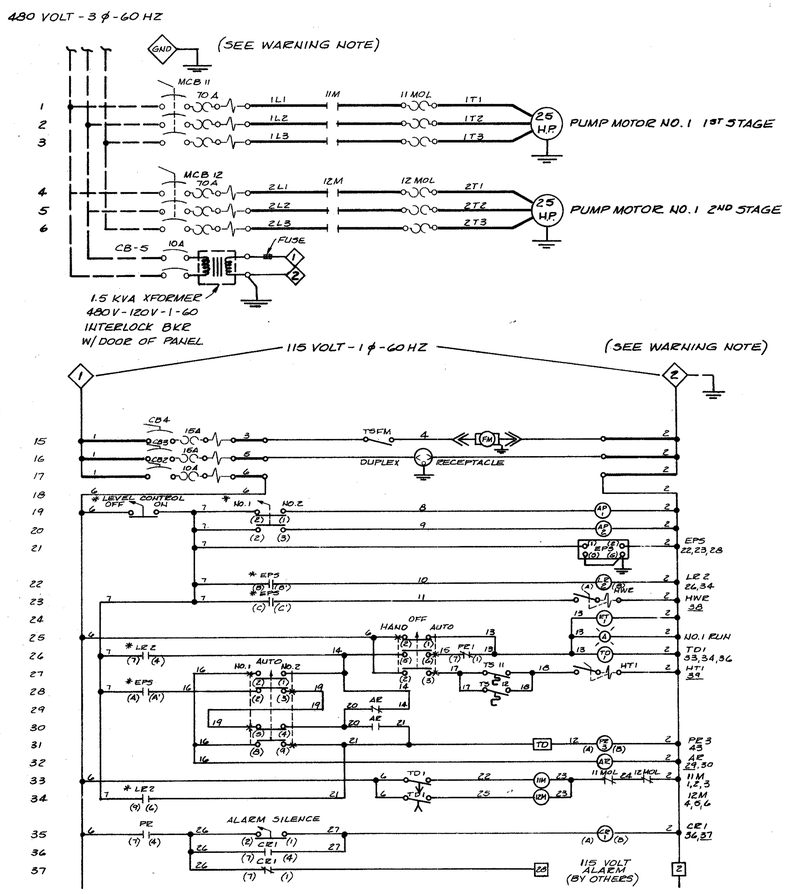


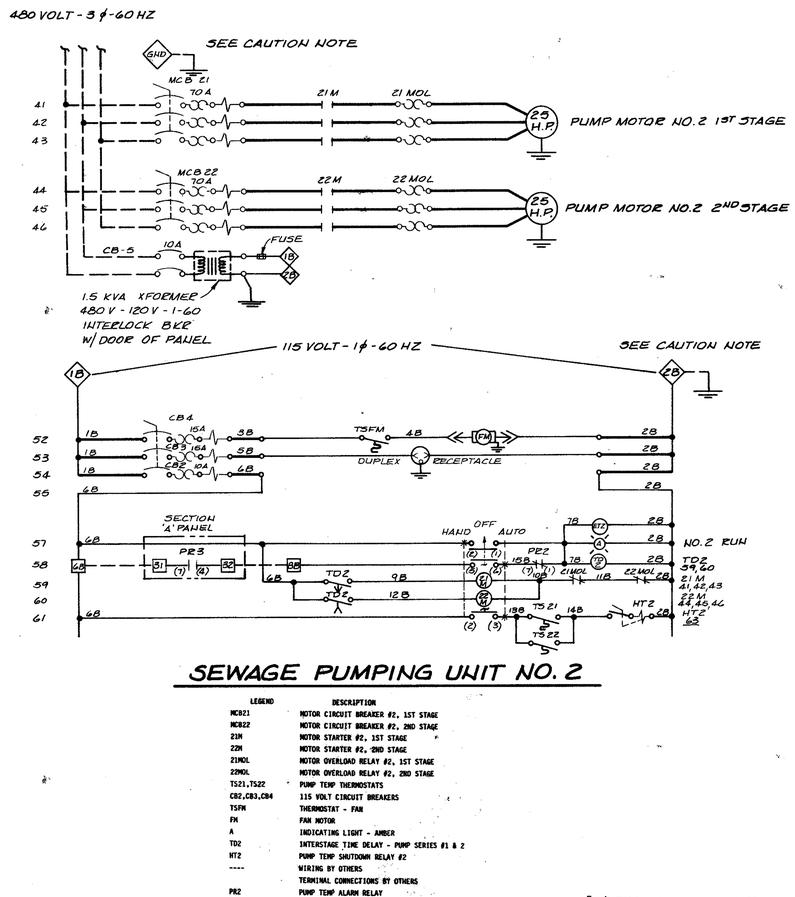
SEWAGE PUMPING UNIT NO. 1

LEGEND	DESCRIPTION
MCB11	MOTOR CIRCUIT BREAKER #1, 1ST STAGE
11M	MOTOR STARTER #1, 1ST STAGE
11MOL	MOTOR OVERLOAD #1, 1ST STAGE
CB2,CB3,CB4	115 VOLT CIRCUIT BREAKERS
TSFM	THERMOSTAT - FAN
FM	FAN MOTOR
AP1,AP2	AIR PUMP #1 & 2
EPS	ELECTRONIC PRESSURE SWITCH
LR2	LEVEL RELAY - LAG
HWR	HIGH WATER LEVEL RELAY
ET1,ET2	ELAPSED TIME METER #1 & 2
A	INDICATING LIGHT - AMBER
TS11,TS12	PUMP TEMP THERMOSTAT
HT1	PUMP TEMP SHUTDOWN RELAY #1
AR	ALTERNATOR RELAY
CR1	ALARM SILENCE RELAY
TD1	INTERSTAGE TIME DELAY - PUMP
PR3	SECTION "B" PILOT RELAY
----	WIRING BY OTHERS
	TERMINAL CONNECTIONS BY OTHERS
*	COMPONENTS MTD IN LEVEL CONTROL
MCB12	MOTOR CIRCUIT BREAKER #1, 2ND STAGE
12M	MOTOR STARTER #1, 2ND STAGE
