

### MATERIAL SCHEDULE

SERVICE	SIZE	PIPE	COMPONENTS				VALVES		BOLTING		REMARKS
			TAKEDOWN JOINTS	FITTINGS	FLEX CONNECT	GASKETS	BODY	TRIM	BOLTS/STUDS	NUTS/WASHERS	
CENTRIFUGAL SEWAGE WATER PUMP 2HP@30 PSI	ALL	BELOW DECK CARBON STEEL GALVANIZED, SCH 40, SEAMLESS, ASTM A53 TYPE S, OR ASTM A106, GRADE B, ANSI B36.10  FIXTURE FEED COPPER TYPE-K TUBING STANDARD WALL	FLANGE #150, SOCKET WELD CARBON STEEL, ASTM A105, ANSI B16.5	BELOW DECK STEEL GALVANIZED THREADED,	HOSE: SEE NOTE 11	GARLOCK STYLE 3000  GATE - ABV DK SW OR THREADED, 3-PIECE S. STEEL, ASTM A351 GR CF8M		BALL CHROME PLATED BALL, RPTFE OR VITON SEATS  CHECK CRES DISC	CARBON STEEL ASTM A307 GR B ANSI B18.2.1	HEX-HEAD CARBON STEEL ASTM A563 GR A ANSI B18.2.2	

### EQUIPMENT & PUMPLIST

QTY	SERVICE	TYPE	MODEL	CAPACITY	DRIVE
1	SEWAGE OVERBOARD PUMP	CENTRIFUGAL	CROWN P03LA 3"NPT IN/3" NPT OUT	100GPM@60FT HEAD 1750 RPM	5HP TEFC MOTOR 120/208/3P/60Hz

### SYMBOLS LIST

	PIPE
	REDUCER
	CHECK VALVE
	BALL VALVE
	BALL VALVE, LOCKING
	CENTRIFUGAL PUMP
	CAMLOCK
	DRIP PAN
	HOSE REEL
	SUCTION STRAINER BOX
	BULKHEAD PIPE PENETRATION
	PRESSURE GAUGE

### 17-1372-4008 GENERATOR COOLING PIPING B.O.M..

ITEM	QTY	DESCRIPTION	MATERIAL SPEC	REMARKS
1	AS REQ'D	HOSE CLAMP S.S. 2" ROLLED EDGES		DOUBLE CLAMP ALL HOSE CONNECTIONS
2	2	REDFOX TYPE II MSD		REMOTE MOUNTED CONTROL PANEL REQ'D OR EQUAL,
3	4	TOILET WITH SLOAN FLUSH HEAD		OPEN FRONT WHITE SEAT, NO TOP
4	2	DECK PUMPOUT FITTING, GALV, CAM LOCK QUICK COUPLING,		OR EQUAL, VERIFY WITH OWNER
5	AS REQ'D	NO-FIRE, RISE TYPE BHD PENETRATIONS AT A CLASS DECK PENETRATIONS		ROXTEC A CLASS DECK PENETRATIONS MAY BE SUBSTITUTED
DWV-#	AS REQ'D	MISC, DWV FITTINGS FOR DRAIN LINES		OR EQUAL
CPVC-#	AS REQ'D	PIPE CPVC, SCH 80	ASTM A-53	FOR APPLIANCE TAIL PIECE CONNECTIONS TO SEWAGE DRAINS
PX-#	AS REQ'D	PIPE BLACK IRON, SCH 80	ASTM A-53	
PXX-#	AS REQ'D	PIPE BLACK IRON, SCH 120	ASTM A-53	
F-	AS REQ'D	MISC STEEL BUTT WELD FITTINGS	ASTM A-234	
H-1	AS REQ'D	SHIELDS CORRUGATED SEWAGE HOSE 1-7/8" ID SMOOTH INSIDE DOUBLE CLAMPED	ASTM J1475	MISC CONNECTIONS TO FIXED PIPING AT MSD TANK OR PUMP
V-1	2	GATE VALVE, BRONZE, 1-1/4"	ASTM B-62	OR EQUAL
V-2	8	GATE VALVE, 3", BRONZE	ASTM B-62	
CV-1	AS REQ'D	BRONZE, 1-1/4" CHECK VALVE, SCH 40, VERTICAL	ASTM B-62	OR EQUAL, ON PUMPOUT LINES FROM GALLEY GREY TANK AND LIBERTY LIFT STATION
CV-2	AS REQ'D	BRONZE, 3" CHECK VALVE, SCH 40, VERTICAL	ASTM B-62	OR EQUAL, ON PUMPOUT LINES FROM GALLEY GREY TANK AND LIBERTY LIFT STATION

### - GENERAL NOTES -

NO.	DESCRIPTION
1.	MATERIAL AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "M" VESSELS.
2.	PIPING SHALL BE RUN AS DIRECTLY AS PRACTICABLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS. PROVIDE TAKEDOWN JOINTS FOR REMOVAL, INSPECTION, SERVICING, AND REPLACEMENT OF EQUIPMENT. PIPING SHALL BE RUN TO MINIMIZE CUTTING OF THE SHIP'S STRUCTURE.
3.	WHERE PIPES PENETRATE TANK BOUNDARIES, BULKHEADS, OR DECKS, HEAVY WEIGHT SPOOL PIECES OR REINFORCING PENETRATION FITTINGS SHALL BE USED. SEE DETAIL 1-4A.
4.	PIPING SHALL BE SUPPORTED BY HANGERS IN ACCORDANCE WITH ASTM F708.
5.	DRIP PANS SHALL BE PROVIDED BENEATH ALL PUMPS, STRAINERS, & FILTERS THAT WILL LEAK DURING ROUTINE MAINTENANCE AND BE EQUIPPED WITH A LOW POINT DRAIN VALVE.

