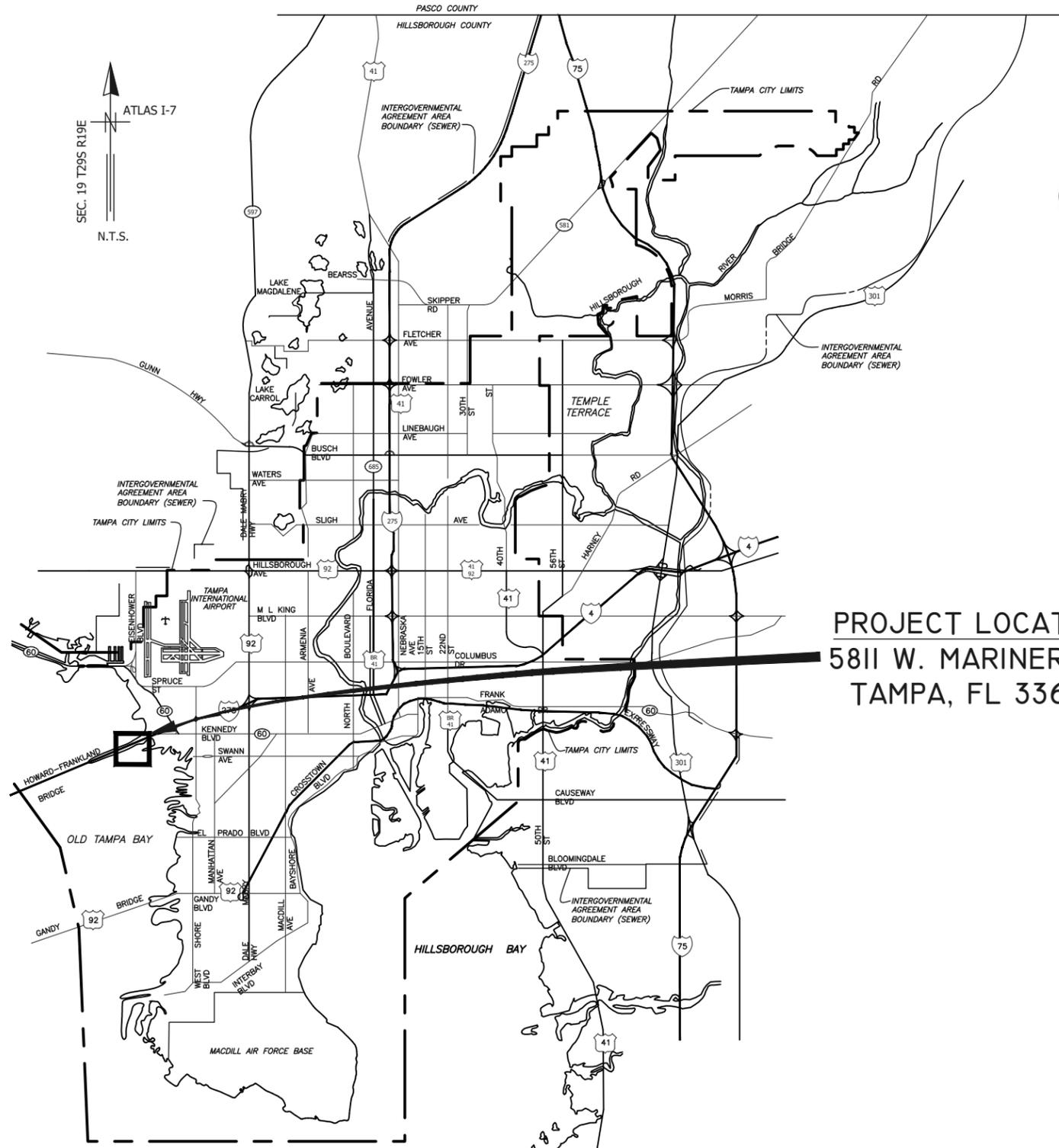


B _ _ _ - _ _ _

LOCATION MAP



PROJECT LOCATION
5811 W. MARINER ST.
TAMPA, FL 33609

CITY of TAMPA



WASTEWATER DEPARTMENT

PLANS FOR MARINER STREET PUMP STATION REHABILITATION

CONTRACT No.
19-C-00007

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.

User: sry Drawing Name: \\sewer\sewer\Share\WasteWater\Projects\Mariner, Graco and Joes Place Pump Station Rehabilitation\Drafting\DWG\Mariner PS Rehabilitation.dwg
Layout: Jun 06, 2019 - 11:20am

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: KJG	CITY of TAMPA WASTEWATER DEPARTMENT	MARINER STREET PUMP STATION REHABILITATION COVER SHEET	SHEET 1
	3			DRN: KLT			
	2			CKD:			
	1			DATE: Jun-2019			

User: ssy Drawing Name: \\sewer\SewerShare\Wastewater Projects\Mariner, Greco and Joes Place Pump Station Rehabilitation\Drafting\DWG\Mariner PS Rehabilitation.dwg Layout: Jun 06, 2019 - 11:20am

LEGEND

ABBREVIATIONS

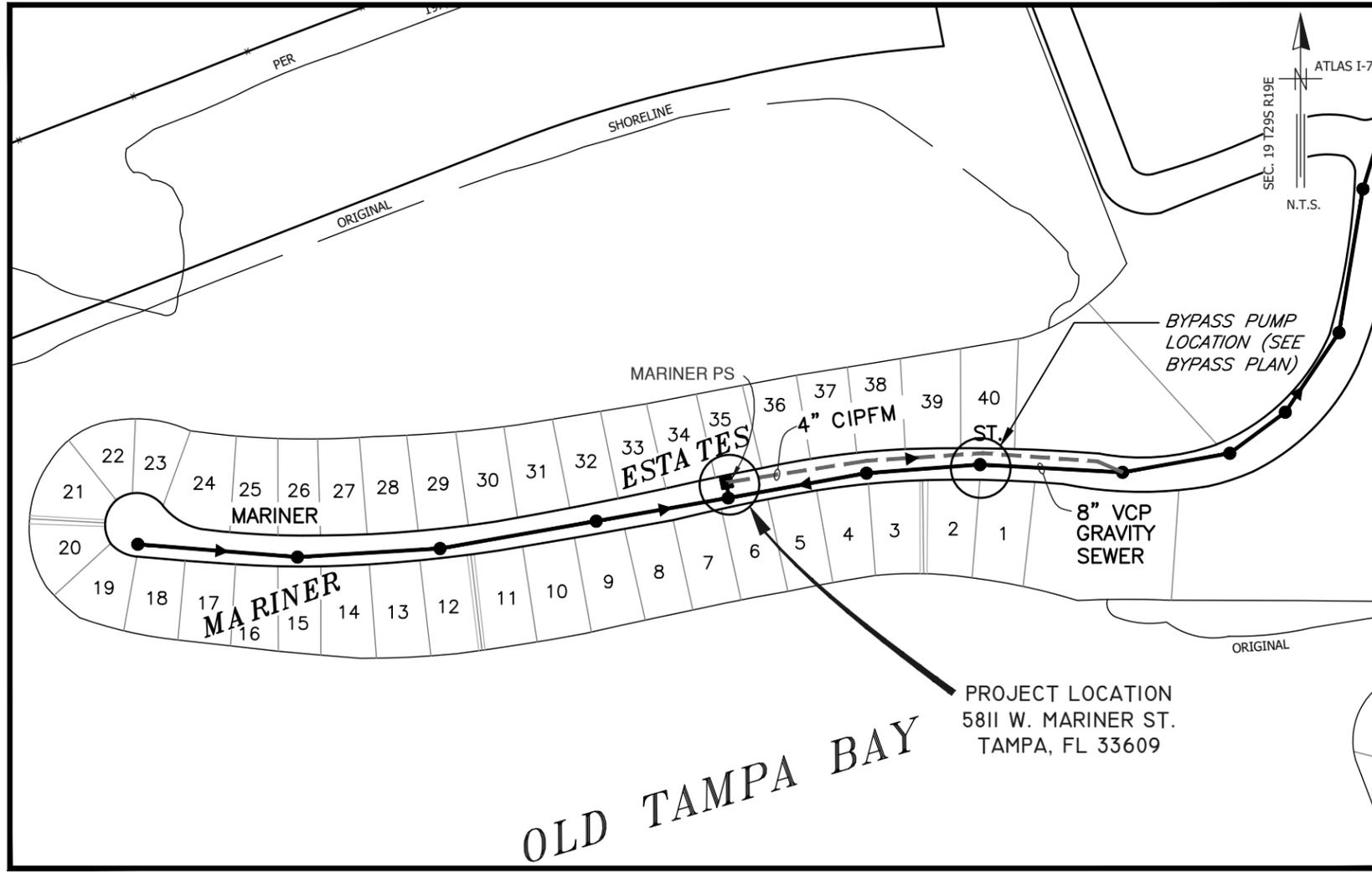
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EX SEWERS	UP to 36" & SMALLER	36" & LARGER	AIR RELEASE VALVE	ARV	INVERT ELEVATION	IE or INV EL
EX FORCE MAIN	←	←	APPROXIMATE LOCATION	AL	MAINTENANCE OF TRAFFIC	MOT
EX SAN SEWER & MANHOLES	←	←	BENCH MARK	BM	MANHOLE	MH or MH
EX STORM SEWER & MANHOLES	←	←	BURIED TELEPHONE	BT	PLUG VALVE	PV
PROP SEWERS			CONCRETE PIPE	CP	POINT OF INTERSECTION	PI
PROP FORCE MAIN	←	←	DIAMETER RATIO	DR	POLYVINYL CHLORIDE PIPE	PVCP
PROP SANITARY SEWER & MANHOLES	←	←	DUCTILE IRON PIPE	DIP	REINFORCED CONCRETE PIPE	RCP
PROP STORM SEWER & MANHOLES	←	←	DRIVEWAY	D/W	RESTRAINED MECHANICAL JOINT	RMJ
OTHER FEATURES			EDGE OF PAVEMENT	EOP	RIGHT OF WAY	R/W
RIGHT OF WAY LINE	← R/W		FIBER OPTIC CABLE	FOC	TOP of PIPE	TOP
EDGE of PAVEMENT	←		FLORIDA DEPT. OF TRANSPORTATION	FDOT	VERIFIED VERT. AND HORZ. LOCATION	Vvh
WATER LINE	←		FORCE MAIN	FM	VITRIFIED CLAY PIPE	VCP
GAS LINE	←		HIGH DENSITY POLYETHYLENE PIPE	HDPE	WASTEWATER	WW
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	⊗					
WATER METER	⊗					
ELECTRICAL MANHOLE or VAULT	⊗					
TELEPHONE MANHOLE or VAULT	⊗					
TRAFFIC BOX or VAULT	⊗					
BUILDING LIMIT	1236					
PROPERTY OWNERSHIP						
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						

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

INDEX

SHEET NO.	DESCRIPTION
SHEET 1	COVER SHEET
SHEET 2	LEGEND, LOCATION MAP AND INDEX
SHEET 3	DEMOLITION, GENERAL & BYPASS PUMPING NOTES
SHEET 4	BYPASS PLAN
SHEET 5	EXISTING & PROPOSED SITE PLANS
SHEET 6	DEMOLITION PLAN & SECTION VIEW
SHEET 7	DEMOLITION DETAILS
SHEET 8	PROPOSED WET WELL PLAN & SECTION VIEW
SHEET 9	PROPOSED VALVE BOX PLAN & SECTION VIEW
SHEET 10	DETAILS (1 OF 3)
SHEET 11	DETAILS (2 OF 3)
SHEET 12	DETAILS (3 OF 3)
SHEET EG1	DRAWING INDEX & GENERAL NOTES
SHEET EG2	ELECTRICAL SYMBOLS LEGEND (SHT. 1 OF 2)
SHEET EG3	ELECTRICAL SYMBOLS LEGEND (SHT. 2 OF 2)
SHEET EG4	ELECTRICAL SCOPE & PARAMETERS
SHEET E1	PROPOSED ELECTRICAL SITE PLAN
SHEET E2	ELECTRICAL SECTIONS
SHEET E3	ELECTRICAL PUMP CONTROL PANEL (SHT. 1 OF 2)
SHEET E4	ELECTRICAL PUMP CONTROL PANEL (SHT. 2 OF 2)
SHEET E5	TERMINAL BOXES
SHEET E6	KEYED NOTES FOR E1-E5
SHEET E7	ELECTRICAL DETAILS
SHEET E8	ONLINE DIAGRAM
SHEET E9	ELECTRICAL SCADA RTU MODIFICATIONS



PROJECT LOCATION MAP

N.T.S.

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
 DRN: KLT
 CKD:
 DATE: Jun-2019

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
 LEGEND, LOCATION MAP AND INDEX

SHEET
 2

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

DEMOLITION NOTES

- D-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 CONTRACTORS EXPENSE.
- D-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.
- D-3. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING, BRICK PAVERS, AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.

GENERAL NOTES

- G-1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH WASTEWATER INSPECTOR, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS AFTER ISSUANCE OF THE NOTICE TO PROCEED (NTP).
- G-2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR THE PUMPING STATION WORK.
- G-3. THE CITY WILL OBTAIN ALL NECESSARY FDEP WASTEWATER PERMITS.
- G-4. CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- G-5. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- G-6. 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 AWWP, 2700 MARITIME BOULEVARD.
- G-7. CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS, AND ANY MISCELLANEOUS BRACKETS.
- G-8. 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.
- G-9. TWO NEW PUMPS SHALL BE SUPPLIED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT, MODEL NP-3085-463, 3-INCH, 3 HP WITH 135mm IMPELLERS. ONE PUMP SHALL BE SUPPLIED WITH A FLYGT MIX-FLUSH VALVE. ALL PROPOSED PUMP BASES SHALL HAVE 4-INCH DIAMETER DISCHARGE ELBOWS. PUMPS SHALL BE RATED FOR 100 GPM AT 22 FT TDH. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.
- G-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.
- G-11. PUMP DISCHARGE PIPING IN WET WELL SHALL BE 4-INCH DIAMETER HDPE, SDR-11, GREEN STRIPE, DIPS-OD. HDPE JOINTS SHALL BE FLANGED WITH 316 SS BACK UP RINGS.
- G-12. PLUG VALVES SHALL BE DEZURIK, PEF 100% PORT, ECCENTRIC PLUG VALVES OR APPROVED EQUAL. PLUG VALVES SHALL BE PROVIDED WITH 2" NUTS AND NO HANDWHEELS.
- G-13. CHECK VALVES SHALL BE APCO RUBBER FLAPPER 4-INCH SWING CHECK VALVES, SERIES 100, MODEL104P3. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.
- G-14. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- G-15. PIPE SUPPORTS SHALL BE CONSTRUCTED AS SHOWN IN THE PIPE SUPPORT DETAIL (SEE SHEET 11).
- G-16. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.
- G-17. OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESSSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.
- G-18. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FLORIDA BUILDING CODE 6TH EDITION 2017, CHAPTER 5 OF THE CITY OF TAMPA CODE AND NATIONAL ELECTRIC CODE 2014 EDITION.

- G-19. ALL METAL PIPE, FITTINGS, VALVES, ETC. SHALL RECEIVE:
 - 1. SHOP COAT - ONE COAT, 4-6 MILS (DRY) TNEMEC N140-1211 EPOXY PRIMER.
 - 2. FIELD COAT - ONE COAT, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU.
 - 3. FIELD COAT
 - A. BELOW GRADE - ONE COAT, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU.
- G-20. CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES. PROPOSED LINK SEAL OR APPROVED EQUAL.
- G-21. CONTRACTOR SHALL PROVIDE A REDUCED PRESSURE BACKFLOW-PREVENTION DEVICE IN WATER SERVICE LINE, AS SHOWN IN DETAILS, AT A PLACE TO BE SPECIFIED DURING CONSTRUCTION. BACKFLOW PREVENTION DEVICE SHALL BE 1" WILKINS, MODEL #975 XL, OR EQUAL.
- G-22. ALL DIP PIPE AND FITTINGS SHALL BE CLASS 53 WITH PROTECTO 401 INTERIOR COATING.
- G-23. ALUMINUM ACCESS COVERS SHALL BE DESIGNED FOR H2O LOADING WITH 316 STAINLESS STEEL HARDWARE, HINGES AND AUTOMATIC HOLD-OPEN ARM AS MANUFACTURED BY US FOUNDRY, FLYGT, HALLIDAY PRODUCTS, OR APPROVED EQUAL. THE PUMP ACCESS COVER SHALL BE A SINGLE DOOR ARRANGEMENT WITH AN ANGLE FRAME FOR AN OVERALL OPENING OF 36"x36". THE ACCESS DOORS SHALL ALSO BE EQUIPPED WITH A FLUSH LIFTING HANDLE, TAMPERPROOF FASTENERS AND RECESS LOCKING BOX.
- G-24. THE ACCESS COVER SHALL CLOSE FLUSH WITH THE FRAME. ALL ALUMINUM SURFACES THAT CONTACT CONCRETE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY OR BITUMINOUS COATING OR EQUAL. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE INSTALLATION AND CONFIGURATION OF THE ACCESS COVERS.
- G-25. ALL ELEVATIONS ARE BASED ON NAVD88 DATUM.

