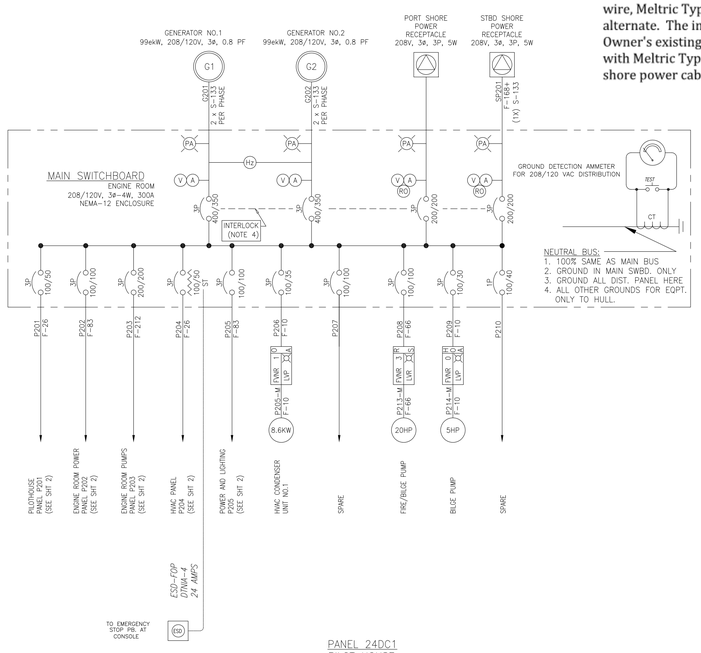
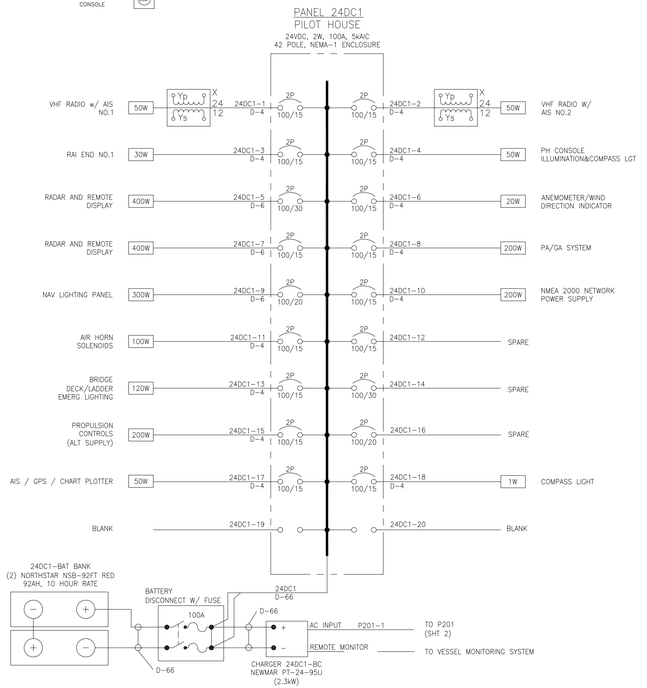
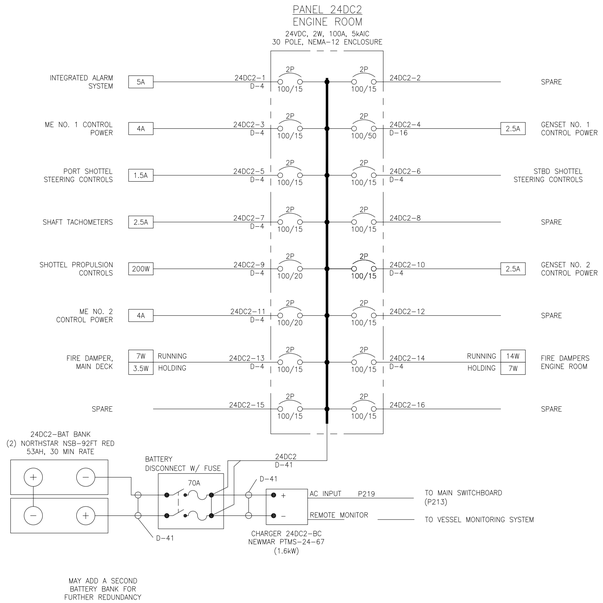
The Contractor shall provide and install a watertight 60 amp, 208-volt, 3 phase, 3 pole/4 wire, Meltric Type DB/DSM, Model 89-60143-080, shore power inlet, or Owner directed alternate. The inlet shall be situated on the deck house generally as situated on the Owner's existing vessels. The Contractor shall make up and provide a shore power cable with Meltric Type DB/DSM Male Plugs, Model 89-61143, sized and fashioned after the shore power cables on the Owner's existing vessels.