12MOL	MOTOR OVERLOAD #1, 2ND STAGE
TD	LAF PUMP DELAY
PR	HIGH WATER ALARM RELAY
PR1	PUMP TEMP ALARM RELAY

NOTES:
1. HWR, HT1, HT2 SHOWN IN ALARM CONDITION.
2. APPLY 0.1 MFD, 600 WVDC CAP ACROSS AP1, AP2, 11M, 12M, TD1

ITEM	REQ'D	DESCRIPTION	PART NO.
1	1	POWER CIRCUITRY	85-2623-AM-2
2	1	AFI	48313-007
3	1	MOTOR CONTROL DUP	85-2623-AM-4
4			
5	2	ENCL ASSY 36x24x12	42821-147
6	1	ENCL ASSY 16x14x6	42821-143
7	1	AIR BUBBLER CONTROL	48313-001
8	1	ELECTRONIC PRESS SWITCH	48313-254
9	2	HW ALARM HWMN TRIP	48313-032
10			
11			
12	1	HTSD HWMN TRIP	48313-035
13	1	RUN LIGHT DUP	48313-060
14	2	ET METER	26862-114
15	1	SEQ SEL SWITCH	27347-451
16	2	DIST BR KIT 3P	48313-039
17	1	AL SIL	48313-033
18	1	AL LIGHT	48313-061
19	4	O/L RESET	48313-324
20	1	ATSN TD	27437-233
21			
22	4	RELAY KIT	48313-388

