

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 5
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 30-Sep-2022	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)
6. ISSUED BY USAED, WALLA WALLA - CONTRACTING DIV. HILLARY A. MORGAN 201 N. THIRD AVENUE WALLA WALLA WA 99362	CODE W912EF	7. ADMINISTERED BY (If other than item 6) See Item 6		
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		X	9A. AMENDMENT OF SOLICITATION NO. W912EF22R0001	
		X	9B. DATED (SEE ITEM 11) 22-Aug-2022	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The purpose of this amendment is to incorporate the changes outlined below.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
		TEL:	EMAIL:	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 30-Sep-2022

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

Summary of changes for Amendment-0002
LGA DC System and LV Switchgear Upgrades
Solicitation Number: W912EF22R0001

1. Revised solicitation:
 - a. SECTION 00 21 00 - INSTRUCTIONS
 - The bid schedule was revised as follows:
 - Revised CLIN 0003 – Changed CLIN Title
 - Revised CLIN 0005 – Changed CLIN Title
 - Added CLIN 0006 – New CLIN
 - Revised CLIN 0013 – Changed CLIN Title
 - Added CLIN 0016 – New CLIN
 - Revised CLIN 0018 – Changed CLIN Title
 - Revised CLIN 0024 – Changed CLIN Title
 - Revised CLIN 0031 – Changed CLIN to match Specs 01 22 00.00 28 M&P
 2. Revised the following Specifications:
 - b. SECTION 01 22 00.00 28 “MEASUREMENT AND PAYMENT”
 - Added paragraph 1.7 “CLIN 0006 - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS”
 - Revised paragraph 1.16 “CLIN 0013 - FURNISH AND INSTALL NEW UNIT MOTOR CONTROL CENTERS SU1 - SU6, INCLUDING ASSOCIATED CONTROLS, NEW PLC GOVERNOR OIL PUMP CONTROLS AND NEW FEEDER CABLES”
 - Added paragraph 1.19 “CLIN 0016 - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS”
 - Revised paragraph 1.20 “CLIN 0016AA - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 1 - 3”
 - Revised paragraph 1.23 “CLIN 0018 - FURNISH AND INSTALL NEW BATTERIES, BATTERY BANK MONITORING COMPUTER, CART, DIAGNOSTIC EQUIPMENT, WIRING, BATTERY BANK MONITORING HARDWARE & SOFTWARE PACKAGE”

See revised specifications for details.
3. Revised the following Drawings:
 - a. Volume 1 G-007: added Resource Drawings to Index Sheet
 - b. Volume 1 E-505A: Revised Plan Sheet
 - c. Volume 2 E-601: Revised Plan Sheet
 - d. Volume 5 E-301: Revised Plan Sheet
 - e. Added Resource Drawings R-143 through R-156

See revised Plans for details.

Walla Walla District Corps of Engineers
Little Goose DC System and Low Voltage Switch Gear Upgrades

The magnitude of construction is estimated to be between \$10,000,000 and \$25,000,000

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>U/M</u>	<u>U/P</u>	<u>AMOUNT</u>
	Base Items				
0001	MOBILIZATION AND DEMOBILIZATION	1	JOB	XXXXX	\$_____
0002	REMOVE AND DISPOSE OF EXISTING TRANSFORMERS AND 480V AC SWITCHGEAR SQO, SQ1, and SQ2	1	JOB	XXXXX	\$_____
0003	REMOVE AND DISPOSE OF EXISTING MAIN UNIT AUXILIARY BOARDS SU1-SU6 AND CP1-CP6	1	JOB	XXXXX	\$_____
0004	REMOVE AND DISPOSE OF EXISTING MOTOR CONTROL CENTERS CQO1, CQO2, CQO4, CQO5, SH AND THE SH TRANSFORMER	1	JOB	XXXXX	\$_____
0005	REMOVE AND DISPOSE OF EXISTING PANELBOARDS CQO3, CQO7, FCQ1, and FCQ2	1	JOB	XXXXX	\$_____
0006	REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS	1	JOB	XXXXX	\$_____
0006AA	REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 1 - 3	1	JOB	XXXXX	\$_____
0006AB	REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 4 - 6	1	JOB	XXXXX	\$_____
0007	REMOVE AND DISPOSE OF EXISTING 125V AND 48V BATTERIES	1	JOB	XXXXX	\$_____
0008	REMOVE AND DISPOSE OF EXISTING BATTERY CHARGERS BC1, BC2, AND BC3	1	JOB	XXXXX	\$_____
0009	REMOVE AND DISPOSE OF EXISTING DC SWITCHBOARDS AND PANELBOARDS AND PREFERRED AC PANELS	1	JOB	XXXXX	\$_____
0010	REMOVE AND DISPOSE OF EXISTING CONDUCTORS, CONDUIT RISERS, AND EXPOSED CONDUIT	1	JOB	XXXXX	\$_____
0011	REMOVE AND DISPOSE OF EXISTING HEADCOVER, TURBINE BEARING OIL PUMP STARTERS AND CONTROLS	1	JOB	XXXXX	\$_____
0012	FURNISH AND INSTALL NEW 480V AC SWITCHGEAR AND TRANSFORMER LINEUPS SQO, SQ1 AND SQ2, INCLUDING NEW FEEDER CABLES	1	JOB	XXXXX	\$_____
0013	FURNISH AND INSTALL NEW UNIT MOTOR CONTROL CENTERS SU1 - SU6, INCLUDING ASSOCIATED CONTROLS, NEW PLC GOVERNOR OIL PUMP CONTROLS AND NEW FEEDER CABLES	1	JOB	XXXXX	\$_____

0014	FURNISH AND INSTALL NEW STATION SERVICE MOTOR CONTROL CENTERS CQO1, CQO2, CQO4, CQO5 AND SH, INCLUDING ASSOCIATED CONTROLS, NEW SH TRANSFORMER, AND FEEDER CABLES	1	JOB	XXXXX	\$ _____
0015	FURNISH AND INSTALL NEW PANELBOARDS CQO3, FCQ1, AND FCQ2, INCLUDING NEW FEEDER CABLES	1	JOB	XXXXX	\$ _____
0016	FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS	1	JOB	XXXXX	\$ _____
0016AA	FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 1 - 3	1	JOB	XXXXX	\$ _____
0016AB	FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 4 - 6	1	JOB	XXXXX	\$ _____
0017	FURNISH AND INSTALL NEW 125V BATTERY CHARGERS IN BC1 AND BC2	1	JOB	XXXXX	\$ _____
0018	FURNISH AND INSTALL NEW BATTERIES, BATTERY BANK MONITORING COMPUTER, CART, DIAGNOSTIC EQUIPMENT, WIRING, BATTERY BANK MONITORING HARDWARE & SOFTWARE PACKAGE	1	JOB	XXXXX	\$ _____
0019	FURNISH AND INSTALL NEW BATTERY SWITCHBOARDS, DC DISTRIBUTION PANELBOARDS, 120V AC DISTRIBUTION PANELBOARDS, AND MANUAL BREAKER TRANSFER PANELS INCLUDING NEW FEEDER CABLES	1	JOB	XXXXX	\$ _____
0020	FURNISH AND INSTALL BATTERY ROOM UPGRADES	1	JOB	XXXXX	\$ _____
0021	PROVIDE NEW LOAD BANK	1	JOB	XXXXX	\$ _____
0022	FURNISH AND INSTALL SQ REMOTE CONTROL PANELS	1	JOB	XXXXX	\$ _____
0023	FURNISH THEN INSTALL SBC AND SG PANELS	1	JOB	XXXXX	\$ _____
0024	RELOCATE EXISTING INVERTERS THEN FURNISH AND INSTALL 125V/48V DC/DC CONVERTERS	1	JOB	XXXXX	\$ _____
0025	FURNISH SPARE PARTS AND ACCESSORIES	1	JOB	XXXXX	\$ _____
0026	CORE DRILLING AND CONCRETE WORK	1	JOB	XXXXX	\$ _____
0027	FURNISH O&M MANUALS	1	JOB	XXXXX	\$ _____
0028	FURNISH FINAL RECORD DRAWINGS	1	JOB	XXXXX	\$ _____
0029	PROVIDE COMMISSIONING SERVICES AND TRAINING	1	JOB	XXXXX	\$ _____

0030	FIRESTOPPING	1	JOB	XXXXX	\$_____
0031	LEAD BASED PAINT REMEDIATION AND DISPOSAL	1	JOB	XXXXX	\$_____
	Optional Items				
0032	GOVERNOR AIR SUPPLY CROSSOVER MODIFICATION	1	JOB	XXXXX	\$_____
0033	FURNISH AND INSTALL NEW CABLE TRAYS	EST	LF	\$_____	\$_____
SCHEDULE TOTAL					\$_____

IMPORTANT: See Section 01 22 00.00 28; MEASUREMENT AND PAYMENT; Paragraph; Retainage of Payment, for withholding of payment for final deliverables.

U/M* = Unit of Measure U/P* = Unit Price NTE* = Not to Exceed EST* = Estimated

Quantities identified as Estimated ("Est") in the bid schedule are subject to FAR Clause 52.211-18, VARIATION IN ESTIMATED QUANTITY, located in Section 00 70 00.

(End of Summary of Changes)

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- 1.5 CLIN 0004 - REMOVE AND DISPOSE OF EXISTING MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05, SH AND THE SH TRANSFORMER
- 1.6 CLIN 0005 - REMOVE AND DISPOSE OF EXISTING PANELBOARDS CQ03, CQ007, FCQ1, and FCQ2
- 1.7 CLIN 0006 - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS
- 1.8 CLIN 0006AA - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 1 - 3
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- 1.10 CLIN 0007 - REMOVE AND DISPOSE OF EXISTING 125V AND 48V BATTERIES
- 1.11 CLIN 0008 - REMOVE AND DISPOSE OF EXISTING BATTERY CHARGERS BC1, BC2, AND BC3
- 1.12 CLIN 0009 - REMOVE AND DISPOSE OF EXISTING DC SWITCHBOARDS AND PANELBOARDS AND PREFERRED AC PANELS
- 1.13 CLIN 0010 - REMOVE AND DISPOSE OF EXISTING CONDUCTORS, CONDUIT RISERS, AND EXPOSED CONDUIT
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- 1.15 CLIN 0012 - FURNISH AND INSTALL NEW 480V AC SWITCHGEAR AND TRANSFORMER LINEUPS SQ0, SQ1 AND SQ2, INCLUDING NEW FEEDER CABLES
- 1.16 CLIN 0013 - FURNISH AND INSTALL NEW UNIT MOTOR CONTROL CENTERS SU1 - SU6, INCLUDING ASSOCIATED CONTROLS, NEW PLC GOVERNOR OIL PUMP CONTROLS AND NEW FEEDER CABLES
- 1.17 CLIN 0014 - FURNISH AND INSTALL NEW STATION SERVICE MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05 AND SH, INCLUDING ASSOCIATED CONTROLS, NEW SH TRANSFORMER AND FEEDER CABLES
- 1.18 CLIN 0015 - FURNISH AND INSTALL NEW PANELBOARDS CQ03, FCQ1, AND FCQ2, INCLUDING NEW FEEDER CABLES
- 1.19 CLIN 0016 - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS
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MONITORING COMPUTER, CART, DIAGNOSTIC EQUIPMENT, WIRING, BATTERY BANK MONITORING HARDWARE AND SOFTWARE PACKAGE

- 1.24 CLIN 0019 - FURNISH AND INSTALL NEW BATTERY SWITCHBOARDS, DC DISTRIBUTION PANELBOARDS, 120V AC DISTRIBUTION PANELBOARDS, AND MANUAL BREAKER TRANSFER PANELS INCLUDING NEW FEEDER CABLES
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SECTION 01 22 00.00 28

MEASUREMENT AND PAYMENT

PART 1 GENERAL

In each instance, the contract price for an item shall constitute full compensation for furnishing all plant, labor, equipment, and materials, and for performing all operations required to complete the work included in the item as herein specified, or as otherwise approved.

1.1 RETAINAGE OF PAYMENT

Retainage in the amount of 10 percent of original contract award amount will be withheld until the final submittals listed below have been approved by the Government. The 10 percent final submittals retainage will be held until the Contractor has earned 90 percent of the original contract value. See SECTION 01 78 00.00 28 "CLOSEOUT SUBMITTALS" and SECTION 01 78 23.00 28 "OPERATION AND MAINTENANCE DATA" for additional information.

- a. Final Shop Drawings.
- b. Final As-built Drawings.
- c. Final Record Drawings.
- d. Return of Government Issued Items.
- e. Final Operation and Maintenance Manuals and Parts Catalogs.
- f. Final Spare Parts submission.
- g. Complete all required training.

1.2 CLIN 0001 - MOBILIZATION AND DEMOBILIZATION

Measurement and payment for mobilization and demobilization will be in accordance with Contract CLAUSE: PAYMENT FOR MOBILIZATION AND DEMOBILIZATION. This item will be measured for payment as a complete pay item (JOB) under Item No. 0001, "Mobilization and Demobilization", which price and payment shall be full compensation for mobilizing and demobilizing all plant and equipment required for performance of the work, as specified and approved.