SYMBOLS LIST

X / Y/Z	CIRCUIT BREAKER X – POLES Y – FRAME SIZE Z – TRIP RATING
Yp Ys / X Vp Vs	TRANSFORMER X – SIZE kVA Vp – PRIMARY VOLTAGE Vs – SECONDARY VOLTAGE Yp – PRIMARY CONNECTION Ys – SECONDARY CONNECTION
_kW	EQUIPMENT
	RECEPTACLE
	LIGHTING
HP/kW	MOTOR
G1	GENERATOR
	SHORE POWER RECEPTACLE
X	INSTRUMENTATION V – VOLT, A – AMPERES, kW – KILOWATTS, Hz – FREQUENCY PA – POWER AVAILABLE RO – PHASE ROTATION
W / X Y Z	MOTOR CONTROLLER W – R, S, RUN STOP, H O A, HAND OFF AUTO X – SSNR, SOFT START NON REVERSING, FVNR, FULL VOLTAGE NON REVERSING Y – NEMA SIZE Z – LVP OR LVR
XX	CONTROL DEVICES/FUNCTIONS PB – PUSH–BUTTON PB/IL – PUSH–BUTTON, ILLUMINATED PS – PRESSURE SWITCH LS – LEVEL SWITCH FR – FIRE SHUTDOWN FS – FLOW SWITCH DS – DISCONNECT SWITCH TH – THERMOSTAT
	FUSE
C	VENDOR PROVIDED MOTOR CONTROLLER
	50A 120/240V RANGE RECEPTACLE







– GENERAL NOTES –

NO.	DESCRIPTION
1.	MATERIAL AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "M" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR BUILDING AND CLASSING STEEL VESSELS FOR SERVICE ON RIVERS AND INTRACOASTAL WATERWAYS WITH NOTATION 'A1, PASSENGER VESSEL, RIVER SERVICE.
2.	SHIP SERVICE SWITCHBOARD IS A 3 PHASE 4 WIRE SYSTEM, 208/120V, 60 Hz, WITH GROUNDED NEUTRAL. SEE REFERENCE 1 FOR SWITCHBOARD LOCATION.
3.	ALL PERMANENTLY INSTALLED ELECTRICAL EQUIPMENT SHALL HAVE METAL ENCLOSURES PROPERLY GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, UNLESS NOTED OTHERWISE.
4.	THE SHIP SERVICE AND SHORE POWER SUPPLIES SHALL BE INTERLOCKED SO THAT ONLY ONE CAN SUPPLY THE SHIP SERVICE SWITCHBOARD AT ANY TIME.
5.	CIRCUIT BREAKERS FOR STEERING GEAR HYDRAULIC PUMPS REQUIRE INSTANTANEOUS TRIP ONLY AND SHALL BE SIZED PER 46 CFR 58.25-55(a)(2). CONTRACTOR SHALL VERIFY TRIP RATING AGAINST ACTUAL MOTOR NAMEPLATE DATA.
6	ALL POWER CABLE SHALL COMPLY WITH THE REQUIREMENTS OF IEEE 1580. ALL CABLE SHALL BE LOW SMOKE, ZERO HALOGEN TYPE, TRICAB OR EQUAL.
7	NYLON OR BRASS STUFFING TUBES SHALL BE USED WHEN PENETRATING ELECTRICAL ENCLOSURES OR JUNCTION BOXES.
8	FAULT CURRENT AT THE SHIP SERVICE SWITCHBOARD IS CONSERVATIVELY ESTIMATED AT 3,668A.
9	ALL CABLES SHALL BE RATED AT 90°C CONDUCTOR TEMPERATURE IN ACCORDANCE WITH IEEE STANDARD NO. 45 2002 TABLE 25.
10	EACH CABLE SHALL BE TAGGED WITH ITS UNIQUE CIRCUIT DESIGNATION USING EMBOSSED ALUMINUM TAGS ON EACH SIDE OF PENETRATIONS AND INTO CONNECTION BOXES AND/OR EQUIPMENT.

