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MATERIAL SCHEDULE									
SERVICE	SIZE	PIPE	TAKEDOWN JOINTS			VALVES		FITTINGS	FLEXIBLE CONNECTIONS
			MATERIAL	GASKETS	BOLTING	BODY	TRIM		
SANITARY DRAINS BELOW MAIN DECK SEWAGE DISCHARGE MAWP: 25 PSI MAX TEMP: AMBIENT	ALL	ALUMINUM ASTM B241 6061 T6  ANSI 36.1  SCH 80	FLANGE ALUMINUM 6061 T6  ANSI B16.5 150#	USE MATERIAL 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	GATE: STAINLESS STEEL FLANGED 150# ASTM A351  BALL: STAINLESS STEEL ASTM A351	GATE: 316 SS DISC   BALL: 316 SS BALL PTFE SEATS AND SEALS	ALUMINUM 6061 T6  ANSI B16.9	-
SANITARY DRAINS MAIN DECK MAWP: AMBIENT MAX TEMP: AMBIENT	ALL	CPVC SCH 80 ASTM D1784 ASTM F441	SOCKET FLANGE CPVC ASTM F439 ANSI B16.5, 150#	USE MATERIAL APPROPRIATE FOR SYSTEM				SOCKET UNION CPVC ASTM F439	-

EQUIPMENT LIST					
QTY.	SERVICE	TYPE	MODEL	CAPACITY	DRIVE
1	SEWAGE DISCHARGE PUMP	CENTRIFUGAL GRINDER	CAST IRON BODY BRONZE IMPELLER	37 GPM @ 40 FT TDH	2 HP 3450 RPM TEFC MOTOR 208V/3φ/60Hz

SYMBOLS LIST	
	PIPE - GREY WATER
	PIPE - BLACK WATER
	PIPE - VENT
	PIPE CAP
	CAMLOCK W/ CAP
	P-TRAP
	BHD PENETRATION
	REDUCER
	GATE VALVE
	MATERIAL TRANSITION
	PUMP
	DECK DRAIN
	AIR ADMITTANCE VALVE
	BALL VALVE
	HIGH LEVEL ALARM
	CONTINUOUS LEVEL INDICATION

- GENERAL NOTES CONT.**
- AIR ADMITTANCE VALVES CONCEALED IN JOINER BULKHEADS OR SUSPENDED CEILINGS SHALL BE ACCESSIBLE VIA REMOVABLE PANEL OR CEILING TILE. INSTALL AIR ADMITTANCE VALVES ABOVE FLOOD RIM OF FIXTURE SERVED.
  - INTEGRATE TANK LEVEL SENSORS WITH SHIP'S ALARM AND MONITORING SYSTEM. THE SENSORS SHALL PROVIDE CONTINUOUS LEVEL INDICATION AND HIGH LEVEL ALARM AT 90% FULL. SEE REF 1.
  - PIPING AT THE MAIN DECK AND ABOVE IS TO BE CPVC WHILE PIPING BELOW THE MAIN DECK IS TO BE ALUMINUM. THE MATERIAL TRANSITION SHALL OCCUR JUST ABOVE THE MAIN DECK.
  - SANITARY WASTE DRAIN PIPING SHALL BE SLOPED DOWNWARD AT NO LESS THAN 1/2" PER FOOT.
  - ALL MATERIAL TRANSITIONS SHALL BE ACCOMPLISHED WITH FLANGED JOINTS. FLANGES AT THE JUNCTIONS SHALL BE FITTED WITH GALVANIC ISOLATION KITS TO PREVENT METAL TO METAL CONTACT.

