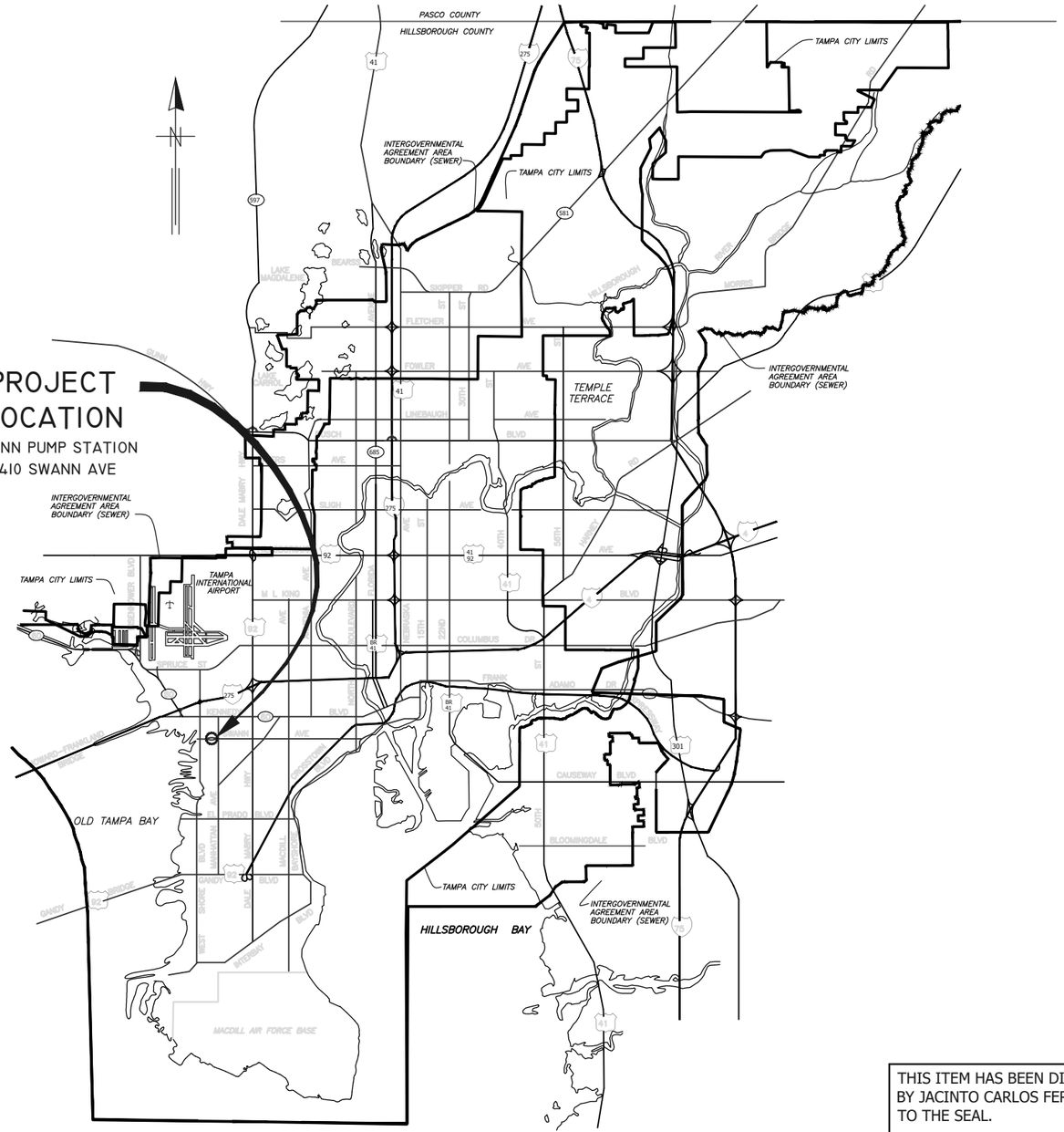
LOCATION MAP



NOTE:
ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

CITY of TAMPA

CITY OF TAMPA FLORIDA • ORGANIZED JULY 15 1887 • MASCOTTE

WASTEWATER DEPARTMENT

PLANS FOR

SWANN PUMPING STATION - GENERATOR INSTALLATION

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JACINTO CARLOS FERRAS ON THE DATE ADJACENT TO THE SEAL.

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CONTRACT No.
23-C-00023

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DRN: MRL
CKD:
DATE:

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

CITY of TAMPA
WASTEWATER DEPARTMENT

SWANN PUMPING STATION - GENERATOR INSTALLATION
COVER

SHEET 1

K:\WasteWater Projects\Swann Pumping Station - Generator Installation\Drafting\DWG\Swann Ave PS Generator Installation.dwg, 6/17/2024 1:28:46 PM

LEGEND

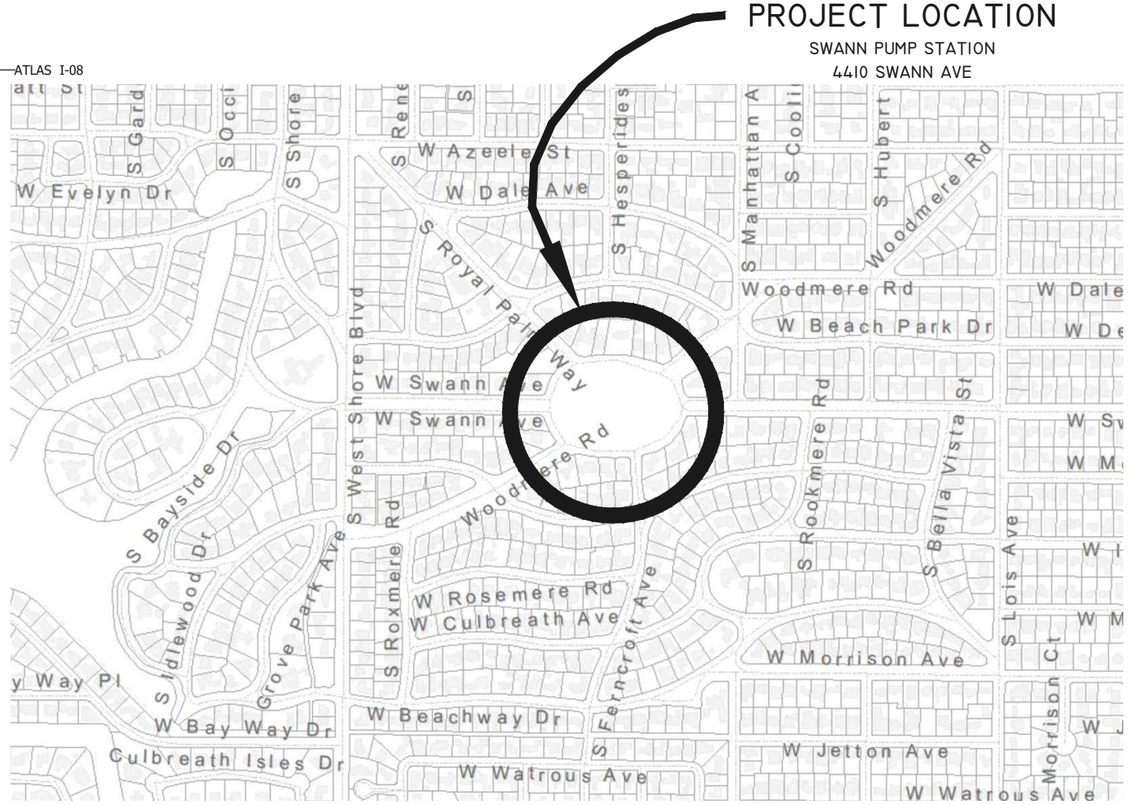
FEATURES	SYMBOLS
EX GRAVITY MAIN	
EX PRIVATE GRAVITY MAIN	
EX FORCE MAIN	
EX MANHOLE	
EX PUMP STATION	PS
EX PRIVATE PUMP STATION	PS
EX ELEVATION	13.00
EX WATER METER	M
EX GAS METER	G
PROP GRAVITY MAIN	
PROP FORCE MAIN	
RIGHT OF WAY LINE	R/W
EDGE OF PAVEMENT	
WATER LINE	
GAS LINE	
ELECTRICAL CABLE OR DUCT	
TELEPHONE CABLE OR DUCT	
TV CABLE	
FENCE	x x

ABBREVIATIONS

CONCRETE PIPE	CP
GRAVITY MAIN	GM
FORCE MAIN	FM
MANHOLE	MH or M
POLYVINYL CHLORIDE PIPE	PVCP
REINFORCED CONCRETE PIPE	RCP
VITRIFIED CLAY PIPE	VCP
HIGH DENSITY POLYETHYLENE PIPE	HDPE
DUCTILE IRON PIPE	DIP

ATLAS I-08

SEC. 20 T29S R18E



LOCATION MAP
NOT TO SCALE

INDEX

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2	LEGEND, LOCATION MAP & INDEX
3	GENERAL NOTES
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6	DEMOLITION PLAN AND SECTIONS
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I-11	PUMP CONTROL PANEL (PCP) PARTS SCHEDULE (SHEET 1 OF 2)
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SWANN PUMPING STATION - GENERATOR INSTALLATION

LEGEND, LOCATION MAP & INDEX

SHEET 2

GENERAL NOTES:

1. ELEVATION INFORMATION SHOWN ON THESE PLANS IS REFERENCED TO NAVD88 UNLESS OTHERWISE STATED

2. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. SITE SHALL BE SECURED WITH TEMPORARY FENCING AND STRUCTURES DURING HOURS WHEN CONTRACTOR IS NOT PRESENT TO ENSURE SAFETY OF CITY EMPLOYEES AND THE PUBLIC.

3. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR SHALL SOD ALL UNPAVED AREAS.

4. CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.

5. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER.

6. IT IS THE ENGINEER'S INTENT THAT CONTINUOUS SERVICE WILL BE MAINTAINED THROUGHOUT THE PROJECT.

7. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.

8. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60. THE 28-DAY COMPRESSIVE STRENGTH FOR FLOWABLE FILL SHALL BE BETWEEN 50-100 PSI.

9. OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.

10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL TREES WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION IN ACCORDANCE WITH CHAPTER 27 OF THE CITY OF TAMPA CODE. PRUNING OF BRANCHES IS NOT AUTHORIZED WITHOUT PRIOR APPROVAL FROM THE CITY OF TAMPA PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION, AND SHALL BE COMPLETED BY A CERTIFIED ARBORIST. EXCAVATION WITHIN THE PROTECTIVE RADIUS OF TREES (20' FOR A GRAND TREE (32" OR GREATER DBH), 15' FOR A SPECIMEN TREE (24"- 31" DBH) AND 10' FROM PROTECTED TREE (5" - 23" DBH, OR ANY MITIGATION TREE) WILL REQUIRE ROOT PRUNING BY AN ARBORIST WITH THE APPROPRIATE EQUIPMENT TO ASSURE ROOTS ARE SEVERED CLEAN AT THE APPROVED RADIUS. NO ROOTS LARGER THAN 2" ARE TO BE SEVERED. IF ROOTS OVER 2" ARE ENCOUNTERED, NATURAL RESOURCES WILL BE CONSULTED. FOR QUESTIONS REGARDING THESE REQUIREMENTS, PLEASE CONTACT THE PLANNING DEPARTMENT, NATURAL RESOURCES SECTION AT 274-3100 OR 1400 N. BOULEVARD, TAMPA, FLORIDA 33607.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PROPOSED TREE REMOVAL PERMITS.

12. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FLORIDA BUILDING CODE 8TH EDITION (2023) AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

13. ALL EXPOSED SURFACES OF THE PROPOSED MASONRY WALL SHALL BE PAINTED BEIGE AND APPLY GRAFFITI RESISTANT COATING (SEE SPECIFICATIONS).

14. AFTER INSTALLATION AND PAINTING OF NEW MASONRY WALL, PLANT (17) 3-GALLON CLIMBING FIGS AT APPROXIMATELY 8 FEET CENTERS AROUND THE PERIMETER OF THE EXTERIOR WALL EXCLUDING THE GATE. CONTRACTOR SHALL INSTALL A COMPLETE IRRIGATION SYSTEM INCLUDING, BUT NOT LIMITED TO, PVC IRRIGATION PIPING, CONTROLLER, IRRIGATION CONNECTION TO EXISTING WATER SERVICE AND ELECTRICAL CONNECTION FOR CONTROLLER. CONTRACTOR SHALL ALSO INSTALL THE NECESSARY STAINLESS STEEL ANCHORS AND WIRE ON MASONRY WALL TO SUPPORT THE CLIMBING FIG GROWTH AND COMPLETE COVER OF THE WALL. CONTRACTOR SHALL SUBMIT COMPLETE IRRIGATION PLAN AND SUBMITTALS OF ALL COMPONENTS FOR APPROVAL.

15. PROJECT IS LOCATED IN FLOOD ZONE AE (EL 11) PER FEMA FLOOD INSURANCE RATE MAP NUMBER 12057C0334J. THE BASE FLOOD ELEVATION (BFE) IS ELEVATION 11 FT ACCORDING TO THIS MAP. IN ACCORDANCE WITH ACSE 24 (LATEST VERSION), THE DESIGN FLOOD ELEVATION (DFE) NEEDS TO BE 1 FOOT ABOVE THE BFE. THEREFORE, THE DFE IS ELEVATION 12 FT AND ALL ELECTRICAL EQUIPMENT NEEDS TO BE INSTALLED ABOVE THE DFE.

BUILDING DATA:
PROP AREA OF SLAB: 300 SF
CONSTRUCTION TYPE: 2A-TYPE IIA
OCCUPANCY CATEGORY: F-1 FACTORY INDUSTRIAL - MODERATE HAZARD

JACINTO CARLOS FERRAS, P.E. #49454
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WASTEWATER DEPARTMENT

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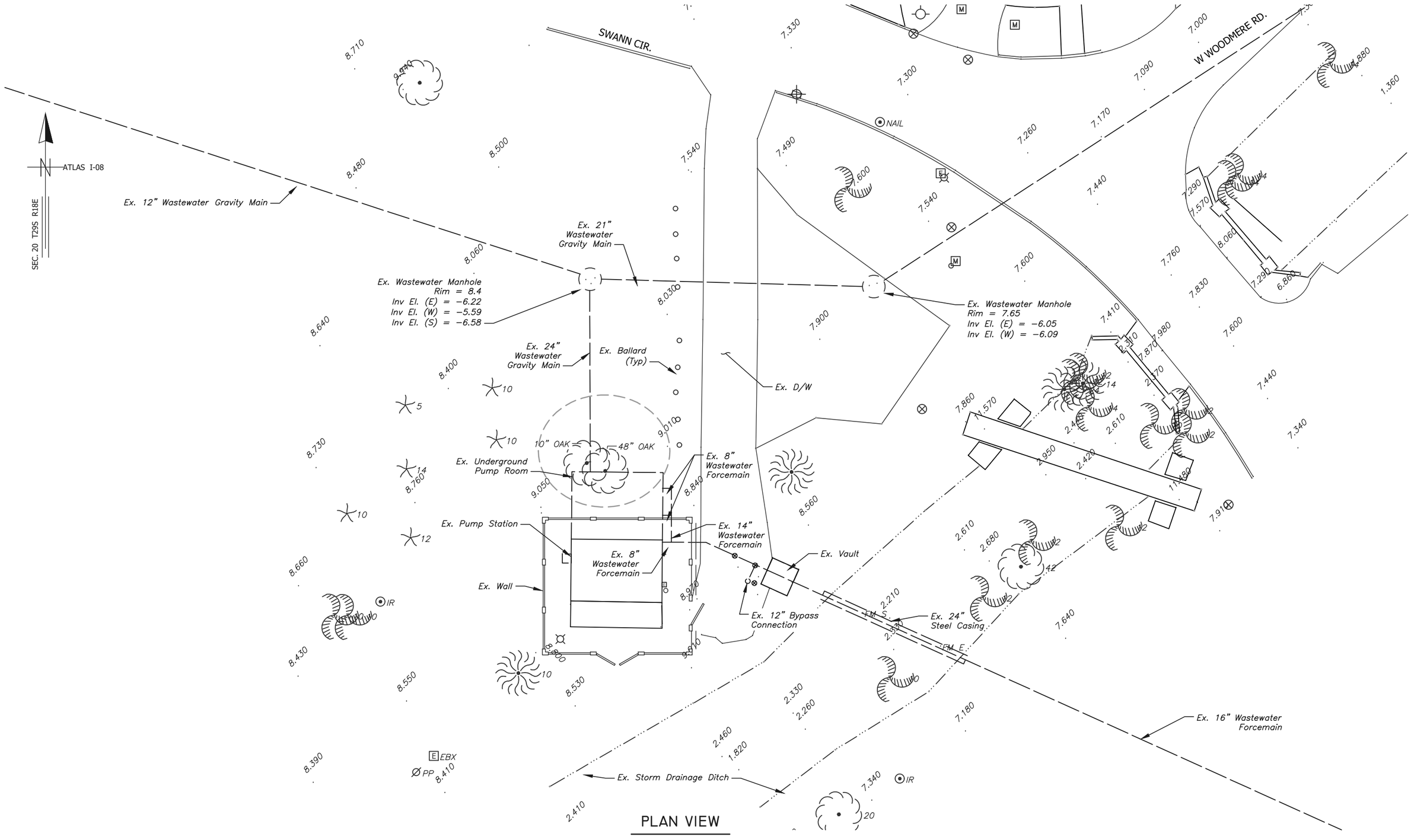
SWANN PUMPING STATION - GENERATOR INSTALLATION

GENERAL NOTES

SHEET 3



PLAN VIEW

SCALE 1" = 20'

