CITY OF TAMPA

Bob Buckhorn, Mayor **Contract Administration Department**

Michael W. Chucran, Director

ADDENDUM 3

September 28, 2018

Contract 18-C-00011; Midlake Pump Station Rehabilitation

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: Replace plan sheets 2, 3, 4, EG4, ES1, ES2, ED2, E1, E2, E3, E6, E7, E8, E10, E12, E14, E15, and E19 with the attached plan sheets 2, 3, 4, EG4, ES1, ES2, ED2, E1, E2, E3, E6, E7, E8, E10, E12, E14, E15, and E19.

Item 2: Insert the attached plan sheets 4A, 4B, 4C and 4D.

Item 3: Attached is a copy of the pre-bid meeting sign-in sheet.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

Jim Greiner

Jim Greiner, P.E. Contract Management Supervisor

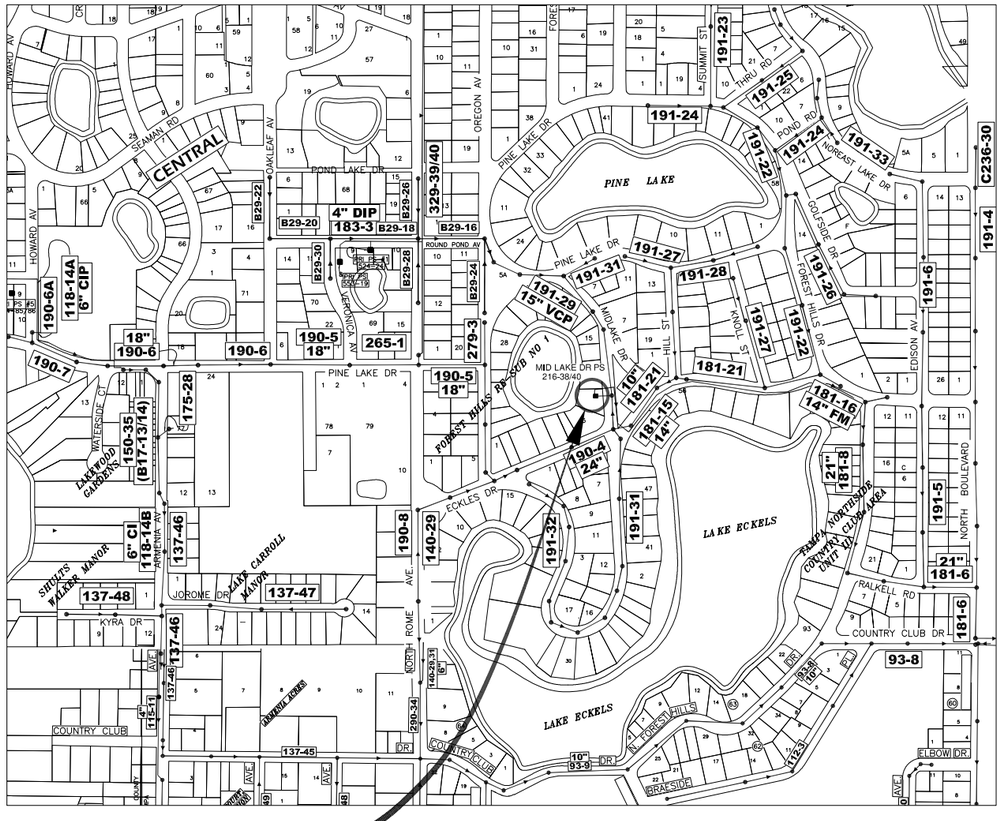
LEGEND

EX SEWERS	UP to 36" & SMALLER	36" & LARGER
EX FORCE MAIN		
EX SAN SEWER & MANHOLES		
EX STORM SEWER & MANHOLES		
PROP SEWERS		
PROP FORCE MAIN		
PROP SANITARY SEWER & MANHOLES		
PROP STORM SEWER & MANHOLES		

OTHER FEATURES	
RIGHT of WAY LINE	R/W
EDGE of PAVEMENT	
WATER LINE	
GAS LINE	
ELECTRICAL CABLE or DUCT	
TELEPHONE CABLE or DUCT	
TV CABLE	
VALVE, AIR RELEASE VALVE	
HYDRANT	
CATCH BASIN, GRATE	
POWER POLE	
TELEPHONE POLE	
GUY POLE	
GUY WIRE	
VALVE VAULT	V
WATER METER	M
ELECTRICAL MANHOLE or VAULT	E
TELEPHONE MANHOLE or VAULT	T
TRAFFIC BOX or VAULT	TR
BUILDING LIMIT	1236
PROPERTY OWNERSHIP	Z
FENCE	
CONIFER	6"
PALM	8"
OAK	10"
OTHER	12"
SHRUB	
HEDGE	
RAILROAD TRACKS	
IRON PIPE	
CONTROL POINT	
CONCRETE MONUMENT	
OPEN DITCHES	
EXISTING WYE	
PROPOSED WYE	
CLEAN OUT	

ABBREVIATIONS

AIR RELEASE VALVE	ARV	MAINTENANCE OF TRAFFIC	MOT
APPROXIMATE LOCATION	AL	MANHOLE	MH or M
BENCH MARK	BM	PLUG VALVE	PV
BURIED TELEPHONE	BT	POINT of INTERSECTION	PI
CONCRETE PIPE	CP	POLYVINYL CHLORIDE PIPE	PVC
DIAMETER RATIO	DR	REINFORCED CONCRETE PIPE	RCP
DUCTILE IRON PIPE	DIP	RESTRAINED MECHANICAL JOINT	RMJ
EDGE OF PAVEMENT	EOP	RIGHT of WAY	R/W
FIBER OPTIC CABLE	FOC	TOP of PIPE	TOP
FLORIDA DEPT. OF TRANSPORTATION	FDOT	VERIFIED VERT. AND HORZ. LOCATION	Vvh
FORCE MAIN	FM	VITRIFIED CLAY PIPE	VCP
HIGH DENSITY POLYETHYLENE PIPE	HDPE	WASTEWATER	WW
EL INVERT ELEVATION	IE or INV		



12104 MIDLAKE DR.
PUMP STATION

LOCATION MAP
N.T.S.

ATLAS A-11

SEC. 11 T28S R18E

INDEX

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

No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: MS
DRN: JHJ
CKD:
DATE: 9/18/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION
LEGEND, INDEX, & LOCATION MAP

SHEET 2

DEMOLITION NOTES

1. SALVAGEABLE MATERIAL, AS DETERMINED BY DEPARTMENT PERSONNEL, SHALL BE DELIVERED TO THE PARTS WAREHOUSE LOCATED ON THE TREATMENT PLANT SITE. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

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.

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE WASTEWATER INSPECTOR, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS. AFTER ISSUANCE OF THE NOTICE TO PROCEED (NTP).

2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR THE PUMPING STATION WORK.

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

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

5. AFTER WET WELL IS DEWATERED, THE CONTRACTOR SHALL CLEAN WET WELL OF ALL DEBRIS. DEBRIS MAY BE DELIVERED AND DISPOSED OF AT THE CITY OF TAMPA HOWARD F. CURREN AWTP, 2700 MARITIME BOULEVARD.

6. IT IS THE ENGINEER'S INTENT THAT CONTINUOUS SERVICE WILL BE MAINTAINED THROUGHOUT THE PROJECT. BYPASS PUMPS SHALL BE SIZED TO MATCH FLOWRATE AND TDH OF PROPOSED PUMPING EQUIPMENT. PRESSURE LOSSES FROM THE TEMPORARY PIPING AND VALVES SHOULD BE INCLUDED.

7. DIMENSIONS SHOWN ARE NOT NECESSARILY ACCURATE TO THE DEGREE REQUIRED FOR FABRICATION. EXISTING DIMENSIONS AND VIEWS ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL FIELD VERIFY ALL PERTINENT DIMENSIONS AND REFLECT THEM ON DETAILED SHOP DRAWINGS FOR APPROVAL BEFORE ANY FABRICATION.

⚠ 8. TWO NEW PUMPS SHALL BE SUPPLIED AND INSTALLED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT PUMPS, 8-INCH MODEL NP-3153.095, 20HP PUMPS SHALL BE RATED FOR 1810 GPM AT 29.3 FT TDH. PUMP BASES AND GUIDE RAILS FOR THESE NEW PUMPS WILL ALSO NEED TO BE FURNISHED AND INSTALLED. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.

⚠ 9. CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS AND ANY MISCELLANEOUS BRACKETS.

⚠ 10. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (CLEARLY LEGIBLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.

⚠ 11. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE 316 STAINLESS STEEL.

⚠ 12. 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.

⚠ 13. 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.

⚠ 14. BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 6-INCH LAYERS (MAX.) TO 98% MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T-180 METHOD A.

⚠ 15. ALL CONCRETE PAVEMENT UNLESS OTHERWISE NOTED, SHALL BE MIN 6" THICK CONCRETE WITH 4x4 W6xW6 WWF. CONCRETE SHALL BE CONSTRUCTED ON COMPACTED SUBBASE (MINIMUM 98% MODIFIED PROCTOR) WITH 1.5" DEEP CONTROL JOINTS SAWCUT @ 15' MAX, CUT WITHIN 12 HOURS OF CONCRETE PLACEMENT.

⚠ 16. CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES PROPOSED LINK SEAL OR APPROVED EQUAL.

⚠ 17. CONTRACTOR MAY MODIFY PRECAST MANHOLE (UNLINED) AS NEEDED TO FACILITATE BYPASS INSTALLATION. CONTRACTOR IS RESPONSIBLE IN RESTORING MANHOLE AFTER CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR WILL BE RESPONSIBLE IN OBTAINING HILLSBOROUGH COUNTY ROAD CLOSURE PERMITS AND DEVELOPING THE ENGINEERS'S SIGNED AND SEALED MOT FOR PERMIT APPLICATION.

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

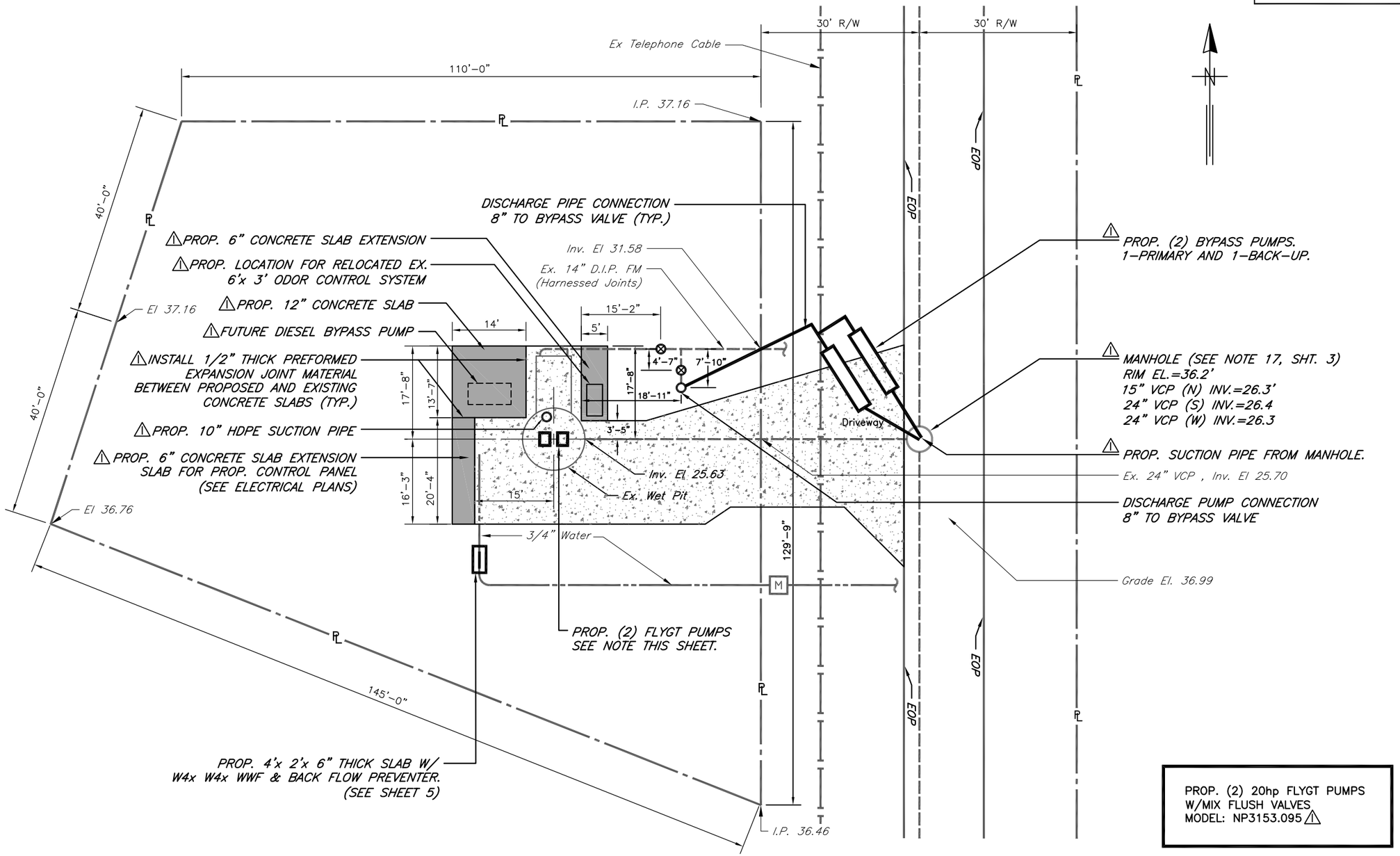
No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: MS
DRN: JHJ
CKD:
DATE: 9/20/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION
GENERAL NOTES