– GENERAL NOTES –

NO.	DESCRIPTION
11	METAL USED FOR TERMINAL STUDS, LUGS, NUTS, AND WASHERS SHALL BE CORROSION RESISTANT AND GALVANICALLY COMPATIBLE WITH THE WIRE AND TERMINAL LUGS.
12	WIRES TERMINATING IN EQUIPMENT SHALL BE ARRANGED TO PROVIDE A SURPLUS LENGTH OF WIRE SUFFICIENT TO ALLOW FOR DISCONNECTION, AND TO PERMIT MULTIPLE WIRES TO BE FORMED AT TERMINAL STUDS.
13	CABLE PENETRATIONS OF STRUCTURAL FIRE PROTECTION SHALL UTILIZE FIRE STOPS WHICH MAINTAIN THE FIRE PROTECTION LEVEL GRADE A, B, ETC.) ASSOCIATED WITH THE FIRE ZONE PENETRATED.
14	CABLE PENETRATIONS THROUGH BULKHEADS AND DECKS, BOTH WATERTIGHT AND NON-WATERTIGHT, SHALL COMPLY WITH REGULATORY BODY REQUIREMENTS. MULTI-CABLE TRANSIT TYPE PENETRATIONS MAY BE SUBSTITUTED FOR STUFFING TUBES FOR ALL PENETRATIONS EXCEPT THROUGH OPEN DECKS. EXTRA HEAVY, LOW ALLOY KICK PIPES WITH STUFFING TUBES, OR EQUIVALENT, SHALL BE WELDED INTO ALL OPEN DECKS AND SHALL BE NINE INCHES HIGH TO TOP OF THE STUFFING TUBE. BUILT-IN WATERTIGHT BOXES MAY BE USED IN LIEU OF KICK PIPES. POURED SEALERS SHALL NOT BE ALLOWED.

DeJong & Lebet, Inc.
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Fax: (904) 399-1522
Info@dejongandlebet.com

Title: 70.5'x30'x11' NCDOT TOWBOAT

ELECTRICAL ONE–LINE DIAGRAM

Dwg. No. 17–1372–320

Alt. No. 1
Sht. 1 of 2

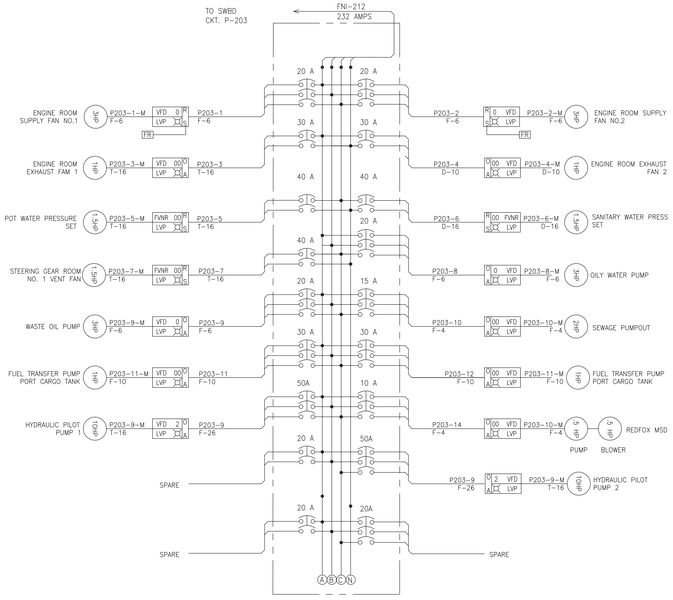
Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
Checked By: _____ Date: _____
App'd By: _____ Scale: NONE
ABS App'l: _____ USCG App'l.: _____

WILLIAM HAYDEN LICENSE NO. 60106 STATE OF FLORIDA PROFESSIONAL ENGINEER

William M. Hayden, PE

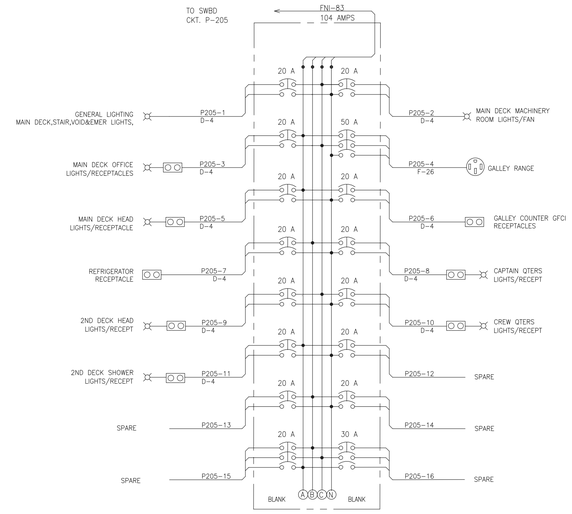
Digitally signed by William M. Hayden, PE
Date: 2018.10.12 15:39:05 -05'00'