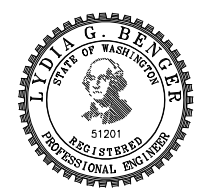
REVISION HISTORY					
REV	ZONE	DESCRIPTION	DWN	DATE	APVD

- 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.
  - 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.
  - SANITARY DRAIN PIPING ABOVE THE MAIN DECK SHALL BE CONCEALED BEHIND JOINER BULKHEADS OR SUSPENDED CEILINGS.
  - CHANGES OF DIRECTION IN HORIZONTAL DRAIN PIPING SHALL BE MADE WITH WYE'S OR BENDS OF 45° OR LESS. INTERSECTIONS BETWEEN BRANCHES OF DRAIN PIPING SHALL BE ACCOMPLISHED WITH THE USE OF LATERAL WYES OR SWEEP TEES. IN NO CASE SHALL TWO PIPES INTERSECT AT 90°.
  - HORIZONTAL DRAINAGE LINES WHICH CONNECT DIRECTLY WITH A VERTICAL STACK, SHALL ENTER THROUGH 45° WYE, 60° WYE, COMBINATION WYE AND 45° BEND, SANITARY TEE OR BRANCHES OF EQUIVALENT SWEEP.
  - CLEANOUTS WITH PLUGS SHALL BE FITTED AT THE UPPER TERMINAL OF EACH HORIZONTAL RUN, AT INTERVALS OF NO LESS THAN 1 PER 50 LINEAR FEET OF PIPE IN STRAIGHT RUNS, AND WHEREVER THE AGGREGATE HORIZONTAL CHANGE IN DIRECTION OF HORIZONTAL PIPING EXCEEDS 135°.
  - CLEANOUTS CONCEALED IN JOINER BULKHEADS SHALL BE ACCESSIBLE VIA REMOVABLE PANEL. PROVIDE 18" OF CLEAR SPACE IN FRONT OF THE CLEANOUT. ACCESS PANELS SHALL BE CLEARLY LABELED.
  - DECK DRAINS TO BE ALUMINUM WITH INTEGRAL TRAP.

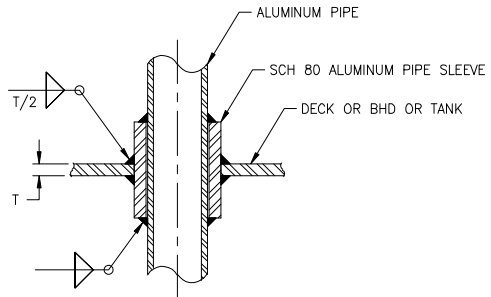
- REFERENCES**
- 16109-003-802-0 CONTRACT SPECIFICATIONS



**Elliott Bay Design Group North Carolina, PLLC**  
 CLIENT: NORTH CAROLINA D.O.T.  
 RALEIGH, NORTH CAROLINA  
 PROJECT: PEDESTRIAN FERRY