SHEET 3

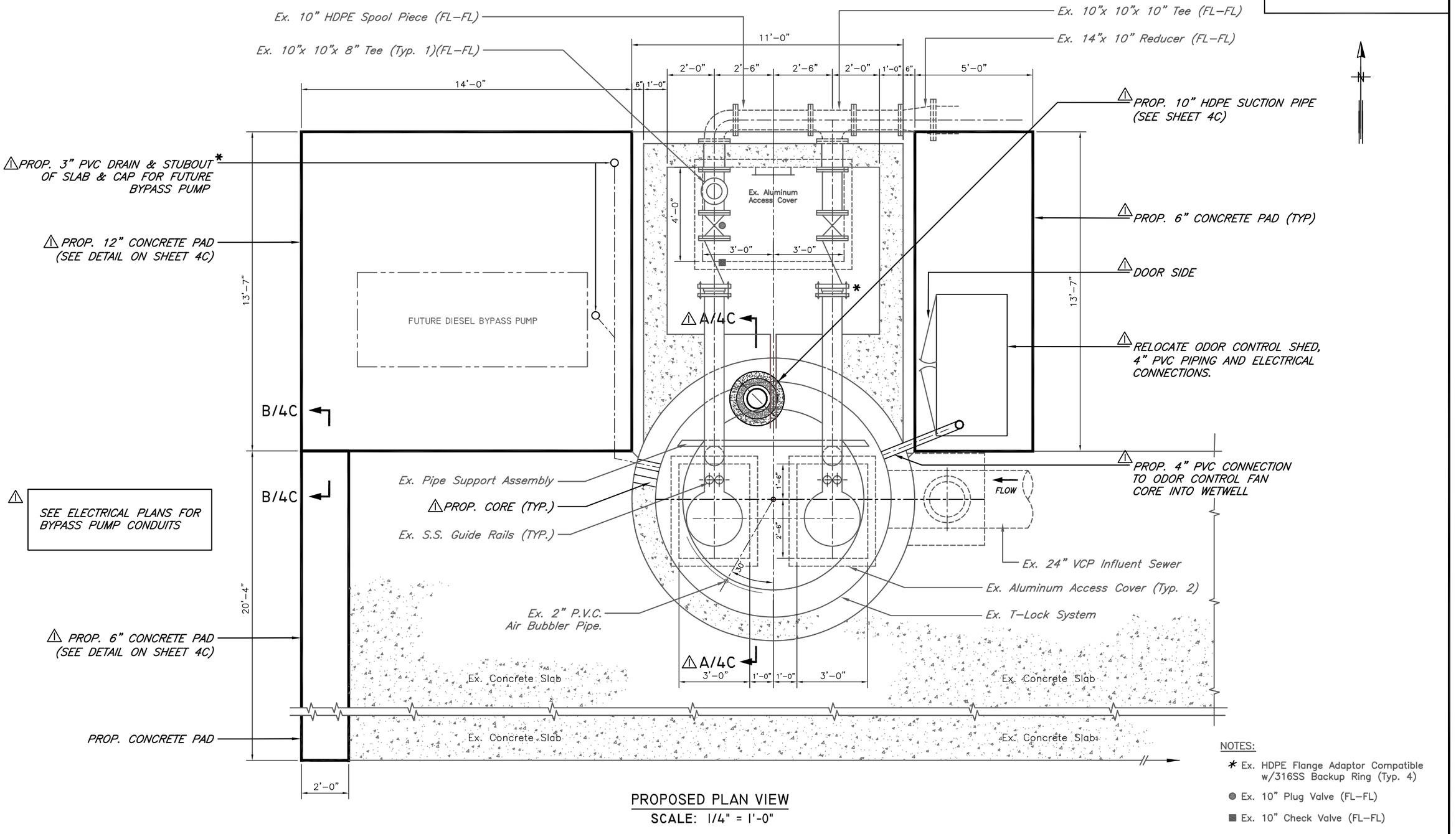


PROPOSED SITE PLAN / PROPOSED BYPASS PLAN

SCALE: 1" = 20'

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 9/20/18	CITY of TAMPA WASTEWATER DEPARTMENT	MIDLAKE PUMPING REHABILITATION PROPOSED SITE PLAN / PROPOSED BYPASS PLAN	SHEET 4
	3						
	2						
	⚠	9/5/18	REVISION 1				

* APPROXIMATE LOCATION SHOWN, FINAL LOCATION OF STUBOUTS SHALL BE DETERMINED IN THE FIELD



PROPOSED PLAN VIEW
SCALE: 1/4" = 1'-0"

NOTES:

* Ex. HDPE Flange Adaptor Compatible w/316SS Backup Ring (Typ. 4)
● Ex. 10" Plug Valve (FL–FL)
■ Ex. 10" Check Valve (FL–FL)

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

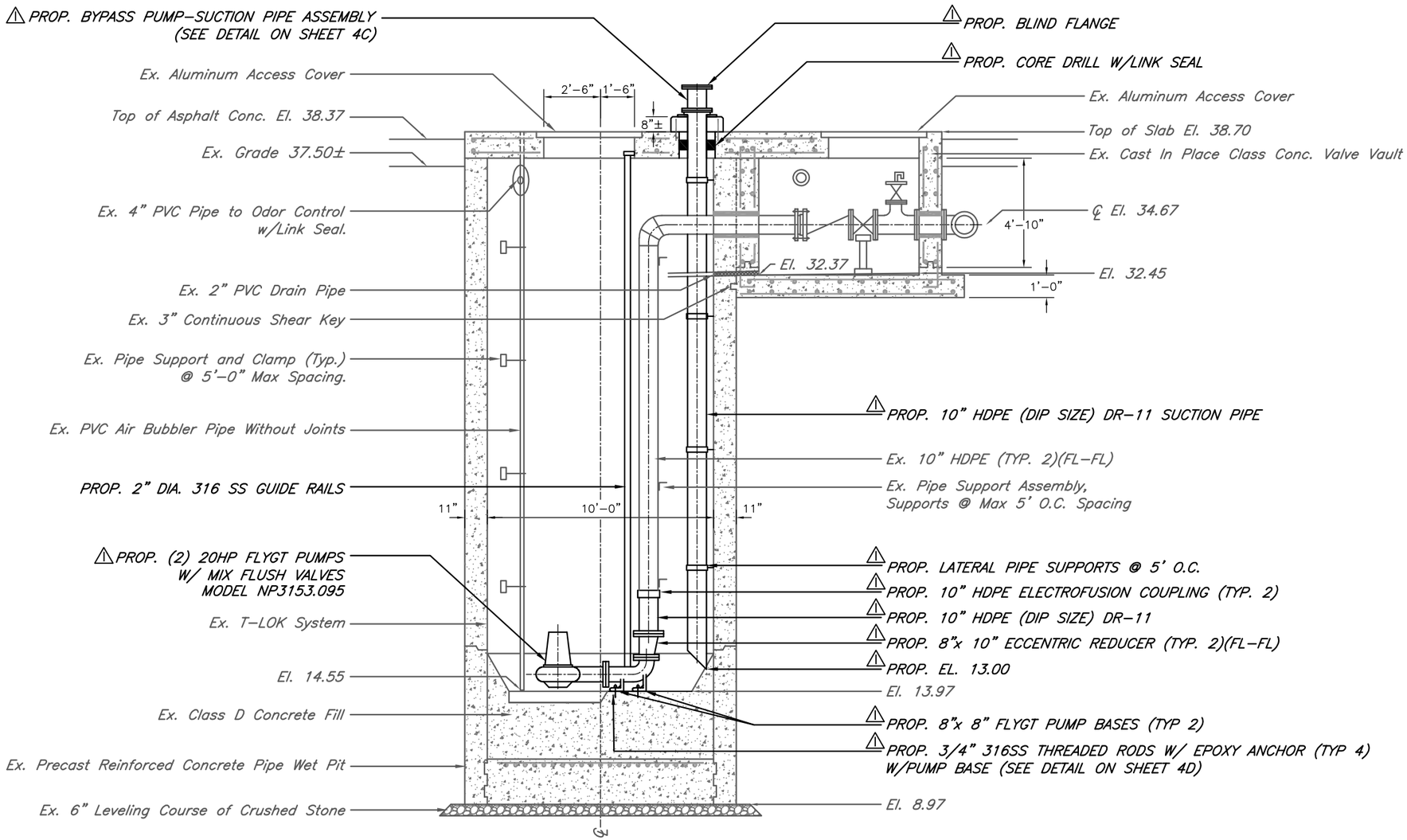
No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: MS
DRN: JHJ
CKD:
DATE: 9/17/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION
PROPOSED PLAN VIEW

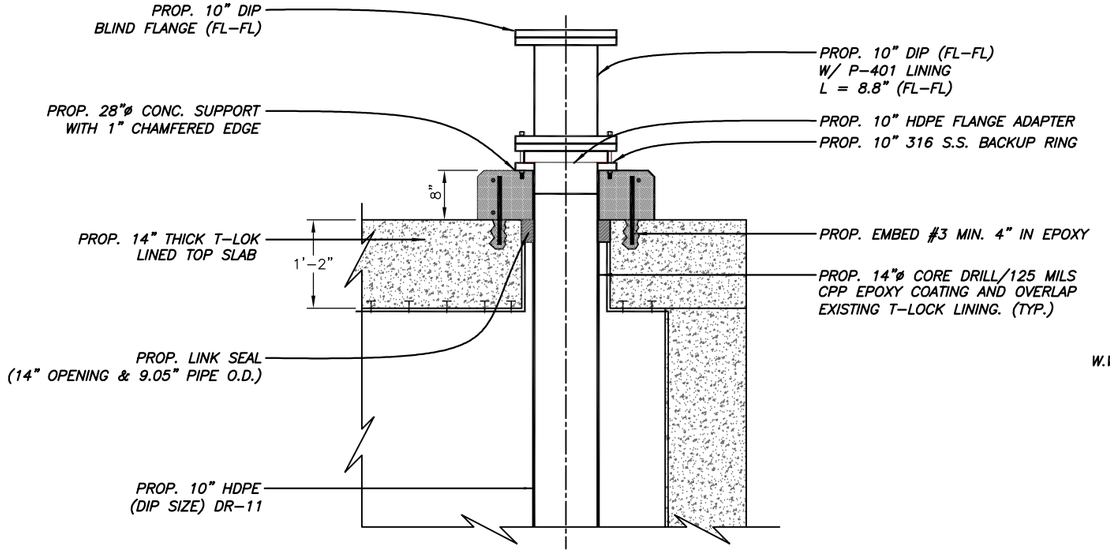
SHEET 4A



PROPOSED SECTION VIEW A-A

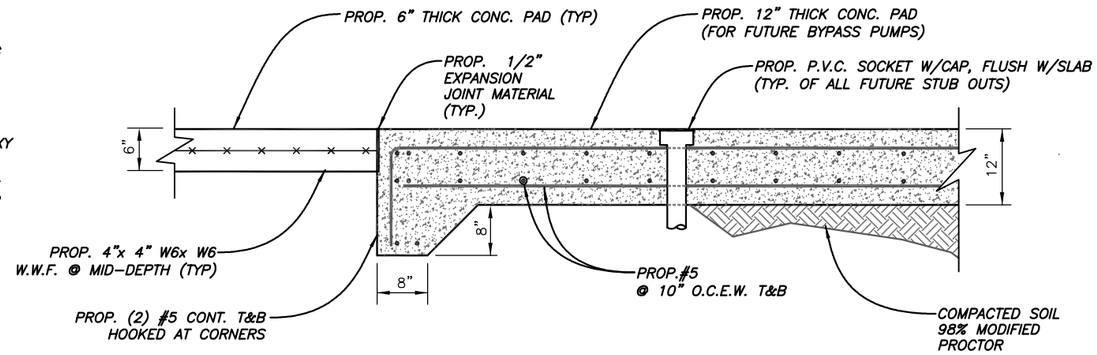
SCALE: 3/16" = 1'-0"

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS DRN: JHJ CKD: JF DATE: 9/27/18	CITY of TAMPA WASTEWATER DEPARTMENT	MIDLAKE PUMPING STATION REHABILITATION PROPOSED SECTION VIEW	SHEET 4B
	3						
	2						
	⚠	9/5/18	REVISION 1				



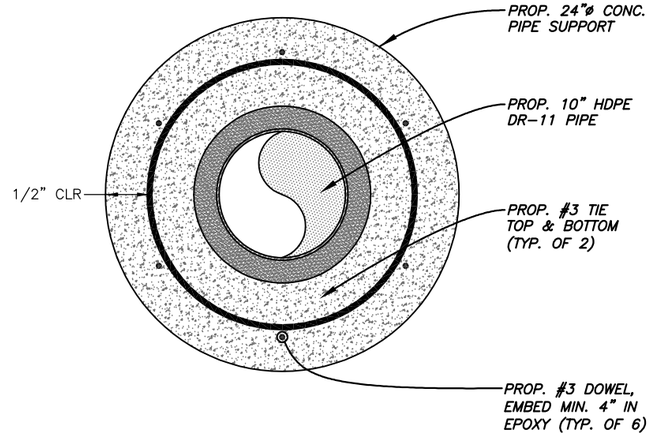
CONCRETE SUPPORT SECTION

N.T.S.



