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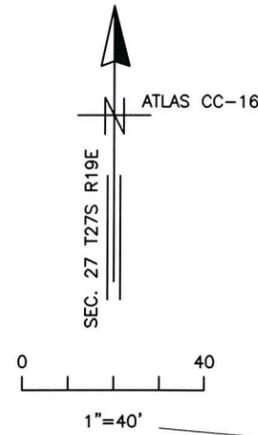
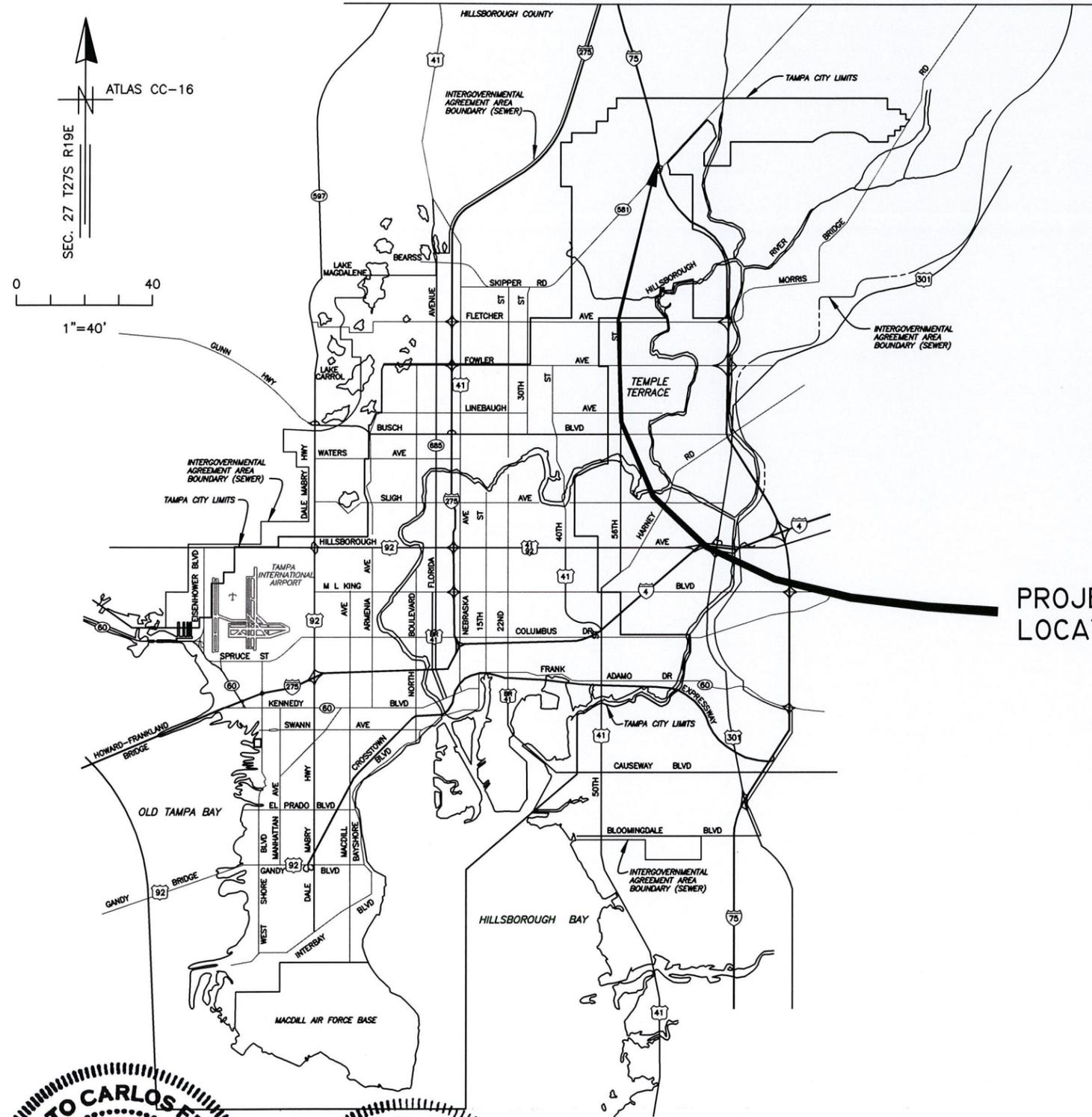
Please Email ALL Questions:

[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

LOCATION MAP



CITY of TAMPA



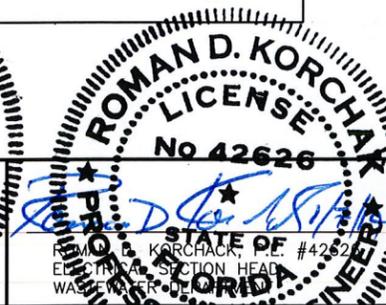
PROJECT LOCATION

WASTEWATER DEPARTMENT

PLANS FOR

DOWN'S PUMP STATION REHABILITATION

CONTRACT NO. 13-C-00042



NO.	DATE	REVISIONS
1		

DES: MFS
 DRN: GAP
 CKD: JF
 DATE: 1/7/14

CITY of TAMPA
 WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
 COVER

W.O. 5899
 SHEET
 01
 OF 32

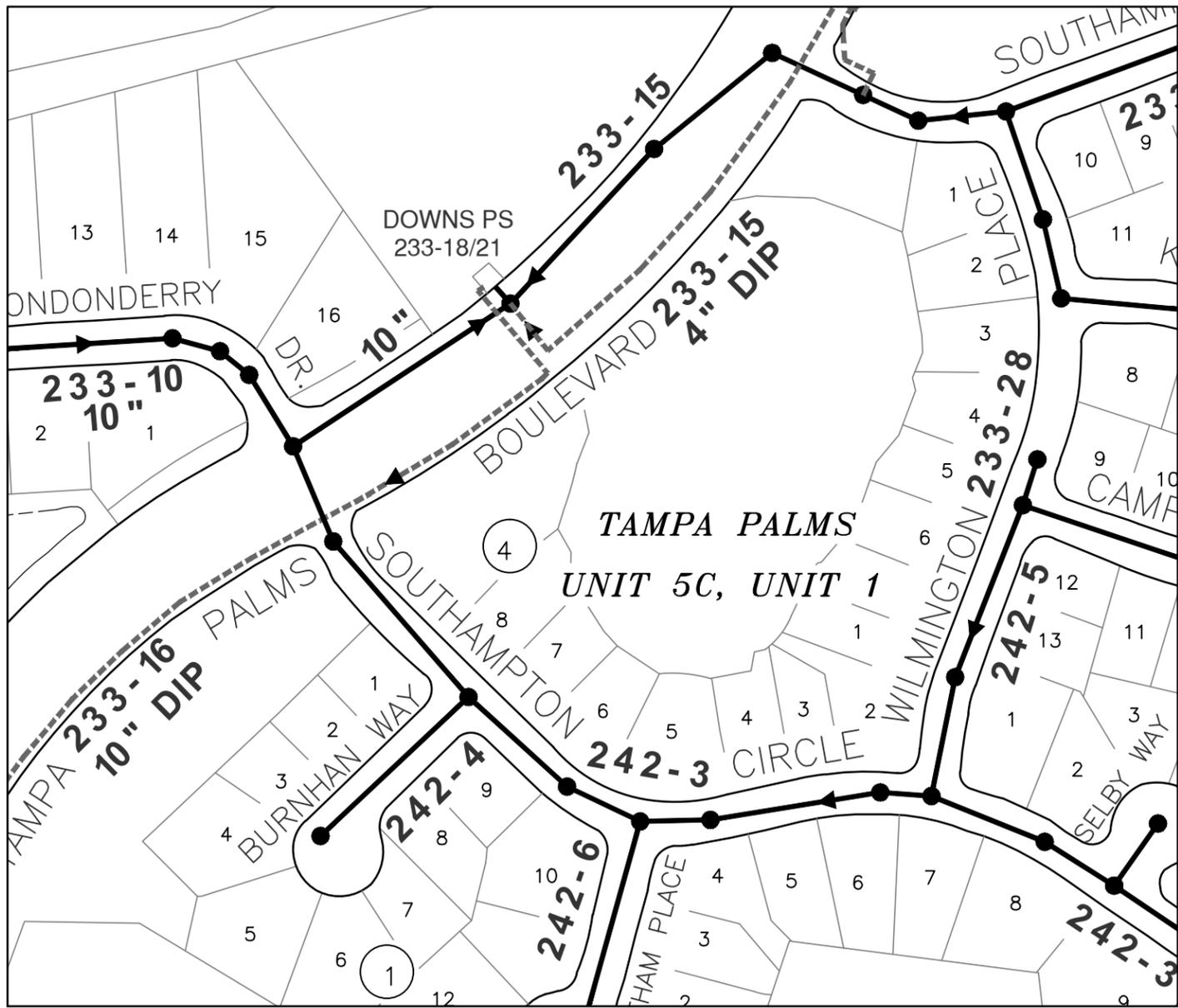
LEGEND

	UP to 36" & SMALLER	36" & LARGER
EX SEWERS		
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	
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	
WATER METER	
ELECTRICAL MANHOLE or VAULT	
TELEPHONE MANHOLE or VAULT	
TRAFFIC BOX or VAULT	
BUILDING LIMIT	
PROPERTY OWNERSHIP	
FENCE	
CONIFER	
PALM	
OAK	
OTHER	
SHRUB	
HEDGE	
RAILROAD TRACKS	
IRON PIPE	
CONTROL POINT	
CONCRETE MONUMENT	
OPEN DITCHES	
EXISTING WYE	
PROPOSED WYE	
CLEAN OUT	

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



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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	Downs Pump Station Rehabilitation	W.O. 5899
	3			DRN: GAP			SHEET
	2			CKD:			02
	1			DATE:		INDEX	OF 32

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 CONTRACTOR'S 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 AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR SHALL SOD ALL UNPAVED AREAS.

GENERAL NOTES

- G-1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE CONTRACT ADMINISTRATION DEPARTMENT, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS.
- 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 BUILDING PERMITS AND 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. TWO NEW PUMPS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT PUMPS, MODEL NP-3153.181. 20HP PUMPS SHALL BE SUPPLIED WITH FLYGT MIX-FLUSH VALVES. ALL PROPOSED PUMP BASES SHALL BE 4" DIAMETER DISCHARGE ELBOWS.
- G-7. REMOVAL OF EXISTING PAVEMENT AND BASE MATERIAL SIDEWALK, CURB, POLES, UNDERGROUND PIPES, STRUCTURES, FOUNDATIONS, AND OTHER MISCELLANEOUS ITEMS SHALL BE INCLUDED IN THE LUMP SUM PRICE AND NO SEPARATE PAYMENT WILL BE MADE.
- G-8. CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS, AND ANY MISCELLANEOUS BRACKETS.
- G-9. 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-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 8-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. ALL ABOVE GROUND PLUG VALVES SHALL BE PROVIDED WITH 2" NUTS AND NO HAND WHEELS.
- G-13. CHECK VALVES SHALL BE APCO RUBBER FLAPPER SWING CHECK VALVES, SERIES 100. 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.
- G-16. 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.
- 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 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) ABOVE GRADE : ONE COAT, 4-6 MILS (DRY) TNEMEC 1074U ENDURASHIELD (WITH FACTORY ADDED UV BLOCKER)
 - B) BELOW GRADE : ONE COAT, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU
- G-19. 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.
- G-20. ALL STAINLESS STEEL PARTS TO BE WELDED SHALL BE THE LOW-CARBON VERSION OF THE GRADE OF STAINLESS STEEL THAT IS CALLED FOR, SUCH AS: T-316L OR T-304L.
- G-21. CONTRACTOR SHALL POUR A NEW CONCRETE FILLET, AT THE BOTTOM OF THE WET-WELL, AS SHOWN IN THE PLANS WITH CLASS "D" (2,000 PSI @ 28-DAYS) CONCRETE.
- G-22. CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES. PROPOSED LINK SEAL OR APPROVED EQUAL.