1.3 CLIN 0002 - REMOVE AND DISPOSE OF EXISTING TRANSFORMERS AND 480V AC SWITCHGEAR SQ0, SQ1, and SQ2

Removal and disposal of existing transformers and 480V AC switchgear SQ0, SQ1, and SQ2 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0002, "REMOVE AND DISPOSE OF EXISTING TRANSFORMERS AND 480V AC SWITCHGEAR SQ0, SQ1, and SQ2", which price and payment shall be full compensation for all work required to remove and dispose of existing transformers and 480V AC switchgear SQ0, SQ1, and SQ2, complete, as specified and approved.

1.4 CLIN 0003 - REMOVE AND DISPOSE OF EXISTING MAIN UNIT AUXILIARY BOARDS SU1-SU6 AND CP1-CP6

Remove and dispose of existing main unit auxiliary boards SU1 - SU6 and CP1-CP6 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0003, "REMOVE AND DISPOSE

OF EXISTING MAIN UNIT AUXILIARY BOARDS SU1 - SU6 AND CP1-CP6", which price and payment shall be full compensation for all work required to remove and dispose of existing main unit auxiliary boards SU1 - SU6 and CP1-CP6, complete, as specified and approved.

1.5 CLIN 0004 - REMOVE AND DISPOSE OF EXISTING MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05, SH AND THE SH TRANSFORMER

Remove and dispose of existing motor control centers CQ01, CQ02, CQ04, CQ05, SH and the SH transformer will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0004, "REMOVE AND DISPOSE OF EXISTING MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05, SH AND THE SH TRANSFORMER", which price and payment shall be full compensation for all work required to remove and dispose of existing motor control centers CQ01, CQ02, CQ04, CQ05, SH and the SH transformer, complete, as specified and approved.

1.6 CLIN 0005 - REMOVE AND DISPOSE OF EXISTING PANELBOARDS CQ03, CQ007, FCQ1, and FCQ2

Remove and dispose of existing panelboards CQ03, CQ07, FCQ1, and FCQ2 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0005, "REMOVE AND DISPOSE OF EXISTING PANELBOARDS CQ03, CQ07, FCQ1, and FCQ2", which price and payment shall be full compensation for all work required to remove and dispose of existing panelboards CQ03, CQ07, FCQ1, and FCQ2 as specified and approved.

1.7 CLIN 0006 - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS

Remove and dispose of existing 4160 volt governor oil pump motors will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0006, "REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS, which price and payment shall be full compensation for all work required to remove and dispose of existing 4160 volt governor oil pump motors complete, as specified and approved.

1.8 CLIN 0006AA - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 1 - 3

Remove and dispose of existing 4160 volt governor oil pump motors from units 1 - 3 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0006AA, "REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 1 - 3", which price and payment shall be full compensation for all work required to remove and dispose of existing 4160 volt governor oil pump motors from units 1 - 3 complete, as specified and approved.

1.9 CLIN 0006AB - REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 4 - 6

Remove and dispose of existing 4160 volt governor oil pump motors from units 4 - 6 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0006AB, "REMOVE AND DISPOSE OF EXISTING 4160 VOLT GOVERNOR OIL PUMP MOTORS FROM UNITS 4 - 6", which price and payment shall be full compensation for all work required to remove and dispose of existing 4160 volt governor oil pump motors from units 4 - 6 complete, as specified and approved.

1.10 CLIN 0007 - REMOVE AND DISPOSE OF EXISTING 125V AND 48V BATTERIES

Removal and disposal of existing 125V and 48V batteries will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0007, "REMOVE AND DISPOSE OF EXISTING 125V AND 48V BATTERIES" which price and payment shall be full compensation for all work required to remove and dispose of existing 125V and 48V batteries complete, as specified and approved.

1.11 CLIN 0008 - REMOVE AND DISPOSE OF EXISTING BATTERY CHARGERS BC1, BC2, AND BC3

Remove and dispose of existing battery chargers BC1, BC2, AND BC3 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0008, "REMOVE AND DISPOSE OF EXISTING BATTERY CHARGERS BC1, BC2, AND BC3", which price and payment shall be full compensation for all work required to remove and dispose of existing battery chargers BC1, BC2, AND BC3, complete, as specified and approved.

1.12 CLIN 0009 - REMOVE AND DISPOSE OF EXISTING DC SWITCHBOARDS AND PANELBOARDS AND PREFERRED AC PANELS

Remove and dispose of existing DC switchboards and panelboards and preferred AC panels will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0009, "REMOVE AND DISPOSE OF EXISTING DC SWITCHBOARDS AND PANELBOARDS AND PREFERRED AC PANELS", which price and payment shall be full compensation for all work required to remove and dispose of existing DC switchboards and panelboards and preferred AC panels complete, as specified and approved.

1.13 CLIN 0010 - REMOVE AND DISPOSE OF EXISTING CONDUCTORS, CONDUIT RISERS, AND EXPOSED CONDUIT

Remove and dispose of existing conductors, conduit risers, and exposed conduit will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0010, "REMOVE AND DISPOSE OF EXISTING CONDUCTORS, CONDUIT RISERS, AND EXPOSED CONDUIT", which price and payment shall be full compensation for all work required to remove and dispose of existing conductors, conduit risers, and exposed conduit complete, as specified and approved.

1.14 CLIN 0011 - REMOVE AND DISPOSE OF EXISTING HEADCOVER, TURBINE BEARING OIL PUMP STARTERS AND CONTROLS

Remove and dispose of existing headcover, turbine bearing oil pump starters and controls will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0011, "REMOVE AND DISPOSE OF EXISTING HEADCOVER, TURBINE BEARING OIL PUMP STARTERS AND CONTROLS", which price and payment shall be full compensation for all work required to Remove and dispose of existing headcover and turbine bearing oil pump starters and controls, complete, as specified and approved.

1.15 CLIN 0012 - FURNISH AND INSTALL NEW 480V AC SWITCHGEAR AND TRANSFORMER LINEUPS SQ0, SQ1 AND SQ2, INCLUDING NEW FEEDER CABLES

Furnish and install new 480V AC switchgear and transformer lineups SQ0, SQ1 and SQ2, including new feeder cables will be measured for payment as a

complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0012, "FURNISH AND INSTALL NEW 480V AC SWITCHGEAR AND TRANSFORMER LINEUPS SQ0, SQ1 AND SQ2, INCLUDING NEW FEEDER CABLES," which price and payment shall be full compensation for all work required to furnish and install new 480V AC switchgear and transformer lineups SQ0, SQ1 and SQ2, including new feeder cables, complete, as specified and approved.

1.16 CLIN 0013 - FURNISH AND INSTALL NEW UNIT MOTOR CONTROL CENTERS SU1 - SU6, INCLUDING ASSOCIATED CONTROLS, NEW PLC GOVERNOR OIL PUMP CONTROLS AND NEW FEEDER CABLES

Furnish and install new unit motor control centers SU1 - SU6, including associated controls, new PLC governor oil pump controls and new feeder cables will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0013, "FURNISH AND INSTALL NEW UNIT MOTOR CONTROL CENTERS SU1 - SU6, INCLUDING ASSOCIATED CONTROLS, NEW PLC GOVERNOR OIL PUMP CONTROLS AND NEW FEEDER CABLES", which price and payment shall be full compensation for all work required to furnish and install new unit motor control centers SU1 - SU6, including associated controls, new PLC governor oil pump controls and new feeder cables complete, as specified and approved.

1.17 CLIN 0014 - FURNISH AND INSTALL NEW STATION SERVICE MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05 AND SH, INCLUDING ASSOCIATED CONTROLS, NEW SH TRANSFORMER AND FEEDER CABLES

Furnish and install new station service motor control centers CQ01, CQ02, CQ04, CQ05 AND SH, including associated controls, new SH transformer and feeder cables will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0014, "PROVIDE NEW STATION SERVICE MOTOR CONTROL CENTERS CQ01, CQ02, CQ04, CQ05 AND SH, INCLUDING ASSOCIATED CONTROLS, NEW SH TRANSFORMER AND FEEDER CABLES", which price and payment shall be full compensation for all work required to furnish and install new station service motor control centers CQ01, CQ02, CQ04, CQ05 AND SH, including associated controls, new SH transformer and feeder cables complete as specified and approved.

1.18 CLIN 0015 - FURNISH AND INSTALL NEW PANELBOARDS CQ03, FCQ1, AND FCQ2, INCLUDING NEW FEEDER CABLES

Furnish and install new panelboards CQ03, FCQ1, and FCQ2, including new feeder cables will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0015, "FURNISH AND INSTALL NEW PANELBOARDS CQ03, FCQ1, and FCQ2", INCLUDING NEW FEEDER CABLES which price and payment shall be full compensation for all work required to furnish and install new panelboards CQ03, FCQ1, and FCQ2, including new feeder cables complete, as specified and approved.

1.19 CLIN 0016 - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS

Furnish and install new 480 volt governor oil pump motors will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0016, "FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS", which price and payment shall be full compensation for all work required to provide new 480 volt governor oil pump motors complete, as specified and approved.

1.20 CLIN 0016AA - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 1 - 3

Furnish and install new 480 volt governor oil pump motors in units 1 - 3 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0016AA, "~~PROVIDE~~FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS UNITS 1 - 3", which price and payment shall be full compensation for all work required to provide new 480 volt governor oil pump motors for units 1 - 3 complete, as specified and approved.

1.21 CLIN 0016AB - FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 4 - 6

Furnish and install new 480 volt governor oil pump motors in units 4 - 6 will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0016AB, "FURNISH AND INSTALL NEW 480 VOLT GOVERNOR OIL PUMP MOTORS IN UNITS 4 - 6", which price and payment shall be full compensation for all work required to furnish and install new 480 volt governor oil pump motors in units 4 - 6 complete, as specified and approved.

1.22 CLIN 0017 - FURNISH AND INSTALL NEW 125V BATTERY CHARGERS IN BC1 AND BC2

Furnish and install new 125v battery chargers in BC1 and BC2, which will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0017, "FURNISH AND INSTALL NEW 125V BATTERY CHARGERS IN BC1 AND BC2", which price and payment shall be full compensation for all work required to furnish and install new 125v battery chargers in BC1 and BC2, complete, as specified and approved.

1.23 CLIN 0018 - FURNISH AND INSTALL NEW ~~BATTERY~~BATTERIES, BATTERY BANK MONITORING COMPUTER, CART, DIAGNOSTIC EQUIPMENT, WIRING, BATTERY BANK MONITORING HARDWARE AND SOFTWARE PACKAGE

Furnish and install new ~~battery~~batteries, battery bank monitoring computer, cart, diagnostic equipment, wiring, battery bank monitoring hardware and software package will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0018, "FURNISH AND INSTALL NEW ~~BATTERY~~BATTERIES, BATTERY BANK MONITORING COMPUTER, CART, DIAGNOSTIC EQUIPMENT, WIRING, BATTERY BANK MONITORING HARDWARE AND SOFTWARE PACKAGE", which price and payment shall be full compensation for all work required to furnish and install new ~~battery~~batteries, battery bank monitoring computer, cart, diagnostic equipment, wiring, battery bank monitoring hardware and software package, as specified and approved.

1.24 CLIN 0019 - FURNISH AND INSTALL NEW BATTERY SWITCHBOARDS, DC DISTRIBUTION PANELBOARDS, 120V AC DISTRIBUTION PANELBOARDS, AND MANUAL BREAKER TRANSFER PANELS INCLUDING NEW FEEDER CABLES

Furnish and install new battery switchboards, DC distribution panelboards, 120V AC distribution panelboards, and manual breaker transfer panels including new feeder cables will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0019, "FURNISH AND INSTALL NEW BATTERY SWITCHBOARDS, DC DISTRIBUTION PANELBOARDS, 120V AC DISTRIBUTION PANELBOARDS, AND MANUAL BREAKER TRANSFER PANELS INCLUDING NEW FEEDER CABLES", which price and payment shall be full

compensation for all work required to Furnish and install new battery switchboards, DC distribution panelboards, 120V AC distribution panelboards, and manual breaker transfer panels including new feeder cables complete, as specified and approved.

1.25 CLIN 0020 - FURNISH AND INSTALL BATTERY ROOM UPGRADES

Furnish and install battery room upgrades will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0020, "FURNISH AND INSTALL BATTERY ROOM UPGRADES", which price and payment shall be full compensation for all upgrades made to the battery room according to contract plans and specifications, as specified and approved.