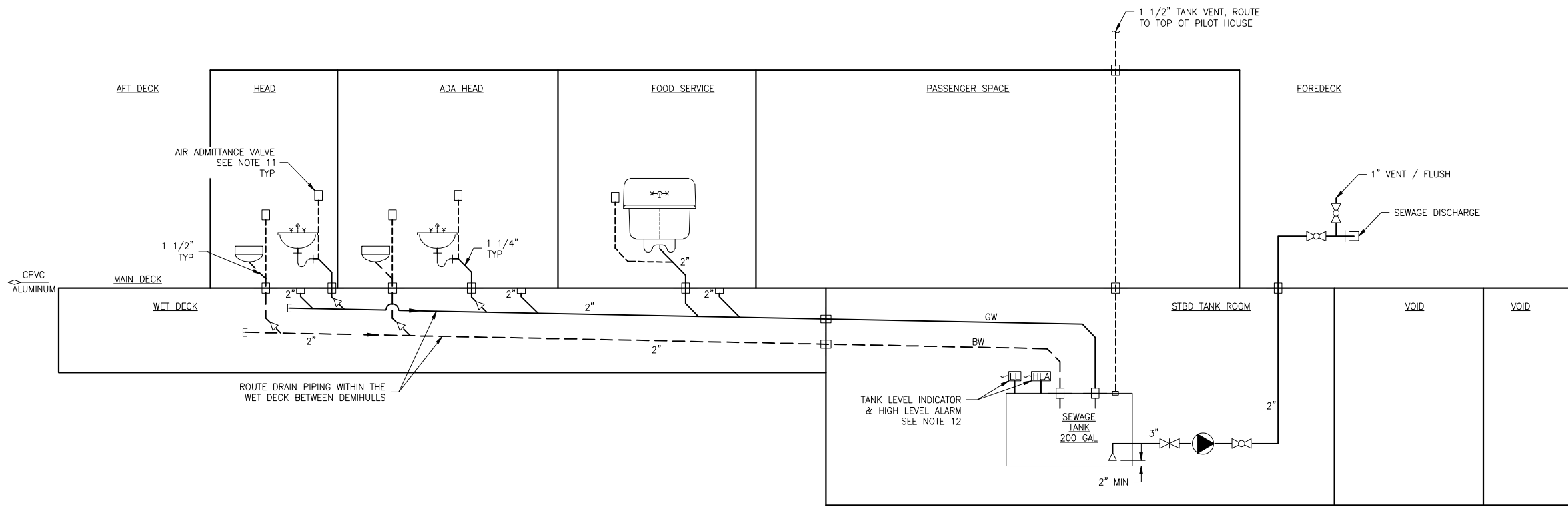
TITLE: SANITARY DRAINS AND SEWAGE DISCHARGE SYSTEM	
SIZE: D	DWG NO.: 16109-003-528-0
SCALE: AS NOTED	FILE NAME: 16109-003-528-0- SHEET 1 OF 2
DWN: MWR	MOD: JHP
CKD: LGB	APVD: LGB
APVD DATE: 3/3/2017	



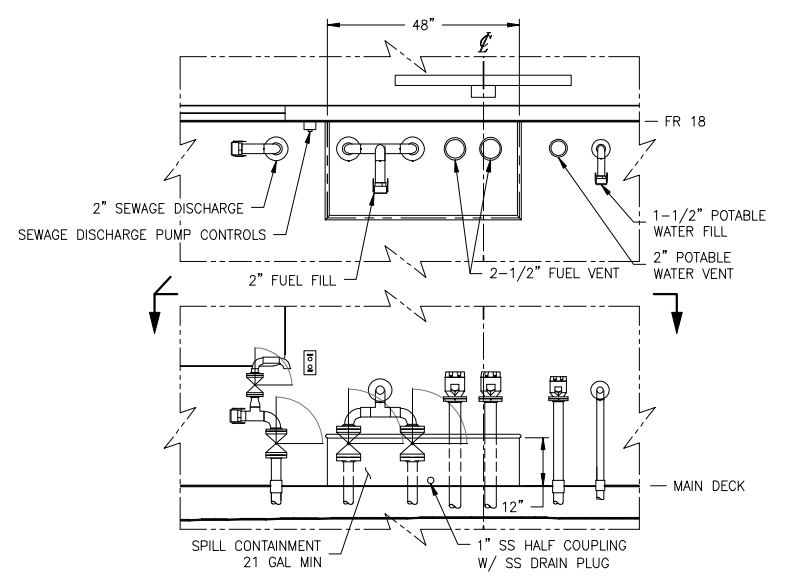
**DETAIL 1-6A**  
 TYP DECK/BHD/TANK PENETRATION  
 FOR ALUMINUM PIPE  
 NOT TO SCALE

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**DIAGRAM 2-3B**  
 SANITARY DRAIN SYSTEM LAYOUT  
 NOT TO SCALE



**DETAIL 2-5A**  
 FILL/DISCHARGE/VENT CONTAINMENT  
 FOREDECK, LOOKING AFT AT FR 18  
 CONTAINMENT: PL 1/4\" & ROUND BAR 1"  
 1/2\"=1'-0"



SIZE	D	DWG NO.	16109-003-528-0	REV	-
SCALE	AS NOTED	FILE NAME	16109-003-528-0-	SHEET	2 OF 2

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