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SWANN PUMPING STATION - GENERATOR INSTALLATION

EXISTING SITE PLAN

SHEET 4

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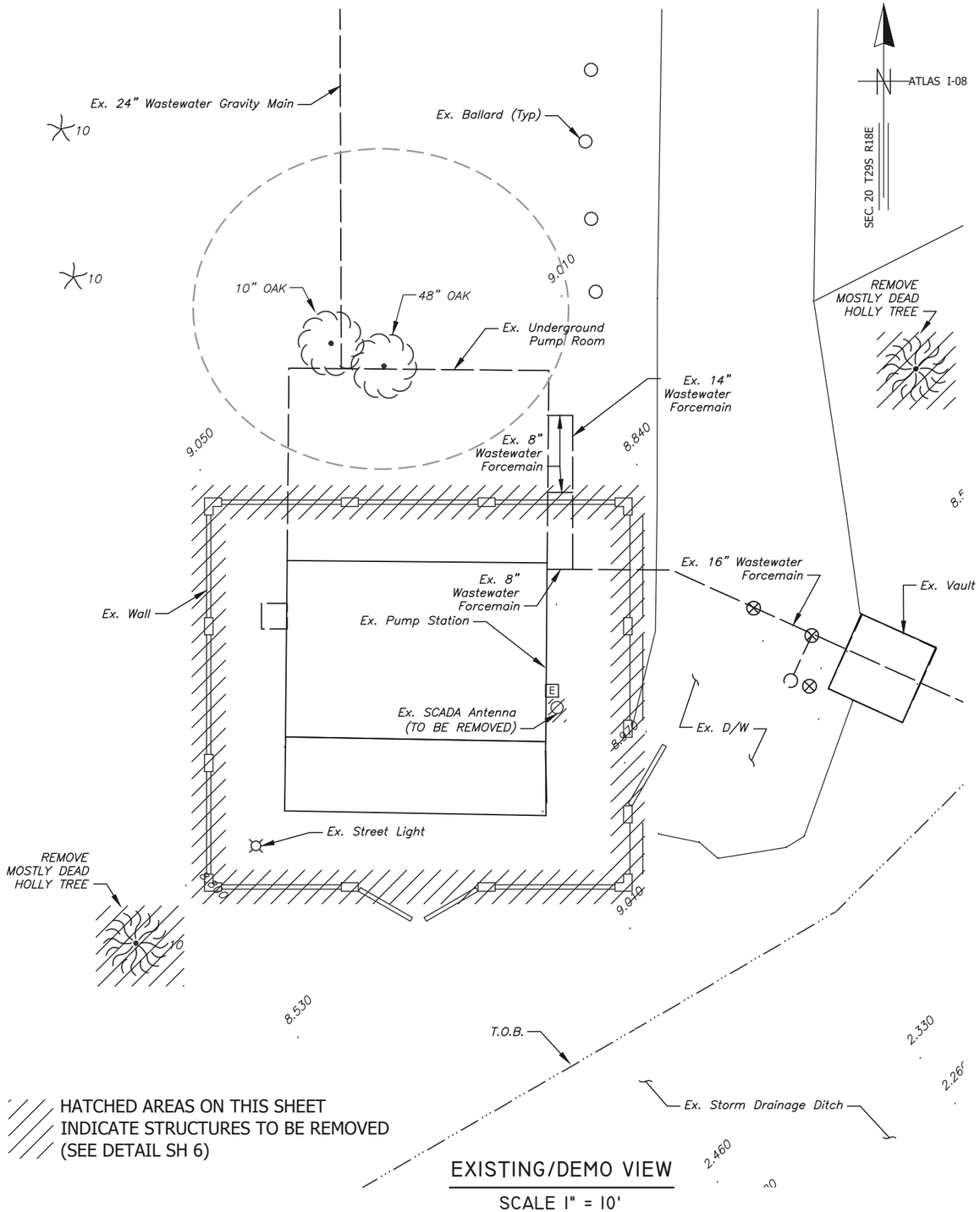
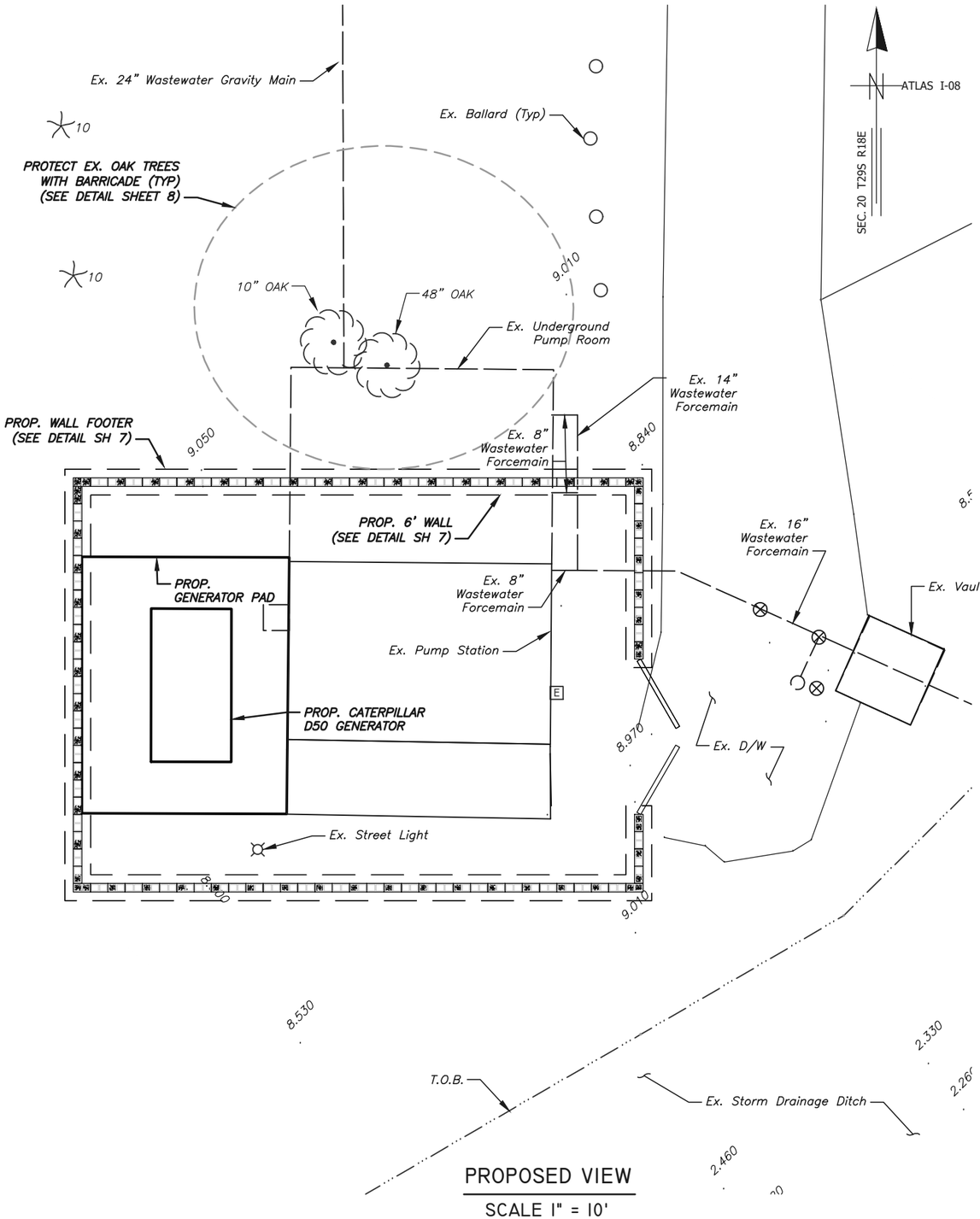


HATCHED AREAS ON THIS SHEET INDICATE STRUCTURES TO BE REMOVED (SEE DETAIL SH 6)

EXISTING/DEMO VIEW

SCALE 1" = 10'



PROPOSED VIEW

SCALE 1" = 10'

#	DATE	REVISIONS
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SWANN PUMPING STATION - GENERATOR INSTALLATION

EXISTING DEMO. AND PROPOSED SITE PLANS

SHEET 5

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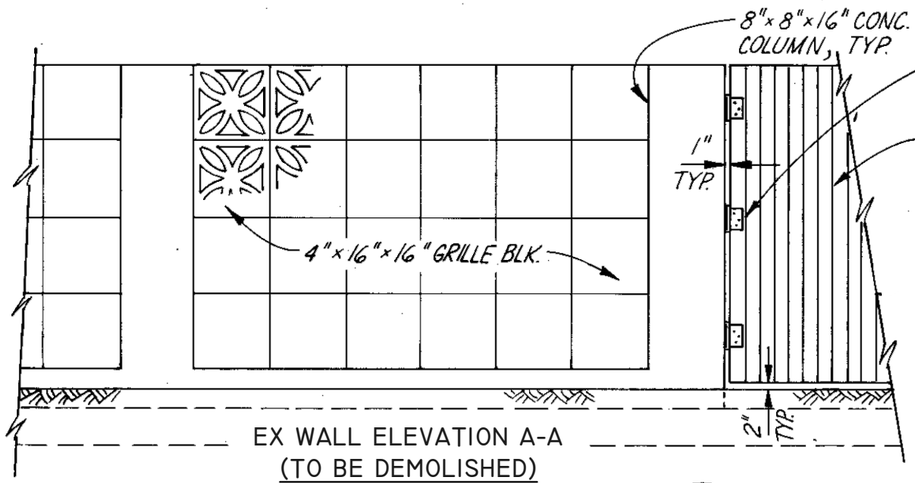
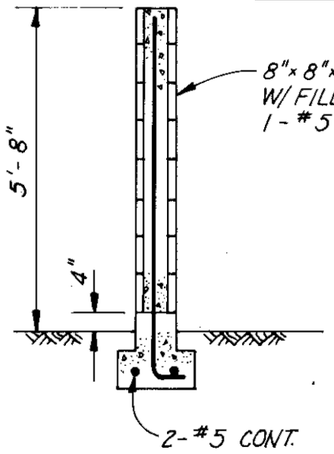
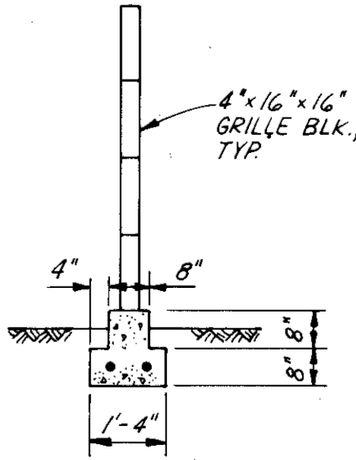


EX WALL ELEVATION A-A
(TO BE DEMOLISHED)
N.T.S.

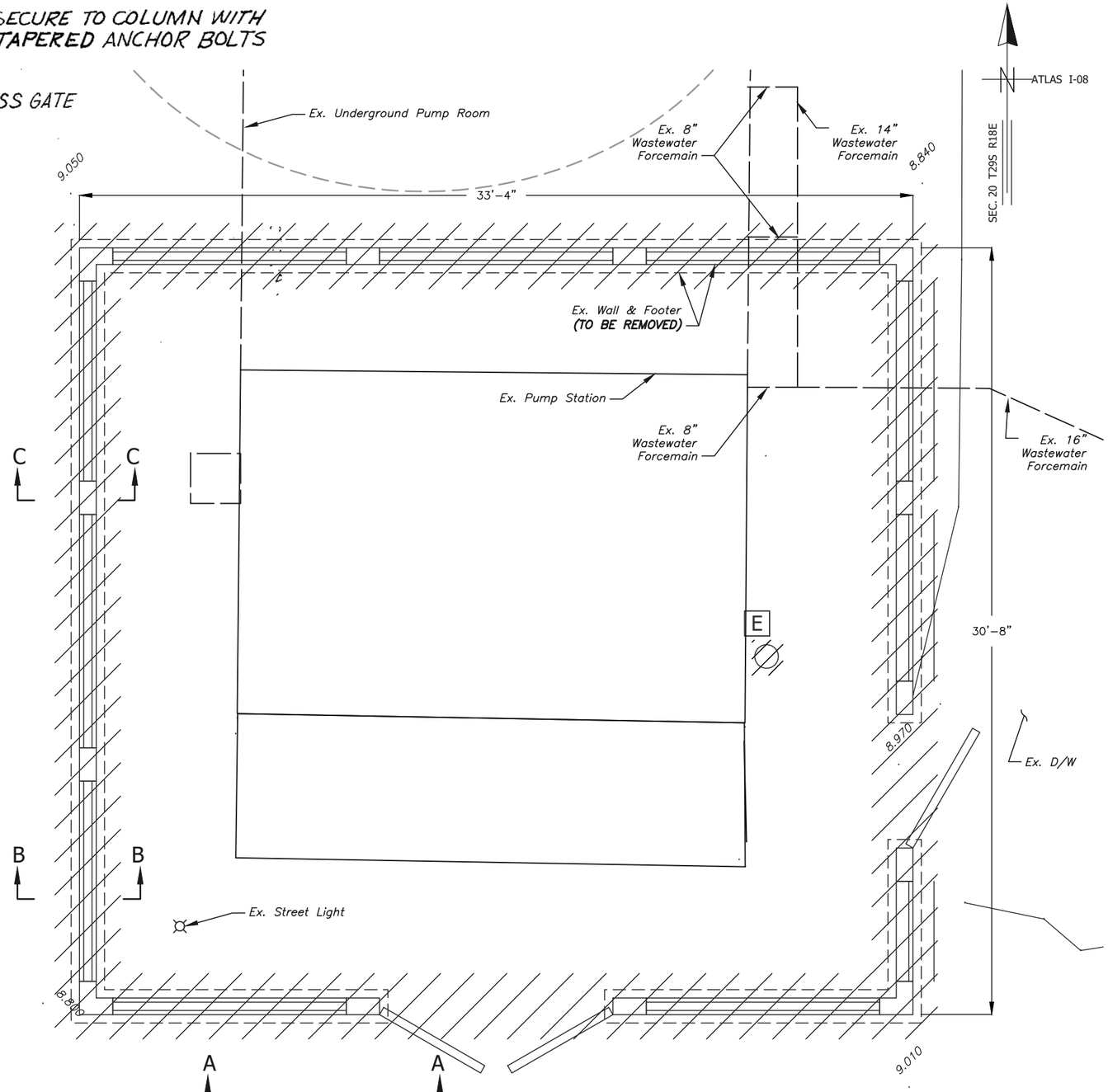


EX WALL COLUMN SECTION C-C
(TO BE DEMOLISHED)
N.T.S.



EX WALL SECTION B-B
(TO BE DEMOLISHED)
N.T.S.

EX SCADA ANTENNA (TO BE DEMOLISHED)
N.T.S.



HATCHED AREAS ON THIS SHEET
INDICATE STRUCTURES TO BE REMOVED

EXISTING/DEMO VIEW
SCALE 1" = 5'

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SWANN PUMPING STATION - GENERATOR INSTALLATION

DEMOLITION PLAN AND SECTIONS

SHEET 6

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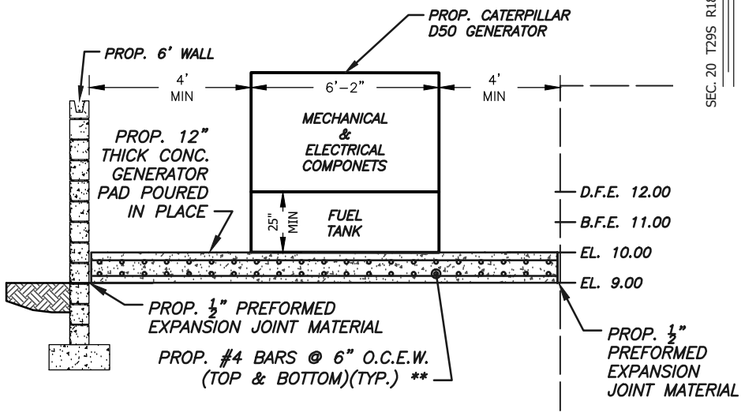
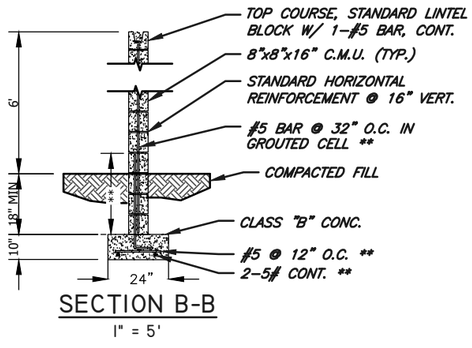


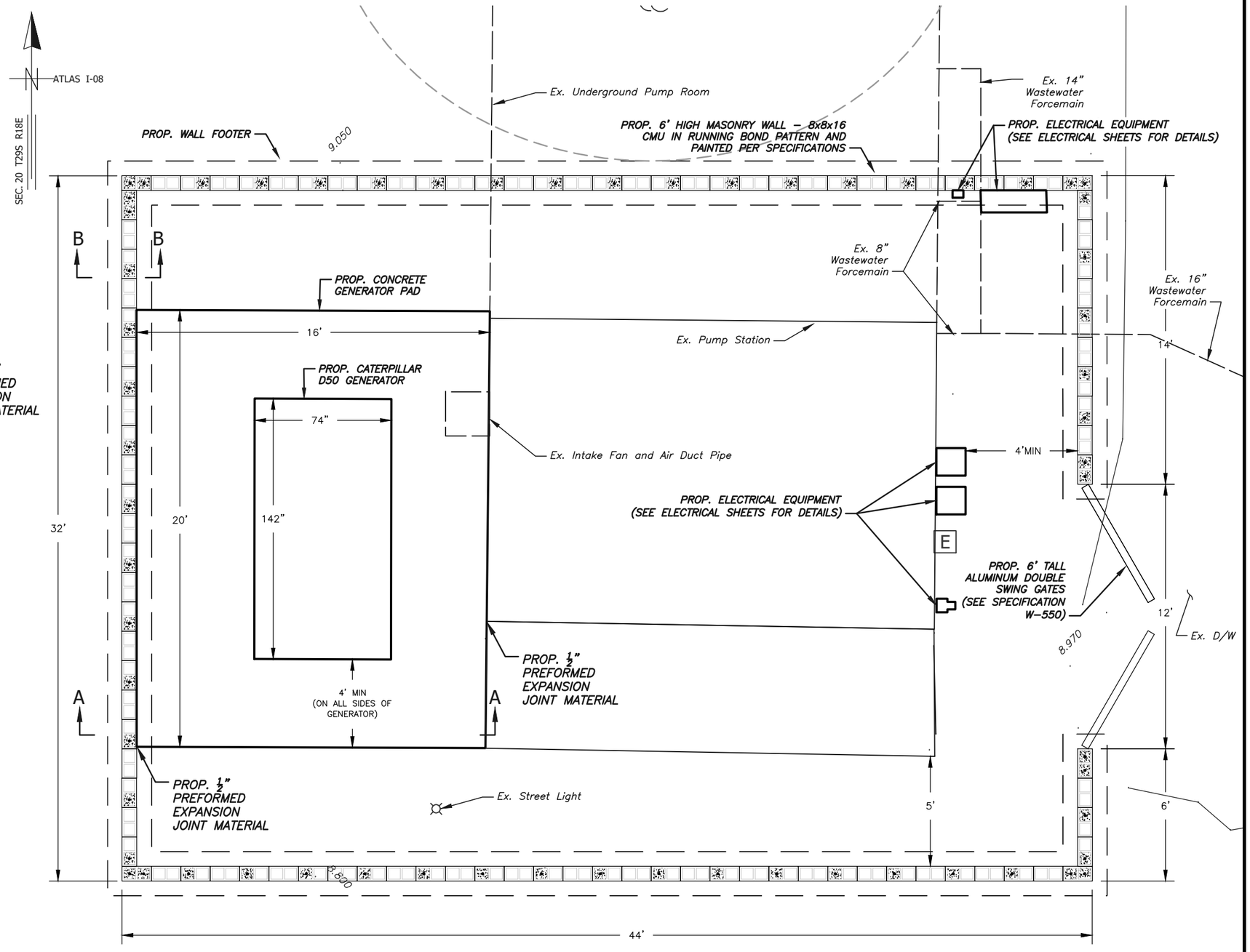
SECTION A-A

SCALE I" = 5'



SECTION B-B

I" = 5'



PROPOSED VIEW

SCALE I" = 5'

NOTES:

** = SEE REBAR REINFORCING CHART SHEET 8

SITE IS LOCATED IN FEMA FLOOD ZONE AE (EL 11); MAP #12057C0334J

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SWANN PUMPING STATION - GENERATOR INSTALLATION

PROPOSED PLAN AND SECTIONS

SHEET 7

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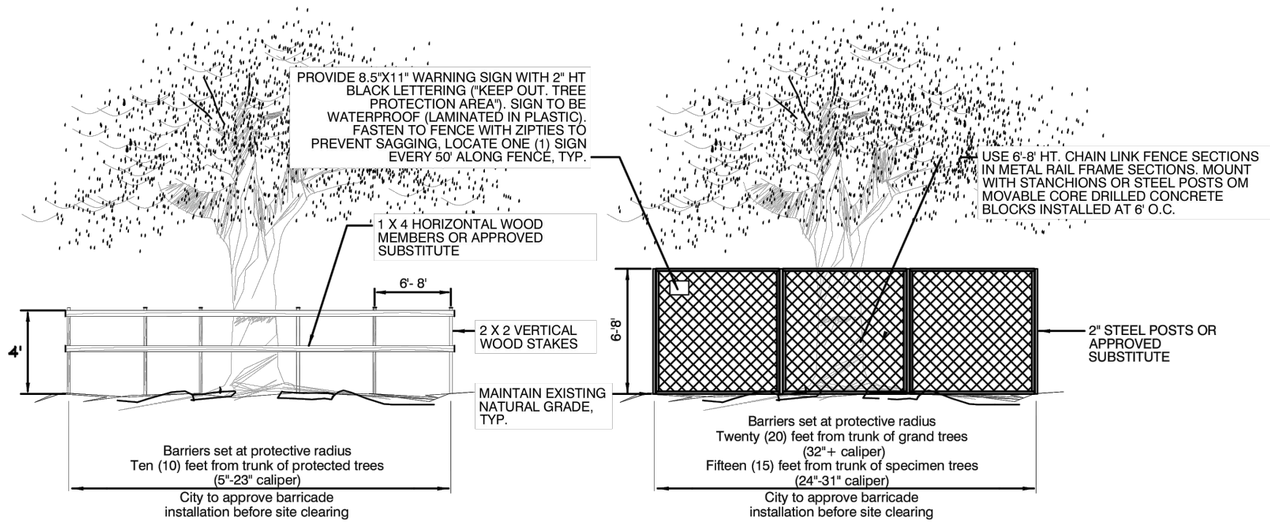
L_d MINIMUM LAP SPLICE AND EMBEDMENT LENGTHS
f'_c = 4000 PSI, F_y = 60 KSI

