sailing boats	6.2.2 Downflooding height at equilibrium				Pass	
	the min. freeboard of the	DF Pt.				
	shall be greater than (>)	0.5	m	0.554	Pass	10.8
12217-3: Non-sailing boats	6.3.2.10 Offset load test - required freeboard at equilibrium				Pass	
	the min. freeboard of the	DF Pt.				
	shall be greater than (>)	0.25	m	0.554	Pass	121.6
12217-3: Non-sailing boats	6.3.2.11 Offset load test - heel at equilibrium				Pass	
	the angle of	Heel				
	shall not be greater than (<=)	19.7	deg	0	Pass	100
Regulation 27 - Intact stability	27.1.1 Initial GMo in port				Pass	
	spec. heel angle	0	deg			
	shall not be less than (>=)	0.15	m	1.206	Pass	704
Regulation 27 - Intact stability	27.1.2.1 Area 0 to 30				Pass	
	from the greater of					
	spec. heel angle	0	deg	0		
	to the lesser of					
	spec. heel angle	30	deg	30		
	angle of vanishing stability	81.7	deg			
	shall not be less than (>=)	0.055	m.rad	0.1152	Pass	109.39
Regulation 27 - Intact stability	27.1.2.1 Area 0 to 40				Pass	
	from the greater of					
	spec. heel angle	0	deg	0		
	to the lesser of					
	spec. heel angle	40	deg	40		
	first downflooding angle	86.2	deg			
	angle of vanishing stability	81.7	deg			
	shall not be less than (>=)	0.09	m.rad	0.1853	Pass	105.86
Regulation 27 - Intact stability	27.1.2.1 Area 30 to 40				Pass	
	from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	40	deg	40		
	first downflooding angle	86.2	deg			
	angle of vanishing stability	81.7	deg			
	shall not be less than (>=)	0.03	m.rad	0.0701	Pass	133.7

Regulation 27 - Intact stability	27.1.2.2 Max GZ at 30 or greater				Pass	
	in the range from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	90	deg			
	angle of max. GZ	38.9	deg	38.9		
	shall not be less than ($\geq$)	0.2	m	0.411	Pass	105.5
	Intermediate values					
	angle at which this GZ occurs		deg	38.9		
Regulation 27 - Intact stability	27.1.2.3 Angle of maximum GZ				Pass	
	shall not be less than ($\geq$)	25	deg	38.9	Pass	55.64
Regulation 27 - Intact stability	27.1.2.4 Initial GMo at sea				Pass	
	spec. heel angle	0	deg			
	shall not be less than ($\geq$)	0.15	m	1.206	Pass	704
11.1.2.5 Monohulls	11.1.2.5.1a Area 0 to 30				Pass	
	from the greater of					
	spec. heel angle	0	deg	0		
	to the lesser of					
	spec. heel angle	30	deg	30		
	angle of vanishing stability	81.7	deg			
	shall not be less than ($\geq$)	0.055	m.rad	0.1152	Pass	109.39
11.1.2.5 Monohulls	11.1.2.5.1b Area 0 to 40				Pass	
	from the greater of					
	spec. heel angle	0	deg	0		
	to the lesser of					
	spec. heel angle	40	deg	40		
	first downflooding angle	86.2	deg			
	angle of vanishing stability	81.7	deg			
	shall be greater than ($>$)	0.09	m.rad	0.1853	Pass	105.86
11.1.2.5 Monohulls	11.1.2.5.2 Area 30 to 40				Pass	
	from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	40	deg	40		
	first downflooding angle	86.2	deg			
	angle of vanishing stability	81.7	deg			
	shall be greater than ($>$)	0.03	m.rad	0.0701	Pass	133.7