BYPASS PUMPING NOTES

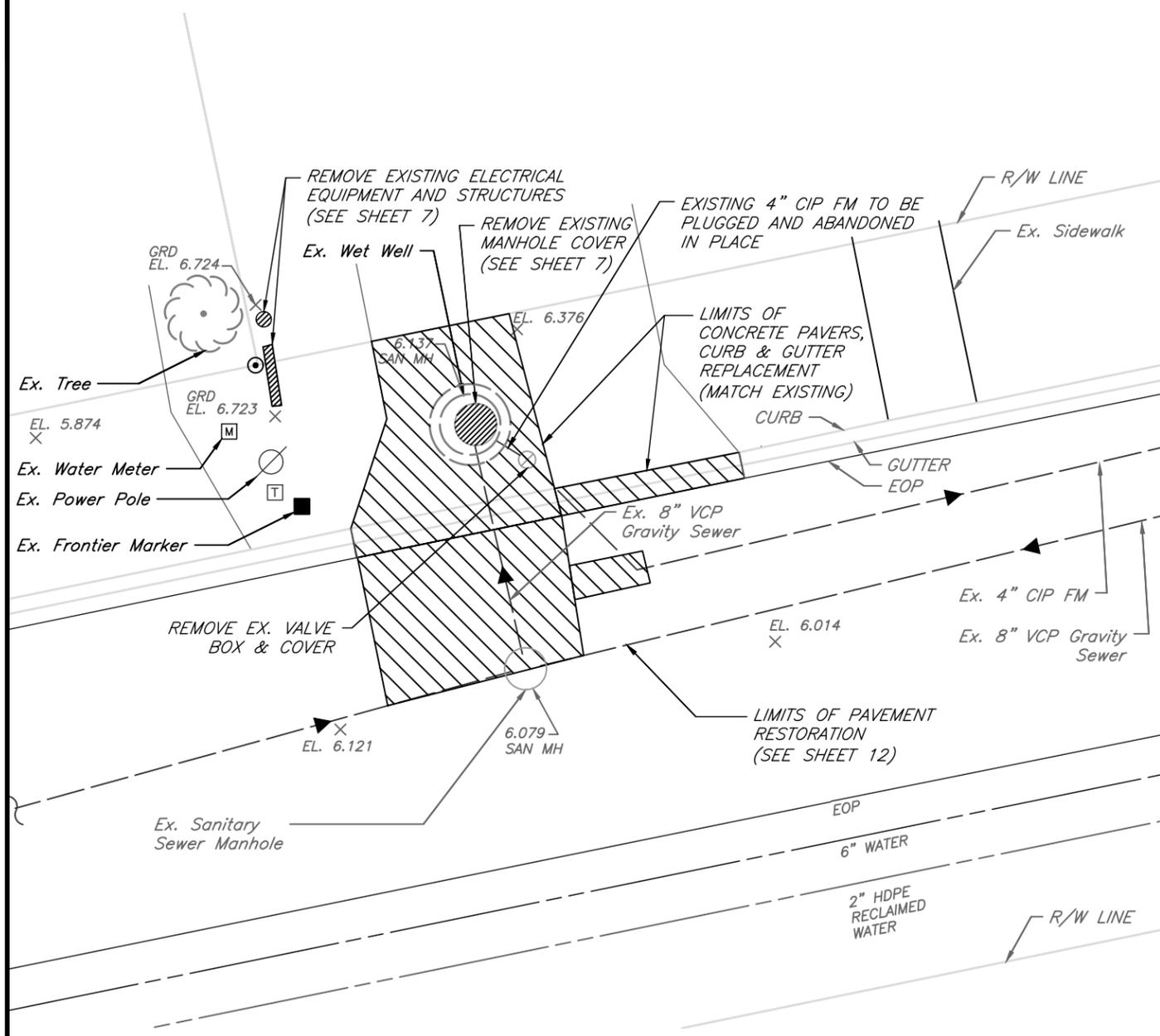
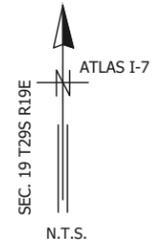
- B-1. SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR BYPASS PUMPING STRATEGY.
- B-2. CONTRACTOR SHALL SUPPLY (1) SOUND ATTENUATED BYPASS PUMP, BYPASS PUMP SHALL BE CAPABLE OF DELIVERING 100 GPM AT 22 FT TDH PLUS ANY LOSSES IN THE TEMPORARY BYPASS PIPING. THE BYPASS PUMP SHALL BE OF THE SELF PRIMING QUIET FLOW TYPE PUMP.
- B-3. BYPASS PUMP NOISE SHALL STRICTLY COMPLY TO ALL LOCAL REGULATIONS AND ORDINANCES COVERING NOISE CONTROL.
- B-4. IN ORDER TO MINIMIZE BYPASS PUMPING DURATION, CONTRACTOR SHALL HAVE ALL PROPOSED MATERIALS AND EQUIPMENT ON-SITE BEFORE PLACING PUMPING STATION ON BYPASS.
- B-5. CONTRACTOR SHALL PROVIDE BARRICADES WITH FLASHING LIGHTS AROUND MANHOLE AND BYPASS PUMP. PUMP SHALL BE SITUATED TO ALLOW ONE (1) OPEN TRAFFIC LANE OF TRAFFIC INCLUDING SOLID WASTE COLLECTION VEHICLES.

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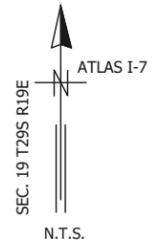
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: KJG	CITY of TAMPA WASTEWATER DEPARTMENT	MARINER STREET PUMP STATION REHABILITATION DEMOLITION NOTES, GENERAL NOTES & BYPASS PUMPING NOTES	SHEET 3
	3			DRN: KLT			
	2			CKD:			
	1			DATE: Jun-2019			

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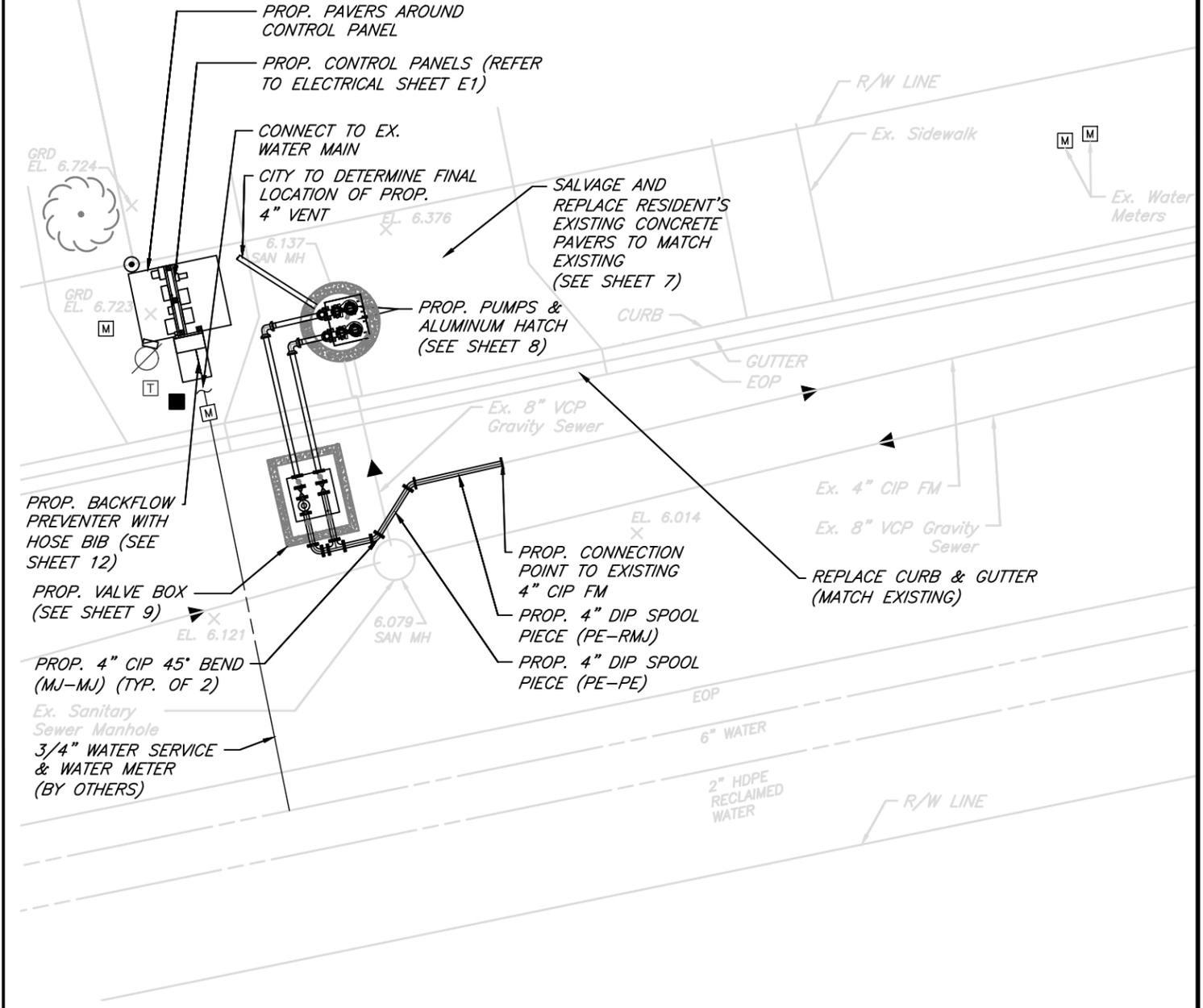
NOTE:
CONTRACTOR SHALL MAINTAIN RESIDENTIAL ACCESS TO GARAGE AS LONG AS POSSIBLE. DURATION WITH NO GARAGE ACCESS FOR CURB AND GUTTER REPLACEMENT AND FORCE MAIN CONNECTION SHOULD BE MINIMIZED.



EXISTING SITE PLAN
SCALE: 1" = 10'



B _ _ _ _



PROPOSED SITE PLAN
SCALE: 1" = 10'

No.	DATE	REVISIONS
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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN
DIVISION HEAD
WASTEWATER DEPARTMENT

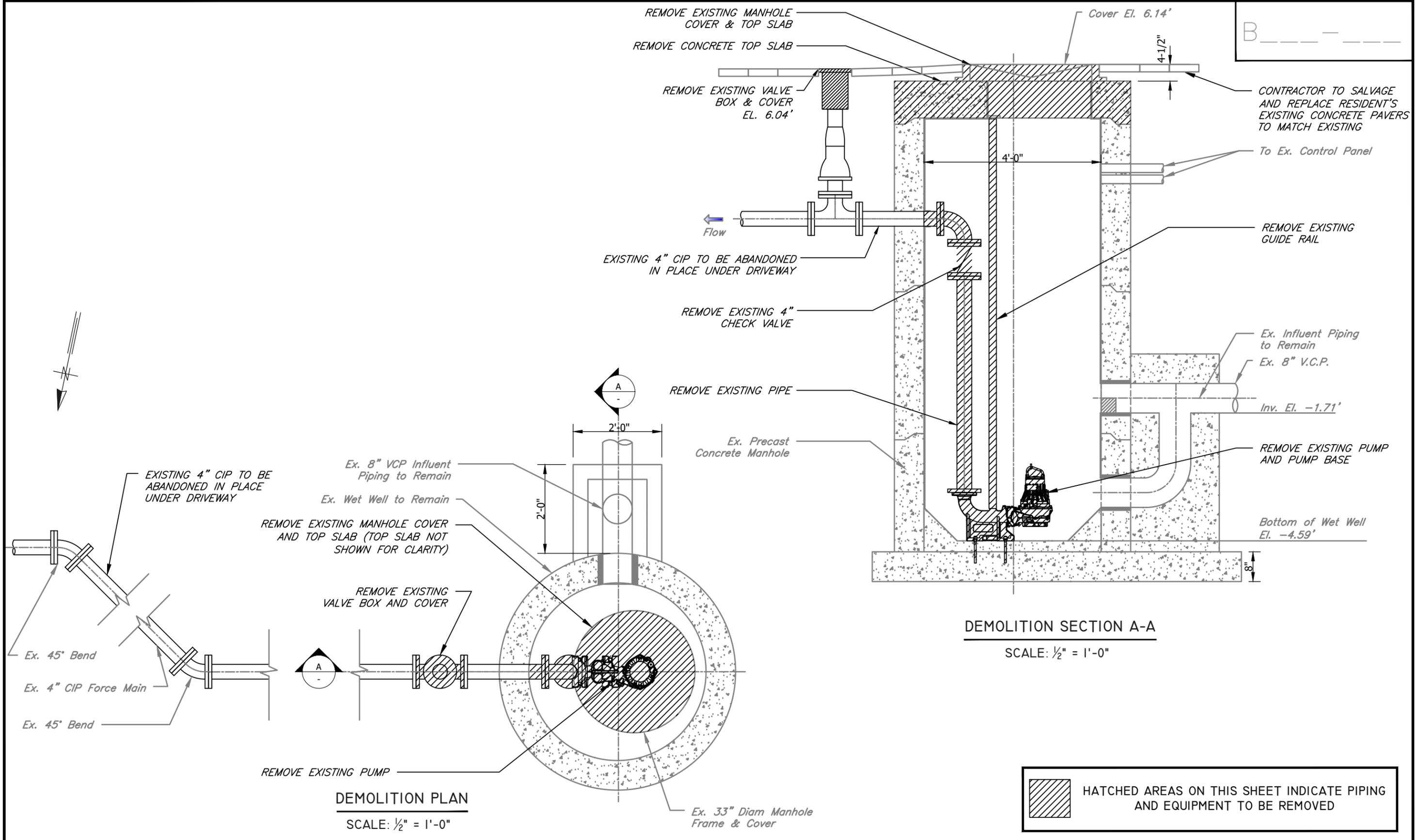
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CKD:
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CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
EXISTING AND PROPOSED SITE PLANS

SHEET
5

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DATE: Jun-2019

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
DEMOLITION PLAN & SECTION VIEW

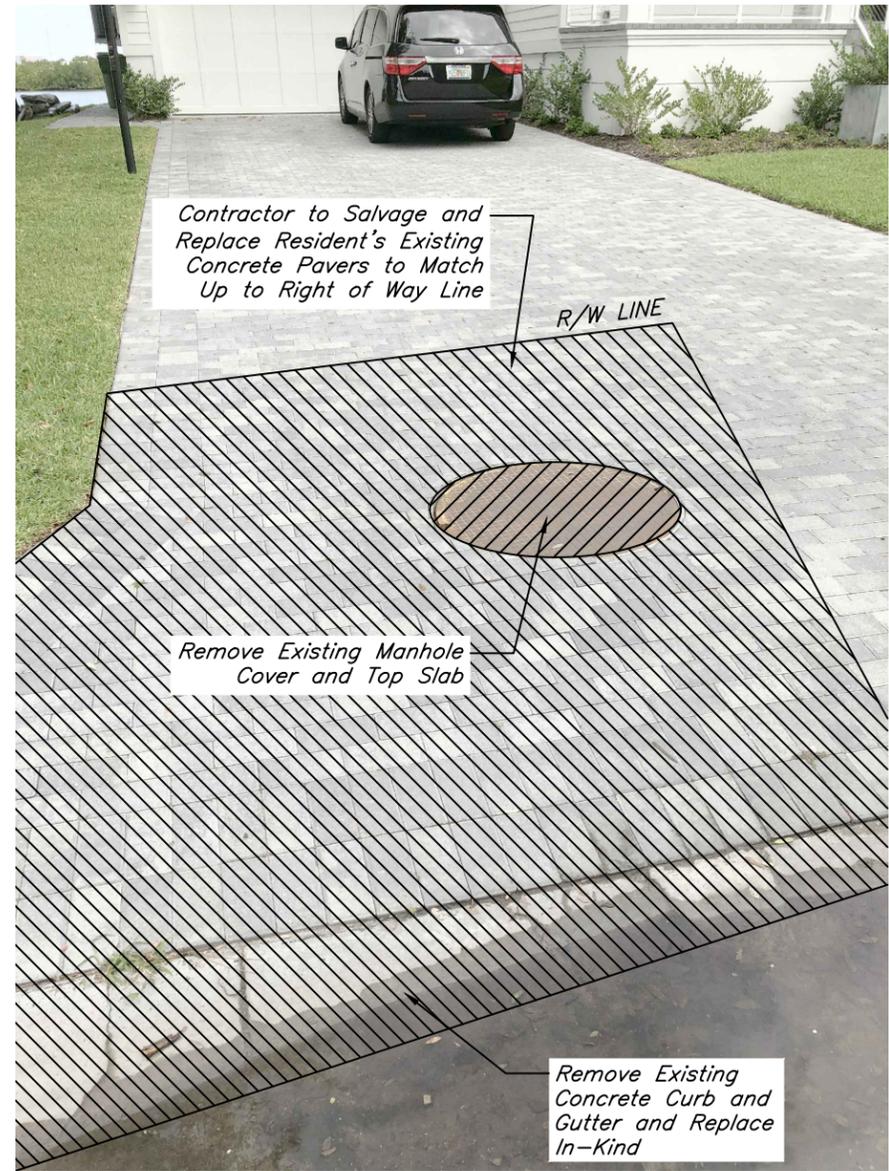
SHEET
6

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



Remove Existing Electrical Equipment and Structures

EXISTING CONTROL PANEL
N.T.S.



Contractor to Salvage and Replace Resident's Existing Concrete Pavers to Match Up to Right of Way Line

Remove Existing Manhole Cover and Top Slab

Remove Existing Concrete Curb and Gutter and Replace In-Kind

EXISTING DRIVEWAY
N.T.S.

 HATCHED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED

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CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
DEMOLITION DETAILS