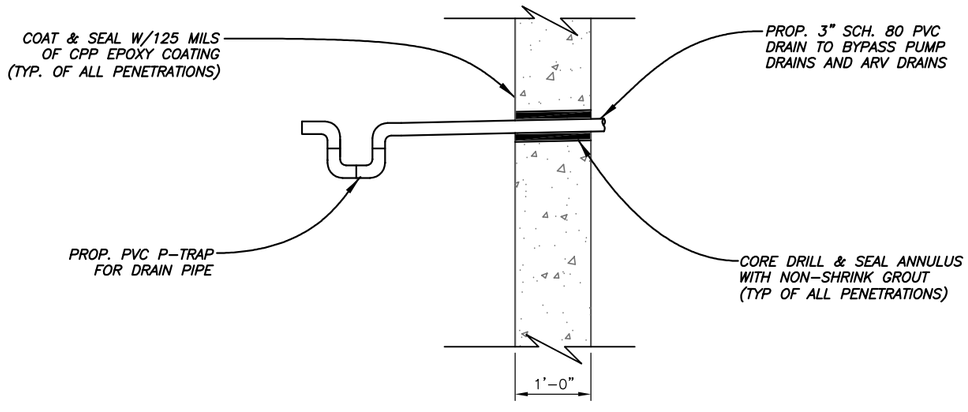
CONCRETE SECTION B-B

N.T.S.



CONCRETE SUPPORT PLAN VIEW

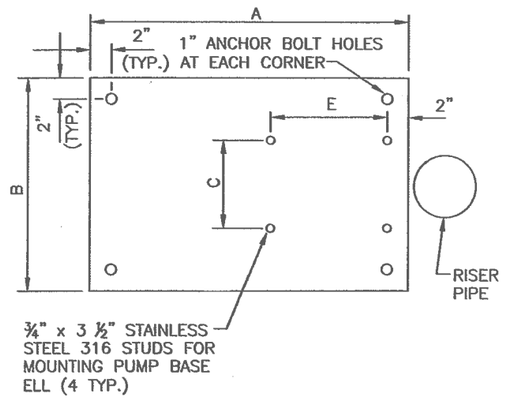
N.T.S.



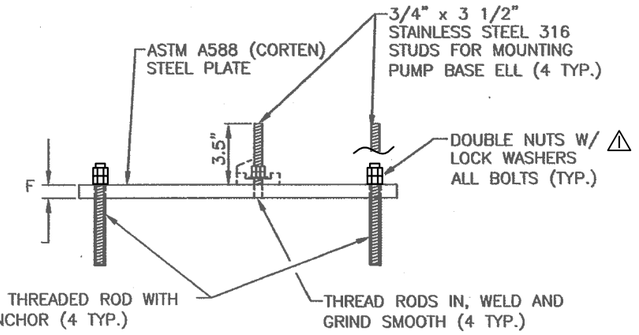
PIPE PENETRATION INTO WETWELL DETAIL (TYP)

N.T.S.

JACINTO CARLOS FERRAS, P.E., #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MS DRN: JHJ CKD: DATE: 9/20/18	CITY of TAMPA WASTEWATER DEPARTMENT	MIDLAKE PUMPING STATION REHABILITATION PROPOSED SECTION VIEW	SHEET 4C
	3						
	2						
	⚠1	9/5/18	REVISION 1				



PLAN



PROFILE

⚠

PUMP BASE ELL MOUNTING PLATE DIMENSIONS					
A	B	C	D	E	F
24"	20"	10"		11"	3/4"

NOTES:

1. INSTALL DOUBLE NUTS ON ALL EIGHT (8) THREADED RODS.
2. THE PLATE EDGES AND ALL HOLES SHALL BE GROUND SMOOTH TO REMOVE ALL BURRS.

*ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMENDED BY PUMP MANUFACTURER.

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

No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: MS
DRN: JHJ
CKD: JF
DATE: 9/20/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMP STATION REHABILITATION
DETAILS

SHEET
4D

ELECTRICAL SERVICE LOAD SUMMARY

480 VAC, 3ø, 4W

LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS L1	L2	L3
PROP. PUMP #1	21.6 KVA	21.6 KVA	26.0 A	26.0 A	26.0 A
PROP. PUMP #2	21.6 KVA	21.6 KVA	26.0 A	26.0 A	26.0 A
SINGLE PHASE LOADS	2.0 KVA	2.0 KVA	4.2 A	0 A	4.2 A
CARBON FILTER	0.7 KVA	0.7 KVA	.85 A	.85 A	.85 A
TOTAL	45.9 KVA	45.9 KVA	57.05 A	52.85 A	57.05 A

PUMP MOTOR DATA

MAKE: FLYGT

⚠1

MODEL: NP3 153.095 WITH MIX FLUSH VALVE

H.P.: 20

480V, 3–PHASE, 26 FLA

TOTAL PUMP LOAD: 52 AMPS, 43.2 KVA

SHORT CIRCUIT CALCULATIONS

AVAILABLE SHORT–CIRCUIT CURRENT AT 480V UTILITY SERVICE IS 13,532 AMPERES.
AS PER (TECO REPRESENTATIVE);

TECO CONTACT: BROCK BLACKMORE (813) 228–1008

UTILITY SERVICE: 480/277, 3 PH, TRANSFORMER AVAILABLE
FAULT CURRENT AT SECONDARY SIDE OF
TECO'S TRANSFORMER: 13,532 AMP RMS SYM.
SERVICE CONDUCTOR LENGTH: 85 FEET
SERVICE CONDUCTOR SIZE: #1/0 THWN CU.
FUSE RATING: 150 AMPS
ISCA AT LINE SIDE OF FTDS:

$$ISCA = \left[\frac{1}{1 + \left[\frac{(1.73)(85)(13{,}532)}{(9317)(480)} \right]} \right] * 13{,}532 = 9362$$

SHORT CIRCUIT CURRENT AVAILABLE AT MAIN LUGS OF MCP=4227 AMPS RMS, SYMMETRICAL

SCOPE OF WORK:

1. THE SERVICE VOLTAGE TO THIS FACILITY SHALL REMAIN 277/480 VAC., 3–PHASE, 4–WIRE, WYE.
2. REMOVE THE EXISTING METER SOCKET, LIGHTNING ARRESTOR, CONTROL PANEL, CONCRETE PEDESTAL, AND ALL ASSOCIATED CONDUIT AND CONDUCTORS, AS SHOWN ON PLANS.
3. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET MOUNTED ON THE EXISTING SCADA ANTENNA. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
4. CAREFULLY REMOVE THE EXISTING MIXER MOTOR CABINET MOUNTED ON THE CONTROL PANEL. DELIVER THIS MIXER PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
5. ANY SALVAGEABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE HOWARD F. CURREN AWTP. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER REMOVED EQUIPMENT.
6. PROVIDE AND INSTALL A NEW ELECTRICAL METER SOCKET, LIGHTNING ARRESTOR AND GROUNDING, AS SHOWN ON PLANS.
7. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED CONTROL EQUIPMENT.
8. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE PUMP CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, AND SCADA RTU, AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
9. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION JUNCTION BOX FOR PUMP MOTOR CONNECTIONS.
10. PROVIDE AND INSTALL A NEW DUPLEX MOTOR CONTROL PANEL. THE MOTOR CONTROL PANEL SHALL CONTAIN CIRCUIT BREAKERS AND MOTOR STARTERS, AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
11. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION BOX FOR INSTRUMENTATION AND CONTROL CONNECTIONS.
12. PROVIDE AND INSTALL A NEMA 4X, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH, AS SHOWN ON PLANS.
13. PROVIDE AND INSTALL A NEMA 4X, EMERGENCY POWER CONNECTOR, AS SHOWN ON PLANS. REUSE EXISTING SCADA ANTENNA/MAST AS INDICATED.
14. PROVIDE AND INSTALL AREA LIGHT, AS SHOWN ON PLANS.
15. CALIBRATE AND ADJUST SETPOINTS FOR ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATION AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
16. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
17. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
18. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2014 EDITION OF THE NATIONAL ELECTRIC CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
19. REFER TO CIVIL/MECHANICAL SHEETS FOR BYPASS PUMPING REQUIREMENTS. IF ELECTRICALLY DRIVEN BYPASS PUMPS ARE UTILIZED, THE CONTRACTOR SHALL COORDINATE ALL TEMPORARY ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TECO). ANY COSTS ASSOCIATED WITH TEMPORARY ELECTRIC POWER ARE TO BE INCLUDED IN THE LUMP SUM PRICE AND NO SEPERATE PAYMENT WILL BE MADE.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

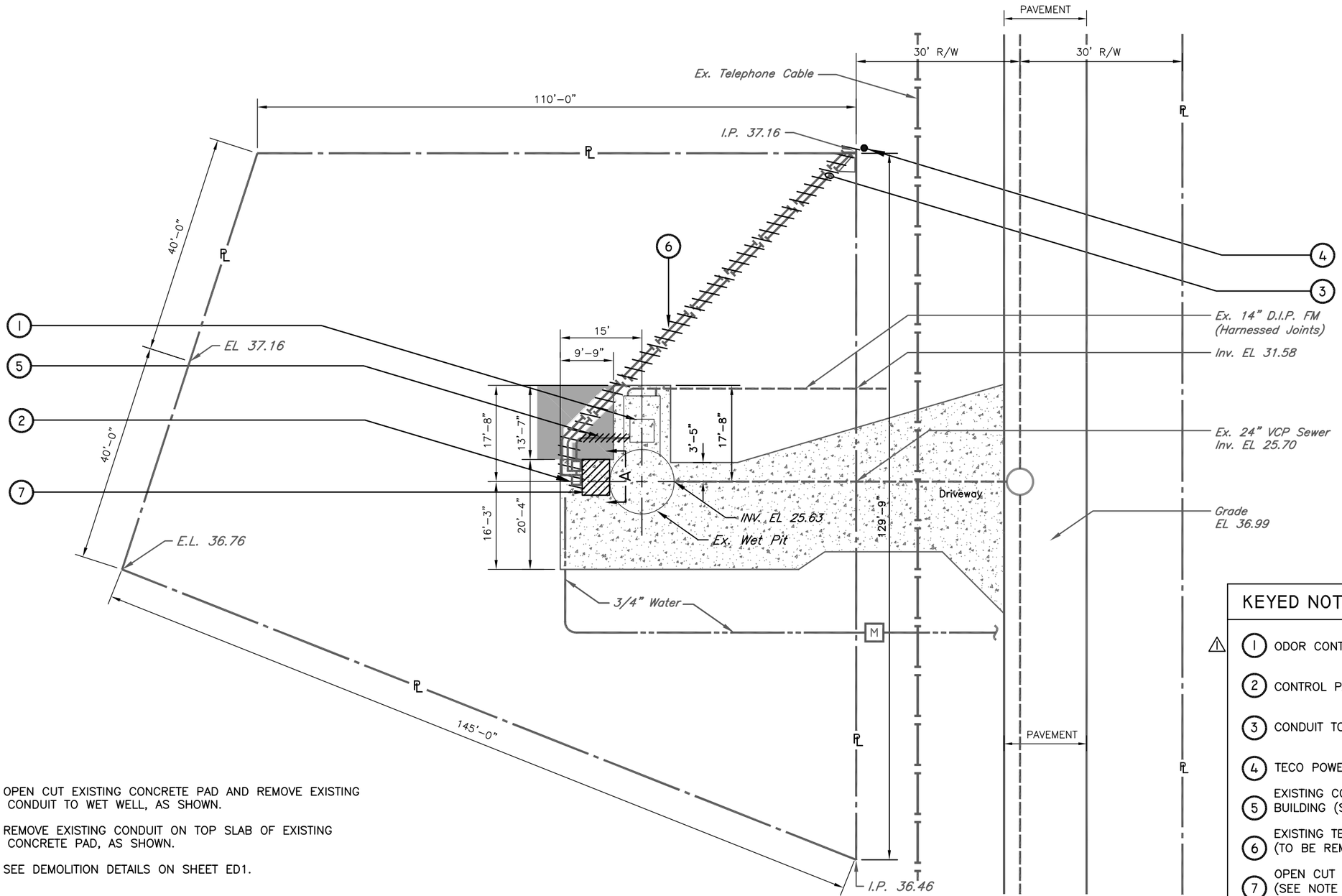
No.	DATE	REVISIONS
3		
2		
⚠1	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 6/5/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
SCOPE OF WORK

W.O. 0000
SHEET
EG4



NOTE:

1. OPEN CUT EXISTING CONCRETE PAD AND REMOVE EXISTING CONDUIT TO WET WELL, AS SHOWN.
2. REMOVE EXISTING CONDUIT ON TOP SLAB OF EXISTING CONCRETE PAD, AS SHOWN.
3. SEE DEMOLITION DETAILS ON SHEET ED1.

HATCHED AREAS ON THIS SHEET INDICATE EQUIPMENT TO BE ROMOVED

KEYED NOTES:

⚠ (1) ODOR CONTROL BUILDING, (TO BE RELOCATED).

(2) CONTROL PANEL, (TO BE REMOVED).

(3) CONDUIT TO TECO METER, (TO BE REMOVED).

(4) TECO POWER POLE #108692.

(5) EXISTING CONDUIT TO ODOR CONTROL BUILDING (SEE NOTE 2).

(6) EXISTING TELEPHONE CABLE (TO BE REMOVED).

(7) OPEN CUT EXISTING CONCRETE (SEE NOTE 1).