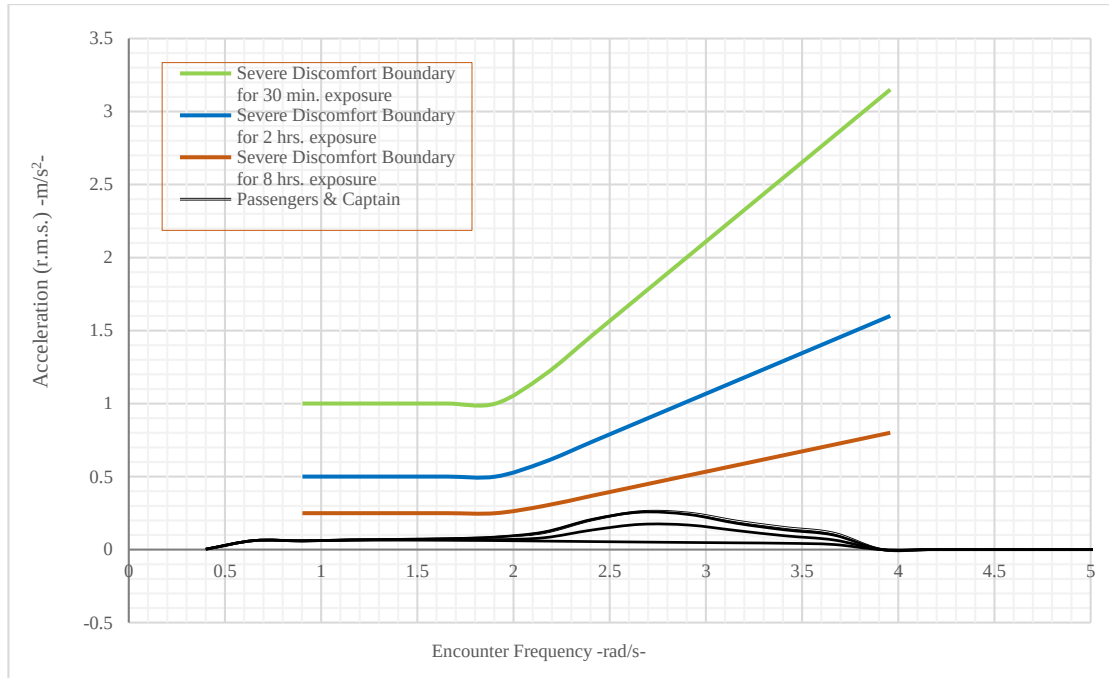
11.1.2.5 Monohulls	11.1.2.5.3 Max GZ at 30 or greater				Pass	
	in the range from the greater of					
	spec. heel angle	30	deg	30		
	to the lesser of					
	spec. heel angle	180	deg			
	angle of max. GZ	38.9	deg	38.9		
	shall be greater than (>)	0.2	m	0.411	Pass	105.5
	Intermediate values					
	angle at which this GZ occurs		deg	38.9		
11.1.2.5 Monohulls	11.1.2.5.4 Angle of maximum GZ				Pass	
	shall not be less than (>=)	25	deg	38.9	Pass	55.64
11.1.2.5 Monohulls	11.1.2.5.5 Initial GMt				Pass	
	spec. heel angle	0	deg			
	shall not be less than (>=)	0.35	m	1.206	Pass	244.57