BAR	d_b BAR DIAMETER (IN.)	L_d CASE 1 (IN)	L_d CASE 2 (IN)
#3	0.375	18	27
#4	0.500	24	36
#5	0.625	29	44
#6	0.750	35	53
#7	0.875	42	62
#8	1	48	71

CASE 1:	REQUIREMENTS:
	MINIMUM COVER OF d_b IS PROVIDED ALONG WITH MINIMUM CLEAR SPACING OF $2d_b$.
	OR MINIMUM CLEAR COVER OF d_b AND A MINIMUM CLEAR SPACING OF d_b ARE PROVIDED ALONG WITH MINIMUM TIES OR STIRRUPS.
CASE 2:	DOES NOT MEET CASE 1 REQUIREMENTS



TREE BARRICADE DETAIL

NOT TO SCALE

NOTE: ALL TREE PROTECTION SHALL BE IN ACCORDANCE WITH CITY OF TAMPA TREE AND LANDSCAPE TECHNICAL MANUAL (APRIL 18, 2019)

SPECIFIC CONDITIONS

1. MINIMUM PROTECTION STANDARDS SHALL BE MET FOR ALL PROTECTED TREES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES ON-SITE, IN ACCORDANCE WITH THE ATTACHED TREE PROTECTION DETAILS AND NOTES.
2. NO CHANGES TO THE PREDEVELOPMENT CONDITIONS WITHIN THE APPROVED TREE PROTECTION ZONE DURING THE CONSTRUCTION PROCESS.
3. PROTECTION TREE BARRICADES MAY BE REMOVED ONLY TO PREPARE THE SITE FOR FINAL LANDSCAPE ACTIVITIES. DURING THIS ACTIVITY, ONLY NON-MECHANICAL TECHNIQUES MAY OCCUR WITHIN THE DESIGNATED TREE PROTECTIVE ROOT ZONE. NO ALTERNATION(S) OF ANY KIND SHALL BE MADE TO ANY PART OF THE TREE (ROOTS, TRUNK, CANOPY.CROWN) OTHER THAN THOSE APPROVED BY THE NATURAL RESOURCES COMMITTEE OR DESIGNEE AS PART OF THE RELATED PERMIT.
4. NO PARKING OR STORAGE OF VEHICLES, EQUIPMENT, OR MATERIALS IS PERMITTED WITHIN THE MINIMUM PROTECTIVE AREA AT ANY TIME.
5. NO SITE CLEARING OR GRADING IS PERMITTED WITHIN THE MINIMUM PROTECTION ZONE, OTHER THAN THOSE CHANGES THAT ARE APPROVED BY THE NATURAL RESOURCES COORDINATOR OR DESIGNEE AS PART OF THE RELATED PERMIT.

JACINTO CARLOS FERRAS, P.E. #49454
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CITY of TAMPA
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SWANN PUMPING STATION - GENERATOR INSTALLATION

MISCELLANEOUS DETAILS

SHEET 8

LEGEND

SYMBOL	DESCRIPTION
	HEAVY DUTY SAFETY SWITCH
	TRANSFORMER
	LED LINEAR LIGHTING FIXTURE – CEILING MTD.
	LED LIGHTING FIXTURE – CEILING MTD.
	LED LIGHTING FIXTURE – STANCHION MTD.
	LED LIGHTING FIXTURE – WALL MTD.
	EMERGENCY EXIT LIGHT
	EMERGENCY LIGHT
	20A, 125V, 3–WIRE DUPLEX RECEPT. CTR. @ 18" AFF.
	20A, 125V, 3–WIRE GROUNDING DUPLEX RECEPT. CTR. @ 50" AFF.
	20A, 125V, 3–WIRE DUPLEX RECEPT. FED FROM DEDICATED CIRCUIT.
	BRANCH CIRCUIT PANELBOARD
	120V, 1ø CIRCUIT HOMERUN TO 1–POLE BRKR.
	SLASH MARKS DENOTE NO. OF WIRES; LONG – NEUTRAL, X – GROUND.
	240V OR 480V, 1ø CIRCUIT HOMERUN TO 2–POLE BRKR.
	208V OR 480V, 3ø CIRCUIT HOMERUN TO 3–POLE BRKR.
75	MOTOR, 75 HP
	LIMIT SWITCH – NORMALLY OPEN
MOV	MOTOR OPERATED VALVE
MSH	MOTOR SPACE HEATER
RTD	RESISTANCE TEMPERATURE DETECTOR
VIB	VIBRATION SENSOR

SYMBOL	DESCRIPTION
	DOWN CONDUCTOR TO GROUND ROD
3 600AF 600AT	CIRCUIT BREAKER, 600 AMPERE FRAME, 600 AMPERE TRIP
	OUTPUT REACTOR
50/51/51G	SOLID STATE TRIP UNIT w/ FUNCTIONS NOTED, 50 INSTANTANEOUS TRIP, 51 TIME DELAY TRIP, 51G GROUND FAULT TRIP
	LIMIT SWITCH – NORMALLY CLOSED
LS	LEVEL SWITCH
	LIQUID LEVEL SWITCH – NORMALLY OPEN
	LIQUID LEVEL SWITCH – NORMALLY CLOSED
	PRESSURE SWITCH – NORMALLY OPEN
	PRESSURE SWITCH – NORMALLY CLOSED
J	JUNCTION BOX, PULL BOX – SIZED PER NEC
	CONDUIT – DOWN
	CONDUIT – UP
	SELECTOR SWITCH – NORMALLY OPEN
xM	MOTOR STARTER COIL, x DESIGNATES MOTOR ID. NO.
Rx	RELAY COIL, x DESIGNATES ID. NO.
xxR–y	RELAY CONTACT – NORMALLY OPEN, xx DESIGNATES RELAY ID. NO. & y DESIGNATES CONTACT NO.
xxR–y	RELAY CONTACT – NORMALLY CLOSED, xx DESIGNATES RELAY ID. NO. & y DESIGNATES CONTACT NO.
xMOL	MOTOR OVERLOAD RELAY – x DESIGNATES MOTOR I.D. NO.
	SOLENOID VALVE
	FUSE
	KEYED NOTE
x	LED PILOT LIGHT, x INDICATES COLOR, G=GREEN, R=RED, B=BLUE, A=AMBER
M (METER, PLAN VIEW)	TEC METER, RATING AS INDICATED ON DRAWINGS. CENTER METER 4'–6" ABOVE FINISHED GRADE

SYMBOL	DESCRIPTION
SPD	SURGE PROTECTIVE DEVICE
PM	PHASE MONITOR
PB	PUSH BUTTON
K1	KIRK KEY INTERLOCK
M100	CONDUIT BUBBLE – REFERENCE CONDUIT SCHEDULE

ABBREVIATIONS

A	AMPERES
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CAT	CATALOG
CLG	CEILING
CKT	CIRCUIT
CTR	CENTER
DISC	DISCONNECT
DT	DOUBLE THROW
DV	PUMP DISCHARGE VALVE
DWG	DRAWING
ELEC	ELECTRICAL, ELECTRIC
E.O.	ELECTRICALLY OPERATED
ESD	EMERGENCY SHUTDOWN
EXH	EXHAUST
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
JB, JBOX	JUNCTION BOX
KW	KILOWATTS
KVA	KILOVOLT–AMPERE
LA	LIGHTNING ARRESTER
LPX	LIGHTING PANEL X
MIN.	MINIMUM
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
MNTD	MOUNTED
MOV	MOTOR OPERATED VALVE
MSH	MOTOR SPACE HEATER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PB	PUSH BUTTON
PCSR	PUMP CONTROLLER SCADA RADIO
PH, ø	PHASE
PSV	PUMP SUCTION VALVE
PT	PRESSURE TRANSMITTER
PWR	POWER
RCBP	REMOTE CIRCUIT BREAKER PANEL
RECEPT	RECEPTACLE
RTD	RESISTANCE TEMPERATURE DETECTOR
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
SWBD	SWITCHBOARD
TC	TRAY CABLE
TEC	TAMPA ELECTRIC COMPANY
THRU	THROUGH
TR	TRIP
TT	TEMPERATURE TRANSMITTER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
VIB	VIBRATION
W	WIRE
w/	WITH
XFMR	TRANSFORMER
XFR	TRANSFER
XMTR	TRANSMITTER

ENGINEER OF RECORD:
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CITY of TAMPA
WASTEWATER DEPARTMENT

SWANN PUMPING STATION – GENERATOR INSTALLATION

ELECTRICAL LEGEND & ABBREVIATIONS

NO.	DATE	REVISIONS

DRAWN: STK
DESIGN: BEH
QC: BEH
DATE: 05/15/24

SHEET E-1

GENERAL NOTES:

1. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 8TH EDITION 2023 OF THE FLORIDA BUILDING CODE, THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE AND SHALL BE INSPECTED BY THE CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
2. ALL CONDUITS ROUTED IN CONCRETE SHALL BE INSTALLED WITH A SEPARATION BETWEEN CONDUITS OF NOT LESS THAN 3 DIAMETERS (CENTER-TO-CENTER).
3. SHIELD AND DRAIN WIRE FOR EACH ANALOG SIGNAL (4-20 mA) CABLE SHALL BE GROUNDED AT ONE END ONLY. THE GROUND SHALL BE AT THE PLC OR THE TRANSMITTER ONLY, NOT AT THE FIELD DEVICE. THE SHIELD AND DRAIN WIRE AT EACH FIELD DEVICE SHALL BE NEATLY TRIMMED & TAPED w/ (2) LAYERS OF VINYL ELECTRICAL TAPE (SCOTCH 33+).
4. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. w/ XHHW INSULATION, UNLESS OTHERWISE NOTED.
5. ALL WIRING SHALL BE IDENTIFIED w/ NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS. MARKERS SHALL BE THOMAS & BETTS INSTA-CODE CLIP-ON MARKERS OR APPROVED EQUAL.
6. ALL CIRCUITS SHALL HAVE GROUNDING CONDUCTORS ROUTED INSIDE THE CONDUIT w/ POWER CONDUCTORS.
7. NEATLY COIL & TAPE SPARE CONDUCTORS w/ VINYL ELECTRICAL TAPE (SCOTCH 33+) U.O.N.
8. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
9. ALL THREADED CONNECTIONS SHALL BE COATED w/ COPPER SHIELD ANTI-SEIZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B).
10. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC UNLESS OTHERWISE NOTED. CONTRACTOR SHALL OPTIMIZE THE CONDUIT ROUTING, TAKING INTO ACCOUNT THE FIELD CONDITIONS AND THE FINAL EQUIPMENT SELECTED AND APPROVED IN THE SUBMITTALS.
11. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-0" INTERVALS.
12. ALL FASTENING AND MOUNTING HARDWARE SHALL BE 316 SS. CAD PLATED HARDWARE WILL NOT BE ACCEPTED.
13. ALL UNISTRUT SHALL BE 1 5/8" x 1 5/8" x 12 GA. 316 STAINLESS STEEL.
14. CONTRACTOR SHALL FIELD VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATINGS PRIOR TO CONNECTING.
15. CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
16. ALL PANELS, PANEL COMPONENTS, DISCONNECTS, SWITCHES & EQUIPMENT COVERPLATES SHALL BE LABELED w/ NAMEPLATES. NAMEPLATES SHALL BE THREE PLY PHENOLIC BLACK-WHITE-BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16") MIN. EDGES OF NAMEPLATES SHALL BE BEVELED 45°. THE NAMEPLATES SHALL BE SECURED TO EQUIPMENT WITH STAINLESS STEEL SCREWS OR RIVETS. THE USE OF GLUE IS NOT PERMITTED.
17. ALL INSTALLED COMPONENTS SHALL BE LISTED BY UNDERWRITERS LABORATORY (UL), OR SIMILAR NATIONALLY RECOGNIZED TESTING LABORATORY.
18. PROVIDE A MINIMUM OF 3'-0" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT.
19. REFERENCE PLAN & SECTION DRAWINGS FOR EQUIPMENT LOCATIONS.
20. COORDINATE ALL INSTALLATIONS w/ ALL OTHER TRADES.
21. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS & ACTUAL CONDITIONS ARE DISCOVERED.
22. ALL "AS BUILT" DRAWINGS PROVIDED BY THE CONTRACTOR SHALL BE SIGNED AND DATED WITH CHANGES CLEARLY NOTED IN RED. ADDITIONALLY, THE PRINTED NAME OF THE INDIVIDUAL SIGNING THE "AS BUILT" DRAWINGS ALONG WITH THAT PERSON'S COMPANY AFFILIATION SHALL BE INCLUDED. IF NO CHANGES WERE MADE DURING CONSTRUCTION, A NOTE DESIGNATING "NO CHANGES" SHALL BE INCLUDED ON THE "AS BUILT" DRAWINGS.
23. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID & PRIOR TO COMMENCING CONSTRUCTION.
24. ALL CONDUIT EXPOSED ABOVE GRADE SHALL BE RIGID HEAVY WALL ALUMINUM, UNLESS OTHERWISE NOTED. CONDUITS EXTENDING BELOW GRADE SHALL BE RIGID HEAVY WALL ALUMINUM CONDUIT THROUGH AND INCLUDING THE FIRST 90 DEGREE ELBOW (OR EQUIVALENT SET OF FITTINGS) INSTALLED BELOW GRADE. ALL PVC CONDUIT SHALL BE SCHEDULE 80. CONNECTIONS TO PVC CONDUIT SHALL BE MADE w/ A RIGID ALUMINUM TO PVC CONDUIT ADAPTER.
25. ALUMINUM CONDUIT EXTENDING BELOW GRADE SHALL BE COATED WITH 2 COATS OF ASPHALTUM-TYPE PAINT (BITUMASTIC) ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTEND 6" ABOVE FINAL GRADE OR 6" ABOVE THE TOP OF THE FINISHED SLAB.
26. EACH CONDUIT CONNECTION TO THE EMERGENCY GENERATOR SHALL BE A 36" LENGTH OF LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT.
27. ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ENCLOSURES, PANELS, ETC. MOUNTED OUTDOORS, BELOW GRADE OR IN WASHDOWN AREAS.
28. ALL EQUIPMENT SHALL BE INSTALLED AT AN ELEVATION ABOVE THE 100 YEAR FLOOD ELEVATION ESTABLISHED BY FEMA AND/OR LOCAL AUTHORITIES.
29. ALL CONDUIT TRENCHES SHALL BE DUG BY HAND TO AVOID DAMAGING UNDERGROUND PIPING AND UTILITIES.
30. EACH DISCONNECTING MEANS SHALL BE LEGIBLY MARKED TO INDICATE ITS PURPOSE. THIS MARKING SHALL INCLUDE THE IDENTIFICATION AND LOCATION OF THE CIRCUIT SOURCE THAT SUPPLIES THE DISCONNECTING MEANS.
31. ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14. INSTALL FERRULES FOR ALL WIRE TERMINATIONS SMALLER THAN #8 AWG.
32. PROVIDE FINGER SAFE DISTRIBUTION BLOCKS.

SWANN PUMPING STATION TEMPORARY BYPASS

TEMPORARY ELECTRICAL SERVICE, DISTRIBUTION AND CONTROLS SHALL BE PROVIDED AND INSTALLED AT THE SWANN PUMPING STATION TO ALLOW THE THREE (3) EXISTING SUBMERSIBLE PUMPS, LOCATED IN THE DRY PIT, TO REMAIN IN OPERATION DURING THE COURSE OF CONSTRUCTION.

THIS TEMPORARY BYPASS OPERATION SHALL CONSIST OF OUTDOOR, RACK-MOUNTED, WEATHERPROOF EQUIPMENT AS FOLLOWS:

1. TEMPORARY POWER SERVICE FROM TECO.
2. A RACK AND WEATHERPROOF ENCLOSURES FOR MOUNTING ALL REQUIRED EQUIPMENT.
3. AN ACROSS-THE-LINE STARTER FOR EACH PUMP.
4. A CONTROL PANEL TO INCLUDE A 480V-120V CPT, TRIPLEX RELAY, BACK-UP PUMP CONTROLLER, CELLULAR AUTO DIALER FOR HIGH LEVEL ALARM NOTIFICATION AND ANCILLARY COMPONENTS, AS REQUIRED
5. TEMPORARY FLOATS, AS REQUIRED.

CONTRACTOR SHALL PREPARE & SUBMIT FOR APPROVAL A WRITTEN BYPASS PUMPING PLAN. THIS SUBMITTAL SHALL INCLUDE:

1, THE PROPOSED LOCATION OF THE EQUIPMENT RACK.
2. THE PROPOSED SUPPORTING DEVICES FOR THE EQUIPMENT RACK.
3. A WIRING DIAGRAM FOR THE CONTROL PANEL.
4. CATALOG CUT SHEETS FOR EACH PROPOSED PIECE OF EQUIPMENT, CONTROL DEVICE, FLOAT AND ENCLOSURE TO BE UTILIZED.

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CITY of TAMPA
WASTEWATER DEPARTMENT

SWANN PUMPING STATION - GENERATOR INSTALLATION

ELECTRICAL GENERAL NOTES

NO.	DATE	REVISIONS

DRAWN: STK
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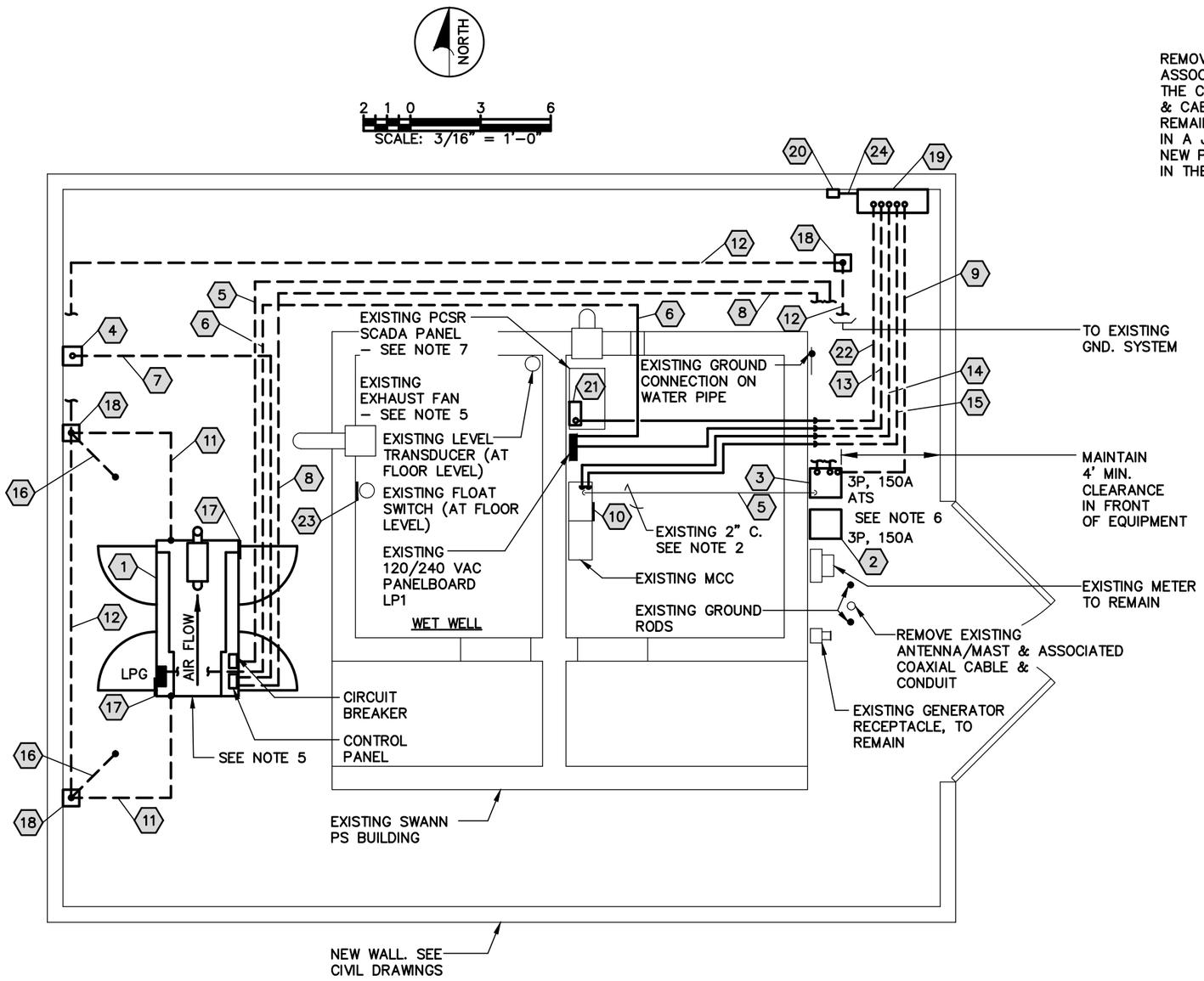
SHEET E-2



REMOVE THE EXISTING PCSR SCADA PANEL & ASSOCIATED WIRING & CONDUIT. COORDINATE w/ THE CITY OF TAMPA. CABLE FROM FLOAT SWITCH & CABLE FROM WET WELL TRANSDUCER SHALL REMAIN. THESE CABLES SHALL BE TERMINATED IN A JUNCTION BOX & CONNECTED TO THE NEW PUMP CONTROL PANEL (PCP), AS SHOWN IN THE DRAWINGS.

