



REFERENCE DRAWINGS		
NO.	DRAWING TITLE	DRAWING NUMBER
1	GENERAL ARRANGEMENT PLAN	AF6097-99940-01
2	TANK ARRANGEMENT, CAPACITY PLAN	AF6097-99940-02
3	SANITARY FRESH WATER SYSTEM	AF6097-53000-02
4	BILGE DRAINAGE AND DEWATERING SYSTEM	AF6097-52000-01
5	COOLING WATER SYSTEM	AF6097-25600-01
6	COMPRESSED AIR SYSTEM	AF6097-55100-01
7	WATER FIRE EXTINGUISHING SYSTEM	AF6097-55500-03
8	AIR PIPES AND SOUNDING DIAGRAM	AF6097-50000-02
9	ALARM MONITORING & CONTROL SYSTEM DESCRIPTION & LIST	AF6097-25200-01

PIPE DIMENSIONS					
PIPE CODE	PIPE SIZE	STANDARD	MATERIAL	REMARKS	JOINTS
15	21.3 X 4.0	DIN2448	CARBON STEEL	GALVANIZED	FLANGED
15	25.4 X 6.3	DIN2448	CARBON STEEL	GALVANIZED CLASS II LR	
20	26.9 X 2.3	DIN2448	CARBON STEEL	GALVANIZED	
25	33.7 X 2.3	DIN2448	CARBON STEEL	GALVANIZED	
32SS	42.4 X 1.6	DIN2462	STAINLESS STEEL	-	WELDED SLEEVE OR AXI LOCK
32	42.4 X 2.6	DIN2448	CARBON STEEL	GALVANIZED	
40	48.3 X 3.6	DIN2448	CARBON STEEL	GALVANIZED	
50	60.3 X 3.6	DIN2448	CARBON STEEL	GALVANIZED	
50	60.3 X 6.3	DIN2448	CARBON STEEL	GALVANIZED CLASS II LR	FLANGE OR AXI LOCK PIPE COUPLING
25SS	33.7 X 1.6	DIN2462	STAINLESS STEEL	-	
50SS	60.3 X 1.6	DIN2462	STAINLESS STEEL	-	
40SS	48.3 X 1.6	DIN2462	STAINLESS STEEL	-	
50SS	50 X 1.0	BLOCHER	STAINLESS STEEL	-	

VALVE MATERIALS							D
NO	NP	TEMP	VALVE TYPE	MATERIAL		L.R. CERT.	
				BODY	TRIM		
15	10	40	BALL VALVE	ST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO	
20	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO	
20	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO	
25	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO	
32	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO	
40	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO	
40	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO	
50	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO	
50	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO	
50	10	40	SWING CHECK VALVE	CAST IRON	BRONZE SEAT & DISC, CAST IRON HINGE	NO	
50	10	40	STORM VALVE	CAST STEEL	BRONZE DISC, BRASS STEM	YES	

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EQUIPMENT TABLE			
ITEM	DESCRIPTION	CHARACTERISTICS	REMARKS
E593001- E593006	VACUUM INTERFACE VALVE		HAMANN SUPPLY
E593028	SEWAGE TREATMENT PLANT 230V, 60Hz	CAPACITY: FOR 14 PERSONS (150/day person x 14persons=2100 l/day)	HAMANN SUPPLY
007	Macerator pump 230VAC, 0.75kW, H=1bar		
E593027	Unit assembly 30MBD vacuum generating	P=2.5KW/each; 600V, 60Hz	JET VAC SUPPLY
E593029	TRANSFER MACERATOR PUMP	H=1bar; 230VAC; 0.55kW	HAMANN SUPPLY
E593050	SPIN WASTE STRAINER	Stainless Steel for Galley Sinks	HAMANN SUPPLY
E593052	INDUSTRIAL GRADE GARBORATOR	Food waste disposer, Model 400 for Sink (110W/g)	
E593054	GREASE TRAP	Capacity - 7.5 Gal.	
E593055	GREY WATER TRANSFER PUMP	Q=1m³/hr; H=2bar	HAMANN SUPPLY
E593056	CHLORINE TANK	10 litres	HAMANN SUPPLY
E593057	DOSING PUMP	Q=2.4 litres/hr; H=0.3 bar; 24 VDC	HAMANN SUPPLY
E593058	PROCESS WATER PUMP	Q=19 litres/min; 24 VDC	HAMANN SUPPLY
E593059	STRAINER	Econosto - fig 1097	HAMANN SUPPLY
E593060	SLUDGE PUMP	Q=60 litres/min; 230VAC; H=15 mH ₂ O	HAMANN SUPPLY
E593061	BLACK WATER ACCUMULATOR	V = abt. 100 litres	JET VAC SUPPLY