EXISTING ELECTRICAL DEMOLITION SITE PLAN

SCALE: 1" = 20'

ROMAN D. KORCHAK, P.E., #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/12/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMPING REHABILITATION
EXISTING ELECTRICAL DEMOLITION SITE PLAN

W.O. 0000
SHEET
ESI

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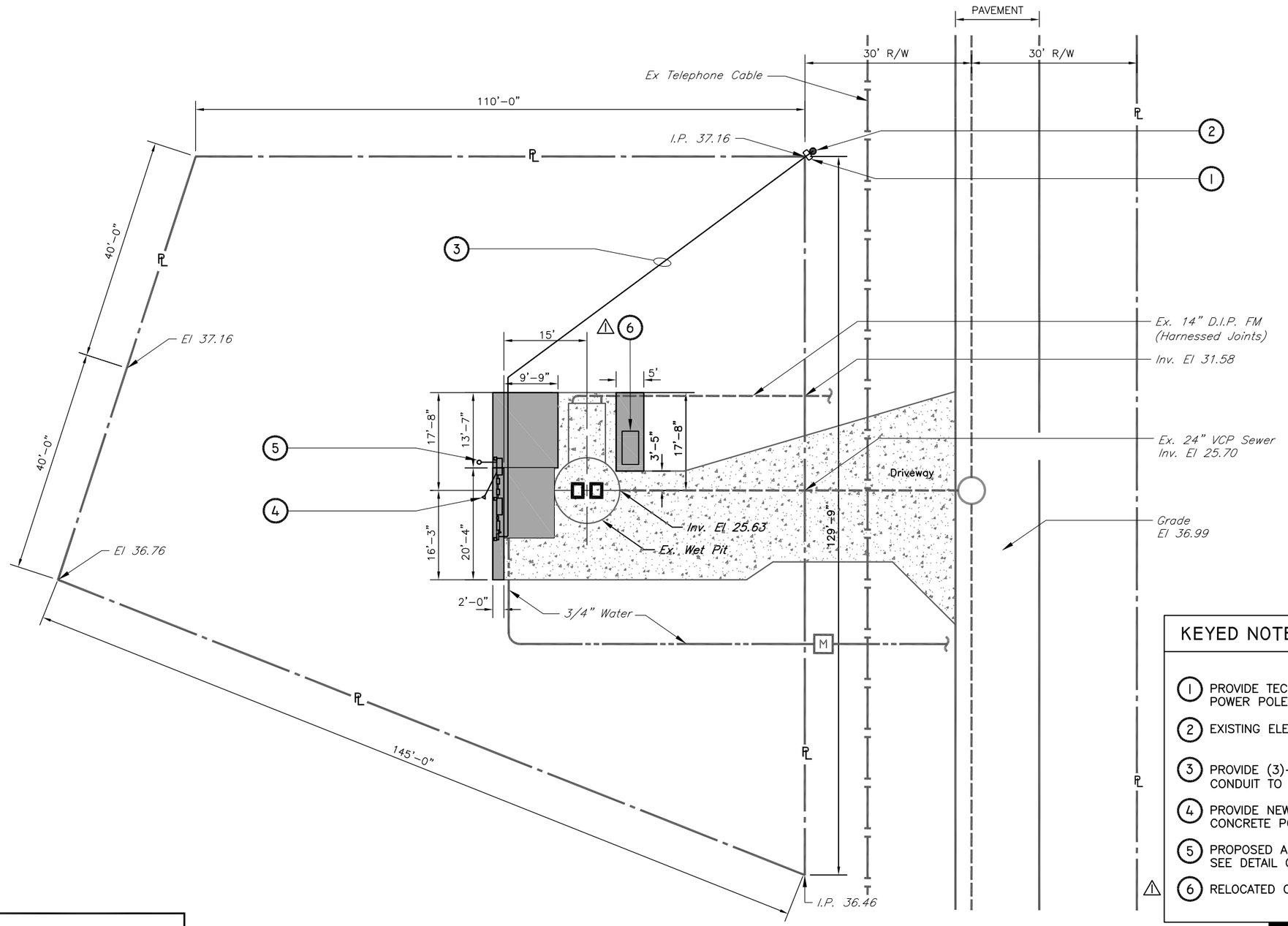
Layout- Sep 12, 2018 - 4:31pm



SHADED AREAS ON THIS SHEET INDICATE PROPOSED CONCRETE

KEYED NOTES:

1. PROVIDE TECO HANDHOLE AT BASE OF POWER POLE.
2. EXISTING ELECTRICAL TECO POWER POLE #108692.
3. PROVIDE (3)-#1/0 AWG+(1)-#4 NEU. IN 2" CONDUIT TO PROPOSED TECO HANDHOLE.
4. PROVIDE NEW LED LIGHT FIXTURE WITH CONCRETE POLE, SEE SHEET E-18.
5. PROPOSED ANTENNA LOCATION, SEE DETAIL ON SHEET E-18.
6. RELOCATED ODOR CONTROL BUILDING.

PROPOSED ELECTRICAL SITE PLAN

SCALE: 1" = 20'

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

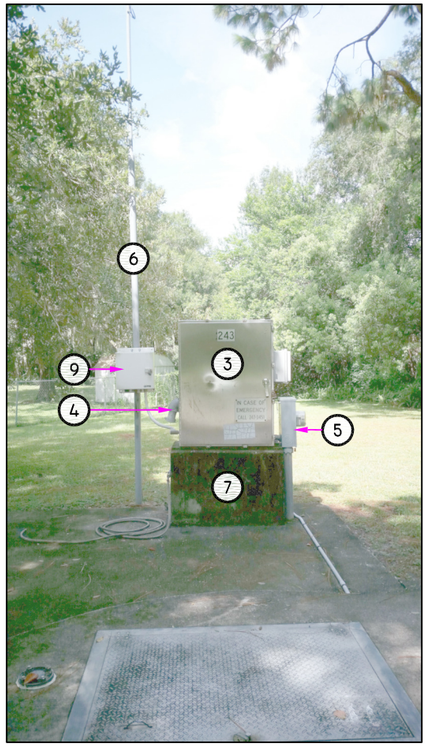
No.	DATE	REVISIONS
3		
2		
1	9/5/18	REVISION 1

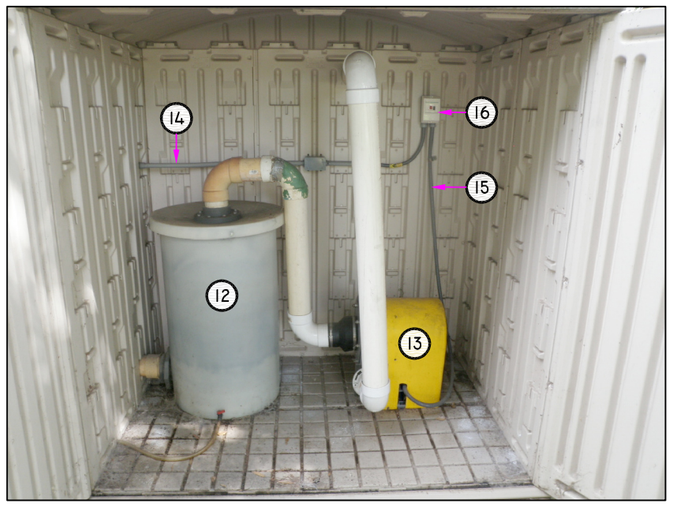
DES: LRG
DRN: JHJ
CKD:
DATE: 7/31/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMPING REHABILITATION
PROPOSED ELECTRICAL SITE PLAN

W.O. 0000
SHEET
ES2





EXISTING ELECTRICAL DEMOLITION
N.T.S.

KEYED NOTES:

1. EXISTING TECO POWER POLE #108692 (TO REMAIN).
2. EXISTING TECO STUB POLE #8782 (NO WORK REQUIRED).
3. EXISTING CONTROL PANEL (TO BE REMOVED)
4. EXISTING EMERGENCY CONNECTOR (TO BE REMOVED).
5. EXISTING TECO METER (TO BE REMOVED).
6. EXISTING SCADA ANTENNA (TO BE REUSED AND RELOCATED).
7. EXISTING CONCRETE PEDESTAL (TO BE REMOVED).
8. EXISTING JUNCTION BOX (CAREFULLY REMOVE AND DELIVER TO TREATMENT PLANT FOR INVENTORY).
9. EXISTING DCR SCADA RTU CABINET, (SEE SCOPE OF WORK NOTE 3, SHEET EG4).
10. EXISTING ODOR CONTROL BUILDING (TO BE RELOCATED).
11. EXISTING 3/4" CONDUIT AND CONDUCTORS FROM EXISTING CONTROL PANEL (TO BE REMOVED) TO CARBON ODOR CONTROL DISCONNECT. THESE EXISTING CONDUIT/CONDUCTORS SHALL BE REMOVED. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 3/4" CONDUIT WITH 3–#12 THWN CU + 1–#12 THWN CU GROUND. FROM NEW CONTROL PANEL TO CARBON ODOR CONTROL CABINET. REFER TO SHEET E1 FOR NEW CONDUIT TRENCH AND CONDUIT ROUTING.
12. EXISTING CARBON CONTAINER (TO REMAIN).
13. EXISTING 1.2 HP CARBON ODOR CONTROL BLOWER (TO REMAIN).
14. EXISTING 3/4" CONDUIT TO MOTOR CONTROL PANEL (TO REMAIN).
15. EXISTING 3/4" CONDUIT FROM CARBON ODOR CONTROL DISCONNECT TO CARBON ODOR CONTROL PUMP MOTOR, (TO REMAIN).
16. EXISTING MANUAL MOTOR STARTER (TO REMAIN).

ROMAN D. KORCHAK, P.E., #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

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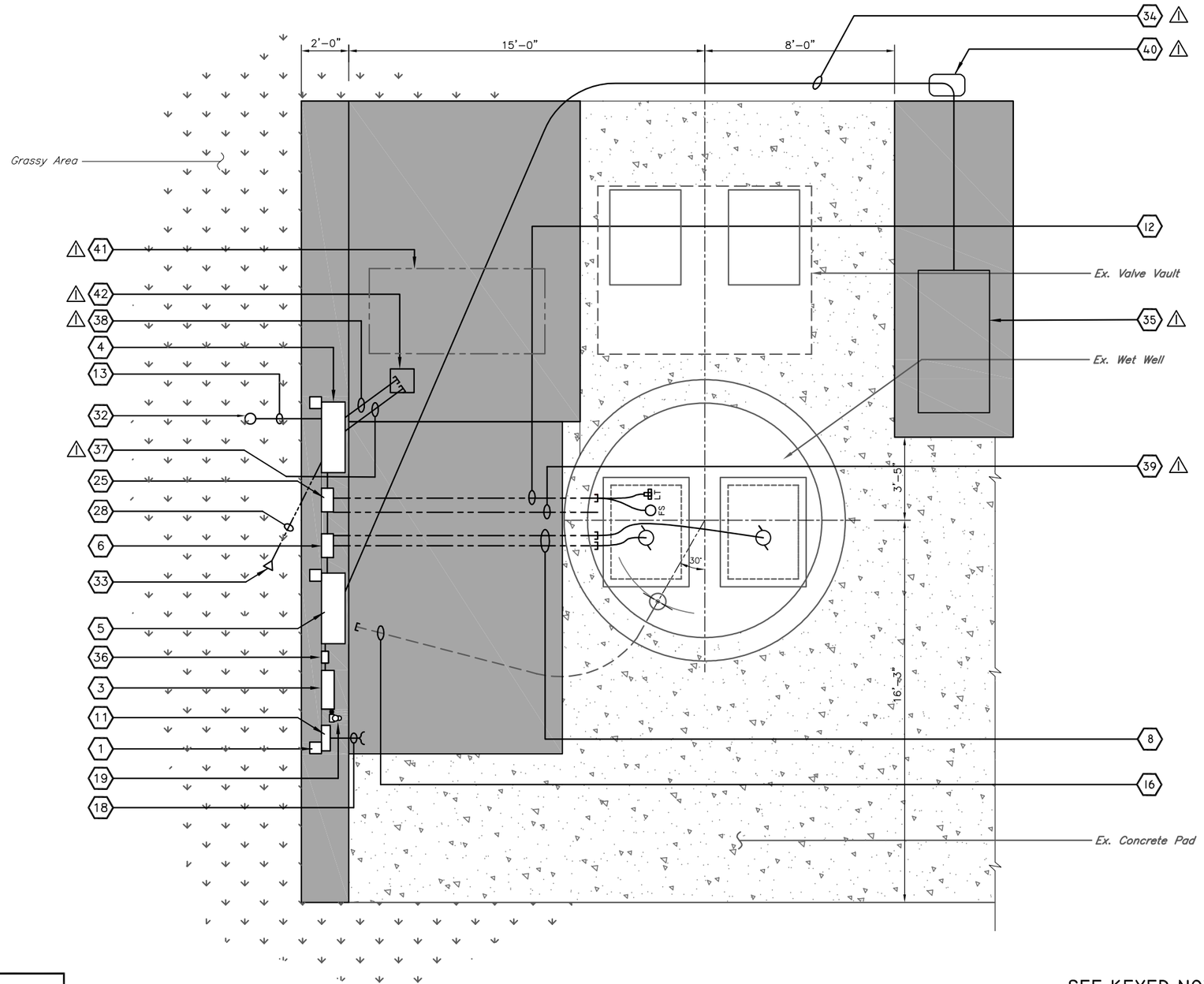
DES: LRG
DRN: JHJ
CKD:
DATE: 9/7/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMPING REHABILITATION
EXISTING ELECTRICAL DEMOLITION

W.O. 0000
SHEET
ED2



SHADED AREAS ON THIS SHEET INDICATE PROPOSED CONCRETE (17)

SEE KEYED NOTES ON SHEET E3

PROPOSED ELECTRICAL PLAN VIEW
SCALE: 1" = 5'-0"

ROMAN D. KORCHAK, P.E., #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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2		
1	9/5/18	REVISION 1

