

PLAN SYMBOLS

	HOME RUN TO PANELBOARD. NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2 #12 CONDUCTORS.
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
	FLEXIBLE CONDUIT WITH EQUIPMENT CONNECTION.
	CONCRETE ENCASED DUCTBANK.
	CEILING MOUNTED LIGHTING FIXTURE, LETTER INDICATES TYPE (TYPICAL).
	WALL MOUNTED LIGHTING FIXTURE.
	FLUORESCENT LIGHTING FIXTURE, CEILING MOUNTED.
	EXTERIOR LUMINAIRE AND MOUNTING STANDARD.
	EXISTING EXTERIOR LIGHTING
	EMERGENCY BATTERY PACK LIGHTING FIXTURE.
	JUNCTION BOX N.E.C. SURFACE MOUNTED UNLESS INDICATED OTHERWISE.
	JUNCTION BOX PER N.E.C., FLUSH MOUNTED UNLESS INDICATED OTHERWISE.
	FLUSH OR SURFACE MOUNTED LIGHTING PANELBOARD.
	FLUSH OR SURFACE MOUNTED POWER PANELBOARD.
	DRY TYPE TRANSFORMER. NO. INDICATES KVA RATING.
	90A, 208V, 1φ WELDING OUTLET
	20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
	20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR OR 2" ABOVE COUNTER AS REQUIRED.
	20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH, FLOOR MOUNTED OUTLET BOX.
	20A, 125V, 3W DUPLEX RECEPTACLE, SURFACE MOUNTED.
	DISCONNECT RACK MOUNTED
	HOA/DISCONNECT RACK MOUNTED
	30A, 250V 1φ, 3W SINGLE RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
	SINGLE POLE SWITCH IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED (TYPICAL).
	SINGLE POLE SWITCH, SURFACE MOUNTED.
	THREE-WAY SWITCH IN FLUSH OUTLET BOX.
	MOTOR DUTY, SINGLE PHASE DISCONNECT, NEMA 4X STAINLESS STEEL
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED.
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS
	ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
	FUSED DISCONNECT SWITCH (30/20: 30=SWITCH RATING, 20=FUSE RATING)
	MOTORIZED VALVE
	COMBINATION MOTOR STARTER
	VARIABLE FREQUENCY DRIVE
	THERMOSTAT
	ELECTRIC HEATER
	FLUSH OUTLET BOX AND TELEPHONE COVER PLATE 48" ABOVE FINISHED FLOOR.
	CONTROL PULLBOX. SEE "PULL BOX DETAIL"
	POWER MANHOLE. SEE "MANHOLE DETAIL"
	TERMINATION CABINET, CLASS 1, DIVISION 2
	EYES FITTING AND CORRESPONDING "CHICO" CEMENT. COMBINATION SHALL BE RATED TO PROVIDE A CLASS 1, DIVISION 2 INSTALLATION.
	MAJOR COMPONENT, X COMPONENT NUMBER
	NAMEPLATE SCHEDULE

PLAN SYMBOLS (CONTINUED)

	ANALYZING INDICATING TRANSMITTER
	FLOW ELEMENT
	LEVEL SWITCH
	LEVEL ELEMENT
	PRESSURE SWITCH
	ZERO SPEED SWITCH
	SOLENOID VALVE
	LIQUID LEVEL SWITCH
	FLOW SWITCH
	FLOW INDICATING TRANSMITTER
	LEVEL INDICATING TRANSMITTER

SINGLE LINE DIAGRAM SYMBOLS

	COMBINATION MOTOR STARTER
	VOLTMETER
	AMMETER
	THREE PHASE VOLT SWITCH
	THREE PHASE AMP SWITCH
	GROUND FAULT INTERRUPTER
	WATT HOUR METER
	FUSE
	CAPACITOR
	DRAW-OUT CIRCUIT BREAKER
	MOLDED CASE CIRCUIT BREAKER
	TYPICAL SELECTOR SWITCH AND CONTROL. SEE ELEMENTARY DIAGRAMS FOR EXACT TYPE.
	ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
	ELECTRIC D.C. MOTOR, NO. INDICATES HORSEPOWER.
	SERVICE OR EQUIPMENT GROUND.
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED.
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS
	LIGHTING PANELBOARD
	POWER PANELBOARD
	KIRK KEY INTERLOCK
	CURRENT TRANSFORMERS
	POTENTIAL TRANSFORMERS
	MANUAL OR AUTOMATIC TRANSFER SWITCH

CONTROL DIAGRAM SYMBOLS

	DUPLEX RECEPTACLE
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	LIMIT SWITCH, NORMALLY OPEN
	LIMIT SWITCH, NORMALLY CLOSED
	PRESSURE SWITCH, NORMALLY OPEN
	PRESSURE SWITCH, NORMALLY CLOSED
	FLOAT SWITCH, NORMALLY OPEN
	FLOAT SWITCH, NORMALLY CLOSED

CONTROL DIAGRAM SYMBOLS (CONTINUED)

	FLOW SWITCH, NORMALLY OPEN
	FLOW SWITCH, NORMALLY CLOSED
	TEMPERATURE SWITCH, NORMALLY OPEN
	TEMPERATURE SWITCH, NORMALLY CLOSED
	NORMALLY OPEN, TIMED TO CLOSE CONTACT
	NORMALLY CLOSED, TIMED TO OPEN CONTACT
	NORMALLY CLOSED, TIMED TO CLOSE CONTACT
	NORMALLY OPEN, TIMED TO OPEN CONTACT
	LIMIT SWITCH
	TORQUE SWITCH
	PRESSURE SWITCH
	ZERO SPEED SWITCH
	SOLENOID VALVE
	LIQUID LEVEL SWITCH
	VIBRATION SWITCH
	ALARM RELAY
	ALARM TIMER
	CONTROL RELAY
	MOTOR STARTER
	TIMING RELAY
	ALARM INDICATING LIGHT
	RUN INDICATING LIGHT
	MOMENTARY CONTACT PUSHBUTTON
	MOMENTARY BREAK PUSHBUTTON OR RESET
	KEYED SWITCH
	MAINTAINED CONTACT ON-OFF SWITCH
	START/STOP (S/S) CONTROL SWITCH MAINTAINED CONTACT
	THREE POSITION MAINTAINED CONTACT SELECTOR SWITCH
	FUSE
	MOLDED CASE CIRCUIT BREAKER
	CONTROL POWER TRANSFORMER
	REMOTE TERMINAL BLOCK POINT
	HORN

ABBREVIATIONS

A	AMPERES
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CURRENT
AER	AERATOR
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CLB	CURRENT LIMITING BREAKER
CP	CONTROL PANEL
CU	COPPER
DH	DATA HIGHWAY
DISC	DISCONNECT
DO	DIGITAL OUTPUT
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EFF	EFFLUENT
ELEC	ELECTRICAL
ELR	EMERGENCY LOCK-OUT RELAY
EM	EMERGENCY
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ESB	ENERGY SAVING BALLAST
ETM	ELAPSED TIME METER
EUH	ELECTRIC UNIT HEATER

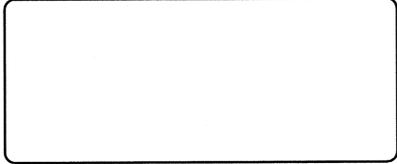
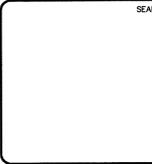
ABBREVIATIONS (CONTINUED)

EVA	ELECTRIC VALVE ACTUATOR
EXH	EXHAUST
EXIST	EXISTING
F&I	FINISH AND INSTALL
FPL	FLORIDA POWER AND LIGHT
FVNR	FULL VOLTAGE NON-REVERSING
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND, G	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND-OFF-AUTOMATIC
HOLR	HAND-OFF-LOCAL-REMOTE
HOR	HAND-OFF-REMOTE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HWY	HIGHWAY
INSTR	INSTRUMENTATION
IPS	INFLUENT PUMP STATION
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LTG	LIGHTING
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MSC	MANUFACTURER SUPPLIED CABLE
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MERCURY VAPOR
NEC	NATIONAL ELECTRIC CODE
NEUT, N	NEUTRAL
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
P	POLE
PC	PHOTOCELL
PCP	PUMP CONTROL PANEL
PE	POWER EQUIPMENT
PM	PHASE MONITOR
PNL	PANEL
PS	PUMP STATION
PVC	POLYVINYL CHLORIDE
RA	RIGID ALUMINUM
RECPT	RECEPTACLE
RTU	REMOTE TELEMETRY UNIT
RVNR	REDUCED VOLTAGE NON-REVERSING
SH	SHIELDED
SS	STAINLESS STEEL
STP	SHIELDED TWISTED PAIR
STR	STARTER
SUPP	SUPPRESSOR
SW	SWITCH
SWGR	SWITCHGEAR
TBR	TO BE REMOVED
TD	TIME DELAY
TR	TRANSFORMER
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SUPPLY
UV	ULTRAVIOLET
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
WP	WEATHERPROOF
φ	PHASE

NOTES

- ALL WORK SHALL COMPLY WITH N.E.C. AND LOCAL CODES.
- CONDUCTORS SHALL NOT BE SPLICED EXCEPT AS NOTED IN SPECS.
- ALL CONTROL PANELS SHALL BE UL LISTED.
- THESE DRAWINGS ARE INTENDED TO SHOW STANDARDS ON NEW PUMP STATIONS. AT THE COUNTY'S DISCRETION REHABS AND RENOVATIONS MAY HAVE DIFFERING DETAILS ON A SITE BY SITE BASIS.

REV. NO.	DESCRIPTIONS	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	9/28/15
1	CONFORMED	5/17/13
REVISIONS		



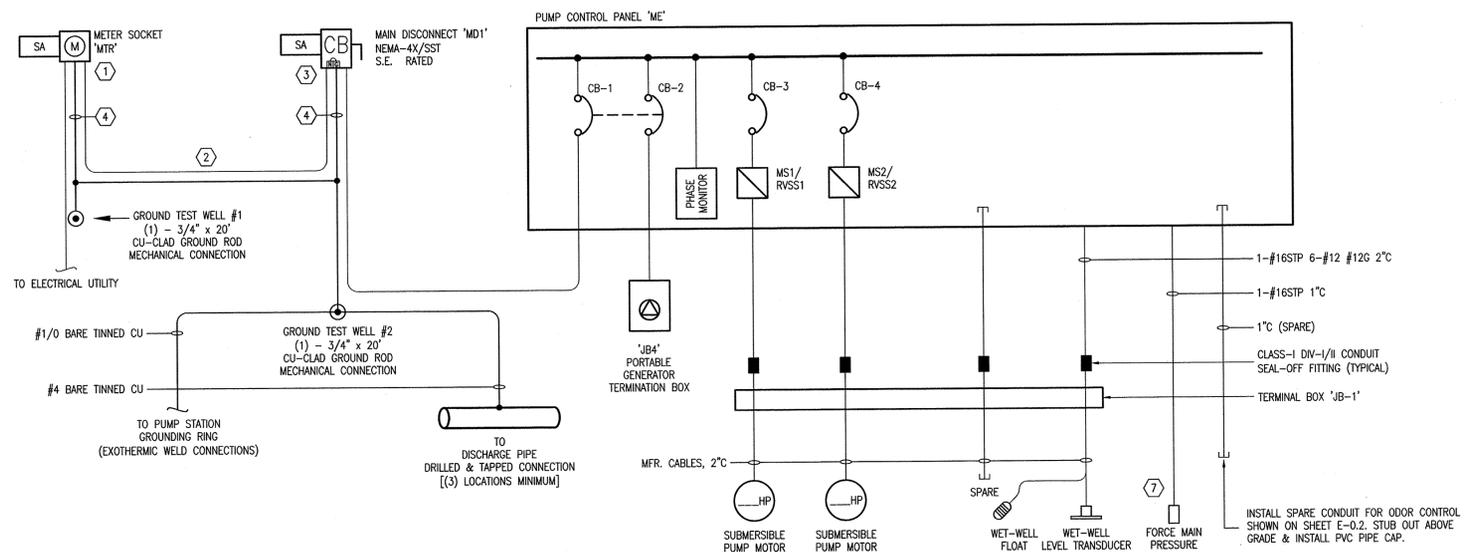


HILLSBOROUGH COUNTY
 PUBLIC UTILITIES
 ENGINEERING & ENVIRONMENTAL SERVICES GROUP
925 E. TWINN STREET/TAMPA FLORIDA 33602/PH. (813) 272-5977

DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL SYMBOLS, NOTES,
AND ABBREVIATIONS

DATE: OCTOBER 2011	SCALE	FILE NUMBER
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER
DRAWN	VERTICAL:	E-0.0
DESIGNED	NA	
CHECKED		
PROJ. MGR.		
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480VAC LOAD CALCULATIONS

DESCRIPTION	AMPERES
PUMP NO.1 —HP 480VAC 3-φ	—AMPS
PUMP NO.2 —HP 480VAC 3-φ	—AMPS
MOTOR SUB TOTAL:	—AMPS
25% OF LARGEST MOTOR:	—AMPS
TOTAL MOTOR LOAD:	—AMPS
ODOR CONTROL SYSTEM (FUTURE) 1200W 480VAC 3-φ	2.5
TRANSFORMER 3KVA 480VAC 3-φ	6.25
TOTAL MAXIMUM PHASE AMPERES:	—AMPS

SERVICE SIZE: —A, 480VAC, 3φ, 4-WIRE, MINIMUM

KEYNOTES:

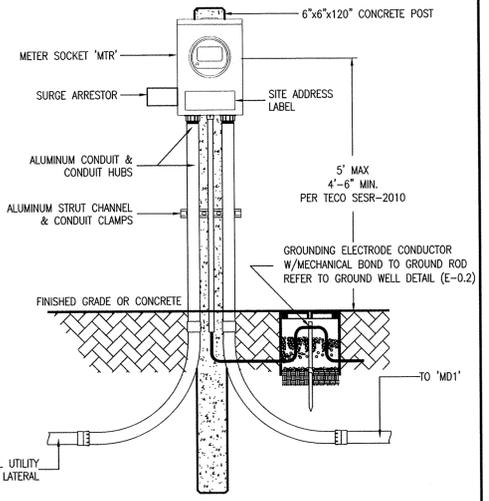
1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TECO FOR METERING REQUIREMENTS AND SERVICE CONSTRUCTION STANDARDS (SESR-2010). WIRE IDENTIFICATION AND PHASE ARRANGEMENT SHALL BE PER NEC.
2. EQUIPMENT AND WIRE SHALL BE SIZED AND RATED ACCORDING TO THE SERVICE VOLTAGE AND RESPECTIVE PUMP SIZES AT THE STATION. REFER TO CROSS REFERENCE TABLE ON DRAWING E-1.2.
3. MD1, CB1 THRU CBS, AND CB10 SHALL BE CAPABLE OF INTERRUPTING A FAULT CURRENT OF 25,000 AIC MINIMUM.
4. REFER TO WIRE SIZE CHART E-1.2 FOR USE WITH UNGROUNDED CONDUCTORS:
• 3/0 OR SMALLER --> #4G
• OVER 3/0 THRU 350 --> #2G
• OVER 350 THRU 600 --> 1/0G
INSTALL IN 3/4\"/>

GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE NEC, NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS.
2. ALL POWER & CONTROL CONDUCTORS SHALL BE 600V RATED THHN/THWN-2 STRANDED CU AND SIZED PER NEC.
3. ALL EXPOSED CONDUITS SHALL BE ALUMINUM THRU FIRST UNDERGROUND 90° BEND. WHERE IN CONTACT WITH CONCRETE SLAB, ALUMINUM CONDUIT SHALL BE COATED USING BITUMINOUS PAINT.
4. ALL UNDERGROUND CONDUITS SHALL BE PVC SCH-80.
5. ALL MECHANICAL CONNECTIONS SHALL BE THROUGH-BOLTED MADE WITH STAINLESS STEEL HARDWARE AND FASTENERS WHICH INCLUDE HEAVY GAUGE FLAT AND LOCK WASHERS.
6. ALL NEW PUMP STATIONS SHALL HAVE 480/277V, 3PH, 4-WIRE, 60HZ SERVICE, AS DESCRIBED IN THE COUNTY TECHNICAL SPECIFICATIONS, UNLESS OTHERWISE APPROVED BY THE COUNTY.
7. ELECTRICAL LAYOUT SUBJECT TO VARIATIONS BASED ON SPECIFIC SITE CONDITIONS, AS DETERMINED BY THE SITE-SPECIFIC DESIGN ENGINEER.
8. REFERENCE MECHANICAL DRAWINGS FOR SPECIFIC SITE DETAILS & DIMENSIONS, AND FOR COORDINATING THE INSTALLATION OF OTHER TRADES.
9. ROUTING SHOWN FOR CONDUITS AND GROUNDING CONDUCTORS ARE DIAGRAMMATIC. SITE-SPECIFIC DESIGN ENGINEER SHALL ROUTE CONDUITS AND GROUNDING CONDUCTORS AS FIELD CONDITIONS DICTATE UNLESS OTHERWISE NOTED. GROUNDING BUSHINGS SHALL BE USED ON ALL METAL CONDUITS IN ALL ENCLOSURES.