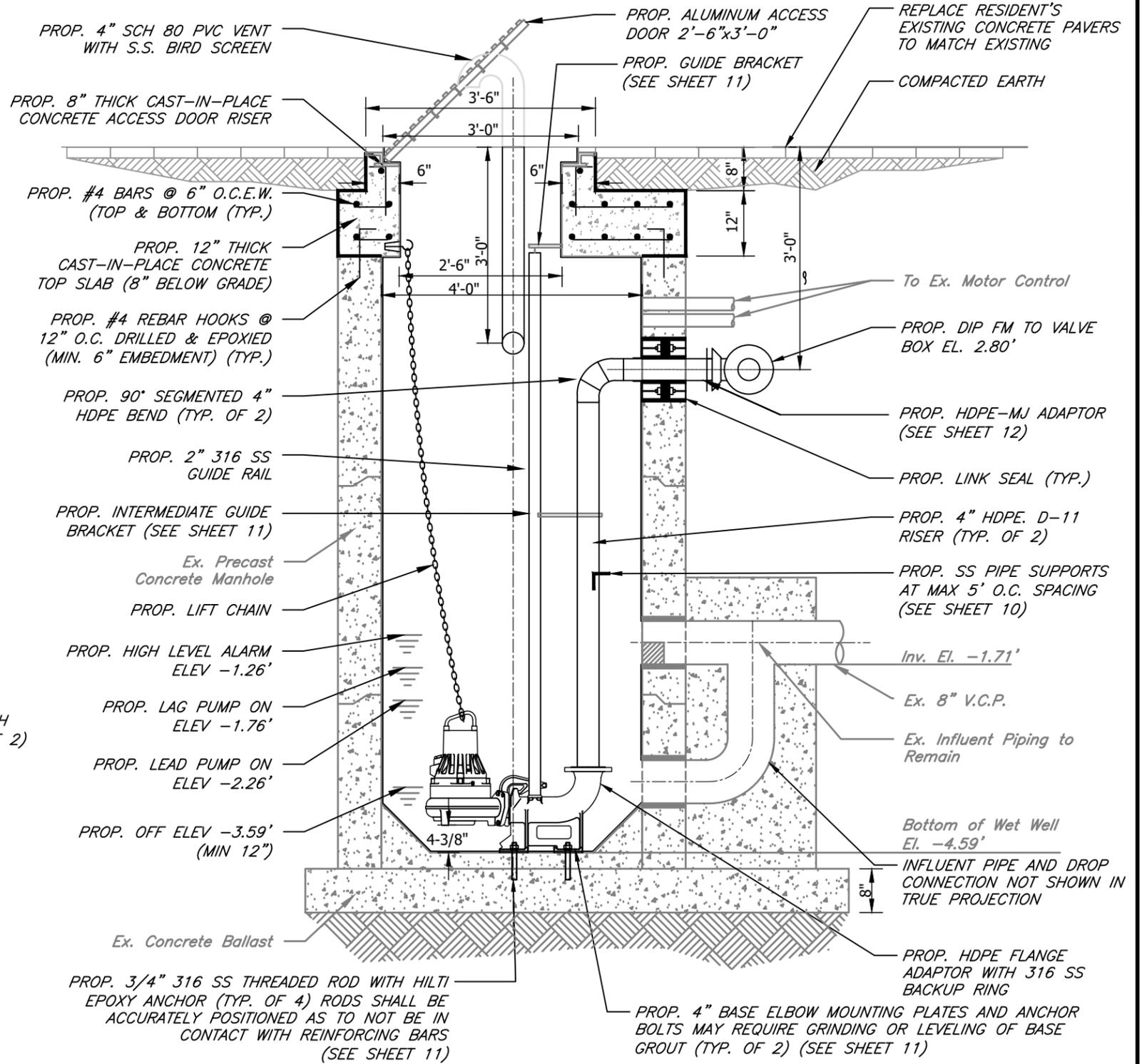
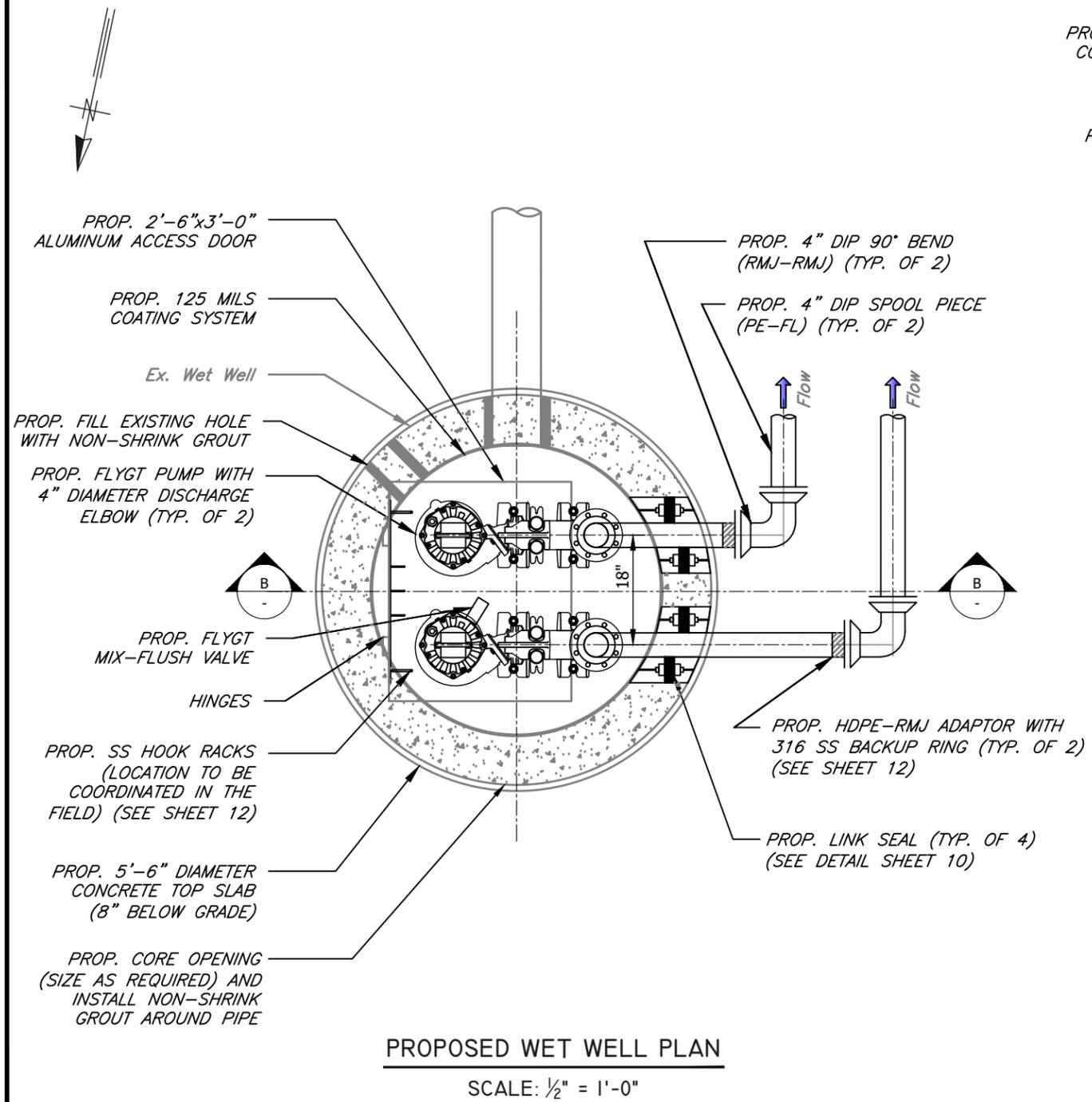
SHEET
7

PUMP DATA

FLYGT MODEL NP3085-463, WITH
135MM IMPELLER, 3 HP, 240V, 3
PH, 100 GPM @ 22 FT TDH

B - - - - -

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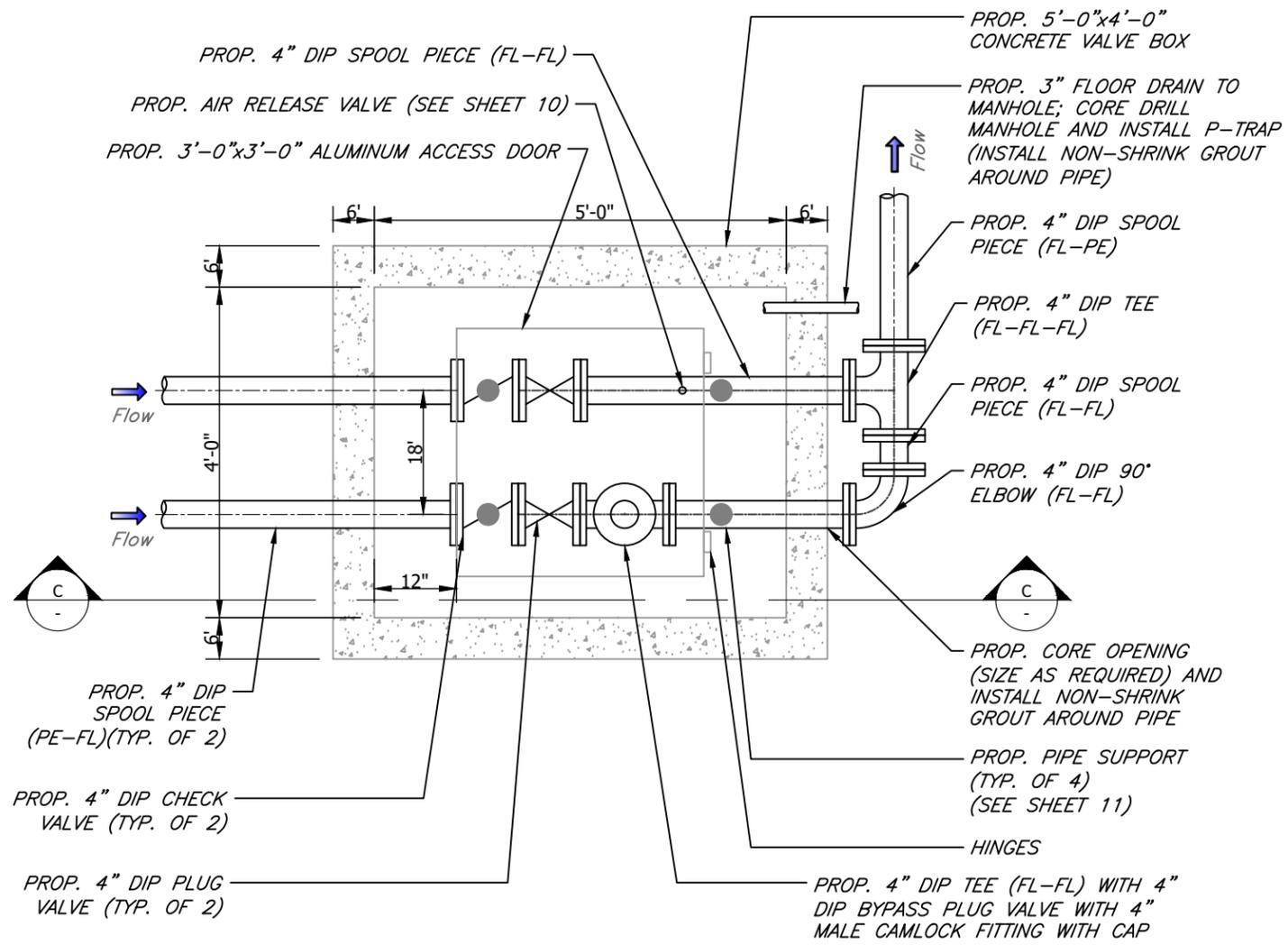
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CITY of TAMPA
WASTEWATER DEPARTMENT

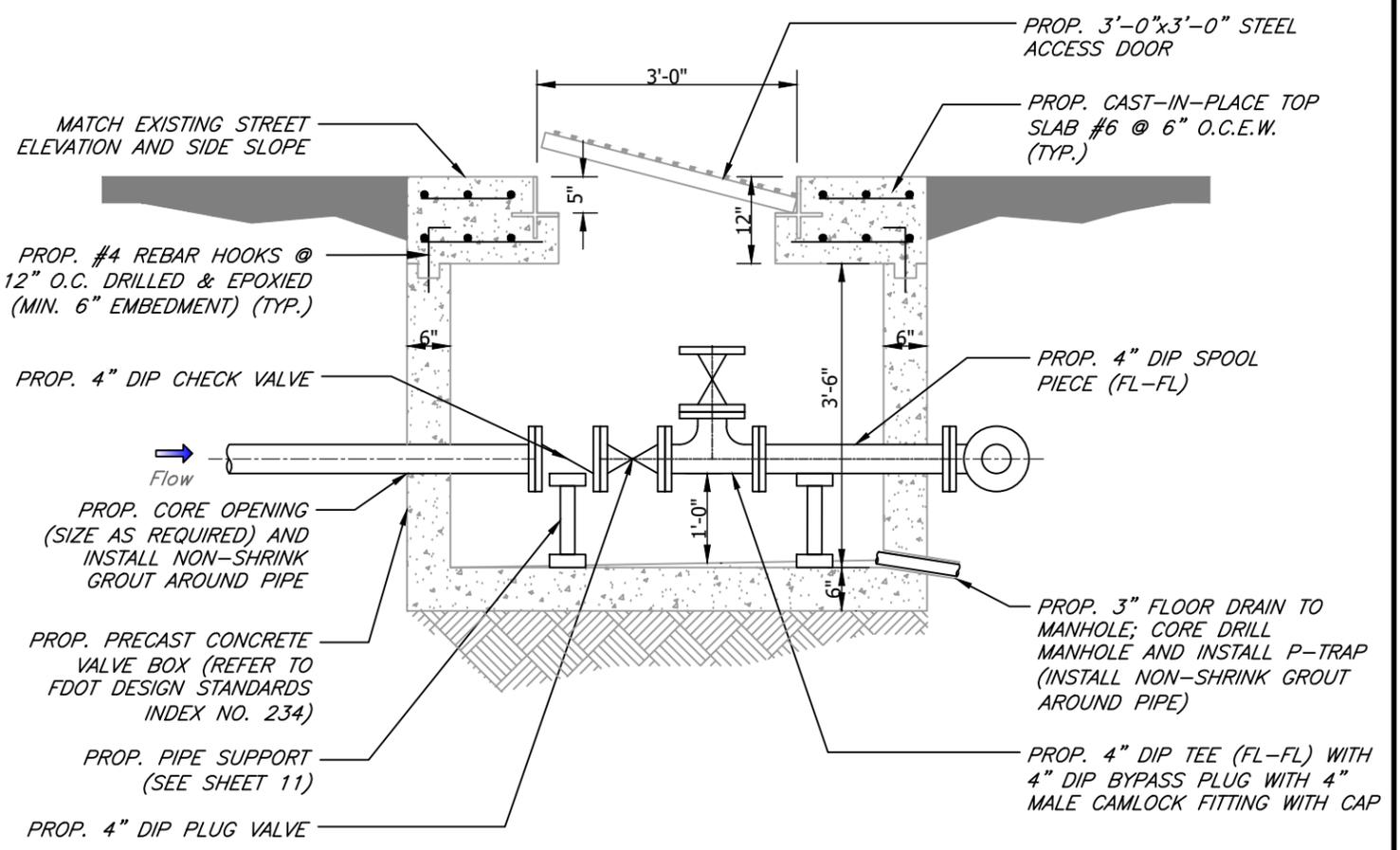
MARINER STREET PUMP STATION REHABILITATION
PROPOSED WET WELL PLAN & SECTION VIEW

SHEET
8

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



PROPOSED VALVE BOX PLAN
SCALE: 1/2" = 1'-0"



PROPOSED SECTION C-C
SCALE: 1/2" = 1'-0"

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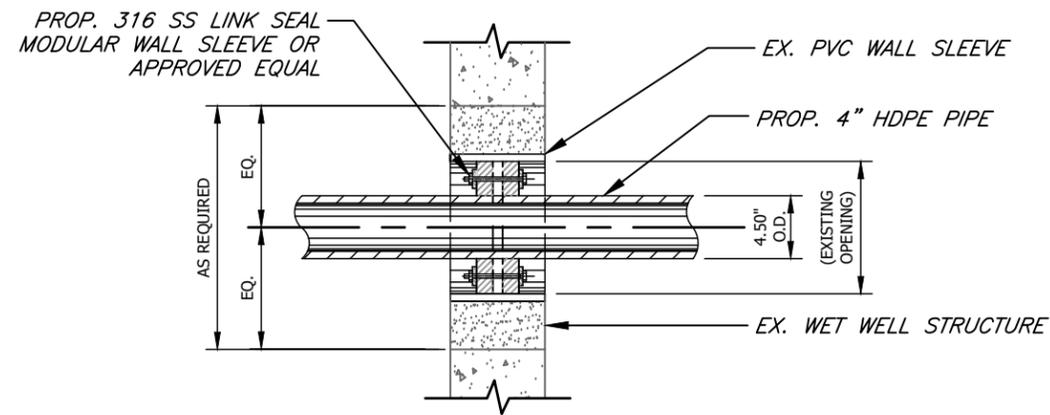
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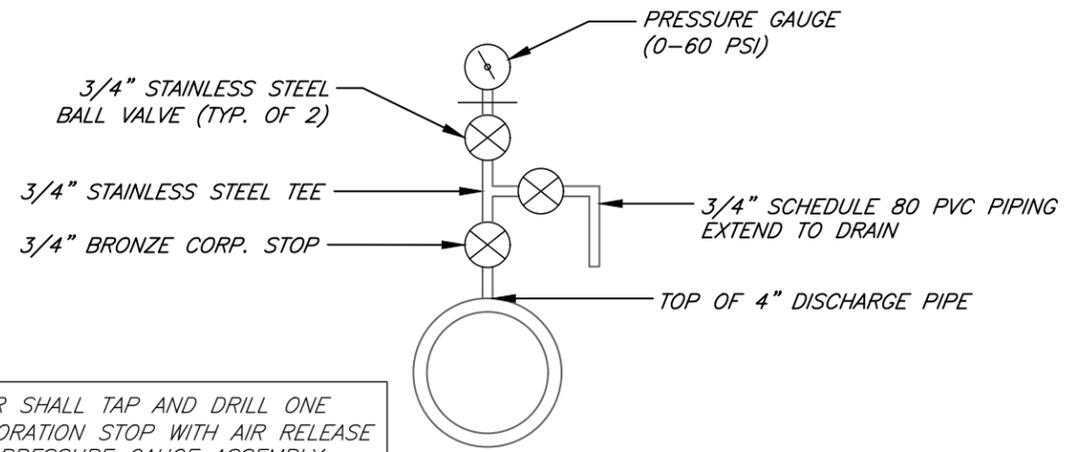
CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
PROPOSED VALVE BOX PLAN & SECTION VIEW

SHEET
9

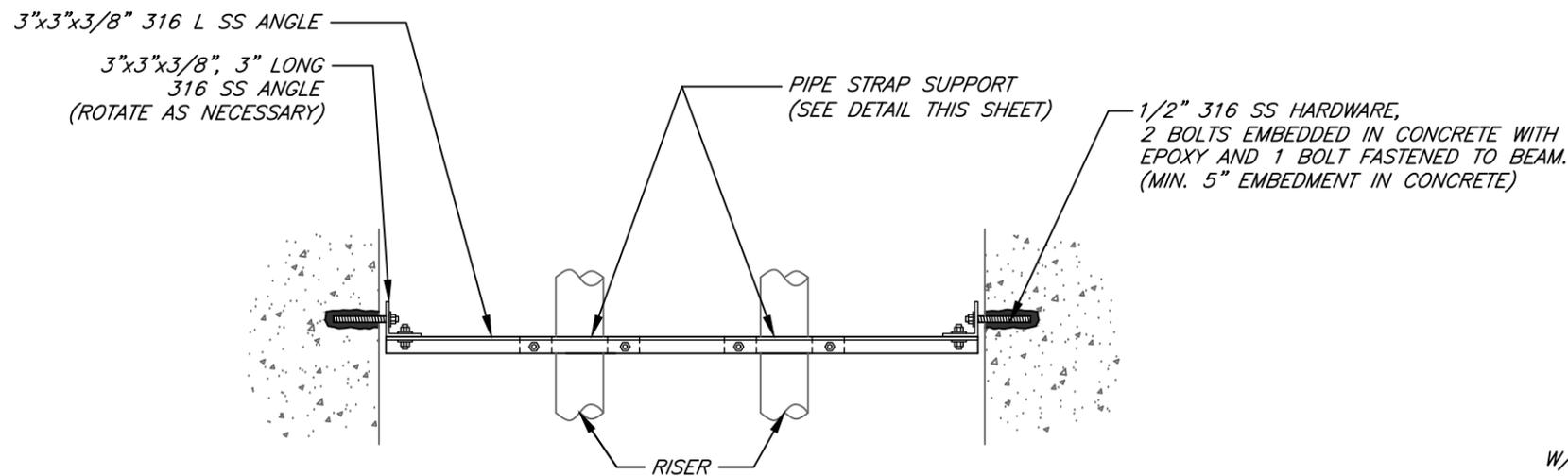


LINK SEAL
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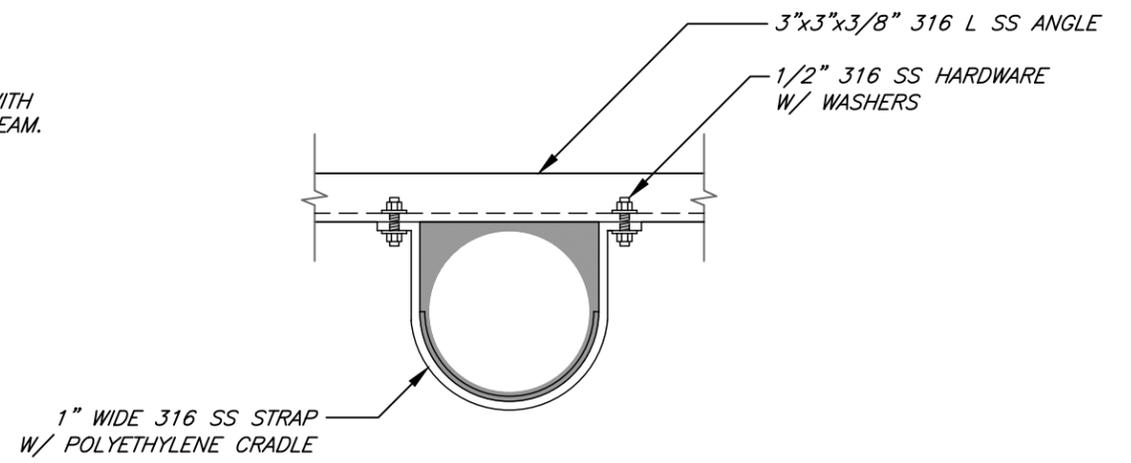


CONTRACTOR SHALL TAP AND DRILL ONE 3/4" CORPORATION STOP WITH AIR RELEASE VALVE AND PRESSURE GAUGE ASSEMBLY. PVC PIPE AND FITTINGS (SCH 80) SHALL BE PROVIDED TO DIRECT FLOW FROM THE BALL VALVE DOWNWARD TO THE FLOOR.