CIRCUIT DIAGRAM - SEWAGE PUMPING UNITS 1 & 2

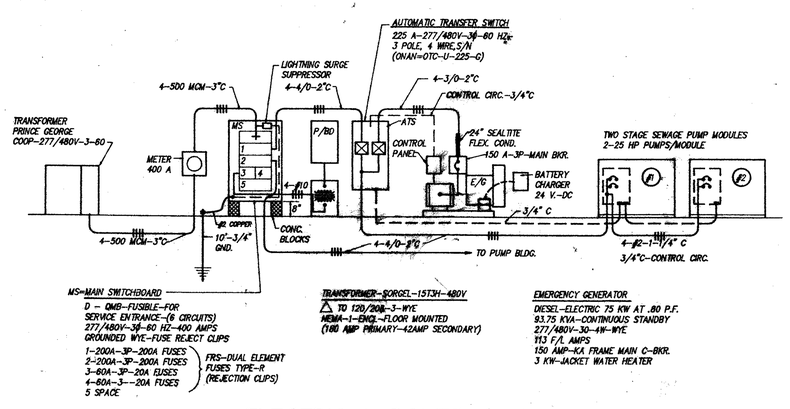


SEWAGE PUMPING UNIT NO. 2

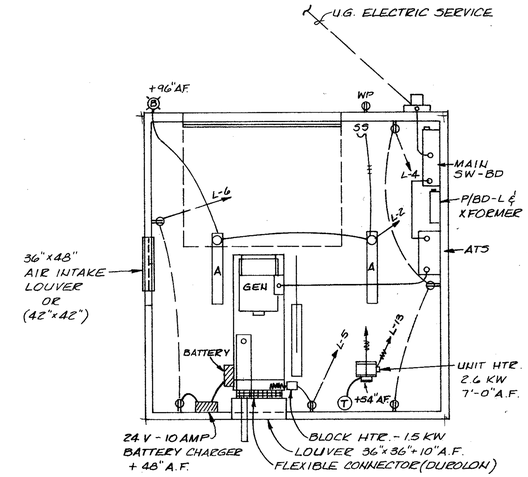
LEGEND	DESCRIPTION
MCB21	MOTOR CIRCUIT BREAKER #2, 1ST STAGE
MCB22	MOTOR CIRCUIT BREAKER #2, 2ND STAGE
21M	MOTOR STARTER #2, 1ST STAGE
22M	MOTOR STARTER #2, 2ND STAGE
21MOL	MOTOR OVERLOAD RELAY #2, 1ST STAGE
22MOL	MOTOR OVERLOAD RELAY #2, 2ND STAGE
TS21,TS22	PUMP TEMP THERMOSTATS
CB2,CB3,CB4	115 VOLT CIRCUIT BREAKERS
TSFM	THERMOSTAT - FAN
FM	FAN MOTOR
A	INDICATING LIGHT - AMBER
TD2	INTERSTAGE TIME DELAY - PUMP SERIES #1 & 2
HT2	PUMP TEMP SHUTDOWN RELAY #2
----	WIRING BY OTHERS
	TERMINAL CONNECTIONS BY OTHERS
PR2	PUMP TEMP ALARM RELAY

NOTE:
1. HT2 SHOWN IN ALARM CONDITION
2. APPLY 0.1 MFD, 600 WVDC CAP ACROSS TD2, 21M, 22M

Each motor control unit shall be provided with phase protection to include a TIMEMAK Corp Model 258 3 phase, 480 volt power monitor to disconnect power service if any one of the following conditions exist:
phase loss
phase reversal
low voltage



ELECTRICAL POWER RISER DIAGRAM



GENERATOR BLDG. - ELECTRICAL

SCALE: 1/4" = 1'-0"

LIGHTING P/BD 'L'				
PANEL BOARD	CIRCUIT NO.	POLES	TRIP AMPS	LOAD
P/BD 'L' 120-208-3-60HZ-4W 100 AMPS MAINS 100 AMPS MAIN BKR	1-3	2	15	ELECTRIC HEAT - 2.6 KW
	2	1	15	LIGHTS
	4	1	20*	DUPLEX CONV. OUTLETS-GFI
NQOB PANEL WITH QOB BOLT-ON BREAKERS 10,000 A/C 1" POLE SPACED	5	1	15	
	6	1	20*	BATTERY CHARGER & DUPLEX-GFI
	7	1	20	SPARE BKR.
	8	1	--	—
	9	1	20	SPARE BKR.
BOX 20" W 26" H 3¾" D	10	1	--	—
	11	1	15	SPARE BKR.
	12	1	--	—

* GFI = TYPE CIRCUIT BREAKER

SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
	BRANCH CKT. AB. FL. W. WALL DEVICE
	BRANCH CKT. W. OR BELOW FL. SLAB
	CONTROL CIRCUIT
	HOME RUNS TO P/BD OR MOC (NUMBERS SHOW NO. OF CKTS)
WP	DUPLEX OUTLET, WP = WEATHER PROOF COVER (+16" A.F.)
3	WALL SWITCHES - SPDT - 3-WAY - 4-WAY
OM	MOTOR PROTECTION SWITCH
D	DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER - CONTACTOR
T	ROOM THERMOSTAT - 54" A.F.L.
M	ELECTRIC MOTOR
	LIGHTING FIXTURES
J	JUNCTION BOX
A	PUMP RUNNING TIME RECORDER

FINAL

ELECTRICAL LOAD SUMMARY	KVA
SINGLE PHASE LOAD	27.3
THREE PHASE LOAD	186.3
TOTAL CONNECTED LOAD	213.6
LARGEST MOTOR 25HP (2 REQ'D)	27.1*
PROBABLE MAX. DEMAND	180.0

711 NORTH COURTHOUSE ROAD
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 794-3500

8803 STAPLES MILL ROAD
RICHMOND, VIRGINIA 23228
TELEPHONE: (804) 262-7396

4411 CROSSING BOULEVARD
PRINCE GEORGE, VIRGINIA 23875
TELEPHONE: (804) 458-8665

COMMONWEALTH OF VIRGINIA
WALTER M. ALTMAN III
LICENSE No. 11039
PROFESSIONAL ENGINEER

ENGINEERS * ARCHITECTS * SURVEYORS * PLANNERS * LANDSCAPE ARCHITECTS

REVISION DESCRIPTION	DATE

DATE 12/15/88
DRAWN BY G.F.C./W.M.A
DESIGNED BY W.M.A. III
CHECKED BY W.M.A. III
SCALE NO SCALE

SEWER PUMP STATION - ELECTRICAL PLAN

JORDAN ON THE JAMES
BLAND DISTRICT - PRINCE GEORGE COUNTY, VA.

SHEET NO. 5 of 19
JOB NO. 8707-04