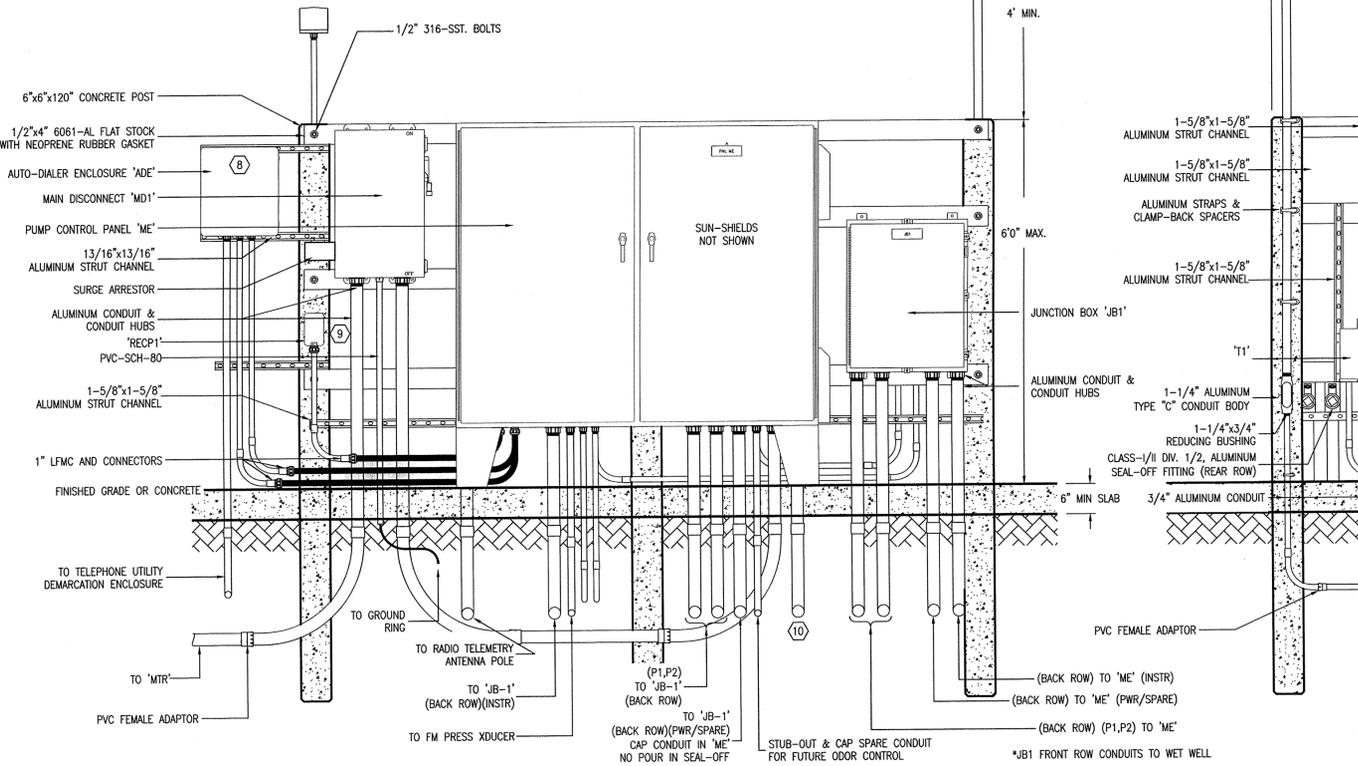
DESIGN BASIS NOTE:
THIS DRAWING REPRESENTS THE STANDARD DESIGN FOR ALL HILLSBOROUGH COUNTY STANDARD WASTEWATER PUMPING STATIONS. IT WAS DEVELOPED TO IMPROVE RELIABILITY AND MAINTAINABILITY, MINIMIZE SPARE PARTS AND INCREASE SERVICE LIFE. ALL REQUESTS FOR DEVIATION FROM THIS STANDARD MUST BE MADE IN WRITING AND WRITTEN APPROVAL RECEIVED BEFORE MODIFICATIONS ARE MADE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS NECESSARY TO RESTORE UNAUTHORIZED MODIFICATIONS.

DESIGN ENGINEER NOTE: *THIS IS NOT A CONSTRUCTION DRAWING*
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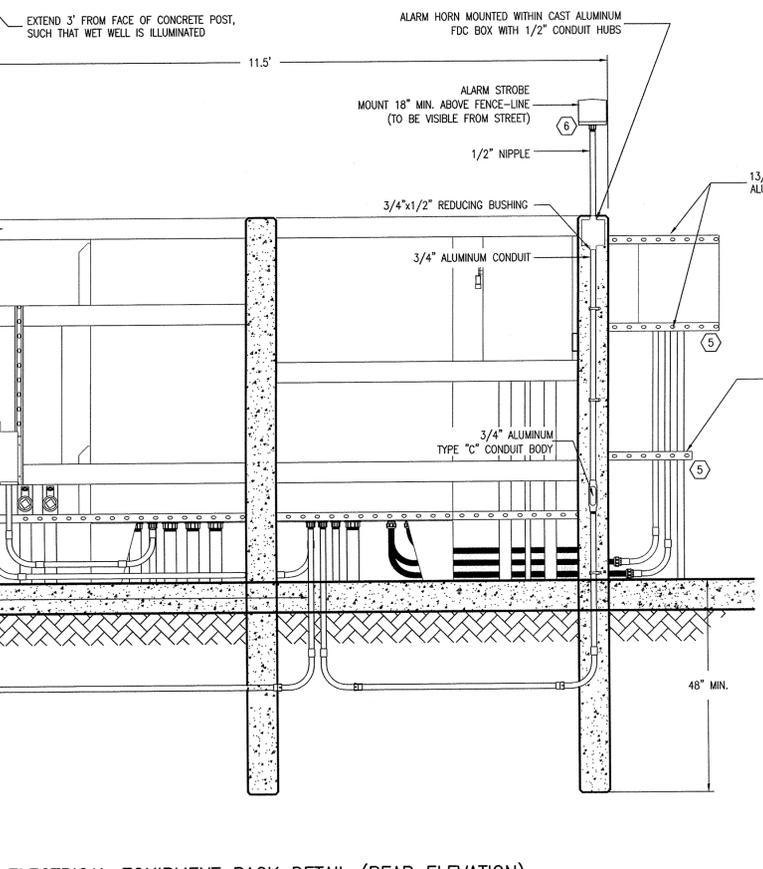


UTILITY METER DETAIL (FRONT ELEVATION)

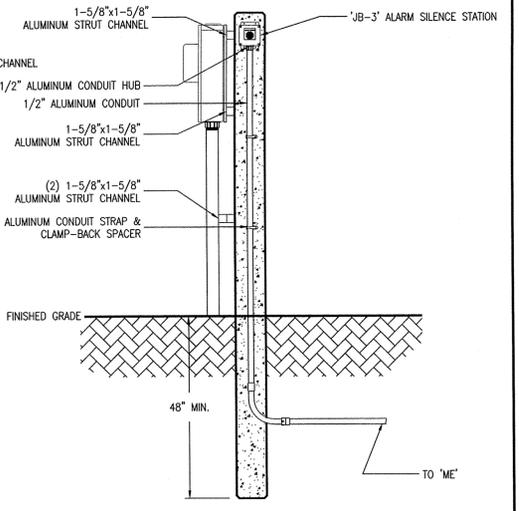
- N.T.S.
- NOTES:**
1. MOUNT METER TO CONCRETE POST USING ALUMINUM STRUT, UTILIZING STANDARD MOUNTING HOLES PROVIDED BY THE MANUFACTURER.
 2. USE 316-SST FASTENERS AND HARDWARE.



ELECTRICAL EQUIPMENT RACK DETAIL (FRONT ELEVATION)



ELECTRICAL EQUIPMENT RACK DETAIL (REAR ELEVATION)



UTILITY METER DETAIL (RIGHT-SIDE ELEVATION)

REVISION	DESCRIPTIONS	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	8/26/15
1	CONFORMED	5/17/13

SEAL

NOTE
FOR USE WITH THE FOLLOWING "ME" PKGS ONLY

3PH/480VAC/25-75HP

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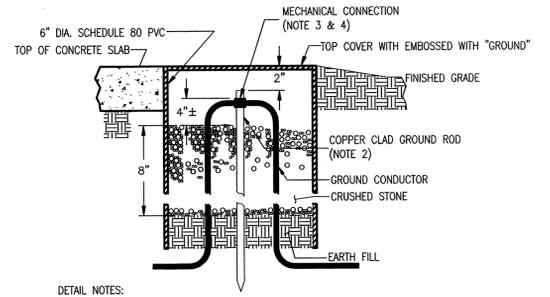
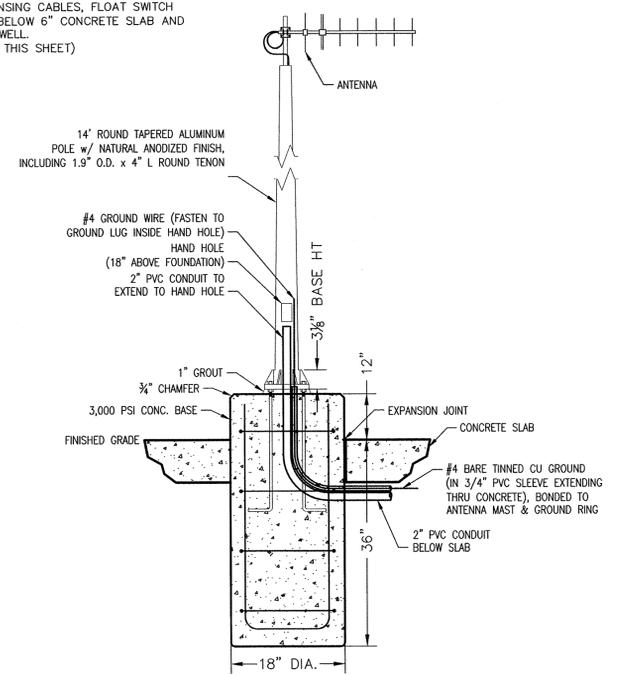
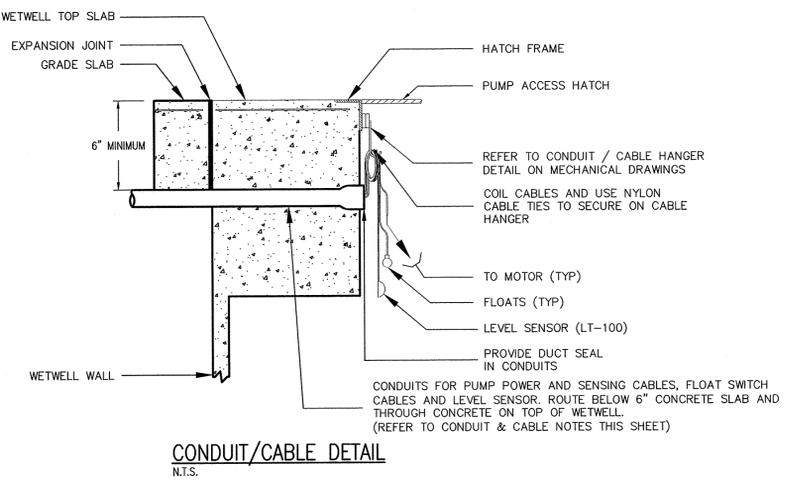
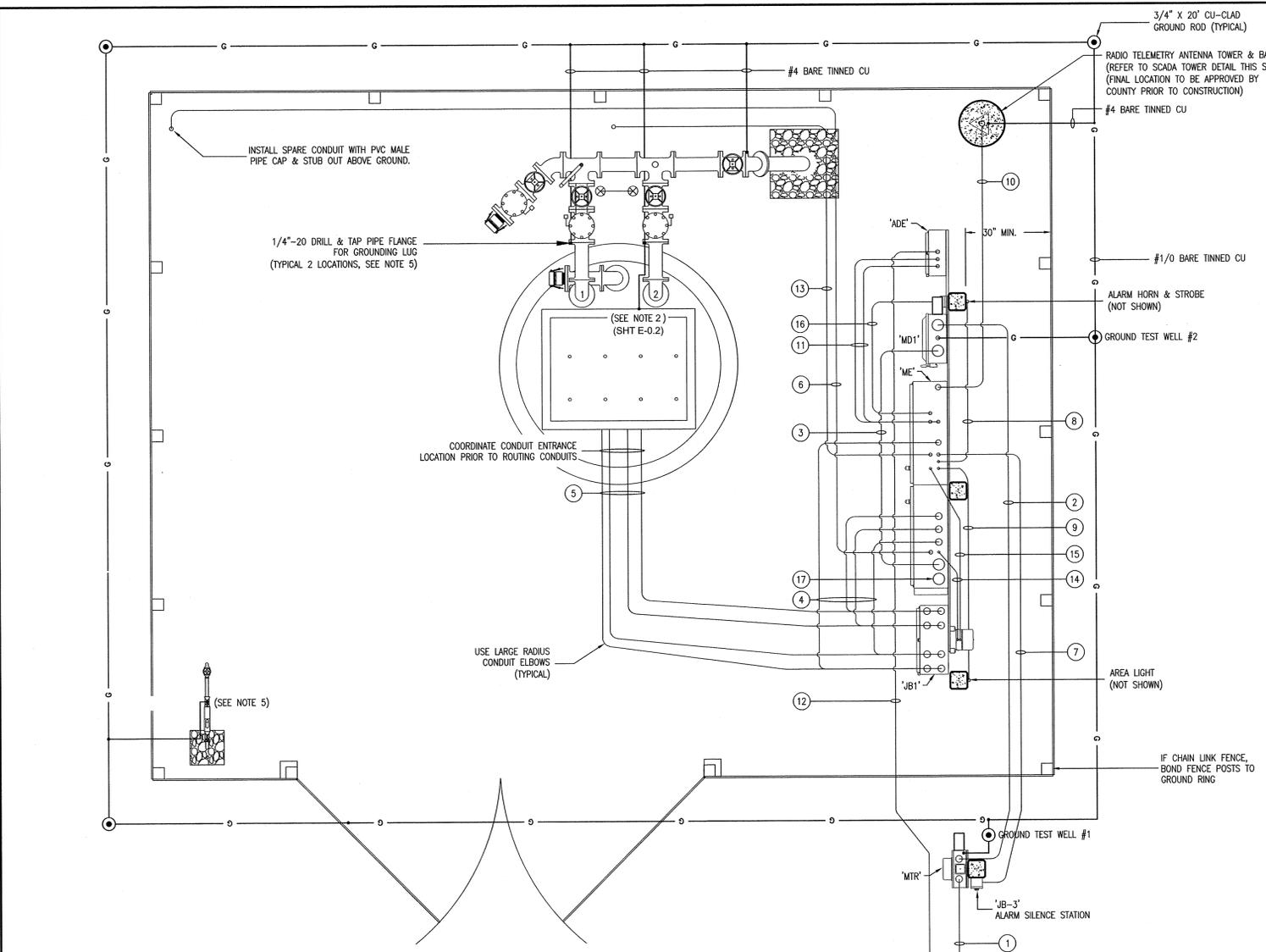
**DUPLIX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION**

**ELECTRICAL POWER PLAN
AND DETAIL**

DATE: OCTOBER 2011	SCALE: HORIZONTAL	FILE NUMBER: E-0.1
PROJ. # 1179-0013	VERTICAL: NA	DRAWING NUMBER: E-0.1
DESIGNED: _____		
CHECKED: _____		
PROJ. MGR. _____		
STATUS: REVISED		REVISION: 2

GENERAL NOTES:

- REFER TO GENERAL NOTES SHT. E-0.1, INCLUDING OWNER'S STANDARDS AND REQUIREMENTS.
- GROUND CONDUCTOR AT FORCEMAIN PIPING SHALL EXTEND THROUGH SLAB VIA 1" SCH. 80 PVC CONDUIT. BOND GROUND CONDUCTOR TO PUMPS ABOVE GRADE PIPING AT CHECK VALVES FLANGE CONNECTION AND TO FORCEMAIN FLANGE CONNECTION.