APPENDIX H

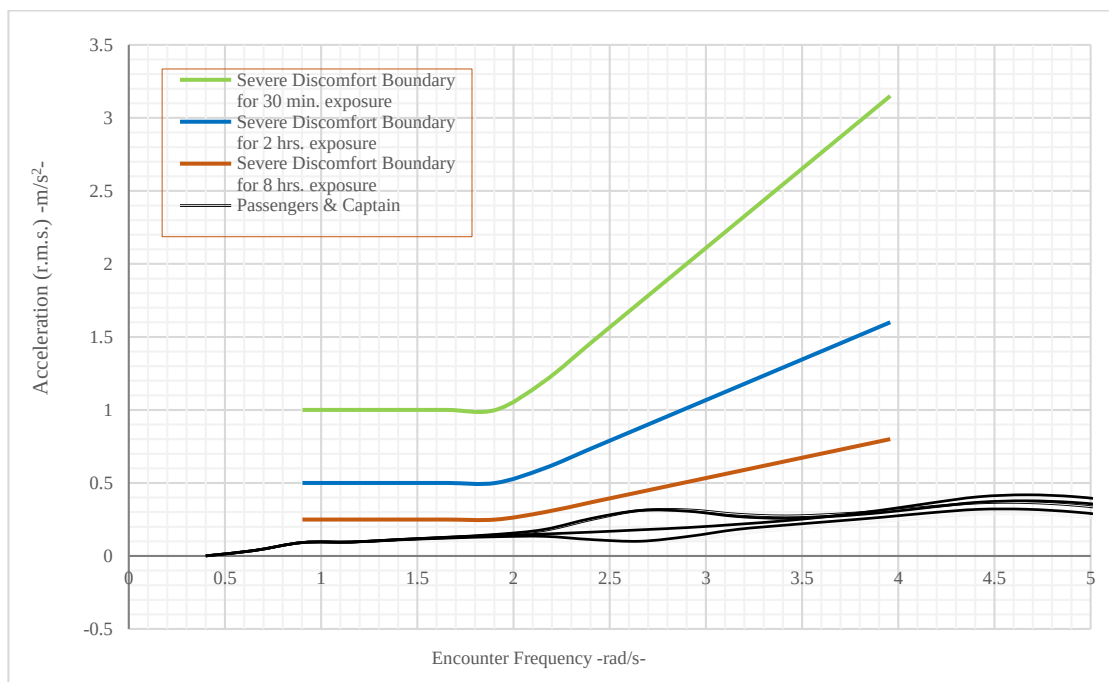
SEAKEEPING

- Motion Sickness Incidence (MSI) Analysis

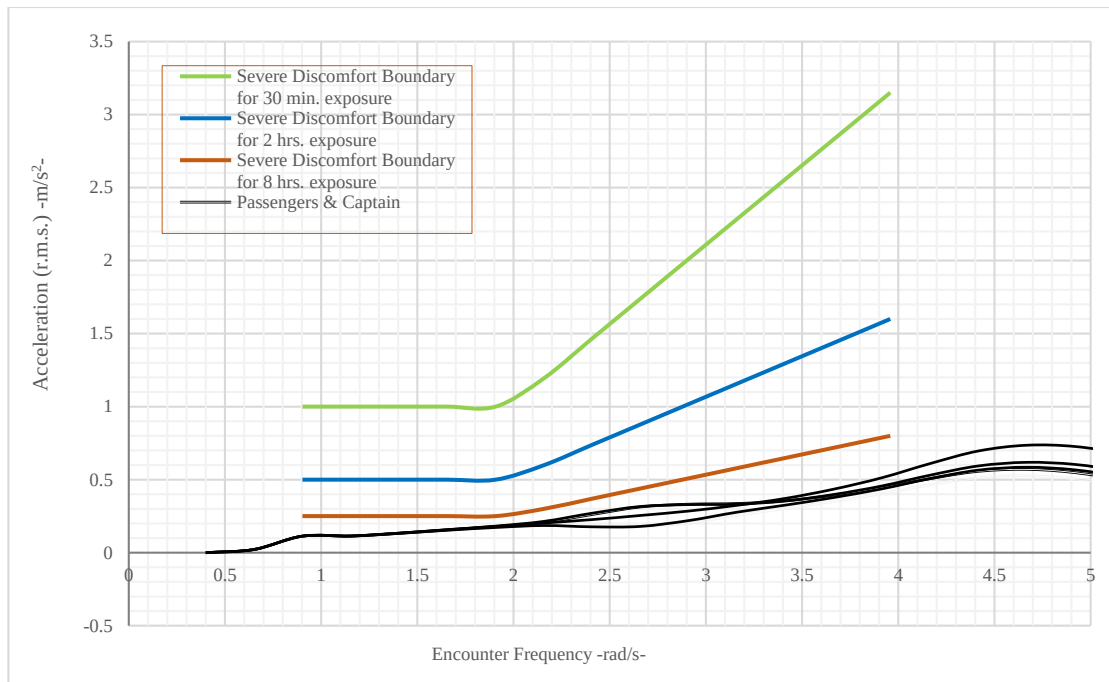
Speed: 15 knots, Heading: 90 degrees