NOTES:

1. EACH CONDUIT CONNECTION TO THE ENGINE/GENERATOR SHALL BE A 36" LENGTH OF LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT.
2. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT ROUTED FROM THE EXISTING UTILITY METER TO THE EXISTING MCC. REWORK CONDUIT AS REQUIRED TO CONNECT CONDUIT FROM THE EXISTING MCC TO THE AUTOMATIC TRANSFER SWITCH (ATS). REFERENCE UTILITY METER DETAIL.
3. ALL CONDUIT TRENCHES SHALL BE DUG BY HAND TO AVOID DAMAGING UNDERGROUND PIPING AND UTILITIES.
4. COORDINATE CONDUIT STUB-UP LOCATIONS BELOW GENERATOR SKID/FUEL TANK WITH GENERATOR SUPPLIER.
5. MAINTAIN 10'-0" MINIMUM CLEARANCE FROM EXHAUST FAN TO GENERATOR AIR INTAKE.
6. REFERENCE ELECTRICAL RISER DIAGRAM FOR CONDUIT/CONDUCTOR CONNECTIONS BETWEEN THE MAIN CIRCUIT BREAKER, ATS & PUMP CONTROL PANEL (PCP).
7. REMOVE THE EXISTING PCSR SCADA PANEL & ASSOCIATED WIRING & CONDUIT. COORDINATE w/ THE CITY OF TAMPA.

-REFERENCE KEYED NOTES ON SHEET E-10

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SWANN PUMPING STATION – GENERATOR INSTALLATION

ELECTRICAL SITE PLAN

NO.	DATE	REVISIONS

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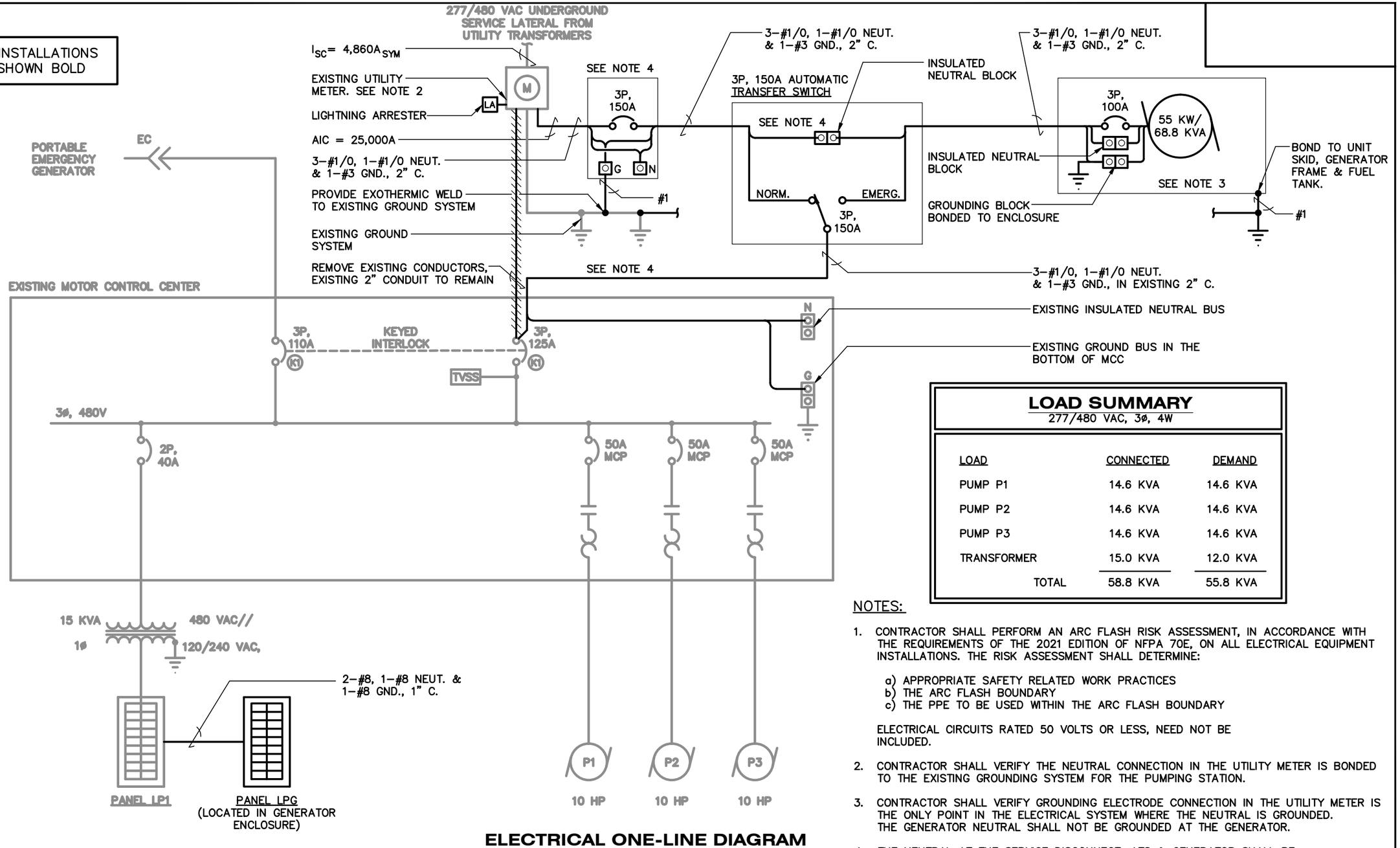
SHEET E-3

NEW INSTALLATIONS ARE SHOWN BOLD



ELECTRICAL ONE-LINE DIAGRAM

LOAD SUMMARY
277/480 VAC, 3ø, 4W

LOAD	CONNECTED	DEMAND
PUMP P1	14.6 KVA	14.6 KVA
PUMP P2	14.6 KVA	14.6 KVA
PUMP P3	14.6 KVA	14.6 KVA
TRANSFORMER	15.0 KVA	12.0 KVA
TOTAL	58.8 KVA	55.8 KVA

NOTES:

1. CONTRACTOR SHALL PERFORM AN ARC FLASH RISK ASSESSMENT, IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2021 EDITION OF NFPA 70E, ON ALL ELECTRICAL EQUIPMENT INSTALLATIONS. THE RISK ASSESSMENT SHALL DETERMINE:
   a) APPROPRIATE SAFETY RELATED WORK PRACTICES
   b) THE ARC FLASH BOUNDARY
   c) THE PPE TO BE USED WITHIN THE ARC FLASH BOUNDARY

   ELECTRICAL CIRCUITS RATED 50 VOLTS OR LESS, NEED NOT BE INCLUDED.
2. CONTRACTOR SHALL VERIFY THE NEUTRAL CONNECTION IN THE UTILITY METER IS BONDED TO THE EXISTING GROUNDING SYSTEM FOR THE PUMPING STATION.
3. CONTRACTOR SHALL VERIFY GROUNDING ELECTRODE CONNECTION IN THE UTILITY METER IS THE ONLY POINT IN THE ELECTRICAL SYSTEM WHERE THE NEUTRAL IS GROUNDED. THE GENERATOR NEUTRAL SHALL NOT BE GROUNDED AT THE GENERATOR.
4. THE NEUTRAL AT THE SERVICE DISCONNECT, ATS & GENERATOR SHALL BE ISOLATED FROM GROUND.

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SWANN PUMPING STATION – GENERATOR INSTALLATION

ELECTRICAL ONE-LINE DIAGRAM

NO.	DATE	REVISIONS

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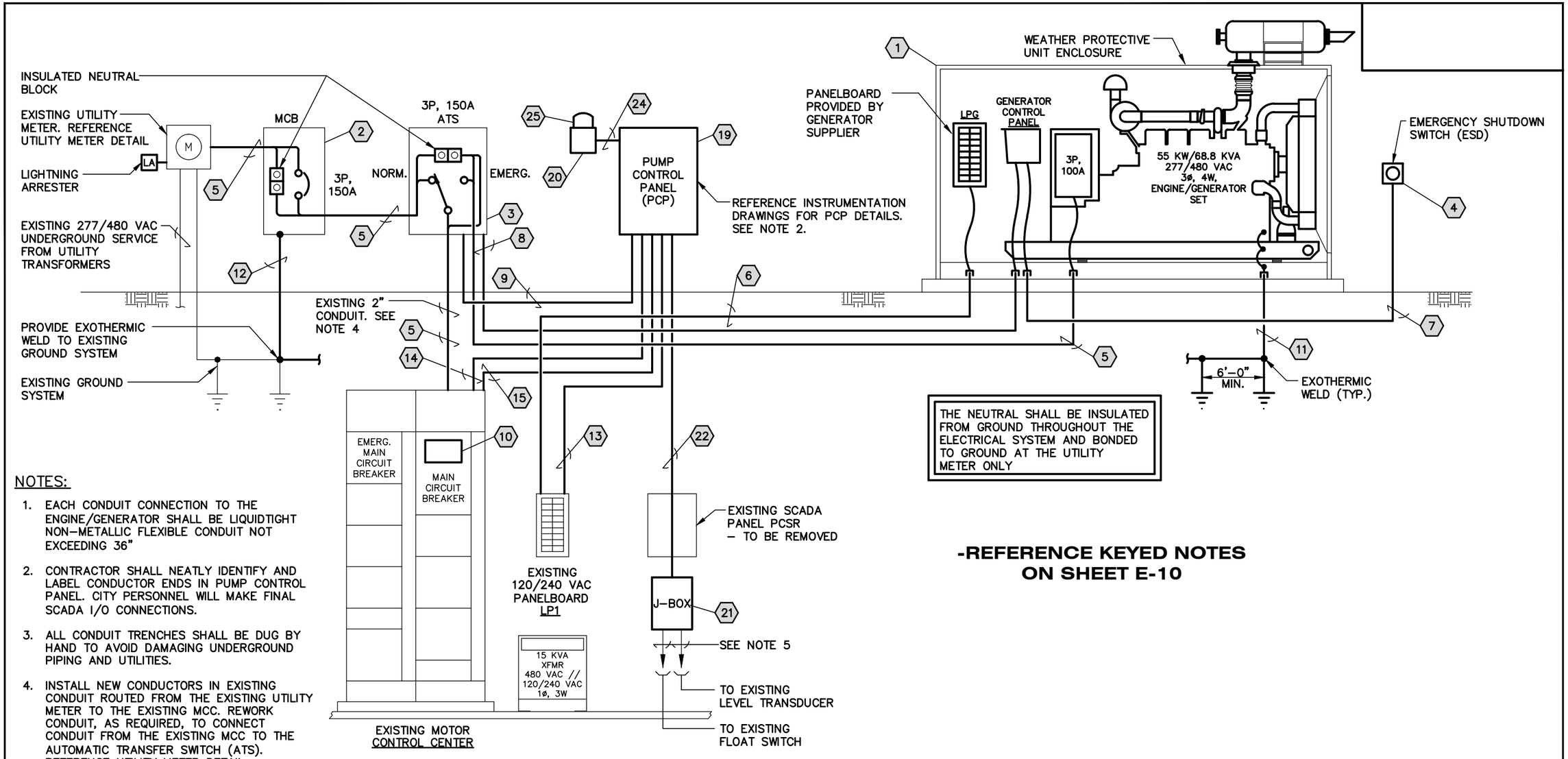
SHEET E-4



-REFERENCE KEYED NOTES ON SHEET E-10

NOTES:

1. EACH CONDUIT CONNECTION TO THE ENGINE/GENERATOR SHALL BE LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT NOT EXCEEDING 36"
2. CONTRACTOR SHALL NEATLY IDENTIFY AND LABEL CONDUCTOR ENDS IN PUMP CONTROL PANEL. CITY PERSONNEL WILL MAKE FINAL SCADA I/O CONNECTIONS.
3. ALL CONDUIT TRENCHES SHALL BE DUG BY HAND TO AVOID DAMAGING UNDERGROUND PIPING AND UTILITIES.
4. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT ROUTED FROM THE EXISTING UTILITY METER TO THE EXISTING MCC. REWORK CONDUIT, AS REQUIRED, TO CONNECT CONDUIT FROM THE EXISTING MCC TO THE AUTOMATIC TRANSFER SWITCH (ATS). REFERENCE UTILITY METER DETAIL.
5. EXISTING FLEXIBLE CABLES. NEATLY TRAIN CABLE & SECURE TO WALL w/ MINERALLAC 304 SS 1-HOLE CONDUIT STRAPS LOCATED AT 24" INTERVALS ALONG CABLE ROUTE.

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SWANN PUMPING STATION – GENERATOR INSTALLATION

ELECTRICAL RISER DIAGRAM

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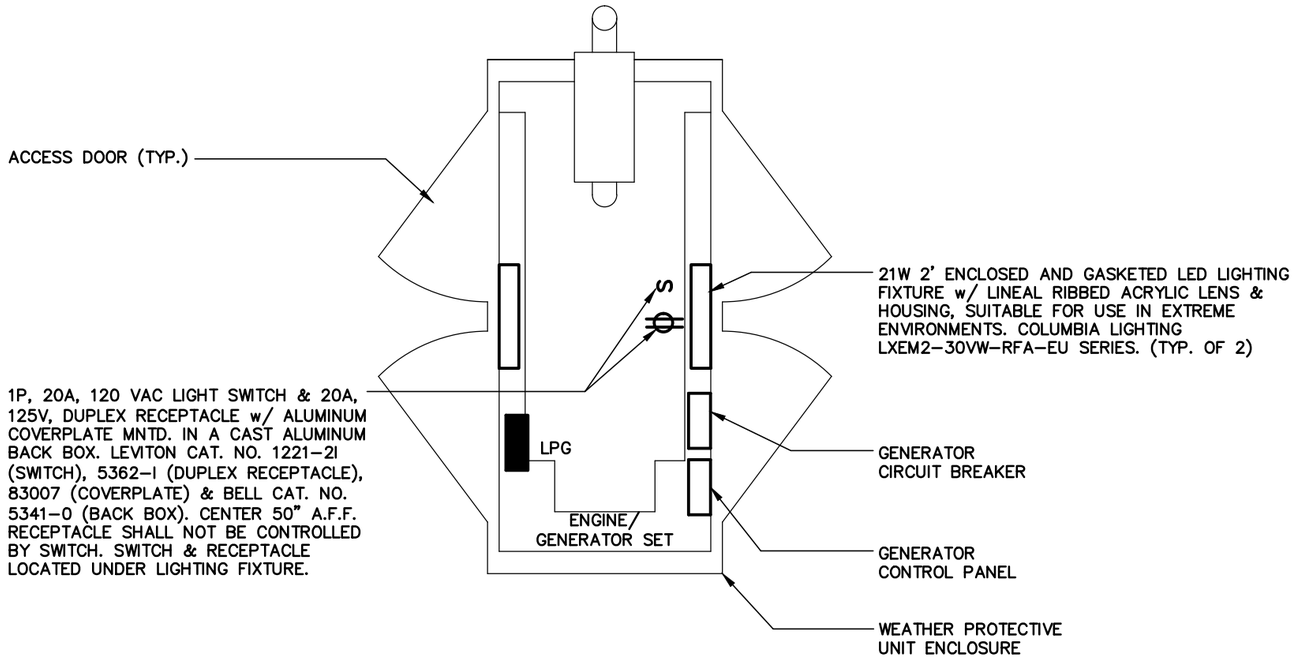
SHEET E-5

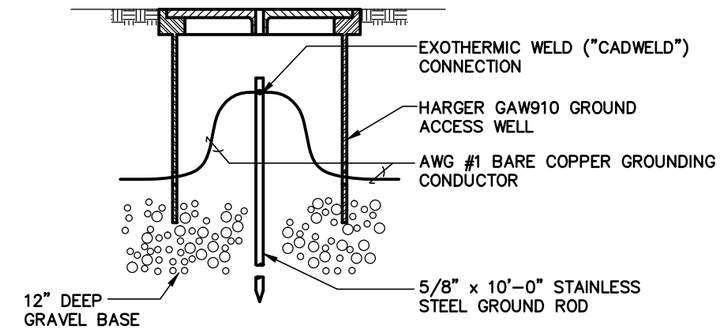


NOTES:

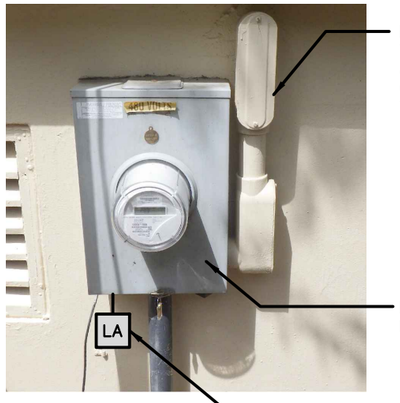
1. EACH CONDUIT CONNECTION TO THE ENGINE/GENERATOR SHALL BE A 12" LENGTH OF LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT.
2. ALL CONDUITS AND CONDUIT FITTINGS INSTALLED IN THE ENGINE/GENERATOR ENCLOSURE SHALL BE RIGID ALUMINUM. THE USE OF EMT IS NOT PERMITTED.
3. COORDINATE ELECTRICAL CONNECTIONS TO THE ENGINE/GENERATOR SET w/ UNIT SUPPLIER.