CONDUIT & CABLE NOTES:

- INSTALL THE FOLLOWING CONDUIT AND CABLE:
- [SVC TO MTR] 2.5°C, WIRE SIZE SEE CHART E-1.2
 - [MTR TO MD1] 2.5°C, WIRE SIZE SEE CHART E-1.2
 - [MD1 TO ME/CB1] 2.5°C, WIRE SIZE SEE CHART E-1.2
 - [ME/PMP1 TO JB1] 2°C, WIRE SIZE SEE CHART E-1.2
[ME/PMP2 TO JB1] 2°C, WIRE SIZE SEE CHART E-1.2
[ME/CONTL TO JB1] 2°C, FLOATS (24VAC) 6-#12 AWG, WELL LEVEL (24VDC) 1-#16 STP
[ME/SPARE TO JB1] 2°C
 - [JB1/PMP1 TO WELL] 2°C, MFR. CABLE
[JB1/PMP2 TO WELL] 2°C, MFR. CABLE
[JB1/CONTL TO WELL] 2°C, FLOATS (24VAC) MFR. CABLE, WELL LEVEL (24VDC) MFR. CABLE
[JB1/SPARE TO WELL] 2°C
 - [ME/SPARE TO ODOR CONT AREA] 1°C
 - [ME/ALM SIL TO JBS] 0.5°C, (120VAC) 2-#14 #12G
 - [ME/ALM STROBE-HORN TO JB2] 0.75°C, (120VAC) 4-#14 #12G
 - [ME/AREA LIGHT TO AREA LIGHT] 0.75°C, (120VAC) 3-#12 #12G
 - [ME/TELEM TO TELEMETRY ANTENNA POLE] 2°C, ANTENNA CABLE
 - [ME/ADE TO ADE] 0.75°C, ADE POWER (120VAC) 2-#12 #12G
0.75°C, ADE CONTROL (24VDC) 10-#14 #12G
 - [ADE TO TELECOM SVC] 1°C, TELEPHONE CABLE
 - [ME/PRESS TO FM PRESS TRANSMITTER] 1°C, 1-16STP
 - (480VAC ONLY)
[ME/CB11 TO T1] 0.75°C, (480VAC) 2-#12 #12G
 - (480VAC ONLY)
[T1 TO ME/CB12] 0.75°C, (120VAC) 2-#10
 - [ME/CB21 TO RECP1] 0.75°C, RECP1 POWER (120VAC) 2-#12 #12G
 - [JB4 TO ME/CB2] FINAL LOCATION OF JB4 AND ASSOCIATED CONDUIT, CONDUIT ROUTING & WIRE SIZING SHALL BE DETERMINED BY THE SITE-SPECIFIC DESIGN ENGINEER.

ELECTRICAL SITE PLAN
1/2" = 1'

- DETAIL NOTES:**
- TYPICAL FOR EACH GROUND ROD.
 - 3/4" x 20" COPPER CLAD DRIVEN GROUND ROD; THREE (3) GROUND RODS MINIMUM PER SITE.
 - "TEST WELLS" AT TECO METER & MD1 SHALL USE MECHANICAL CONNECTIONS, TO FACILITATE ISOLATING THE GROUNDING SYSTEM FROM THE UTILITY GROUND FOR TESTING PURPOSES.
 - CONTRACTOR SHALL MEASURE THE RESISTANCE OF INSTALLED GROUNDING ELECTRODES AND IF ABOVE 5 OHMS, CONTRACTOR SHALL AUGMENT THE GROUND SYSTEM AS NECESSARY.

DETAIL NOTES:

- PROVIDE ANCHORS, HARDWARE, CONCRETE SUPPORTS, ETC., AS NEEDED TO SECURE ANTENNA TOWER.
- REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ANTENNA AND FOUNDATION DETAILS.

SCADA ANTENNA TOWER DETAIL
N.T.S.

DESIGN BASIS NOTE:

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DESIGN ENGINEER NOTE:

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2	REVISED TO INCORPORATE FIELD CHANGES	9/26/15
1	CONFORMED	5/17/13

SEAL

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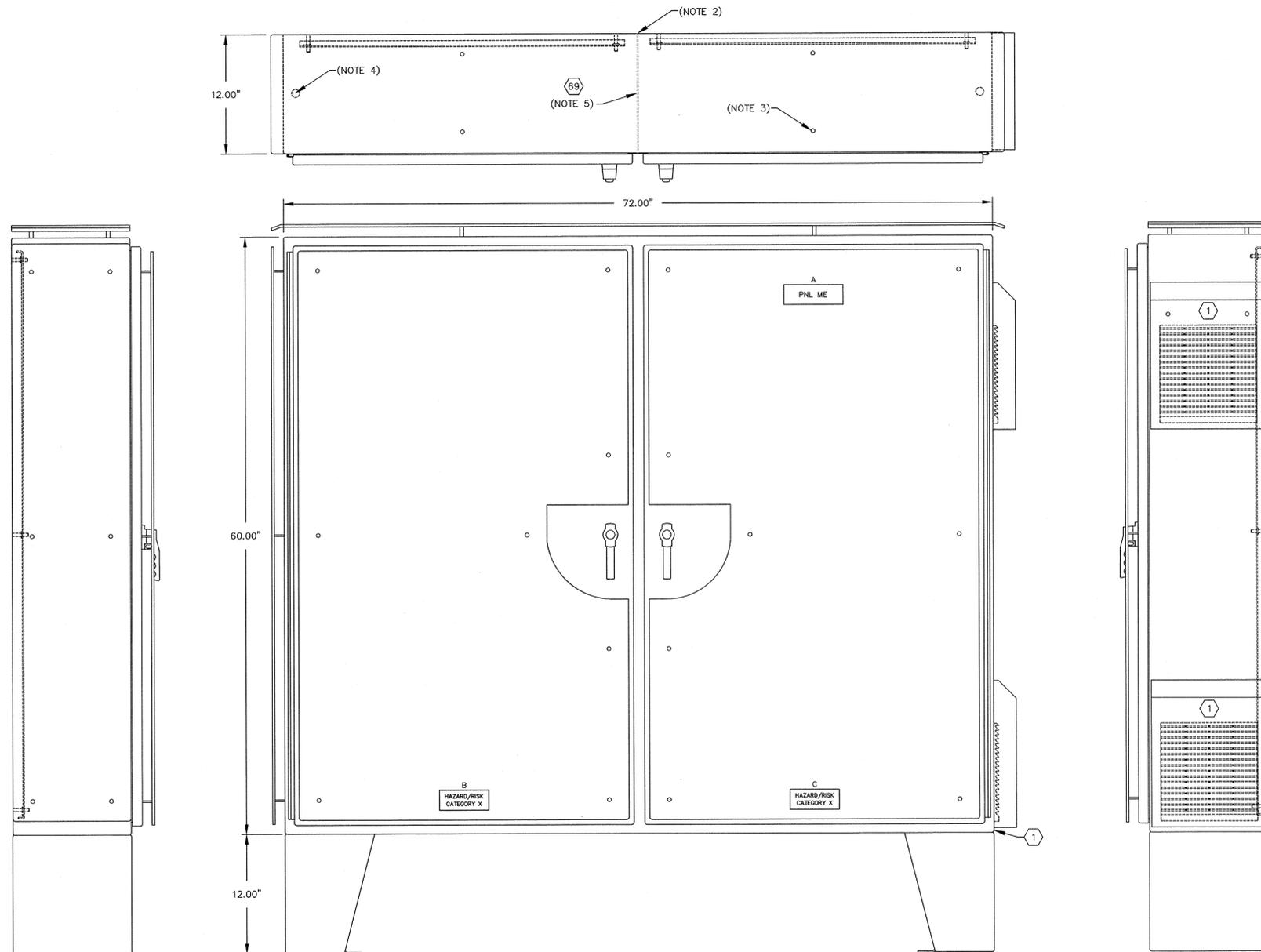
DUPLIX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL SITE PLAN AND DETAIL

DATE: OCTOBER 2011	SCALE: HORIZONTAL:	FILE NUMBER: E-0.2
PROJ. # 1179-0013	VERTICAL: NA	DRAWING NUMBER: E-0.2
DESIGNED: _____	STATUS: REVISED	REVISION: 2
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PROJ. MGR. _____		

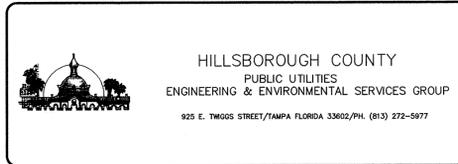
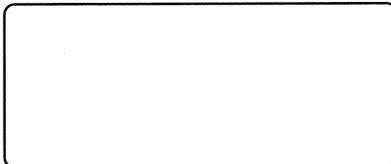
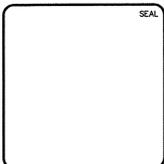
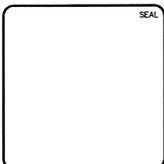
NOTES:

1. REFER TO SHT. E-1.2 FOR BILL OF MATERIAL, NAMEPLATE LEGEND AND ELECTRICAL SIZING; E-1.3 THRU E-1.8 FOR SCHEMATICS.
2. WELDED CABINET DIVIDER SHALL PROVIDE COMPLETE ISOLATION BETWEEN CABINET HALVES.
3. ATTACH SUN-SHIELD WITH STAINLESS STEEL HARDWARE, TYPICAL.
4. REMOVABLE LIFTING EYE SOCKET, IMMEDIATELY AFTER CABINET INSTALLATION, INSTALL SS PLUG BOLT AND RUBBER WASHER TO PROVIDE WATER-TIGHT SEAL. TYPICAL (2).
5. INSTALL PASS-THROUGH CABLE FITTINGS AT DIVIDER PLATE (BOTTOM & CENTERED) TYP. 3 (POWER, COMM, CONTROL)



EXTERIOR ELECTRICAL/CONTROL CABINET, (ME)
5/32"=1"

REV. NO.	DESCRIPTIONS	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	9/26/15
1	CONFORMED	5/17/13
1	CONFORMED	5/17/13



DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL/CONTROL ENCLOSURE
EXTERIOR LAYOUT
(3PH)(480V/30-75HP)

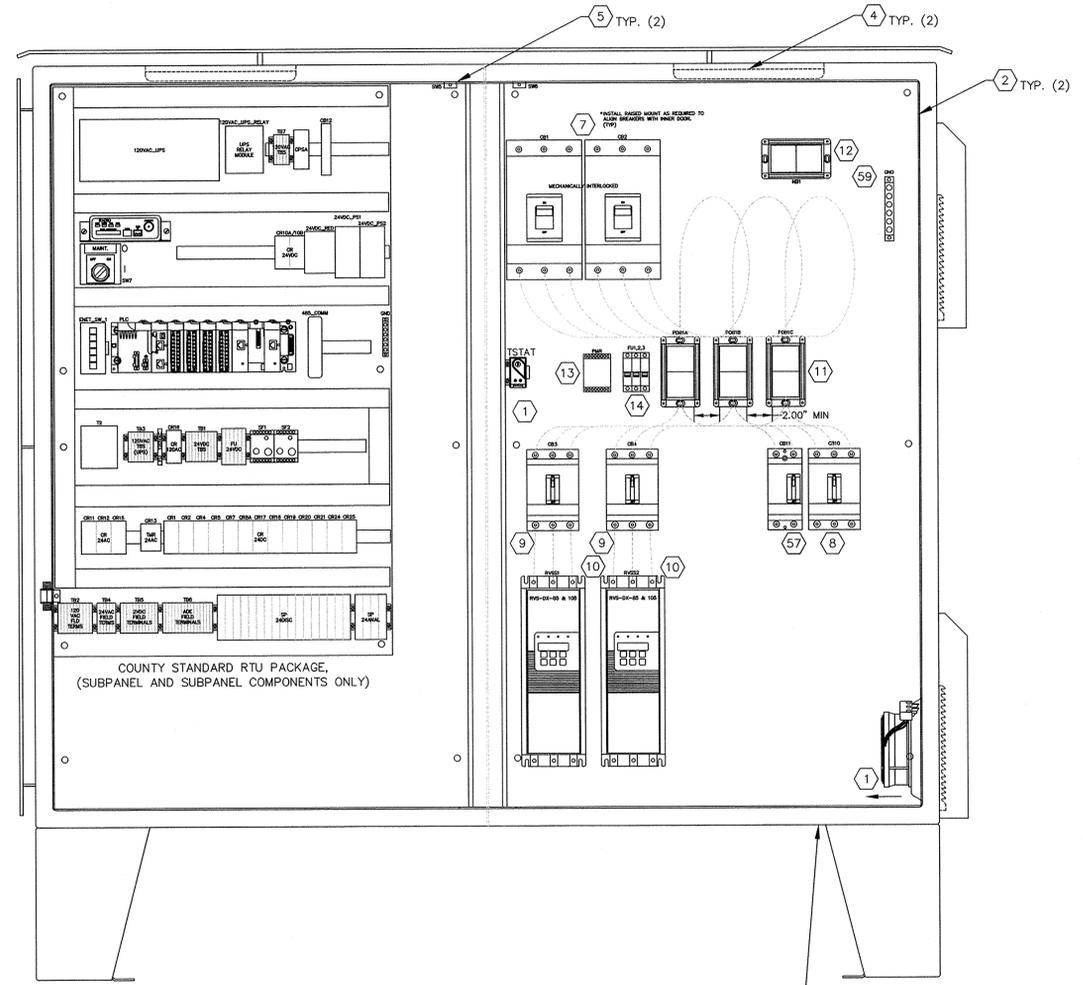
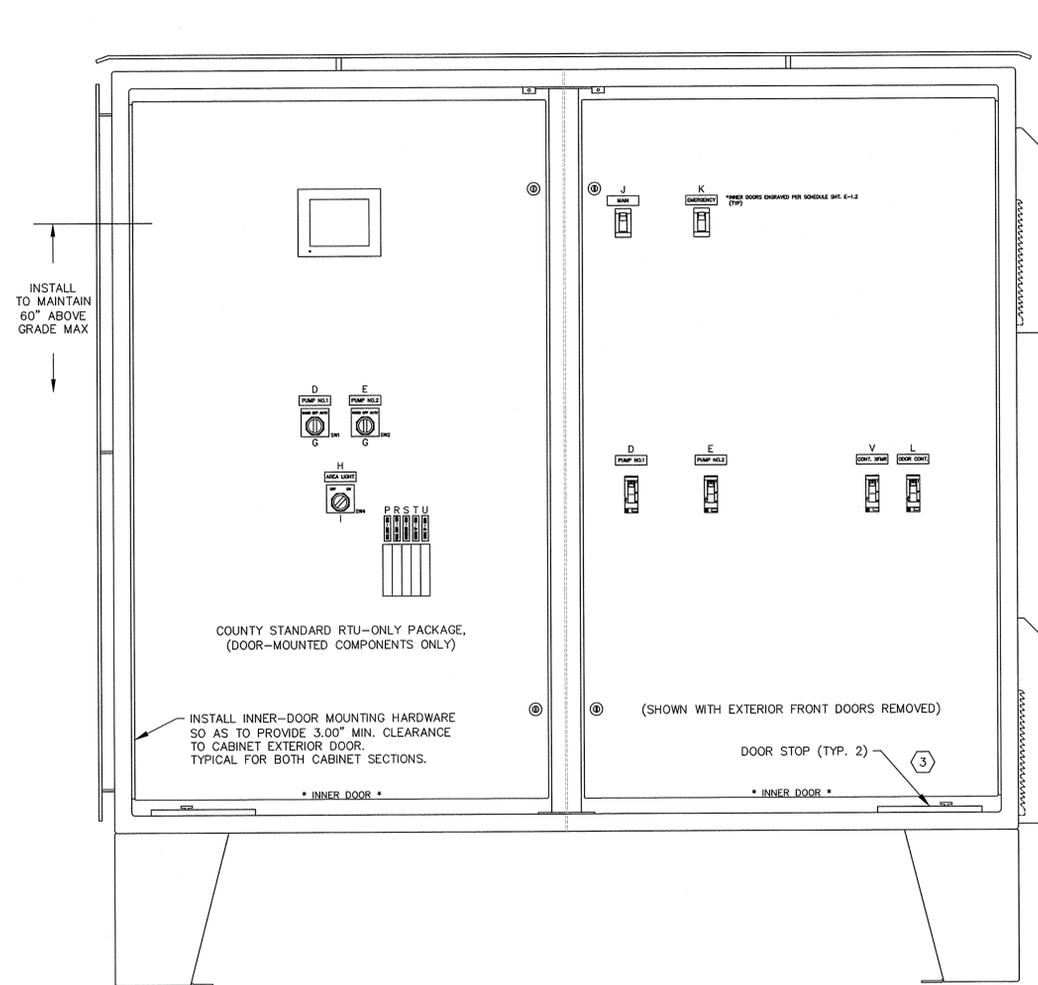
DATE:	OCTOBER 2011
PROJ. #	1179-0013
DRAWN	
DESIGNED	
CHECKED	
PROJ. MGR.	
STATUS:	REVISED