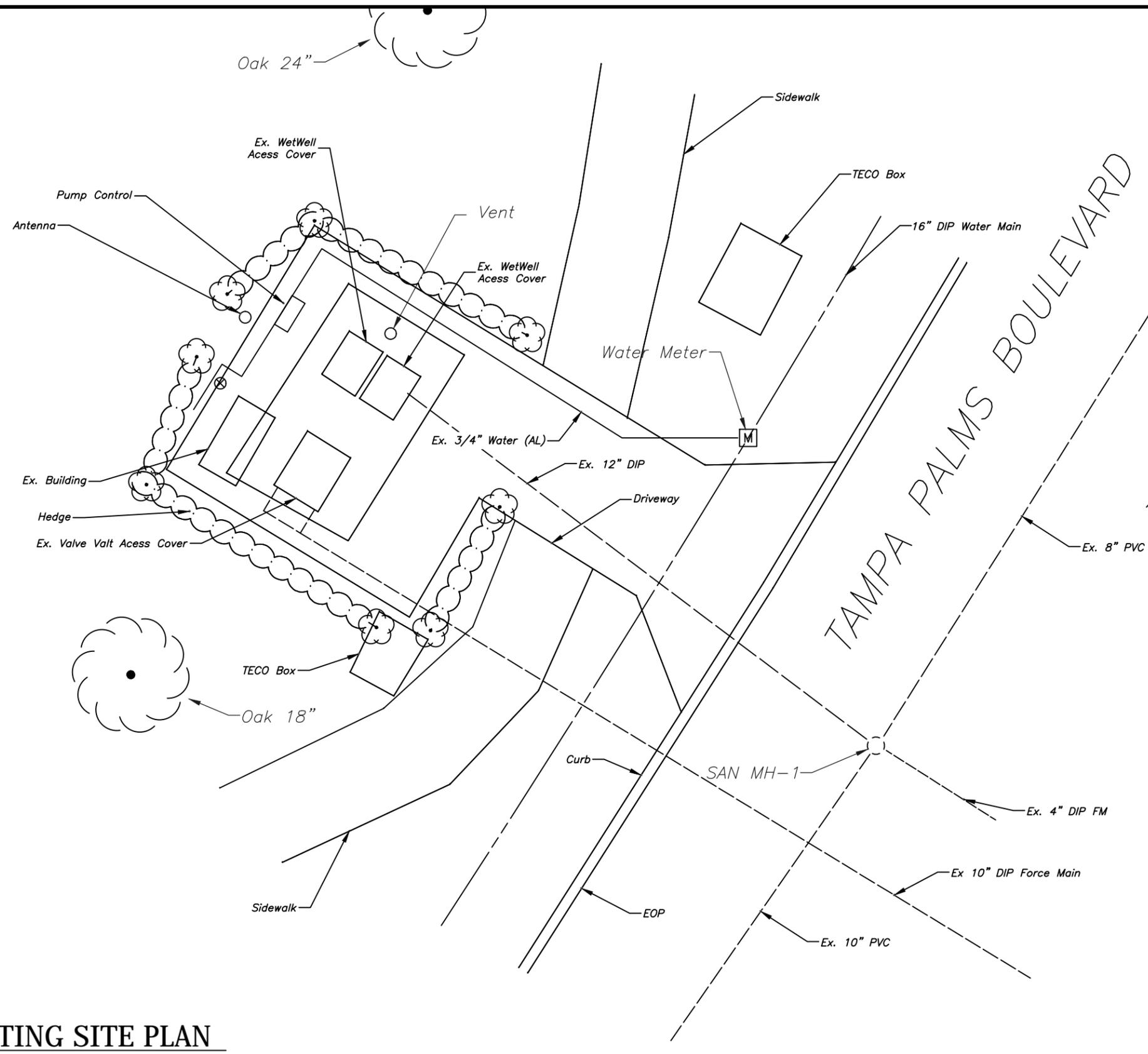
- G-23. CONTRACTOR SHALL PROVIDE A REDUCED PRESSURE BACKFLOW-PREVENTION DEVICE IN WATER SERVICE LINE, AS SHOWN IN DETAILS, AT A PLACE TO BE SPECIFIED DURING CONSTRUCTION. BACKFLOW PREVENTION DEVICE SHALL BE 1" WILKINS, MODEL #975 XL, OR EQUAL.
- G-24. AFTER WET WELLS ARE DEWATERED, THE CONTRACTOR SHALL CLEAN WET WELLS OF ALL DEBRIS. DEBRIS MAY BE TEMPORARILY DELIVERED TO THE CITY OF TAMPA HOWARD F. CURREN AWTP SLUDGE DRYING BEDS AT 2700 MARITIME BOULEVARD FOR UP TO 30 DAYS.
- G-25. ALL DIP PIPE AND FITTING SHALL BE CLASS 53 WITH PROTECTO 401 INTERIOR COATING.
- G-26. PVC FM PIPE AND FITTINGS SHALL BE C-900 (DR-18)
- G-27. PRIOR TO BYPASS PUMPING, CONTRACTOR SHALL HAVE IN HIS POSSESSION ALL PROPOSED PUMPS, PIPING AND APPURTENANCES TO MINIMIZE THE DURATION OF THE BYPASS PUMPING.
- G-28. TESTING OF THE NEW DISCHARGE PIPES WILL BE ACCOMPLISHED BY OPERATING PUMPS FOR THE REQUIRED 24-HOUR DURATION AND OBSERVING FOR ANY LEAKS. ANY MANUAL PUMP OPERATION OR SWITCHING PUMPS MUST BE PERFORMED BY CITY PERSONNEL.
- G-29. PIPE BOLLARDS SHALL BE 4" CONCRETE FILLED GALVANIZED STEEL WITH LDPE COVER SLEEVE. SLEEVE COLOR SHALL BE SHERWIN WILLIAMS 6445 GARDEN GROVE GREEN WITH 2" WHITE 3M REFLECTIVE BAND.
- G-30. REPEATED FROM THE SPECIFIC PROVISIONS, "GENERAL PROVISIONS G-7.01 & 7.02 SHALL BE MODIFIED IN THAT WATER AND ELECTRICAL POWER IS PRESENTLY PROVIDED AT THE SITE AND MAY BE USED BY THE CONTRACTOR IN THEIR PRESENT STATE. SHOULD ANY CHANGES, MODIFICATIONS OR RELOCATIONS BE NECESSARY TO PROVIDE WATER OR POWER DURING THE CONSTRUCTION AND/OR BY-PASS PUMPING PHASE, ALL COSTS SHALL BE BORNE BY THE CONTRACTOR."
- G-31. ALL METAL SURFACES COMING IN CONTACT WITH CONCRETE SHALL BE PROVIDED WITH NEOPRENE PADS OR 2 COATS OF COAL TAR EPOXY WITH PROPER SURFACE PREPARATION. CONTRACTOR SHALL SUBMIT SYSTEM(S) FOR APPROVAL.
- G-32. THE CONTRACTOR SHALL TREAT ANY EXPOSED REBAR OR OTHER METAL IN THE CONCRETE EXPOSED BY HIS ACTIONS, BY GRINDING THEM BACK A MINIMUM OF 1/2-INCH AND FILLING THE DEPRESSION(S) WITH AN FDOT TYPE F-1, NON-SAG GEL TYPE EPOXY.
- G-33. THE CONTRACTOR IS ADVISED THAT THE CITY'S AWTP IS LOCATED WITHIN THE CONFINES OF THE TAMPA PORT AUTHORITY WHICH HAS RESTRICTED ACCESS IN ACCORDANCE WITH FLORIDA STATUTE 311.12. PROCEDURES FOR ACCESS INTO THE TAMPA PORT AUTHORITY AREAS ARE LOCATED AT [HTTP://WWW.TAMPAPORT.COM/PORT-OPERATIONS/SECURITY](http://www.tampaport.com/port-operations/security). ALL COSTS TO COMPLY WITH THESE PROCEDURES WHILE DELIVERING DEBRIS AND ANY SALVAGED MATERIAL TO THE AWTP SHALL BE INCLUDED IN THE TOTAL PRICE FOR THIS PROJECT AND NO ADDITIONAL PAYMENT SHALL BE MADE.
- G-34. ALL DISTURB CONCRETE SLAB SHALL BE REPLACED WITH 6" CONCRETE WITH 4x4 W2.1xW2.1 WWF REINFORCEMENT.
- G-35. PLANTS SURROUNDING PS, IF REMOVED, MUST BE PROTECTED FOR REPLANTING. IF PLANTS DO NOT SURVIVE, THEY ARE TO BE REPLACED WITH THE SAME SPECIES AND SAME SIZE. REPLACED OR NEW PLANTS ARE TO BE WARRANTED FOR ONE YEAR AFTER FINAL ACCEPTANCE.

BYPASSING NOTES

- B-1. SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR PUMPING STRATEGY.
- B-2. BYPASS PUMPS SHALL BE CAPABLE OF 500 GPM @ 77' TDH. THE BYPASS PUMPS SHALL BE OF THE SELF PRIMING QUIET FLOW TYPE PUMP. THE PUMPS SHALL SUCTION FROM AN 8" FLOW THRU PLUG INSIDE THE 12" INFLUENT PIPE AND DISCHARGE INTO THE PROPOSED 10" BYPASS VALVE ASSEMBLY. BYPASS PUMPS NOISE SHALL STRICTLY COMPLY TO ALL LOCAL REGULATIONS AND ORDINANCES COVERING NOISE CONTROL THIS MAY REQUIRE CONSTRUCTING SOUND ATTENUATING ENCLOSURE AROUND PUMPS AND UTILIZATION OF ELECTRIC PUMP MOTORS MAY BE NECESSARY TO MEET THESE REQUIREMENTS. BYPASS SYSTEM SHALL BE EQUIPPED W/ AN AUTODIALER FEATURE TO CONTACT KEY PERSONNEL, IN THE EVENT OF A HIGH WATER ALARM, MAXIMUM RESPONSE TIME IS 1 HOUR.
- B-3. THE CONTRACTOR WILL HAVE A MAXIMUM OF 2 HOURS SHUT DOWN TO INSTALL THE BYPASS PLUG VALVE ASSEMBLY INSIDE THE VALVE VAULT. CONTRACTOR SHALL PROVIDE THE CITY A MINIMUM OF 1 WEEK NOTICE OF THIS WORK.

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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION GENERAL NOTES	W.O. 5899
	3			DRN: GAP			SHEET
	2			CKD:			03
	1			DATE:			OF 32



CP 1
 X=5000.0000
 Y=5000.0000

SAN MH-1	
MH inverts and pipe	Elevation
INV 8" N	18.3
INV 10" S	17.8
INV 12" W	17.8
INV 4" E	18.5

CP 2
 X=5019.4690
 Y=4940.0740

EXISTING SITE PLAN

SCALE:1:10

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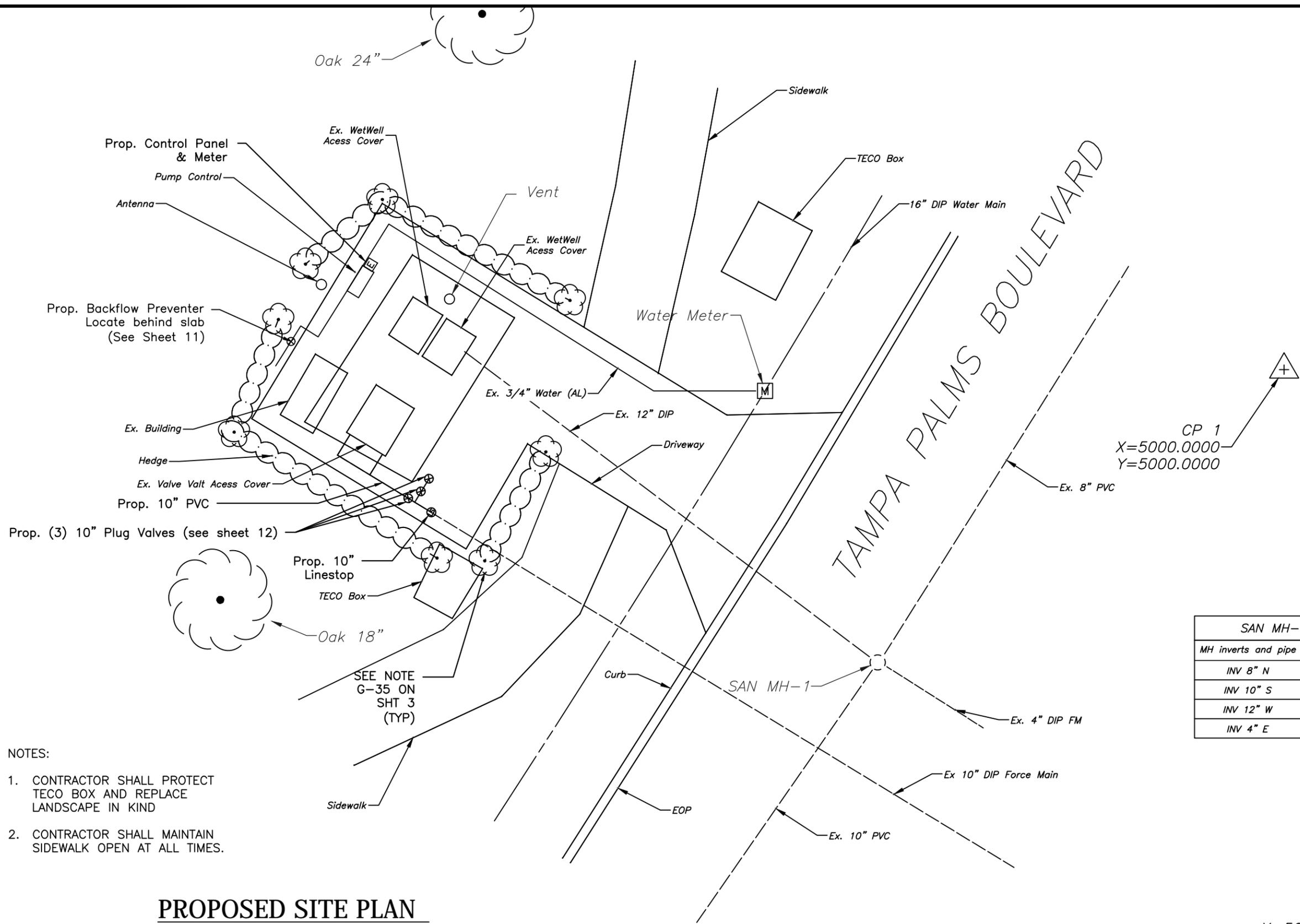
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CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
EXISTING SITE PLAN

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CP 1
X=5000.0000
Y=5000.0000

SAN MH-1	
MH inverts and pipe	Elevation
INV 8" N	18.3
INV 10" S	17.8
INV 12" W	17.8
INV 4" E	18.5

CP 2
X=5019.4690
Y=4940.0740

- NOTES:
1. CONTRACTOR SHALL PROTECT TECO BOX AND REPLACE LANDSCAPE IN KIND
 2. CONTRACTOR SHALL MAINTAIN SIDEWALK OPEN AT ALL TIMES.