1 ENGINEER/GENERATOR ENCLOSURE DETAIL

NOT TO SCALE



2 GROUND WELL DETAIL



3 UTILITY METER DETAIL

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ELECTRICAL DETAILS

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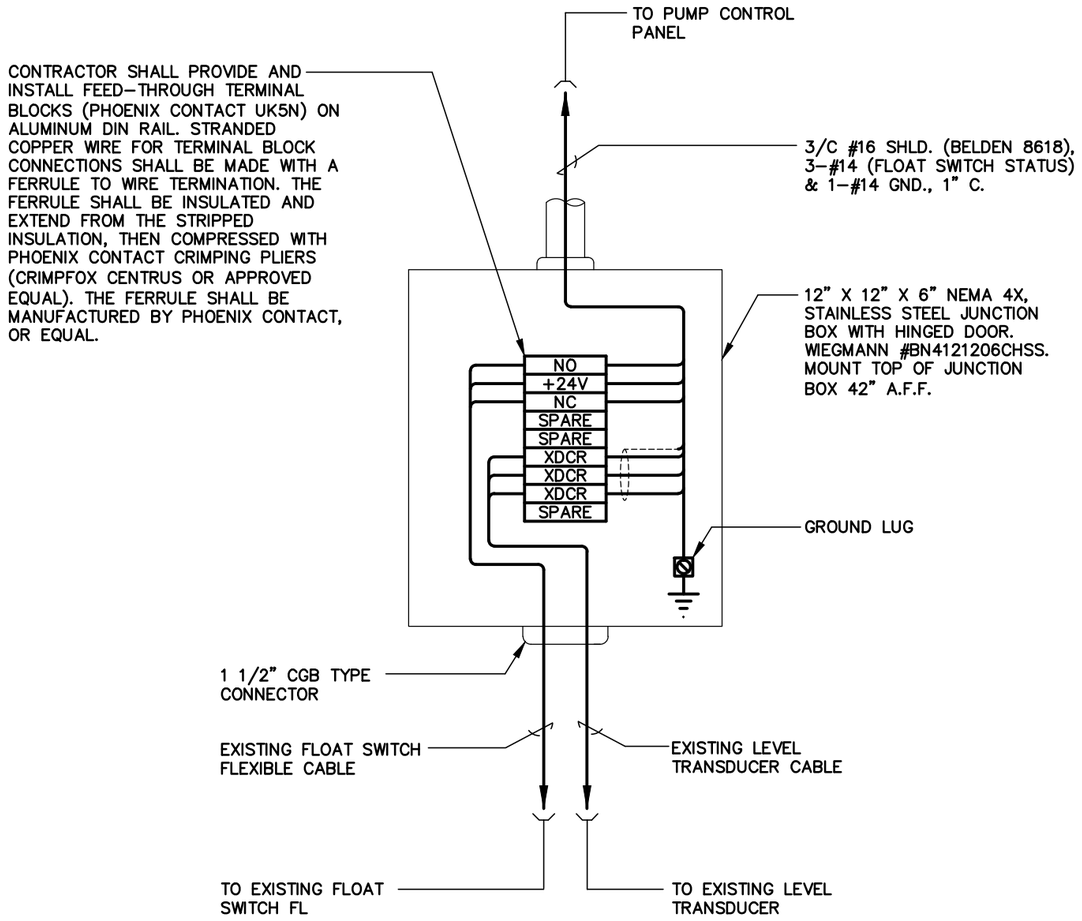
SHEET E-6

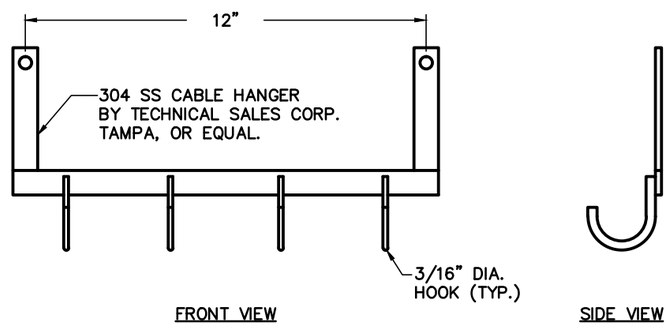


NOTES:

1. COVER NOT SHOWN FOR CLARITY.
2. BOND GROUNDING CONDUCTORS TO ENCLOSURE BACK PANEL.

1 JUNCTION BOX DETAIL

(LOCATED IN PLACE OF EXISTING PCSR SCADA PANEL)



FLOAT SWITCH CABLE HANGER DETAIL

6 FLOAT SWITCH CABLE HANGER DETAIL

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SWANN PUMPING STATION - GENERATOR INSTALLATION

ELECTRICAL DETAILS

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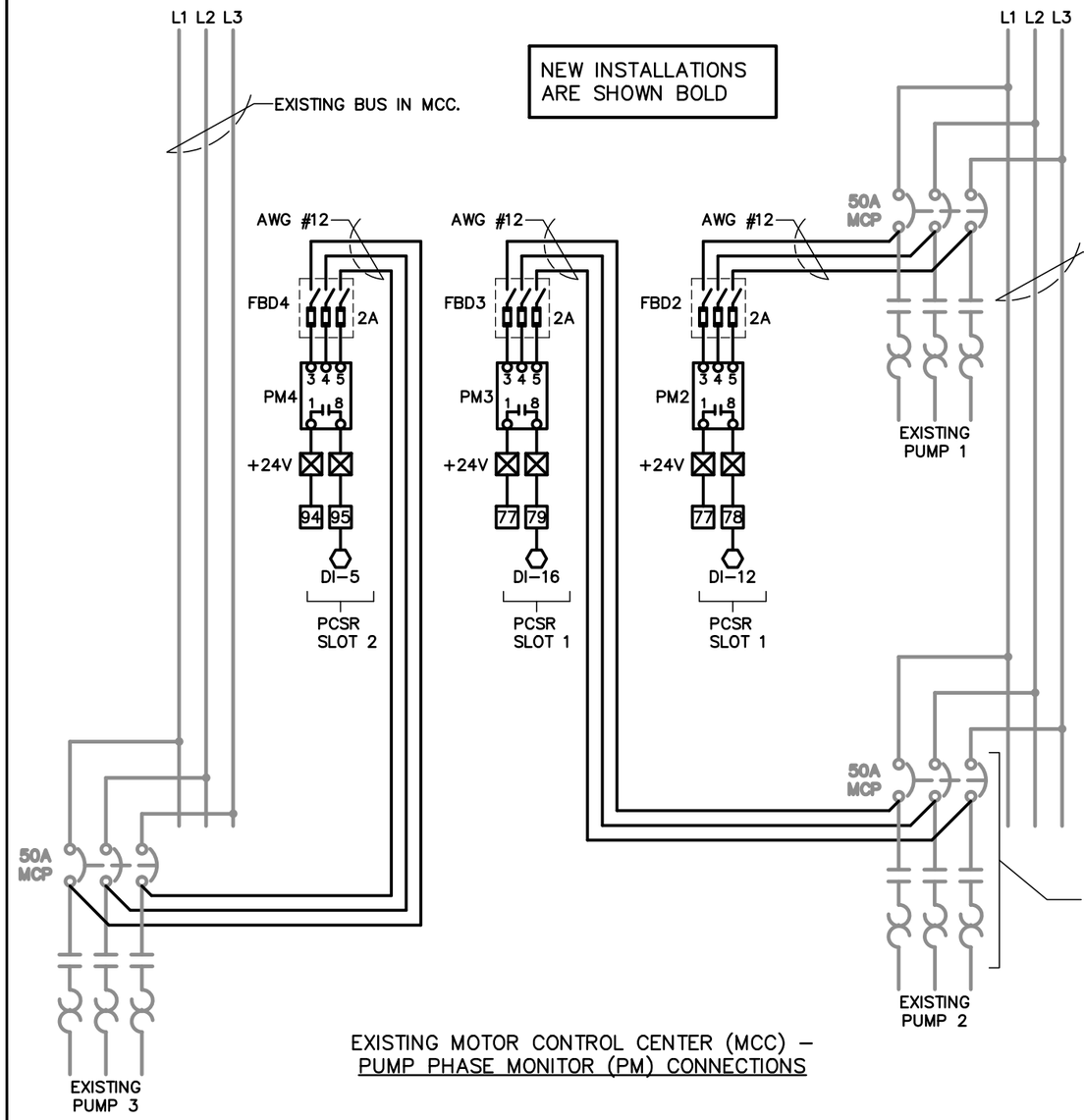
DATE: 05/15/24

SHEET E-7



EXISTING MOTOR CONTROL CENTER (MCC) – PUMP PHASE MONITOR (PM) CONNECTIONS

EXISTING MOTOR CONTROL CENTER (MCC) LINE–UP

- ○ TERMINAL ON ACE I/O MODULE (GENERAL)
- □ TERMINAL IN PUMP CONTROL PANEL (PCP)
- ☒ TERMINAL IN MOTOR CONTROL CENTER (MCC)

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PUMP PHASE MONITOR DETAILS

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SHEET E-8

PANELBOARD SCHEDULE — PANEL "LP1"

bus amps A	bus amps B	LOAD	poles	amps	bus A B	poles	amps	LOAD	bus amps A	bus amps B
10		EF & FLOOR LIGHTING	1	20	1 2	1	20	GFI	4	
	9	FLOOR GFI EXHAUST	1	20	3 4	1	20	SPRINKLERS		4
5		OUTSIDE LIGHTS	1	20	5 6	1	20	DOWN STAIRS LIGHT	4	
	8	BILGE PUMP	1	20	7 8	1	20	DCR CAB		5
5		WET WELL LIGHTS	1	20	9 10	1	20	SPARE		
	5	WET WELL LIGHTS	1	20	11 12	1	20	PUMP CONTROL PANEL		5
10		WET WELL LIGHTS & FAN	1	20	13 14	1	20	IRRIGATION CONTROLLER (FUTURE)		
	17	GENERATOR PANELBOARD – LPG	2	40	15					
14		⊥	⊥	⊥						

RATED VOLTAGE: 120/240 VAC, 1ø, 3W				BRANCH POLES: 20
RATED AMPS: 100A				CABINET: SURFACE
FULL NEUTRAL BUS	GROUND BUS	HINGED DOOR	KEYED DOOR LATCH	80A MAIN CIRCUIT BREAKER
CIRCUIT BREAKER PLUG–ON BRANCH DEVICES			FEED IS TO BE BOTTOM	
ALL BRKRS. MUST BE RATED TO INTERRUPT A SHORT CIRCUIT I_{sc} OF 22,000 AMPS SYMMETRICAL				
APPROVED MANUFACTURERS: SQUARE D				MAIN LUGS: 1 SET; SIZE #4
TOTAL AMPS: BUS A 52, BUS B 48, CONNECTED KVA 12.0 DEMAND KVA 12.0				

THE EXISTING SCADA PANEL LOAD SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT

CONNECT NEW PUMP CONTROL PANEL TO EXISTING SPARE 1P, 20A CIRCUIT BREAKER

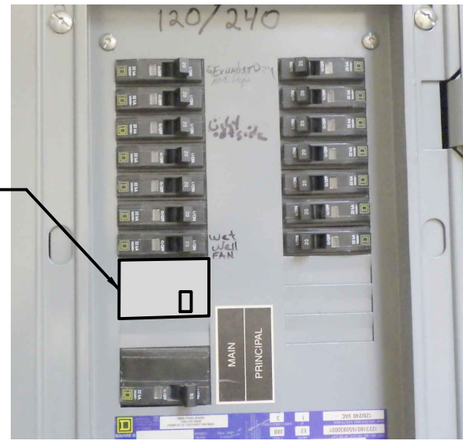
USE EXISTING 1P, 20A SPARE CIRCUIT BREAKER FOR FUTURE IRRIGATION CONTROLLER

PANELBOARD SCHEDULE — PANEL "LPG"

bus amps A	bus amps B	LOAD	poles	amps	bus A B	poles	amps	LOAD	bus amps A	bus amps B
8		GENERATOR JACKET WATER HEATER	2	20	1 2	1	20	GENERATOR LIGHTING	1	
	8	⊥	⊥	⊥	3 4	1	20	GENERATOR RECEPTACLE		4
5		GENERATOR SPACE HEATER	1	20	5	1	20	SPARE		
	5	GENERATOR BATTERY CHARGER	1	20	7	1	20	SPARE		

RATED VOLTAGE: 120/240 VAC, 1ø, 3W				BRANCH POLES: 12
RATED AMPS: 125A				CABINET: SURFACE
FULL NEUTRAL BUS	GROUND BUS	HINGED DOOR	KEYED DOOR LATCH	40A MAIN CIRCUIT BREAKER
CIRCUIT BREAKER PLUG–ON BRANCH DEVICES			FEED IS TO BE BOTTOM	
ALL BRKRS. MUST BE RATED TO INTERRUPT A SHORT CIRCUIT I_{sc} OF 22,000 AMPS SYMMETRICAL				
APPROVED MANUFACTURERS: SQUARE D				MAIN LUGS: 1 SET; SIZE #8
TOTAL AMPS: BUS A 14, BUS B 17, CONNECTED KVA 3.7 DEMAND KVA 3.7				

LP1–CB: PROVIDE & INSTALL 2P, 40A CIRCUIT BREAKER FOR GENERATOR PANELBOARD LPG



EXISTING PANELBOARD LP1

NOTES:

1. PROVIDE NEW 2P, 40A CIRCUIT BREAKER FOR CIRCUIT TO NEW GENERATOR PANELBOARD LPG
2. UPDATE PANELBOARD DIRECTORY TO INDICATE NEW LOADS.

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SWANN PUMPING STATION – GENERATOR INSTALLATION

PANELBOARD SCHEDULES

NO.	DATE	REVISIONS

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SHEET E-9

KEYED NOTES:

1. 55 KW/68.8 KVA, 277/480, 3ø, 4W EMERGENCY ENGINE/GENERATOR SET w/ 100A MAIN CIRCUIT BREAKER, LOAD CENTER & GENERATOR CONTROL PANEL MOUNTED IN A WEATHER PROTECTIVE UNIT ENCLOSURE. MOUNT ENGINE/GENERATOR SKID ON VIBRATION ISOLATORS SECURED TO THE TOP OF A SUB-BASE 300 GALLON FUEL TANK. REFERENCE SPECIFICATIONS

2. MCB – 3P, 150A CIRCUIT BREAKER MOUNTED IN A NEMA 4X SS ENCLOSURE w/ GROUND KIT & INSULATED NEUTRAL ASSEMBLY, UL LISTED AS SUITABLE FOR USE AS SERVICE EQUIPMENT, 35KAIC. SQUARE D CAT. NO. HGL36150 (CIRCUIT BREAKER), J250DS (SS ENCLOSURE), SN400LA (INSULATED NEUTRAL ASSEMBLY) & PKOGTH150 (GROUND KIT). MOUNT TOP OF ENCLOSURE 6'-0" ABOVE FINISHED GRADE. SUPPORT ENCLOSURE W/ 1 5/8" X 1 5/8" 316 SS UNISTRUT.

   PROVIDE THREE-PLY PHENOLIC LABEL RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 13MM (1/2") HIGH. EDGES OF LABEL SHALL BE BEVELED 45 DEG. LABEL SHALL BE SECURED TO ENCLOSURE DOOR w/ STAINLESS STEEL SCREW OR RIVETS. THE USE OF GLUE IS NOT PERMITTED. LABEL SHALL READ AS FOLLOWS: "EMERGENCY DISCONNECT, SERVICE DISCONNECT – GENERATOR MAY POWER LOAD."

3. 3P, 150A AUTOMATIC TRANSFER SWITCH (ATS) w/ AUXILIARY CONTACTS, TIME DELAYS, ENGINE STARTING CONTACTS, INSULATED NEUTRAL BLOCK & PILOT LIGHTS MOUNTED IN A NEMA 4X SS ENCLOSURE REFERENCE SPECIFICATIONS. MOUNT TOP OF ENCLOSURE 6'-0" ABOVE FINISHED GRADE. SUPPORT ENCLOSURE W/ 1 5/8" X 1 5/8" 316 SS UNISTRUT.

4. GENERATOR EMERGENCY SHUTDOWN (ESD) PUSH BUTTON STATION. MAINTAINED 2-POSITION SWITCH 1 5/8" RED OPERATOR, (1)-N.O. & (1)-N.C. CONTACT MNTD. IN A NEMA 4X SS ENCLOSURE. CENTER 4'-6" ABOVE FINISHED CONCRETE. SQUARE D CAT. NO. SKR905H13 (OPERATOR w/ CONTACTS) & KYSS1 (ENCLOSURE). PROVIDE PHENOLIC SIGN ABOVE ESD. SIGN SHALL BE THREE PLY PHENOLIC RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 1/2" MIN. EDGES OF SIGN SHALL BE BEVELED 45 DEG. SIGN SHALL BE LABELED "GENERATOR EMERGENCY SHUTDOWN".

5. 3-#1/0, 1-#1/0 NEUT. & 1-#3 GND., 2" C.

6. 2-#8, 1-#8 NEUT. & 1-#8 GND., 1" C.

7. 2-#12 & 1-#12 GND., 3/4" C.

8. 2-#12 (ENGINE/GENERATOR ON/OFF CONTROL), 8-#14 (STATUS), & 4-#14 SPARE & 1-#12 GND., 1 1/4" C.

9. 12-#14 (STATUS), 6-#14 SPARE & 1-#14 GND., 1 1/4" C.

10. PROVIDE PHENOLIC SIGN ON ENCLOSURE FOR MAIN BREAKER OF MOTOR CONTROL CENTER. SIGN SHALL BE THREE PLY PHENOLIC RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 1/2" MIN. EDGES OF SIGN SHALL BE BEVELED 45 DEG. SIGN SHALL BE LABELED "WARNING – GENERATOR MAY ALSO POWER LOAD".

11. GROUNDING CONDUCTOR: 1-#1, 3/4" C. PROVIDE EXOTHERMIC WELD AT CONNECTION POINTS TO GENERATOR FRAME, UNIT SKID & FUEL TANK STRUCTURAL FRAME & CONNECT TO (2) 5/8" x 10'-0" STAINLESS STEEL GROUND RODS. DO NOT GROUND GENERATOR NEUTRAL AT GENERATOR.

12. GROUNDING CONDUCTOR: 1-#1, 3/4" C. PROVIDE EXOTHERMIC WELD TO GROUND ROD.

13. 1-#12, 1-#12 NEUT. & 1-#12 GND., 3/4" C.

14. 120V CONTROLS CONDUIT: 30-#14, 8-#14 SPARE & 1-#14 GND., 2" C.

15. 24VDC CONTROLS CONDUIT: 12-#14, 4-#14 SPARE & 1-#14 GND., 1 1/4" C.

16. AWG #1 GROUNDING CONDUCTOR. BOND TO RE-BAR IN CONCRETE SLAB

17. PROVIDE SIGN ON EACH SIDE OF WEATHER PROTECTIVE UNIT ENCLOSURE. SIGN SHALL BE THREE PLY PHENOLIC YELLOW-BLACK-YELLOW ENGRAVED THROUGH THE FIRST YELLOW LAYER. LETTERING SHALL BE 1/2" MIN. EDGES OF SIGN SHALL BE BEVELED 45 DEG. SIGN SHALL READ AS FOLLOWS: "WARNING – THIS EQUIPMENT STARTS AUTOMATICALLY".

18. GROUND WELL. REFERENCE GROUND WELL DETAIL.

19. PUMP CONTROL PANEL (PCP). MOUNT ENCLOSURE ON BLOCK WALL w/ TOP OF ENCLOSURE 6'-0" ABOVE FINISHED GRADE. SECURE ENCLOSURE TO BLOCK WALL w/ 1 5/8" x 1 5/8" 316 SS UNISTRUT. REFERENCE INSTRUMENTATION DRAWINGS FOR PUMP CONTROL PANEL (PCP) DETAILS & REQUIREMENTS.

20. PROVIDE AND INSTALL 6" x 6" x 4" NEMA 4X 316 SS JUNCTION BOX (HAMMOND EJ664S16 OR EQUAL). PROVIDE AND INSTALL CELLULAR ANTENNA WITH MANUFACTURER'S INTEGRAL CABLES. REFER ALSO TO PARTS SCHEDULE ON SHEET I-12. MOUNT ENCLOSURE ON BLOCK WALL W/ TOP OF ENCLOSURE 6'-0" ABOVE FINISHED GRADE. SECURE ENCLOSURE TO BLOCK WALL W/ 1 5/8" X 1 5/8" 316 SS UNISTRUT.

21. 12" x 12" x 6" SS JUNCTION BOX. REFERENCE JUNCTION BOX DETAIL.

22. 3/C #16 SHLD. (BELDEN 8618), 3-#14 (FLOAT SWITCH STATUS) & 1-#14 GND., 1" C.

23. REMOVE & REPLACE EXISTING FLOAT SWITCH HANGER W/ NEW STAINLESS STEEL CABLE HANGER. REFERENCE FLOAT SWITCH CABLE HANGER DETAIL.

24. PROVIDE AND INSTALL ANTENNA CABLE IN 1" LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT w/ NON-METALLIC FITTINGS.