SCALE	
HORIZONTAL:	
VERTICAL:	NA

FILE NUMBER	
DRAWING NUMBER	E-1.0
REVISION	2

NOTES:

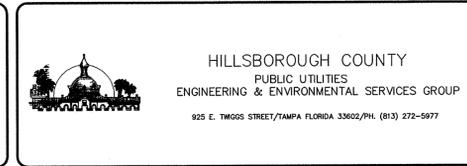
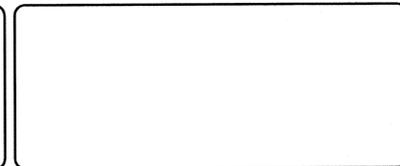
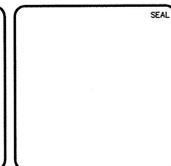
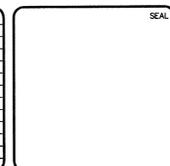
- REFER TO SHT. E-1.2 FOR BILL OF MATERIAL, NAMEPLATE LEGEND AND ELECTRICAL SIZING; E-1.3 THRU E-1.8 FOR SCHEMATICS.
- INSTALL STAND-OFF BRACKETS AS REQ'D TO EXTEND CIRCUIT BREAKERS TO INNER DOOR.



INTERIOR ELECTRICAL/CONTROL CABINET, (ME)

5/32"=1"

REV. NO.	DESCRIPTIONS	DATE
2	REVISED, TO INCORPORATE FIELD CHANGES	9/28/15
1	CONFORMED	5/17/13
1	CONFORMED	5/17/13



DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL/CONTROL ENCLOSURE
INTERIOR LAYOUT
(3PH)(480V/30-75HP)

DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DRAWN:	VERTICAL: NA	E-1.1
DESIGNED:		
CHECKED:		
PROJ. MGR.:		
STATUS: REVISED	REVISION:	2

LIST OF MAJOR COMPONENTS

ITEM NO.	QTY	DEVICE ID	MANUFACTURER	PART NO.	DESCRIPTION
1	1		HOFFMAN	AD0H7212SSLP-3PT (CUSTOM)	ENCLOSURE, 60"x72"x12"D, TWO-DOOR, WELDED CABINET DMDER, NEMA 4X 304 SS, 3-PT LATCHES, SUN-SHIELDS, EPOXY WHITE FINISH, FLOOR STANDS INNER-DOOR BOTH SIDES, 55"x33"W, ALUMINUM 0.125" THICK MIN., POWDER-COAT IRON GRAY TEXTURE FINISH (HBT2-C0009-C50)
1	1		PFANNENBERG	FLZ 530-171 200010	THERMOSTAT, 120VAC
1	1		PFANNENBERG	PF 4300-116X3154056	CABINET FAN UL TYPE 12 162/133CFM 115V 50/60 HZ W/FILTER
1	1		PFANNENBERG	FFA 4000-11740004055	CABINET EXHAUST FILTER
2	2		PFANNENBERG	PF-RH-4000-1810200017	WASHDOWN SHROUD, SS
2	2		HOFFMAN	AS360SS	HOLE SEAL, 3.50", 300 SERIES SS, WEATHER-PROOF, EPOXY WHITE FINISH
2	2		HOFFMAN	(CUSTOM)	SUBPANEL, 57"x33"W, 304SS, EPOXY WHITE FINISH
3	2		FARTECH	NH-45013	COUNTY STANDARD RTU-ONLY PKG, SUBPANEL AND SUBPANEL COMPONENTS ONLY
4	2		GE	UC F18/DW/ADV-16647	DOOR STOP KIT, 31R SS
4	2		GE	F15T3/W/W-10147	CABINET LIGHT, FLUORESCENT
5	2	SW5, SW6	SQUARE-D	9007-AP221	CABINET LIGHT, BULB
6	2				DOOR SWITCH
7	2	CB1, CB2	SEE CHART THIS SHT.		"NOT USED"
			SQUARE-D	JUL36260U31X	CIRCUIT BREAKER, 600V, 3 POLE, 250 AMP, ELECTRONIC TRIP (MICROLOGIC), MECH-INTERLOCK
			SQUARE-D	LHL36300	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 300 AMP, MECH-INTERLOCK
			SQUARE-D	S32614	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 20 AMP TRIP UNIT
8	1	CB10	SQUARE-D	HGL26020T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 20 AMP TRIP UNIT
9	2	CB3, CB4	SEE CHART THIS SHT.		
			SQUARE-D	HGL36080T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 80 AMP TRIP UNIT
			SQUARE-D	HGL36090T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 90 AMP TRIP UNIT
			SQUARE-D	HGL36100T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 100 AMP TRIP UNIT
			SQUARE-D	HGL36110T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 110 AMP TRIP UNIT
			SQUARE-D	HGL36125T	CIRCUIT BREAKER, MOLDED-CASE, 600V, 3 POLE, 125 AMP TRIP UNIT
10	2	RVSS1, RVSS2	SEE CHART THIS SHT.		
			SOLCON	RVS-DX 44-480-115-3MS	REDUCE VOLTAGE SOFT STARTER, 480V, 44 FLA
			SOLCON	RVS-DX 58-480-115-3MS	REDUCE VOLTAGE SOFT STARTER, 480V, 58 FLA
			SOLCON	RVS-DX 72-480-115-3MS	REDUCE VOLTAGE SOFT STARTER, 480V, 72 FLA
			SOLCON	RVS-DX 85-480-115-3MS	REDUCE VOLTAGE SOFT STARTER, 480V, 85 FLA
			SOLCON	RVS-DX 105-480-115-3MS	REDUCE VOLTAGE SOFT STARTER, 480V, 105 FLA
11	3	PDB1A,B,C	BUSSMANN	16628-1	POWER DISTRIBUTION BLK, 1 POLE, 840A, 600VAC, PRIM 2 CONN 2-600KCMIL CU, SEC 4 CONN 14-4 & 4 CONN 6-3.0 CU
12	1	NB1	BUSSMANN	16628-1	POWER DISTRIBUTION BLK, 1 POLE, 840A, 600VAC, PRIM 2 CONN 2-600KCMIL CU, SEC 4 CONN 14-4 & 4 CONN 6-3.0 CU
13	1	FR1	INCRONATIC	FR1FRU	PHASE MONITOR RELAY
14	1	FU1, FU2, FU3	SQUARE-D	8501NR51	RELAY BASE
14	3		SQUARE-D	DFCC3V	3 POLE FUSE HOLDER
15			BUSSMANN	LP-CC-1	1 AMP CLASS CC FUSE
16					"NOT USED"
17					"NOT USED"
18					"NOT USED"
19					"NOT USED"
20					"NOT USED"
21					"NOT USED"
22					"NOT USED"
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39					"NOT USED"
40	1	RECP1	HUBBELL	GFTR16GY	RECEPTACLE, 125VAC, DUPLEX, GFCI, 15A, 10A SCCR
41	1		THOMAS & BETTS	IH8-24LM	RECEPTACLE BOX, DIE-CAST ALUMINUM WEATHER PROOF, (3) 3/4" HOLES
42	1		INTERMATIC	WP1010MD	RECEPTACLE COVER, DIE-CAST ALUMINUM WEATHER PROOF, WHILE-IN-USE
43					"NOT USED"
44	1		FEDERAL SIGNAL	141ST-24R	STROBE LIGHT, RED, 24VDC (REMOTE FROM ME)
45	1		FEDERAL SIGNAL	450E-24-31W/WB	ALARM HORN, 24VDC, w/ALUMINUM W/P HOUSING (REMOTE FROM ME)
46					"NOT USED"
47					"NOT USED"
48					"NOT USED"
49					"NOT USED"
50					"NOT USED"
51					"NOT USED"
52					"NOT USED"
53					"NOT USED"
54					"NOT USED"
55					"NOT USED"
56					"NOT USED"
57	1	CB11	SQUARE-D	HGL26015	CIRCUIT BREAKER, MOLDED-CASE, 600V, 2 POLE, 15 AMP
58	1	T1	SQUARE-D	3S1FSS	3kVA 480VAC - 120VAC SINGLE PHASE TRANSFORMER W/ ENCLOSURE
59	1		SQUARE-D	PK0GTAR	GROUND BAR, 6 CONN 14-10 CU
60					"NOT USED"
61					"NOT USED"
62					"NOT USED"
63					"NOT USED"
64					"NOT USED"
65					"NOT USED"
66					"NOT USED"
67					"NOT USED"
68	1		HUBBELL	ZS105	CABLE FITTING, PASS-THROUGH (POWER)
69	1		HUBBELL	ZS108	CABLE FITTING, PASS-THROUGH (COMMUNICATION)
70	1		HUBBELL	ZS209	CABLE FITTING, PASS-THROUGH (CONTROL)

NAMEPLATE SCHEDULE

N.P. NO.	QTY	PLATE COLOR/SIZE	LTR COLOR/SIZE	ENGRAVING (LINE 1/LINE 2/ETC.)
A	1	BLK / 2.00" H x 6.00" W	WHT / 1/2"	P.N. ME
B	1	BLK / 2.00" H x 5.00" W	WHT / 3/8"	HAZARD/RISK / CATEGORY X
C	1	BLK / 2.00" H x 5.00" W	WHT / 3/8"	HAZARD/RISK / CATEGORY X
D	2	ENG / 0.75" H x 2.50" W	ENG / 1/4"	PLU/F NO.1
E	2	ENG / 0.75" H x 2.50" W	ENG / 1/4"	PLU/F NO.2
F				"NOT USED"
G	2	ENG / 2.25" H x 2.25" W	ENG / 3/16"	HAND OFF AUTO
H	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	AREA LIGHT
I	2	ENG / 2.25" H x 2.25" W	ENG / 3/16"	OFF ON
J	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	MAIN - CB1
K	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	EMERGENCY - CB2
L	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	ODOR CONT - CB10
M				"NOT USED"
N				"NOT USED"
O	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	MAIN
P	1	ENG / 0.50" H x 2.00" W	ENG / 3/16"	AREA LIGHT - CB20
R	1	ENG / 0.50" H x 2.00" W	ENG / 3/16"	CONV. RECP - CB21
S	1	ENG / 0.50" H x 2.00" W	ENG / 3/16"	AUTO DIALER - CB22
T	1	ENG / 0.50" H x 2.00" W	ENG / 3/16"	120VAC CONTROL POWER - CB23
U	1	ENG / 0.50" H x 2.00" W	ENG / 3/16"	24VAC CONTROL POWER - CB24
V	1	ENG / 0.75" H x 2.50" W	ENG / 1/4"	CONTROL - CB11
W				"NOT USED"

CROSS REFERENCE TABLE

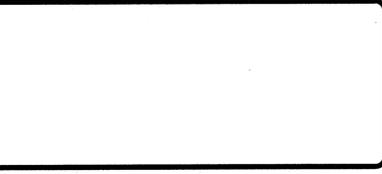
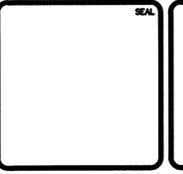
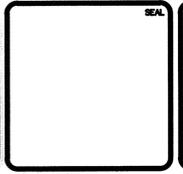
SERVICE VOLTAGE	PUMP HP	PUMP FLA (PER NEC)	MTR-MD1 (AWG)	MD1-CB1/N J1/JB4-CB2/N (AWG)	CB1-PDB1 CB2-PDB1 (AWG)	MD1 CB1 CB2 SETTINGS J (Lr/Lr/10) L (L/H)	GENERATOR CONNECTION	PDB1-PMR (AWG)	CB3 CB4 (MAX)	RVSS1 RVSS2	PDB1-CB3 PDB1-CB4 CB3-RVSS1 CB4-RVSS2 RVSS1-JB1 RVSS2-JB1 (AWG)	JB1-M1 JB1-M2	ODOR CONTROL CB10 (MAX)	PDB1-CB10 (AWG)	PDB1-CB20 (AWG)	PDB1-CB11 CB11-XFMR1 (AWG)	CB11
480VAC, 3PH, 4W	30	40.0	3-#5/0, 1-#2 N	3-#5/0, 1-#2 N, 1-#6 G	3-#3/0	1250(200/16/10)	INTEGRATED	3-#14	H80	RVS-DX-44	3-#4	PER MANUF	H20	3-#12	---	2-#10	H15
480VAC, 3PH, 4W	40	52.0	3-#5/0, 1-#2 N	3-#5/0, 1-#2 N, 1-#6 G	3-#3/0	1250(200/16/10)	INTEGRATED	3-#14	H90	RVS-DX-58	3-#3	PER MANUF	H20	3-#12	---	2-#10	H15
480VAC, 3PH, 4W	50	65.0	3-#4/0, 1-#2 N	3-#4/0, 1-#2 N, 1-#6 G	3-#4/0	1250(225/16/10)	INTEGRATED	3-#14	H100	RVS-DX-72	3-#3	PER MANUF	H20	3-#12	---	2-#10	H15
480VAC, 3PH, 4W	60	77.0	3-#350, 1-#2 N	3-#350, 1-#2 N, 1-#4 G	3-#350	1300(0)	INTEGRATED	3-#14	H110	RVS-DX-85	3-#2	PER MANUF	H20	3-#12	---	2-#10	H15
480VAC, 3PH, 4W	75	96.0	3-#350, 1-#2 N	3-#350, 1-#2 N, 1-#4 G	3-#350	1300(0)	INTEGRATED	3-#14	H125	RVS-DX-105	3-#1	PER MANUF	H20	3-#12	---	2-#10	H15

EQUIPMENT AND CONDUCTORS SHALL COMPLY WITH NEC AND ALL OTHER APPLICABLE CODES, INCLUDING EXISTING COUNTY STANDARDS.

DESIGN ENGINEER NOTE:
THIS DRAWING REPRESENTS THE STANDARD DESIGN FOR ALL HILLSBOROUGH COUNTY STANDARD WASTEWATER PUMPING STATIONS. IT WAS DEVELOPED TO IMPROVE RELIABILITY AND MAINTAINABILITY, MINIMIZE SPARE PARTS AND INCREASE SERVICE LIFE. ALL REQUESTS FOR DEVIATION FROM THIS STANDARD MUST BE MADE IN WRITING AND WRITTEN APPROVAL RECEIVED BEFORE MODIFICATIONS ARE MADE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS NECESSARY TO RESTORE UNAUTHORIZED MODIFICATIONS.

DESIGN ENGINEER NOTE: *THIS IS NOT A CONSTRUCTION DRAWING*
DESIGN ENGINEER SHALL REFER TO ELECTRICAL DRAWINGS, MECHANICAL DRAWINGS, AND THE HILLSBOROUGH COUNTY WATER AND WASTEWATER TECHNICAL SPECIFICATION IN ORDER TO COORDINATE THE MECHANICAL AND ELECTRICAL INSTALLATIONS. DESIGN ENGINEER SHALL NOT USE THIS DRAWING FOR A SPECIFIC SITE INSTALLATION. FOR EACH INSTALLATION A SPECIFIC SET OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS (IF DEEMED NECESSARY BY THE DESIGN ENGINEER) MUST BE PREPARED IN ACCORDANCE WITH F.S. 471 AND RULES 61G.