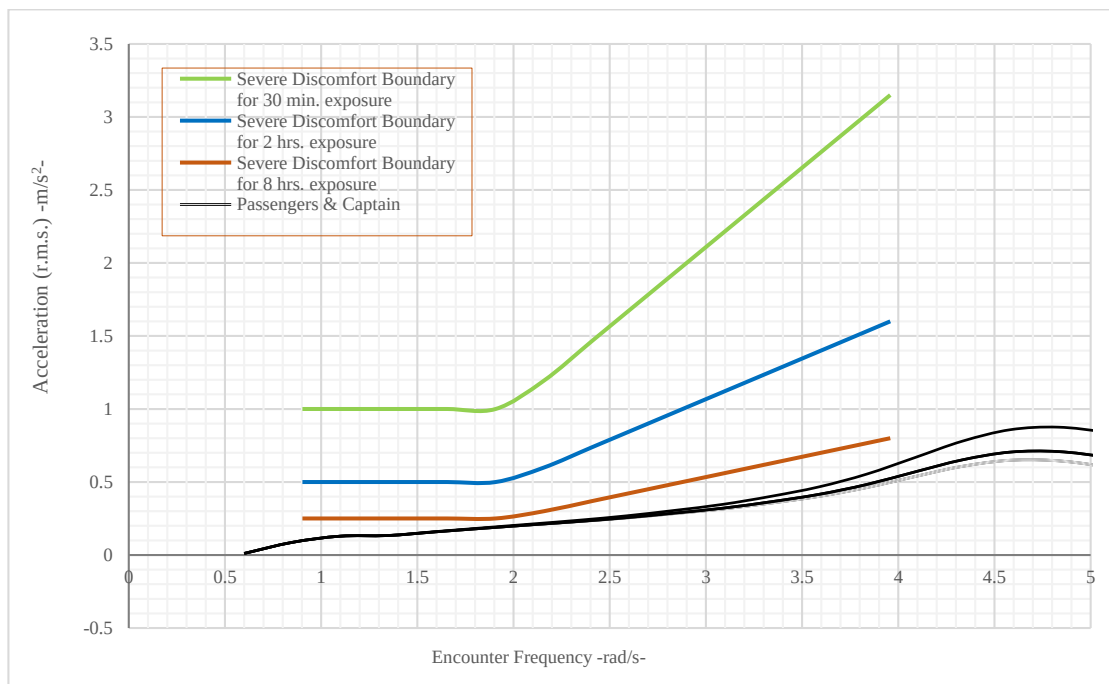
Speed: 15 knots, Heading: 120 degrees



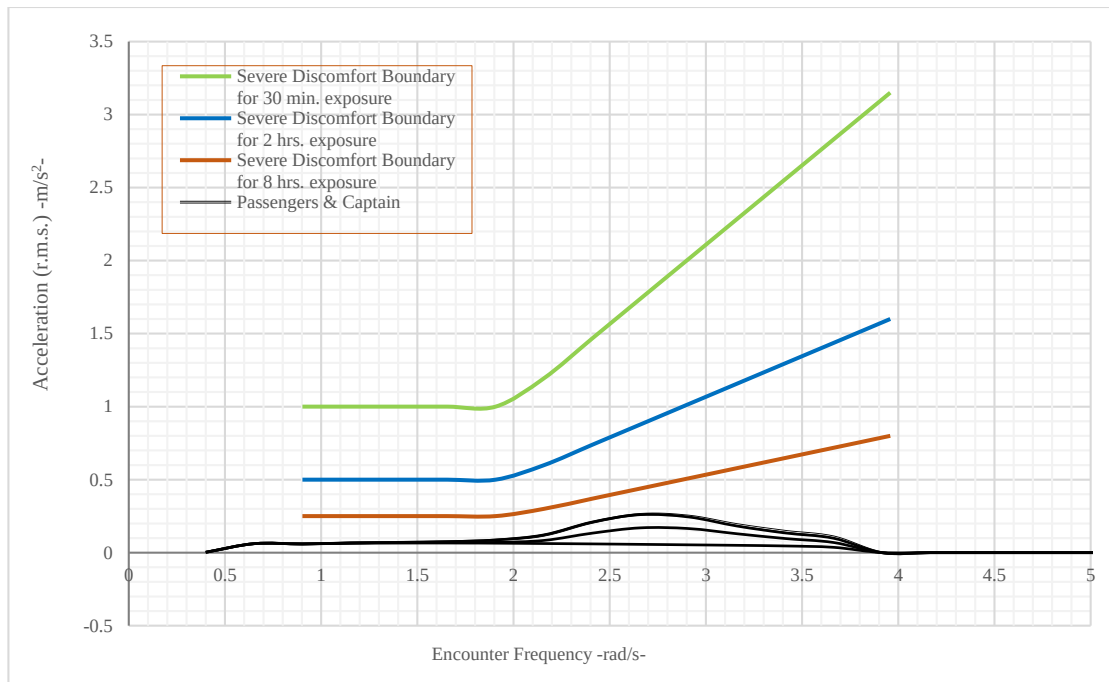
Speed: 15 knots, Heading: 150 degrees