AIR RELEASE AND PRESSURE GAUGE
N.T.S.



PIPE SUPPORT ASSEMBLY
N.T.S.



PIPE STRAP SUPPORT
N.T.S.

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CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
DETAILS (1 OF 3)

SHEET
10

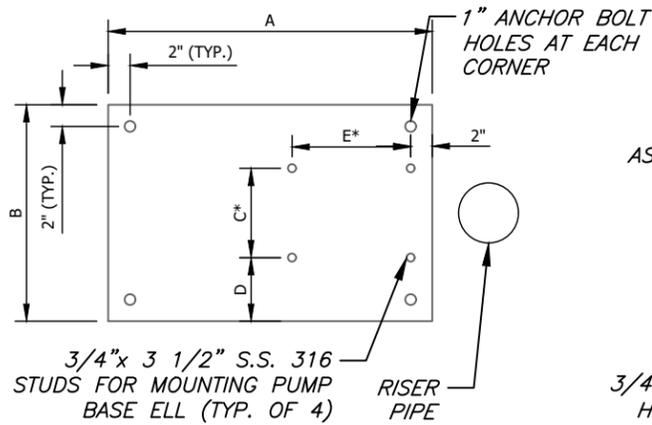
PUMP BASE ELL MOUNTING PLATE DIMENSIONS

A	B	C	D	E	F
20"	16"	8"	4"	9-7/8"	1/2"

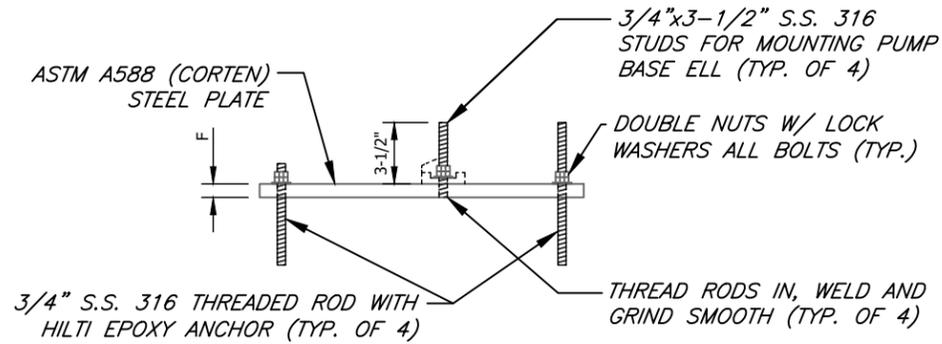
NOTES:

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.
3. DIMENSIONS FOR "C" & "E" ARE FOR FLYGT PUMPS, INC. BASE ELLS.

B_____



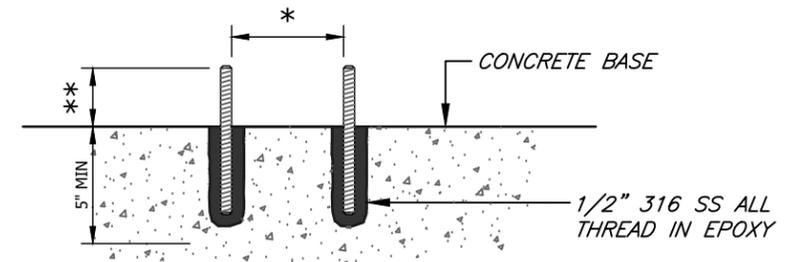
PLAN



PROFILE

PUMP BASE ELL MOUNTING PLATE

N.T.S.

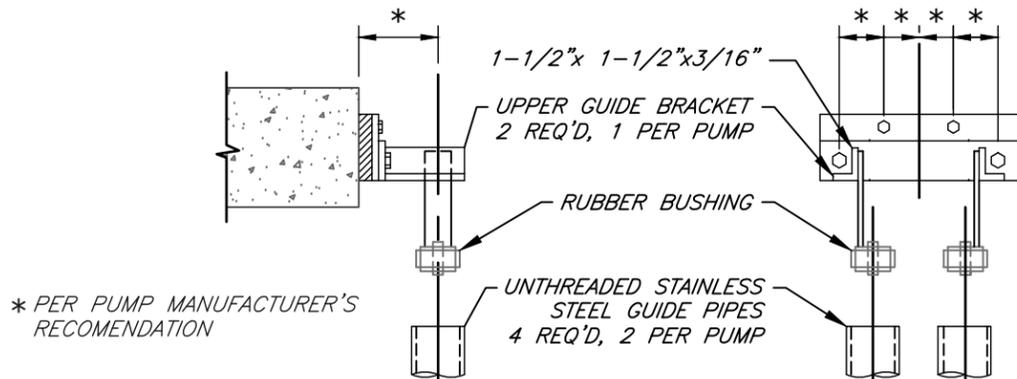


* ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMMENDED BY PUMP MANUFACTURER.

** CONTRACTOR SHALL PROVIDE A MINIMUM 1/2 INCH BOLT PROTRUSION ABOVE THE FINAL NUT LOCATION AFTER THE NUT IS TIGHTENED TO MANUFACTURE'S RECOMMENDATION.

ANCHOR BOLT

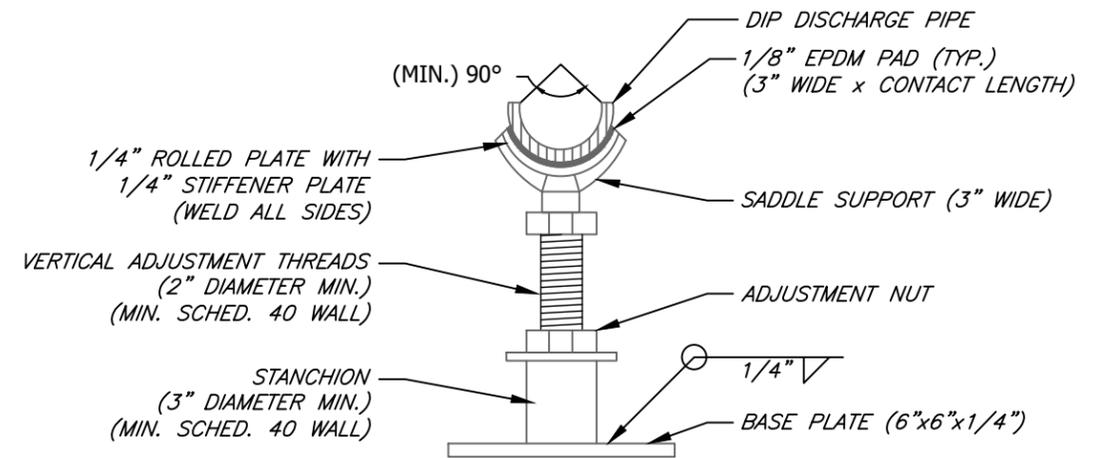
N.T.S.



* PER PUMP MANUFACTURER'S RECOMENDATION

GUIDE BRACKET (SUPPLIED WITH PUMPS)

N.T.S.



ALL PARTS ARE TO BE MADE OF T-316/316L STAINLESS STEEL

SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT

N.T.S.

User: sss Drawing Name: \\sewer\sewer\Share\WasteWater Projects\Mariner, Greco and Joas Place Pump Station Rehabilitation\Drafting\DWG\Mariner PS Rehabilitation.dwg Layout: Jun 06, 2019 - 11:20am

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

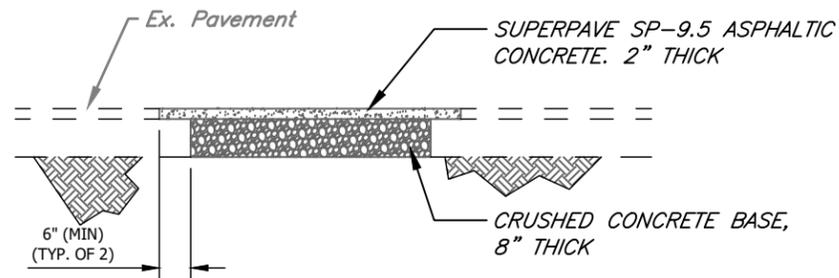
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DRN: KLT
CKD:
DATE: Jun-2019

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION

DETAILS (2 OF 3)

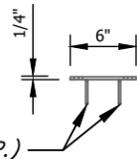
SHEET
11



PAVEMENT RESTORATION

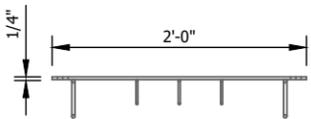
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NOTE: INSTALL FLOATS IN A MANNER TO MAINTAIN PROPER OPERATIONAL CLEARANCE.

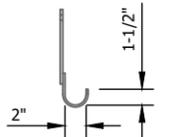


SMALL HOOKS (TYP.)

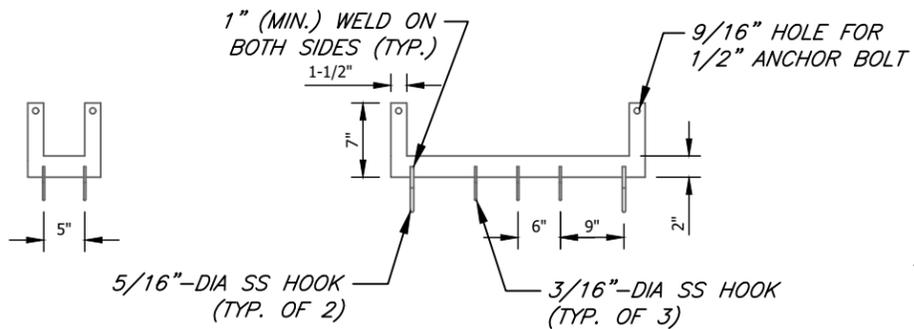
TOP VIEW SMALL HOOK



TOP VIEW LARGE RACK



SMALL HOOK SIDE VIEW



**FRONT VIEW SMALL RACK
(TYP. OF 2)**

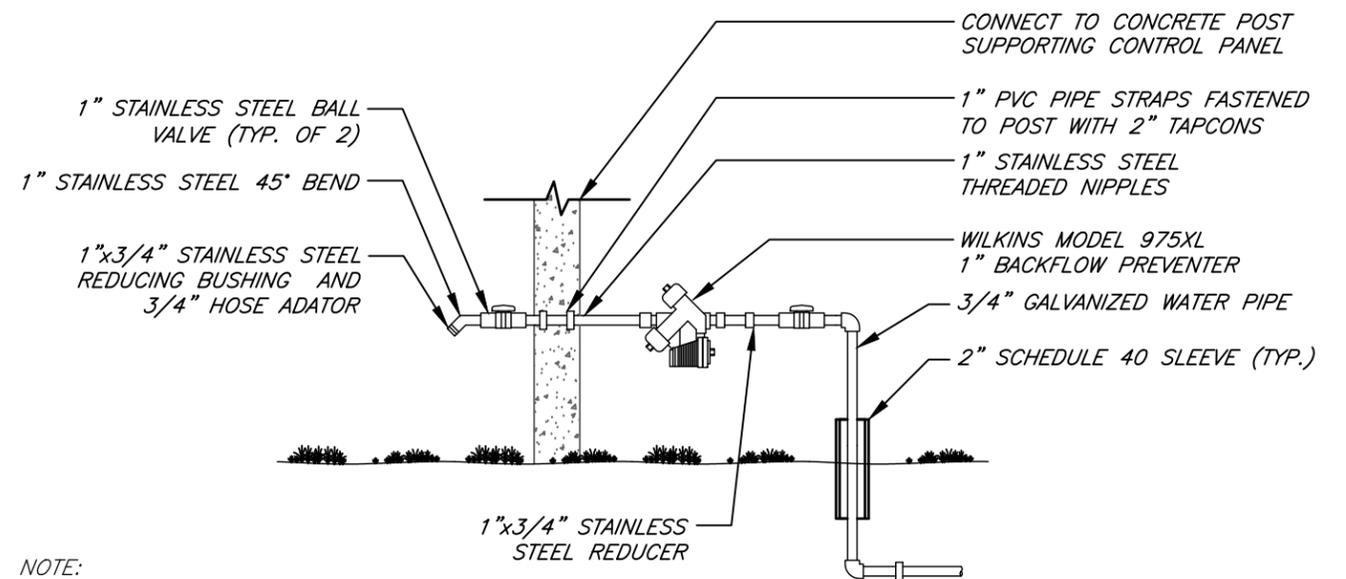
**FRONT VIEW LARGE RACK
(TYP. OF 2)**

LARGE HOOK SIDE VIEW

ALL PARTS ARE TO BE MADE OF T-316/316L STAINLESS STEEL

STAINLESS STEEL HOOK RACKS

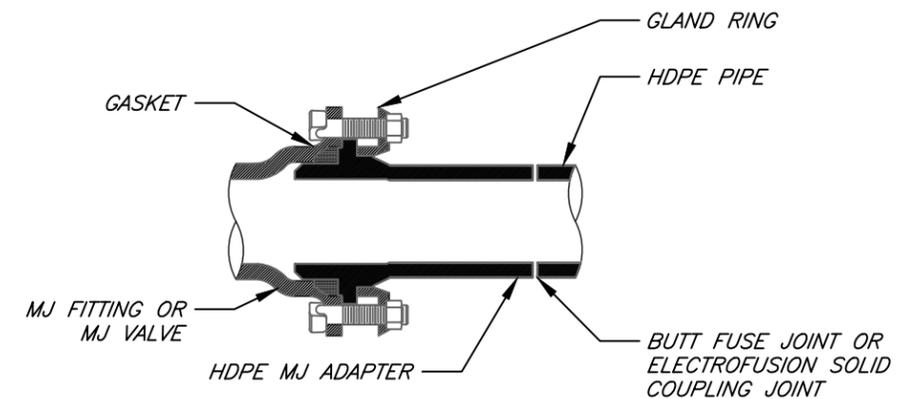
N.T.S.



NOTE: PROVIDE PIPE UNION ON EACH SIDE OF BACKFLOW PREVENTER

BACKFLOW PREVENTER AND HOSE BIBB

N.T.S.



NOTE: SCHEMATIC SHOWN FOR STANDARD MJ FITTING AND PLUG VALVES

HDPE TRANSITION

N.T.S.

User: sry Drawing Name: \\server\SewerShare\WasteWater Projects\Mariner, Graco and Joes Place Pump Station Rehabilitation\Drafting\DWG\Mariner PS Rehabilitation.dwg Layout: Jun 06, 2019 - 11:20am

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

DES: KJG
DRN: KLT
CKD:
DATE: Jun-2019

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER STREET PUMP STATION REHABILITATION
DETAILS (3 OF 3)

GENERAL NOTES

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL POWER CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/ XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
3. ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
4. VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
6. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 6TH EDITION 2017 OF THE FLORIDA BUILDING CODE AND THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ ALUMA-SHIELD ANTI-SIEZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B) OR EQUAL.
8. ALL PANELS, DISCONNECTS, SWITCHES, AND 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. EDGE OF NAMEPLATE SHALL BE BEVELED 45 DEG.
9. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-0" INTERVALS.
10. ALL CIRCUITS SHALL HAVE A PROPERLY SIZED GROUNDING CONDUCTOR ROUTED INSIDE EACH CONDUIT W/ POWER CONDUCTORS.
11. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS, NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNED IN THE DRAWINGS.
12. NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
13. PROVIDE A MINIMUM OF 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
14. ALL FASTENING HARDWARE (SCREW, BOLTS NUTS ETC.) SHALL BE 316-STAINLESS STEEL, FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
15. EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL, UNLESS OTHERWISE NOTED (UON).
16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90° ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
17. ABOVE GRADE INDOOR, AND NON-WASHDOWN AREAS, RIGID ALUMINUM CONDUIT CONNECTIONS TO CONTROL BOXES, ETC. SHALL BE MADE WITH ALUMINUM DOUBLE LOCKNUTS AND BUSHINGS. TURN DOWN ON THREADS TO SOLIDLY CONNECT RACEWAY TO BOX OR ENCLOSURE.
18. ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ETC. MOUNTED OUTDOORS, BELOW GRADE, OR WASHDOWN AREAS.
19. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
20. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
21. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
22. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.

23. THE WET WELL CLASSIFICATION IS CLASS 1, DIVISION 1, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
24. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN 2014 NEC AND CITY OF TAMPA/ HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/ HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
25. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER. THE PANEL BUILDER SHALL BE UL-508A CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE. THE DOUBLE THROW DISCONNECT MUST BE LABELED "SUITABLE FOR USE AS SERVICE EQUIPMENT."
26. THE ENCLOSURES SHALL BE NEMA 4X, THEY SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304SS, THEY SHALL HAVE RAL 9003 WHITE POWDER COAT AND THE CLOSING SURFACES SHALL HAVE ROLLED LIPS, PROVIDE HINGED DOORS WITH 3-POINT LATCH AND LOCKABLE HANDLES.
27. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
28. ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14 AND SHALL HAVE SPADE LUG TERMINATIONS.
29. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY, BUT INSTALLED BY CONTRACTOR.
30. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
31. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURES SPECIFICATIONS.
32. INSTALL LAMINATED SCHEMATIC, LAMINATED DATA SHEET AND LAMINATED SOFT STARTER SETUP PARAMETERS ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
33. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT MOTOR ROTATION.
34. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACK PANEL WITH MECHANICAL FASTENERS, FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
35. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
36. THE PUMP CONTROL PANEL SHALL BE FACTORY TESTED. THE CONTRACTOR SHALL PROVIDE A CERTIFIED TESTING REPORT DETAILING THE TESTS MADE AND THAT THE EQUIPMENT IS IN WORKING ORDER. A COPY OF THE REPORT SHALL BE PROVIDED TO THE CITY PRIOR TO DELIVERY AND A COPY SHALL BE INCLUDED WITH THE CONTROL PANELS AT AT THE TIME OF DELIVERY.
37. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20mA SIGNAL WITH RANGE AND CALIBRATION SUITABLE FOR THIS APPLICATION. THE SYSTEM SHALL BE OF THE ULTRASONIC TYPE-PULSAR, INC. MODEL dB10 W/ BLACKBOX 130 TRANSMITTER. CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION. THE dB10 TRANSDUCER SHALL BE MOUNTED USING A 2 1/2" x 1/4" S.S. BRACKET, SEE dB10 MOUNTING BRACKET DETAIL, SHEET E7.
40. PROVIDE LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK EXPOSED CABLE TERMINATIONS.
41. ALUMINUM CONDUIT SURFACES THAT ARE IN CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. SPEC. TT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
42. STAINLESS STEEL HANGERS TO SUPPORT THE EXCESS LENGTH OF MOTOR CABLES SHALL BE INSTALLED IN THE WET WELL. THESE HANGERS SHALL BE LOCATED IN A SEPARATE AREA FROM THE HANGERS SUPPORTING THE PUMP CHAINS.