DES: LRG
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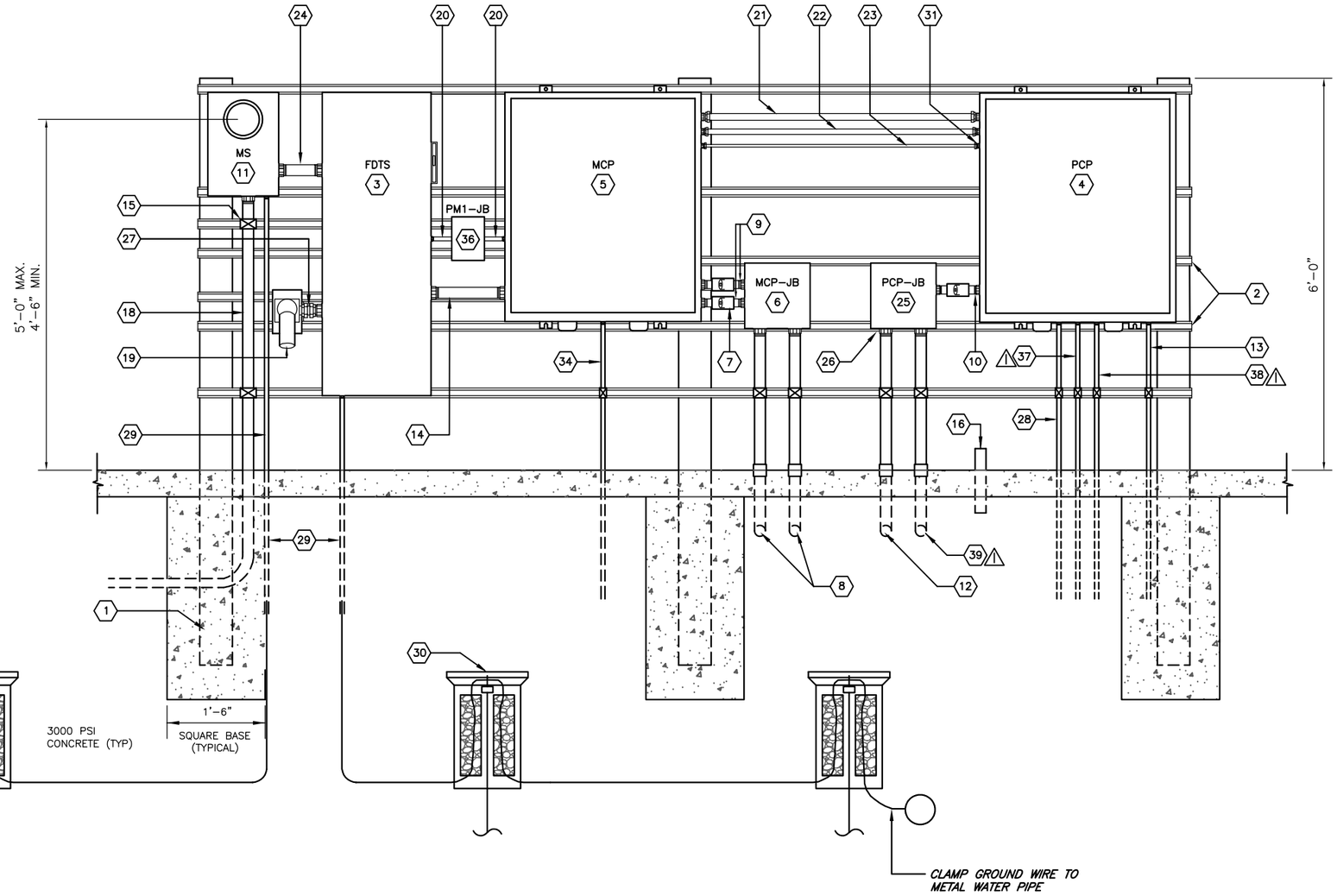
CKD:
DATE: 9/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PUMPING REHABILITATION
PROPOSED ELECTRICAL PLAN VIEW

SHEET E1



ELECTRICAL EQUIPMENT LINE UP

SCALE: 1/2" =1'-0"

NOTES:
SEE KEYED NOTES ON SHEET E3

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: JHJ CKD: DATE: 9/12/18	CITY of TAMPA WASTEWATER DEPARTMENT	MIDLAKE PUMP STATION REHABILITATION ELECTRICAL EQUIPMENT LINE UP FRONT VIEW	W.O. 0000 SHEET E2
	3						
	2						
	⚠1	9/5/18	REVISION 1				

User: ss13 Drawing Name: K:\WasteWater Projects\Midlake Pump Station Rehabilitation\Design\Plans\Drafting\DWG\Midlake PS Rehabilitation.dwg
Layout– Sep 11, 2018 – 3:52pm

KEYED NOTES:

1. PROVIDE AND INSTALL THREE (3) 6" X 6" x 9' REINFORCED SQUARE CONCRETE POSTS.
2. PROVIDE AND INSTALL 1–5/8" x 1–5/8" 316 STAINLESS STEEL UNISTRUT WITH 316 STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
3. PROVIDE AND INSTALL HEAVY DUTY, DOUBLE THROW, FUSIBLE SWITCH, 3–POLE, 600 VAC, 200 AMP IN NEMA 4X TYPE ENCLOSURE, 600 VOLT, DUAL–ELEMENT, TIME–DELAY CLASS RK5 FUSES; SWITCH––EATON DT364FWK, DT200NK–NEUTRAL KIT, DS200GK–GROUND LUG KIT, DS46FK–"R" FUSE ADAPTER KIT.
4. PROVIDE AND INSTALL PUMP CONTROL CABINET. REFER TO DETAIL ON SHEET E4.
5. PROVIDE AND INSTALL MOTOR CONTROL CABINET. REFER TO DETAIL ON SHEET E5.
6. PUMP MOTOR CONNECTIONS J.B.–USED AS A DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x 4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE USING SPLIT BOLTS. CAREFULLY TAPE CONNECTIONS TO PROVIDE A 600V INSULATION LEVEL (TYPICAL FOR EACH CONDUCTOR) SEE SHEET E16 FOR JB DETAILS.
7. PROVIDE AND INSTALL CROUSE–HINDS EYS TYPE SEALS W/CHICO COMPOUNDS.
8. ⚠ PROPOSED 2" PVC COATED ALUMINUM CONDUITS FOR MOTOR CONDUCTORS. CORE DRILL WET WELL WALLS AS REQUIRED TO INSTALL CONDUIT, SEE CIVIL SHT. 4C FOR PIPE PENETRATION INTO WET WELL DETAIL.
9. PROVIDE AND INSTALL (3)–#8 XHHW–2 CU + (1)–#10 XHHW–2 CU GND + (2)–#12 XHHW–2 CU (LEAK/TEMP) IN 1" CONDUIT FOR SUBMERSIBLE PUMP POWER.
10. PROVIDE AND INSTALL (3)–#14 XHHW–2 CU + (1)–#14 XHHW–2 CU GND + (1)–3/C–#18 TWISTED SHIELDED CABLE IN 1" CONDUIT FOR FLOAT AND WET WELL LEVEL TRANSMITTER.
11. PROVIDE AND INSTALL METER SOCKET IN ALUMINUM ENCLOSURE.
12. ⚠ MANUFACTURER SUPPLIED CABLES FOR FLOAT SWITCH AND WET WELL LEVEL TRANSMITTER INSTALL IN 2" PVC COATED CONDUIT TO WET WELL FROM JUNCTION BOX. CORE DRILL WET WELL AS NEEDED TO INSTALL, PATCH SEAL WITH APPROVED PRODUCT. SEE CIVIL SHT. 4C FOR PIPE PENETRATION INTO WET WELL DETAIL.
13. PROVIDE AND INSTALL 1" CONDUIT FOR ANTENNA COAXIAL CABLE.
14. PROVIDE AND INSTALL (3)–#1/0 CONDUIT XHHW–2 CU, (1)–#4 XHHW–2 NEU, AND (1)–#4 XHHW–2 CU GND. IN 2" CONDUIT.
15. PROVIDE AND INSTALL ALUMINUM CONDUIT STRAPS (TYPICAL).
16. INTERCEPT EXISTING 1" CONDUIT TO BUBBLER AND EXTEND TO LOCATION SHOWN, USING PVC COATED ALUMINUM CONDUIT. STUB UP AND CAP FOR FUTURE USE.
17. EXTEND EXISTING CONCRETE PAD IN GRASSY AREA AS SHOWN. OPEN CUT EXISTING CONCRETE PAD AS NECESSARY TO INSTALL NEW CONDUIT. REPAIR CONCRETE WITH APPROVED PRODUCTS.
18. PROVIDE AND INSTALL (3)–#1/0 + (1)–#(4). NEU. W 2" CONDUIT TO PROPOSED TECO HAND HOLE, REFER TO SHEET ES2 FOR CONTINUATION.
19. PROVIDE AND INSTALL AN EMERGENCY CONNECTOR.
20. PROVIDE AND INSTALL (3)–#12 XHHW–2 CU + (1)# 12 XHHW–2 CU GND. IN 3/4" C.
21. PROVIDE AND INSTALL (26)–#12 XHHW–2 CU + (1)# 12 XHHW–2 CU GND. IN 1–1/4" C. FOR 120VAC CONTROL SIGNALS. REFER TO MCP TO PCP INTERCONNECTIONS WIRING DIAGRAM ON SHEET E11.
22. PROVIDE AND INSTALL (15)–#14 XHHW–2 CU + (1)–#14 XHHW–2 CU GND. IN 1" C. FOR 24V DC CONTROL SIGNALS, REFER TO MCP TO PCP INTERCONNECTION WIRING DIAGRAM ON SHEET E11.
23. PROVIDE AND INSTALL (3)–#12 XHHW–2 CU H. + (1)–#12 XHHW–2 CU NEU. + (1)#12 XHHW–2 CU GND. IN 3/4" CONDUIT FROM MOTOR CONTROLS PANEL TO PUMP CONTROL PANEL FOR 120V POWER CIRCUIT.
24. PROVIDE AND INSTALL (3)–#1/0 XHHW–2 CU + (1)–#4 XHHW–2 NEU. IN 2" CONDUIT.
25. INSTRUMENTATION AND CONTROLS J.B.–USED AS DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE WITH UNDERGROUND WIRE CONNECTORS – IDEAL MODEL #60 – (TYPICAL FOR EACH CONDUCTOR). SEE SHEET E16 FOR JB DETAILS.
26. PROVIDE DUCT SEALING COMPOUND IN ALL CONDUITS EXTENDING TO THE WET WELL.
27. PROVIDE AND INSTALL (3)–#3 XHHW–2 CU + (1)–#4 XHHW–2 CU NEU + (1)–#6 XHHW–2 CU GND IN 1–1/4" CONDUIT FOR EMERGENCY CONNECTOR.
28. PROVIDE AND INSTALL A 3/4" CONDUIT TO PROPOSED AREA LIGHT, (AL), SEE SHT. E18 FOR DETAILS.
29. PROVIDE AND INSTALL A 3/4" SCHEDULE 80 PVC CONDUIT FOR #4 AWG GROUNDING CONDUCTOR.
30. PROPOSED GROUNDING CONDUCTOR. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'–0") GROUNDING CONDUCTOR SHALL BE AWG #4 MIN. BARE STRANDED COPPER, SEE SHEET E17 FOR DETAILS.
31. PROVIDE AND INSTALL WATER–TIGHT / DUST–TIGHT (TYP.) MYERS HUB AND UNION (TYP.).
32. RELOCATED SCADA ANTENNA.
33. PROPOSED NEW LED LIGHT FIXTURE WITH CONCRETE POLE. SEE SHT. E18 FOR DETAILS.
34. PROVIDE AND INSTALL (3)–#12 XHHW–2 CU + (1)–#12 XHHW–2 CU GND IN 3/4" CONDUIT FOR EXISTING CARBON ODOR CONTROL.
35. RELOCATED ODOR CONTROL BUILDING.
36. PROVIDE AND INSTALL A 3–PHASE POWER MONITOR RELAY W/480 VAC LINE INPUT–ALARM ON PHASE LOSS, UNDERVOLTAGE, OR WRONG ROTATION. PANEL MOUNT,ATC DIVERSIFIED. MODEL SUA–440–ASA. FUSE BOX DISCONNECT(FGBD1)–ALLEN BRADLEY 1492–FB3C30–L W/ BUSSMAN KTK–R–2 FUSES IN A NEMA 4X CONTINUOUS HINGE ENCLOSURE–HAMMOND MANUFACTURING MODEL EJ863S16, 8"x6"x3.5", NEMA 4X SS.
37. ⚠ PROVIDE AND INSTALL A 3/4" CONDUIT WITH PULL WIRE FOR FUTURE DIESEL BACK–UP PUMP,SEE NOTE 11 ON SHEET E6, STUB UP AND CAP OFF, SEE ELECTRICAL CONDUIT STUB–UP DETAIL ON SHT. E19.
38. ⚠ PROVIDE AND INSTALL A 1" CONDUIT WITH PULL WIRE FOR FUTURE DIESEL BACK–UP PUMP FOR CONTROLS, STUB UP AND CAP OFF, SEE ELECTRICAL CONDUIT STUB–UP DETAIL ON SHT. E19.
39. ⚠ PROVIDE AND INSTALL 1" CONDUIT FOR FUTURE DIESEL BACK–UP PUMP FLOAT SWITCHES, CAP OFF IN WET WELL. CORE DRILL WET WELL AS NEEDED, SEE CIVIL SHT. 4C FOR PIPE PENETRATION INTO WET WELL DETAIL.
40. ⚠ PROPOSED HANDHOLE, SEE SHEET EG3, GENERAL NOTE 22 AND SHT. E19, HANDHOLE DETAIL.
41. ⚠ FUTURE DIESEL BYPASS OR BACK–UP PUMP.
42. ⚠ PROPOSED ELECTRICAL CONDUIT STUB–UP OPENING, SEE ELECTRICAL CONDUIT STUB–UP DETAIL ON SHT. E19.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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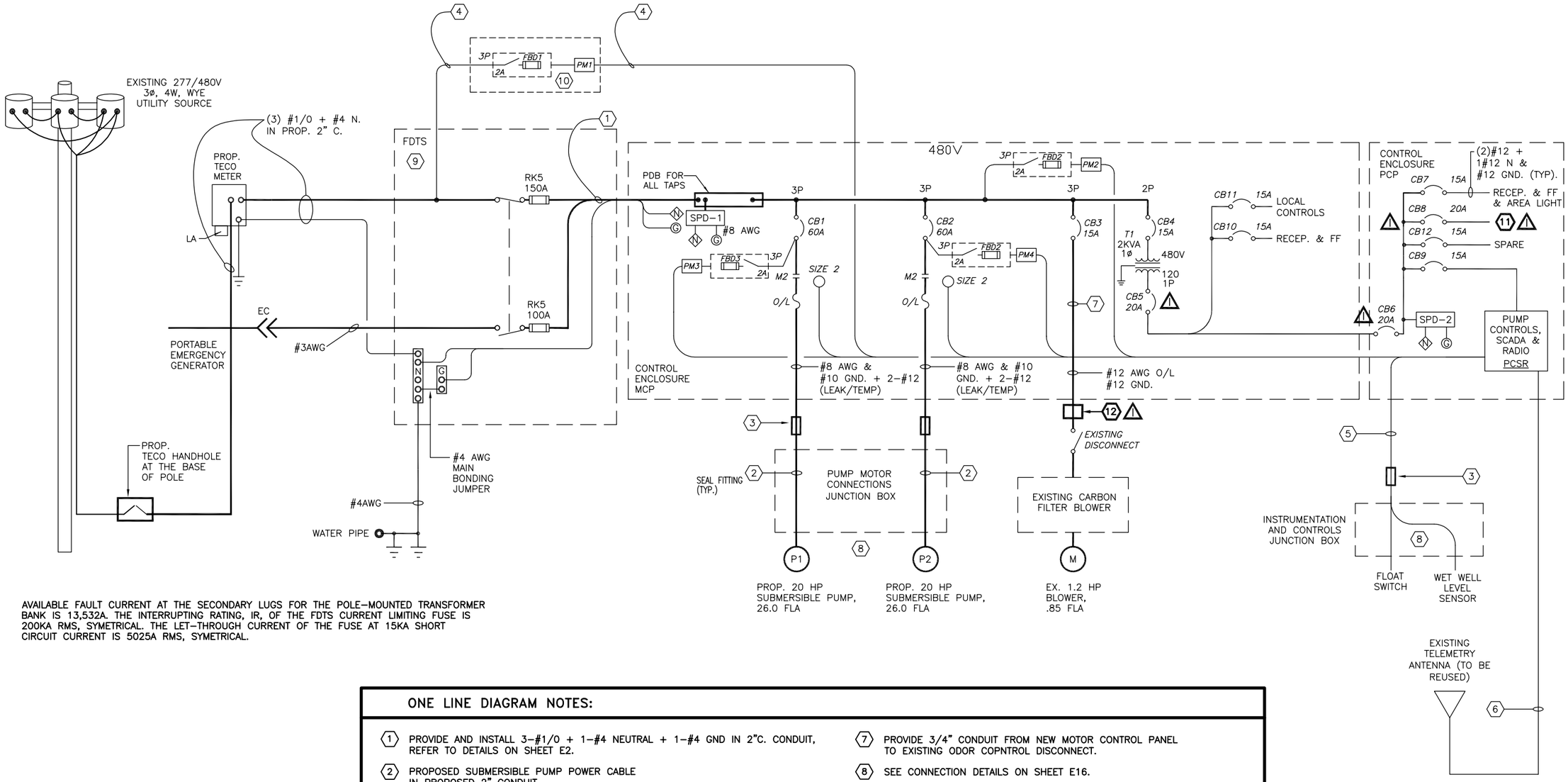
⚠	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/27/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
KEYED NOTES