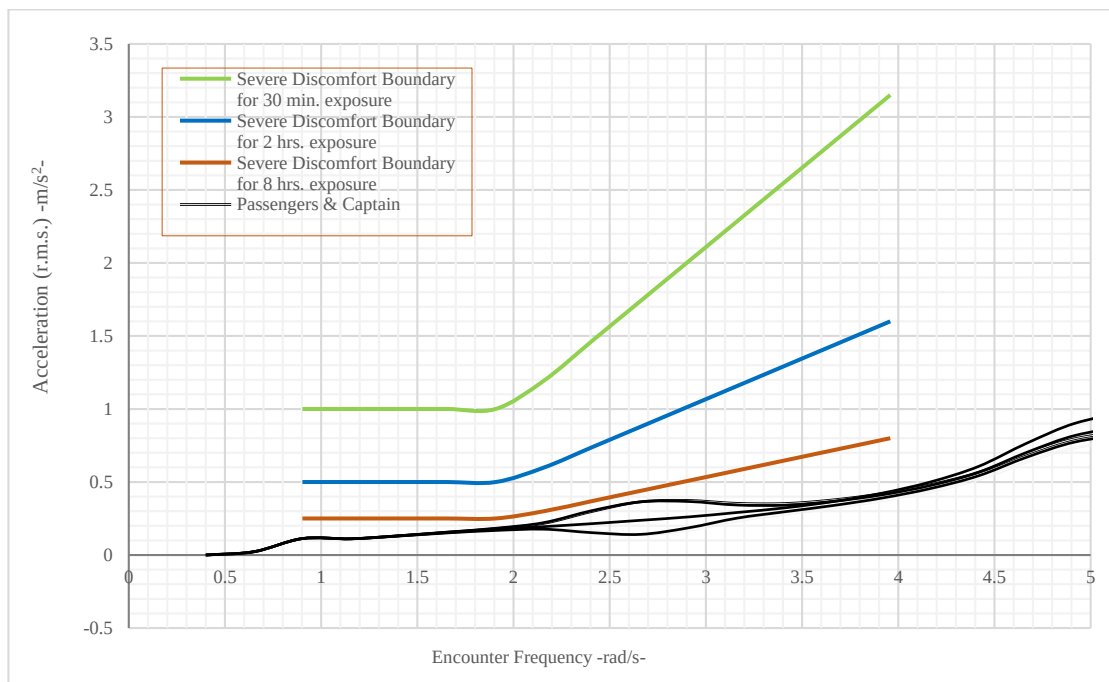
Speed: 15 knots, Heading: 180 degrees



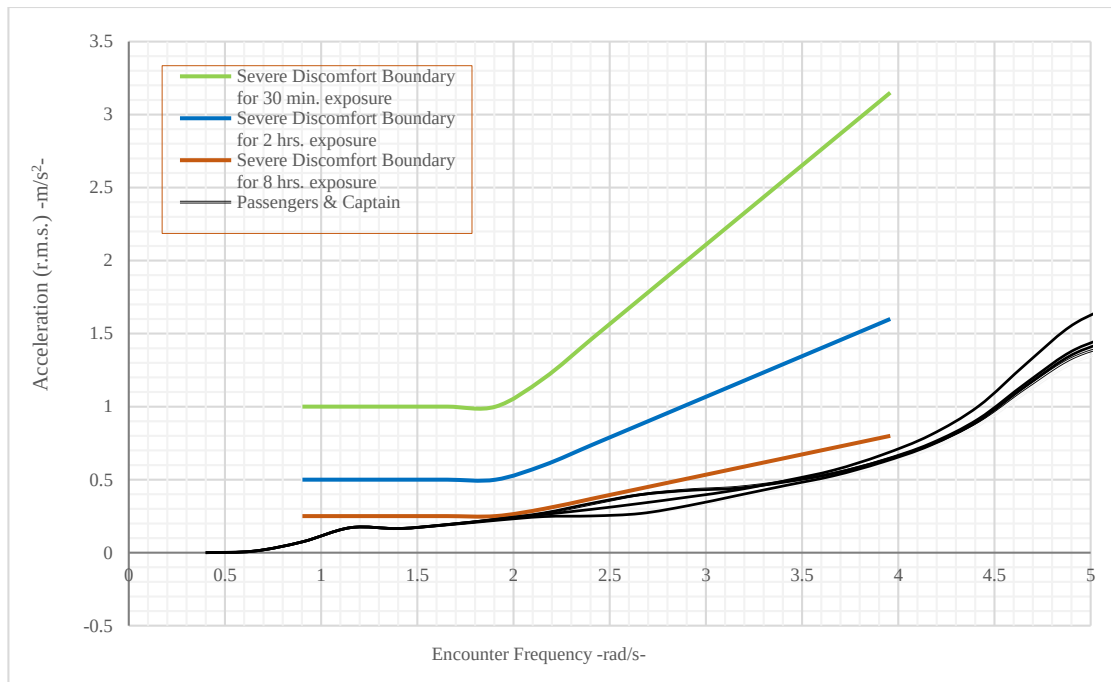
Speed: 25 knots, Heading: 90 degrees