PROPOSED SITE PLAN
SCALE: 1:10

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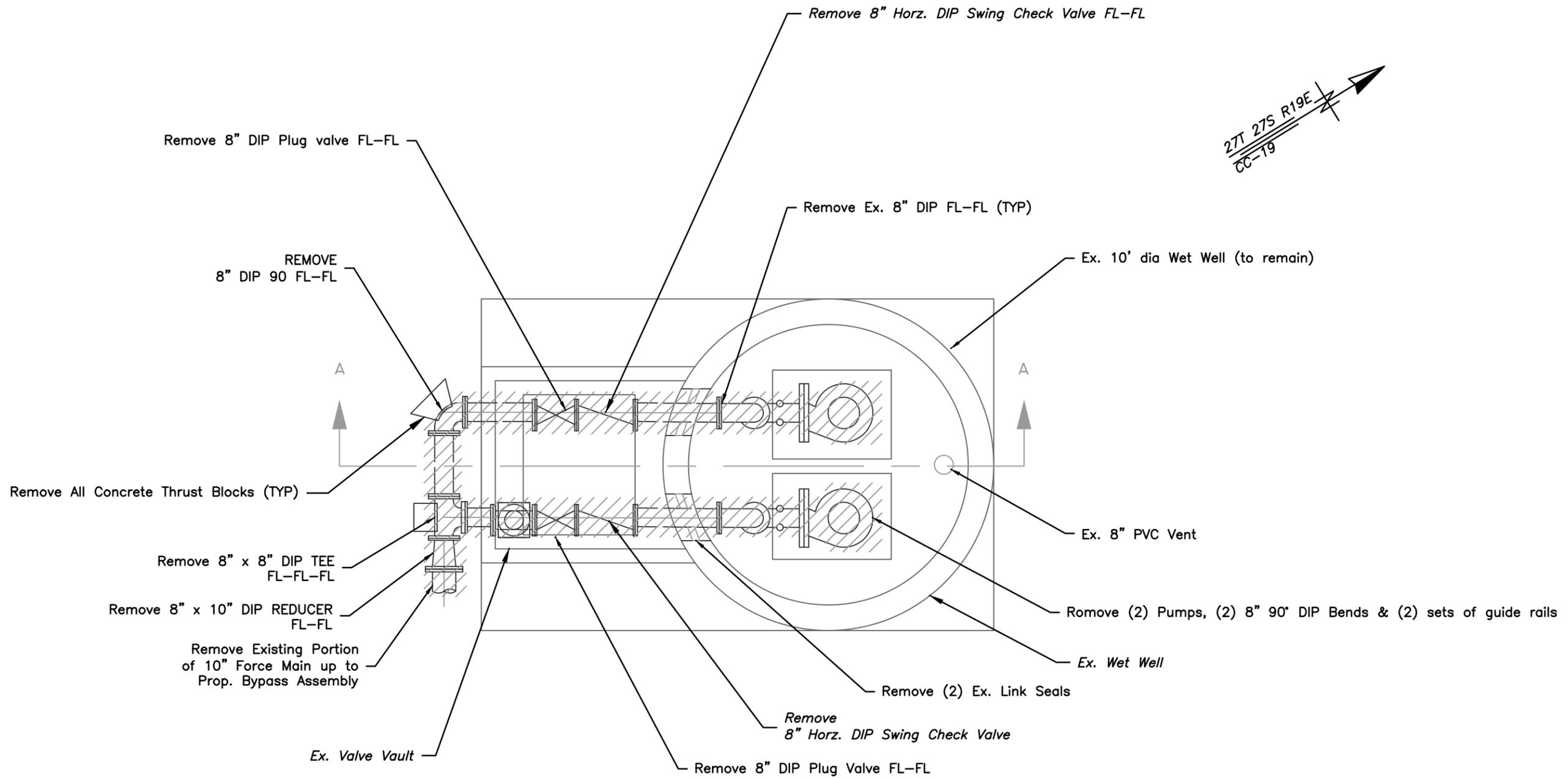
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CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
PROPOSED SITE PLAN

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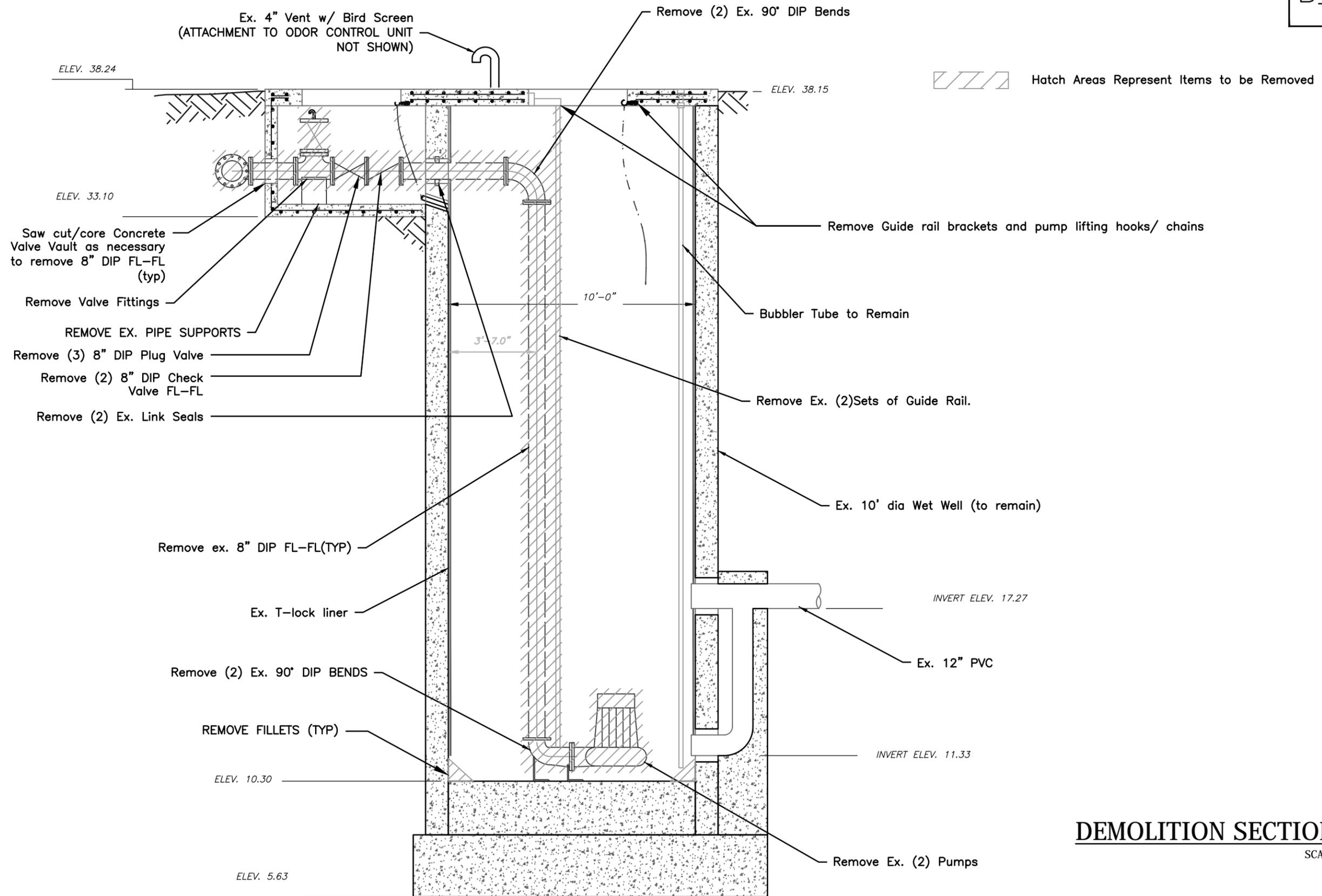
DEMOLITION PLAN

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

 Hatch Areas Represent Items to be Removed

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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	Downs Pump Station Rehabilitation PUMP STATION DEMOLITION PLAN	W.O. 5899
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DEMOLITION SECTION A-A
SCALE: 1/4" = 1'-0"

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#49454 DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

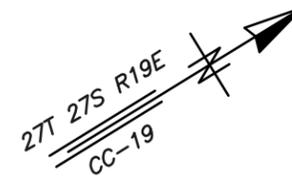
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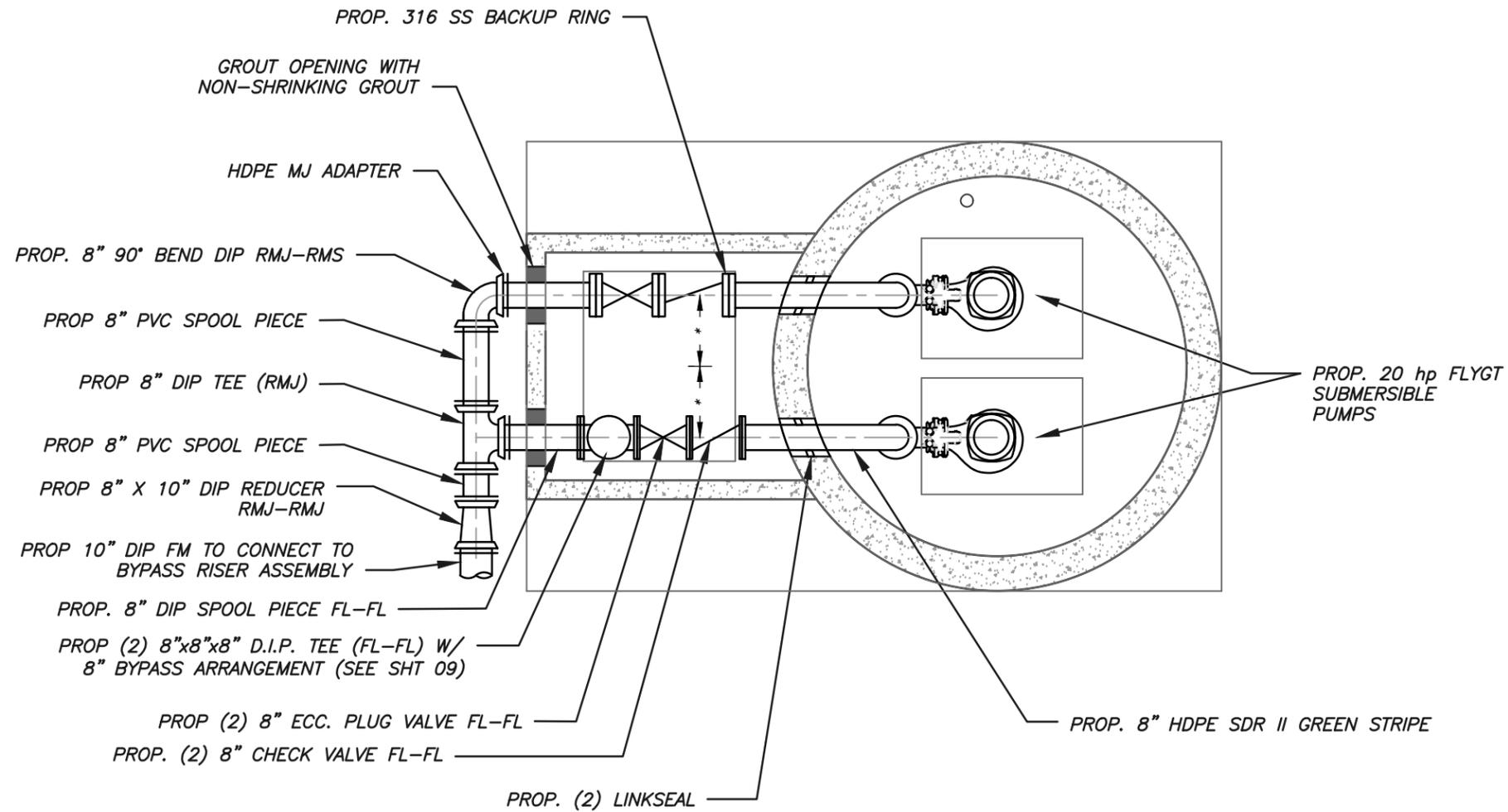
CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
PUMP STATION DEMOLITION SECTION VIEW