Battery Room Upgrades consist, but not limited to the following work items:

- a. Remove existing belt driven exhaust fan EF-6 and provide direct drive exhaust fan (retain mark EF-6) and associated fire damper and duct work items.
- b. Piping serving existing emergency shower and eyewash station.
- c. Hydrogen Detector, Smoke Detector, Room Differential Pressure Switch, and Emergency Shower and Eyewash Station Water flow detector; with the output from each of these devices annunciated in the Control Room.
- d. Combination fire smoke damper in the supply air duct serving the battery room with power to the damper and activation annunciated in the Control Room.
- e. Fire damper at the exhaust air opening in the Battery Room.
- f. Battery Monitoring System
- g. Fire rated battery room door and fire barrier signs
- h. Epoxy flooring and containment curb
- i. Battery racks

1.26 CLIN 0021 - PROVIDE NEW LOAD BANK

The new load bank will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0021, "PROVIDE NEW LOAD BANK", which price and payment shall be full compensation for all work required to provide provide new load bank complete, as specified and approved.

1.27 CLIN 0022 - FURNISH AND INSTALL SQ REMOTE CONTROL PANELS

Furnish and install SQ remote control panels will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0022, "FURNISH AND INSTALL SQ REMOTE CONTROL PANELS", which price and payment shall be full compensation for all work required to furnish and install SQ remote control panels complete, as specified and approved.

1.28 CLIN 0023 - FURNISH THEN INSTALL SBC AND SG PANELS

Furnishing, then installing the SBC and SG panels will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0023, "FURNISH THEN INSTALL SBC AND SG PANELS", which price and payment shall be full compensation for all work required to furnish, then install the SBC and SG panels complete, as specified and approved.

1.29 CLIN 0024 - RELOCATE EXISTING INVERTERS THEN FURNISH AND INSTALL
125V/48V DC/DC CONVERTERS

Relocate existing inverters will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0024, "RELOCATE EXISTING INVERTERS", which price and payment shall be full compensation for all work required to relocate existing inverters complete, as specified and approved.

1.30 CLIN 0025 - FURNISH SPARE PARTS AND ACCESSORIES

Furnish spare parts and accessories will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0025, "FURNISH SPARE PARTS AND ACCESSORIES", which price and payment shall be full compensation for all work required to furnish spare parts and accessories complete, as specified and approved.

1.31 CLIN 0026 - CORE DRILLING AND CONCRETE WORK

Core drilling and concrete work will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0026, "CORE DRILLING AND CONCRETE WORK", which price and payment shall be full compensation for all work required for core drilling and concrete work complete, as specified and approved.

1.32 CLIN 0027 - FURNISH O&M MANUALS

Furnish O&M manuals will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0027, "FURNISH O&M MANUALS", which price and payment shall be full compensation for all work required to furnish O&M manuals complete, as specified and approved.

1.33 CLIN 0028 - FURNISH FINAL RECORD DRAWINGS

Furnish final record drawings will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0028, "FURNISH FINAL RECORD DRAWINGS", which price and payment shall be full compensation for all work required to furnish final record drawings complete, as specified and approved.

1.34 CLIN 0029 - PROVIDE COMMISSIONING SERVICES AND TRAINING

Provide commissioning services and training will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0029, "PROVIDE COMMISSIONING SERVICES AND TRAINING", which price and payment shall be full compensation for all work required to Provide commissioning services complete, as specified and approved.

1.35 CLIN 0030 - FIRESTOPPING

Firestopping will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0030, "FIRESTOPPING", which price and payment shall be full compensation for all work required to Provide commissioning services complete, as specified and approved.

1.36 CLIN 0031 - LEAD BASED PAINT REMEDIATION AND DISPOSAL

CLIN 00031 - "LEAD BASED PAINT REMEDIATION AND DISPOSAL" will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0031, "Lead Based Paint Remediation And Disposal", which price and payment shall be full compensation for all work required for the Lead Based Paint Remediation And Disposal on existing Battery Room Floor LBP, complete, as specified and approved.

1.37 OPTIONAL ITEMS

1.37.1 CLIN 0032 - GOVERNOR AIR SUPPLY CROSSOVER MODIFICATION

Governor air supply crossover modification will be measured for payment as a complete pay item (JOB). Payment will be made at the lump sum price for CLIN No. 0031, "GOVERNOR AIR SUPPLY CROSSOVER MODIFICATION" which price and payment shall be full compensation for all parts and labor required to modify the governor air supply crossover, as specified and approved.

1.37.2 CLIN 0033 - FURNISH AND INSTALL NEW CABLE TRAYS

Furnish and install up to an estimated 800 lineal feet (LF) of 24 inch new cable trays for existing trays not meeting NEC fill requirements. Payment is measured and made at the price per lineal foot for CLIN No. 0032, "FURNISH AND INSTALL NEW CABLE TRAYS", which price and payment is full compensation for all work required to furnish and install new cable trays, complete, as specified and approved.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

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INDEX TO RESOURCE DRAWINGS

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R-114	LGP-1.9-3-9/104	POWERHOUSE UNITS 4-6 PIPING DIAGRAM COMPRESSED AIR SYSTEMS
R-115	LGP-9-6-13-47	WIRING DIAGRAMS, GENERATOR SWITCHBOARD S12
R-116	LGP-9-6-13/48	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S1R1
R-117	LGP-9-6-13/49	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S1R1R
R-118	LGP-9-6-13/50	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S21
R-119	LGP-9-6-13/52	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S22
R-120	LGP-9-6-13/53	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S2R1
R-121	LGP-9-6-13/54	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S2R2
R-122	LGP-9-6-13/55	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S2R1R
R-123	LGP-9-6-13/56	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S31
R-124	LGP-9-6-13/57	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S32
R-125	LGP-9-6-13/58	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S3R1
R-126	LGP-9-6-13/59	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S3R2
R-127	LGP-9-6-13/60	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S3R1 REAR PANEL
R-128	LGP-9-6-13/61	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S41
R-129	LGP-9-6-13/62	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S41R
R-130	LGP-9-6-13/63	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S4R1
R-131	LGP-9-6-13/64	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S4R2
R-132	LGP-9-6-13/65	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S4R1R
R-133	LGP-9-6-13/66	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S51
R-134	LGP-9-6-13/67	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S52
R-135	LGP-9-6-13/68	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S5R1
R-136	LGP-9-6-13/69	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S5R1
R-137	LGP-9-6-13/70	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S5R1R
R-138	LGP-9-6-13/71	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S61
R-139	LGP-9-6-13/72	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S62
R-140	LGP-9-6-13/74	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S6R2
R-141	LGP-9-6-13/75	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S6R1R
R-142	LGP-9-6-13/73	GENERATOR UNITS 1 THROUGH 6 GENERATOR SWITCHBOARD WIRING DIAGRAM S6R1
R-143	LGG-1-6-19_4	PLAN: EL 542.00 POWERHOUSE - SOUTH
R-144	LGG-1-6-19_8	PLAN: EL 580.00 POWERHOUSE - SOUTH
R-145	LGG-1-6-19_10	PLAN: EL 598.00 POWERHOUSE
R-146	LGG-1-6-19_56	NEW FIBER NETWORK DIAGRAM
R-147	9980-786 3 of 3	ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6
R-148	9980-786 1 of 3	ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6
R-149	9980-786 2 of 3	ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6
R-150	A-81103-00-30	GOVERNOR PUMP TYPE C-310 VERTICAL
R-151	B-81103-00-29	GOVERNOR PUMP TYPE C-310 VERTICAL
R-152	B-81103-00-32	PUMP CONTROL UNIT ASSEMBLY
R-153	B81105-00-02	DUAL FILTER FOR PUMPS TYPE "A"
R-154	22A SHEET 1	OIL PRESSURE SWITCH / VERTICAL SOLID SHAFT MOTORS
R-155	769-15-5-8	VERTICAL SOLID SHAFT MOTORS / BILLING
R-156	N/A	OPERATING INSTRUCTIONS



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DATE: 09/21/2022

DRAWING NUMBER: 09/22/2022

MARK: DESCRIPTION

DESIGNED BY: L. SUPAK
 CHECKED BY: B. WASSERMAN
 D. DINI
 SUBMITTED BY: JORDAN S. FINK, P.E.
 FILENAME: VT-LGP1.002-G-007.dgn

ISSUE DATE: AUGUST 2022
 NO.: 101
 CONTRACT NO.:
 DRAWING NUMBER: LGP-1.002-G-006

U.S. ARMY CORPS OF ENGINEERS
 WALLA WALLA DISTRICT
 201 NORTH 3RD AVENUE
 SEATTLE, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
 HYDROELECTRIC DESIGN CENTER
 PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
 SNAKE RIVER
 DC SYSTEM AND
 LOW VOLTAGE SWITCH GEAR

RESOURCE DRAWING INDEX

SHEET ID
VOLUME 1
G-007

GENERAL NOTES

- BOLD ITEMS TO INDICATE EQUIPMENT TO BE INSTALLED.**

LEGEND

- EQUIPMENT TO BE INSTALLED
- EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1A21/1	ONE LINE DIAGRAM - STATION SERVICE



U.S. Army Corps of Engineers

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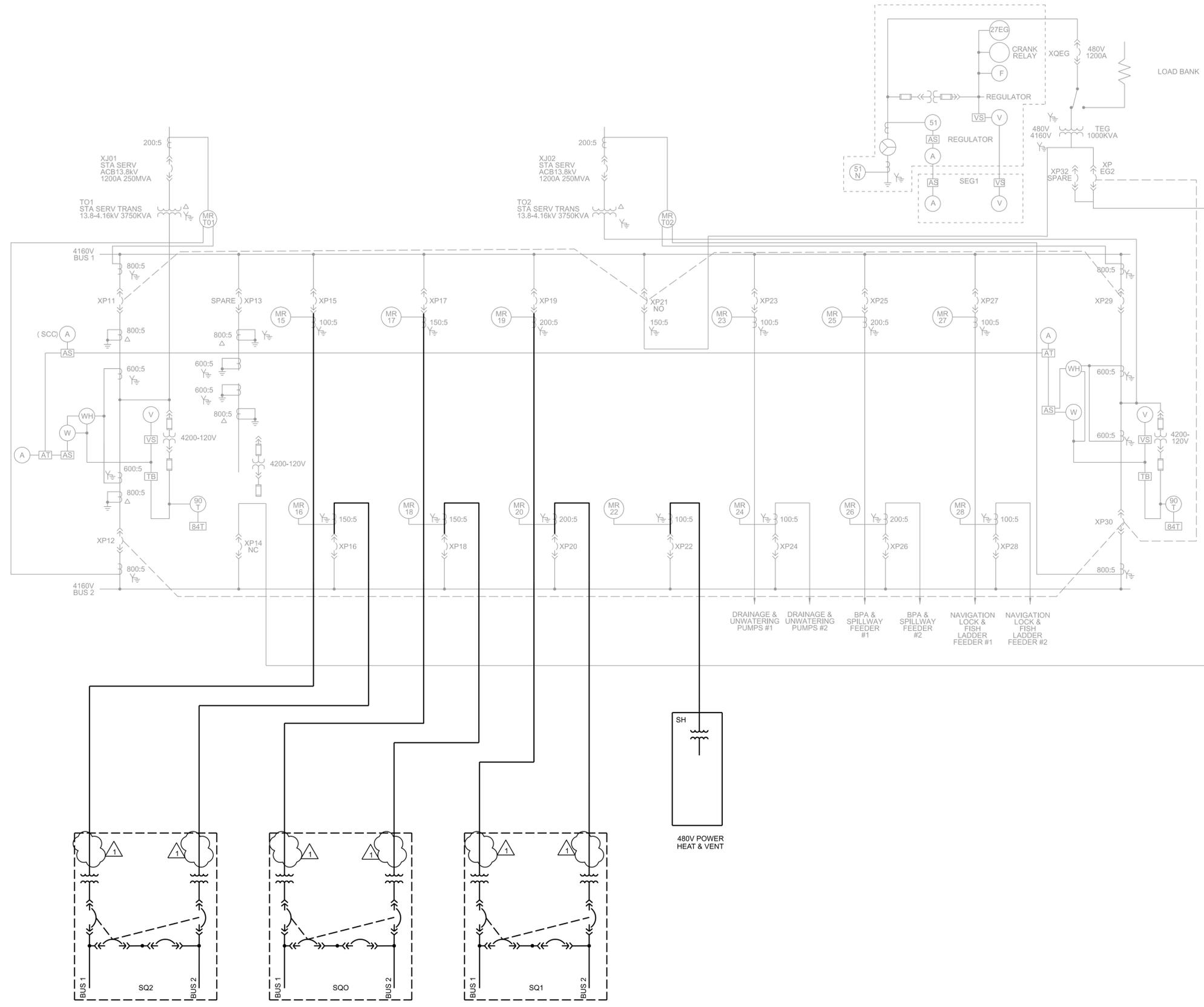
09/22/2022

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
CHECKED BY: K. SELLERS	NO.: NOT RECORDED
SUBMITTED BY: L. VAN STEDUM, P.E.	CONTRACT NO.:
FILENAME: VZ-LGP1.002-E-601.dgn	DRAWING NUMBER: LGP-1.002-6-1D21/2
U.S. ARMY CORPS OF ENGINEERS WALLA WALLA DISTRICT 201 NORTH 3RD AVENUE SEATTLE, WASHINGTON	U.S. ARMY CORPS OF ENGINEERS HYDROELECTRIC DESIGN CENTER PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
DC SYSTEM AND
LOW VOLTAGE SWITCH GEAR
STATION SERVICE - SP
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 2
E-601