ANSI–D (24"x36")



PANEL P203 – ENGINE ROOM PUMP PANEL

208/120V, 3ø–4W, 225A, 10kAIC, MLO
42 POLE, NEMA–12 ENCLOSURE



PANEL P205 – POWER AND LIGHTING PANEL

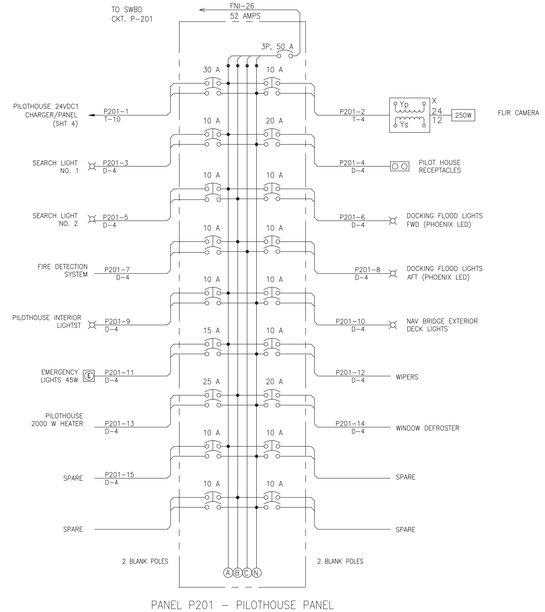
208/120V, 3ø–4W, 100A, 10kAIC, MLO
36 POLE, NEMA–12 ENCLOSURE

PANEL P202 – ENGINE ROOM PANEL

208/120V, 3ø–4W, 225A, 10kAIC, MLO
36 POLE, NEMA–12 ENCLOSURE

PANEL P204 – HVAC PANEL

208/120V, 3ø–4W, 100A, 10kAIC, MB
42 POLE, NEMA–12 ENCLOSURE



PANEL P201 – PILOTHOUSE PANEL

208/120V, 3ø–4W, 100A, 10kAIC, MB
42 POLE, NEMA–12 ENCLOSURE

– GENERAL NOTES –			– GENERAL NOTES –
NO.	DESCRIPTION	NO.	DESCRIPTION
1.	MATERIAL AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "W" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR BUILDING AND CLASSING STEEL VESSELS FOR SERVICE ON RIVERS AND INTRACOASTAL WATERWAYS WITH NOTATION 'A1, PASSENGER VESSEL, RIVER SERVICE.	11	METAL USED FOR TERMINAL STUDS, LUGS, NUTS, AND WASHERS SHALL BE CORROSION RESISTANT AND GALVANICALLY COMPATIBLE WITH THE WIRE AND TERMINAL LUGS.
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5.	CIRCUIT BREAKERS FOR STEERING GEAR HYDRAULIC PUMPS REQUIRE INSTANTANEOUS TRIP ONLY AND SHALL BE SIZED PER 46 CFR 58.25–55(a)(2). CONTRACTOR SHALL VERIFY TRIP RATING AGAINST ACTUAL MOTOR NAMEPLATE DATA.		SHALL BE WELDED INTO ALL OPEN DECKS AND SHALL BE NINE INCHES HIGH TO TOP OF THE STUFFING TUBE. BUILT–IN WATERTIGHT BOXES MAY BE USED IN LIEU OF KICK PIPES. POURED SEALERS SHALL NOT BE ALLOWED.
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10	EACH CABLE SHALL BE TAGGED WITH ITS UNIQUE CIRCUIT DESIGNATION USING EMBOSSED ALUMINUM TAGS ON EACH SIDE OF PENETRATIONS AND INTO CONNECTION BOXES AND/OR EQUIPMENT.		

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ELECTRICAL ONE–LINE DIAGRAM

Dwg. No. 17–1372–320

Alt. No. 1
Sht. 2 of 2

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Checked By: Date:
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ANSI–D (24"x36")