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NOTE:
 * DISCHARGE PIPES SHALL
 MAINTAIN THE SAME HORIZONTAL
 SEPARATION AS THE EXISTING PIPE



PROPOSED PLAN

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

No.	DATE	REVISIONS
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DES: MFS
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CITY of TAMPA
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Downs Pump Station Rehabilitation

PUMP STATION PROPOSED PLAN

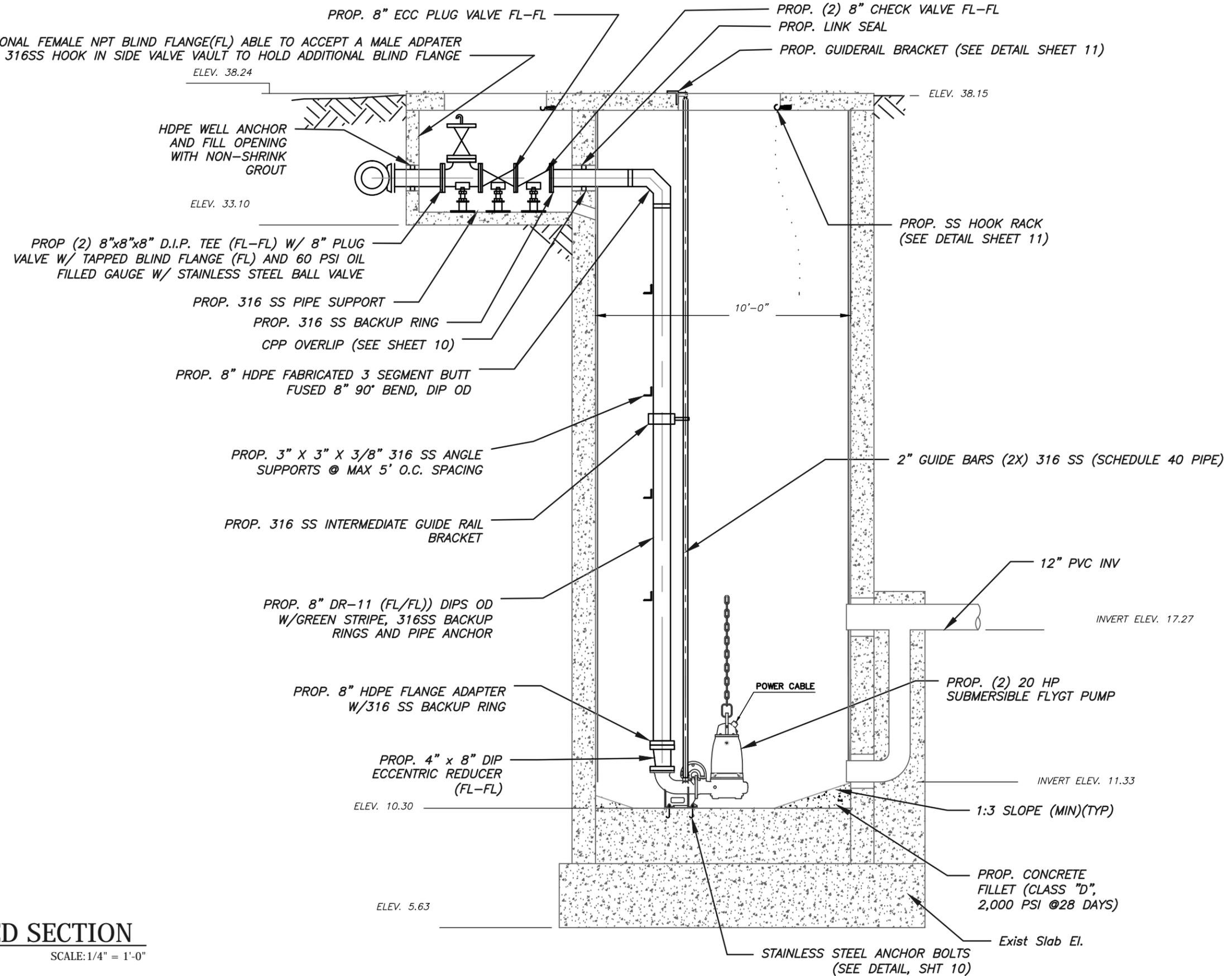
W.O. 5899

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PROVIDE AN ADDITIONAL FEMALE NPT BLIND FLANGE (FL) ABLE TO ACCEPT A MALE ADAPTER CAM LOCK INSTALL 316SS HOOK IN SIDE VALVE VAULT TO HOLD ADDITIONAL BLIND FLANGE



PROPOSED SECTION

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

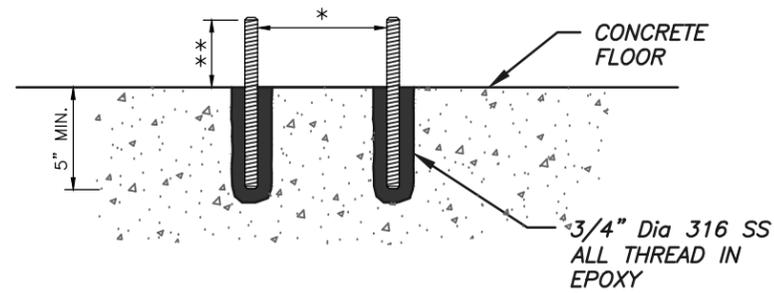
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Downs Pump Station Rehabilitation
 PUMP STATION PROPOSED SECTION VIEW

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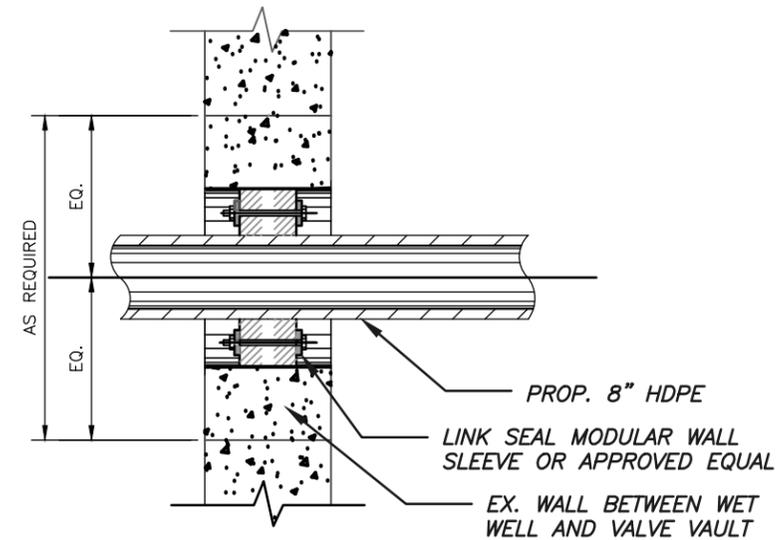


* ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMMENDED BY PUMP MANUFACTURER.

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

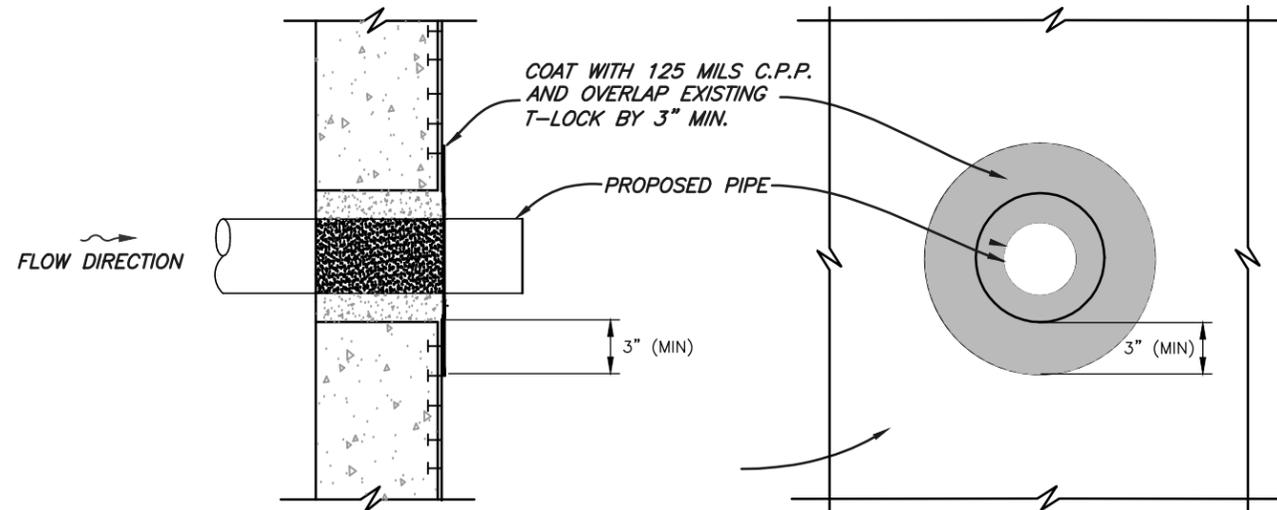
ANCHOR BOLT DETAIL

N.T.S.



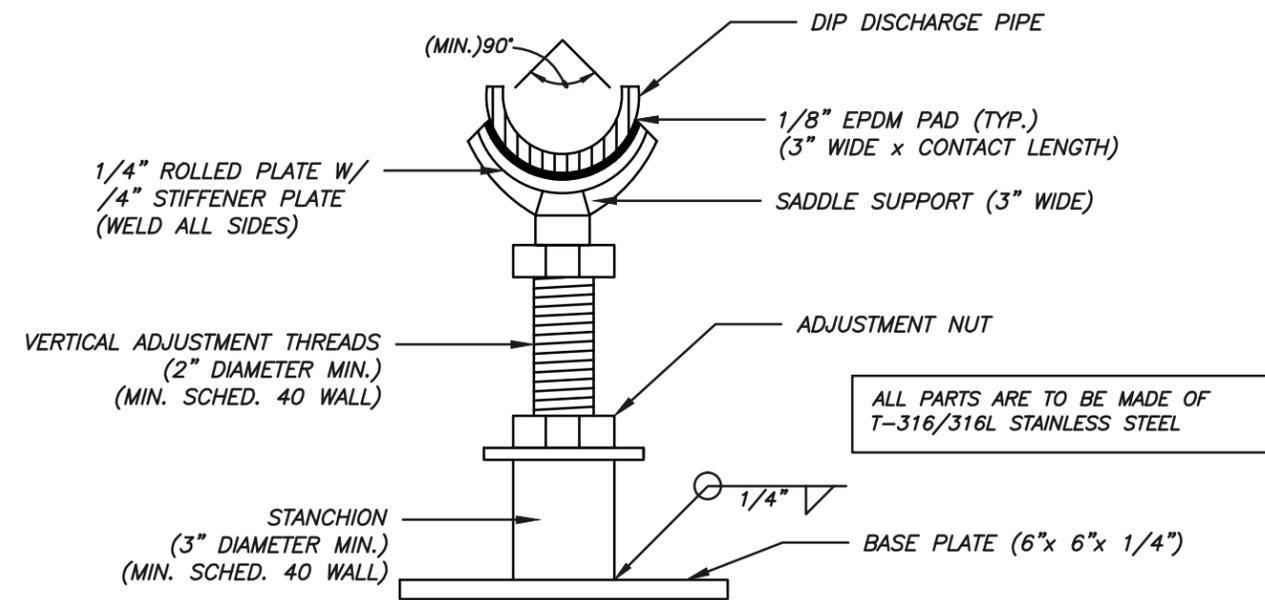
LINK SEAL DETAIL "D"

N.T.S.