FINAL



A1 4160V STATION SERVICE ONE LINE
SCALE: NTS

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. PROVIDE 2 NEW CABLE TRAYS (UPPER AND LOWER) AND INSTALL NEW CABLES IN THE NEW TRAYS.
3. CONTRACTOR'S DESIGN TO INSTALL NEW WIREWAY OR CONDUIT TO ROUTE CABLES FROM THE SWITCHBOARDS TO NEW CABLE TRAY.
4. SEE REFERENCE DRAWINGS FOR CABLE TRAYS ROUTING DETAILS AND CABLE SHAFT DETAILS.
5. TWO INCH PAD REQUIRED NOT SHOWN. SEE E-003B DETAIL Q.
6. CONDUIT ROUTING IS SHOWN FOR CLARITY AND NOT AS ACTUAL ROUTING.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-1D11/5	ERECTION BAY EL 580
LGP-1-1-6-1D11/5	ERECTION BAY EL 580



U.S. Army Corps of Engineers

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09/22/2022

DATE: 09/20/2022

MARK: DRAWING NUMBER: LGP-1-002-6-0A13/1

DESCRIPTION: COMMENT 2: BMM

DESIGNED BY: L. SUPAK
 CHECKED BY: D. DINH
 SUBMITTED BY: JORDAN S. FINK, P.E.
 FILENAME: VS-LGP1-002-E-301_092022-REV-1-000

ISSUE DATE: AUGUST 2022
 NO. OF SHEETS: 1
 CONTRACT NO.: LGP-1-002-6-0A13/1

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 WALLA WALLA DISTRICT
 201 NORTH 3RD AVENUE
 SEATTLE, WASHINGTON

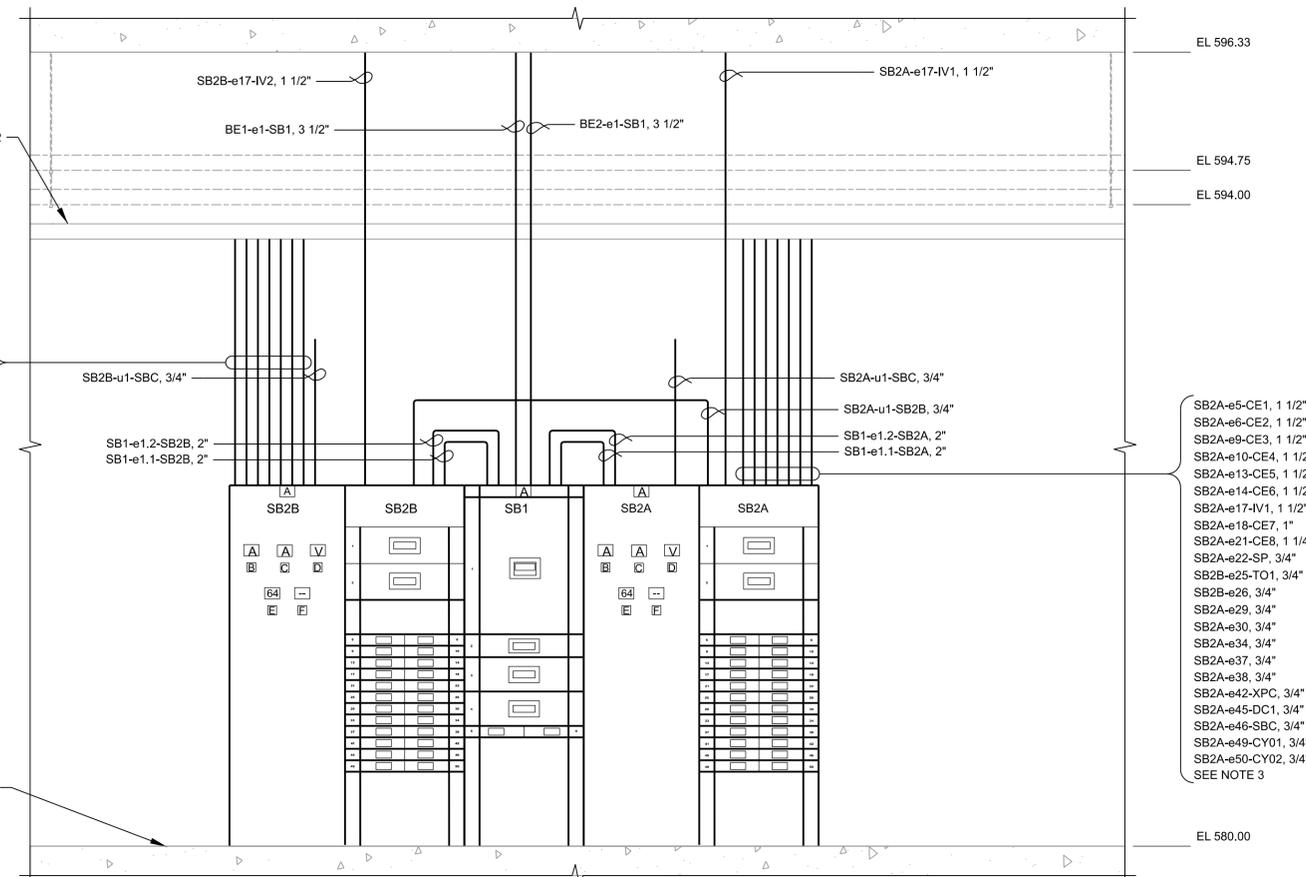
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 HYDROELECTRIC DESIGN CENTER
 PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
 SNAKE RIVER
 DC SYSTEM AND
 LOW VOLTAGE SWITCH GEAR

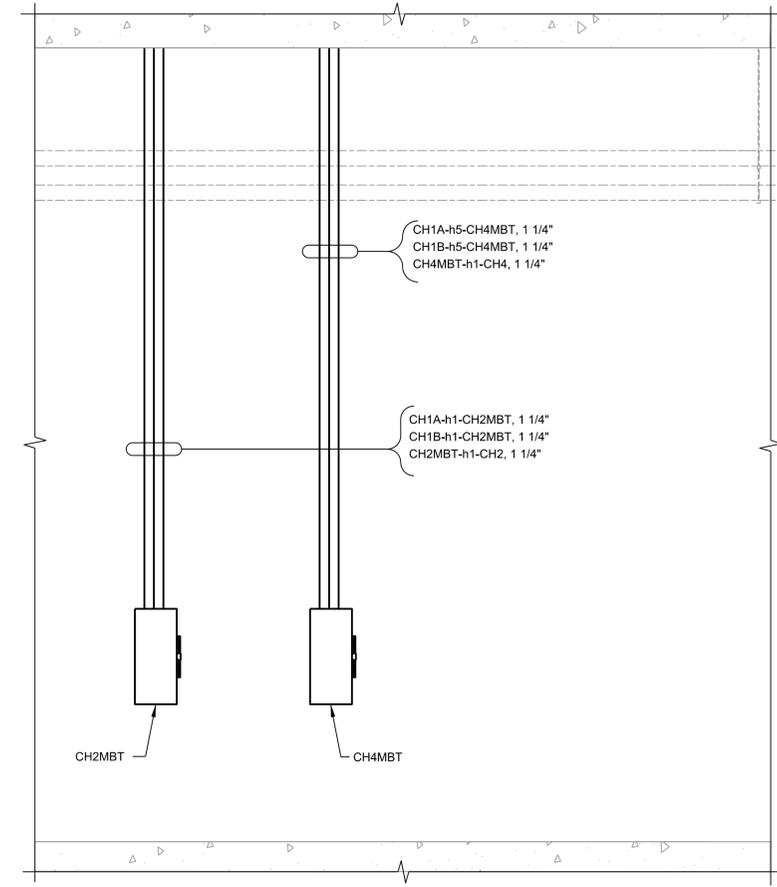
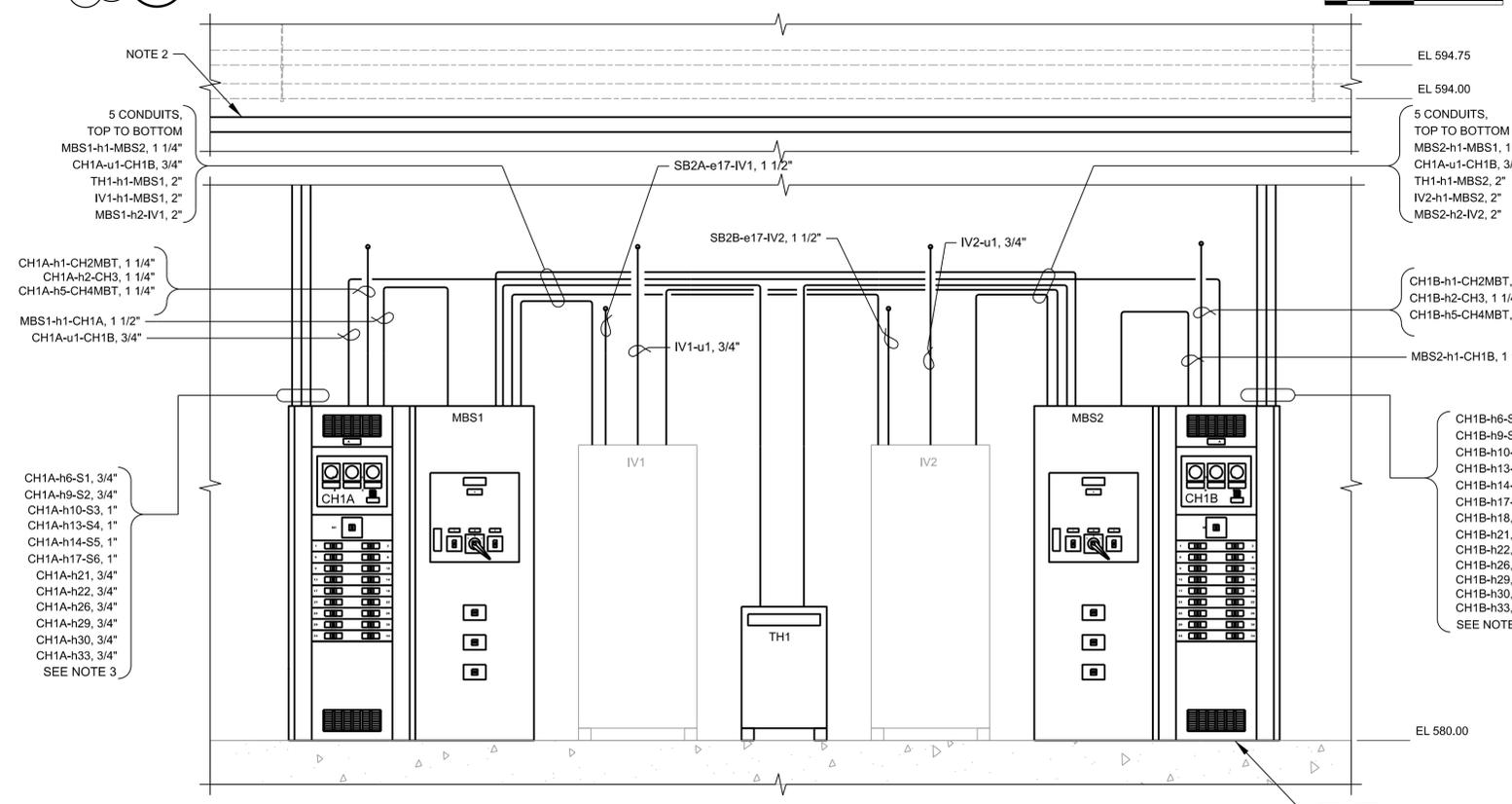
CABLE SPREADING ROOM
 SECTION VIEWS, EL 678.00
 INSTALL

SHEET ID
 VOLUME 5
 E-301

FINAL



BATTERY SWITCHBOARD SECTION



PREFERRED AC EQUIPMENT ELEVATION

MANUAL BREAKER TRANSFER ELEVATION

D2
V1 E-505A

A2

D14
V1 E-505A

A13



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ISSUE DATE: AUGUST 2022
SOLICITATION NO.: 201N0301
CONTRACT NO.:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
FILE NAME: R-147.dwg
SIZE:

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
SEATTLE, WASHINGTON

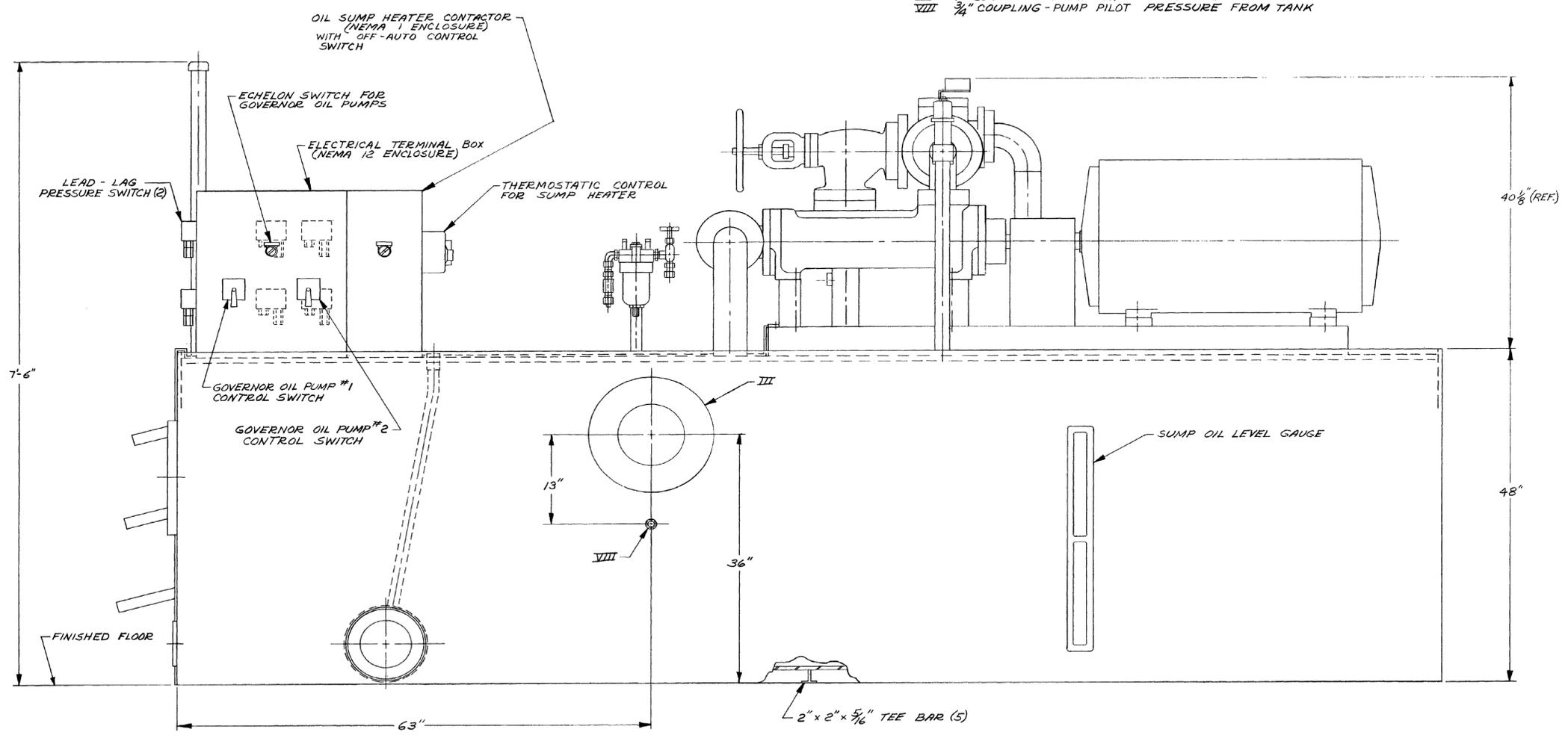
LITTLE GOOSE LOCK AND DAM
DC SYSTEM AND
LOW VOLTAGE SWITCH GEAR
ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6

SHEET ID
R-147

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	NEW	E/C 69232-6	76-5-19	
	A	E/C 69232-20 CHANGES MADE	J.W.P. 76-7-23	
PER LETTER AND MARKED PRINT FROM USEE			76-7-14	
	B	E/C 69232-30 ADDED (4) PRESSURE SW.	JAL 76-10-28	

PIPE LEGEND

- I 6"x12" RECTANGULAR DRAIN PIPE MOUNTING PAD FROM ACTUATOR
- II 8"-600# CLASS FLANGE - PRESSURE SUPPLY TO ACTUATOR
- III 8"-600# CLASS FLANGE - PRESSURE SUPPLY FROM TANK
- IV 2 1/2" COUPLING - SUMP DRAIN
- V 1 1/2" COUPLING - SUMP FILL
- VI 2" COUPLING - PILOT VALVE DRAIN
- VII 1" COUPLING - PUMP BASE DECK DRAIN
- VIII 3/4" COUPLING - PUMP PILOT PRESSURE FROM TANK



PUMPING BASE ASSEMBLY (DRY) 16,000 LB.
(WET) 18,800 LB.

NORMAL OIL VOLUME IN SUMP
WITH SYSTEM PRESSURE AT
1000 PSI (6 IN. DEEP) 410 GAL.

LOWER GRANITE LOCK AND DAM
CONTRACT DACW 68-76-C-0107

APPROVED
CORPS OF ENGINEERS, U. S. ARMY
NORTH PACIFIC DIVISION
DATE: 31 DEC 1976
BY: [Signature]

REAR VIEW

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UNLESS OTHERWISE SPECIFIED: SURFACE FINISHES AND GENERAL TOLERANCES ARE TO BE AS SPECIFIED IN SHOP STANDARD SS-112.		WOODWARD GOVERNOR COMPANY CORPORATION, DENVER, U.S.A. BRANCHES: FT. COLLINS, COLORADO, U.S.A. TOKYO, JAPAN	
MATERIAL:	DATE: 76-6-3	ARRANGEMENT - PUMP BASE FOR LITTLE GOOSE, LOWER GRANITE & LOWER MONUMENTAL LOCKS & DAMS UNITS 4, 5 & 6	
APPROVED: [Signature]	CHECKED: J.F. EARLS 76-5-28	SIZE: D	CODE IDENT NO.: 9980-786
DRAWN: J. LINDER 76-5-19	DESIGN ACTIVITY APPROVAL:	SCALE: 1/8" = 12"	WEIGHT: SEE ABOVE
NEXT ASSY: HC-675	USED ON:	SHEET 3 OF 3	
APPLICATION:		2. Granite 76-C-107 43	



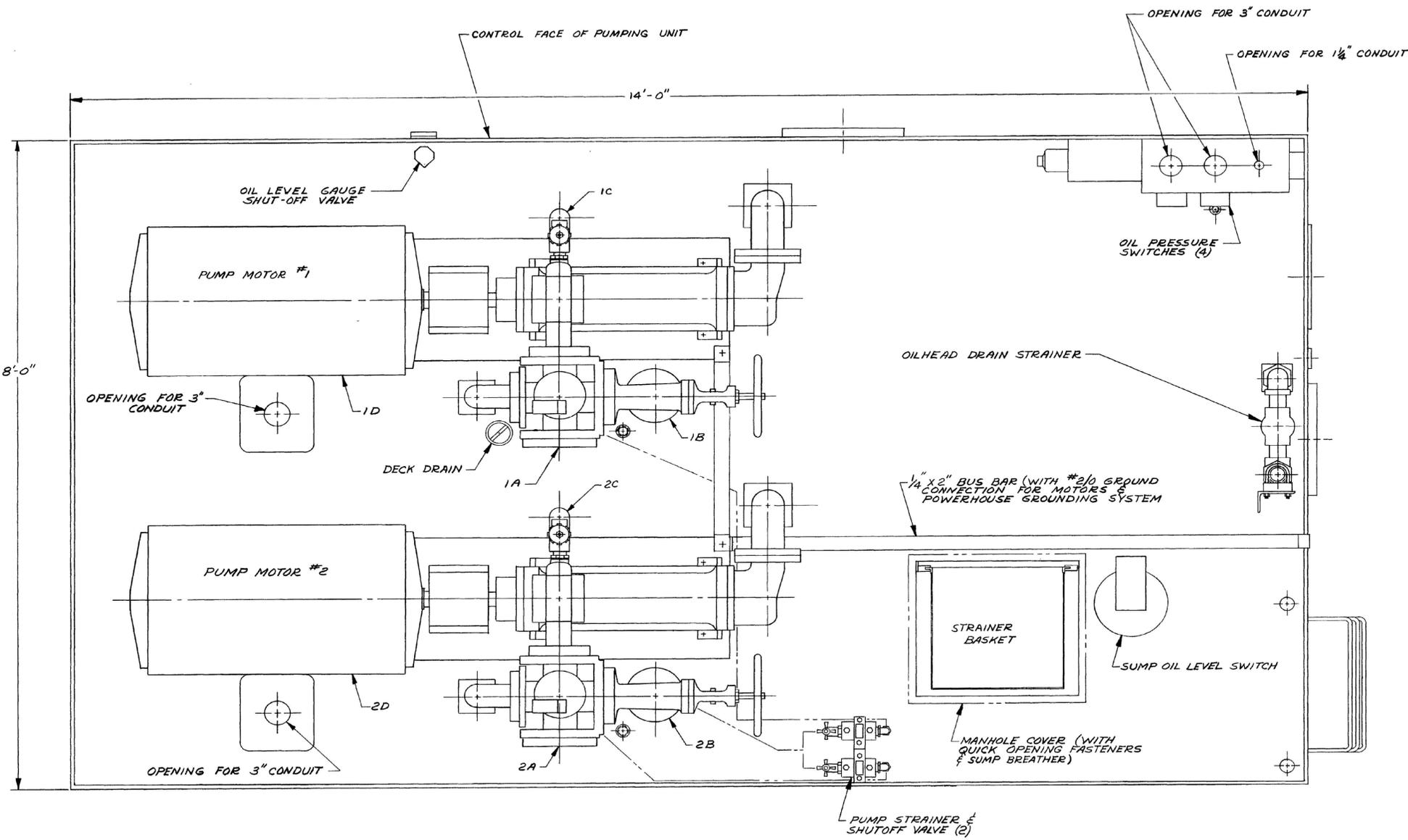
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U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
SEATTLE, WASHINGTON

LITTLE GOOSE LOCK AND DAM
DC SYSTEM AND
LOW VOLTAGE SWITCH GEAR
ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6

SHEET ID
R-148

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	NEW	E/C 69232-6	76-5-19	
	A	E/C 69232-20 NO CHANGE	JUL 76-7-22	
	B	E/C 69232-30 DELETED "PRESSURE TANK OIL LEVEL CHECKING SOLENOID VALVE" & ADDED (1) PRESSURE SWITCH	JAL 76-10-28	



INSTALLATION NOTE

TO INSURE PROPER INSTALLATION OF THE GOVERNOR CABINETS, PIPING AND TANKS, IT IS ABSOLUTELY NECESSARY THE MAJOR PIECES BE CAPABLE OF BOTH VERTICAL AND HORIZONTAL ADJUSTMENT. REFER TO WOODWARD GOVERNOR CO. BULLETIN 07070 FOR SPECIFIC REQUIREMENTS FOR FOUNDATION PREPARATION AND EQUIPMENT INSTALLATION.

LOWER GRANITE LOCK AND DAM
CONTRACT DACW68-76-C-0107

APPROVED
CORPS OF ENGINEERS, U.S. ARMY
MONTANA PACIFIC DIVISION
DATE: 18 DEC 1979
BY: [Signature]

TOTAL WEIGHT (DRY) 16,000 lb
TOTAL WEIGHT (+6" OIL) 18,800 lb

PUMP #1 & #2 IDENTIFICATION

175 GPM (OIL TEMP. AT 115° F) @ 1000 PSI PUMP ASSY WITH:
192 GPM (OIL TEMP. AT 50° F)

A. UNLOADER WITH SWITCH
B. PRESSURE SHUTOFF VALVE & CHECK VALVE
C. SAFETY VALVE @ 1080 PSI
D. MOTOR - 150 HP, 1800 RPM, 4160 V., 60 HZ., 3 PH.