SHEET
E3



AVAILABLE FAULT CURRENT AT THE SECONDARY LUGS FOR THE POLE-MOUNTED TRANSFORMER BANK IS 13,532A. THE INTERRUPTING RATING, IR, OF THE FDTS CURRENT LIMITING FUSE IS 200KA RMS, SYMETRICAL. THE LET-THROUGH CURRENT OF THE FUSE AT 15KA SHORT CIRCUIT CURRENT IS 5025A RMS, SYMETRICAL.

ONE LINE DIAGRAM NOTES:

1. PROVIDE AND INSTALL 3-#1/0 + 1-#4 NEUTRAL + 1-#4 GND IN 2"C. CONDUIT, REFER TO DETAILS ON SHEET E2.
2. PROPOSED SUBMERSIBLE PUMP POWER CABLE IN PROPOSED 2" CONDUIT.
3. PROVIDE SEAL FITTING, REFER TO DETAIL ON SHEET E2.
4. PROVIDE AND INSTALL 3-#12 + 1-#12 GND. IN ¾" CONDUIT, REFER TO DETAILS ON SHEET E2.
5. PROVIDE 2" CONDUITS FROM NEW PUMP CONTROL CABINET TO WET WELL FOR FLOAT SWITCH AND LEVEL SENSOR CABLES. REFER TO DETAILS ON SHEET E2.
6. PROVIDE 1" CONDUIT FROM NEW PUMP CONTROL CABINET TO EXISTING ANTENNA MAST FOR NEW COAX CABLE, REFER TO DETAILS ON SHEET E2.
7. PROVIDE 3/4" CONDUIT FROM NEW MOTOR CONTROL PANEL TO EXISTING ODOR COPNTROL DISCONNECT.
8. SEE CONNECTION DETAILS ON SHEET E16.
9. SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH.
10. PM1 JUNCTION BOX, SEE SHEETS E5 AND E19 FOR DETAILS.
11. ⚠ FUTURE DIESEL BACK UP PUMP 120 VAC POWER FOR BATTERY CHARGER, SPACE HEATERS & CONTROLS.
12. ⚠ PROPOSED HANDHOLE, SEE DETAIL ON SHEET E19.

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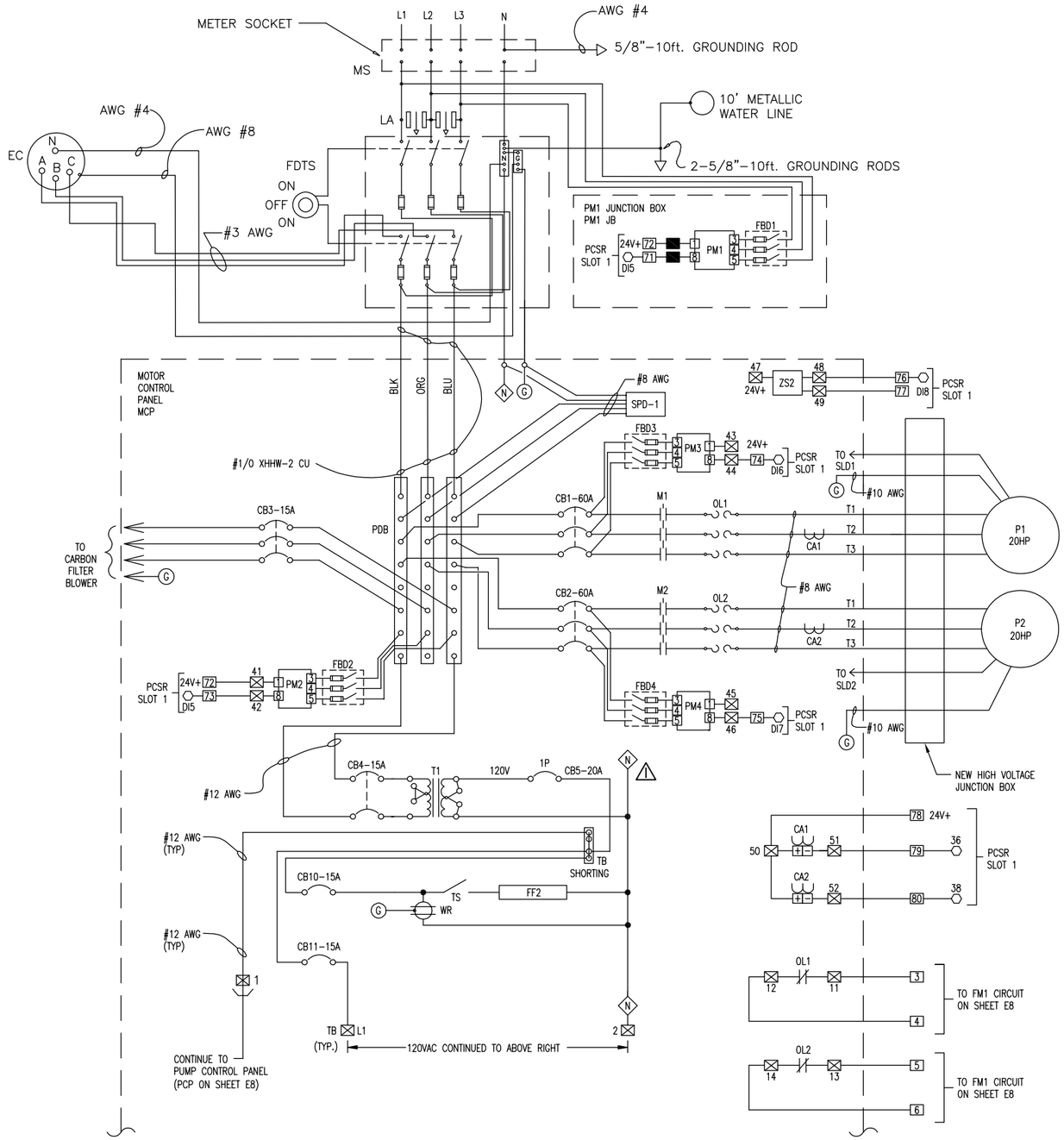
DATE: 9/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ONE LINE DIAGRAM

W.O. 0000
SHEET
E6



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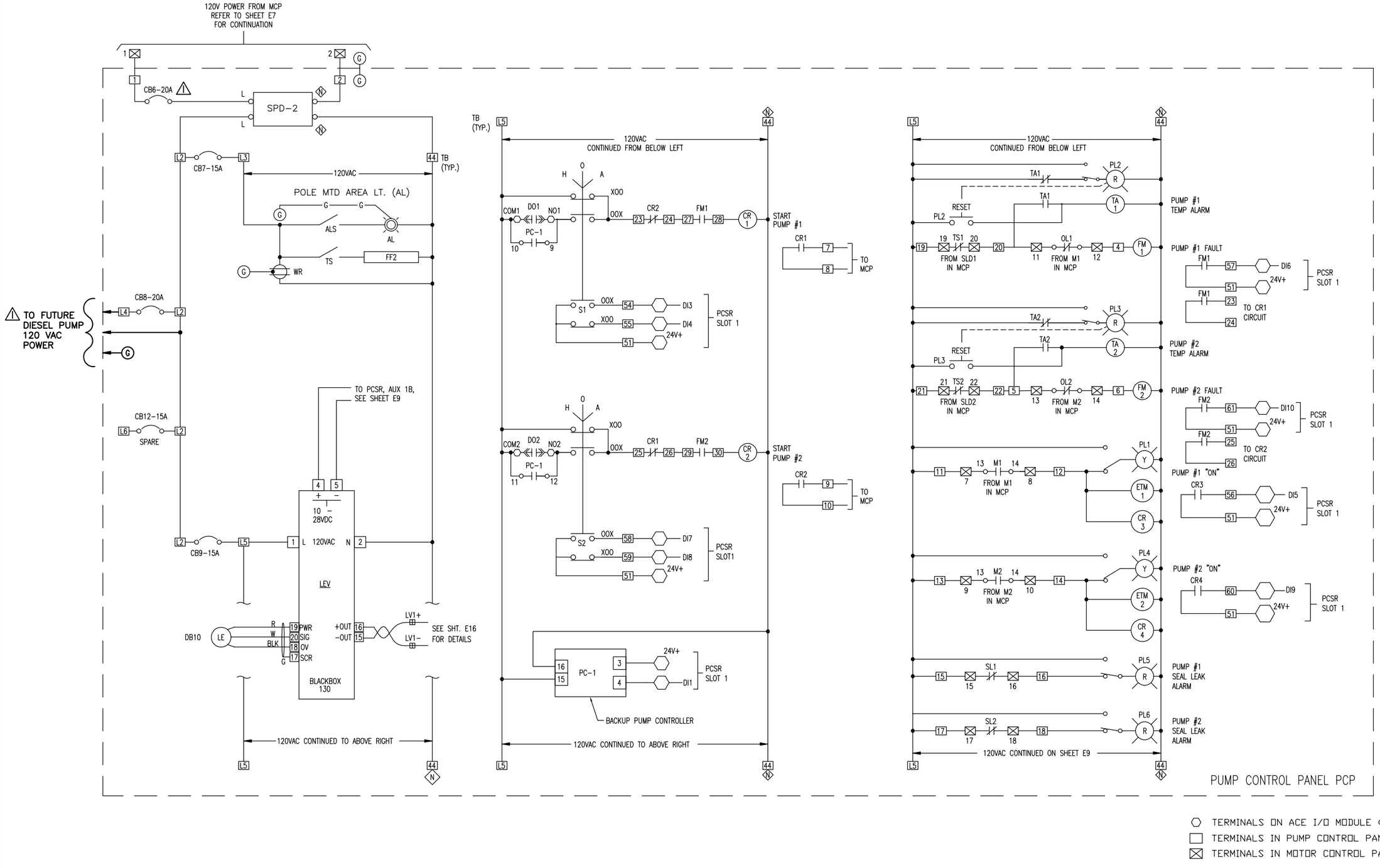
DES: LRG
DRN: JHJ
CKD:
DATE: 9/25/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ELECTRICAL SCHEMATIC (1 OF 4)
MOTOR CONTROL PANEL