NOTE: CONTRACTOR SHALL UTILIZE CONCRETE POLYMER COATING (CPP). TROWEL EPOXY FOR ALL AS MANUFACTURED BY EPOXYTEC OR EQUAL. ALTERNATE PRODUCT SHALL MEET THE PUBLISH PHYSICAL PROPERTIES FOR THE SPECIFIED ITEM.

PIPE TO LINED STRUCTURE
NOT TO SCALE



SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT

N.T.S.

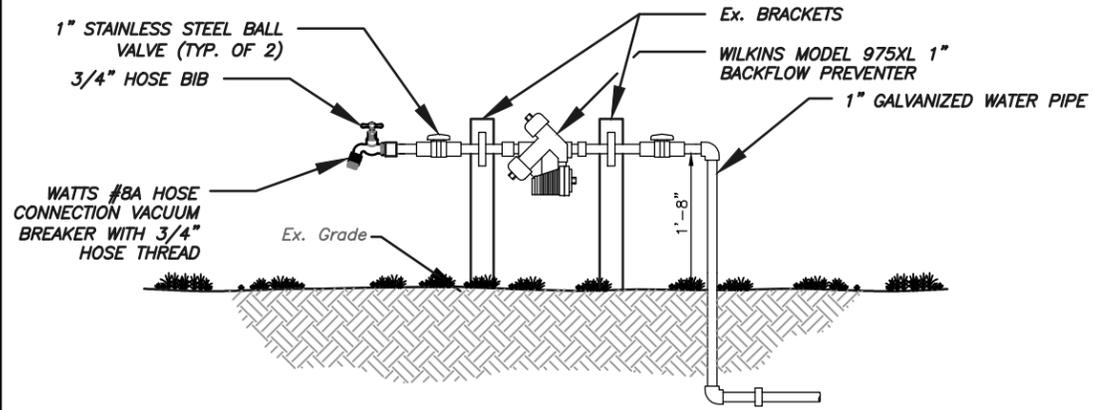
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DATE:

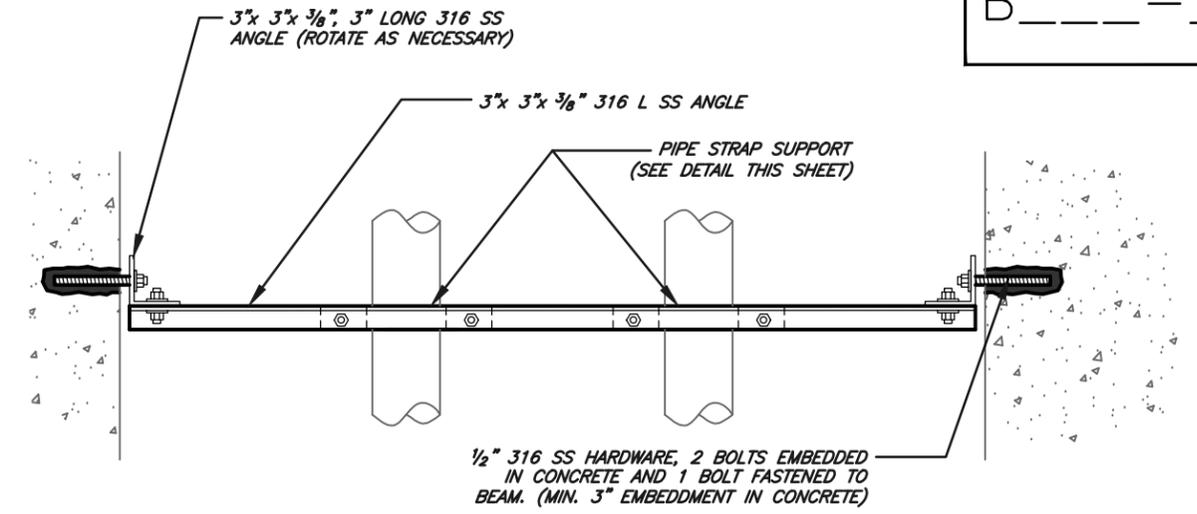
CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
MISCELLANEOUS DETAILS

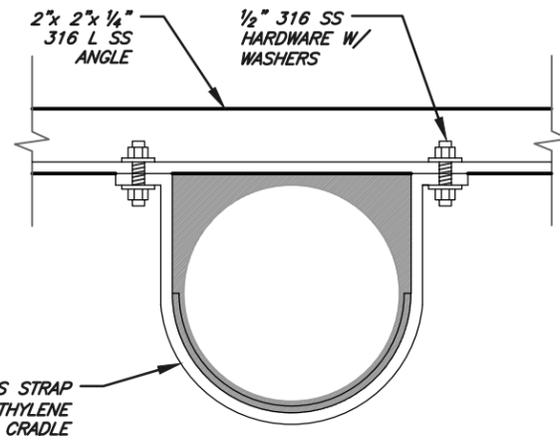
W.O. 5899
SHEET
10
OF 32



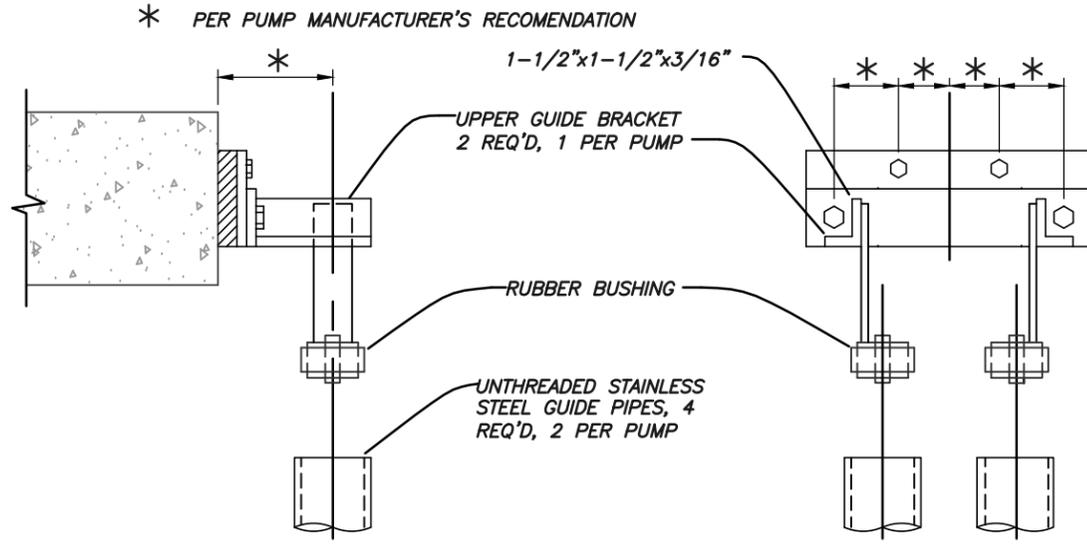
BACKFLOW PREVENTER DETAIL
 N.T.S.



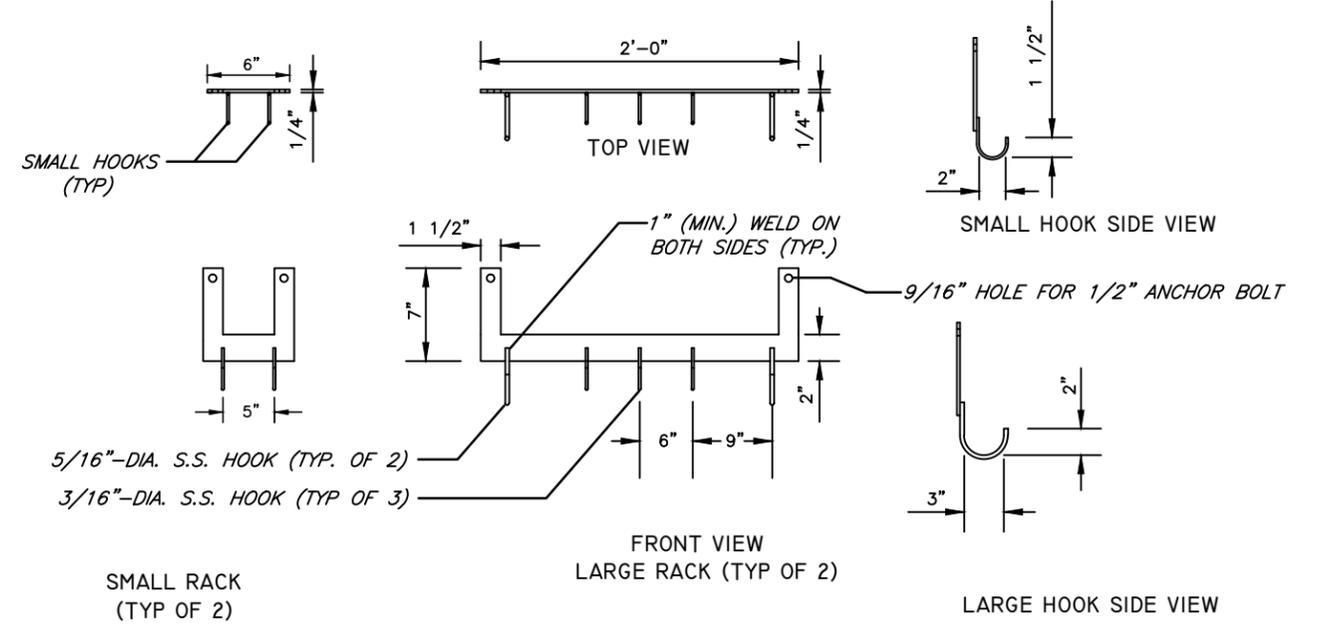
PIPE SUPPORT ASSEMBLY
 N.T.S.



PIPE STRAP SUPPORT
 N.T.S.



GUIDE BRACKET DETAIL (SUPPLIED WITH PUMPS)
 N.T.S.



PROP. STAINLESS STEEL HOOK RACKS
 N.T.S.

User: ssh5 Drawing Name: K:\WW_Projects\2013\2013_5899_DOWNS_PUMP_STATION\DWG\DETAILS_DWGS\11_MISCELLANEOUS_DETAILS.dwg Layout: Dec 30, 2013 3:32pm CTB - WW-TOSHIBA.CTB

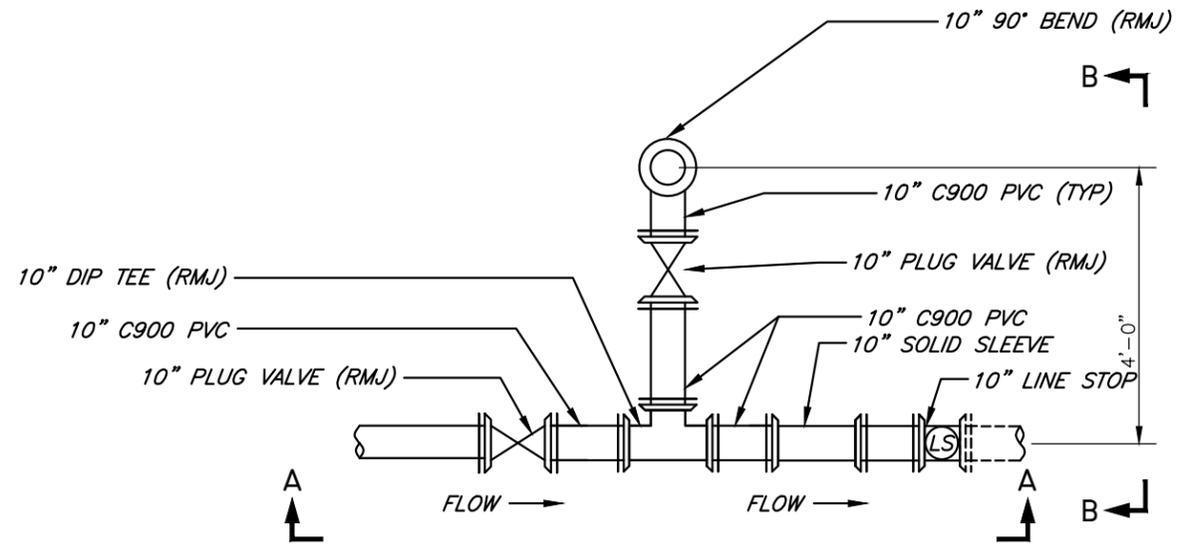
No.	DATE	REVISIONS
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DES: MFS
 DRN: GAP
 CKD:
 DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