ELECTRICAL DRAWING INDEX	
SHEET No.	SHEET TITLE
EG1	DRAWING INDEX & GENERAL NOTES
EG2	SYMBOLS LEGEND (SHT. 1 OF 2)
EG3	SYMBOLS LEGEND (SHT. 2 OF 2)
EG4	ELECTRICAL SCOPE & PARAMETERS
E1	PROPOSED SITE PLAN
E2	ELECTRICAL SECTIONS
E3	PUMP CONTROL PANEL (SHT. 1 OF 2)
E4	PUMP CONTROL PANEL (SHT. 2 OF 2)
E5	TERMINAL BOXES
E6	KEYED NOTES FOR E1-E5
E7	ELECTRICAL DETAILS
E8	ONLINE DIAGRAM
E9	SCADA RTU MODIFICATIONS

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

No.	DATE	REVISIONS
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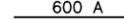
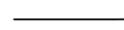
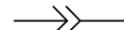
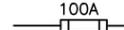
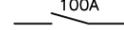
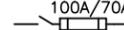
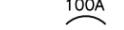
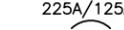
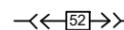
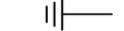
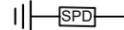
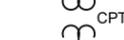
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CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
ELECTRICAL DRAWING INDEX &
GENERAL NOTES

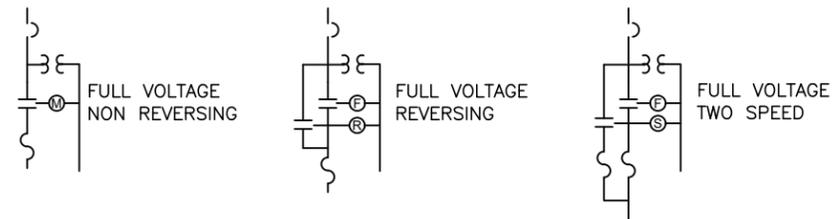
W.O. 0000
SHEET
EG1

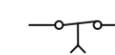
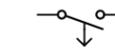
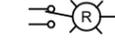
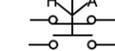
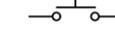
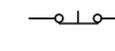
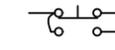
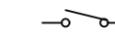
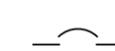
ONE LINE DIAGRAM SYMBOLS

-  600 A BUS-RATING AS SHOWN
-  INCOMING LINE
-  OUTCOMING LINE
-  DISCONNECTING DEVICE
-  CONDUCTORS CONNECTED
-  CONDUCTORS NOT CONNECTED
-  100A FUSE-RATING AS SHOWN
-  100A SINGLE THROW DISCONNECT SWITCH-RATING AS SHOWN
-  100A/70A FUSED DISCONNECT SWITCH-100A SWITCH, 70A FUSE
-  100A LOW VOLTAGE AIR CIRCUIT BREAKER WITHOUT TRIP DEVICE 100A FRAME
-  225A/125A LOW VOLTAGE AIR CIRCUIT BREAKER WITH 225A FRAME AND 125A TRIP
-  MEDIUM VOLTAGE DRAWOUT TYPE AIR CIRCUIT BREAKER
-  GROUND CONNECTION
-  LIGHTNING OR SURGE ARRESTOR
-  SURGE CAPACITOR
-  POWER TRANSFORMER WITH WINDING CONNECTIONS INDICATED
-  CPT CONTROL POWER TRANSFORMER
-  PT POTENTIAL TRANSFORMER
-  CT CURRENT TRANSFORMER

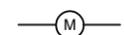
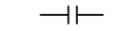
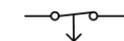
-  THERMAL OVERLOAD ELEMENT (OL)
-  SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
-  GENERATOR
-  INDICATING LIGHT (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)

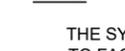
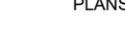
COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR



-  NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON-DELAY)
-  INSTANT CLOSE- TIME DELAY OPEN CONTACT (OFF DELAY)
-  INDICATING LIGHT- PUSH TO TEST (R-RED, G-GREEN, A-AMBER, B-BLUE, W-WHITE)
-  3-POSITION SELECTOR SWITCH (SHOWN IN "H" POS.)
-  NORMALLY OPEN PUSHBUTTON-MOMENTARY CONTACT
-  NORMALLY CLOSED PUSHBUTTON-MOMENTARY CONTACT
-  DOUBLE CIRCUIT PUSHBUTTON WITH SPRING RETURN TO NORMAL
-  TRANSFORMER
-  OL OVERLOAD RELAY CONTACT
-  THERMAL OVERLOAD ELEMENT (OL)
-  ON-OFF SWITCH
-  GROUND BUS
-  NEUTRAL BUS (INSULATED)
-  SINGLE-POLE CIRCUIT BREAKER

SCHEMATIC AND WIRING DIAGRAM SYMBOLS

-  OPERATING COIL
-  NORMALLY OPEN CONTACT (N.O.)
-  NORMALLY CLOSED CONTACT (N.C.)
-  NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON-DELAY)
-  INSTANT OPEN- TIME DELAY CLOSED CONTACT (OFF DELAY)
- M-MOTOR STARTER
- C- CONTACTOR
- F- FORWARD
- R- REVERSE
- AR- AUXILIARY RELAY
- CR- CONTROL RELAY
- TR- TIME DELAY RELAY

-  NORMALLY OPEN N.O.
-  NORMALLY CLOSED N.C.
-  LIMIT SWITCH
-  FLOAT SWITCH
-  PRESSURE SWITCH
-  FLOW SWITCH
-  TEMPERATURE

NOTE:

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

No.	DATE	REVISIONS
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POWER AND LIGHTING SYMBOLS

- EXPOSED CONDUIT RUN
- - - - - CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND
- CONDUIT RUN CONCEALED IN WALLS, ABOVE SUSPENDED CEILING, OR IN ROOF SLAB
- ////// CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE IS NEUTRAL; LONG LINE WITH DOTS DENOTE GROUND)
- PNL-1
1,3,5
HOMERUN TO LIGHTING PANELBOARD (PNL-1 INDICATES PANELBOARD AND 1, 3, 5 INDICATES 20A-1P CKTS. 1, 3 AND 5)
- Flexible LIQUIDTIGHT CONDUIT
- CONDUIT-UP (OR TOWARDS VIEWER)
- CONDUIT-DOWN (OR AWAY FROM VIEWER)
- o—o—o— GROUNDING CONDUCTOR
- ⊙ GROUND ROD
- × LIGHTNING ROD
- CEILING MOUNTED INCANDESCENT OR MERCURY VAPOR FIXTURE. "A" INDICATES FIXTURE TYPE LISTED IN SCHEDULE
- ⊖ WALL MOUNTED LIGHTING FIXTURE
- ⊗ EXIT SIGN
- EMERGENCY INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
- FLUORESCENT FIXTURE
- ▬ EMERGENCY FLUORESCENT FIXTURE

- POLE MOUNTED LIGHTING FIXTURE
 - ⊖ 4 DUPLEX RECEPTACLE- 20 A, 120 V, 3 WIRE (TO PNL- CIRCUIT No.4)
 - ⊖ 30 A SINGLE RECEPTACLE - 2 POLE, 3 WIRE, 240V, RATING NOTED
 - ⊖ 60 A 3 POLE, 4 WIRE, 240V WELDING OUTLET (60 A)
 - SINGLE POLE SWITCH
 - 2P TWO POLE SWITCH
 - 3 THREE WAY SWITCH
 - ⊙ OUTLET BOX WITH BLANK COVER
 - ⊠ JB JUNCTION BOX
 - ⊠ PB PULL BOX
 - ⊠ TB TERMINAL BOX
- ### GENERAL SYMBOLS
- ⊠ START-STOP PUSHBUTTON
 - ⊠ ON/OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT ON/OFF/L
 - ⊠ INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP S/L
 - ⊠ RESUME STOP/L PUSH/PULL BUTTON WITH STOP LOCK. (PULL TO RESUME- PUSH TO STOP)
 - ⊠ SELECTOR SWITCH ("HOA" INDICATES HAND, OFF, AND AUTO; "MOR" INDICATES MANUAL, OFF, AND REMOTE; ETC)
 - ⊠ ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION L

- ⊠ FL FLOW SWITCH
- ⊠ LS LIMIT SWITCH
- ⊠ P PRESSURE SWITCH
- ⊠ S SOLENOID OPERATED VALVE
- ⊠ T TEMPERATURE SWITCH
- ⊠ F FLOAT SWITCH
- ⊠ L LEVEL TRANSMITTER (PRESSURE ANALOG TYPE)
- ⊠ LC LEVEL TRANSMITTER (FLOAT TYPE)
- ⊠ T TEMPERATURE TRANSMITTER
- ⊠ FT FLOW TRANSMITTER
- MH DESIGNATES MOUNTING HEIGHT
- WP DESIGNATES WATERPROOF EQUIPMENT
- XP DESIGNATES EXPLOSIONPROOF EQUIPMENT
- MOV DESIGNATES MOTOR OPERATED VALVE
- EX. DESIGNATES EXISTING EQUIPMENT
- PROP. DESIGNATES PROPOSED EQUIPMENT

NOTE:
THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

PUMP MOTOR DATA	
MAKE:	FLYGT
MODEL:	NP-3085-463 WITH 135mm IMPELLER AND MIX FLUSH VALVE ON ONE PUMP
H.P.:	3
	230V, 3-PHASE, 8.7 FLA
TOTAL PUMP LOAD:	17.4 AMPS, 7.24 KVA

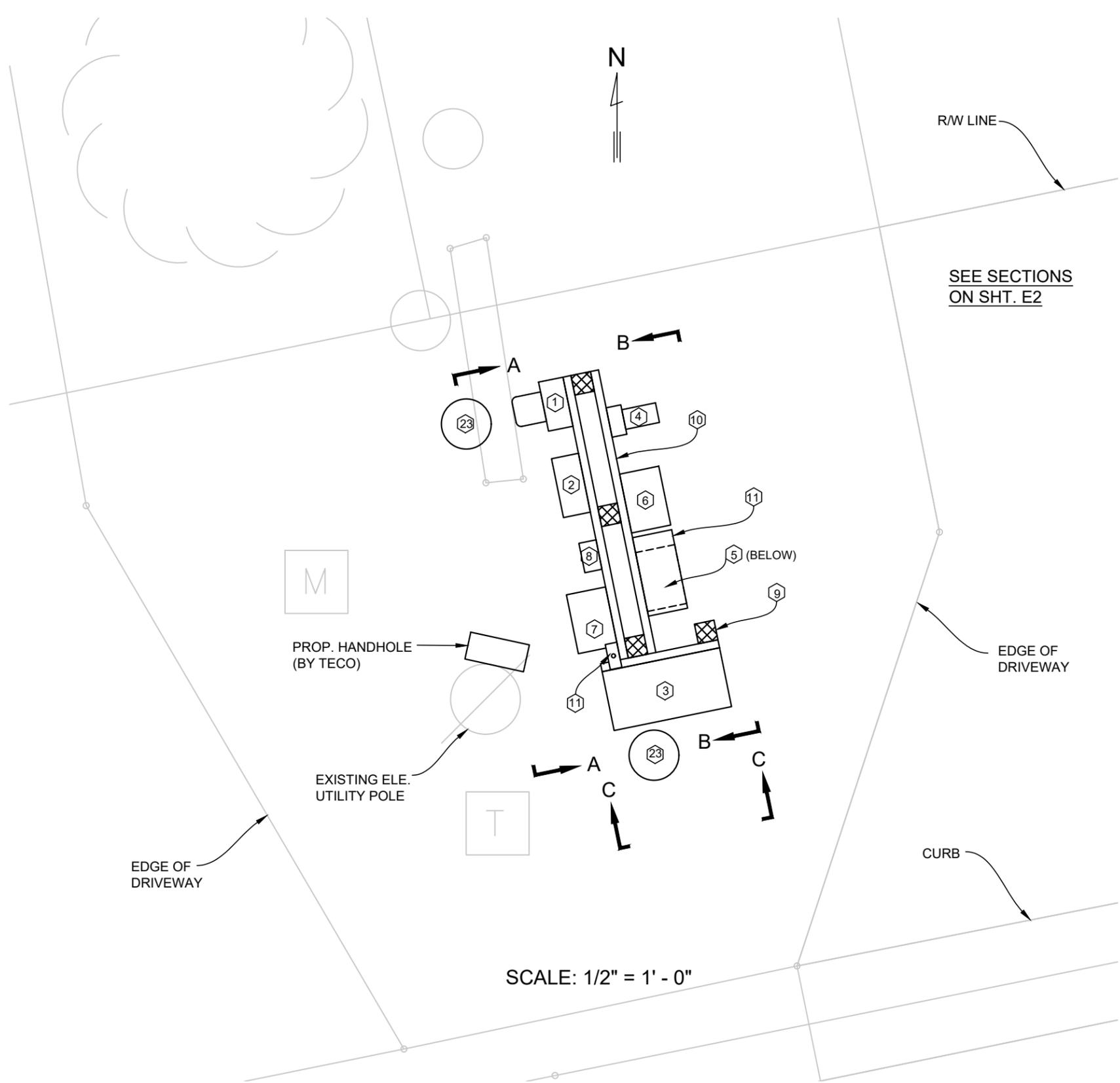
ELECTRICAL SERVICE LOAD SUMMARY					
240 VAC, 3 ϕ , 4W					
LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS		
			L1	L2	L3
PUMP #1	3.6 KVA	3.6 KVA	8.7 A	8.7 A	8.7 A
PUMP #2	3.6 KVA	3.6 KVA	8.7 A	8.7 A	8.7 A
PUMP CONTROL PANEL	2.0 KVA	2.0 KVA	8.3 A	0	8.3 A
TOTAL	9.2 KVA	9.2 KVA	25.7 A	17.4 A	25.7 A

SHORT CIRCUIT CURRENT INFORMATION

THE AVAILABLE FAULT CURRENT AT THE SECONDARY LUGS OF THE POLE-MOUNTED TRANSFORMER BANK IS 10420 AMPS. THE AVAILABLE FAULT CURRENT AT THE LINE-SIDE OF THE FDTS DISCONNECT IS 7410 AMPS. THE INTERRUPTING RATING, IR, OF THE FDTS RK5 CURRENT LIMITING FUSE IS 200KA RMS, SYMETRICAL. THE LET-THROUGH CURRENT OF THE FUSE AT 8 KA SHORT CIRCUIT CURRENT IS 3500 AMPS RMS, SYMETRICAL WHICH IS THE FAULT CURRENT AT THE PUMP CONTROL PANEL (PCP).

SCOPE OF WORK:

1. THE SERVICE VOLTAGE TO THIS FACILITY SHALL REMAIN 120/240 VAC., 3-PHASE, 4-WIRE, DELTA.
2. REMOVE THE EXISTING METER SOCKET, LIGHTNING ARRESTOR, PUMP CONTROL ENCLOSURE, EQUIPMENT SUPPORTS, AND ALL ASSOCIATED CONDUIT AND CONDUCTORS, AS SHOWN ON THE PLANS.
3. CAREFULLY REMOVE THE EXISTING SCADA RTU CABINET MOUNTED ADJACENT TO THE EXISTING PUMP CONTROL ENCLOSURE. THIS RTU SHALL BE REUSED IN THE CURRENT DESIGN, AS SHOWN. EXISTING CABINET PENETRATIONS NOT REUSED SHALL BE COVERED WITH STAINLESS STEEL PLUGS.
4. 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.
5. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED ELECTRICAL EQUIPMENT.
6. PROVIDE AND INSTALL A NEW ELECTRICAL METER SOCKET, LIGHTNING ARRESTOR AND GROUNDING, AS SHOWN ON PLANS.
7. PROVIDE AND INSTALL A NEMA 4X, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH, AS SHOWN ON PLANS.
8. PROVIDE AND INSTALL A NEMA 4X, EMERGENCY POWER CONNECTOR, AS SHOWN ON THE PLANS.
9. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE PUMP CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, AND COMMUNICATION EQUIPMENT AS SHOWN ON PLANS AND DETAILED IN THE SPECIFICATIONS.
10. PROVIDE AND INSTALL (2) NEMA 4X WET WELL ISOLATION JUNCTION BOXES FOR PUMPS MOTOR CONNECTIONS.
11. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION BOX FOR INSTRUMENTATION AND CONTROL CONNECTIONS.
12. INSTALL EXISTING SCADA RTU ON PROPOSED EQUIPMENT RACK, AS SHOWN. PROVIDE AND INSTALL ALL REQUIRED CONDUITS AND CONDUCTORS AS SHOWN, SPECIFIED OR REQUIRED. CITY I & C PERSONNEL WILL MAKE FINAL CONNECTIONS AND MAKE THE REQUIRED SOFTWARE MODIFICATIONS.
13. CALIBRATE AND ADJUST SETPOINTS FOR ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATION AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
14. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
15. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
16. 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.
17. 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.



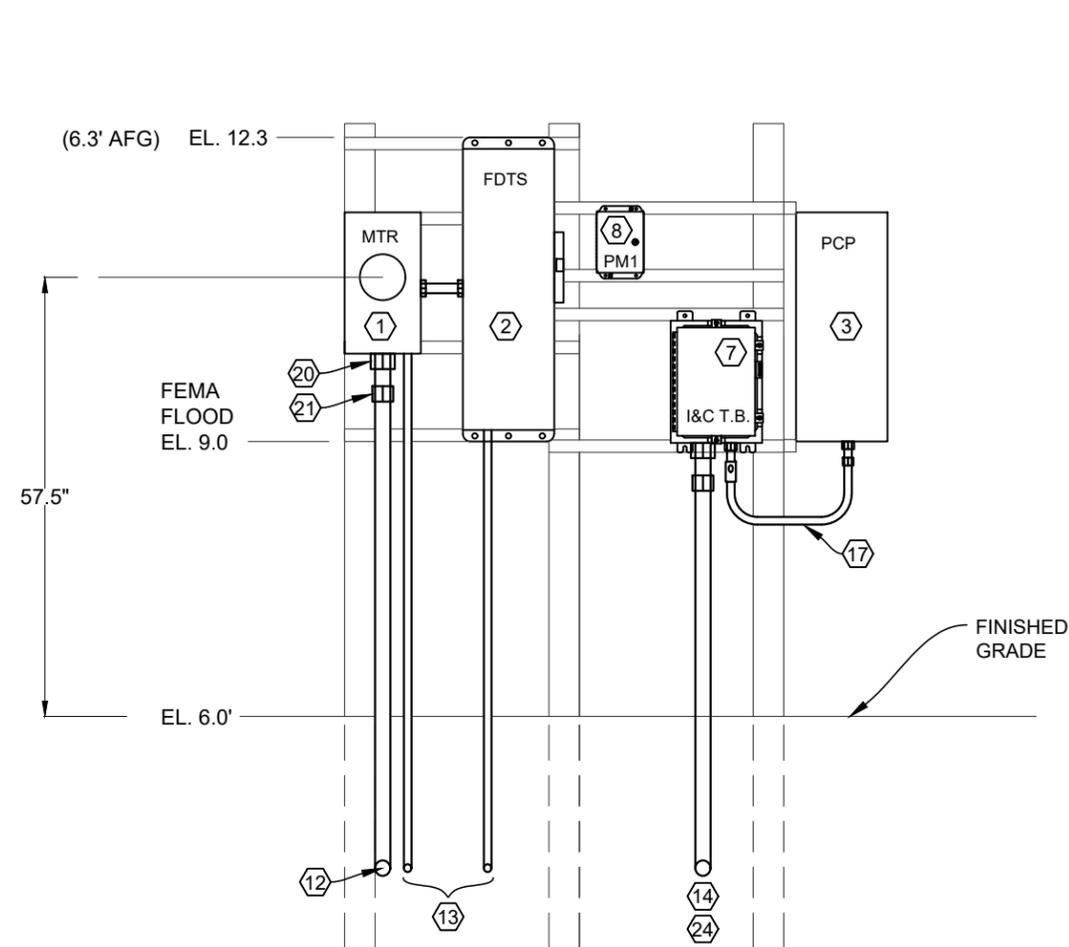
⬡ KEYED NOTES ARE LISTED ON SHEET E6

NOTE: ALL EQUIPMENT MARKED WITH KEYED NOTES ON THIS SHEET IS PROPOSEED..