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UNLESS OTHERWISE SPECIFIED: SURFACE FINISHES AND GENERAL TOLERANCES ARE TO BE AS SPECIFIED IN SHOP STANDARD SS-112.		WOODWARD GOVERNOR COMPANY ROCKFORD, ILLINOIS, U.S.A. BRANCHES: FT. COLLINS, COLORADO, U.S.A. TOKYO, JAPAN	
MATERIAL:	APPROVED DATE: 76-6-3	ARRANGEMENT - PUMP BASE FOR LITTLE GOOSE, LOWER GRANITE & LOWER MONUMENTAL LOCKS & DAMS UNITS 4, 5 & 6	
HC-675	CHECKED: J.F. EARLE 76-5-28	SIZE: D	CODE IDENT NO.: 66503
NEXT ASSY USED ON	DRAWN: J. LINDER 76-5-19	9980-786	
APPLICATION	DESIGN ACTIVITY APPROVAL	SCALE: 1/8" = 12"	WEIGHT: SEE SHEET 3 SHEET 1 OF 3
	APPROVAL	LiGranite 76-C-107 41	

PLAN VIEW



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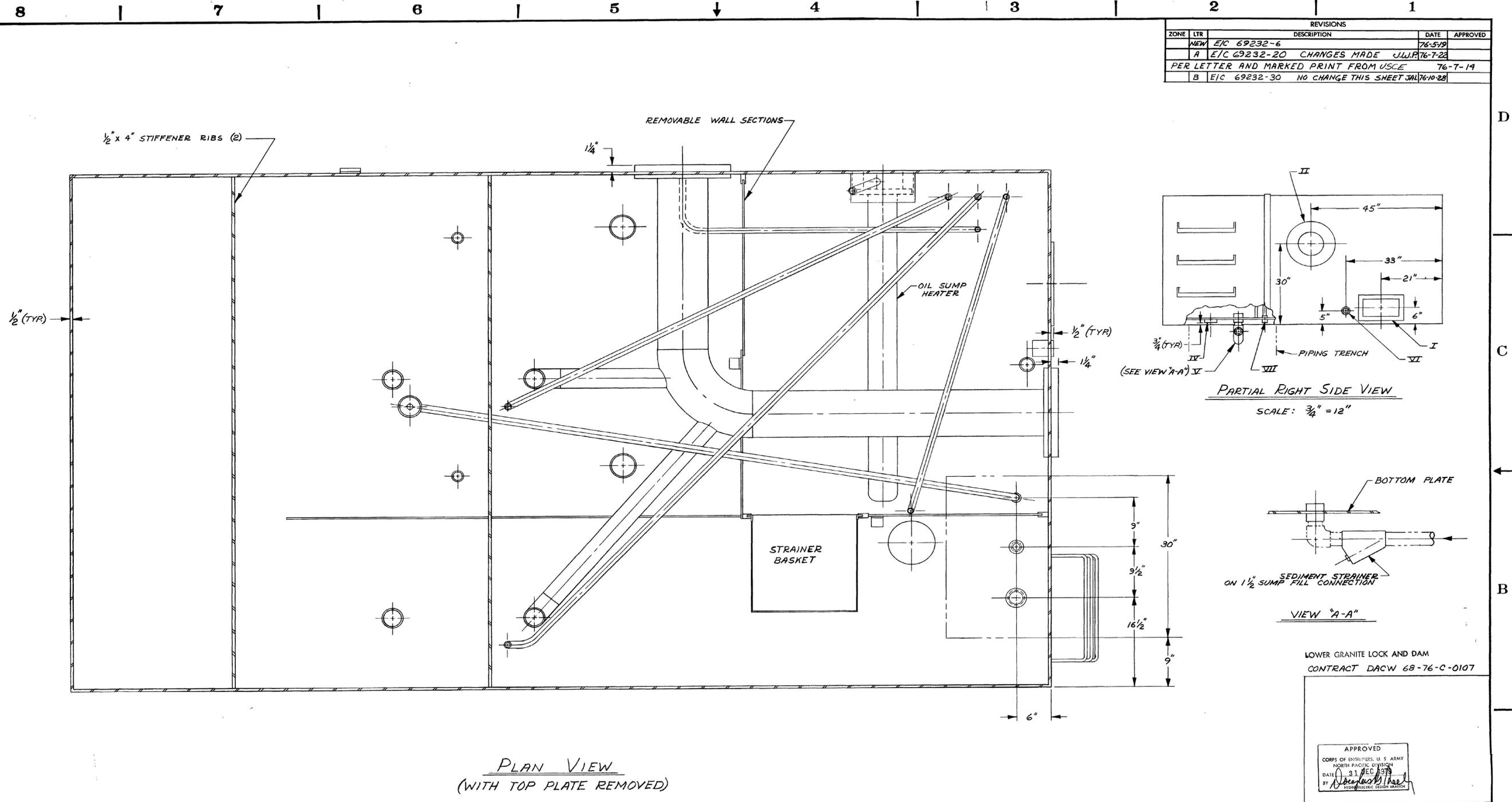
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER:
FILE NAME: R-149.dwg

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
SEATTLE, WASHINGTON

LITTLE GOOSE LOCK AND DAM
DC SYSTEM AND
LOW VOLTAGE SWITCH GEAR
ARRANGEMENT - PUMP BASE UNITS 4, 5, & 6
SHEET ID
R-149

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
NEW	E/C 69232-6		76-5-19	
A	E/C 69232-20	CHANGES MADE	J.W.P. 76-7-22	
PER LETTER AND MARKED PRINT FROM USCE 76-7-19				
B	E/C 69232-30	NO CHANGE THIS SHEET	J.M.L. 76-10-22	



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MATERIAL:	APPROVED DATE 76-6-3	ARRANGEMENT - PUMP BASE FOR LITTLE GOOSE, LOWER GRANITE & LOWER MONUMENTAL LOCKS & DAMS UNITS 4, 5 & 6	
HC-675	CHECKED DATE 76-5-28	SIZE D 66503	CODE IDENT NO. 9980-786
NEXT ASSY USED ON	DRAWN DATE 76-5-19	WEIGHT SEE SHEET 3 SHEET 2 OF 3	
APPLICATION	DESIGN ACTIVITY APPROVAL	SCALE 1/2" = 12"	
	APPROVAL	L. Granite 76-C-107 42	



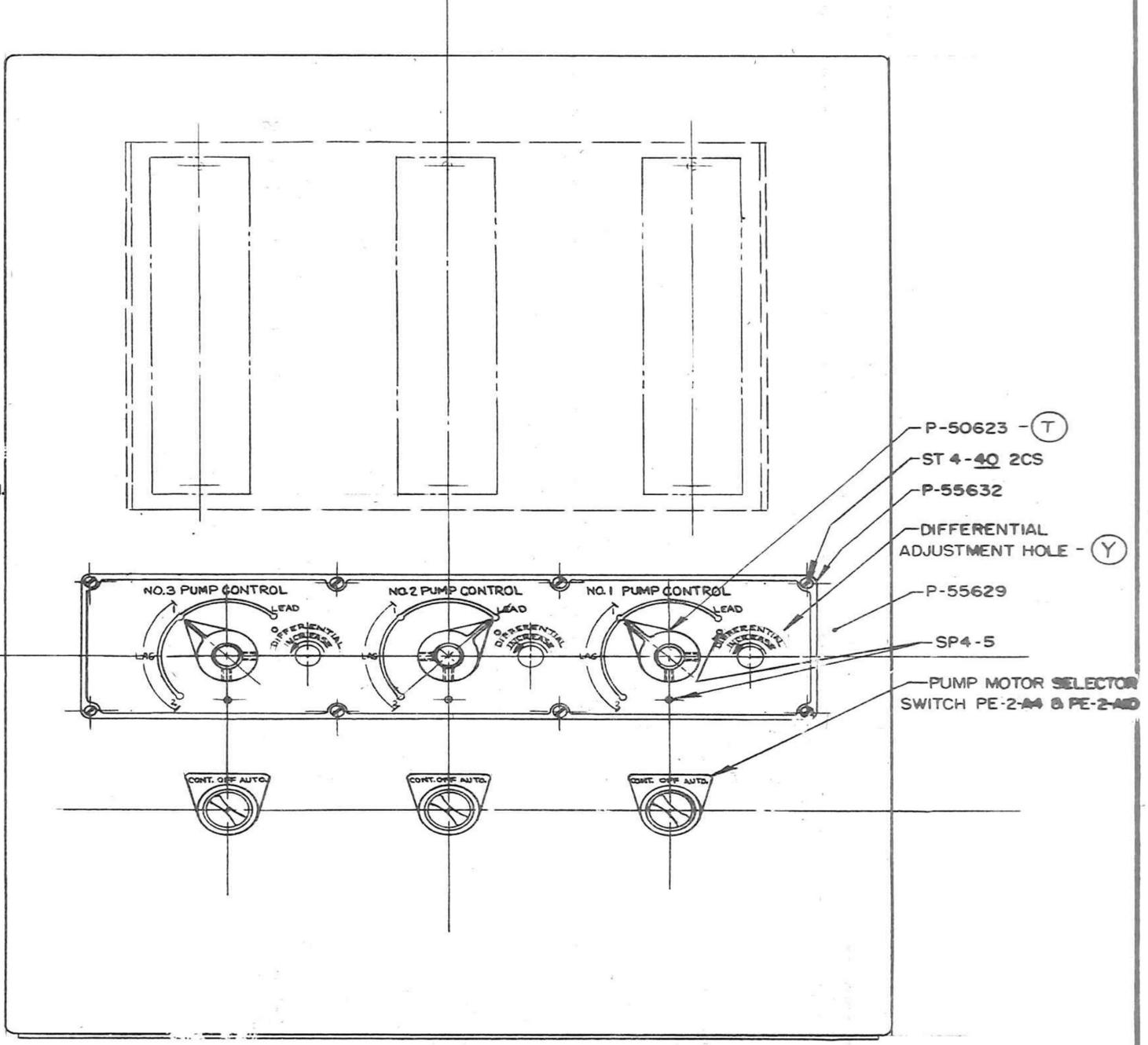
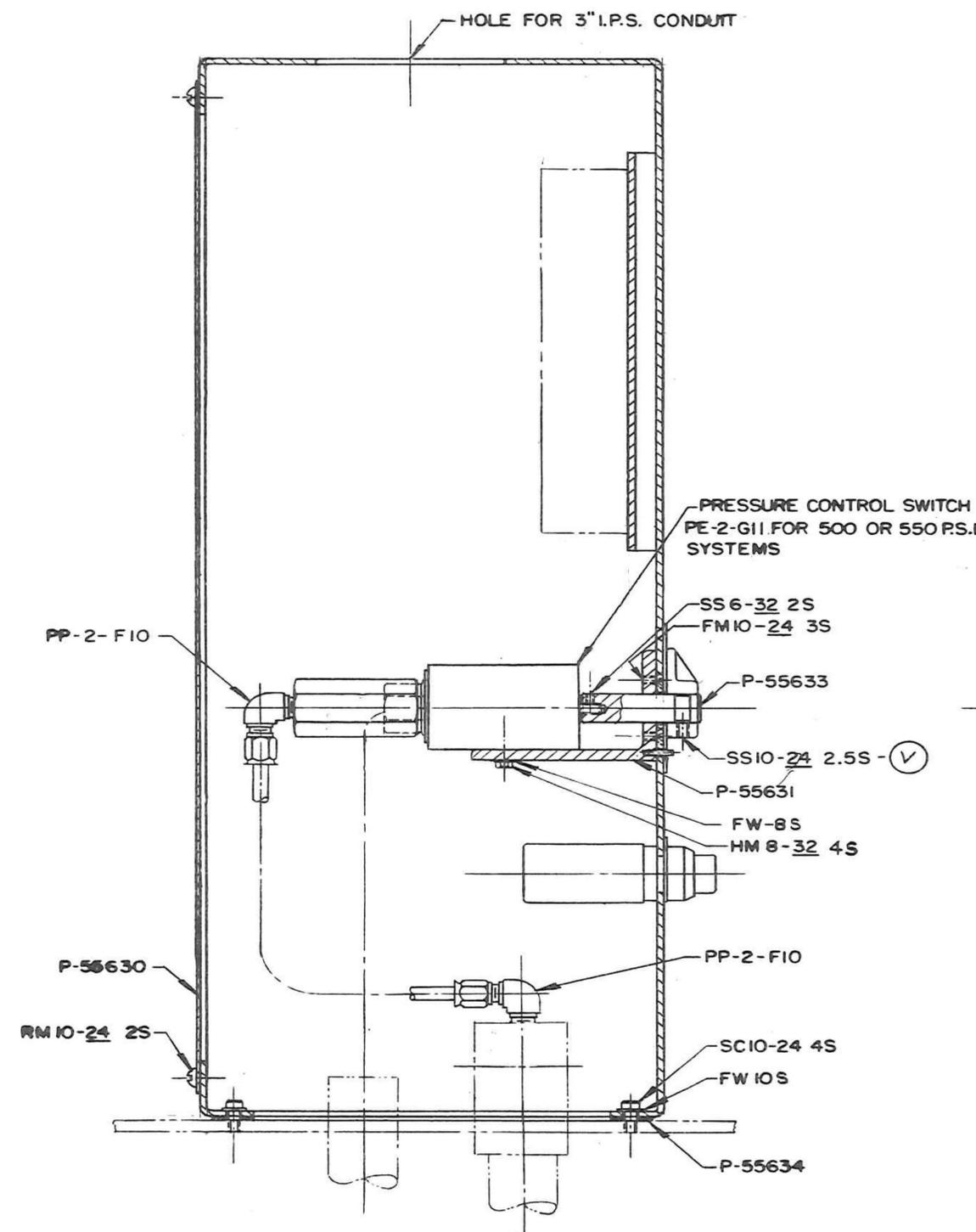
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ISSUE DATE: AUGUST 2022
 SOLICITATION NO.:
 CONTRACT NO.:
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 CHECKED BY:
 SUBMITTED BY:
 FILENAME: R-152.dwg
 SIZE:

U.S. ARMY CORPS OF ENGINEERS
 WALLA WALLA DISTRICT
 201 NORTH 3RD AVENUE
 SEATTLE, WASHINGTON

LITTLE GOOSE LOCK AND DAM
 DC SYSTEM AND
 LOW VOLTAGE SWITCH GEAR
 PUMP CONTROL UNIT ASSEMBLY

SHEET ID
R-152



SYM.	DATE	BY	CHK'D	REVISION
II	10-25-67	JPV		ADDED STOP PIN SP4-5 IN LEAD POSITION
I	10-26-66	RJS	WCS	SECOND "LAG" POSITION ADDED

EQUIP. NAME PUMP CONTROL UNIT		BALDWIN-LIMA-HAMILTON CORP. INDUSTRIAL EQUIPMENT DIVISION PHILADELPHIA 42, PENNSYLVANIA	
ITEM NAME ASSEMBLY	DRAWN R. HOFFMAN DATE 3-23-66 CHK'D. VENT DATE 4-28-66 APP. [Signature] DATE 4-28-66	APP. DATE DATE DRAWING NO. B-81103-00-32	SCALE 6" = 1'-0" REV. II



U.S. Army Corps of Engineers

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ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
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FILENAME:
SIZE: R-153.dwg

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
SEATTLE, WASHINGTON

LITTLE GOOSE LOCK AND DAM
DC SYSTEM AND
LOW VOLTAGE SWITCH GEAR
DUAL FILTER FOR PUMPS TYPE "A"

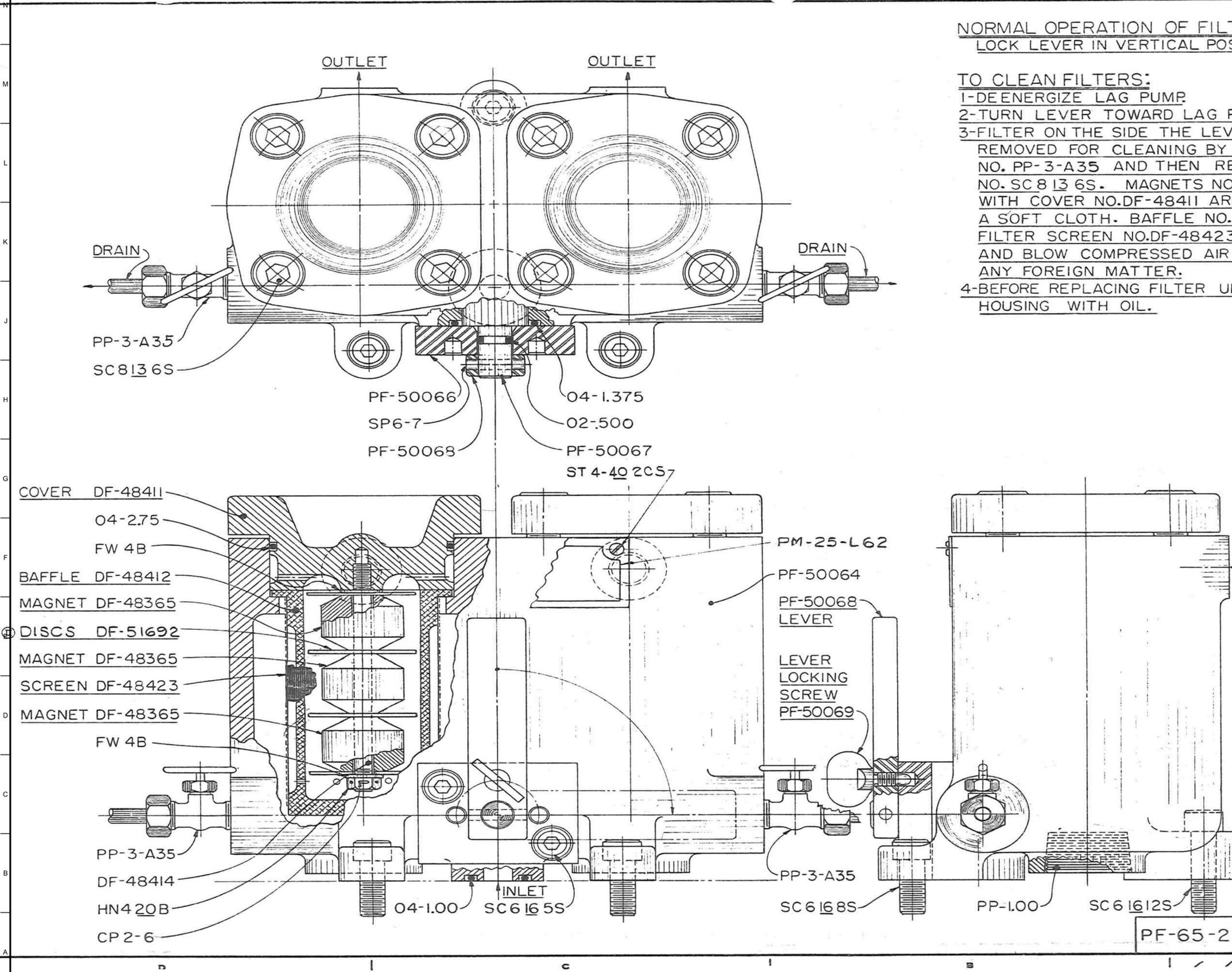
SHEET ID
R-153

NORMAL OPERATION OF FILTER:
LOCK LEVER IN VERTICAL POSITION.

TO CLEAN FILTERS:

- 1-DEENERGIZE LAG PUMP.
- 2-TURN LEVER TOWARD LAG PUMP AND LOCK.
- 3-FILTER ON THE SIDE THE LEVER IS TURNED TO CAN BE REMOVED FOR CLEANING BY FIRST OPENING DRAIN VALVE NO. PP-3-A35 AND THEN REMOVING (4) CAP SCREWS NO. SC 8 13 6S. MAGNETS NO.DF-48365 WHICH COME OUT WITH COVER NO.DF-48411 ARE TO BE WIPED CLEAN WITH A SOFT CLOTH. BAFFLE NO.DF-48412 LIFTS OUT WITH FILTER SCREEN NO.DF-48423 ATTACHED. WASH IN SOLVENT AND BLOW COMPRESSED AIR THRU SCREEN TO REMOVE ANY FOREIGN MATTER.
- 4-BEFORE REPLACING FILTER UNIT BE SURE TO FILL ENTIRE HOUSING WITH OIL.

590-101
591-485
591-370



NO. OF SETS	CROSS REFERENCE	ORDER	DATE	MAT'L SHEET
1				
DRAWN BY: DATE: TRACED BY: DATE: CHECKED BY: DATE: DESIGN APP. DATE: DATE: A.J.B. 4-1-60				
MFG. APPROVED: DATE: APPROVED: DATE:				
ALTERATIONS: MADE BY: APP. BY: DATE:				
I PP-3-A35 WAS PP-3-A35 II DISCS DF-51692 ADDED				
III IV V VI				

TOLERANCES
ALL NON-DECIMAL FINISHED DIMENSIONS TO BE $\pm 1/64"$ - $-1/64"$. ALL DECIMAL DIMENSIONS AS INDICATED.

FINISHES
INDICATES FINISH AND QUALITY OF FINISH IN MICROINCHES

DUAL FILTER FOR PUMPS TYPE "A"

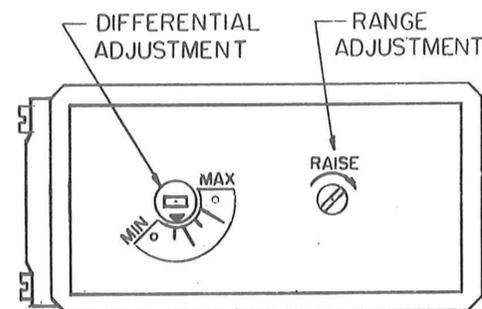
SCALE FULL SIZE

BALDWIN-LIMA-HAMILTON CORPORATION
PELTON DIVISION
SAN FRANCISCO

PF-65-2 No. B-81105-00-02

U. S. Vertical Solid Shaft Motors
Unclosed
DRIP-PROOF
 NEMA P BASE
NORMAL THRUST
TYPE RV

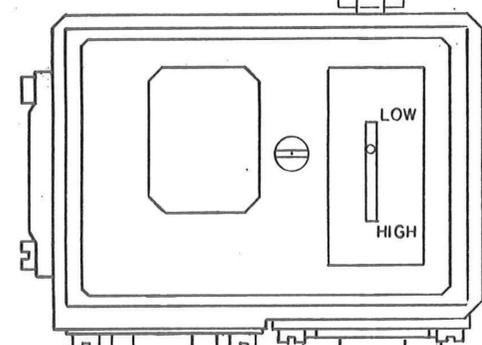
Section Page **245**
 63.5
 Effective September 17, 1963
 New Sheet



FOR GOVERNOR PUMP CONTROL

SWITCH SUPPLIED WITH PROJECTING RANGE ADJUST SCREW—SHOWN DOTTED B-L-H PART N^o PE-2-G11 SQUARE "D" INDUSTRIAL CLASS 9012 TYPE F.H.G. FORM K CONTACTS N.O.

SEE PUMP CONTROL DWG FOR PART NUMBER



TRIP PRESSURE
 CONTROLLED BY DIFFERENTIAL ADJUST. CHANGES TRIP PRESSURE BUT DOES NOT AFFECT RESET PRESSURE
 RESET PRESS.
 CONTROLLED BY RANGE ADJUSTMENT SCREW RAISING RESET PRESSURE WILL ALSO RAISE TRIP PRESSURE
 "O" PRESSURE

CONDUIT CONNECTION 1/2" N.P.T.

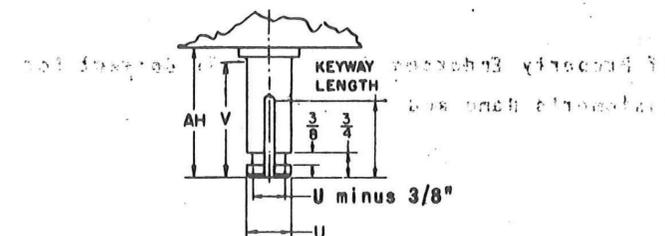
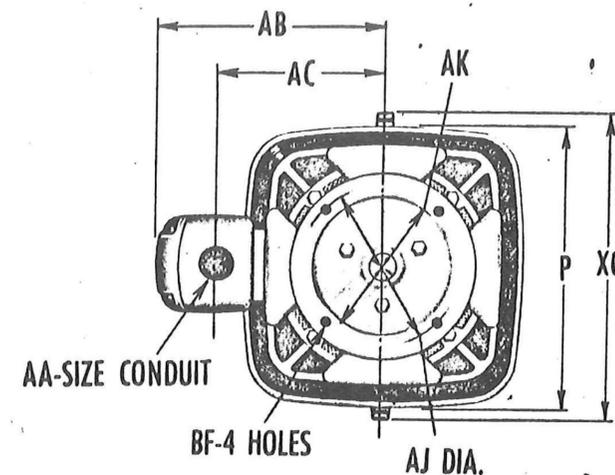
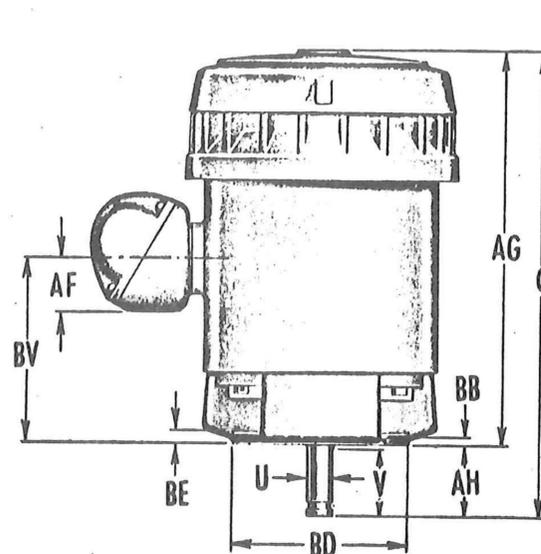
PRESSURE CONNECTION 1/4" N.P.T.

OIL PRESSURE SWITCH

B-L-H PART N^o PE-12-G12 CONTACTS N.C.
 B-L-H PART N^o PE-13-G13 CONTACTS N.O.