25. DUAL 5G LTE MULTI-BAND CELLULAR ANTENNA. PCTEL PCTHPDLTE-LTB. REFER ALSO TO PARTS SCHEDULE ON SHEET I-12.

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CITY of TAMPA
WASTEWATER DEPARTMENT

SWANN PUMPING STATION – GENERATOR INSTALLATION

KEYED NOTES

NO.	DATE	REVISIONS

DRAWN: STK
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QC: BEH
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SHEET E-10

PARTS SCHEDULE (MISCELLANEOUS ELECTRICAL)

EXTERNAL ELECTRICAL

SYMBOL	NAME	MAKE	TYPE	MODEL OR CATALOG NO.	RATING	REMARKS
ATS	AUTOMATIC TRANSFER SWITCH	ASCO	NEMA 4X	300 SERIES	3–POLE, 150A	REFERENCE SPECIFICATIONS
ESD	EMERGENCY SHUTDOWN	SQUARE D	NEMA 4X	SKR905H13	N.O/N.C w/ RED OPERATOR	
GENERATOR	ENGINE/GENERATOR SET	CATERPILLAR	DIESEL	PRIME DUTY	277/480V, 55 KW/68.8 KVA	w/ 300 GALLON, FUEL TANK, LOAD CENTER, & WEATHER PROTECTIVE UNIT ENCLOSURE. REFERENCE SPECIFICATIONS.
J–BOX	JUNCTION BOX	WIEGMANN	NEMA 4X	#BN4121206CHSS	12" x 12" x 6"	
J–BOX–ANTENNA	ANTENNA JUNCTION BOX	HAMMOND	NEMA 4X	EJ664S16	6" x 6" x 4"	
LA	LIGHTNING ARRESTER	INTERMATIC	TYPE 1	AG4803C3		
LP1–CB	LIGHTING PANEL CKT. BRKR.	SQUARE D	MOLDED CASE, PLUG–ON	QO240VH	2–POLE, 40A	22KAIC
MCB	MAIN CIRCUIT BREAKER	SQUARE D	ENCLOSED, MOLDED CASE, NEMA 4X	HGL36150	3–POLE, 150A	w/ NEUTRAL ASSEMBLY & GROUND KIT, MOUNTED IN A NEMA 4X SS ENCLOSURE. 35KAIC
PM2 – PM4	PHASE MONITOR	ATC DIVERSIFIED	ADJUSTABLE RANGE	SUA–440–ASA	430V – 480V, SPDT	

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SCHEDULE OF MISCELLANEOUS
ELECTRICAL PARTS

NO.	DATE	REVISIONS

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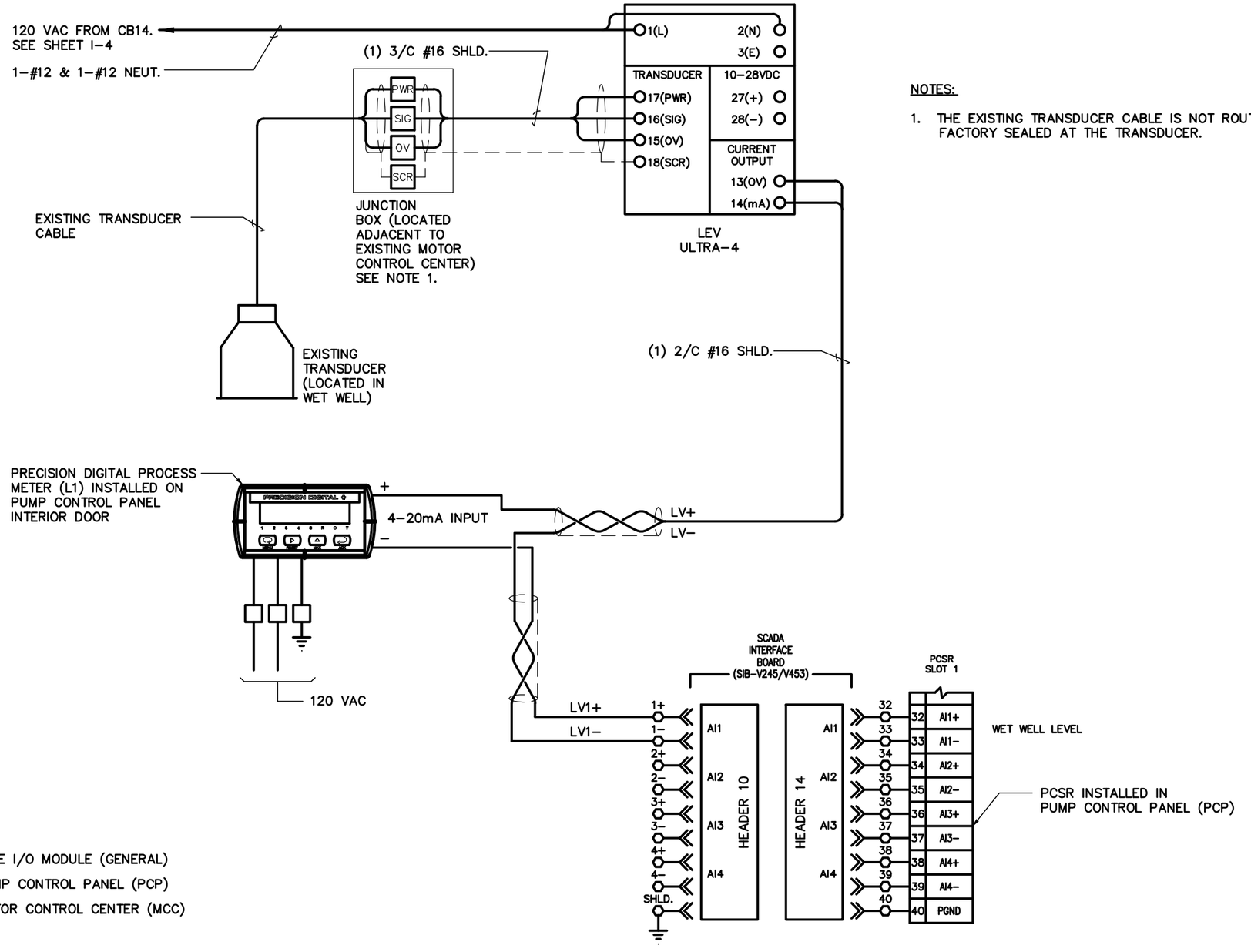
SHEET E-11



NOTES:

1. THE EXISTING TRANSDUCER CABLE IS NOT ROUTED IN A CONDUIT & IS FACTORY SEALED AT THE TRANSDUCER.

TERMINAL ON ACE I/O MODULE (GENERAL)
TERMINAL IN PUMP CONTROL PANEL (PCP)
TERMINAL IN MOTOR CONTROL CENTER (MCC)

LEVEL TRANSDUCER WIRING SCHEMATIC

ALL WIRING SHALL BE VERIFIED/CONFIRMED WITH MANUFACTURER PRIOR TO INSTALLATION

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SWANN PUMPING STATION - GENERATOR INSTALLATION

PULSAR ULTRA-4 CONNECTION DETAILS

NO.	DATE	REVISIONS

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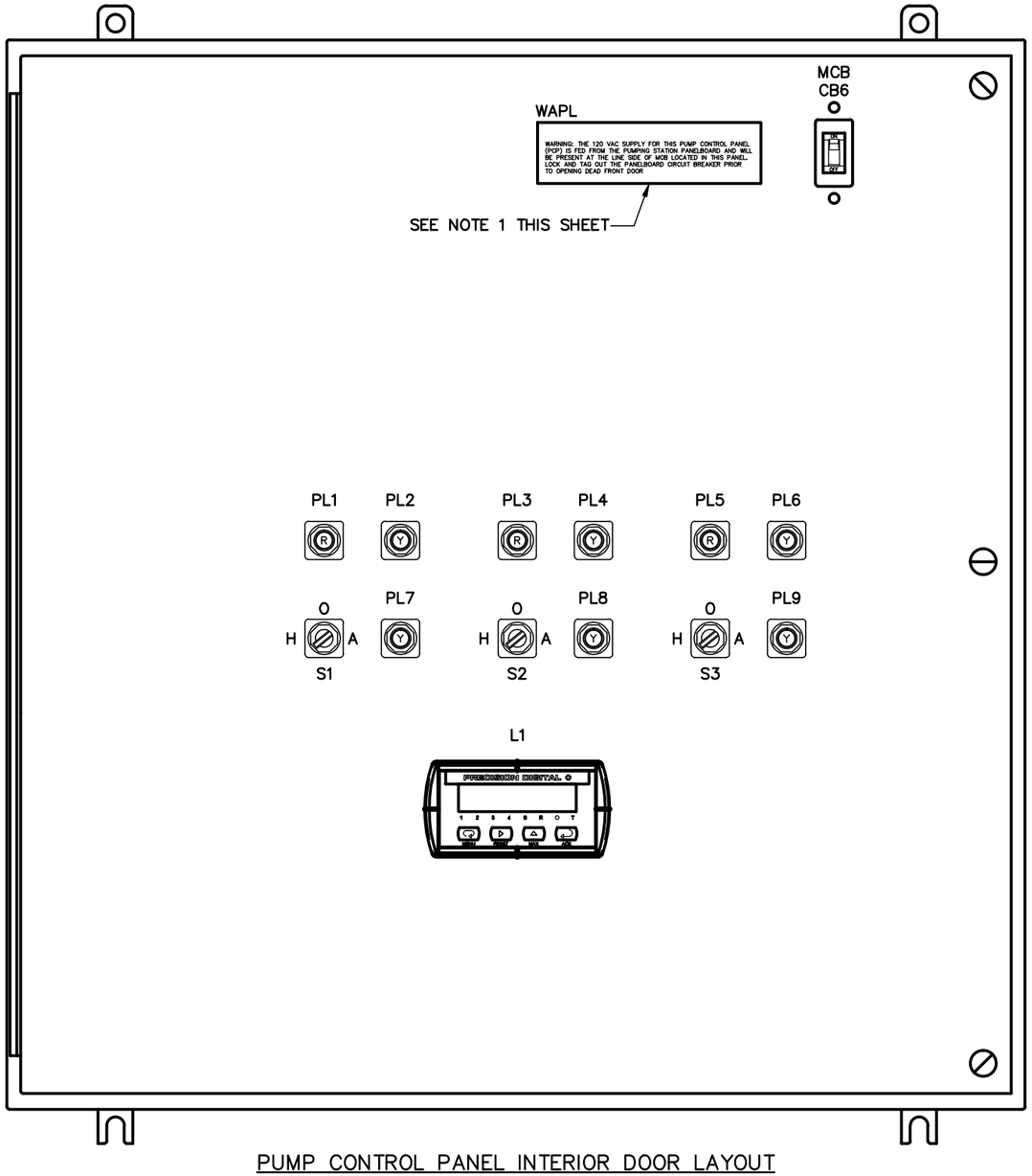
SHEET I-1



PUMP CONTROL PANEL INTERIOR DOOR LAYOUT

NOT TO SCALE

LEGEND PLATE SCHEDULE

SYMBOL	DEVICE	LEGEND
PL1	RED PILOT LIGHT	PUMP NO. 1 ON
PL2	YELLOW ILLUMINATED PUSH BUTTON	PUMP NO. 1 TEMP ALARM
PL3	RED PILOT LIGHT	PUMP NO. 2 ON
PL4	YELLOW ILLUMINATED PUSH BUTTON	PUMP NO. 2 TEMP ALARM
PL5	RED PILOT LIGHT	PUMP NO. 3 ON
PL6	YELLOW ILLUMINATED PUSH BUTTON	PUMP NO. 3 TEMP ALARM
PL7	YELLOW PILOT LIGHT	PUMP NO. 1 SEAL LEAK ALARM
PL8	YELLOW PILOT LIGHT	PUMP NO. 2 SEAL LEAK ALARM
PL9	YELLOW PILOT LIGHT	PUMP NO. 3 SEAL LEAK ALARM
S1	3-POSITION SWITCH	PUMP NO 1 HAND-OFF-AUTO
S2	3-POSITION SWITCH	PUMP NO. 2 HAND-OFF-AUTO
S3	3-POSITION SWITCH	PUMP NO. 3 HAND-OFF-AUTO
L1	DIGITAL PROCESS METER	WET WELL LEVEL
WAPL	WARNING PLACARD	REFER TO NOTE 1

NOTES:

1. PROVIDE WARNING PLACARD ADJACENT TO MCB. PLACARD SHALL READ AS FOLLOWS:

"WARNING: THE 120 VAC SUPPLY FOR THIS PUMP CONTROL PANEL (PCP) IS FED FROM THE PUMPING STATION PANELBOARD AND WILL BE PRESENT AT THE LINE SIDE OF MCB LOCATED IN THIS PANEL. LOCK AND TAG OUT THE PANELBOARD CIRCUIT BREAKER PRIOR TO OPENING DEAD FRONT DOOR"

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SWANN PUMPING STATION – GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP) LAYOUT (SHEET 1 OF 2)

NO.	DATE	REVISIONS

DRAWN: STK
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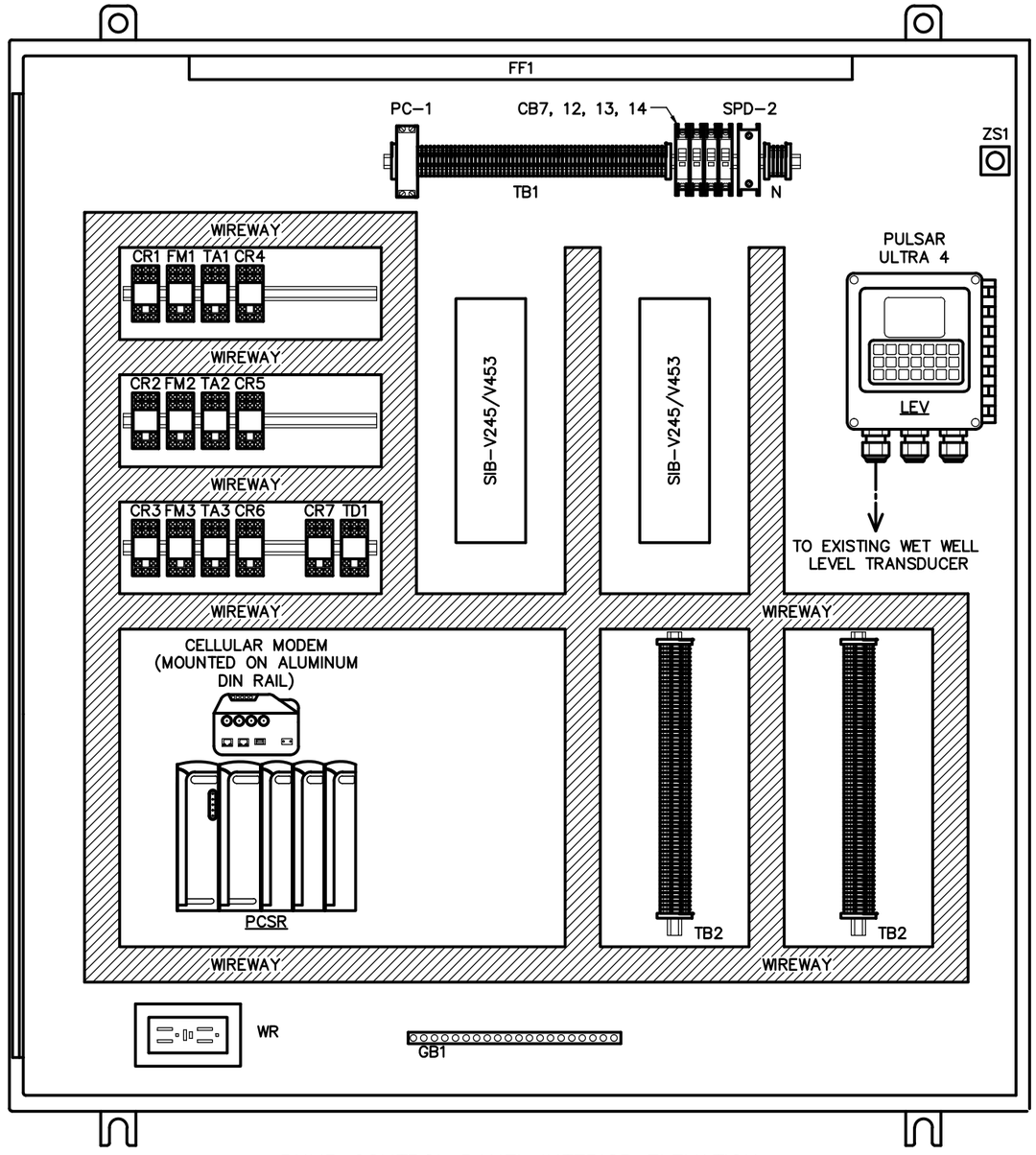
DATE: 05/15/24

SHEET I-2



PUMP CONTROL PANEL INTERIOR ELEVATION

NOT TO SCALE

PUMP CONTROL PANEL (PCP) NOTES:

1. THE PCSR SHALL BE A MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY STAR CONTROLS, AUTOMATED CONTROLS, CURRY CONTROLS, ROCHA CONTROLS, REVERE CONTROL SYSTEMS OR CAYZO CONSULTING, INC. THE PUMPING STATION CONTRACTOR SHALL COORDINATE WITH THE PCSR SUPPLIER TO ENSURE SYSTEM COMPATIBILITY. THE PCSR SHALL STORE & FORWARD SITE ID'S AS REQUIRED. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE TRIPLEX CONTROL SYSTEM/SCADA PACKAGE PROGRAMMED BY THE PCSR SUPPLIER. THE EXISTING MOTOROLA MOSCAD RTU SHALL BE TURNED OVER TO THE CITY AS A SPARE.

2. THE CONTRACTOR SHALL SCHEDULE A PUMP STATION SCADA TESTING DATE, PUMP STATION PRE–STARTUP DATE & PUMP STATION STARTUP DATE. THE CITY SHALL BE GIVEN 14 DAYS NOTICE OF THE SCHEDULED SCADA TESTING DATE. DURING THE TEST, THE SCADA PROGRAMMER SHALL PROVIDE TEMPORARY POWER TO THE PUMP CONTROL PANEL PLC, PLACE THE PLC ON–LINE WITH THE CITY'S VT SCADA SYSTEM AND PERFORM NECESSARY TROUBLESHOOTING AND DEBUGGING. THE CITY WILL PROVIDE THE REQUIRED ADDRESSING FOR TESTING. AFTER THE SUCCESSFUL PLC AND VT SCADA COMMUNICATION TEST, THE CONTRACTOR SHALL SCHEDULE AN ONSITE WITNESS TEST BETWEEN THE CITY REPRESENTATIVES & THE SCADA PROGRAMMER. DURING THE ONSITE WITNESS TEST THE SCADA PROGRAMMER SHALL DEMONSTRATE THE PLC IS ONLINE AND COMMUNICATING WITH THE VT SCADA, & ALL STATUS AND LEVEL INDICATIONS ARE FREE FROM ERROR. ONCE THE CITY HAS WITNESSED AND ACCEPTED THE SCADA TESTING, THE CONTRACTOR SHALL SCHEDULE A PRE–STARTUP AND STARTUP DATE. THE CITY MAY OPT TO CANCEL THE PRE–STARTUP DATE IF THE PRE–STARTUP IS DEEMED UNNECESSARY.

3. THE WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED & INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4–20mA SIGNAL w/ RANGE AND CALIBRATION TYPE SUITABLE FOR THIS APPLICATION. THE SYSTEM SHALL BE OF THE ULTRASONIC TYPE, PULSAR MODEL dB10 TRANSDUCER w/ ULTRA 4 TRANSMITTER. THE CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTING w/ ADJUSTING THE EXISTING TRANSDUCER MOUNTING LOCATION (IF NEEDED) AND CALIBRATION.

4. AS PART OF THE SHOP DRAWING SUBMITTAL PROCESS, THE CONTRACTOR SHALL SUBMIT A PLAN TO ENSURE THE EXISTING SCADA COMMUNICATIONS ARE MAINTAINED DURING CONSTRUCTION. COORDINATE ALL REQUIREMENTS WITH THE CITY OF TAMPA.