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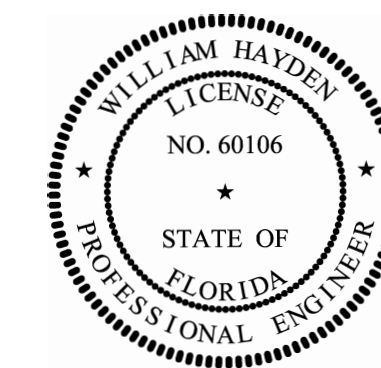
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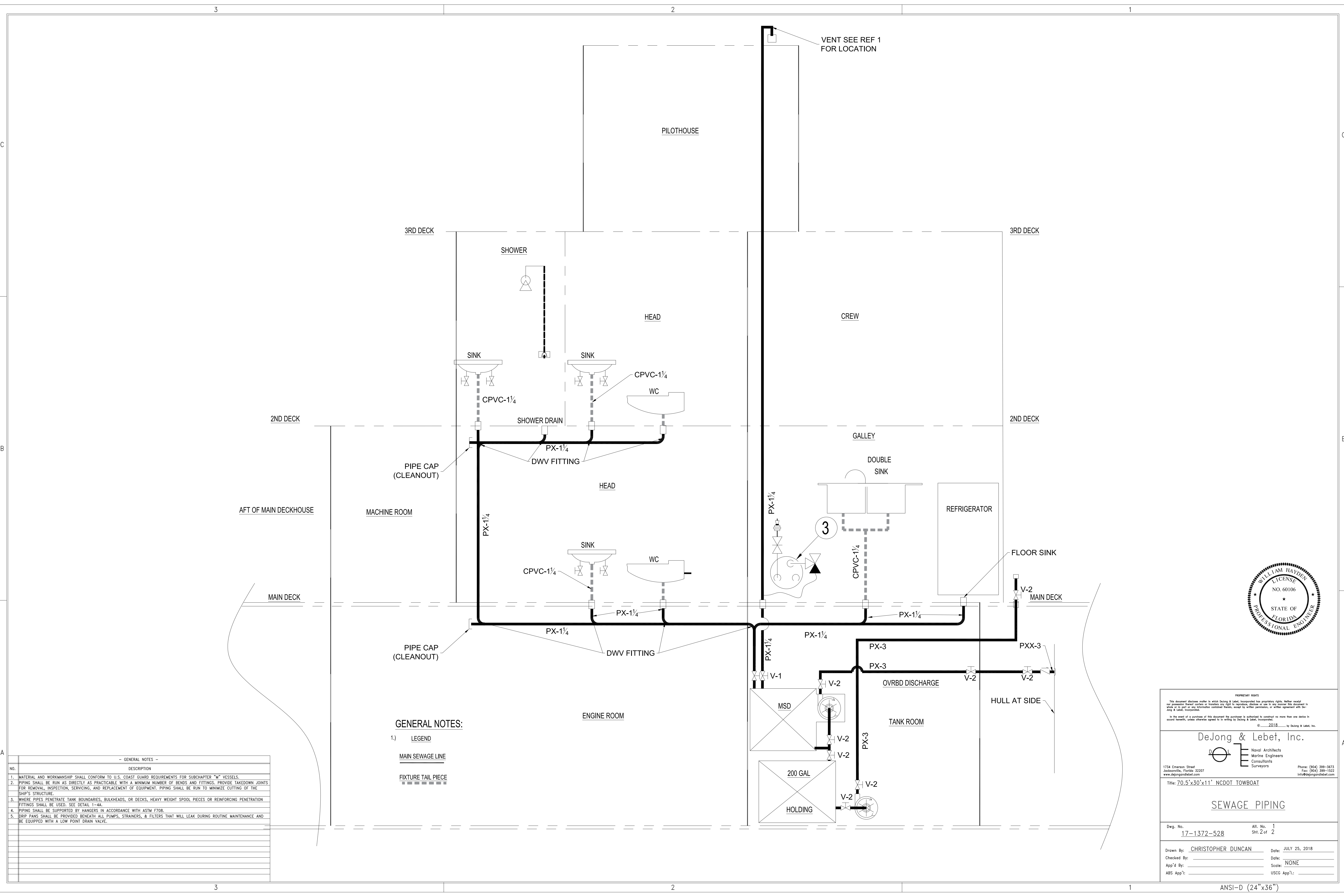
TITLE: 70.5'x30'x11' NCDOT TOWBOAT

**SEWAGE PIPING**

Dwg. No. 17-1372-528 Alt. No. 1  
Sh. 1 of 2

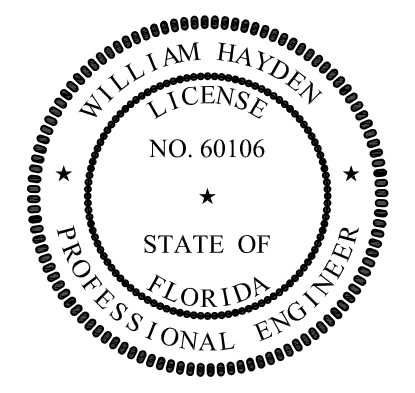
Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018  
Checked By: \_\_\_\_\_ Date: \_\_\_\_\_  
App'd By: \_\_\_\_\_ Scale: NONE  
ABS App'l: \_\_\_\_\_ USCG App'l: \_\_\_\_\_





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- GENERAL NOTES:**
- 1.) LEGEND
- MAIN SEWAGE LINE**
- FIXTURE TAIL PIECE**



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**SEWAGE PIPING**

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