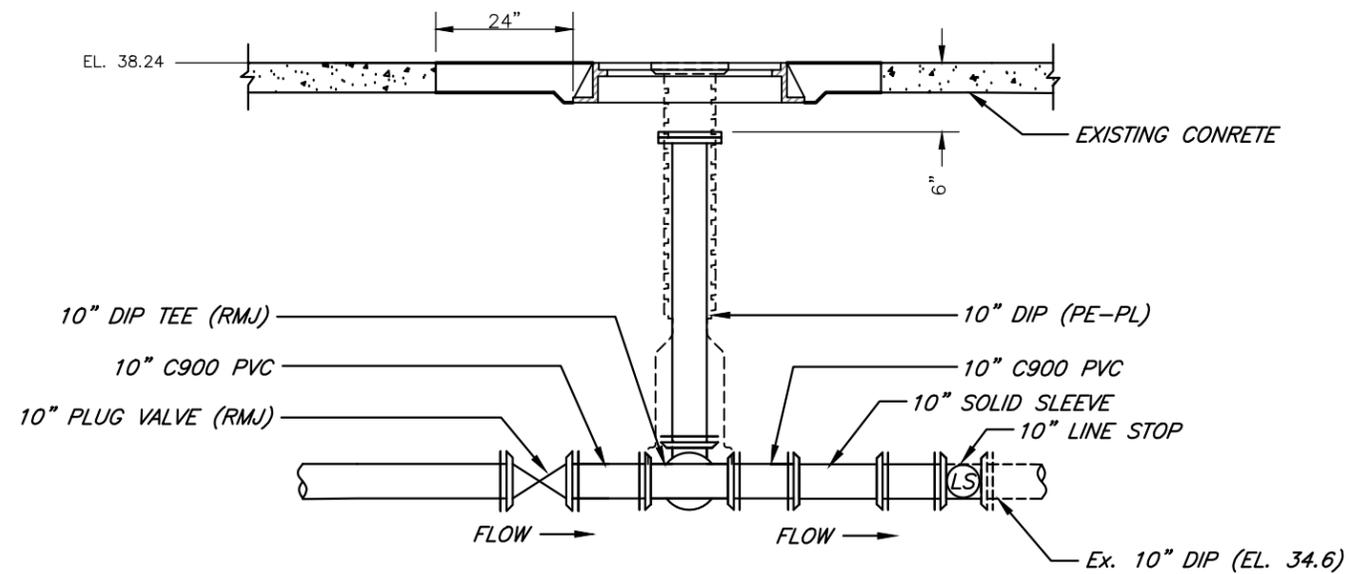
Downs Pump Station Rehabilitation
 MISCELLANEOUS DETAILS

W.O. 5899
 SHEET
 11
 OF 32



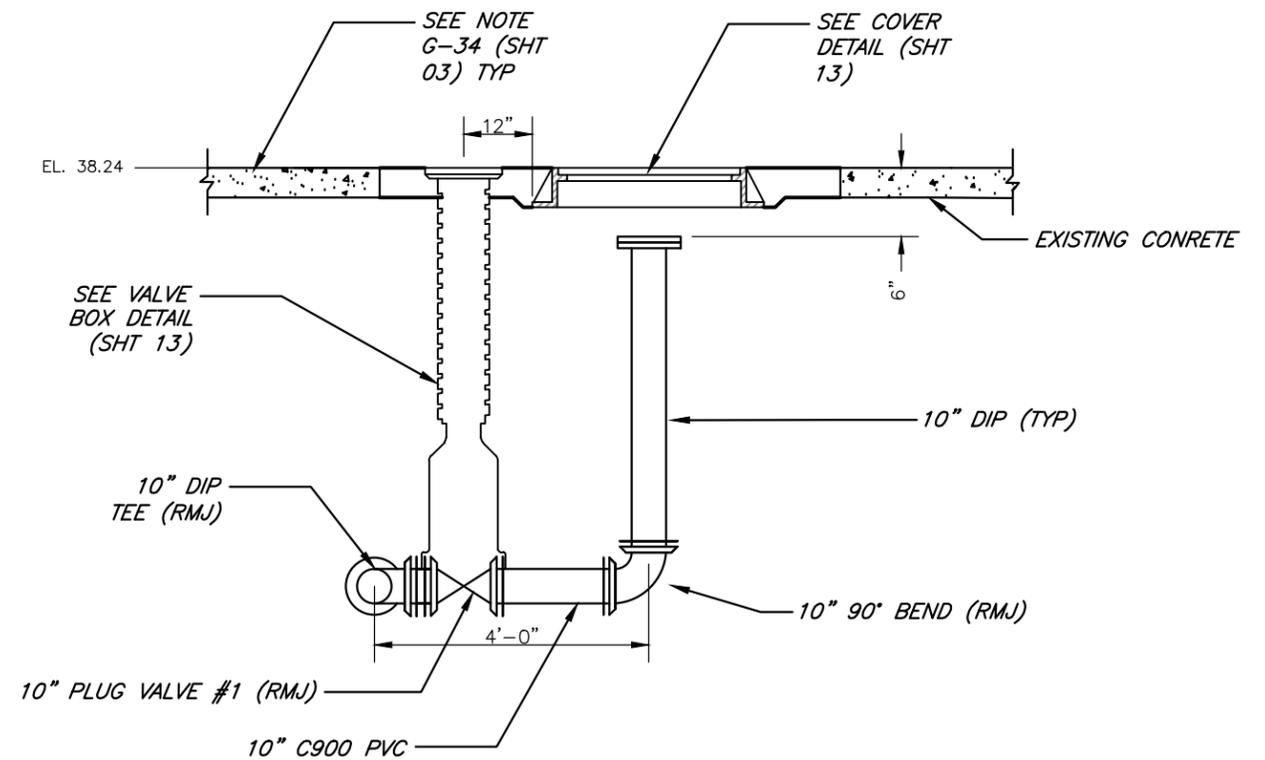
DETAIL A (PLAN VIEW)

SCALE: 3/8" = 1'-0"



SECTION AA

SCALE: 3/8" = 1'-0"



SECTION BB

SCALE: 3/8" = 1'-0"

User: ssh5 Drawing Name: K:\WW_Projects\2013\2013_5899_DOWNS_PUMP_STATION\Drawings\DETAILS DMGS\12 BYPASS PUMPING PLAN DETAIL.dwg Layout: Jan 06, 2014 - 11:26am CTB - WW-TOSHIBA.CTB

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

No.	DATE	REVISIONS
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DES: MFS
DRN: GAP
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation

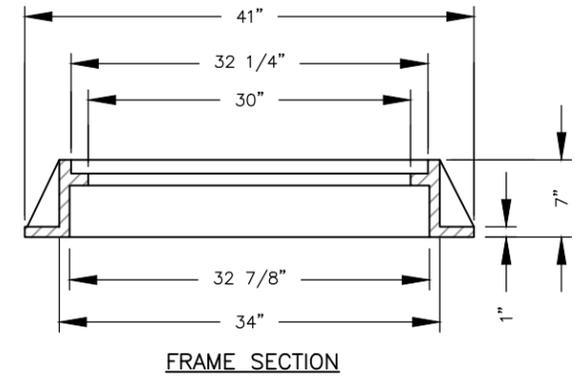
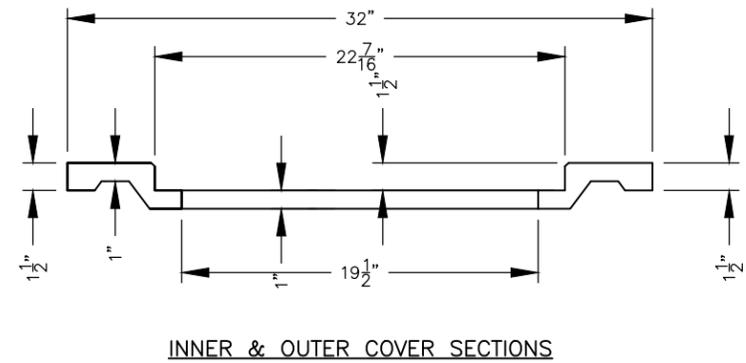
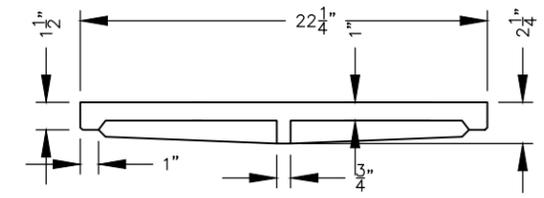
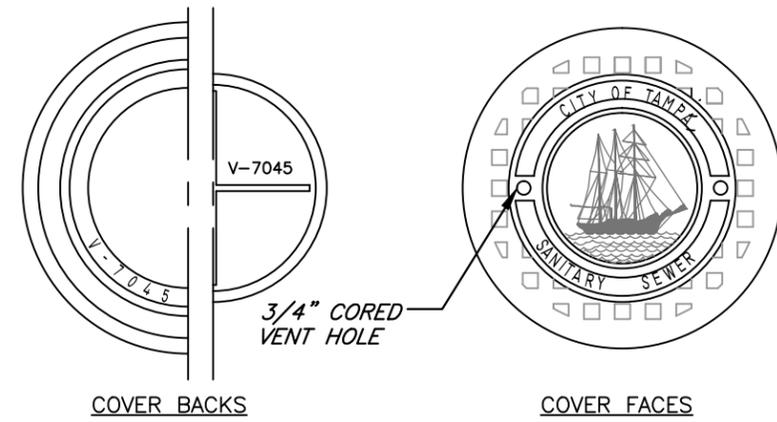
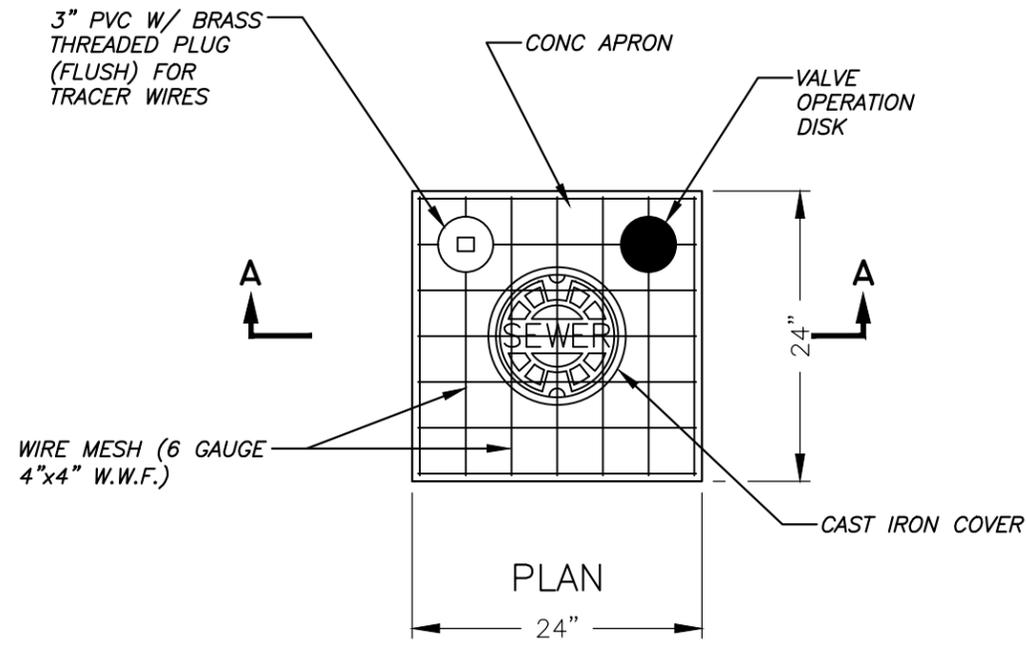
BYPASS PUMPING PLAN DETAILS