5. CONTRACTOR SHALL NEATLY IDENTIFY AND LABEL CONDUCTOR ENDS IN PUMP CONTROL PANEL. CITY PERSONNEL WILL MAKE FINAL SCADA I/O CONNECTIONS

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SWANN PUMPING STATION – GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP) LAYOUT (SHEET 2 OF 2)

NO.	DATE	REVISIONS

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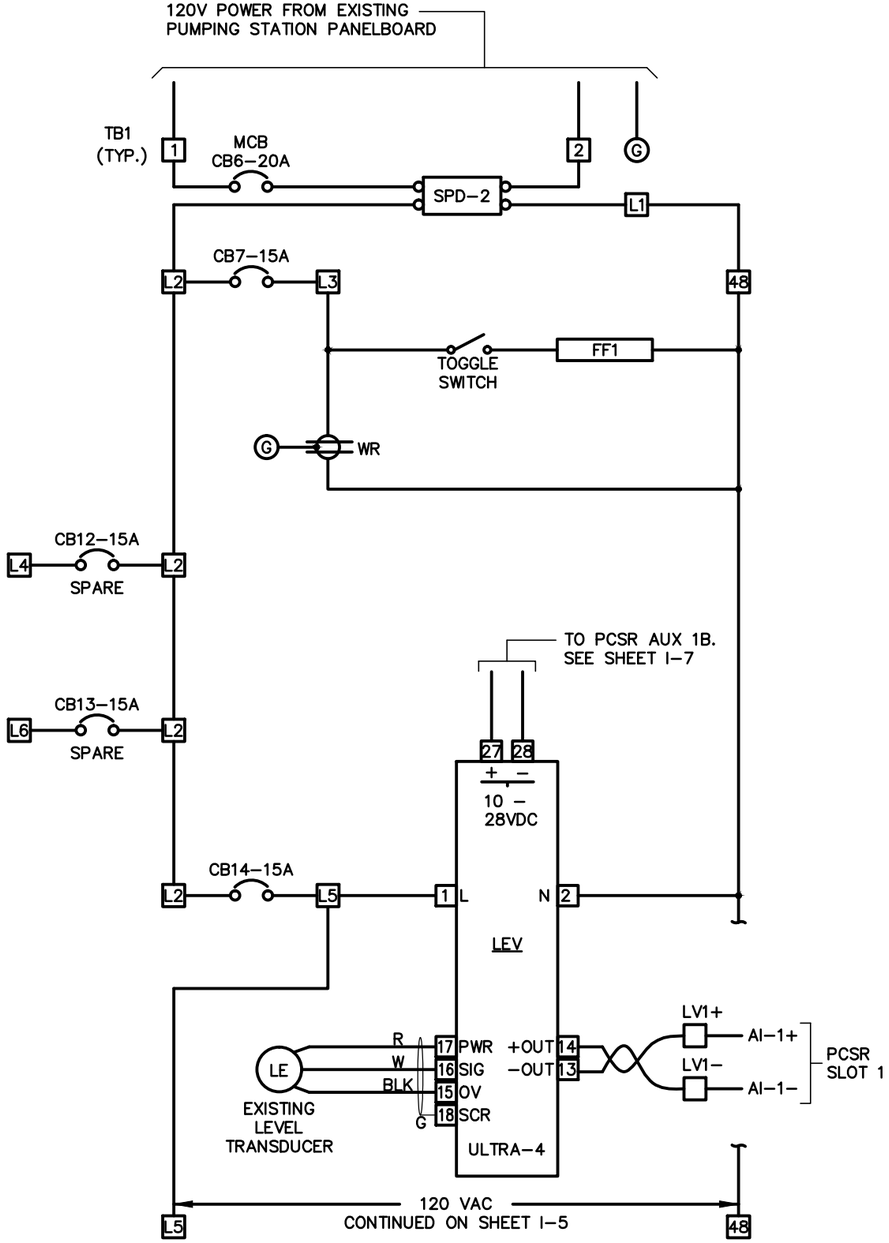
SHEET I-3



TERMINAL ON ACE I/O MODULE (GENERAL)

TERMINAL IN PUMP CONTROL PANEL (PCP)

TERMINAL IN MOTOR CONTROL CENTER (MCC)

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SWANN PUMPING STATION –
GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP)
SCHEMATIC (SHEET 1 OF 5)

NO.	DATE	REVISIONS

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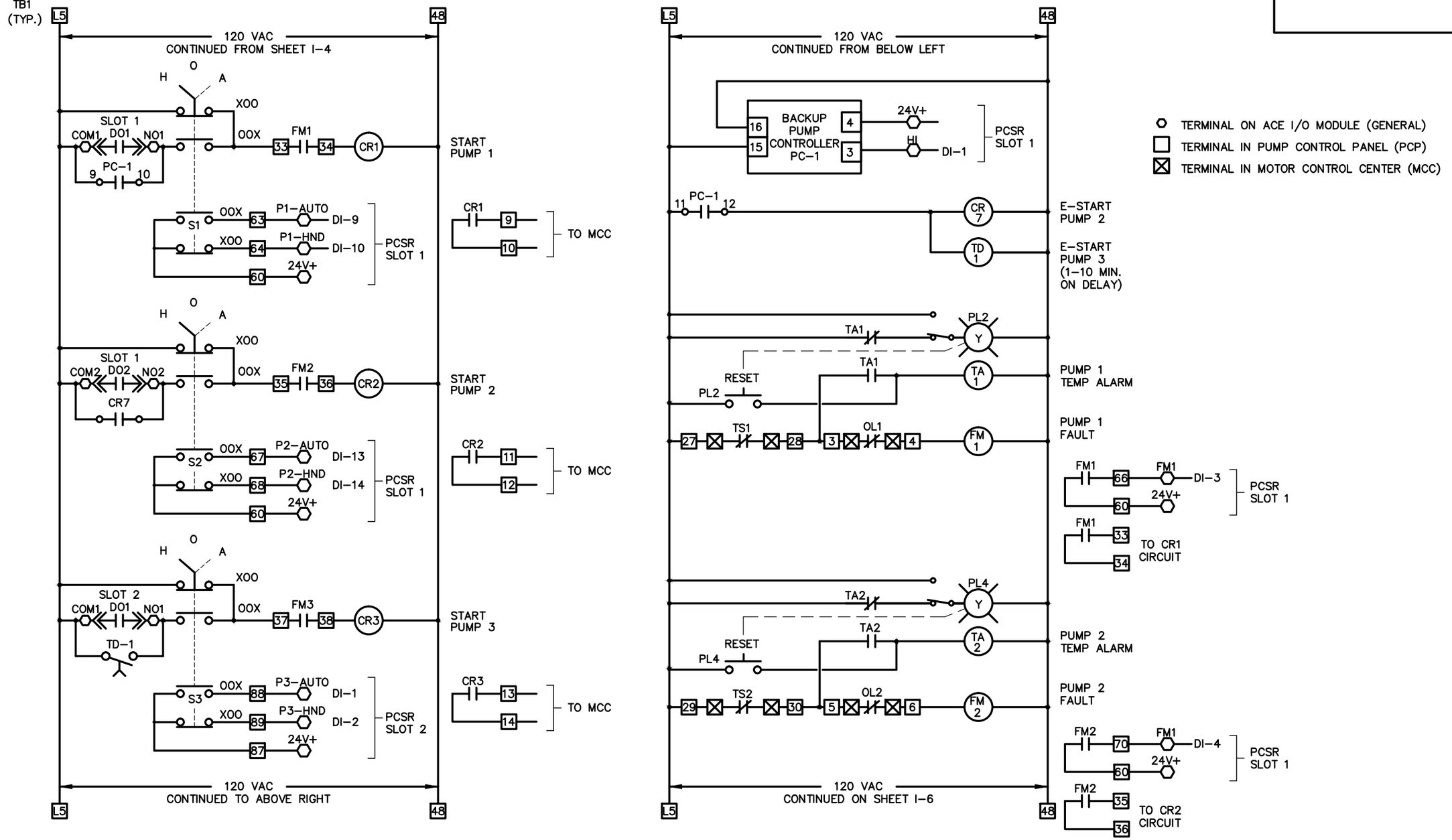
DATE: 05/15/24

SHEET I-4



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SWANN PUMPING STATION –
GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP)
SCHEMATIC (SHEET 2 OF 5)

NO.	DATE	REVISIONS

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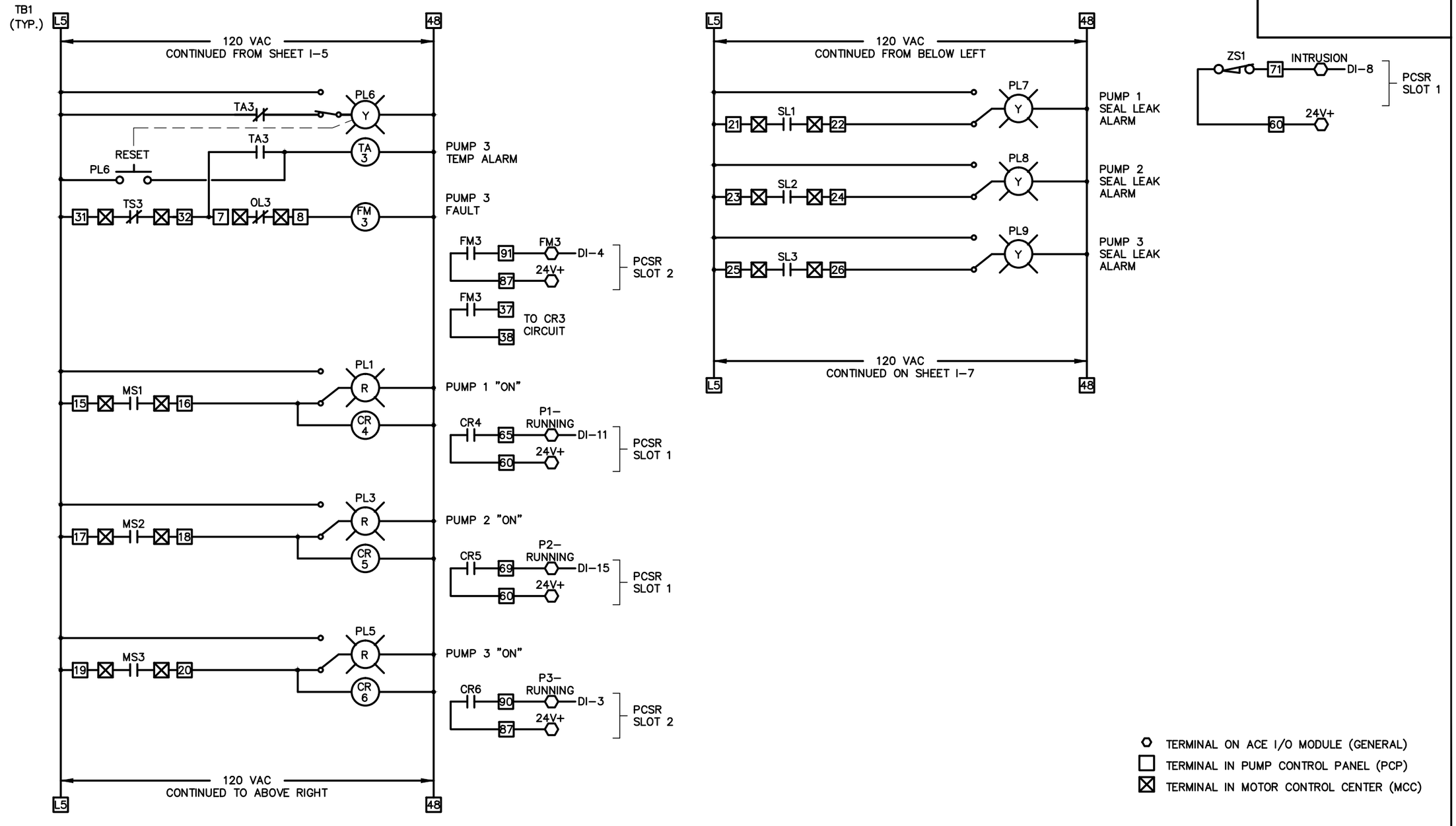
DATE: 05/15/24

SHEET I-5



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PUMP CONTROL PANEL (PCP)
SCHEMATIC (SHEET 3 OF 5)

NO.	DATE	REVISIONS

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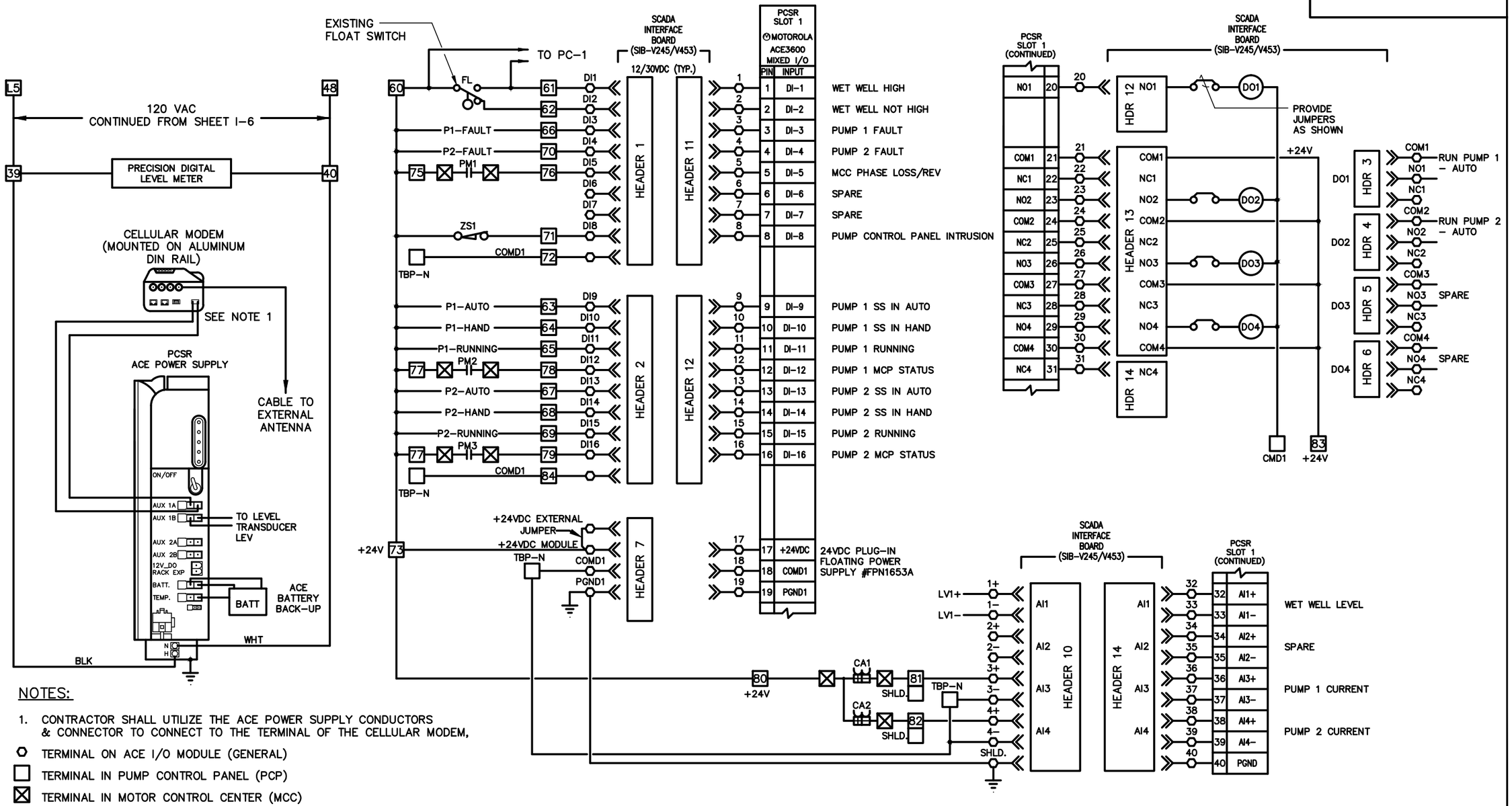
DATE: 05/15/24

SHEET I-6



NOTES:

1. CONTRACTOR SHALL UTILIZE THE ACE POWER SUPPLY CONDUCTORS & CONNECTOR TO CONNECT TO THE TERMINAL OF THE CELLULAR MODEM.

⬡ TERMINAL ON ACE I/O MODULE (GENERAL)

□ TERMINAL IN PUMP CONTROL PANEL (PCP)

⊠ TERMINAL IN MOTOR CONTROL CENTER (MCC)

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PUMP CONTROL PANEL (PCP) SCHEMATIC (SHEET 4 OF 5)

NO.	DATE	REVISIONS

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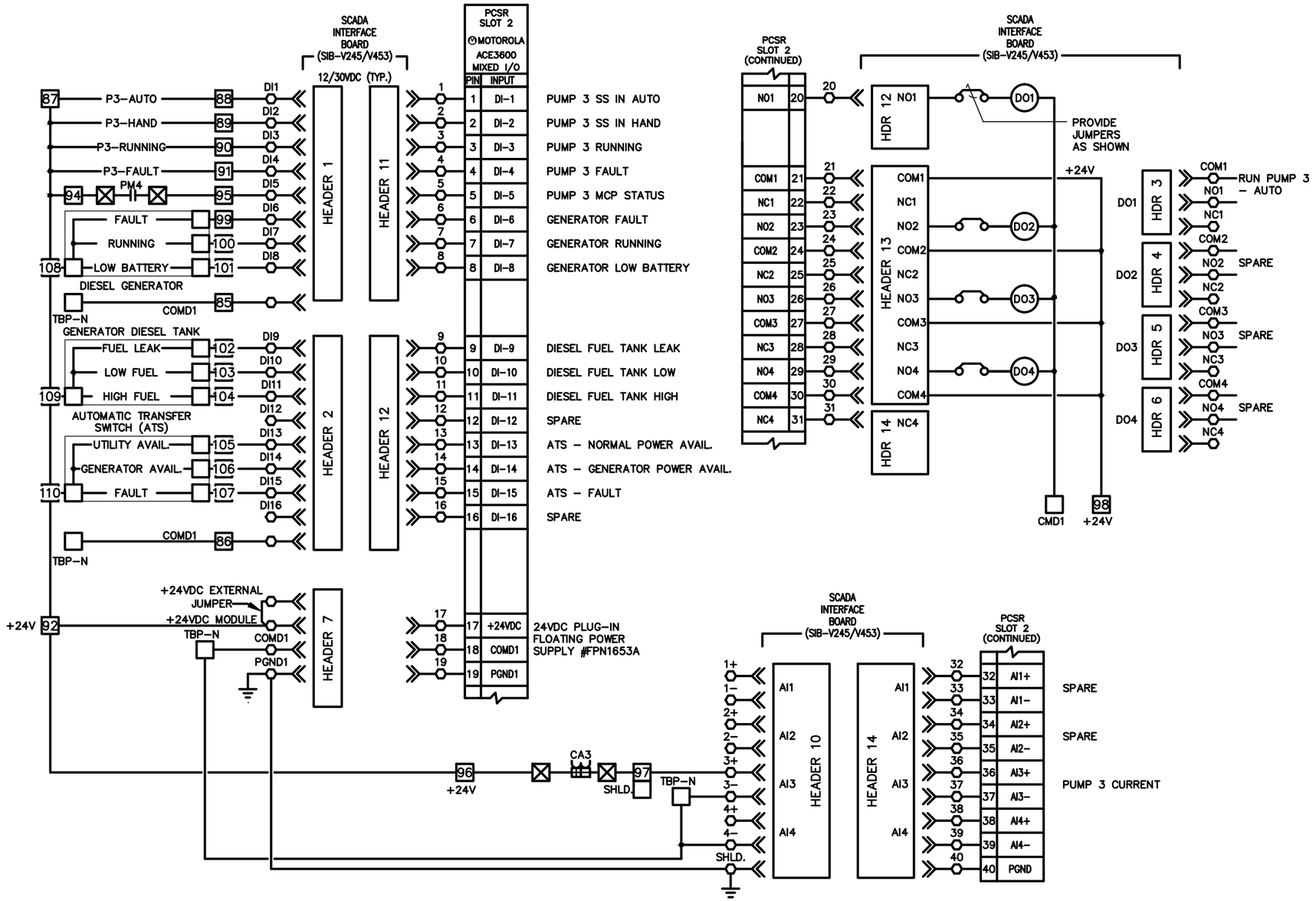
SHEET I-7