SQUARE "D" INDUSTRIAL CLASS 9012 TYPE FHG-3 S.P.S.T. CONTACTS

SUPPLEMENT N^o 22 A SHT. I



ALL DIMENSIONS ARE IN INCHES

FRAME NO.	TYPE	C	P DIA. STATOR	U	V MIN.	AA	AB	AC	AF	AG	AH	AJ DIA.	AK	BD	BD BASE DIA.	BE	BF HOLE DIA.	BF-4 HOLES	XO	SO. KEY	KEY LENGTH	BASIC BRKT. PART NO.
A286UP	RV	27-1/4	16-1/8	1-5/8	4-1/2	2	13-1/2	10-1/8	3-1/4	22-3/4	4-1/2	14-3/4	13-1/2	1/4	16-1/2	11/16	11/16	10-7/8	18-1/2	3/8	3-3/8	132762
A286UPY	RV	27-1/4	16-1/8	1-5/8	4-1/2	2	13-1/2	10-1/8	3-1/4	22-3/4	4-1/2	9-1/8	8-1/4	1/4	12	11/16	7/16	10-7/8	18-1/2	3/8	3-3/8	132808
A324UP, A326UP	RV	27-1/4	16-1/8	1-5/8	4-1/2	2	13-1/2	10-1/8	3-1/4	22-3/4	4-1/2	14-3/4	13-1/2	1/4	16-1/2	11/16	11/16	10-7/8	18-1/2	3/8	3-3/8	132762
A324UPY, A326UPY	RV	27-1/4	16-1/8	1-5/8	4-1/2	2	13-1/2	10-1/8	3-1/4	22-3/4	4-1/2	9-1/8	8-1/4	1/4	12	11/16	7/16	10-7/8	18-1/2	3/8	3-3/8	132808
326UP	RV	28-1/8	18-1/2	1-5/8	4-5/8	3	16-9/16	12-9/16	4-5/8	23-5/8	4-1/2	14-3/4	13-1/2	1/4	16-1/2	11/16	11/16	11-1/8	21-1/8	3/8	3-3/8	132402
326UPH	RV	28-1/8	18-1/2	1-5/8	4-5/8	3	16-9/16	12-9/16	4-5/8	23-5/8	4-1/2	9-1/8	8-1/4	3/16	12	11/16	7/16	11-1/8	21-1/8	3/8	3-3/8	132587
A364UP, A365UP	RV	28-1/8	18-1/2	1-5/8	4-5/8	3	16-9/16	12-9/16	4-5/8	23-5/8	4-1/2	14-3/4	13-1/2	1/4	16-1/2	11/16	11/16	11-1/8	21-1/8	3/8	3-3/8	132402
A364UPH, A365UPH	RV	28-1/8	18-1/2	1-5/8	4-5/8	3	16-9/16	12-9/16	4-5/8	23-5/8	4-1/2	9-1/8	8-1/4	3/16	12	11/16	7/16	11-1/8	21-1/8	3/8	3-3/8	132587
365UP	RV	32-5/16	20-1/2	2-1/8	4-5/8	3	17-3/4	13-7/8	4-5/8	27-13/16	4-1/2	14-3/4	13-1/2	1/4	16-1/2	3/4	11/16	14-1/4	23-3/8	1/2	3-3/8	132015
365UPH	RV	32-5/16	20-1/2	2-1/8	4-5/8	3	17-3/4	13-7/8	4-5/8	27-13/16	4-1/2	14-3/4	13-1/2	1/4	20	3/4	11/16	14-1/4	23-3/8	1/2	3-3/8	132011
A404UP, A405UP	RV	32-5/16	20-1/2	2-1/8	4-5/8	3	17-3/4	13-7/8	4-5/8	27-13/16	4-1/2	14-3/4	13-1/2	1/4	16-1/2	3/4	11/16	14-1/4	23-3/8	1/2	3-1/4	132015
A404UPH, A405UPH	RV	32-5/16	20-1/2	2-1/8	4-5/8	3	17-3/4	13-7/8	4-5/8	27-13/16	4-1/2	14-3/4	13-1/2	1/4	20	3/4	11/16	14-1/4	23-3/8	1/2	3-1/4	132011
404UP, 405UP	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	20	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132562
404UPH, 405UPH	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	16-1/2	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132566
A444UP, A445UP	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	20	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132562
A444UPH, A445UPH	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	16-1/2	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132566
1445P	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	20	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132562
1445PH	RV	35-5/8	23-1/8	2-1/8	4-1/2	3	18-1/8	13-15/16	4-7/8	31-1/8	4-1/2	14-3/4	13-1/2	1/4	16-1/2	3/4	11/16	15-1/2	25-1/4	1/2	3-1/4	132566

All rough casting dimensions may vary by 1/4" due to casting variations.

Dimension "AK" female registered fit is machined with 4.003" tolerance on motors with 8-1/4" AK dimension and 4.005" tolerance on motors with 18-1/2" AK dimension.

Tolerance of shaft extension diameter is 4.000" ± .001".

Conduit box opening may be rotated in steps of 90°. Standard as shown with conduit down. Standard conduit opening is listed above. When specified on the order, a smaller conduit opening will be provided.

Do not use for construction unless certified on reverse.

U.S. ELECTRICAL MOTORS
 DIVISION OF UNION ELECTRIC MFG. CO.
 LOS ANGELES, CALIF. MILFORD, CONN.

Printed in U.S.A.

S 75 G



OFFICE COPY - DRAFT
 09/22/2022

ISSUE DATE: AUGUST 2022
 SOLICITATION NO.: 09154-001
 CONTRACT NO.:
 DESIGNED BY:
 DRAWN BY:
 CHECKED BY:
 SUBMITTED BY:
 FILENAME: R-154.dwg
 SIZE:

U.S. ARMY CORPS OF ENGINEERS
 WALLA WALLA DISTRICT
 201 NORTH 3RD AVENUE
 SEATTLE, WASHINGTON

LITTLE GOOSE LOCK AND DAM
 DC SYSTEM AND
 LOW VOLTAGE SWITCH GEAR
 OIL PRESSURE SWITCH / VERTICAL SOLID SHAFT MOTORS

SHEET ID
 R-154



OFFICE COPY - DRAFT

2202/22/60

DESIGNED BY: U.S. ARMY CORPS OF ENGINEERS
 DRAWN BY: WALLA WALLA DISTRICT
 CHECKED BY: 201 NORTH 3RD AVENUE
 SUBMITTED BY: SEATTLE, WASHINGTON
 FILE NAME: R-155.dwg
 SIZE: R-155.dwg

LITTLE GOOSE LOCK AND DAM
 DC SYSTEM AND
 LOW VOLTAGE SWITCH GEAR
 VERTICAL SOLID SHAFT MOTORS / BILLING

SHEET ID
 R-155

CERTIFIED PRINTS

SHIP SAME.
 TO GOVERNOR SHOP
 SAME

U.S. Electrical Motors
 DIVISION OF EMERSON ELECTRIC CO.

ORDER NO. P917770-2

CUSTOMER: BALDWIN-LIMA-HAMILTON CORP
 BILL TO: INDUSTRIAL EQUIPMENT DIV
 PHILADELPHIA, PENNA 19142

OUR ORDER NO. 917770-2
 DATE OF ORDER 6-22-66

QTY	ANT. QTY	H.P.	V.D.	F.R.A.M.E.	SUF. SYN.	SPEED	P	TYPE CODE	TYPE AND DESCRIPTION	PHASE/ CYCLES	VOLTS	AIR SPECIAL SIZE	ITEM
50	125			445TPY	23	1800	4	1341	RV - NORMAL THRUST VERT SOLID SHAFT MTR BEARINGS FOR AVERAGE LIFE MOISTURE & OIL RESISTANT 1.0 S.F. 20" PEASE # Code G	3/60	4160	353/4	1

PRINTED BY: X
 15 COPIES CERTIFIED PRINTS TO: & INSTR BKS & P/L TO BILLING ATTN B. WHEELER

PRINT NO. 20-211 769-15.5 102

This data is sent to you as requested.
 For assistance with this data or the application of the motors, please call your nearest U. S. MOTORS office or distributor.
 Thank you for your order and this opportunity of serving you.
 U. S. ELECTRICAL MOTORS
 Order Department

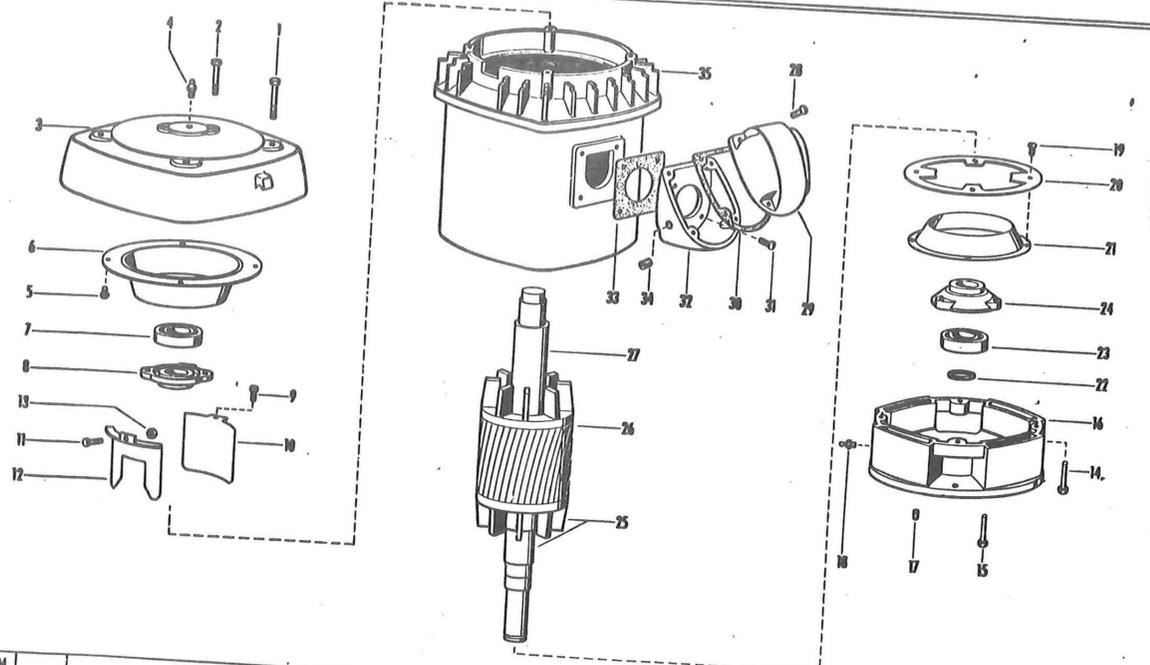
If properly endorsed this print is correct for this order.
 U.S. ELECTRICAL MOTORS
 DIVISION OF EMERSON ELECTRIC CO.
 200 EAST STANSON AVE. LOS ANGELES, CALIFORNIA 90034
 By H. E. Smith 3/9/66 mac

Parts List
U. S. Vertical Solid Shaft Motors
 Unclosed
 DRIP-PROOF

Section Page 7
 Effective April 20, 1964
 New Sheet

TYPE RV
 NORMAL THRUST

FRAMES A286U-1445



ITEM NO.	QTY.	NAME OF PART
1	4	Screw (Upper Bracket to Stator)
2	2	Screw (Upper Bearing Cap)
3	1	Upper Bracket
4	1	Grease Fitting
5	4	Sem (Upper Air Deflector)
6	1	Air Deflector
7	1	Ball Bearing
8	1	Bearing Cap
Items 9 through 13 used with Frames A286U through A405U		
9	3	Screw (Air Baffle)
10	3	Air Baffle
11	1	Screw (Lead Air Baffle)
12	1	Lead Air Baffle
13	1	Hex. Nut & Washer
14	4	Screw or Stud & Nut (Lower Bracket to Stator)
15	3	Screw (Lower Bearing Cap) (With Qty. 3 Lockwasher on Frames 404U through 1445)
16	1	Lower Bracket (Style "P", "PH" or "PY")
16A	1	UNIMOUNT Bracket (Lower) (Style "C") (Not illus.)
17	1	Pipe Plug (Drain)(Style "P", "PH" & "PY" Base Only)
18	1	Grease Fitting (FILL)
19	4	Screw & Lockwasher or Sem (Lower Air Deflector) (Without Lockwasher on Frames 405U through 1445)
20	1	Air Deflector Ring (Used with 12" diameter base on Frames 326U through A365U)
21	1	Air Deflector

ITEM NO.	QTY.	NAME OF PART
22	1	Retaining Ring
23	1	Ball Bearing
24	1	Lower Bearing Cap
25	1	Rotor Assembly (Includes Items 26 and 27)
26	1	Rotor Core
27	1	Motor Shaft
28	4	Screw (Outlet Box Cover) (With Lockwasher on Frames 404U and Larger)
29	1	Outlet Box Cover
30	1	Gasket (Outlet Box Cover) (Not used on Frames A286U through Frames A326U)
31	4	Screw (Outlet Box Base) (With Lockwasher on Frames 365U through 1445)
32	1	Outlet Box Base
33	1	Gasket (Outlet Box Base)
34	1	Pipe Plug
35	1	Wound Stator Assembly

Motor Serial No. _____ Type _____
 Frame No. _____ Spec. No. _____

When ordering parts, specify motor serial number, complete frame number, name of part and complete part number. The complete part number consists of the Parts List Section and Page Number as well as the Item Number as follows:
 Quantity 1, Bearing Cap, Part Number 769 - 15.5 - 8
 Section Number Page No. Item Number

U.S. ELECTRICAL MOTORS
 DIVISION OF EMERSON ELECTRIC CO.
 LOS ANGELES, CALIF.

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