W.O. 0000
SHEET
E7



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Layout– Sep 25, 2018 – 5:33pm

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WASTEWATER DEPARTMENT

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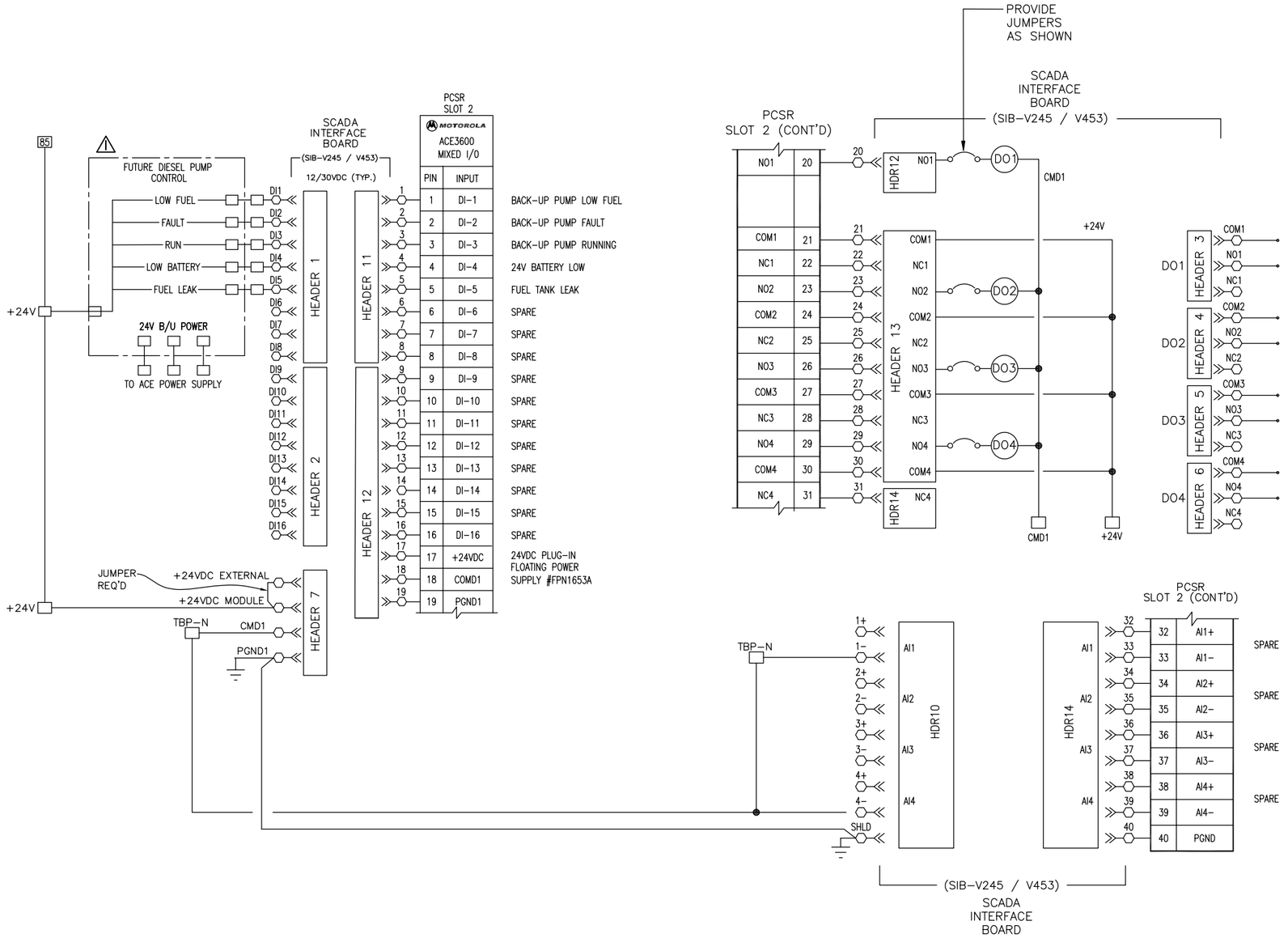
DES: LRG
DRN: JHJ
CKD:
DATE: 9/12/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ELECTRICAL SCHEMATIC (2 OF 4)
PUMP CONTROL PANEL

SHEET
E8



ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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1	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/26/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ELECTRICAL SCHEMATIC (3 OF 4)
PUMP CONTROL PANEL

SHEET
E10

TB1 (▭) (120V AC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
1	120V FROM MOTOR CONTROL PANEL
2	NEUTRAL FROM MOTOR CONTROL PANEL
3	M1 OVERLOAD
4	M1 OVERLOAD
5	M2 OVERLOAD
6	M2 OVERLOAD
7	PUMP 1 START COMMAND TO M1 (IN MCP)
8	PUMP 1 START COMMAND TO M1 (IN MCP)
9	PUMP 2 START COMMAND TO M2 (IN MCP)
10	PUMP 2 START COMMAND TO M2 (IN MCP)
11	P1 "ON" SIGNAL FROM M1 (IN MCP)
12	P1 "ON" SIGNAL FROM M1 (IN MCP)
13	P2 "ON" SIGNAL FROM M2 (IN MCP)
14	P2 "ON" SIGNAL FROM M2 (IN MCP)
15	PUMP 1 LEAK ALARM FROM MCP
16	PUMP 1 LEAK ALARM FROM MCP
17	PUMP 2 LEAK ALARM FROM MCP
18	PUMP 2 LEAK ALARM FROM MCP
19	PUMP 1 TEMPERATURE ALARM FROM MCP
20	PUMP 1 TEMPERATURE ALARM FROM MCP
21	PUMP 2 TEMPERATURE ALARM FROM MCP
22	PUMP 2 TEMPERATURE ALARM FROM MCP
23	PUMP 1 INTERLOCK
24	PUMP 1 INTERLOCK
25	PUMP 2 INTERLOCK
26	PUMP 2 INTERLOCK
27	PUMP 1 FAULT RELAY CONTACT
28	PUMP 1 FAULT RELAY CONTACT
29	PUMP 2 FAULT RELAY CONTACT
30	PUMP 2 FAULT RELAY CONTACT
31	BACK-UP COMMON (FURURE)
32-43	SPARE

TB1 CONTINUED

44	SPD-2 NUETRAL OUT
L1	SPD-2 NUETRAL OUT
L2	MAIN BREAKER CB6
L3	CB7 OUT
⚠ L4	CB8 BREAKER DIESEL BACK-UP PUMP (FUTURE)
L5	CB9 OUT
L6	SPARE CB12 BREAKER

TB2 (▭) (24V DC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
51	SLOT 1 PCSR 24V+
52	WET WELL HIGH
53	WET WELL NOT HIGH
54	PUMP 1 "AUTO" TO PCSR
55	PUMP 1 "HAND" TO PCSR
56	PUMP 1 "ON" TO PCSR
57	PUMP 1 "FAULT" TO PCSR
58	PUMP 2 "AUTO" TO PCSR
59	PUMP 2 "HAND" TO PCSR
60	PUMP 2 "ON" TO PCSR
61	PUMP 2 "FAULT" TO PCSR
62	PUMP CONTROL PANEL INTRUSION
63	
64	SLOT 1 PCSR 24V+
65	SPARE
66	SLOT 1 PCSR 24V+
67	SPARE
68	SLOT 1 PCSR 24V+
69	SPARE
70	SLOT 1 PCSR 24V+
71	UTIL POWER AVAILABLE (PM1) TO PCSR
72	SLOT 1 PCSR 24V+
73	MOTOR CONTROL PANEL PHASE LOSS (PM2)
74	PUMP #1 MCP STATUS (PM3) TO PCSR
75	PUMP #2 MCP STATUS (PM4) TO PCSR
76	MOTOR CONTROL PANEL INTRUSION
77	
78	SLOT 1 PCSR 24V+
79	PUMP 1 AMPS
80	PUMP 2 AMPS
81	PROCESS METER FOR LEVEL 120V-POWER
82	PROCESS METER FOR LEVEL 120V-NEUTRAL
83	SPARE SLOT 1 TERMINALS
84	SPARE SLOT 1 TERMINALS

TB2 CONTINUED

85	SLOT 2 PCSR 24V+
86	SLOT 2 PCSR 24V+
87	SLOT 2 PCSR 24V+
88-100	SPARE SLOT 2 TERMINALS

X-Y TERMINAL POINT MOUNTED ON PCP (INTERFACE TO PCSR)
TERMINAL POINT ON PCSR
TERMINAL POINT IN PUMP CONTROL PANEL (PCP)
TERMINAL POINT IN MOTOR CONTROL PANEL (MCP)

CONTROL SCHEMATIC SYMBOLS

TRANSFORMER
PUSH BOTTOM
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 - READ (PRESS-TO-TEST) (R)
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 (G)
NEUTRAL BUS (INSULATED) (N)
FUSE
"ON DELAY" CONTACT (TD)
INSTANT CLOSE CONTACT (I. C.)
FIELD WIRING

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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2		
⚠1	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/26/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ELECTRICAL SCHEMATIC LEGEND (SHT. 1 OF 2)

W.O. 0000
SHEET
E12

PARTS SCHEDULE (PUMP CONTROL PANEL)

SYMBOL		NAME	PART			RATING	REMARKS
			MAKE	TYPE	MODEL OR CAT. #		
PCSR		PLC BASED PUMP CONTROLLER, SCADA, AND RADIO SYSTEM	MOTOROLA CORP.	DUPLEX PUMP CONTROLLER BASED ON ACE 3600 PROGRAM CONTROLLER	ACE 3600 BASIC MODEL NO. RADIO PART #7509	1-AC POWER SUPPLY 85-264V W/ BAT CHARGER PAR #: V261	COORDINATE EFFORT W/ SCADA INTEGRATOR
	SLOTS 1 & 2		MOTOROLA CORP.	2-MIXED I/O AUXILLARY INTERFACE WILKERSON BOARD PART #: SIB V245/ V453	MOTORBO XPR5350 RADIO UNF RI: 403-470MHZ, PART #UE1078A	1- ACE CPU3640 PART #: V446	1- 10.0 Ah BATTERY PART #: V328
					MOTORBO ANALOG RADIO INSTALLATION KIT PART #FLN1059		
		1-3 I/O SLOT FRAM PART #: V103	1-20 PIN TB HOLDER KIT PART #: V158	1- 14x 14 METAL CHASSIS PART #: V214	1-ACE MIXED I/O MODULE-16DI, 4DO(EE), (4)±20mA ANALOG IN PART #: V245 W/ 24VDC PLUG-IN, FLOATING POWER SUPPLY # FPN1653A	1-40 PIN TB HOLDER KIT PART #: V153	
	10.0 Ah BATT.						
PC-1		BACKUP PUMP CONTROLLER	WILKERSON	DUPLEX LIFT STATION	DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING
FTB1		FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES
F1		PROCESS METER	PRECISION DIGITAL	4 DIGIT, 1.2" DISPLAY	PD765-6R0-10		PROVIDE 4-20mA OUTPUT
⚠ CB 7, 9, 12		CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
⚠ CB 6, 8		CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-120	120 V, 20A	
PL1, PL4		INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST
PL2, PL3		INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST
PL5, PL6		INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST
S1, S2		HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V	
ETM1, ETM2		ELAPSED TIME METER	CRAMER	ROUND BEZEL, NON RESET	635E&S	120 V	W.W. GRANGER CAT. NO. 6X144
ZS1		CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)
FF1 & TS		LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS
WR		WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/ALUMINUM OUTLET BOX AND COVER
TB1, TB2,		TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)
ITS		INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS
GB1		GROUND BAR SYSTEM	PANDUIT	12 PORT WITH MAIN LUG	UGB2/0-414-12		COPPER CONSTRUCTION
GB2		GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
TA1, TA2		CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG-IN	KRPA-11AG-120	120V AC COIL, 10A CONTACTS	DPDT W/ SOCKET AND HOLD DOWN SPRING
FM1, FM2		CONTROL RELAY	POTTER & BRUMFIELD	11 PIN PLUG-IN	KRPA-14AG-120	120V AC COIL, 10A CONTACTS	3PDT W/ SOCKET AND HOLD DOWN SPRING
LEV		WET WELL LEVEL SENSOR	PULSAR, INC.	ULTRASONIC	dB10 TRANSDUCER W/ BLACKBOX 130 TRANSMITTER PART #: 130-110-300-00P-KP-TROP	1 TD 32.8 FT RANGE 115VAC/24VDC POWERED W/ 4-20MA AND (2) RELAY OUT W/ KEY PAD, DISPLAY, AND TROPICALIZATION	CITY FORCES WILL PROVIDE ASSISTANCE WITH MOUNTING AND CALIBRATION
CR1, CR2		CONTROL RELAY	POTTER & BRUMFIELD	14-BLADE SQUARE PLUG-IN	KUP-L7A19-120	120V AC COIL, 10A CONTACTS	4PDT W/ SOCKET AND HOLD DOWN SPRING
PCP		PUMP CONTROL PANEL ENCLOSURE	HOFFMAN	NEMA 4X, 3P LATCH, 42"x36"x12"	42"x36"x12" SS	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.
PP		ENCLOSURE PANEL	HOFFMAN	39" X 33", STEEL	A42P36	STEEL, 12 GAUGE	
NB1, 2		NEUTRAL DISTRIBUTION BLOCK	BUSSMAN	SINGLE POLE	16220-1	600V, 175A	
ALS		AREA LIGHT SWITCH	HUBBELL	SINGLE-POLE	HBL1221	277V, 20A	
SPD-2		SURGE PROTECTION DEVICE TYPE 3	PHOENIX CONTACT	3 CONDUCTOR SYSTEM (L, N, G)	2856812	120V, 25A	