REVISION	DATE	DESCRIPTION
2	5/29/10	REVISED TO INCORPORATE FIELD CHANGES
1	5/17/10	CONFIRMED



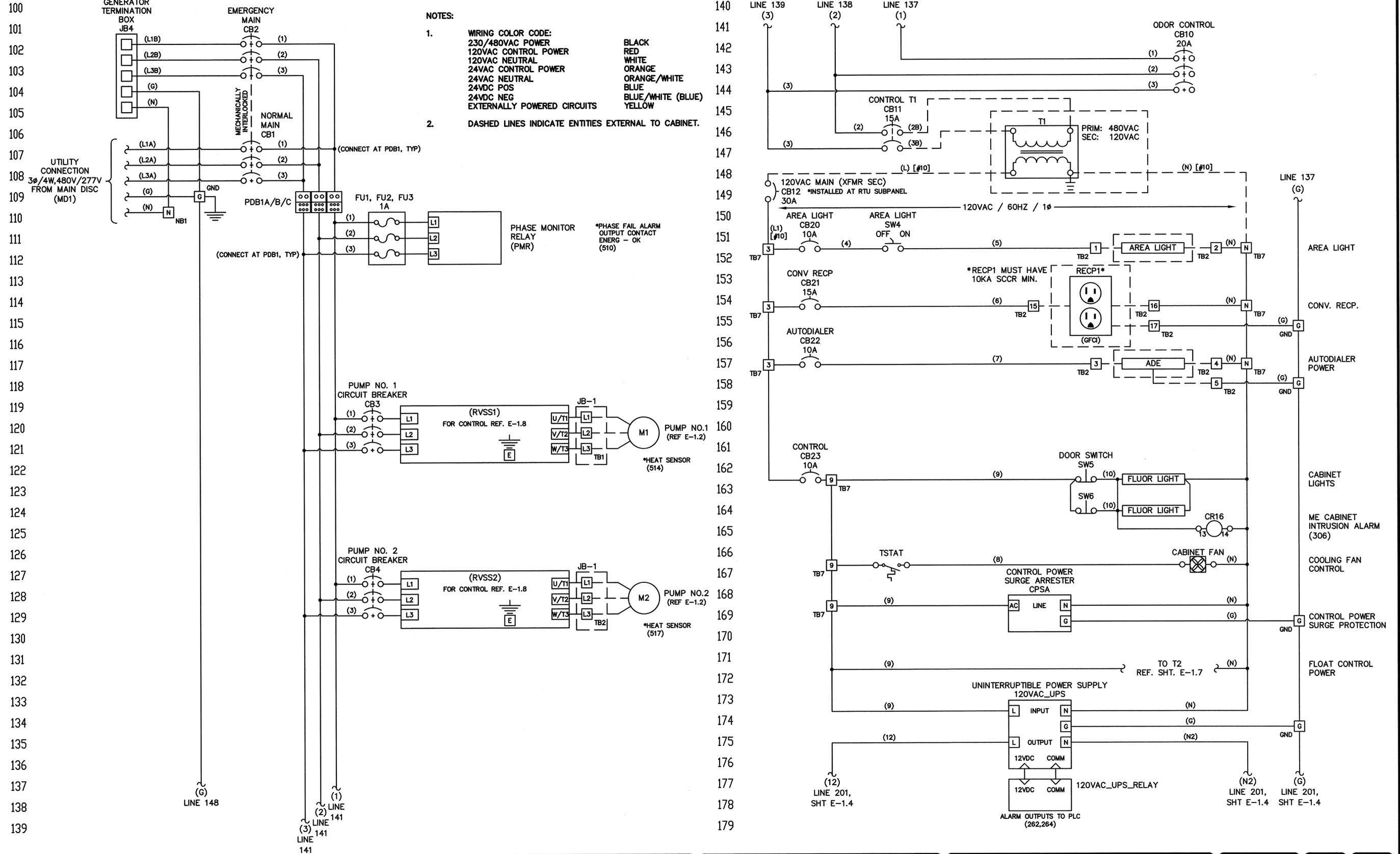

HILLSBOROUGH COUNTY
 PUBLIC UTILITIES
 ENGINEERING & ENVIRONMENTAL SERVICES GROUP
 625 E. TROODS STREET/TAMPA FLORIDA 33602/PH: (813) 272-5077

DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL/CONTROL ENCLOSURE
BILL OF MATERIAL & EQUIP SIZING CHART
(3PH)X(480V/30-75HP)

DATE: OCTOBER 2011	SCALE: HORIZONTAL	FILE NUMBER: E-1.2
PROJ. # 1179-0013	VERTICAL: NA	DRAWING NUMBER: E-1.2
DRAWN: _____	DESIGNED: _____	CHECKED: _____
PROJ. MGR: _____	STATUS: REVISED	REVISION: 2

ELECTRICAL/CONTROL CABINET, (ME)



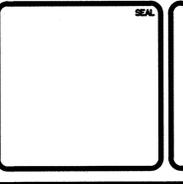
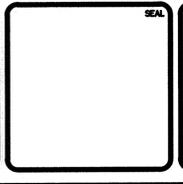
- NOTES:
- WIRING COLOR CODE:

230/480VAC POWER	BLACK
120VAC CONTROL POWER	RED
120VAC NEUTRAL	WHITE
24VAC CONTROL POWER	ORANGE
24VAC NEUTRAL	ORANGE/WHITE
24VDC POS	BLUE
24VDC NEG	BLUE/WHITE (BLUE)
EXTERNALLY POWERED CIRCUITS	YELLOW
 - DASHED LINES INDICATE ENTITIES EXTERNAL TO CABINET.

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REVISION	DATE	BY
2	5/28/13	
1	5/17/13	
0		



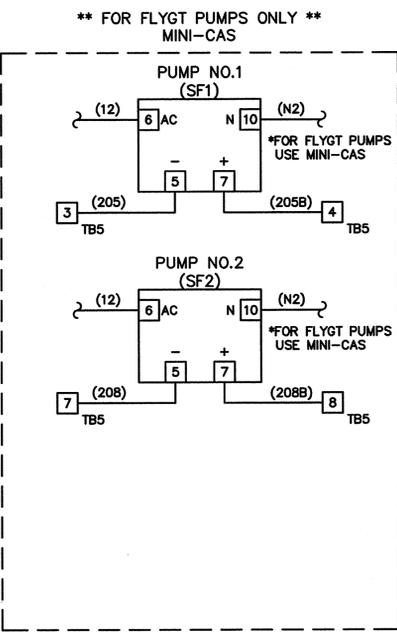
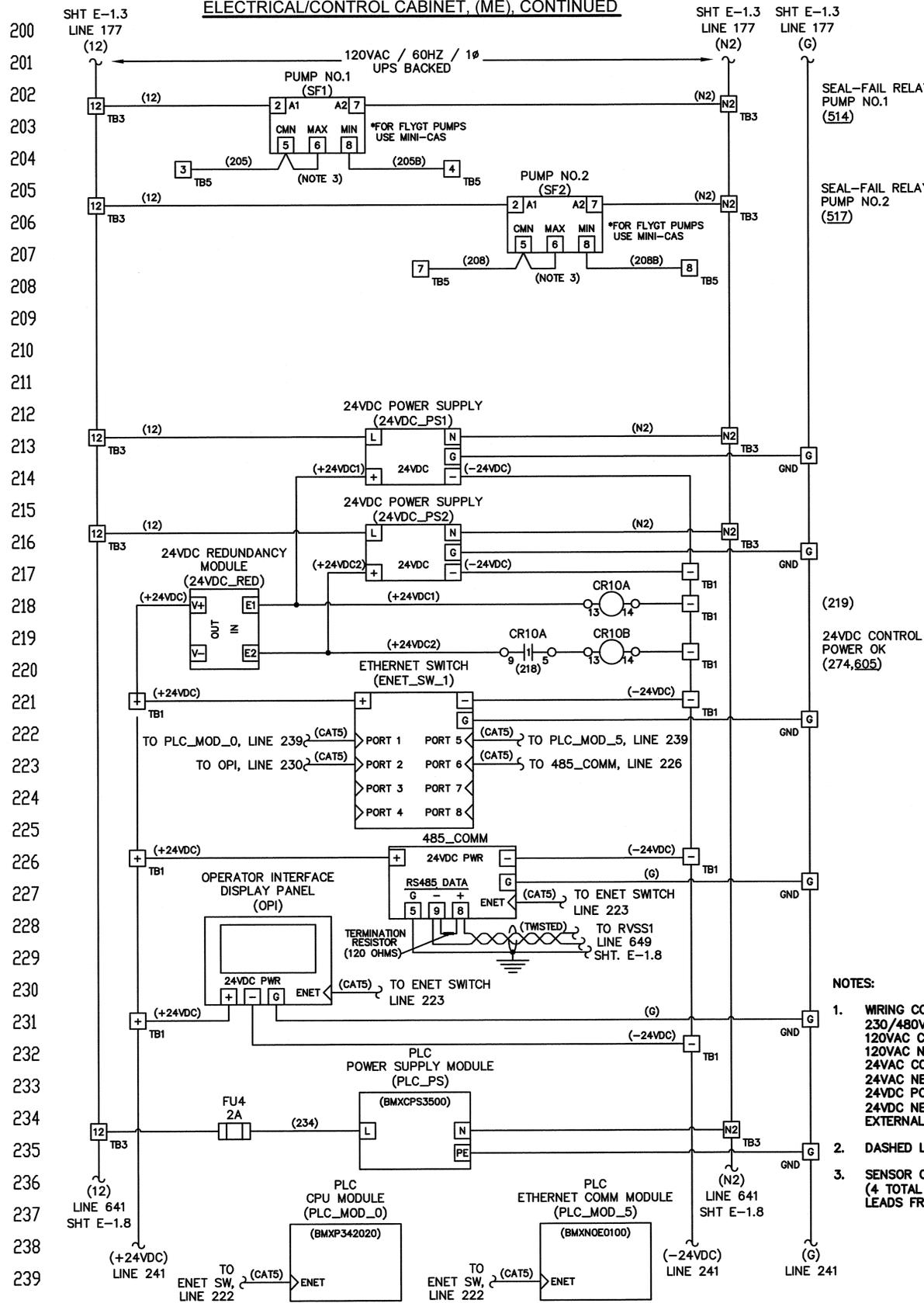
HILLSBOROUGH COUNTY
PUBLIC UTILITIES
ENGINEERING & ENVIRONMENTAL SERVICES GROUP
625 E. TOWN SQUARE STREET/TAMPA FLORIDA 33602/PH. (813) 272-0277

**DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION**

**ELECTRICAL/CONTROL ENCLOSURE
ELECTRICAL SCHEMATICS
(3PH)(480V/30-75HP)**

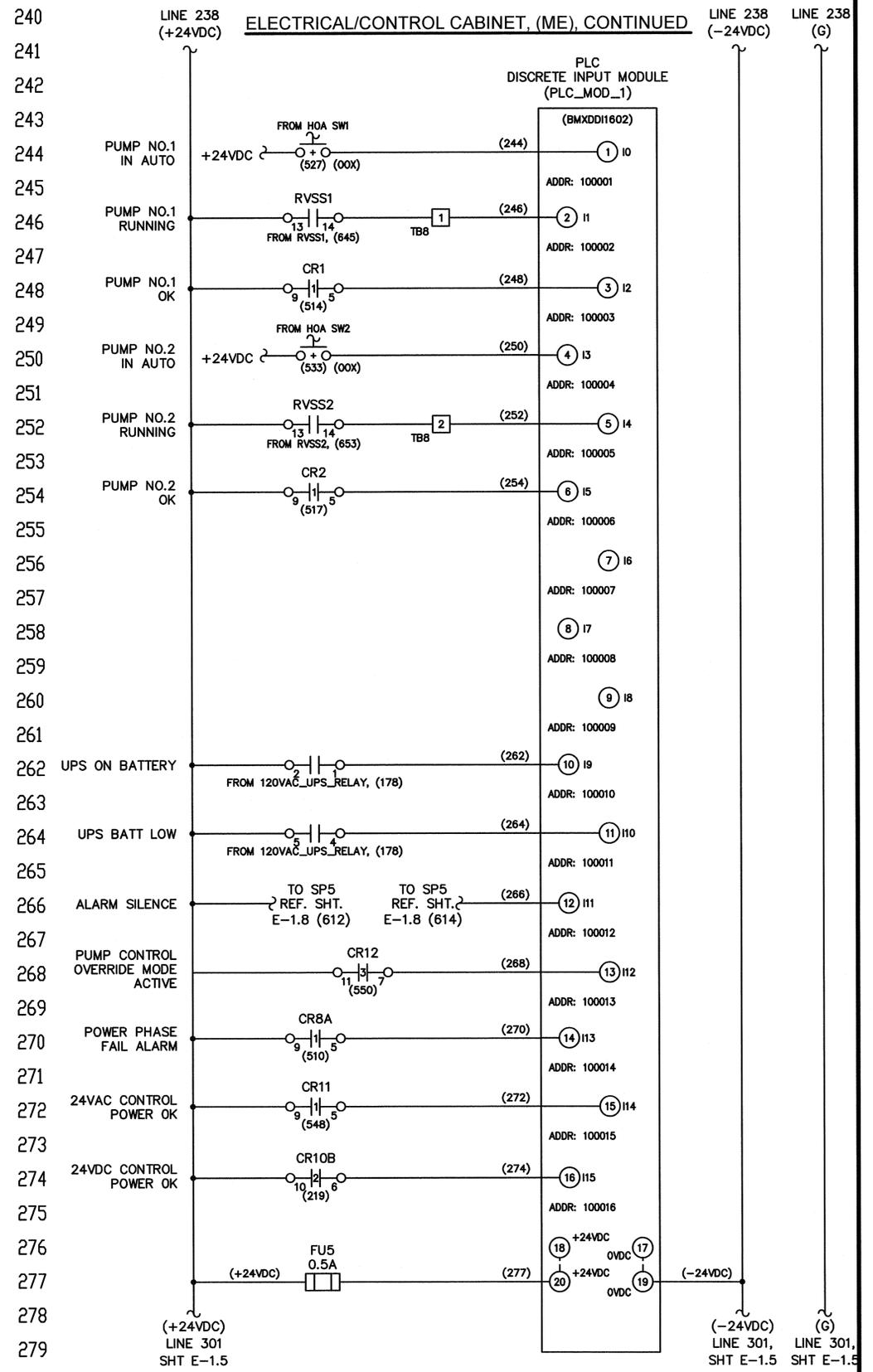
DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DESIGNED:	VERTICAL:	E-1.3
CHECKED:	NA	
PROJ. MGR.:		
STATUS: REVISED	REVISION:	2

ELECTRICAL/CONTROL CABINET, (ME), CONTINUED

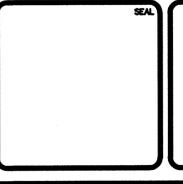
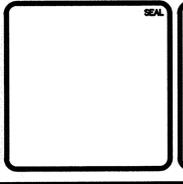


- NOTES:
1. WIRING COLOR CODE:
230/480VAC POWER: BLACK
120VAC CONTROL POWER: RED
120VAC NEUTRAL: WHITE
24VAC CONTROL POWER: ORANGE
24VAC NEUTRAL: ORANGE/WHITE
24VDC POS: BLUE
24VDC NEG: BLUE/WHITE (BLUE)
EXTERNALLY POWERED CIRCUITS: YELLOW
 2. DASHED LINES INDICATE ENTITIES EXTERNAL TO CABINET.
 3. SENSOR CABLE SHALL CONTAIN HEAT SENSING AND SEAL FAILURE LEADS (4 TOTAL PER PUMP) AND SHALL BE INSTALLED IN CONDUIT WITH MOTOR LEADS FROM JUNCTION BOX JB1 TO THE WET WELL.

