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MATERIAL SCHEDULE									
SERVICE	SIZE	PIPE	TAKEDOWN JOINTS			VALVES		FITTINGS	REMARKS
			MATERIAL	GASKETS	BOLTING	BODY	TRIM		
POTABLE WATER MAIN DECK AND ABOVE MAWP: 85 PSIG MAX TEMP: 125 °F	ALL	CROSSLINKED POLYETHYLENE (PEX) ASTM F876 AND F877	-	-	-	BRASS NSF SAFE ASTM F877 AND F1807	PTFE SEATS	BRASS CRIMP STYLE FITTINGS ASTM F877 AND F1807	-
POTABLE WATER BELOW MAIN DECK MAWP: 85 PSIG MAX TEMP: 125 °F		COPPER, SEAMLESS HARD DRAWN, ASTM B88, TYPE K OR L	FLANGE, 150#, ANSI B16.24, SOLDER JOINT, BRONZE, ASTM B61	APPROPRIATE FOR SYSTEM	BOLTS: STAINLESS STEEL ASTM A193 GRADE B8M ANSI B18.2.1 NUTS: STAINLESS STEEL ASTM A194 GRADE 8M ANSI B18.2.2	BALL: BRONZE 150# THREADED OR SOLDER ENDS	CHROME PLATED BALL, PTFE SEATS	WROT COPPER, ANSI B16.22, ASTM B75	CERTIFIED LEAD FREE
POTABLE WATER FILL AND TANK VENT MAWP: 85 PSIG MAX TEMP: 125 °F	ALL	ALUMINUM ASTM B241 6061 T6 ANSI 36.1 SCH 40	FLANGE ALUMINUM 6061 T6 ANSI B16.5 150#	APPROPRIATE FOR SYSTEM	BOLTS: STAINLESS STEEL ASTM A193 GRADE B8M ANSI B18.2.1 NUTS: STAINLESS STEEL ASTM A194 GRADE 8M ANSI B18.2.2	-	-	ALUMINUM 6061 T6 ANSI B16.9 BUTT WELD	-

GENERAL NOTES CONT.				
12.	THE POTABLE WATER PRESSURE TANK SHALL BE FITTED WITH AN 80 PSIG SAFETY RELIEF VALVE. THE HOT WATER HEATER SHALL BE FITTED WITH A TEMPERATURE/PRESSURE RELIEF VALVE.			
13.	USE USCG COMPLIANT BULKHEAD/DECK PENETRATIONS FOR COPPER AND PEX TUBING.			
14.	TOILETS SHALL BE SUPPLIED WITH SOLENOID FLUSHING VALVES.			
15.	EXTERIOR HOSE BIBS SHALL BE FITTED WITH A METHOD TO ISOLATE AND DRAIN THE WATER FOR FREEZE PROTECTION.			
16.	VENT TERMINAL SHALL BE BALL CHECK TYPE WITH FLANGED ALUMINUM BODY AND DEBRIS SCREEN.			
17.	THE POTABLE WATER SYSTEM SHALL BE SUPPLIED WITH TWO PRESSURE PUMPS. NORMAL OPERATION IS ONE PUMP PRESSURIZING THE SYSTEM AND THE SECOND PUMP ON STANDBY.			