SEE SECTIONS ON SHT. E2

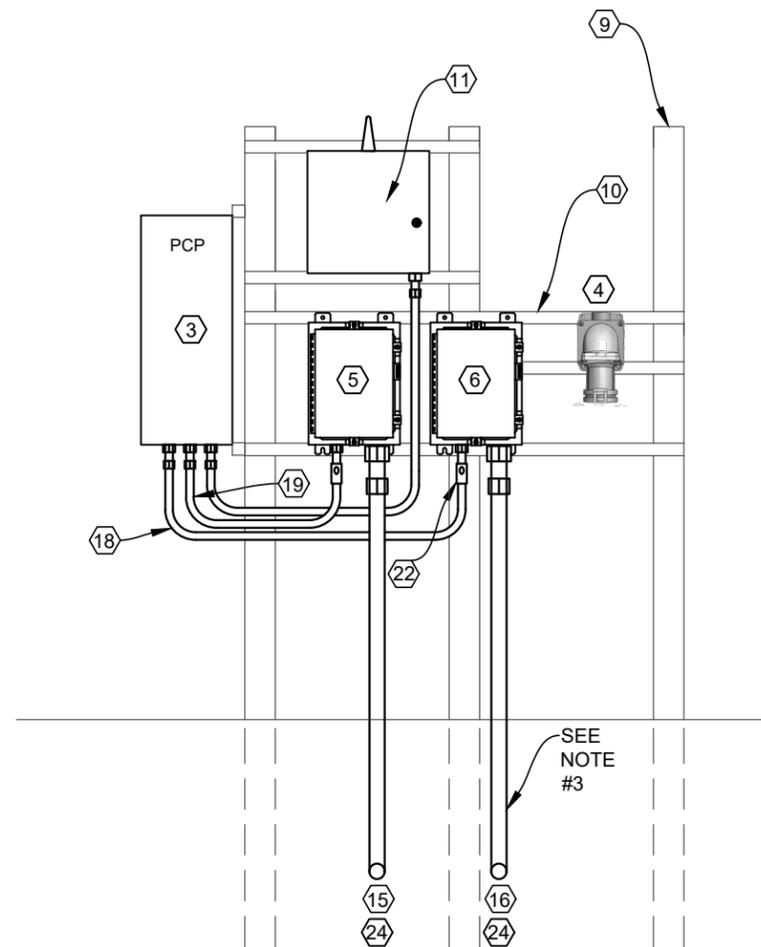
SCALE: 1/2" = 1' - 0"

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: RK	CITY of TAMPA WASTEWATER DEPARTMENT	MARINER ST. PUMPING STATION PROPOSED ELECTRICAL SITE PLAN	W.O. 0000
	3			DRN: RK			SHEET
	2			CKD:			EI
	1			DATE: 3/04/19			



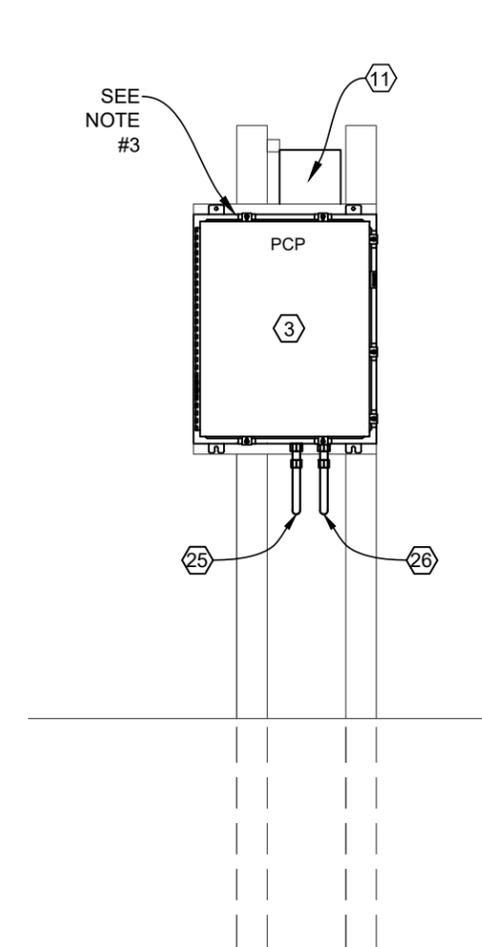
SECTION A-A

1/2" = 1' - 0"



SECTION B-B

1/2" = 1' - 0"



SECTION C-C

1/2" = 1' - 0"

NOTES:

1. SEE KEYED NOTES ON SHEET E6 (X)
2. THE CONDUITS SHOWN ON THIS SHEET ARE A SAMPLE OF THOSE REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND PROPERLY SECURING ALL CONDUITS DESCRIBED IN THE PLANS / SPECIFICATIONS AND REQUIRED TO COMPLETE THIS PROJECT.
3. NO PENETRATIONS SHALL BE MADE TO TOP OF ENCLOSURE. CONDUITS SHOULD ENTER BOTTOM OF ENCLOSURE WHEREVER POSSIBLE (TYP.).

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

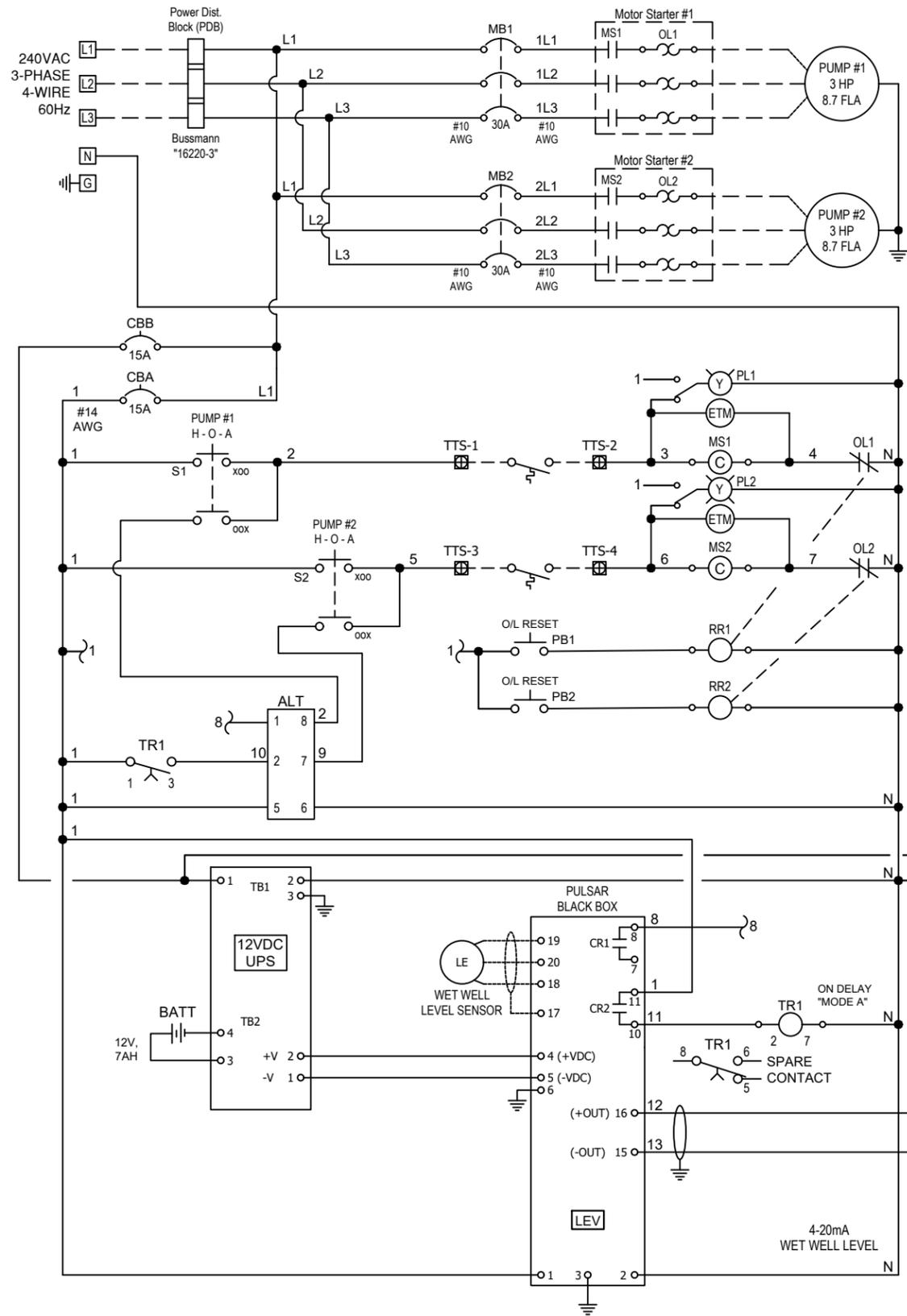
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DATE: 3/06/19

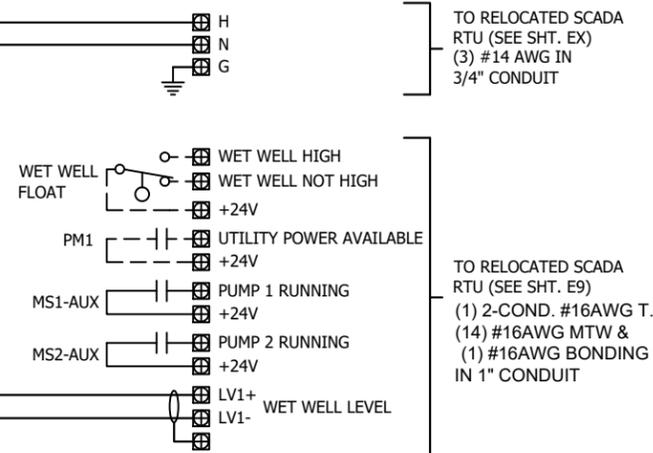
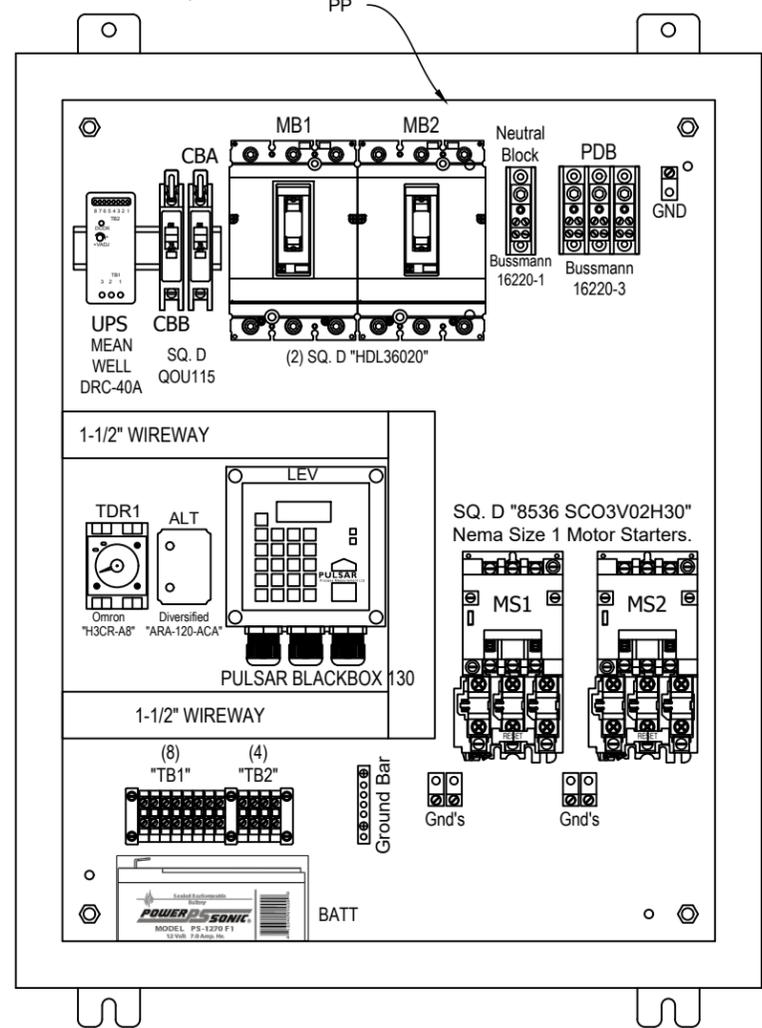
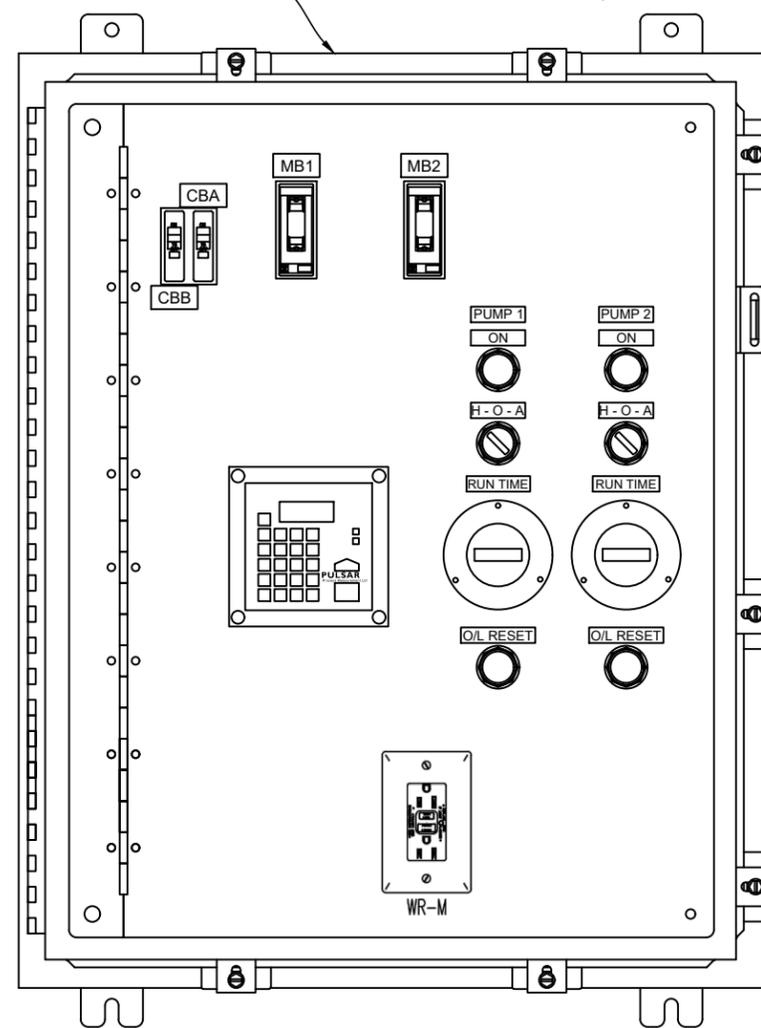
CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
ELECTRICAL SECTIONS

W.O. 0000
SHEET
E2



INNER DOOR / BACK PANEL LAYOUTS
(OUTER DOOR REMOVED FOR CLARITY)



TO RELOCATED SCADA RTU (SEE SHT. EX)
(3) #14 AWG IN 3/4" CONDUIT

TO RELOCATED SCADA RTU (SEE SHT. E9)
(1) 2-COND. #16AWG T.P. SHLD- BELDEN #8719,
(14) #16AWG MTW &
(1) #16AWG BONDING CONDUCTOR IN 1" CONDUIT

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

No.	DATE	REVISIONS
3		
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DES: RK
DRN: RK
CKD:
DATE: 3/20/19

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
ELECTRICAL- PUMP CONTROL PANEL
SHT. 1 OF 2

W.O. 0000
SHEET
E3

PARTS SCHEDULE

SYMBOL	NAME	PART				REMARKS
		MAKE	TYPE	MODEL OR CAT. #	RATING	
MB1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36020	600 V, 20A	25 KAIC @ 240VAC
MB2	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36030	600 V, 30A	
PDB	POWER DISTRIBUTION BLOCK	BUSSMANN	THREE POLE	16220-3	600V, 175A	
CBA, CBB	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
M1, M2	MOTOR STARTER	SQUARE D	NEMA SIZE 1, W/ S.S. O/L RELAY	CLASS 8536 MODEL SC03V02H30	120V (COIL)	7.5 HP (MAX), W/ AUX. CONTACT
RR1, RR2	OVERLOAD RELAY REMOTE RESET	SQUARE D	ELECTRICAL OPERATION	CLASS 9999 TYPE RR04	120VAC	FOR USE W/ ABOVE MS
NB	NEUTRAL BLOCK	BUSSMANN	SINGLE POLE	16220-1		
PL1, PL2	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST
SPD1	SURGE PROTECTION DEVICE	MERSEN ELECTRICAL POWER	TYPE 1	STXR240D05	240 V, 3-PHASE DELTA	
ALT	PUMP ALTERNATOR	DIVERSIFIED ELECTRONICS	AUTO SEQUENCER OR LEAD SELECTION	ARB-120-ACA	120VAC CONTR., 10A CONTACTS	3-POS. SW: "LOCK1-NORM-LOCK2"
S1, S2	HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V CONTACTS	
ETM1, ETM2	ELAPSED TIME METER	CRAMER	ROUND BEZEL, NON RESET	635-E	120 V	W.W. GRANGER CAT. NO. 6X144
TR1	SOLID STATE TIMER RELAY	OMRON	PROGRAMMABLE MODES AND TIME	H3CR-A8 100-240AC/100-125DC	120VAC CONTR., 250VAC, 10A DPDT	SET TO ON-DELAY MODE
FF1,	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	INCLUDES TOGGLE SWITCH
WR	WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/ALUMINUM COVER
12VDC UPS	POWER SUPPLY / UPS	MEAN WELL	DUPLEX W/GFI	DRC-40A	90-264VAC INPUT, 13.8VDC OUTPUT	CH1- 1.9A, CH2- 1A OUTPUT
TB1, TB2	TERMINALS	PHOENIX CONTACT	SINGLE OUTPUT WITH BATTERY CHARGER	UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	20 CONTACTS (MIN)
PB1, PB2	PUSH BUTTON	SQUARE D	CLASS 9001	SKR1-BH5	CONTACT- 10 A @ 120 VAC	BLACK W/ FULL GUARD
PCP	PUMP CONTROL PANEL ENCLOSURE	SCHAEFER'S ENCLOSURES	NEMA 4X, W/ PADLOCK PROVISION	SPN4SS-302412	30"H X 24"W X 12'D 316 S/S	WITH DOOR STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWDER COAT.
PP	ENCLOSURE PANEL	CUSTOM	AS REQ'D	-----	0.125" ALUMINUM	
GB1	GROUND BAR SYSTEM	PANDUIT	6 PORT WITH MAIN LUG	UGB2/0-414-6		COPPER CONSTRUCTION
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
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