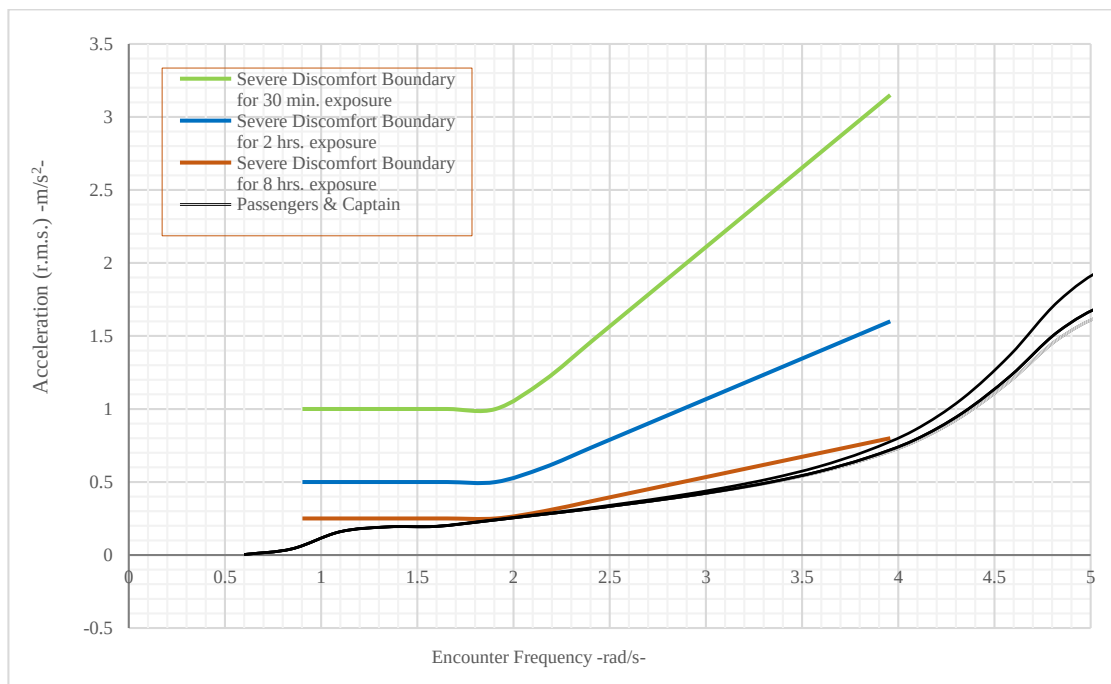
Speed: 25 knots, Heading: 120 degrees



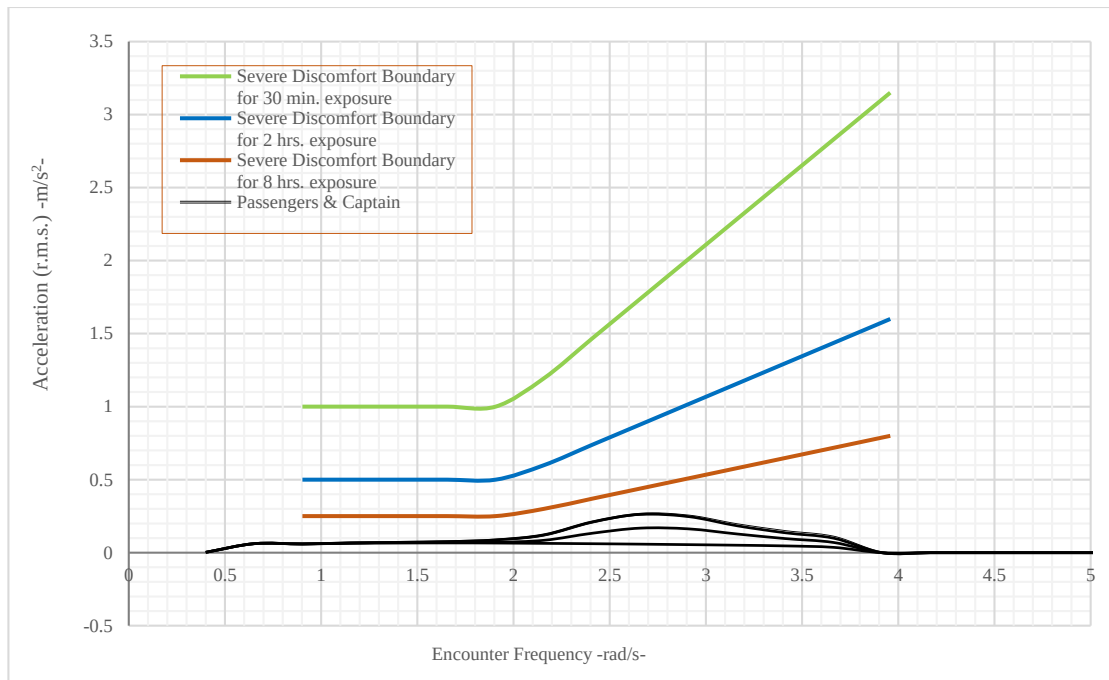
Speed: 25 knots, Heading: 150 degrees