REVISION HISTORY					
REV	ZONE	DESCRIPTION	DWN	DATE	APVD

- GENERAL NOTES**
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH 46 CFR SUBCHAPTER T REGULATIONS.
 - THIS DRAWING IS DIAGRAMMATIC AND DOES NOT REPRESENT A COMPLETE DETAILED DESIGN. EQUIPMENT LAYOUT IN A GIVEN AREA IS APPROXIMATE. THE CONTRACTOR SHALL DEVELOP A DETAILED DESIGN THAT PROVIDES A FULLY FUNCTIONAL ARRANGEMENT SUITABLE FOR INSTALLATION, TAKING INTO ACCOUNT ALL NECESSARY SYSTEM INTERFACES AND INTERFERENCES. DIMENSIONS SHALL BE VERIFIED FROM THE SHIP AND MANUFACTURERS' CERTIFIED DRAWINGS AS APPROPRIATE.
 - PIPING SHALL BE RUN AS DIRECTLY AS PRACTICABLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS AND WITH SUFFICIENT TAKE DOWN JOINTS TO PROVIDE FOR REMOVAL, INSPECTION, SERVICING AND REPLACEMENT OF PIPING, VALVES, FITTINGS AND EQUIPMENT.
 - AVOID POCKETS IN THE PIPE LINES, BOSSES AND VALVES OR SCREWED PLUGS SHALL BE FITTED TO ENABLE COMPLETE DRAINING OF PIPES WHERE POCKETS DO OCCUR.
 - PIPING SHALL BE ADEQUATELY SUPPORTED BY HANGERS IN ACCORDANCE WITH ASTM F708. HANGERS SHALL BE ATTACHED TO THE PIPE WITH BOLTED CLAMPS AND WELDED TO THE BASIC SHIP STRUCTURE. CARE SHALL BE EXERCISED TO PLACE PIPE HANGERS SO THAT THE STRAIN IS AVOIDED WHERE PIPING IS CONNECTED TO MACHINERY. HANGERS SHALL NOT BE ATTACHED BY WELDING DIRECTLY TO PIPES.
 - HOT & COLD WATER PIPING TO BE INSULATED ACCORDING TO REF 1.
 - HOT WATER THERMOSTAT SETTINGS NOT TO EXCEED 110° F.
 - THE POTABLE WATER PRESSURE PUMP SYSTEM SHALL BE SUPPLIED WITH INTEGRAL PRESSURE SWITCHES TO CONTROL THE PUMP OPERATION. THE PRESSURE SWITCHES SHALL BE SET TO START THE PUMP AT 40 PSI AND STOP IT AT 60 PSI. THE PUMP SUCTION ALSO SHALL HAVE AN INTEGRAL CHECK VALVE.
 - AFTER INSTALLATION & TESTING THE SYSTEM SHALL BE CLEANED, SANITIZED & FLUSHED IN ACCORDANCE WITH USPHS REQUIREMENTS. SEE REF 1
 - FILL CONNECTION TO BE MALE CAMLOCK WITH CAP. TO BE MOUNTED HORIZONTALLY AND MINIMUM 24" ABOVE DECK.
 - INTEGRATE TANK LEVEL SENSORS WITH SHIP'S ALARM AND MONITORING SYSTEM. CONFIGURE FOR CONTINUOUS INDICATION AND LOW LEVEL ALARM AT 25% OF TANK CAPACITY. SEE REF 1.


EQUIPMENT LIST						
QTY.	DESCRIPTION	TYPE	MODEL	CAPACITY	DRIVE	REMARKS
2	POTABLE WATER SUPPLY PUMP SYSTEM	MULTI-STAGE CENTRIFUGAL	-	8 GPM @ 50 PSIG	9 AMPS 115V/1P/60Hz	SEE NOTES 8 & 17
1	POTABLE WATER PRESSURE TANK	ASME RATED	-	18 GAL 125 PSI	-	-
1	TANKLESS WATER HEATER	ELECTRIC	-	2 GPM	208V/1P/60Hz 4.1kW	MAX WATER TEMP OUTPUT OF 110 °F
1	STRAINER 1 1/2" NPS	SIMPLEX BASKET TYPE	-	-	-	BRONZE BODY

SYMBOLS LIST	
	PIPE - POTABLE WATER SUPPLY
	PIPE - HOT WATER SUPPLY
	BHD PENETRATION
	REDUCER
	BALL VALVE
	RELIEF VALVE
	MATERIAL TRANSITION
	SIMPLEX STRAINER
	CENTRIFUGAL PUMP
	LOCAL GAUGE, PRESSURE
	BACKFLOW PREVENTER
	CAMLOCK W/ CAP
	LOW LEVEL ALARM
	CONTINUOUS LEVEL INDICATION

REFERENCES	
1.	16109-003-802-0 CONTRACT SPECIFICATIONS




North Carolina Ferry System
800 SHIPWAY RD WAREHOUSES, NC 27693

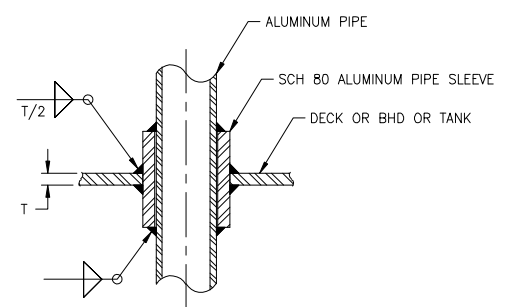


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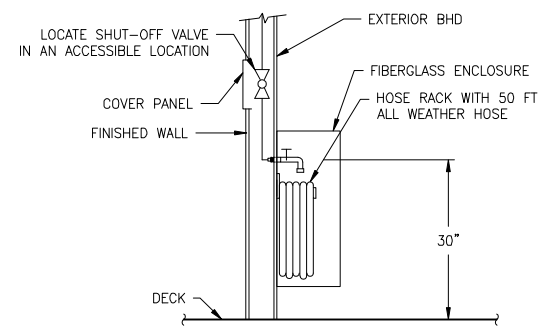
CLIENT	NORTH CAROLINA D.O.T. RALEIGH, NORTH CAROLINA		
PROJECT	PEDESTRIAN FERRY		
TITLE	POTABLE WATER SYSTEM		