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

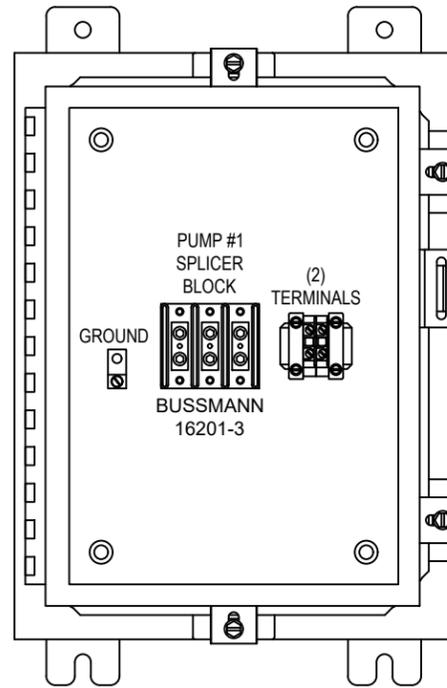
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DES: RK
DRN: RK
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DATE: 3/21/19

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
ELECTRICAL- PUMP CONTROL PANEL
SHT. 2 OF 2

W.O. 0000
SHEET
E4

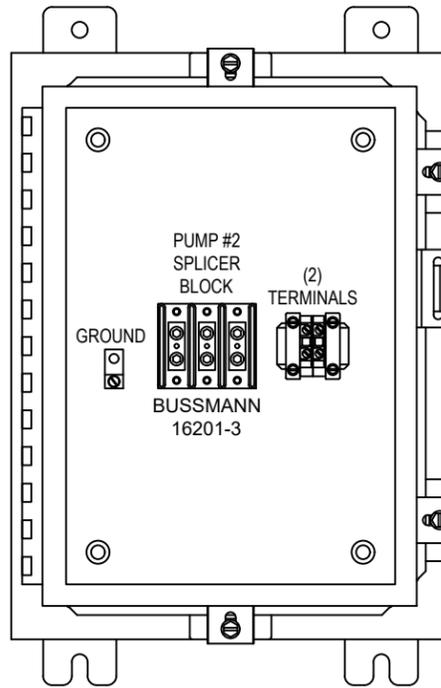


**PUMP #1 MTR TERMINAL BOX
BACK PANEL LAYOUT**
(OUTER DOOR SHOWN REMOVED FOR CLARITY)

JUNCTION BOX ENCLOSURE:
SCHAEFER'S ELECTRICAL ENCLOSURES
SPN4SS6-16128 (16"H X 12"W X 8"D) NEMA 4X RATED,
FABRICATED FROM 14 GA. TYPE 316 STAINLESS STEEL.
STAINLESS STEEL DOOR CLAMPS AND HASP & STAPLE
PADLOCKING PROVISION PROVIDED.

JUNCTION BOX BACK PANEL:
SPP-1612 (13"H x 9"W) FABRICATED FROM 12 GA. CARBON
STEEL, FINISHED IN WHITE POLYESTER POWDER COAT.

JUNCTION BOX LOUVER PLATE KIT:
SP-VKSS644 (5.62"H X 5.5"W) 316 STAINLESS STEEL. MOUNT
TO SIDE OF ENCLOSURE.

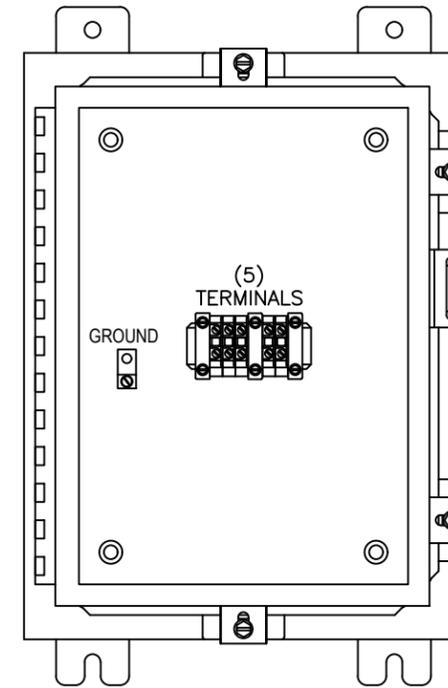


**PUMP #2 MTR TERMINAL BOX
BACK PANEL LAYOUT**
(OUTER DOOR SHOWN REMOVED FOR CLARITY)

JUNCTION BOX ENCLOSURE:
SCHAEFER'S ELECTRICAL ENCLOSURES
SPN4SS6-16128 (16"H X 12"W X 8"D) NEMA 4X RATED,
FABRICATED FROM 14 GA. TYPE 316 STAINLESS STEEL.
STAINLESS STEEL DOOR CLAMPS AND HASP & STAPLE
PADLOCKING PROVISION PROVIDED.

JUNCTION BOX BACK PANEL:
SPP-1612 (13"H x 9"W) FABRICATED FROM 12 GA. CARBON
STEEL, FINISHED IN WHITE POLYESTER POWDER COAT.

JUNCTION BOX LOUVER PLATE KIT:
SP-VKSS644 (5.62"H X 5.5"W) 316 STAINLESS STEEL. MOUNT
TO SIDE OF ENCLOSURE.



**INSTR. & CONTR. TERMINAL BOX
BACK PANEL LAYOUT**
(OUTER DOOR SHOWN REMOVED FOR CLARITY)

JUNCTION BOX ENCLOSURE:
SCHAEFER'S ELECTRICAL ENCLOSURES
SPN4SS6-16128 (16"H X 12"W X 8"D) NEMA 4X RATED,
FABRICATED FROM 14 GA. TYPE 316 STAINLESS STEEL.
STAINLESS STEEL DOOR CLAMPS AND HASP & STAPLE
PADLOCKING PROVISION PROVIDED.

JUNCTION BOX BACK PANEL:
SPP-1612 (13"H x 9"W) FABRICATED FROM 12 GA. CARBON
STEEL, FINISHED IN WHITE POLYESTER POWDER COAT.

JUNCTION BOX LOUVER PLATE KIT:
SP-VKSS644 (5.62"H X 5.5"W) 316 STAINLESS STEEL. MOUNT
TO SIDE OF ENCLOSURE.

No.	DATE	REVISIONS
3		
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KEYED NOTES

1. ELECTRICAL UTILITY METER SOCKET. RINGLESS ALUMINUM, WITH BYPASS LEVER, 600VAC, 125 AMPS. MILBANK UAP3506-XL-TG-HSP.
2. NEMA 4X , FUSIBLE , DOUBLE THROW SERVICE DISCONNECT, 240VAC, 3-POLE, 100A STAINLESS STEEL ENCLOSURE. EATON DT323FWK WITH DT100 NK NEUTRAL KIT, DS100 GK GROUND KIT AND (2) DS36FK "R" FUSE ADAPTOR KITS. PROVIDE AND INSTALL (6) EDISON # ECNR100 CLASS RK5 DUAL-ELEMENT, TIME DELAY FUSES. THREE SPARE FUSES OF THE SAME TYPE AND RATING SHALL BE PROVIDED AS SPARES.
3. PUMP CONTROL PANEL.
4. EMERGENCY POWER CONNECTOR. CROUSE-HINDS ARKTITE 600V, 100A, 3-PH, 4-WIRE WITH BACK BOX ANGLE ADAPTER 1-1/2" HUB, REVERSED CONTACTS, AND SPRING COVER. PART NUMBER AREA10415-S22.
5. PUMP #1 PUMP MOTOR TERMINAL BOX. (WET WELL ISOLATION- SEE SHEET E5).
6. PUMP #2 PUMP MOTOR TERMINAL BOX. (WET WELL ISOLATION SEE SHEET E5).
7. INSTRUMENTATION & CONTROL TERMINAL BOX. (WET WELL ISOLATION SEE SHEET E5).
8. ELECTRIC UTILITY SUPPLY PHASE MONITOR IN NEMA 4X S.S. ENCLOSURE (SEE SHEET E7).
9. PROVIDE AND INSTALL 4" SQUARE ALUMINUM POST WITH 1/2" WALL THICKNESS, FINISHED IN WHITE POLYESTER POWDER COAT. WELD 1/4" CAP TO TOP OF EACH POST. PROVIDE GALVANIC ISOLATION BETWEEN ALUMINUM SURFACES AND SOIL, CONCRETE OR OTHER INCOMPATIBLE MATERIALS.
10. PROVIDE AND INSTALL 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT. ALL MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL. UNISTRUT BOLTS SHALL BE INSTALLED THROUGH POST.
11. EXISTING SCADA RTU SHALL BE CAREFULLY REMOVED FROM THE ORIGINAL LOCATION SHOWN ON DRAWING SHEET 7 (DEMOLITION DETAIL) AND INSTALLED AS SHOWN HERE. RECONNECT THE RTU AS SHOWN ON SUBSEQUENT ELECTRICAL DRAWINGS.
12. PROVIDE AND INSTALL (3) #3 AWG XHHW & (1) #4 GND IN 2" CONDUIT TO PROPOSED TECO HANDHOLE.
13. PROVIDE AND INSTALL #4 AWG GROUNDING CONDUCTOR IN 3/4" SCH. 80 PVC CONDUIT. TWO GROUND RODS AND ACCESS WELLS (WITH MINIMUM SPACING OF 6 FEET) SHALL BE PROVIDED AND INSTALLED AS SHOWN ON SHEETS E1 & E2 & E7, AND AS SPECIFIED.
14. PROVIDE AND INSTALL 2" PVC COATED RIGID ALUMINUM CONDUIT TO WET WELL FOR MANUFACTURER SUPPLIED CONDUCTORS FOR FLOAT SWITCH AND WET WELL LEVEL TRANSDUCER.
15. PROVIDE AND INSTALL 2" PVC COATED RIGID ALUMINUM CONDUIT TO WET WELL FOR MANUFACTURER SUPPLIED PUMP #1 MOTOR CONDUCTORS.
16. PROVIDE AND INSTALL 2" PVC COATED RIGID ALUMINUM CONDUIT TO WET WELL FOR MANUFACTURER SUPPLIED PUMP #2 MOTOR CONDUCTORS.
17. PROVIDE AND INSTALL (3) #14 AWG, (1) #14 GND AND (1) 3/C-#16 TWISTED SHIELDED CABLE IN 1" CONDUIT FOR FLOAT SWITCH AND WET WELL LEVEL TRANSDUCER.
18. PROVIDE AND INSTALL (3) #10 XHHW , (1) #12 GND, AND (2) #12 AWG (STATOR TEMP.) IN 3/4" CONDUIT FOR PUMP MOTOR #2.
19. PROVIDE AND INSTALL (3) #10 XHHW , (1) #12 GND, AND (2) #12 AWG (STATOR TEMP.) IN 3/4" CONDUIT FOR PUMP MOTOR #1.
20. ALUMINUM MYERS HUB (TYP.).
21. ALUMINUM 3-PIECE CONDUIT UNION (TYP.).
22. ALUMINUM EYS TYPE CONDUIT SEAL WITH CHICO COMPOUND (TYP.).
23. GROUND ACCESS WELL, FOR DETAILS SE SHEET E7.
24. PROVIDE WET WELL PENETRATIONS, AS NECESSARY, TO INSTALL PROPOSED CONDUITS. INSTALLATION SHALL FOLLOW GUIDELINES PROVIDED IN THE CIVIL / MECHANICAL DOCUMENTS. EXISTING CONDUITS NO LONGER REQUIRED SHALL BE REMOVED AND THE OPENINGS PATCHED AS SPECIFIED.
25. PROVIDE AND INSTALL (1) #14 AWG H, (1) #14 AWG N, AND (1) #14 GND IN 3/4" CONDUIT, FOR RTU POWER, EXTENDING FROM PCP TO SCADA RTU.
26. PROVIDE AND INSTALL (1) 2-COND. #16AWG T.P. SHLD- BELDEN #8719, (14) #16 AWG MTW & (1) #16 AWG BONDING CONDUCTOR IN 1" CONDUIT, FOR 24VDC I/O, EXTENDING FROM PCP TO SCADA RTU.

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

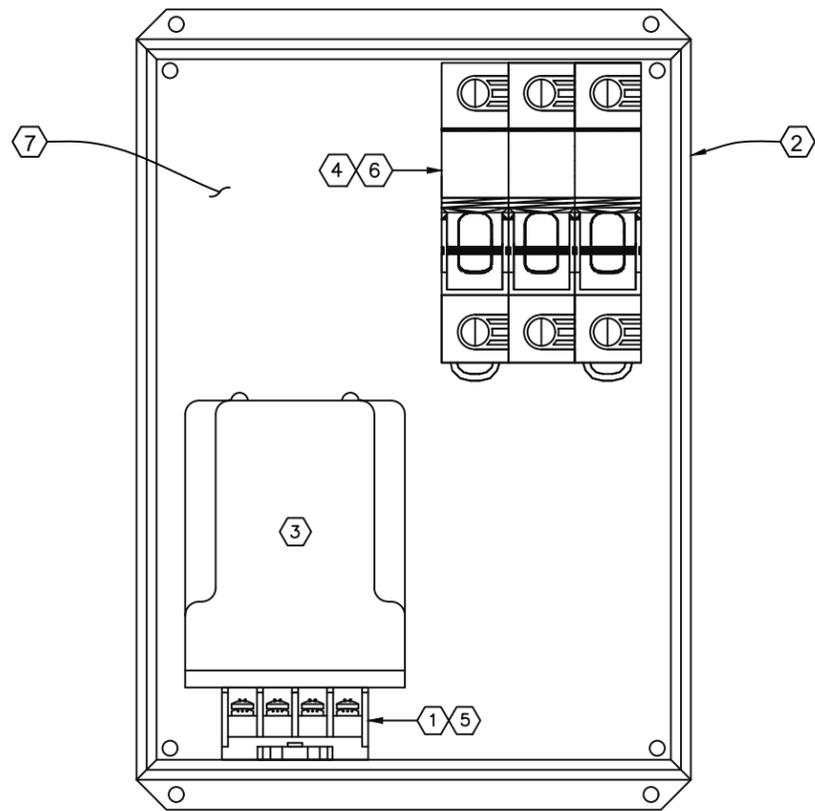
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DATE:3/04/19

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
KEYED NOTES FOR EI-E5

W.O. 0000
SHEET
E6



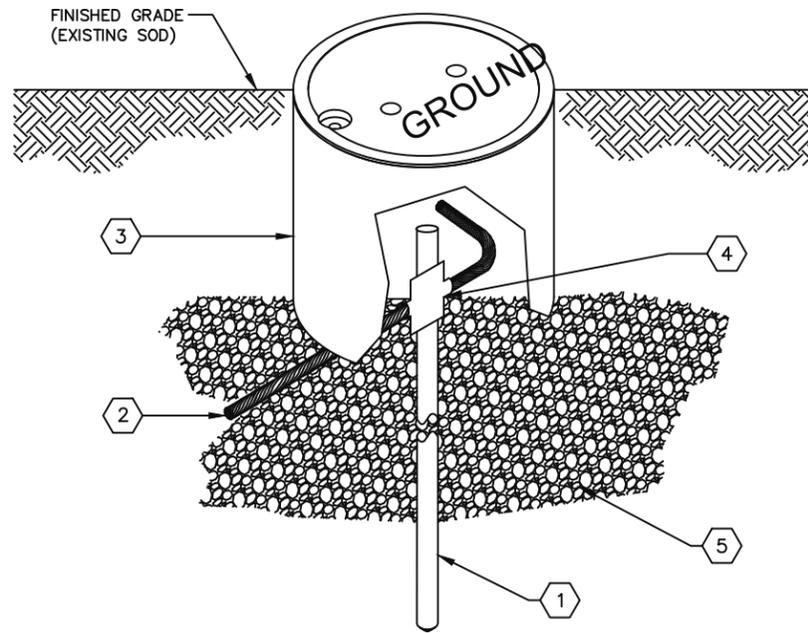
FRONT VIEW- DOOR REMOVED (SCALE= 1:2)

PM1 J.B. KEYED NOTES:

- ① 8 PIN OCTAL SOCKET, DIN RAIL MOUNTED, DIVERSIFIED ELECTRONICS OT-08
- ② NEMA 4X STAINLESS STEEL, 8"x 6"x 3.5" ENCLOSURE, HAMMOND MANUF'G EJ863516
- ③ 3-PHASE POWER MONITOR, PM1 DIVERSIFIED ELECTRONICS SUA-230-ALA
- ④ FUSE BLOCK/DISCONNECT, FDB1, ALLEN BRADLEY 1492-FB3C30
- ⑤ MOUNTED TO BOTTOM OF ENCLOSURE
- ⑥ DIRECTLY MOUNTED TO BACK OF ENCLOSURE
- ⑦ BACK OF ENCLOSURE

PM1 JUNCTION BOX DETAIL

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



GROUND TEST WELL DETAIL KEYED NOTES:

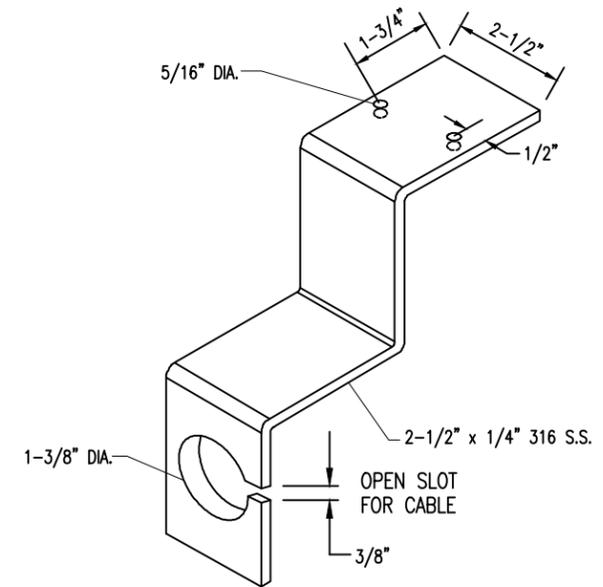
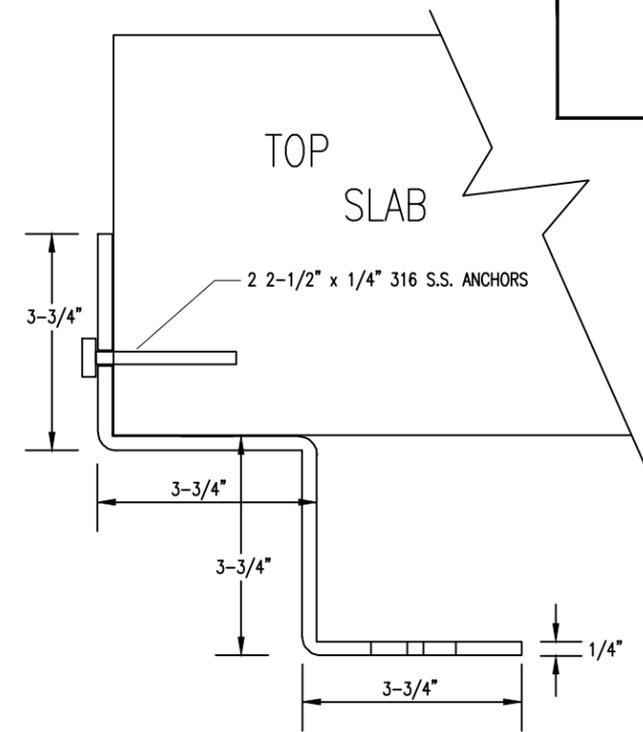
- ① NEW GROUND ROD, STAINLESS STEEL, 5/8" X 10'-0" (TYP).
- ② #4 BARE STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR (TYP).
- ③ PROVIDE AND INSTALL OLDCASTLE PRECAST ENCLOSURE SOLUTIONS #F08 BOX WITH #F08C CAST IRON LID MARKED "GROUND".
- ④ EXOTHERMIC WELD.
- ⑤ PROVIDE 6" MINIMUM OF CRUSHED STONE.