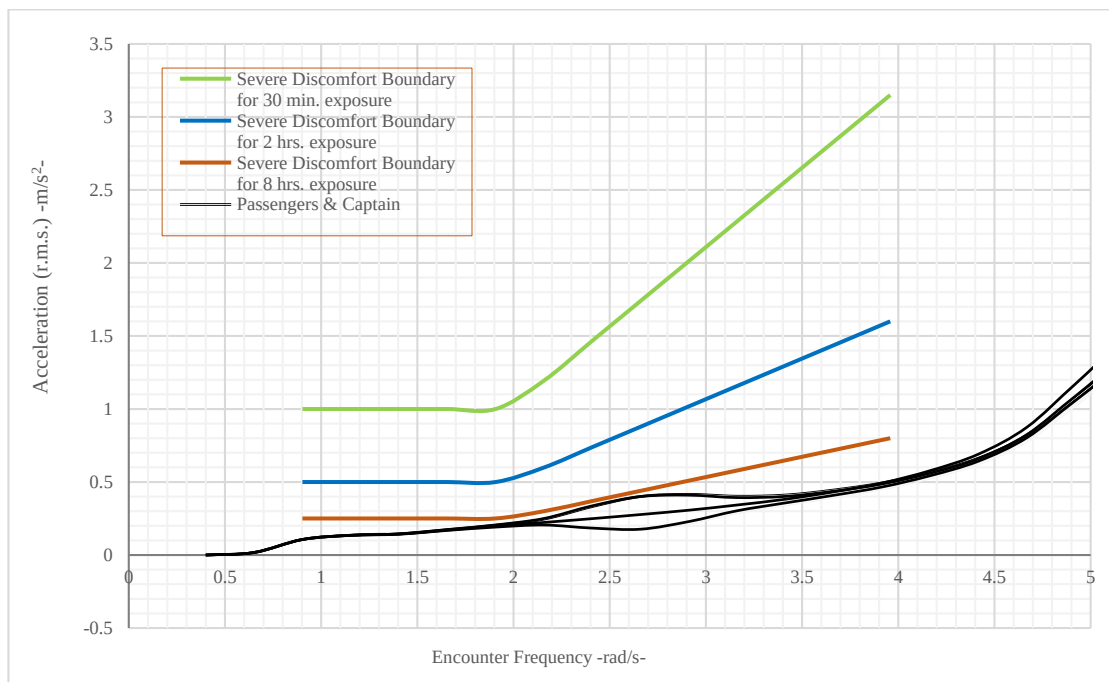
Speed: 25 knots, Heading: 180 degrees



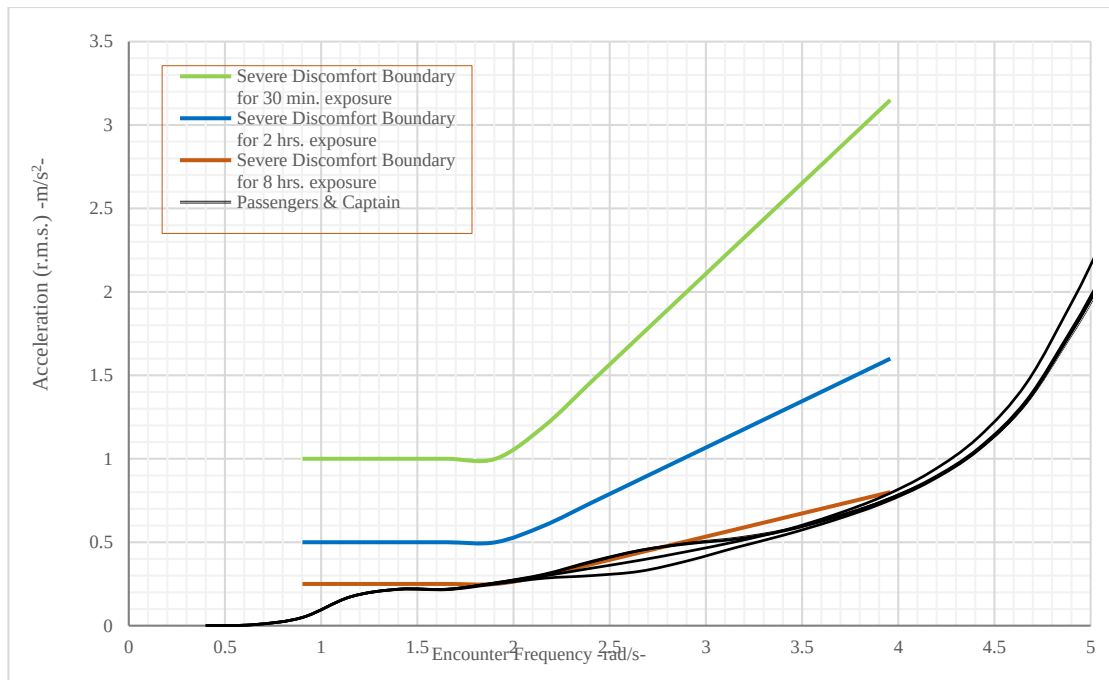
Speed: 32.5 knots, Heading: 90 degress



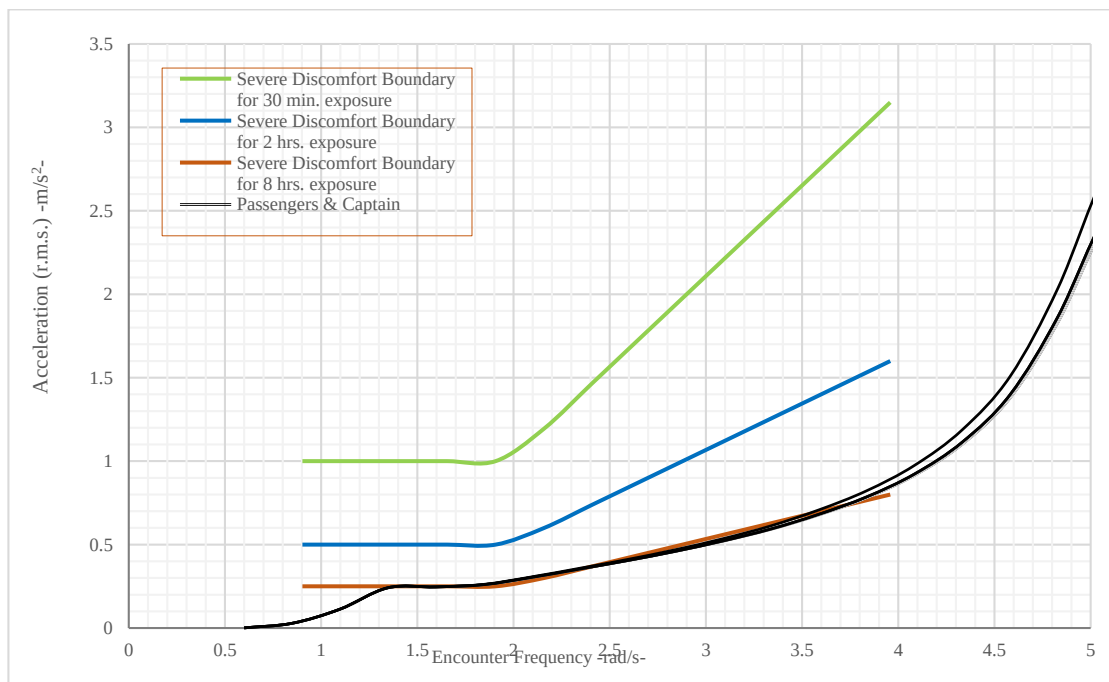
Speed: 32.5 knots, Heading: 120 degrees



Speed: 32.5 knots, Heading: 150 degrees



Speed: 32.5 knots, Heading: 180 degrees



APPENDIX I

RENDERINGS