ELECTRICAL/CONTROL CABINET, (ME), CONTINUED



NO.	REVISION	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	5/28/10
1	CONFORMED	5/17/10

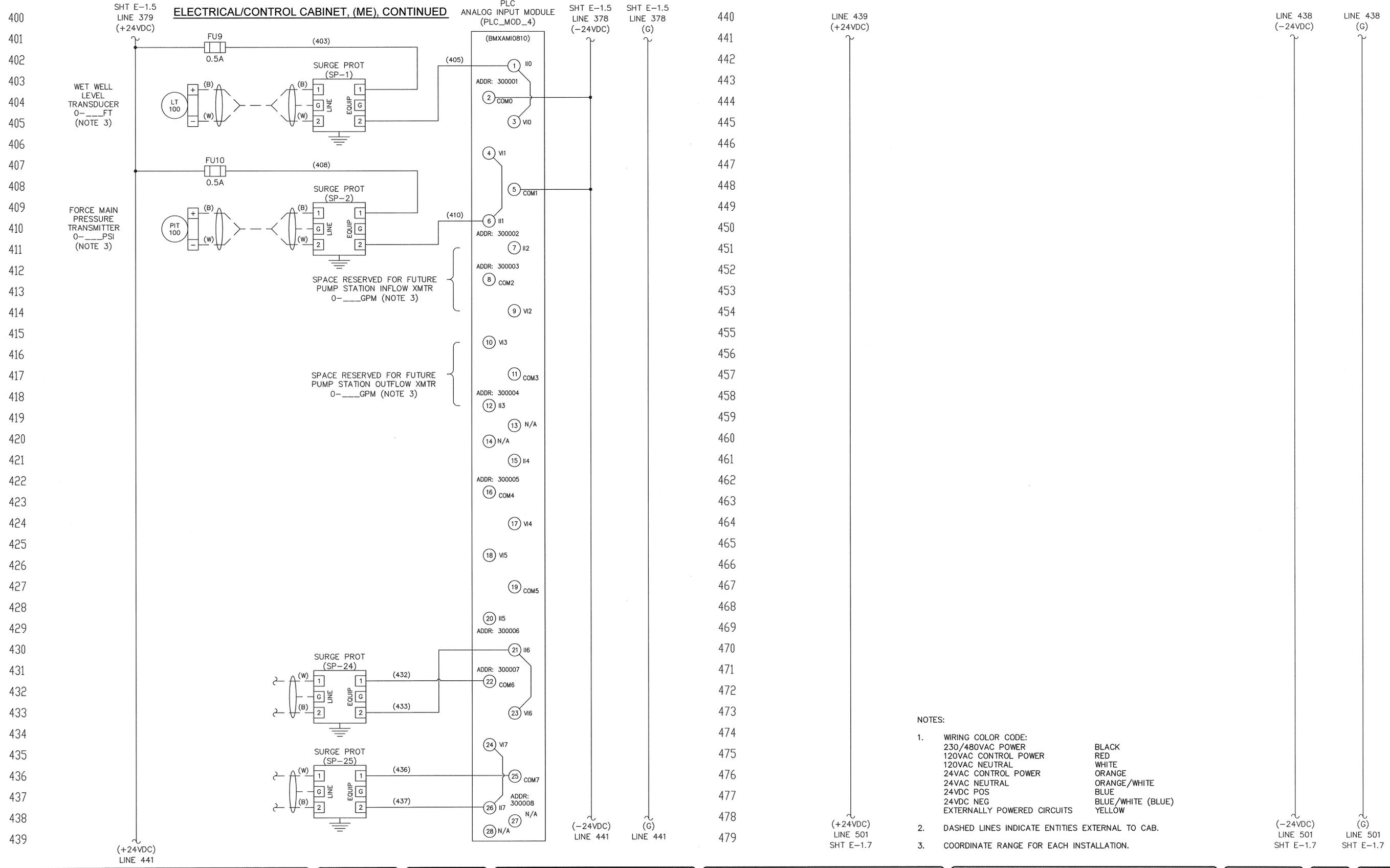


HILLSBOROUGH COUNTY
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625 E. TROVATI STREET/TAMPA FLORIDA 33602/PH. (813) 272-9277

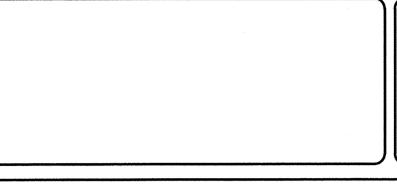
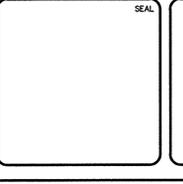
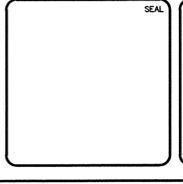
DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL/CONTROL ENCLOSURE
ELECTRICAL SCHEMATICS
(3PH)(480V/30-75HP)

DATE: OCTOBER 2011	SCALE: HORIZONTAL	FILE NUMBER: E-1.4
PROJ. # 1179-0013	DESIGNED: NA	DRAWN NUMBER: NA
CHECKED: NA	VERTICAL: NA	REVISION: 2
STATUS: REVISED		



REV. NO.	DESCRIPTIONS	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	8/26/15
1	CONFORMED	5/17/13

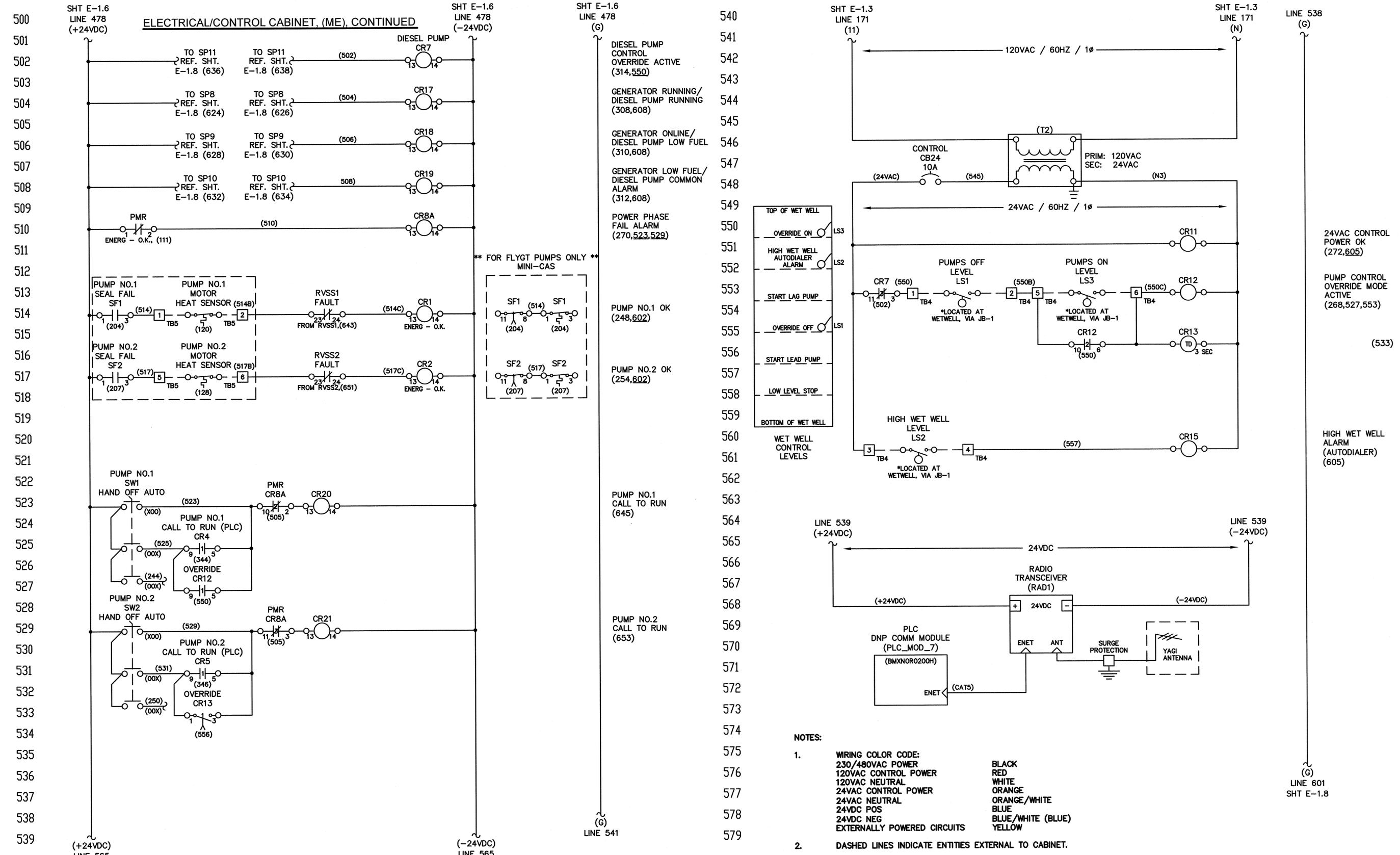



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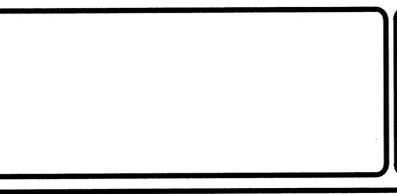
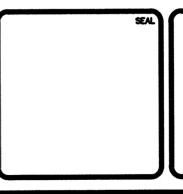
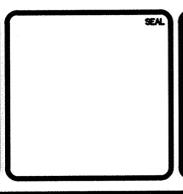
DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION

ELECTRICAL/CONTROL ENCLOSURE
ELECTRICAL SCHEMATICS
(3PH)(480V/30-75HP)

DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DESIGNED:	VERTICAL: NA	E-1.6
CHECKED:		
PROJ. MGR.:		
STATUS: REVISED		REVISION 2



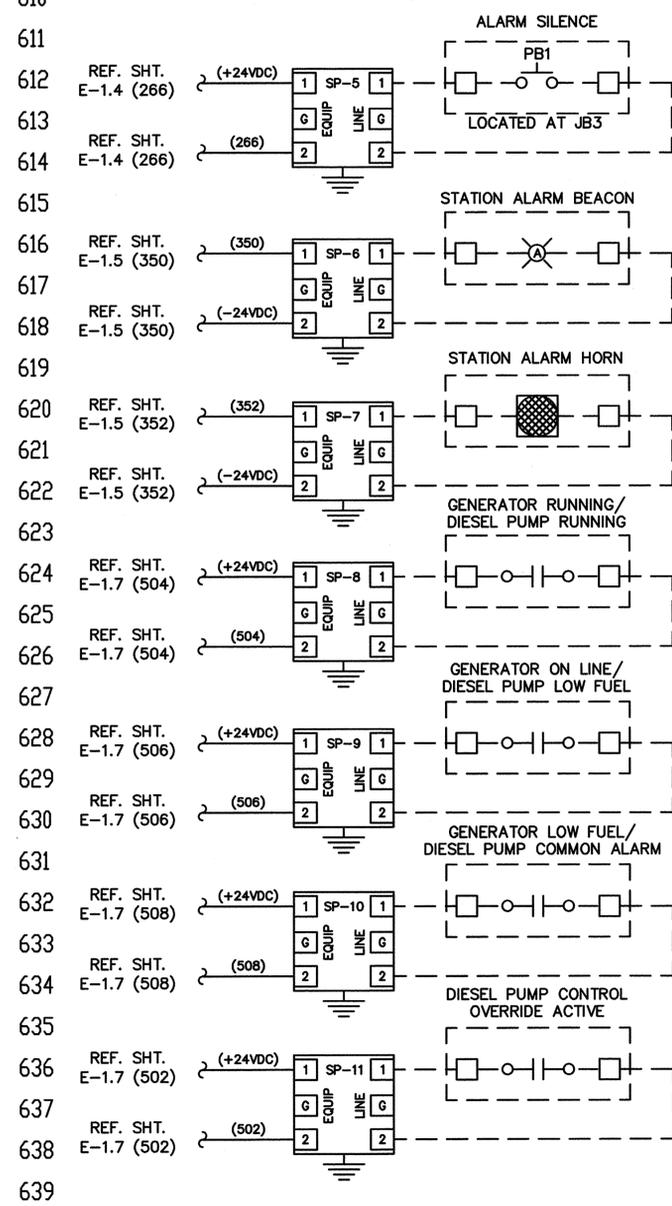
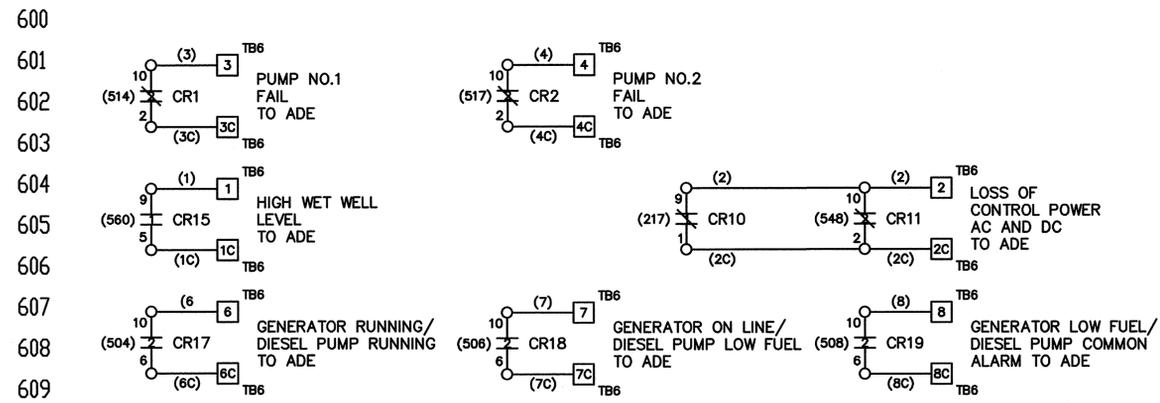
2	REVISION TO INCORPORATE FIELD CHANGES	5/29/15
1	CONFIRMED	5/17/13



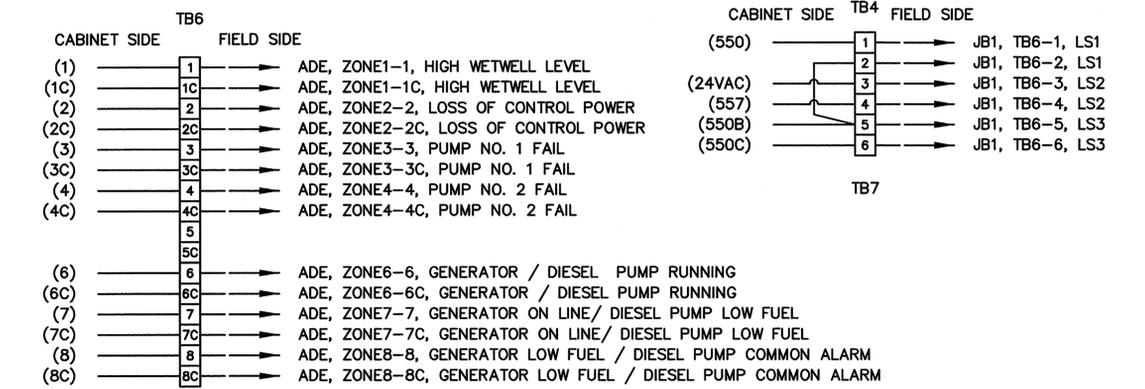
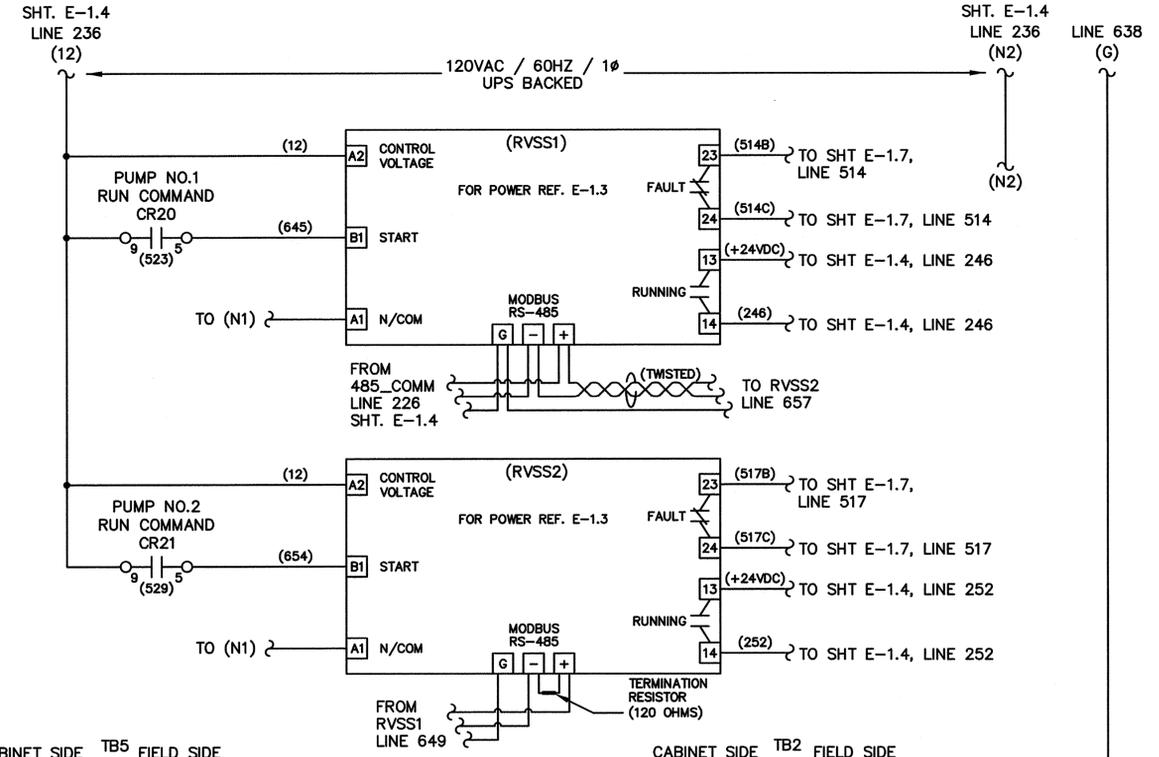
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DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION
ELECTRICAL/CONTROL ENCLOSURE
ELECTRICAL SCHEMATICS
(3PH) (480V/30-75HP)

DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DRAWN:	VERTICAL: NA	E-1.7
DESIGNED:		
CHECKED:		
PROJ. MGR.:		
STATUS: REVISED		REVISION: 2

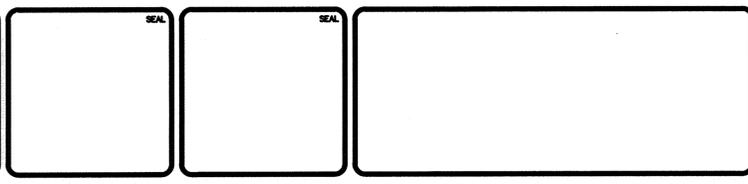


SHT E-1.7 LINE 576 (G)
 640
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 679
 (G) LINE 641



- NOTES:
- WIRING COLOR CODE:
 230/480VAC POWER BLACK
 120VAC CONTROL POWER RED
 120VAC NEUTRAL WHITE
 24VAC CONTROL POWER ORANGE
 24VAC NEUTRAL ORANGE/WHITE
 24VDC POS BLUE
 24VDC NEG BLUE/WHITE (BLUE)
 EXTERNALLY POWERED CIRCUITS YELLOW
 DASHED LINES INDICATE ENTITIES EXTERNAL TO CABINET.

REVISION	DATE	BY	CHKD
2	8/28/15		
1	5/17/13		
1	DATE		



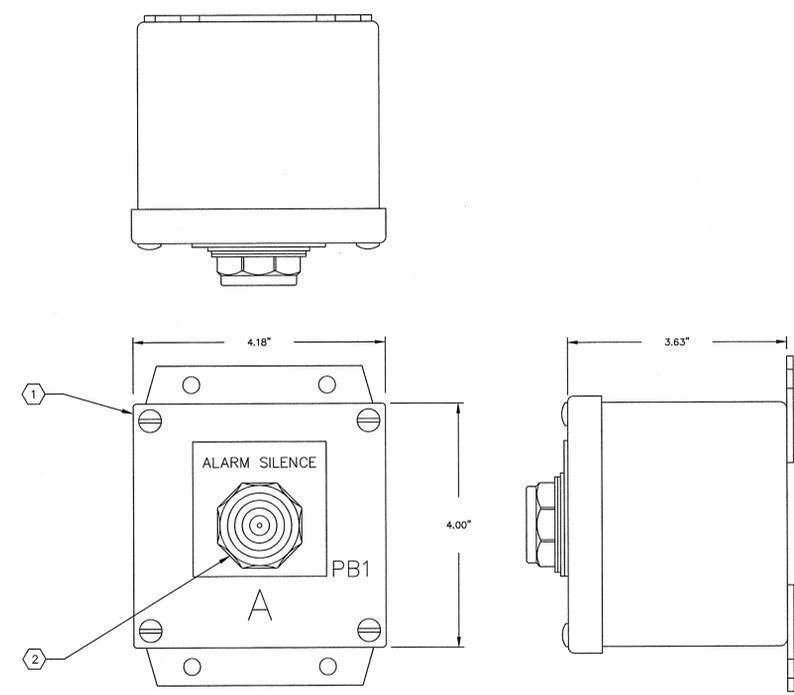
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DUPLEX WASTEWATER PUMP STATION
ELECTRICAL, CONTROL & INSTRUMENTATION
ELECTRICAL/CONTROL ENCLOSURE
ELECTRICAL SCHEMATICS
(3PH) (480V/30-75HP)

DATE: OCTOBER 2011	SCALE	FILE NUMBER
PROJ. # 1179-0013	HORIZONTAL	DRAWING NUMBER
DRAWN	VERTICAL: NA	E-1.8
DESIGNED		
CHECKED		
PROJ. MGR.		
STATUS: REVISED		REVISION 2

LIST OF MAJOR COMPONENTS					
ITEM NO.	QTY	DEVICE ID	MANUFACTURER	PART NO.	DESCRIPTION
ALARM SILENCE STATION:					
1	1		SQUARE-D	9001-KYSS100	JUNCTION BOX, 5"Hx4"Wx3.5"D, NEMA 4X, 304SS, SCREW COVER
2	1	PB1	SQUARE-D	9001 KR1BH5	PUSHBUTTON, FULL GUARD, N.O. CONTACTS

NAMEPLATE SCHEDULE				
N.P. NO.	QTY	PLATE COLOR/SIZE	LTR COLOR/SIZE	ENGRAVING (LINE1/LINE2/ETC.)
ALARM SILENCE STATION:				
A	1	BLK / 2.25" H x 2.25" W	WHT / 3/16"	ALARM/SILENCE



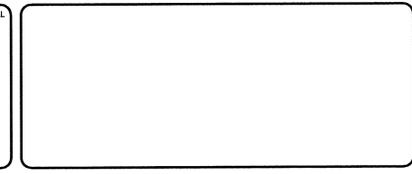
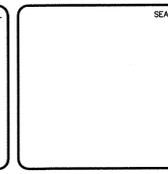
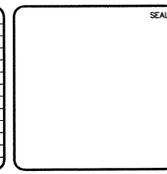
ALARM SILENCE STATION (JB-3)
3/4"=1"

NOTES:

- WIRING COLOR CODE:

240/480VAC POWER	BLACK
120VAC CONTROL POWER	RED
120VAC NEUTRAL	WHITE
24VDC POS	BLUE
24VDC NEG	BLUE/WHITE (BLUE)
EXTERNALLY POWERED CIRCUITS	YELLOW

REV. NO.	DESCRIPTIONS	DATE
2	REVISED TO INCORPORATE FIELD CHANGES	9/28/15
1	CONFORMED	5/17/13



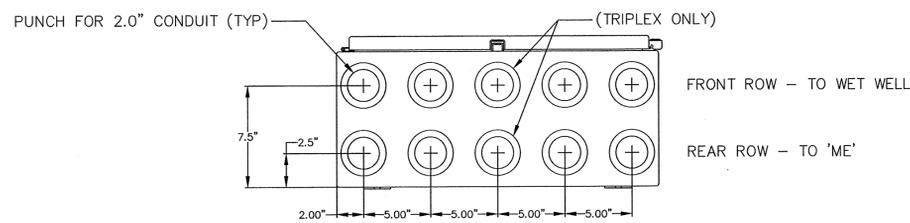
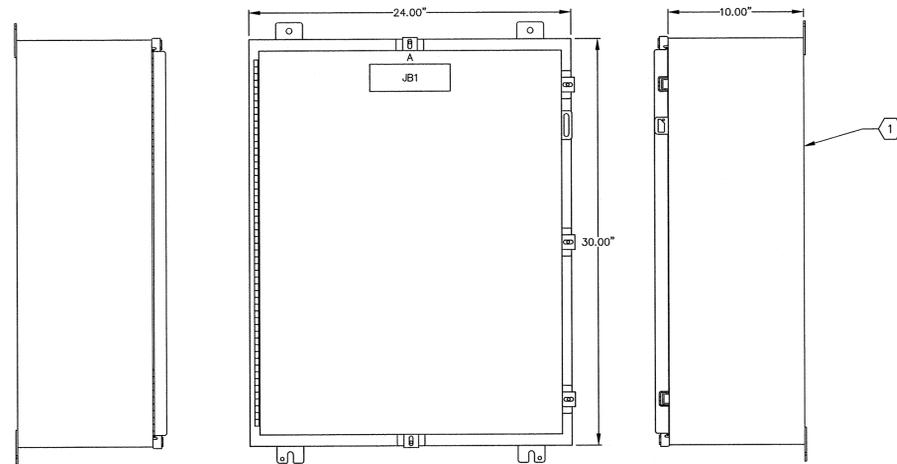
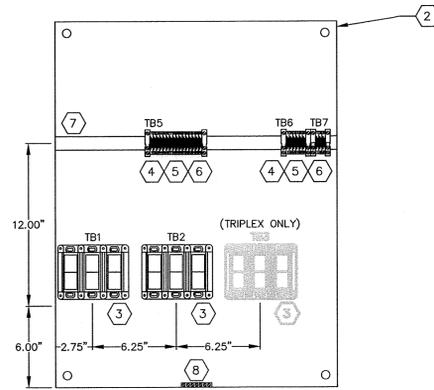

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ALARM SILENCE STATION
ENCLOSURE LAYOUT AND
BILL OF MATERIAL

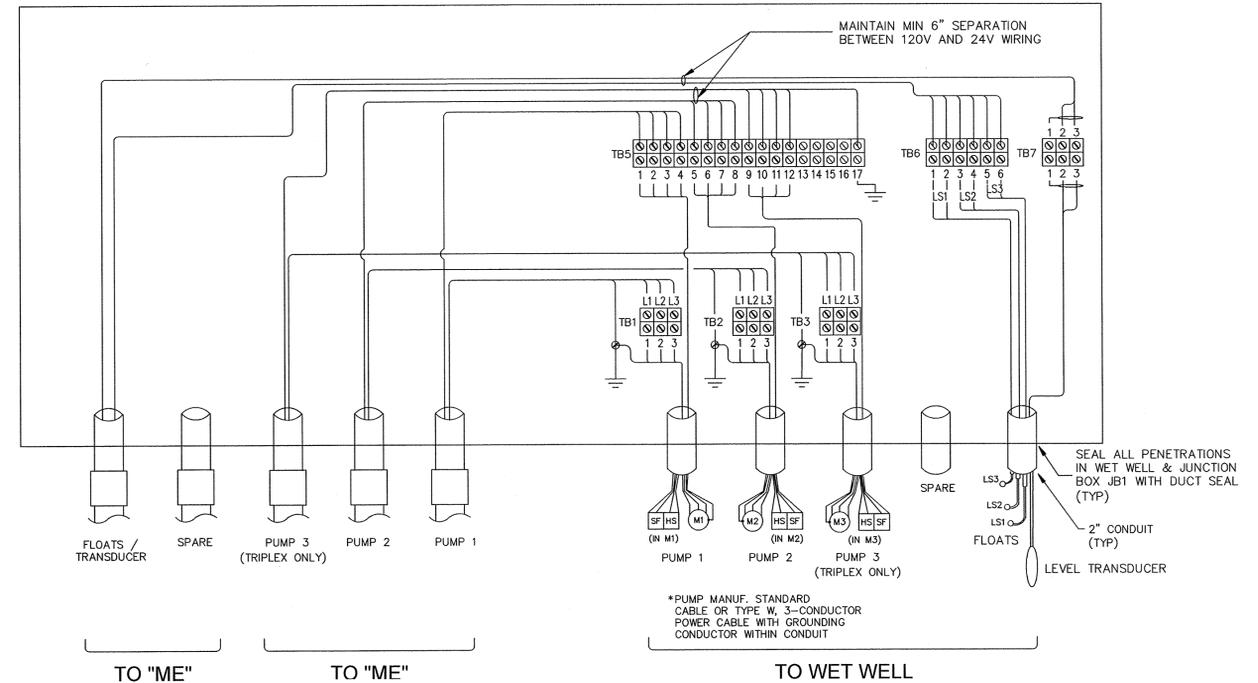
DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DRAWN:	VERTICAL: NA	E-2.0
DESIGNED:		
CHECKED:		
PROJ. MGR.:		
STATUS: REVISED		REVISION: 2

LIST OF MAJOR COMPONENTS					
ITEM NO.	QTY	DEVICE ID	MANUFACTURER	PART NO.	DESCRIPTION
WET WELL JUNCTION BOX (JB1):					
1	1	JB1	HOFFMAN	A30H2410SSLP	ENCLOSURE, 30"Hx24"Wx10"D, NEMA 4X, 304SS, EPOXY WHITE FINISH
2	1		HOFFMAN	A30P24AL	SUBPANEL, 27"Hx21"W, 0.10" THICK, ALUMINUM
3	2	TB1, TB2, TB3	MARATHON	1333554	POWER DISTRIBUTION BLK, 3 POLE, 310A, 600VAC, PRIM: 1 CONN 6-350 CU, SEC: 2 CONN 14-2/0 CU
FOR 230V/50HP AND 480V/100HP ONLY:					
2	2	TB1, TB2, TB3	MARATHON	1333565	POWER DISTRIBUTION BLK, 3 POLE, 420A, 600VAC, PRIM: 1 CONN 2-600 CU, SEC: 2 CONN 6-250 CU
4	25	TB5, TB6, TB7	PHOENIX CONTACT	LJKS-N	TERMINAL BLOCK
5	3		PHOENIX CONTACT	D-UKK3/5	TERMINAL BLOCK END BARRIER
6	6		PHOENIX CONTACT	1201442	TERMINAL BLOCK END STOP
7	AR		PHOENIX CONTACT		DIN RAIL

NAMEPLATE SCHEDULE				
N.P. NO.	QTY	PLATE COLOR/SIZE	LTR COLOR/SIZE	ENGRAVING (LINE 1/LINE 2/ETC.)
WET WELL JUNCTION BOX (JB1):				
A	1	BLK / 2.00" H x 6.00" W	WHT / 1/2"	JB1



JB1 ENCLOSURE LAYOUT
2" = 1"



JB1 ELECTRICAL SCHEMATIC
NTS

NOTES:

1. APPLY OXIDE-INHIBITING COMPOUND TO ALL ELECTRICAL TERMINATION CONTACT SURFACES, INCLUDING COMPRESSION AND BOLTED CONNECTIONS. PENETROX COMPOUND BURNDY OR EQUAL PRODUCT.
2. SCREW-DOWN CABLE TIES SHALL BE 3M CABLE TIE BASE MODEL 06299 OR PANDUIT MODEL ABM112 OR APPROVED EQUAL. (SIZE AS REQ'D)
3. CONTRACTOR SHALL MOUNT TERMINALS AS SHOWN.

DESIGN BASIS NOTE:
THIS DRAWING REPRESENTS THE STANDARD DESIGN FOR ALL HILLSBOROUGH COUNTY STANDARD WASTEWATER PUMPING STATIONS. IT WAS DEVELOPED TO IMPROVE RELIABILITY AND MAINTAINABILITY, MINIMIZE SPARE PARTS AND INCREASE SERVICE LIFE. ALL REQUESTS FOR DEVIATION FROM THIS STANDARD MUST BE MADE IN WRITING AND WRITTEN APPROVAL RECEIVED BEFORE MODIFICATIONS ARE MADE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS NECESSARY TO RESTORE UNAUTHORIZED MODIFICATIONS.