NOTES:

1. ALARM FLOAT SWITCH WILL BE SUPPLIED BY WWD AND INSTALLED BY CONTRACTOR.
2. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "*" SHALL BE DETERMINED AFTER EQUIPMENT SELECTION.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/26/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
PARTS SCHEDULE (SHT. 1 OF 2)

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PARTS SCHEDULE (MOTOR CONTROL PANEL)

SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
CB 1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36060	480 V, 60A	18 KAIC @ 480VAC
CB 2	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36060	480 V, 60A	
CB 3	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36015	480 V, 15A	
CB 4	CIRCUIT BREAKER	SQUARE D	TWO POLE	HDL26015	480 V, 15A	
⚠1 CB 5	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-120	120 V, 20A	
CB 10, 11	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
M1, 2	MOTOR STARTER	CUTLER-HAMMER	NEMA SIZE 2	AN16GNOAB	120V (COIL)	25HP (MAX)
OL1, 2	OVERLOAD RELAY	CUTLER-HAMMER	BIMETALLIC, AMBIENT COMPENSATED	H2013B-3	18.7-30.7A	
T1	TRANSFORMER	SQUARE D	OPEN TYPE	9070T2000D31	480V PRI, 120/240 V SEC.	2KVA
CA1, CA2	CIRCUIT SENSOR	ENERCORP INSTRUMENTS	4-20mA OUTPUT	SC200-1	0 - 50A	ADJUSTABLE RANGE
ZS2	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)
FF2 & TS	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS
SPD-1	SURGE PROTECTIVE DEVICE TYPE 1	ADVANCED PROTECTION TECHNOLOGIES	MOTOR CONTROL PANEL SPD	TE04XDS104X	277/480 V, 3ø, 4W	
TB3, TB4	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS
MCP	MOTOR CONTROL PANEL ENCLOSURE	HOFFMAN	NEMA 4X, 3P LATCH, 42"x30"x12"	42"x30"x12" SS	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.
MP	ENCLOSURE PANEL	HOFFMAN	39" X 27", STEEL	A42P30	STEEL, 12 GAUGE	
PM2, PM3, PM4	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
FBD2, 3, 4	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S20NONC	10 A @ 120 V	PROVIDED BY THE CITY INSTALLED BY CONTRACTOR
FTB2	FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES
SLD1, SLD2	PUMP MONITORING UNIT	XYLEM		MINI-CAS 120	10A AT 240V AC	
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS220	600 V, 175 AMP	BARRIER TERMINAL BLOCKS
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		

PARTS SCHEDULE (MISCELLANEOUS)

PM1- JUNCTION BOX

SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
PM1	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
FBD1	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
PM1-JB	PHASE MONITOR JUNCTION BOX	HAMMOND MANUFACTURING	NEMA 4X, 8"X6"X3.5"	EJB63S16	316 S.S.	INSTALL DIN RAILS TO MOUNT PM1 AND FBD1

EXTERNAL ELECTRICAL

SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
FDTS	FUSED DOUBLE THROW DISCONNECT SWITCH	EATON	SERVICE ENTRANCE RATED, HEAVY DUTY	DT364FWK	DT200 NK NEUTRAL KIT DS200 GK GROUND KIT	TIME DELAY CLASS RK5 FUSES
						(3) EDISON ECSR150
						(3) EDISON ECSR100
						(PROVIDE (3) SPARES FOR EA.)
MS	METER SOCKET	MILBANK	7 TERMINAL	UAP9701-X-QG-HSP	600 VAC, 200 AMP	ALUMINUM CONSTRUCTION
EC	EMERGENCY CONNECTOR	CROUSE & HINDS	ARKTITE	AREA10415-S22 W/ BACK BOX, ANGLE ADAPTER, 1-1/2 HUB AND SPRING COVER	600V 100 AMP	
LA	LIGHTNING ARRESTER	GENERAL ELECTRIC	TRANQUELL	9L15ECC001	650V	
MCP-JB	MOTOR CONTROL PANEL JUNCTION BOX	WIEGMANN	NEMA 4X, 12"X12"X6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PCP-JB	PUMP CONTROL PANEL JUNCTION BOX	WIEGMANN	NEMA 4X, 12"X12"X6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS220	600 V, 175 AMP	BARRIER TERMINAL BLOCKS

1. ALARM FLOAT SWITCH WILL BE SUPPLIED BY WWD AND INSTALLED BY CONTRACTOR.
2. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "*" SHALL BE DETERMINED AFTER EQUIPMENT SELECTION.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
⚠1	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/26/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
PARTS SCHEDULE (SHT. 2 OF 2)

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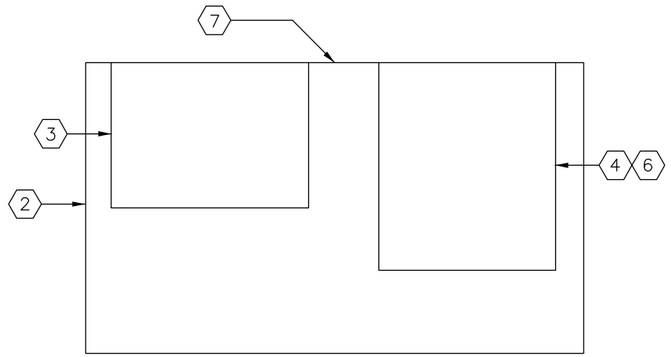
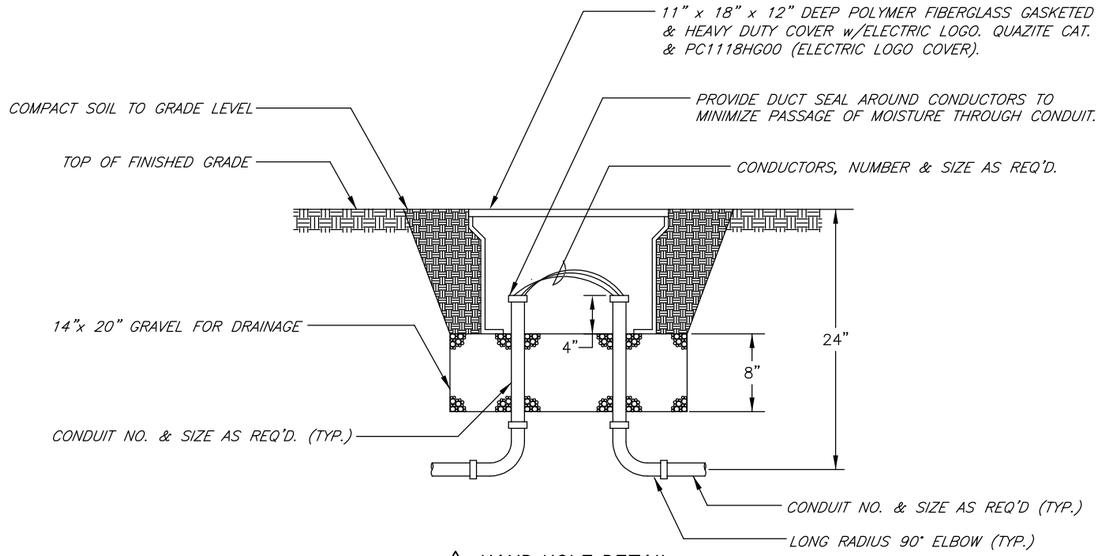
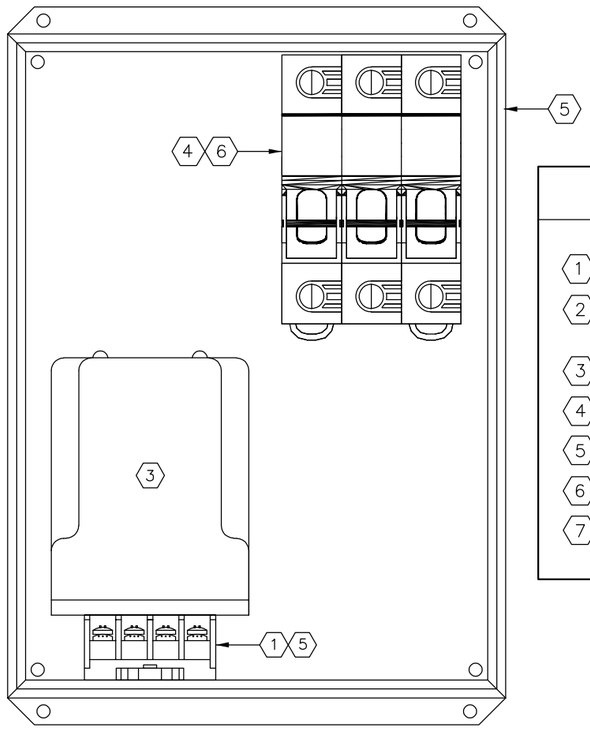


PM1 JUNCTION BOX DETAIL
TOP VIEW (N.T.S.)



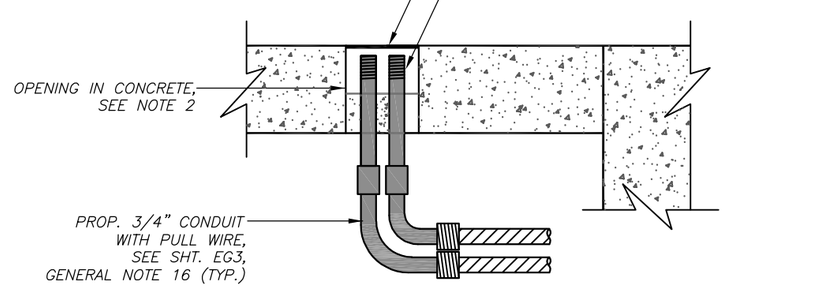
⚠ HAND HOLE DETAIL
SIDE VIEW (N.T.S.)



PM1 JUNCTION BOX DETAIL
FRONT VIEW (N.T.S.)

KEYED NOTES:

1. 8 PIN OCTAL SOCKET, DIN RAIL MOUNTED OT08
2. NEMA 4X STAINLESS STEEL, 8"x 6"x 3.5" ENCLOSURE PART NUMBER EJ863516
3. 3–PHASE POWER MONITOR, PM1
4. FUSE DISTRIBUTION BLOCK, FDB1
5. MOUNTED TO BOTTOM OF ENCLOSURE
6. DIRECTLY MOUNTED TO BACK OF ENCLOSURE
7. BACK OF ENCLOSURE



⚠ ELECTRICAL CONDUIT STUB-UP DETAIL
(N.T.S.)

TRANSITION INTO ALUMINUM CONDUIT

SCHEDULE 80 PVC CONDUIT

NOTES:
1. ALUMINUM CONDUIT SHALL BE THREADED TO ALLOW FOR FUTURE EXTENSION, CAP OFF.
2. CONCRETE SHALL BE POURED AT HALF THICKNESS OF CONCRETE SLAB, TO ALLOW ROOM FOR THREADED ALUMINUM CONDUIT. POUR SUFFICIENT CONCRETE TO STABILIZE CONDUITS. APPLY TWO (2) COATS OF BITUMASTIC TO ALUMINUM CONDUIT.
3. CONTRACTOR SHALL DETERMINE LOCATION OF ELECTRICAL CONDUIT STUB UP PRIOR TO POURING CONCRETE PAD.

ROMAN D. KORCHAK, P.E. #42626
ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
⚠	9/5/18	REVISION 1

DES: LRG
DRN: JHJ
CKD:
DATE: 9/26/18

CITY of TAMPA
WASTEWATER DEPARTMENT

MIDLAKE PS REHABILITATION
ELECTRICAL DETAILS (SHT. 4 OF 4)

W.O. 0000
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E19

Contract 18-C-00011; Midlake Pump Station Rehabilitation — Pre-Bid Conf. 8-28-18 10:30a

E-Mail to **Register as a Plan Holder** and E-Mail All **Questions** to **ContractAdministration@tampagov.net**

Sign-In Sheet ☐ Please Print — City of Tampa, Contract Administration Department

	Name	Organization	E-Mail OR Phone
1	Jody Gray	Tampa Contract Administration Dept.	jody.gray@tampagov.net
2	Rick Magill	Ricks Electrical Inc.	rickselectrical@hotmail.com
3	Scott Mercer	Carl Hankins Shepard Electric	Scottm@chisesinc.com
4	Mark Johnson	COT/CAD	Mark.Johnson@Tampagov.net
5	Stacey Morno	Morno Inc	Smorno@mornoind
6	John Granger	morno Inc	J. granger@mornoind.com
7	Michael Salgado	COT Wastewater	SSL2@tampagov.net
8	John Julian	COT Wastewater	John.Julian@c
9	Chris Simko	COT Wastewater	Chris.Simko@tampagov.net
10	Chris Wilhelm	MWI Pumps	ChrisW@MWIPumps.Com
11	CARMEN RODRIGUEZ	City of Tampa-CAD	813-274-8180
12	Graciela Saqueira	City of Tampa-CAD	813-274-7888
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