GROUNDING TEST WELL DETAIL

SCALE: N.T.S.

NOTE:S

1. ENCLOSURE FRONT DOOR IS REMOVED FOR CLARITY.
2. PROVIDE RED LAMICOID PLACARD WITH WHITE 1/4" LETTERING ON ENCLOSURE DOOR. THE PLACARD SHALL READ: "WARNING- OPENING FUSED DOUBLE THROW SWITCH DOES NOT DE-ENERGIZE VOLTAGE TO THIS ENCLOSURE"



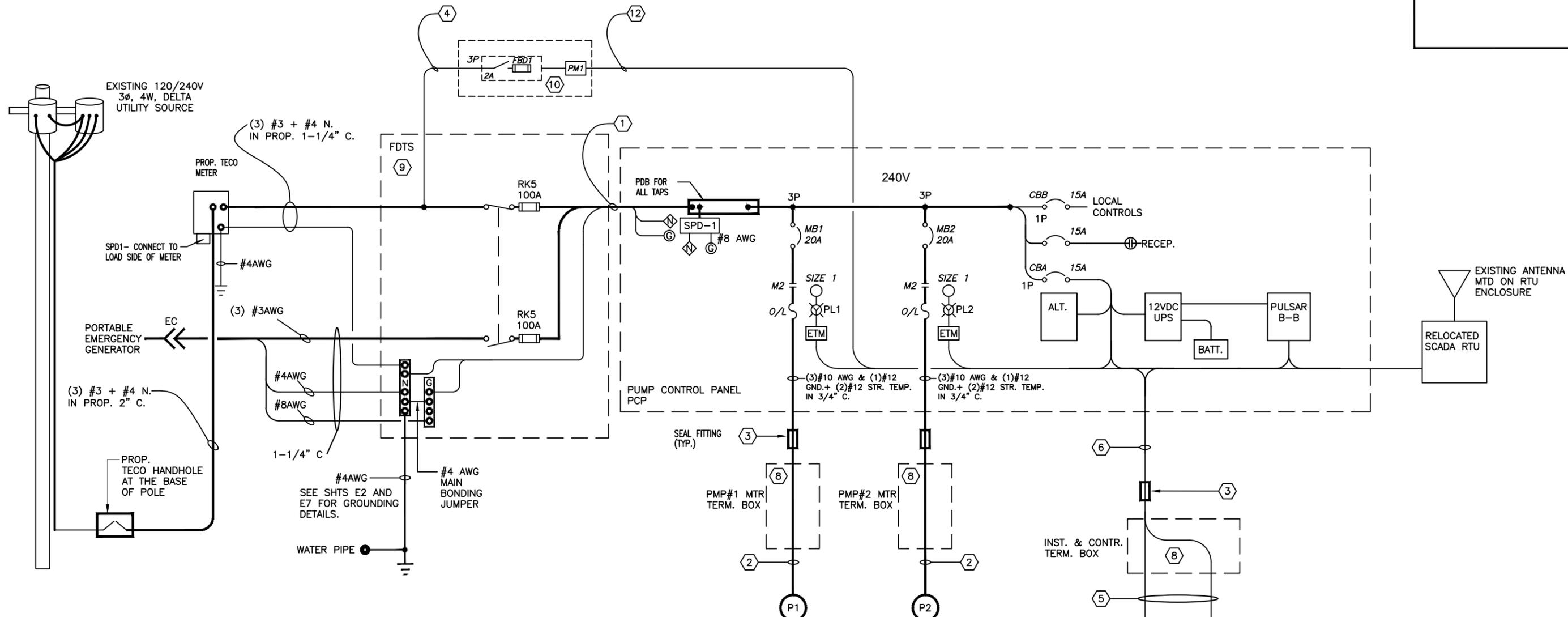
NOTE:

ROUND OVER ALL EDGES, RADIUS ALL CORNERS

PULSAR DB10 MOUNTING BRACKET DETAIL

SCALE: N.T.S.

No.	DATE	REVISIONS
3		
2		
1		



THE AVAILABLE FAULT CURRENT AT THE SECONDARY LUGS OF THE POLE-MOUNTED TRANSFORMER BANK IS 10420 AMPS. THE AVAILABLE FAULT CURRENT AT THE LINE-SIDE OF THE FDTS DISCONNECT IS 7410 AMPS. THE INTERRUPTING RATING, IR, OF THE FDTS RK5 CURRENT LIMITING FUSE IS 200KA RMS, SYMMETRICAL. THE LET-THROUGH CURRENT OF THE FUSE AT 8 KA SHORT CIRCUIT CURRENT IS 3500 AMPS RMS, SYMMETRICAL WHICH IS THE FAULT CURRENT AT THE PUMP CONTROL PANEL (PCP).

ONE LINE DIAGRAM NOTES:

- | | |
|--|---|
| ① PROVIDE AND INSTALL 3-#3 + 1-#4 NEUTRAL + 1-#8 GND IN 1-1/4" CONDUIT, POWER CONDUCTORS SHALL BE XHHW-2 (TYP.). | ⑦ RESERVED |
| ② PROPOSED SUBMERSIBLE PUMP POWER CABLE (BY PUMP MANUFACTURER) IN PROPOSED 2" CONDUIT. | ⑧ SEE DETAILS ON SHEET E5. |
| ③ PROVIDE COPPER-FREE ALUMINUM CONDUIT SEALING FITTING, CROUSE-HINDS TYPE EYS. | ⑨ SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH. |
| ④ PROVIDE AND INSTALL 3-#12 + 1-#12 GND. IN 3/4" CONDUIT, REFER TO DETAILS ON SHEET EX. | ⑩ PM1 JUNCTION BOX, SEE SHEETS EX AND EX FOR DETAILS. |
| ⑤ PROVIDE 2" CONDUIT FROM NEW PUMP CONTROL CABINET TO WET WELL FOR FLOAT SWITCH AND LEVEL SENSOR CABLES. | ⑪ RESERVED |
| ⑥ PROVIDE AND INSTALL (3)-#14 XHHW-2, (1) XHHW-2 GND AND (1) 3/C-#16 TWISTED SHIELDED CABLE IN 1" C FOR FLOAT AND LEVEL TRANSMITTER. | ⑫ PROVIDE AND INSTALL 2-#14 + 1-#14 GND. IN 3/4" CONDUIT, REFER TO DETAILS ON SHEET EX. |

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

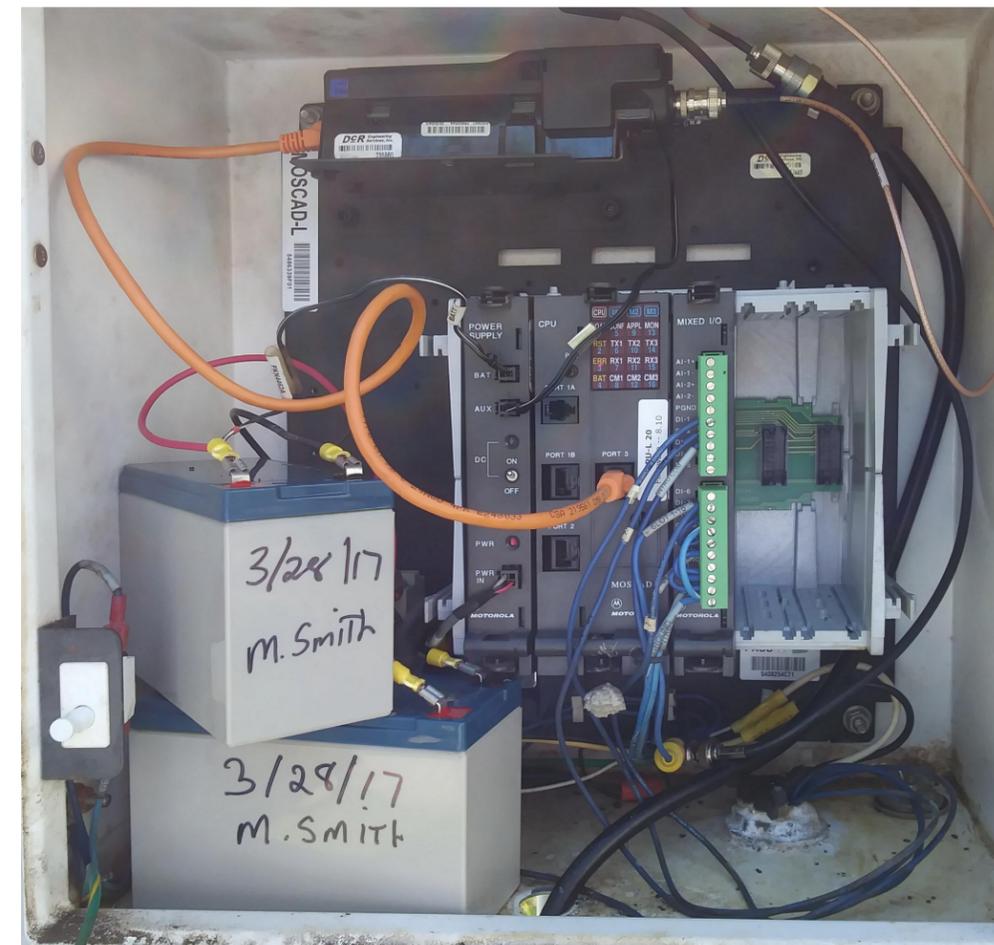
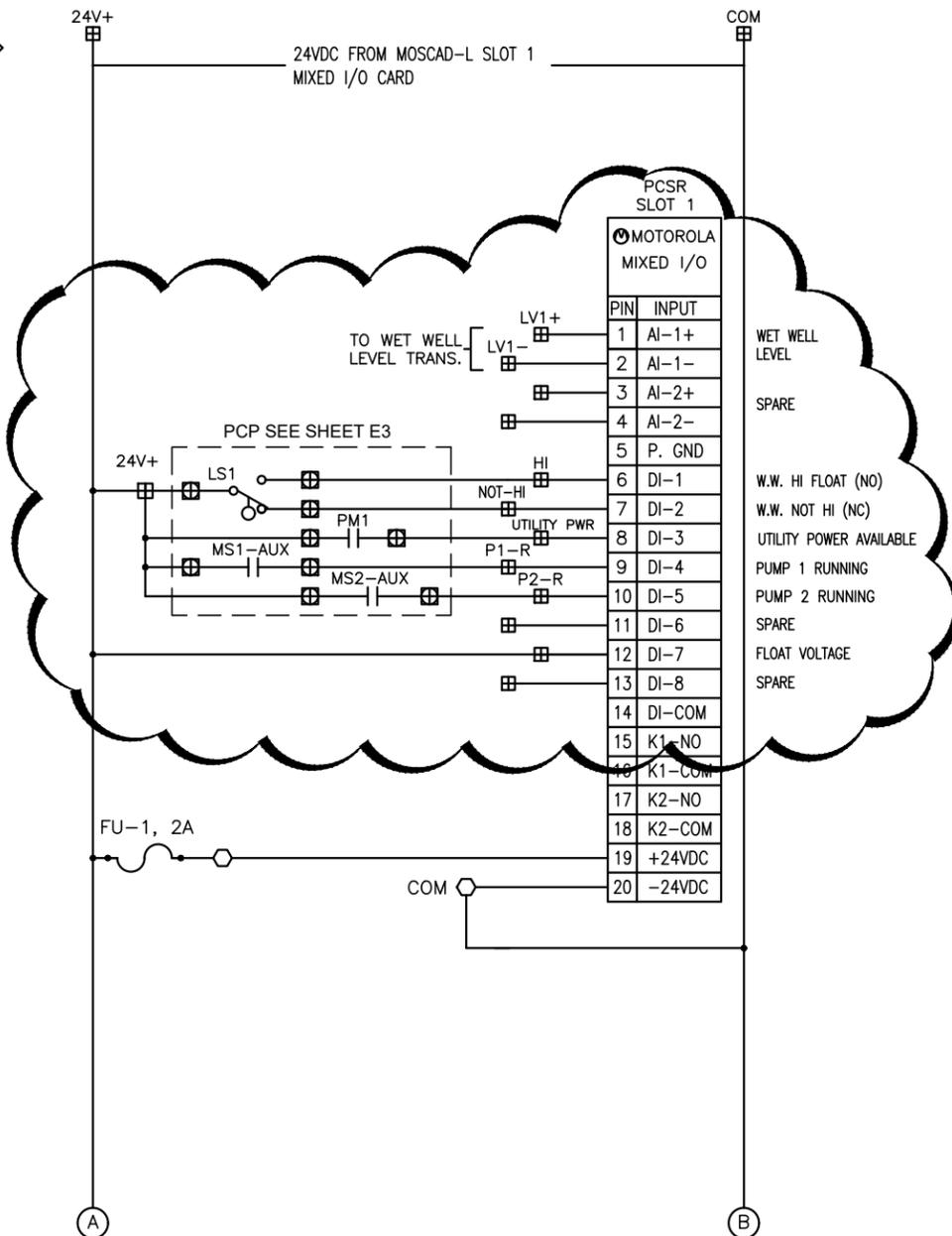
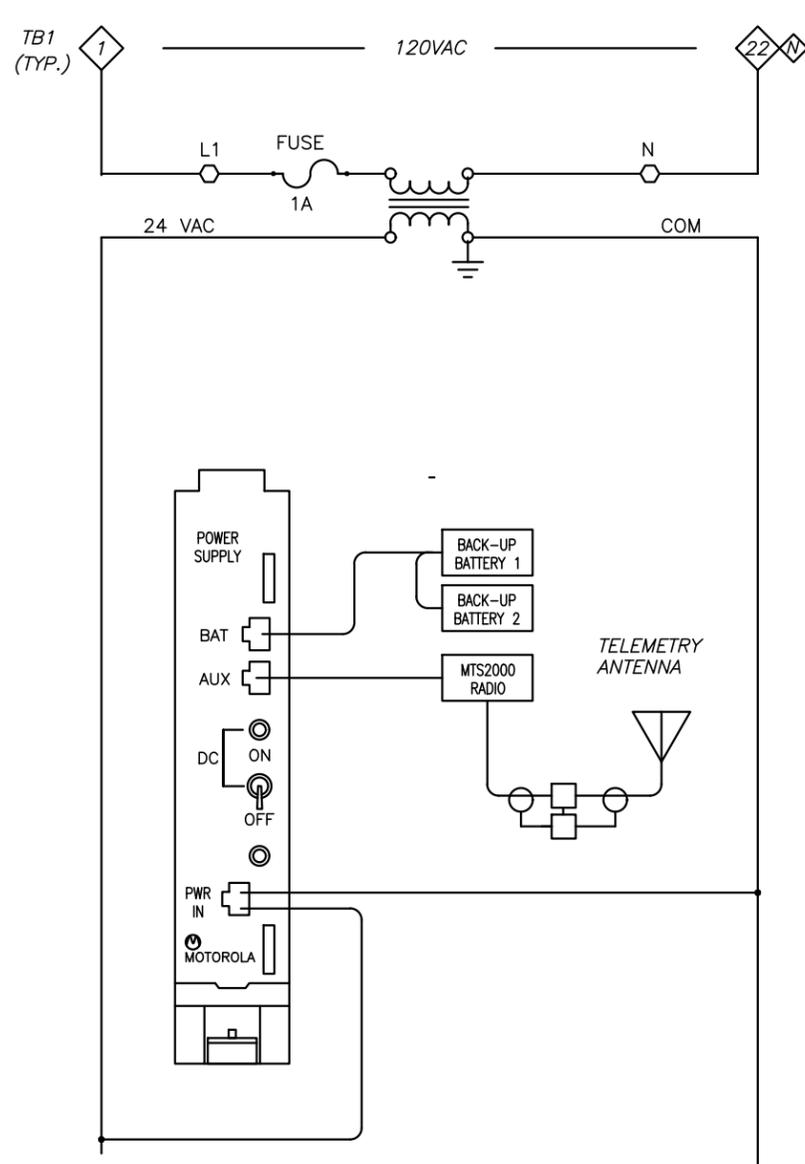
No.	DATE	REVISIONS
3		
2		
1		

DES: RK
DRN: RK
CKD:
DATE: 3/11/19

CITY of TAMPA
WASTEWATER DEPARTMENT

MARINER ST. PUMPING STATION
ELECTRICAL ONE LINE DIAGRAM

W.O. 0000
SHEET
E8



SCADA MODIFICATIONS

CLOUDED AREA SHOWS PROPOSED CONNECTIONS.

- ▣ TERMINALS ON MOSCAD I/O
- ▣ TERMINALS IN PUMP CONTROL PANEL

EXISTING SCADA RTU INTERIOR

USE STAINLESS STEEL PLUGS FOR OPENINGS THAT ARE NOT REUSED.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: RK	CITY of TAMPA WASTEWATER DEPARTMENT	MARINER ST. PUMPING STATION ELECTRICAL SCADA RTU MODIFICATIONS	W.O. 0000
	3			DRN: RK			SHEET
	2			CKD:			E9
	1			DATE: 3/15/19			