DESIGN ENGINEER NOTE: *THIS IS NOT A CONSTRUCTION DRAWING*
DESIGN ENGINEER SHALL REFER TO ELECTRICAL DRAWINGS, MECHANICAL DRAWINGS, AND THE HILLSBOROUGH COUNTY WATER AND WASTEWATER TECHNICAL SPECIFICATION IN ORDER TO COORDINATE THE MECHANICAL AND ELECTRICAL INSTALLATIONS. DESIGN ENGINEER SHALL NOT USE THIS DRAWING FOR A SPECIFIC SITE INSTALLATION. FOR EACH INSTALLATION A SPECIFIC SET OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS (IF DEEMED NECESSARY BY THE DESIGN ENGINEER) MUST BE PREPARED IN ACCORDANCE WITH F.S. 471 AND RULES 61G.

REV. NO.	DESCRIPTION	DATE
2	REVISED, TO INCORPORATE FIELD CHANGES	8/28/15
1	CONFORMED	5/7/13

SEAL	SEAL	SEAL
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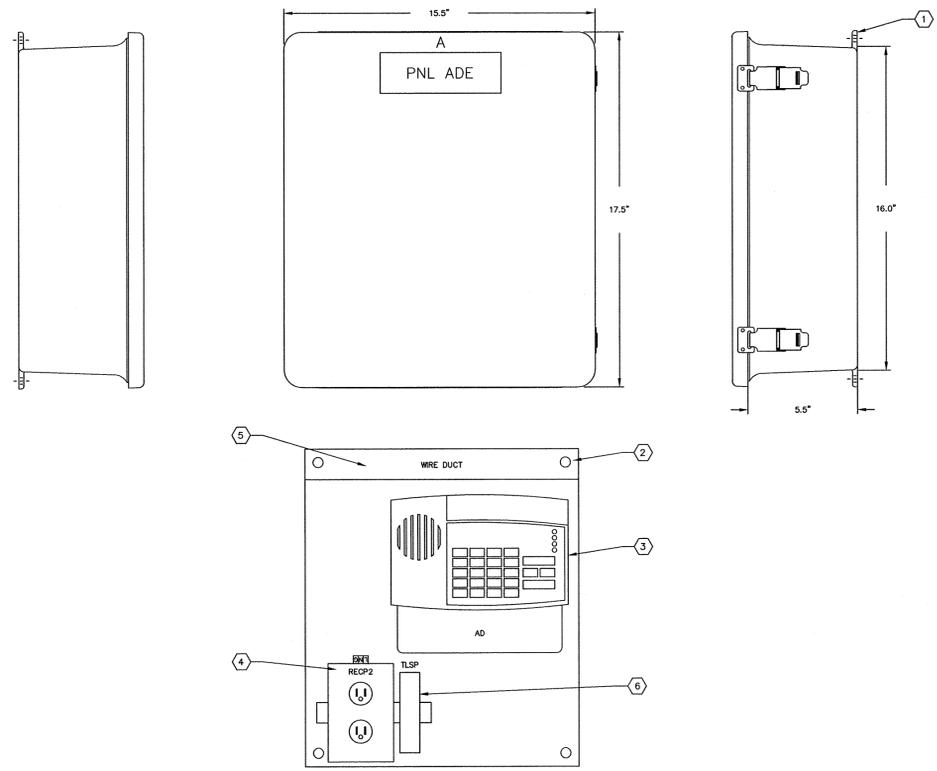
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WET WELL JUNCTION BOX, (JB1)
CABINET LAYOUT, ELECTRICAL SCHEMATIC,
AND BILL OF MATERIAL

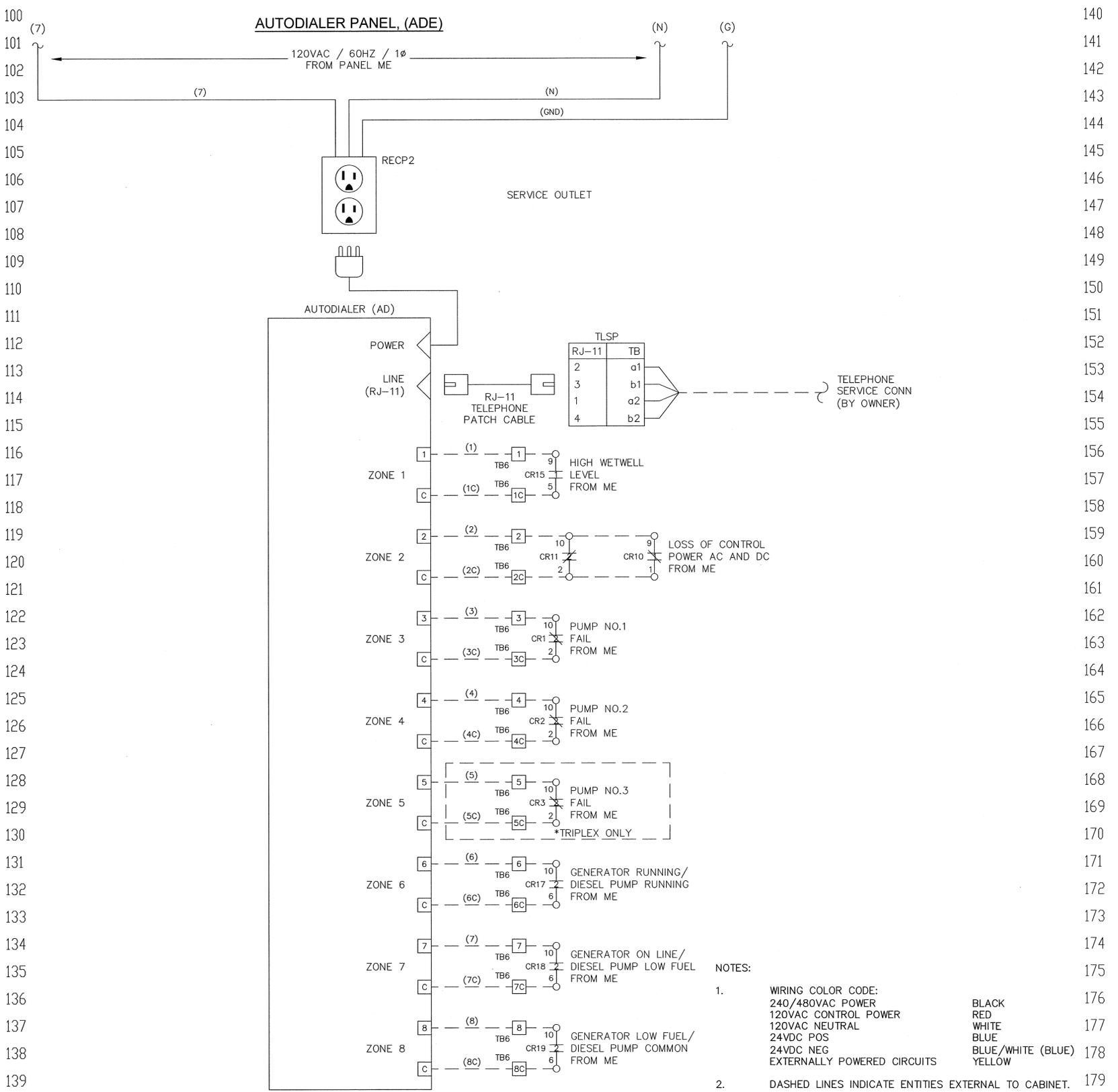
DATE: OCTOBER 2011	SCALE	FILE NUMBER
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER
DRAWN	VERTICAL:	E-3.0
DESIGNED	NA	
CHECKED		
PROJ. MGR.		
STATUS: REVISED		REVISION 2

ITEM NO.	QTY	DEVICE ID	MANUFACTURER	PART NO.	DESCRIPTION
LIST OF MAJOR COMPONENTS					
AUTODIALER PANEL (ADE):					
1	1	ADE	STAHLIN	J1614HPL	ENCLOSURE, 18"Hx14"Wx6"D, NEMA 3R, FIBERGLASS, GREY
2	1	ADE	STAHLIN	BP1614AL	SUBPANEL, 18"Hx14"W, ALUMINUM
3	1	AD	PHONETICS, INC.	FGD-0800	ALARM DIALER, SENSAPHONE MODEL 800
4	1	RECP2	PHOENIX CONTACT	EM-DUO-120/15	RECEPTACLE BOX, 120VAC, DUPLEX, NON-GFI, 15A
5	AR	PANDUIT			WIRE DUCT, 1.00"Wx2.00"H
6	1	TLSP	PHOENIX CONTACT	DT-TELE-RJ45	TELEPHONE LINE SURGE PROTECTION, (RJ11, RJ12, RJ45 CONNECTIONS)

NAMEPLATE SCHEDULE				
N.P. NO.	QTY	PLATE COLOR/SIZE	LTR COLOR/SIZE	ENGRAVING (LINE1/LINE2/ETC.)
AUTODIALER PANEL (ADE):				
A	1	BLK / 2.00" H x 6.00" W	WHT / 1/2"	PNL ADE

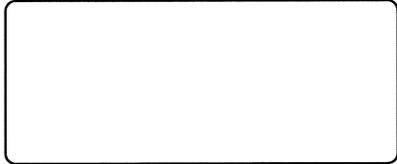


AUTODIALER PANEL (ADE)
1/4"=1"



- NOTES:
- WIRING COLOR CODE:
 240/480VAC POWER BLACK
 120VAC CONTROL POWER RED
 120VAC NEUTRAL WHITE
 24VDC POS BLUE
 24VDC NEG BLUE/WHITE (BLUE)
 EXTERNALLY POWERED CIRCUITS YELLOW
 - DASHED LINES INDICATE ENTITIES EXTERNAL TO CABINET.

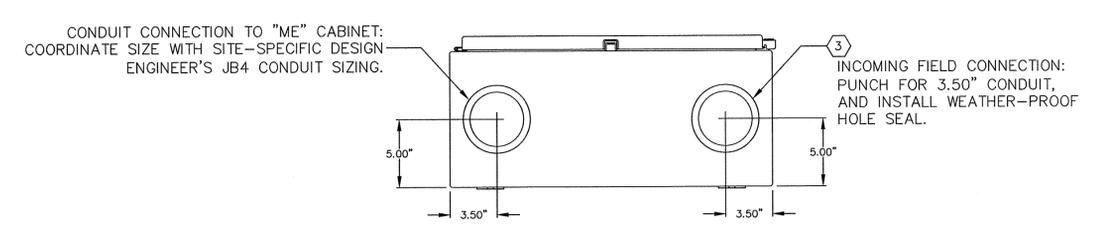
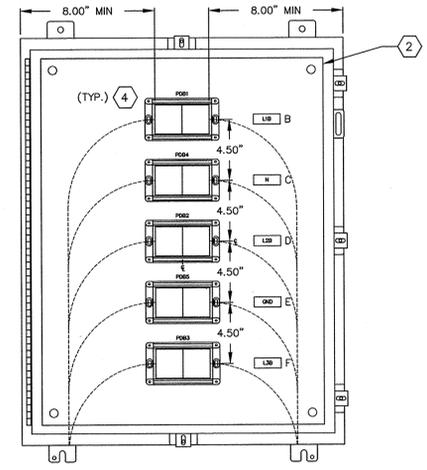
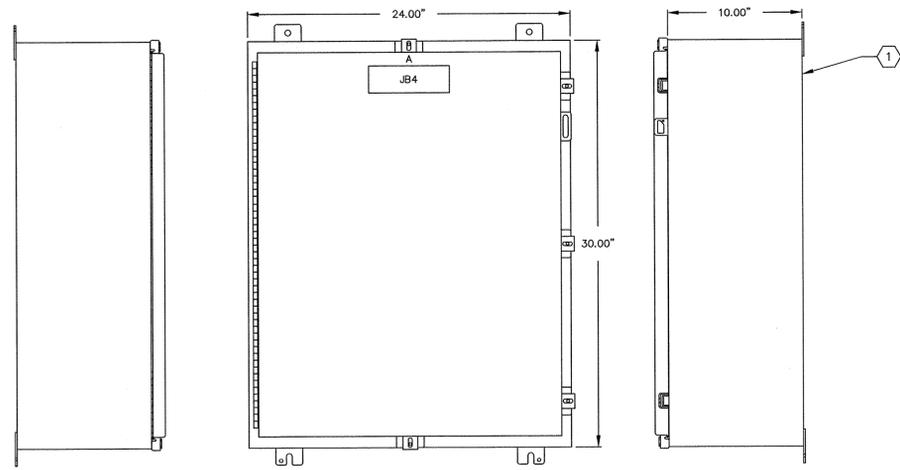
REV. NO.	DESCRIPTIONS	DATE
2	REVISED, TO INCORPORATE FIELD CHANGES	8/26/15
1	CONFORMED	5/17/13



AUTODIALER ENCLOSURE, (ADE)
CABINET LAYOUT, ELECTRICAL SCHEMATIC, AND BILL OF MATERIAL

DATE: OCTOBER 2011	SCALE	FILE NUMBER
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER
DRAWN	VERTICAL: NA	E-4.0
DESIGNED		
CHECKED		
PROJ. MGR.		
STATUS: REVISED		REVISION 2

LIST OF MAJOR COMPONENTS					
ITEM NO.	QTY	DEVICE ID	MANUFACTURER	PART NO.	DESCRIPTION
GENERATOR TERMINATION BOX (JB4):					
1	1	JB4	HOFFMAN	A30H2410SSLP	ENCLOSURE, 30"Hx24"Wx10"D, NEMA 4X, 304SS, EPOXY WHITE FINISH
2	1		HOFFMAN	A30P24SS6	SUBPANEL, 27"Hx21"W, 304 SS
3	1		HOFFMAN	AS350SS	HOLE SEAL, 3.50", 300-SERIES SS, WEATHER-PROOF, EPOXY WHITE FINISH
4	5	PDB1,2,3,4,5	MARATHON	1441557	POWER DISTRIBUTION BLK, 1 POLE, 420A, 600VAC, PRIM: 1 CONN 4-600 CU, SEC: 1 CONN 4-600 CU



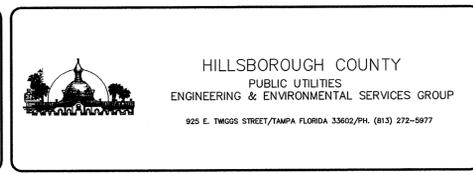
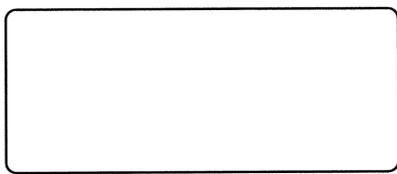
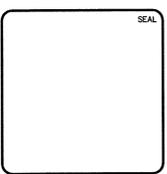
GENERATOR TERMINATION PANEL (JB4)
2"=1"

NAMEPLATE SCHEDULE				
N.P. NO.	QTY	PLATE COLOR/SIZE	LTR COLOR/SIZE	ENGRAVING (LINE1/LINE2/ETC.)
GENERATOR TERMINATION BOX (JB4):				
A	1	BLK / 2.00" H x 6.00" W	WHT / 1/2"	JB4
B	1	BLK / 0.75" H x 2.50" W	WHT / 1/4"	L1B
C	1	BLK / 0.75" H x 2.50" W	WHT / 1/4"	N
D	1	BLK / 0.75" H x 2.50" W	WHT / 1/4"	L2B
E	1	BLK / 0.75" H x 2.50" W	WHT / 1/4"	GND
F	1	BLK / 0.75" H x 2.50" W	WHT / 1/4"	L3B

NOTE: FOR USE WITH THE FOLLOWING "ME" PACKAGES ONLY:

- DUP, 3PH/480VAC/25-100HP
- TRI, 3PH/480VAC/25-75HP

REV. NO.	DESCRIPTIONS	DATE
2	REVISED, TO INCORPORATE FIELD CHANGES	8/28/15
1	CONFORMED	5/17/13



GENERATOR TERMINATION BOX, JB4 (LARGE)
CABINET LAYOUT AND BILL OF MATERIAL

DATE: OCTOBER 2011	SCALE:	FILE NUMBER:
PROJ. # 1179-0013	HORIZONTAL:	DRAWING NUMBER:
DRAWN:	VERTICAL: NA	E-6.0
DESIGNED:		
CHECKED:		
PROJ. MGR.:		
STATUS: REVISED	REVISION: 2	