SIZE	D	DWG NO.	16109-003-533-0	REV	-
SCALE	AS NOTED	FILE NAME	16109-003-533-0-	SHEET	1 OF 2
DWN	MWR	MOD	JHP	CKD	LGB
APVD	LGB	APVD DATE	3/3/2017		



DETAIL 1-6A
TYP DECK/BHD/TANK PENETRATION
FOR ALUMINUM PIPE
NOT TO SCALE



DETAIL 1-4A
TYPICAL EXTERIOR HOSE BIB
NOT TO SCALE

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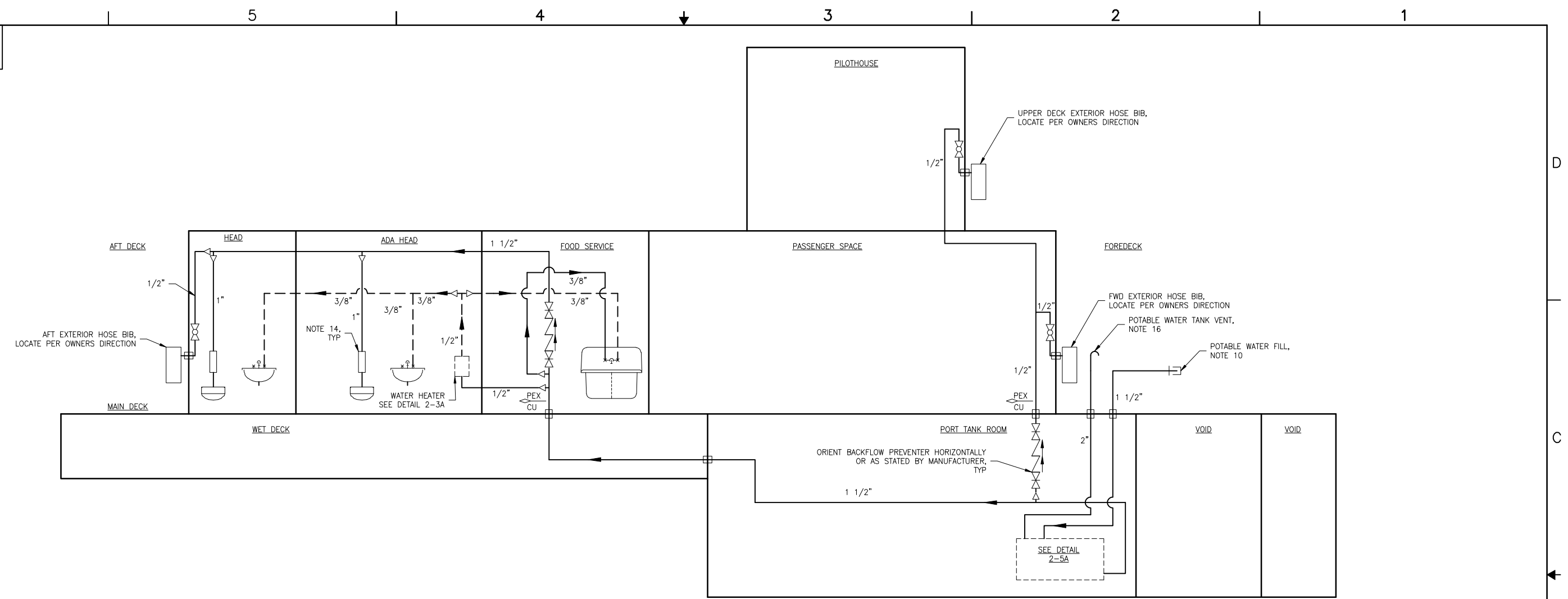
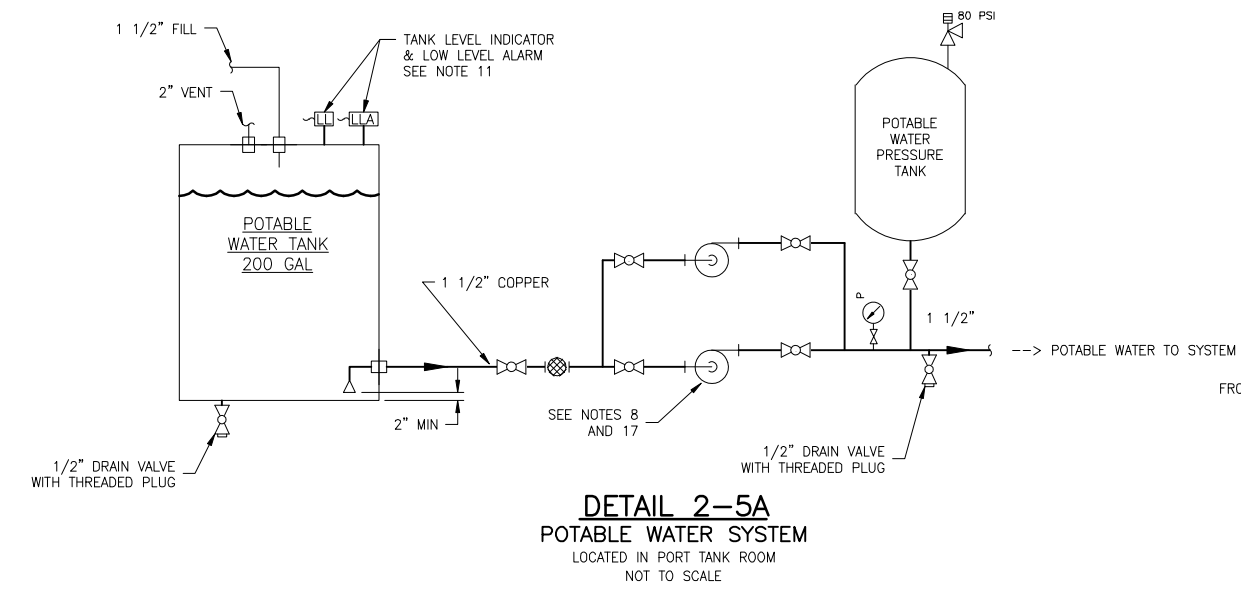
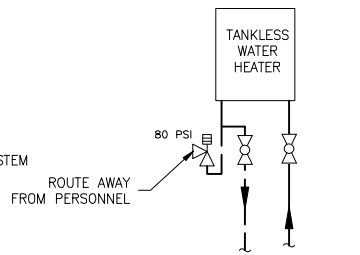