W.O. 5899

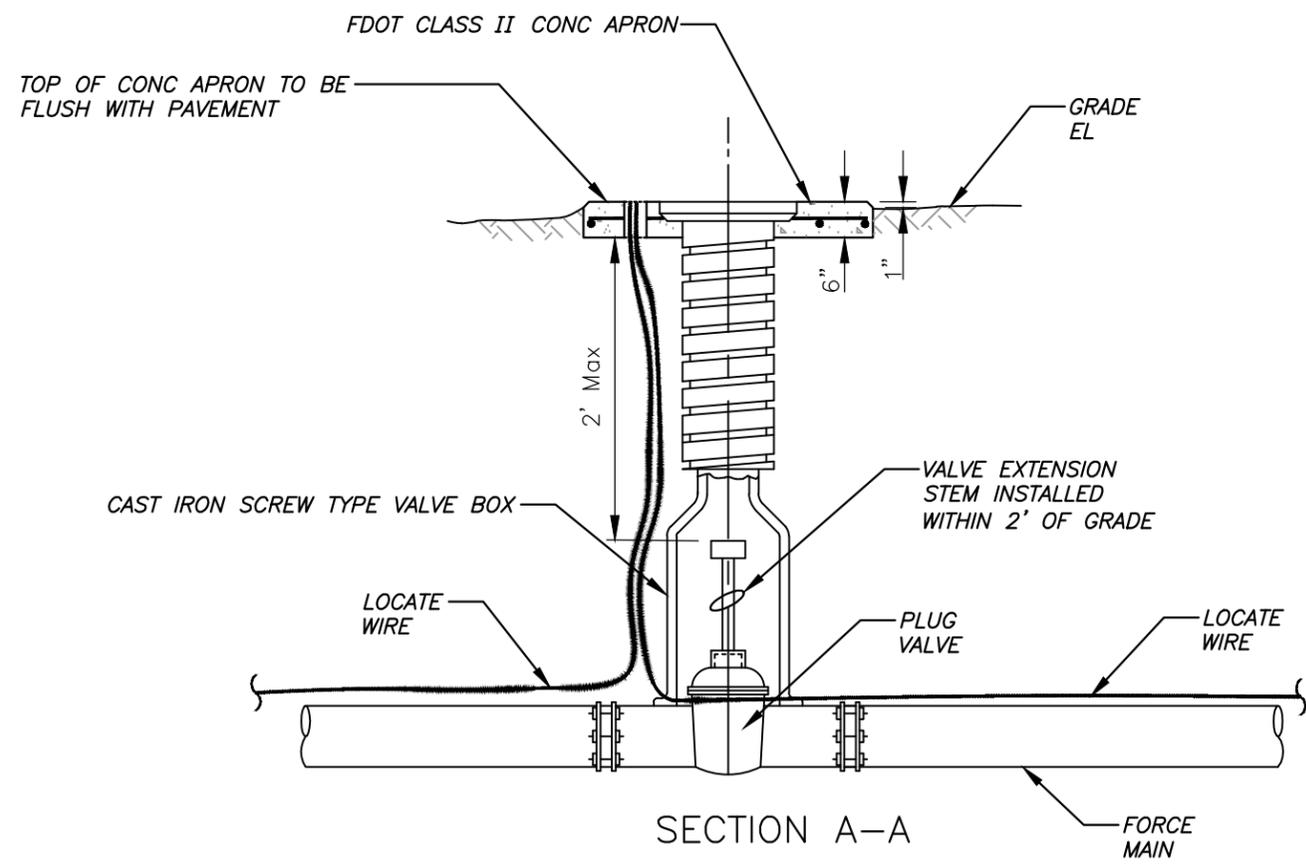
SHEET

12

OF 32



FOR MH'S OF SEWERS 27" OR GREATER IN DIAMETER: VULCAN FOUNDRY NO. V-7045, U.S. FOUNDRY NO. 230-AB-M, OR EQUAL



VALVE BOX DETAIL
Not To Scale

User: ssh5 Drawing Name: K:\WW_Projects\2013\2013_5899_DOWNS_PUMP_STATION\Drawings\MISCELLANEOUS_DETAILS.dwg Layout: Dec 27, 2013 - 12:02pm CTB - WW-TOSHIBA.CTB

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

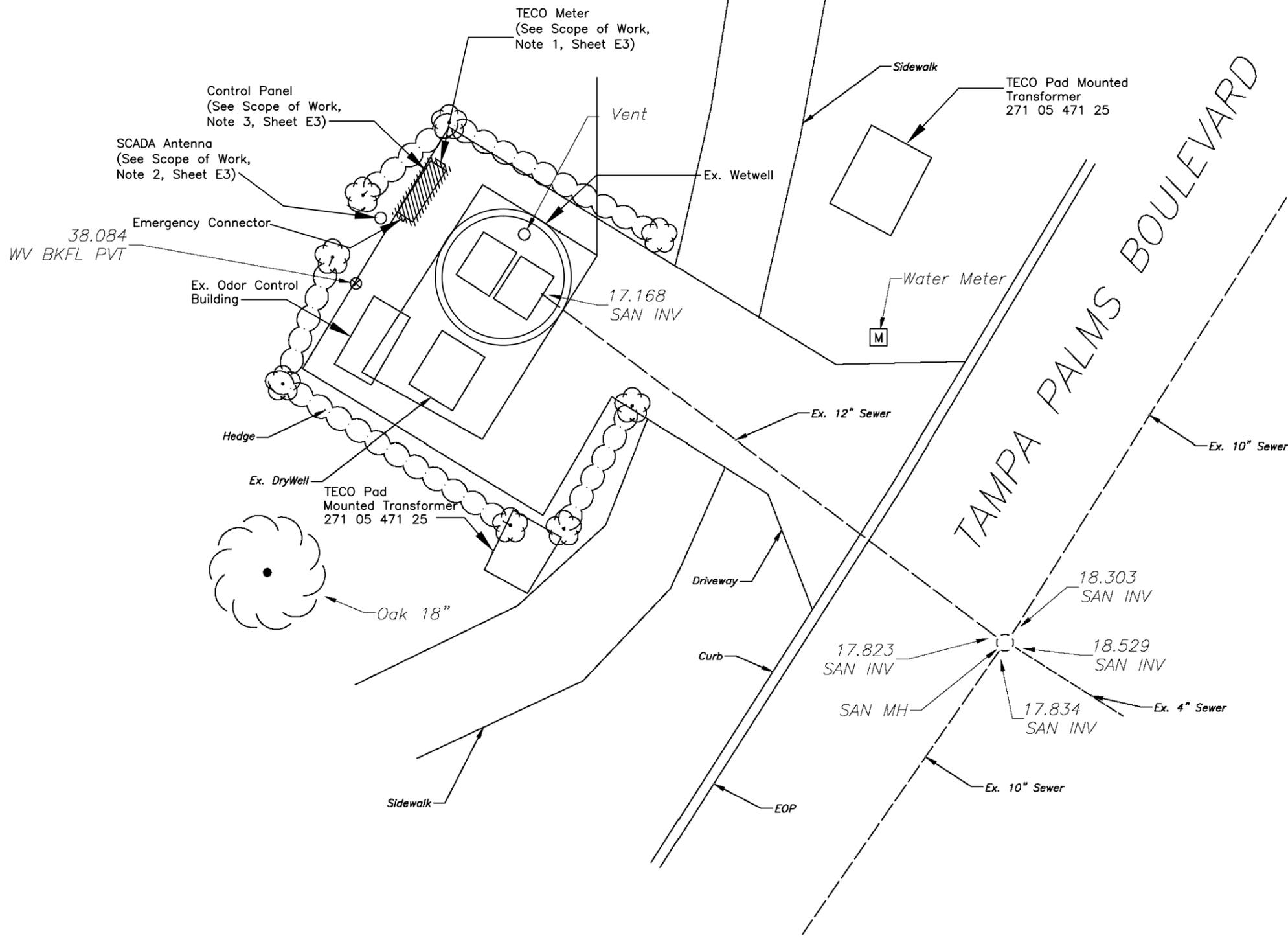
No.	DATE	REVISIONS
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DES: MFS
DRN: GAP
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

Downs Pump Station Rehabilitation
MISCELLANEOUS DETAILS

W.O. 5899
SHEET
13
OF 32



38.084
WV BKFL PVT

 HATCH AREAS REPRESENT
ITEMS TO BE REMOVED

EXISTING ELECTRICAL (DEMOLITION) SITE PLAN

NOT TO SCALE

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

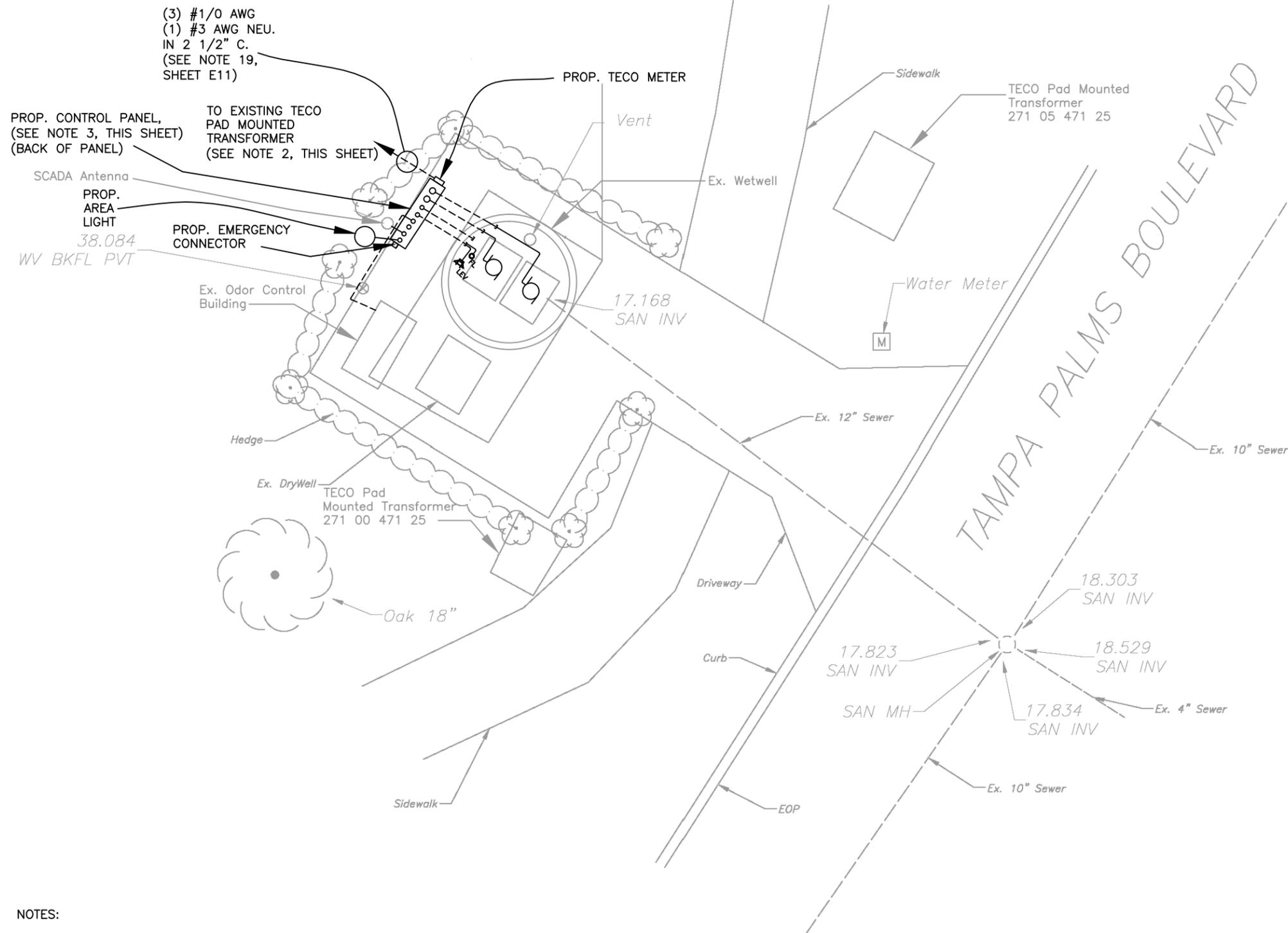
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DES: LRG
DRN: LRG
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

**DOWN'S PUMP STATION
REHABILITATION**
EXISTING ELECTRICAL (DEMOLITION) SITE PLAN

W.O. 5899
SHEET
EI



- NOTES:
1. LIGHTER LINE WEIGHT ITEMS ARE EXISTING.
 2. CONTRACTOR TO CONNECT TO EXISTING TRANSFORMER 271 00 471 25. FIELD VERIFY CONDUIT RUN PRIOR TO COMMENCING WITH WORK.
 3. DISCONNECT AND REMOVE THE EXISTING VERIZON BOXES TO INSTALL PROPOSED CONTROL PANEL.

PROPOSED ELECTRICAL SITE PLAN
NOT TO SCALE

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION PROPOSED ELECTRICAL SITE PLAN	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E2
	1			DATE:			

GENERAL NOTES

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/THWN 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. ALL ELECTRICAL WORK SHALL BE PREFORMED IN ACCORDANCE W/ THE LATEST EDITION OF THE NEC AND ALL APPLICABLE LOCAL ORDINANCES.
7. ALL THREADED CONNECTIONS SHALL BE COATED W/ COPPER SHIELD ANTI-SEIZE 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 DESIGNATED 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 IN THE WETWELL.
16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED, WITH A TRANSITION TO RIGID ALUMINUM IN THE VERTICAL RUN AT LEAST ONE FOOT PRIOR TO EMERGENCE. ALL ALUMINUM SURFACES IN CONTACT WITH SOIL, CONCRETE, AND OTHER INCOMPATIBLE MATERIALS SHALL BE COATED WITH TWO COATS OF BITUMASTIC OR OTHER APPROVED INSULATING MATERIAL.
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 IN 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 CONTRACTOR'S 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 TO 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.