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SWANN PUMPING STATION - GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP) SCHEMATIC (SHEET 5 OF 5)

NO.	DATE	REVISIONS

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SHEET I-8

TBI- (□) (120 VAC) MOUNTED ON PUMP CONTROL PANEL (PCP)

TERM.	DESCRIPTION
1	120V FROM PANELBOARD
2	NEUTRAL FROM PANELBOARD
3	M1 OVERLOAD
4	M1 OVERLOAD
5	M2 OVERLOAD
6	M2 OVERLOAD
7	M3 OVERLOAD
8	M3 OVERLOAD
9	PUMP 1 START COMMAND TO MS1 (IN MCC)
10	PUMP 1 START COMMAND TO MS1 (IN MCC)
11	PUMP 2 START COMMAND TO MS2 (IN MCC)
12	PUMP 2 START COMMAND TO MS2 (IN MCC)
13	PUMP 3 START COMMAND TO MS3 (IN MCC)
14	PUMP 3 START COMMAND TO MS3 (IN MCC)
15	P1 ON STATUS FROM MS1 (IN MCC)
16	P1 ON STATUS FROM MS1 (IN MCC)
17	P2 ON STATUS FROM MS2 (IN MCC)
18	P2 ON STATUS FROM MS2 (IN MCC)
19	P3 ON STATUS FROM MS3 (IN MCC)
20	P3 ON STATUS FROM MS3 (IN MCC)
21	PUMP 1 LEAK ALARM FROM SL1 (IN MCC)
22	PUMP 1 LEAK ALARM FROM SL1 (IN MCC)
23	PUMP 2 LEAK ALARM FROM SL2 (IN MCC)
24	PUMP 2 LEAK ALARM FROM SL2 (IN MCC)
25	PUMP 3 LEAK ALARM FROM SL3 (IN MCC)
26	PUMP 3 LEAK ALARM FROM SL3 (IN MCC)

TB1 CONTINUED

27	PUMP 1 TEMPERATURE ALARM FROM MCC
28	PUMP 1 TEMPERATURE ALARM FROM MCC
29	PUMP 2 TEMPERATURE ALARM FROM MCC
30	PUMP 2 TEMPERATURE ALARM FROM MCC
31	PUMP 3 TEMPERATURE ALARM FROM MCC
32	PUMP 3 TEMPERATURE ALARM FROM MCC
33	FM1 TO CR1 (PUMP 1 START CIRCUIT)
34	FM1 TO CR1 (PUMP 1 START CIRCUIT)
35	FM2 TO CR2 (PUMP 2 START CIRCUIT)
36	FM2 TO CR2 (PUMP 2 START CIRCUIT)
37	FM3 TO CR3 (PUMP 3 START CIRCUIT)
38	FM3 TO CR3 (PUMP 3 START CIRCUIT)
39	WET WELL LEVEL PANEL METER – L1
40	NEUTRAL
41	SPARE
42	SPARE
43	SPARE
44	SPARE
45	SPARE
46	SPARE
47	SPARE
48	SPD–2 NEUTRAL OUT
L1	SPD–2 NEUTRAL OUT
L2	SPD–2 H OUT
L3	CB7 OUT
L4	SPARE – CB12 OUT
L5	CB14 OUT
L6	SPARE CB13 OUT
55	SPARE

CONTROL SCHEMATIC SYMBOLS

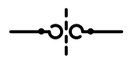

TRANSFORMER

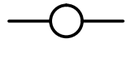

PUSH BUTTON

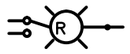

115 V, 60 Hz, DUPLEX RECEPTACLE


SWITCH


CONNECTED


OVERLOAD HEATER COIL


COIL
- TD – TIME DELAY RELAY
- CR – CONTROL RELAY
- ETI – TIMEMETER
- M – MOTOR STARTER

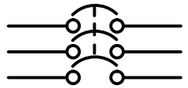


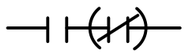
PILOT LIGHT – RED (PRESS–TO–TEST)

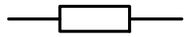

PRESSURE LEVEL SWITCH CONTACT

AIR LINE


CIRCUIT BREAKER (SINGLE–POLE)

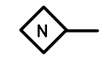

CIRCUIT BREAKER (THREE–POLE)


CONTACT NORMALLY OPEN (CLOSED)


SPLIT BOLT SPLICE


NOT CONNECTED

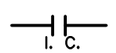
GROUND BUS



NEUTRAL BUS (INSULATED)


FUSE

"ON DELAY" CONTACT



INSTANT CLOSE CONTACT

TB2 TERM STRIP MTD ON MP–– (PCSR INTERFACE)


TERMINAL STRIP IN PCSR

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CITY of TAMPA
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SWANN PUMPING STATION – GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP)
TB1 & TB2 DETAILS
(SHEET 1 OF 2)

NO.	DATE	REVISIONS

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SHEET I-9

TB2- (□) (24VDC) MOUNTED IN PUMP CONTROL PANEL (PCP)

TERM.	DESCRIPTION
60	SLOT 1 PCSR 24V+
61	WET WELL HIGH
62	WET WELL NOT HIGH
63	PUMP 1 – S1 "AUTO" TO PCSR
64	PUMP 1 – S1 "HAND" TO PCSR
65	PUMP 1 ON TO PCSR
66	PUMP 1 FAULT TO PCSR
67	PUMP 2 – S2 "AUTO" TO PCSR
68	PUMP 2 – S2 "HAND" TO PCSR
69	PUMP 2 ON TO PCSR
70	PUMP 2 FAULT TO PCSR
71	PUMP CONTROL PANEL INTRUSION
72	24V COMMON
73	SLOT 1 PCSR 24V+
74	SPARE
75	SLOT 1 PCSR 24V+
76	MCC PHASE LOSS (PM1)
77	SLOT 1 PCSR 24V+
78	PUMP 1 MCP STATUS (PM2) TO PCSR
79	PUMP 2 MCP STATUS (PM3) TO PCSR
80	SLOT 1 PCSR 24V+
81	PUMP 1 AMPS
82	PUMP 2 AMPS
83	SLOT 1 PCSR 24V+
84	24V COMMON
85	24V COMMON
86	24V COMMON

TB2 CONTINUED

87	SLOT 2 PCSR 24V+
88	PUMP 3 – S3 "AUTO" TO PCSR
89	PUMP 3 – S3 "HAND" TO PCSR
90	PUMP 3 ON TO PCSR
91	PUMP 3 FAULT TO PCSR
92	SLOT 2 PCSR 24V+
93	SPARE
94	SLOT 2 PCSR 24V+
95	PUMP 3 MCP STATUS (PM4) TO PCSR
96	SLOT 2 PCSR 24V+
97	PUMP 3 AMPS
98	SLOT 2 PCSR 24V+
99	DIESEL GENERATOR FAULT
100	DIESEL GENERATOR RUNNING
101	DIESEL GENERATOR LOW BATTERY
102	DIESEL FUEL TANK LEAK
103	DIESEL FUEL TANK LOW
104	DIESEL FUEL TANK HIGH
105	ATS – NORMAL POWER AVAILABLE
106	ATS – GENERATOR POWER AVAILABLE
107	ATS – FAULT
108	SLOT 2 PCSR 24V+ TO DIESEL GENERATOR
109	SLOT 2 PCSR 24V+ TO FUEL TANK
110	SLOT 2 PCSR 24V+ TO ATS
111	SPARE
112	SPARE
113	SPARE
114	SPARE
115	SPARE
116	SPARE

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SWANN PUMPING STATION – GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP)
TB1 & TB2 DETAILS
(SHEET 2 OF 2)

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SHEET I-10

PARTS SCHEDULE (PUMP CONTROL PANEL)

SYMBOL	NAME	MAKE	TYPE	MODEL OR CATALOG NO.	RATING	REMARKS
CB6 (MCB)	MAIN CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU–120	120V, 20A	
CB7, CB12, CB13, CB14	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU–115	120V, 15A	
CR1 – CR7	CONTROL RELAY	POTTER & BRUMFIELD (TE)	14 BLADE SQUARE PLUG–IN	KUP–17A19–120	120V COIL, 10A CONTACTS	4PDT w/ SOCKET AND HOLD DOWN SPRING
FF1	LED LIGHTING FIXTURE	HOFFMAN	LED	LED1S35	120V, 5W	w/ TOGGLE SWITCH TS
FM1 – FM3	CONTROL RELAY	POTTER & BRUMFIELD (TE)	11 PIN PLUG–IN	KRPA–14AG–120	120V COIL, 10A CONTACTS	3PDT w/ SOCKET AND HOLD DOWN SPRING
GB1	GROUND BAR SYSTEM	PANDUIT	12 PORT WITH MAIN LUG	UGB2/0–414–12		COPPER CONSTRUCTION
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
ITS	INSULATED TERMINAL STRIP	ALLEN–BRADLEY	STYLE AA	1492–15–T	600V NEUTRAL BLOCK	4 CONTACTS (MIN.) w/ SHORTING BARS
L1	PROCESS METER – LEVEL	PRECISION DIGITAL	4 DIGIT, 1.2" DISPLAY	PD765–6R3–10		4–20 mA OUTPUT
LEV	WET WELL LEVEL SENSOR	PULSAR, INC.	ULTRASONIC	ULTRA–4	1 – 32.8 FT RANGE, 115V/ 24VDC POWERED w/ 4–20 mA & (2) RELAY OUT w/ KEY PAD, DISPLAY & TROPICALIZATION	USE EXISTING TRANSDUCER. CITY FORCES WILL PROVIDE ASSISTANCE w/ CALIBRATION
NB1, NB2	NEUTRAL DISTRIBUTION BLOCK	BUSSMAN	SINGLE POLE	16220–1	600V, 175A	
PC–1	BACKUP PUMP CONTROLLER	WILKERSON	DUPLEX	DR1920	10A CONTACTS	DIN RAIL MOUNTING
PCP	PUMP CONTROL PANEL	SCHAEFER'S	NEMA 4X, 3–PT LATCH, 48"X36"X12"	SPN4SS–483612	304SS, POWDER COATED WHITE	3–PT LATCH w/ STOP KIT. EXTERNAL FINISH – DURABLE RAL 9003 WHITE POWDER COAT
	ENCLOSURE BACK PANEL	SCHAEFER'S	45"x33" STEEL	SPP–4836	STEEL 12 GAUGE	
PL1, PL3, PL5	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT38LRR9	120V LED TYPE	RED LENS & PRESS TEST
PL2, PL4, PL6	ILLUM. PUSH BUTTON	SQUARE D	CLASS 9001	SK2L38LYYH13	120V LED TYPE	YELLOW LENS & 1 N.O.,1 N.C.
PL7, PL8, PL9	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT38LYY9	120V LED TYPE	YELLOW LENS & PRESS TEST
S1, S2, S3	HOA SWITCH ASSEMBLY	SQUARE D	OILTIGHT CLASS 9001	SKS – 43B H2	10A @ 120V	
SPD–2	SURGE PROTECTION DEVICE – TYPE 3	PHOENIX CONTACT	3 CONDUCTOR SYSTEM (L, N, G)	2907918	120V, 26A	SAFE ENERGY CONTROL (SEC) SERIES
TA1 – TA3	CONTROL RELAY	POTTER & BRUMFIELD (TE)	8 PIN PLUG–IN	KRPA–11AG–120	120V COIL, 10A CONTACTS	DPDT w/ SOCKET AND HOLD DOWN SPRING
TB1, TB2	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30A w/ ALUM. DIN RAIL	50 CONTACTS – MINIMUM
TD1	TIME DELAY RELAY	SQUARE D	DIN RAIL MOUNTED	822–TD–10H–UNI	120V COIL, 15A CONTACTS	ADJUSTABLE w/ SOCKET & HOLD DOWN SPRING
WR	WALL RECEPTACLE	HUBBELL	DUPLEX w/ GFI	GF5262	120 VAC, 15A GFI	w/ ALUMINUM OUTLET BOX & COVER
ZS1	CONTROL PANEL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F–X5F1	12–24VDC, 3–WIRE PNP	w/ TELEMECANIQUE MTG. BRACKET (GRAINGER 5B233)

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SWANN PUMPING STATION – GENERATOR INSTALLATION

PUMP CONTROL PANEL (PCP)
PARTS SCHEDULE (SHEET 1 OF 2)

NO.	DATE	REVISIONS

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SHEET I-11

PARTS SCHEDULE (PUMP CONTROL PANEL)

SYMBOL	NAME	MAKE	TYPE	MODEL OR CATALOG NO.	RATING	REMARKS
PCSR	PLC BASED PUMP CONTROLLER, SCADA AND CELLULAR SYSTEM	MOTOROLA CORP.	PLC BASED PUMP CONTROLLER	F7509	BASE MODEL – NO RADIO	PROVIDE (1) ONE SPARE
		MOTOROLA CORP.	METAL CHASSIS	V214	MEDIUM 14" x 14"	
		MOTOROLA CORP.	AC POWER SUPPLY 85–264V	V261	100–240 VAC w/ 12V SMART CHARGER	PROVIDE (1) ONE SPARE
		MOTOROLA CORP.	BACKUP BATTERY	V328	10.0 AH, SEALED LEAD ACID	IN SEPARATE LOCATION FROM METAL CHASSIS. PROVIDE FKN8376 BATTERY POWER CABLE, FHN601 MOUNTING BRACKET & FNN7898 10 AH BACKUP BATTERY
		MOTOROLA CORP.	3–1/O SLOT FRAME	V103		
		MOTOROLA CORP.	20 PIN TB HOLDER KIT	V158		
		MOTOROLA CORP.	I/O SLOT COVER	V20	BLANK MODULE	WHERE APPLICABLE
		MOTOROLA CORP.	16 DI + 4 DO (EE) + 4 20mA AI	V245		MIXED I/O, PROVIDE (2) SPARES
		MOTOROLA CORP.	24VDC PLUG IN POWER SUPPLY	V260 (FPN1653A)	24V FLOATING MAX, 150 mA OUTPUT	FLOATING POWER SUPPLY
		WILKERSON	SCADA INTERFACE BOARD	SIB–V 245/V453		PROVIDE (2) SPARES
		GE MDS ORBIT ECR	4G CELLULAR SYSTEM	MDSECR4GYNNNNNS1D3USUNNN	10–60 VDC	DIN RAIL MOUNTING REQUIRED
		PCTEL	5G/LTE MULTIBAND ANTENNA W/SMA PLUGS (MALE PIN)	PCTHPDLTE–LTB		WITH (2) – 17' PRO–FLEX CABLES. MOUNT ANTENNA ON 6" x 6" x 4" NEMA 4X SS ENCLOSURE.
		CUSTOM	ACE TO GE MDS ORBIT SERIAL COMM CABLES			REFER TO PIN–OUT ON SHEET I–13

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PUMP CONTROL PANEL (PCP)
PARTS SCHEDULE (SHEET 2 OF 2)

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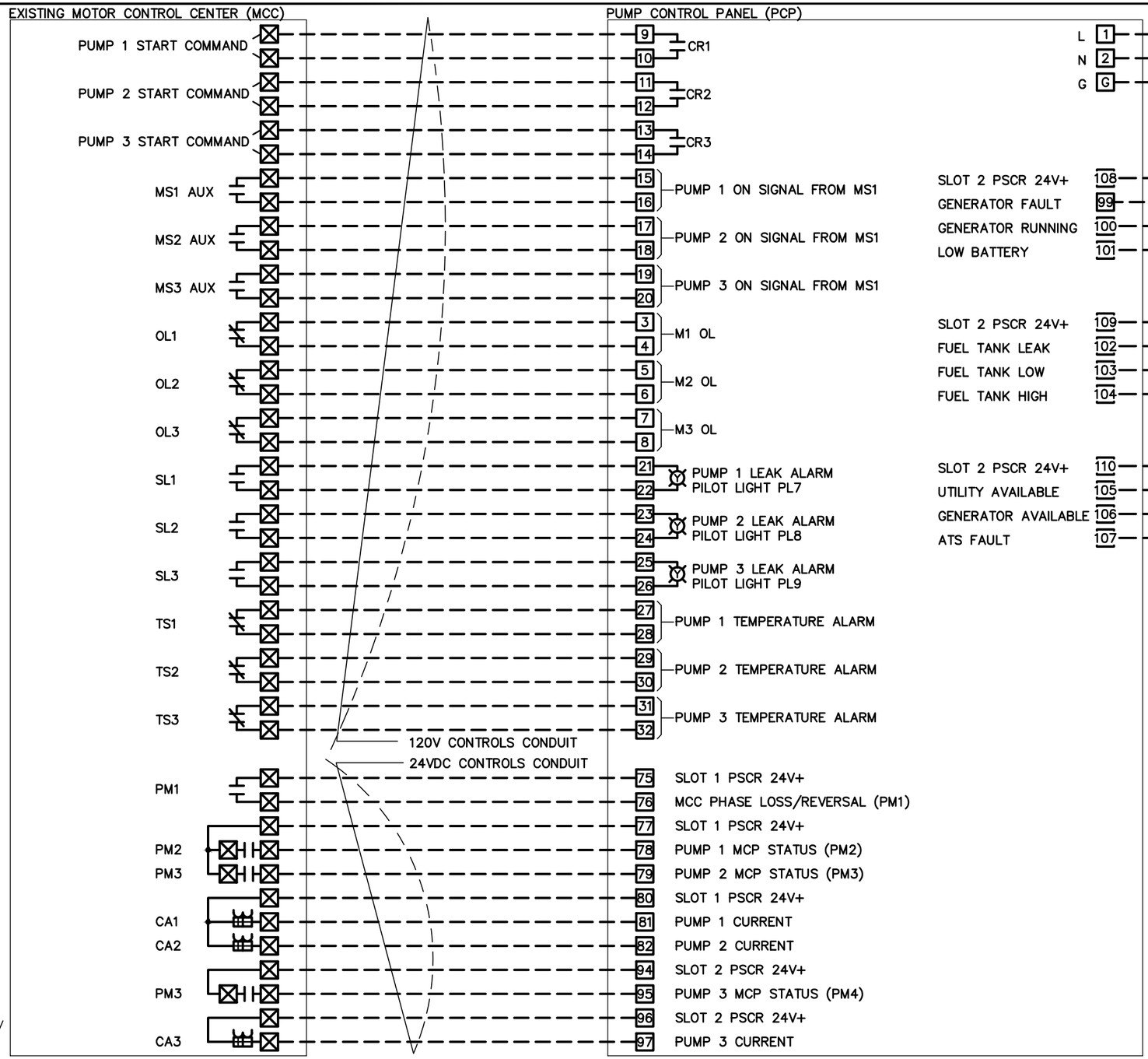
SHEET I-12



MDS ORBIT			ACE CONTROLLER		
PIN-1	N/A	WHT/ORN	PIN-1	CTS	BRN
PIN-2	DCD	ORN	PIN-2	DCD	WHT/GRN
PIN-3	N/A	WHT/GRN	PIN-3	N/A	ORN
PIN-4	GND	BLUE	PIN-4	RTS	WHT/BRN
PIN-5	RX	WHT/BLUE	PIN-5	GND	BLUE
PIN-6	TX	GRN	PIN-6	N/A	WHT/ORN
PIN-7	CTS	WHT/BRN	PIN-7	TX	WHT/BLU
PIN-8	RTS	BRN	PIN-8	RX	GRN
STANDARD ETHERNET ABOVE			MOTOROLA PIN OUT (SERIAL) ABOVE		
RJ-45			LABEL THIS END "CPU SERIAL 1"		

CUSTOM SERIAL COMM CABLE PIN OUT

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MCC TO PCP INTERCONNECTION DIAGRAM

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SHEET I-13