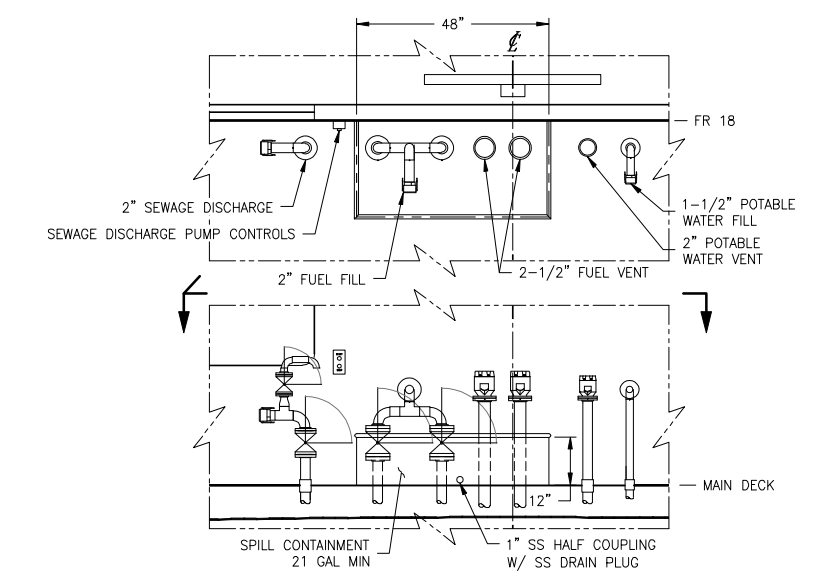
DIAGRAM 2-3B
 POTABLE WATER SYSTEM VESSEL LAYOUT
 NOT TO SCALE



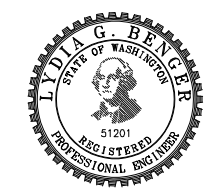
DETAIL 2-5A
 POTABLE WATER SYSTEM
 LOCATED IN PORT TANK ROOM
 NOT TO SCALE



DETAIL 2-3A
 HOT WATER HEATER
 ADA HEAD
 NOT TO SCALE



DETAIL 2-1A
 FILL/DISCHARGE/VENT CONTAINMENT
 FOREDECK, LOOKING AFT AT FR 18
 CONTAINMENT: PL 1/4\"/>



SIZE	D	DWG NO.	16109-003-533-0	REV	-
SCALE	AS NOTED	FILE NAME	16109-003-533-0-	SHEET	2 OF 2

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