TESTS TABLE			
ITEM	DESIGN PRESSURE (bar)	ON WORKSHOP (bar)	ON BOARD (bar)
PIPES	1.5	-	
VALVES	1.5	-	
SHIP SIDE VALVE ⁽¹⁾	X ⁽²⁾	5	

1) TEST MADE BY THE VALVE SUPPLIER
2) TO BE TESTED BY HYDRAULIC PRESSURE TO 1.5 TIMES THE NOMINAL PRESSURE RATING OF THE VALVE AT AMBIENT TEMPERATURE.
3) A LEAKAGE TEST OF COMPLETE VACUUM PUMPS, WITHOUT ANY COMPONENTS: TOILETS, GREY WATER INTERFACE TANKS, VACUUMATORS, ETC. CONNECTED. ALL PIPES ENDS TO BE BLINDED. MAXIMUM ACCEPTED LEAKAGE: VACUUM DROP FROM -0.6 BAR TO -0.5 BAR DURING ONE HOUR.
4) LEAKAGE TEST OF COMPLETE VACUUM SYSTEM, WITH ALL COMPONENTS: TOILETS, GREY WATER INTERFACE TANKS, VACUUMATORS ETC. CONNECTED. MAXIMUM ACCEPTED LEAKAGE: VACUUM DROP FROM -0.55 BAR TO -0.4 BAR DURING 20 MIN.

SEWAGE TREATMENT PLANT - CONNECTIONS	
ITEM	DESCRIPTION
A-1-R-051	OUTLET, R 3/4" I
A-1-R-052	SEA WATER INLET, R 1/2"
A-1-R-053	VENT SUPER MINI PLUS, R 1 1/2"
A-1-R-054	CHLORINE INJECTION
A-1-R-055	CONNECTION CHLORINE VENT
A-1-R-056	VENT CLEARING CHAMBER
A-1-R-057	INLET, R 1-1/2"
A-1-R-058	FLUSHING, ONLY FRESH WATER: R 3/4"
A-1-R-059	OUTLET (INTERNAL), R 1"
A-1-R-060	VENT CHLORINE TANK
A-1-R-061	OUTLET (INTERNAL) TO CLOSING PUMP D=4"/6=3/6"
A-1-R-062	OUTLET SLUDGE, R3/4"

- NOTES:**
- Piping must be protected against mechanical and vibration damage.
 - Piping must be installed tension free and clean.
 - Flange joints must be avoided over electrical components.
 - Sanitary discharges to be equipped with clean out plug.
 - Grey and black water piping will not be insulated in the accommodation area (vacuum system).
 - Valves shall have bilingual brass label plates securely attached to them in accordance with ASTM F992-86(2006) Standard Specification for Valve Label Plates.
 - The STP shall be capable of providing continuous operation for complement of between eight (8) and fourteen (14) persons, while meeting the treated effluent discharge requirements specified in IMO MEPC.156(55).
 - The H2S sensor shall provide an audible alarm in the space when the concentration setting reaches a high level.
 - H2S sensors shall be located in MMR near the STP.
 - Vent connections to be above LWL to prevent cross flooding from damage.
 - All valves shall be of full bore type.
 - Loops shall rise above water line to avoid back-flow.
 - Distance between transport pockets will be abt. 5m. Slope will be minimum 50 mm between transport pockets.
 - Horizontal pipes to be installed horizontally or downwards in the direction of flow. Never upwards.
 - Pipes passing through FO tanks shall be made of black steel and shall have dimensions 60.3 x 6.3.

LAST VALVE: V593089
LAST PIPE: 593-177-25
LAST EQUIPMENT: E593063

CCGS CONSTABLE CARRIÈRE

Rev	Date	AS FITTED	DB	FP	BF
AF	05/06/2012	Description	Perform	Check	Appr.

Client: CANADIAN COAST GUARD

Title: BLACK, GREY WATER AND SANITARY FLUSHING SYSTEM

Scale: NTS Size: A0 Project No: 6097

Drawn by: V. Letour Checked by: S. Hargrave Dwg. date: 08/07/2011

Drawn no: AF6097-59300-02 Rev. AF

Contract No: F7045-06001/002/NQ

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