SCOPE OF WORK

1. THE CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TEC). THE CITY WILL MAKE PRELIMINARY ARRANGEMENTS WITH TEC AND COMPENSATE THE UTILITY DIRECTLY FOR ANY CONTRIBUTION IN AID OF CONSTRUCTION (CIAC) REQUIRED. THE SERVICE VOLTAGE TO THIS FACILITY SHALL REMAIN 277/480 VAC, 3-PHASE, 4-WIRE, WYE. THE EXISTING METER SOCKET, EMERGENCY CONNECTOR AND LIGHTNING ARRESTOR SHALL BE DISCONNECTED AND REMOVED. PROVIDE AND INSTALL A NEW METER SOCKET, LIGHTNING ARRESTOR, AND GROUNDING SYSTEM AS SHOWN ON PLANS.
2. PROVIDE AND INSTALL A PRESTRESSED CONCRETE POLE WITH LED OUTDOOR SECURITY FIXTURE, AS SHOWN ON PLANS.
3. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET MOUNTED ON THE ANTENNA MAST. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
4. REMOVE THE EXISTING CONTROL PANEL ENCLOSURE AND ALL ASSOCIATED BOXES, SEALS, FITTINGS, AND MOUNTING HARDWARE AS SHOWN ON PLANS.
5. ANY SALVAGEABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE HOWARD F. CURREN AWT. PLANT. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER REMOVED EQUIPMENT.
6. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED PUMP CONTROLS/ SCADA/RADIO (PCSR) ENCLOSURE.
7. PROVIDE AN INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, CIRCUIT BREAKERS, AND MOTOR STARTERS AS SHOWN ON THE PLANS AND DETAILED IN THE SPECIFICATIONS.
8. RELOCATE EXISTING, OR PROVIDE AND INSTALL NEW, SCADA ANTENNA/ MAST AS SHOWN OR REQUIRED.
9. CALIBRATE AND ADJUST SETPOINTS AND ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATIONS AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
10. THE CONTRACTOR SHALL RECONNECT THE EXISTING ODOR CONTROL SYSTEM.
11. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS AS SHOWN, SPECIFIED AND REQUIRED.
12. FURNISH AND INSTALL A JUNCTION BOX CONSTRUCTED OF SHEET ALUMINUM WITH LOUVERED OPENINGS ON A CONCRETE PEDESTAL, AS SHOWN ON THE PLANS.
13. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
14. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE ADOPTED BY THE STATE OF FLORIDA AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION GENERAL NOTES AND SCOPE OF ELECTRICAL WORK	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E3
	1			DATE:			



EXISTING ODOR CONTROL BUILDING
FRONT ELEVATION
SCALE: N.T.S



EXISTING CONTROL PANEL, ODOR CONTROL
BUILDING & SCADA ANTENNA
SCALE: N.T.S

KEYED NOTES:

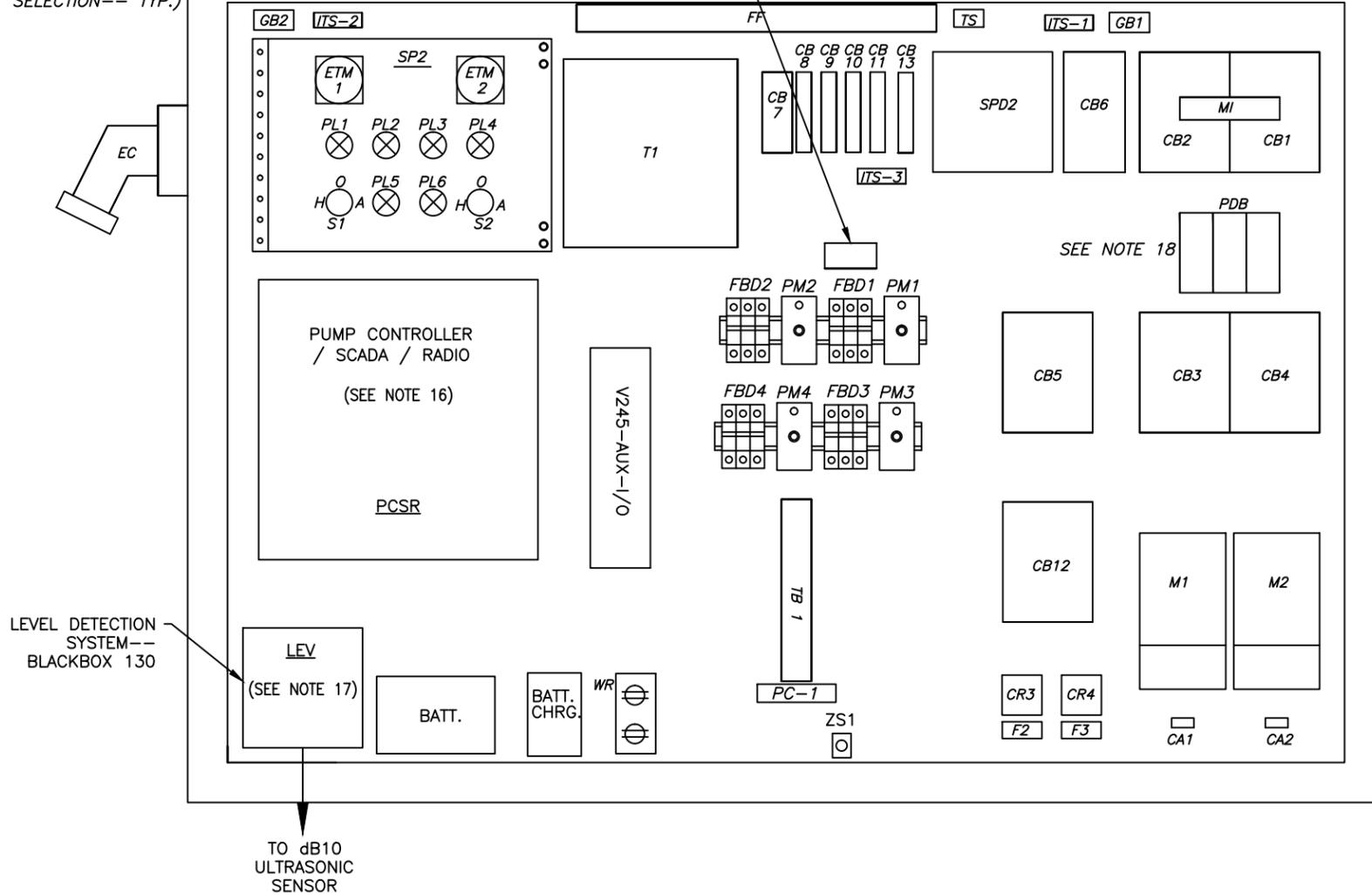
- ① EXISTING CARBON CANISTER, TO REMAIN.
- ② EXISTING 3/4 HP ODOR CONTROL BLOWER, TO REMAIN.
- ③ EXISTING ODOR CONTROL CONTROLS, TO REMAIN.
- ④ EXISTING 3/4" CONDUIT FROM ODOR CONTROL DISCONNECT TO ODOR CONTROL BLOWER MOTOR, TO REMAIN.
- ⑤ EXISTING ODOR CONTROL BUILDING, TO REMAIN.
- ⑥ EXISTING 3/4" CONDUIT FROM CONTROL PANEL TO ODOR CONTROL PUMP MOTOR, TO BE REMOVED.
- ⑦ EXISTING CONTROL PANEL, TO BE REMOVED.
- ⑧ EXISTING EMERGENCY CONNECTOR, TO BE REMOVED.
- ⑨ EXISTING 2 1/2" CONDUIT TO TECO METER, TO BE REMOVED.
- ⑩ EXISTING 3/4" CONDUIT FROM CONTROL PANEL TO SCADA CONTROLS, TO BE REMOVED.
- ⑪ EXISTING SCADA ANTENNA, TO REMAIN.
- ⑫ EXISTING TECO METER, TO BE REMOVED.
- ⑬ EXISTING 1" CONDUITS FROM CONTROL PANEL TO WET WELL, TO REMAIN.
- ⑭ EXISTING 3" CONDUITS FROM CONTROL PANEL TO WET WELL, TO REMAIN.
- ⑮ EXISTING DCR SCADA RTU CABINET, SEE SCOPE OF WORK, NOTE 2, SHEET E3, FOR REMOVAL CONDITIONS.
- ⑯ EXISTING VENT PIPE, REMOVE AND REPLACE TO INSTALL NEW CONTROL PANEL.
- ⑰ EXISTING WATER LINE, RELOCATE TO INSTALL NEW CONTROL PANEL.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWN'S PUMP STATION REHABILITATION ELECTRICAL DEMOLITION	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E4
	1			DATE:			

ENCLOSURE SIZE
42" X 60" X 12"
(ADJUST SIZE AS
NECESSARY TO SUIT
FINAL COMPONENT
SELECTION--- TYP.)

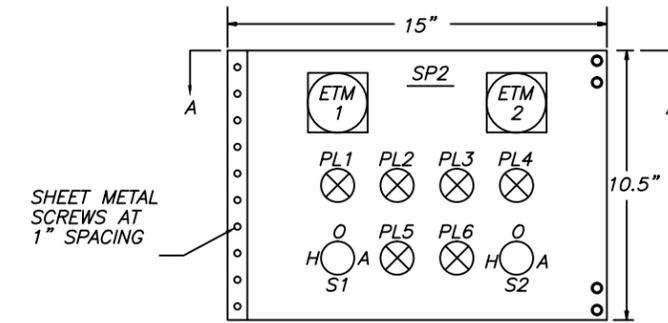
PANEL SIZE
56" X 38"

PROVIDE WARNING LABEL. LABEL TO READ:
"WARNING - OPENING MAIN CIRCUIT BREAKER DOES
NOT DE-ENERGIZE VOLTAGE TO THIS DISCONNECT".

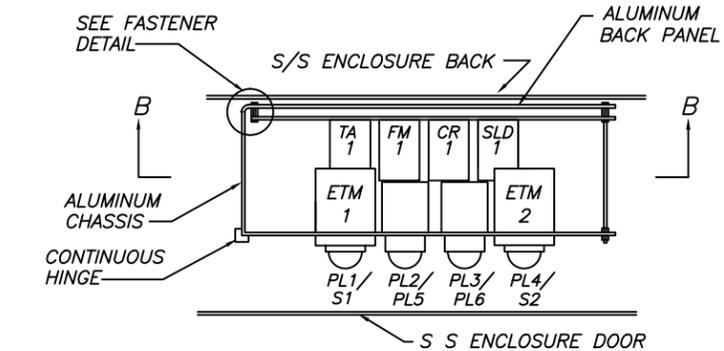


CONTROL PANEL ENCLOSURE* - FRONT VIEW

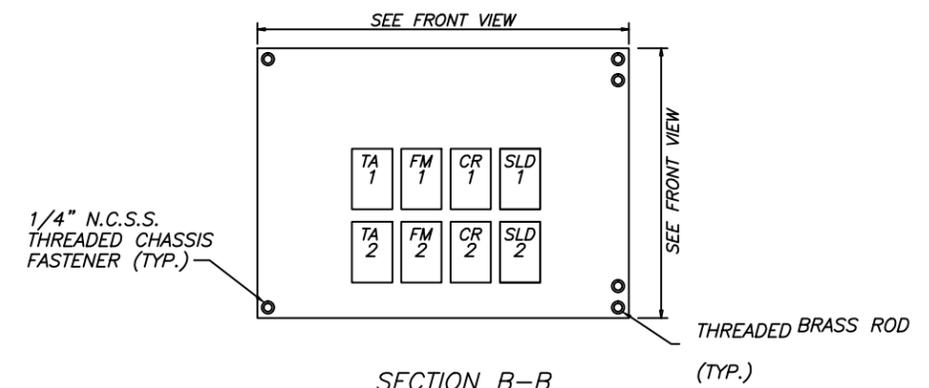
SCALE: 1/8"=1"



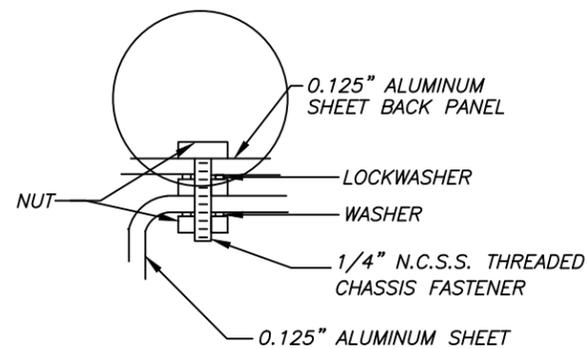
FRONT VIEW



SECTION A-A



SECTION B-B
CONTROL CHASSIS LAYOUT



FASTENER DETAIL

SEE NOTES ON SHEET E11

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

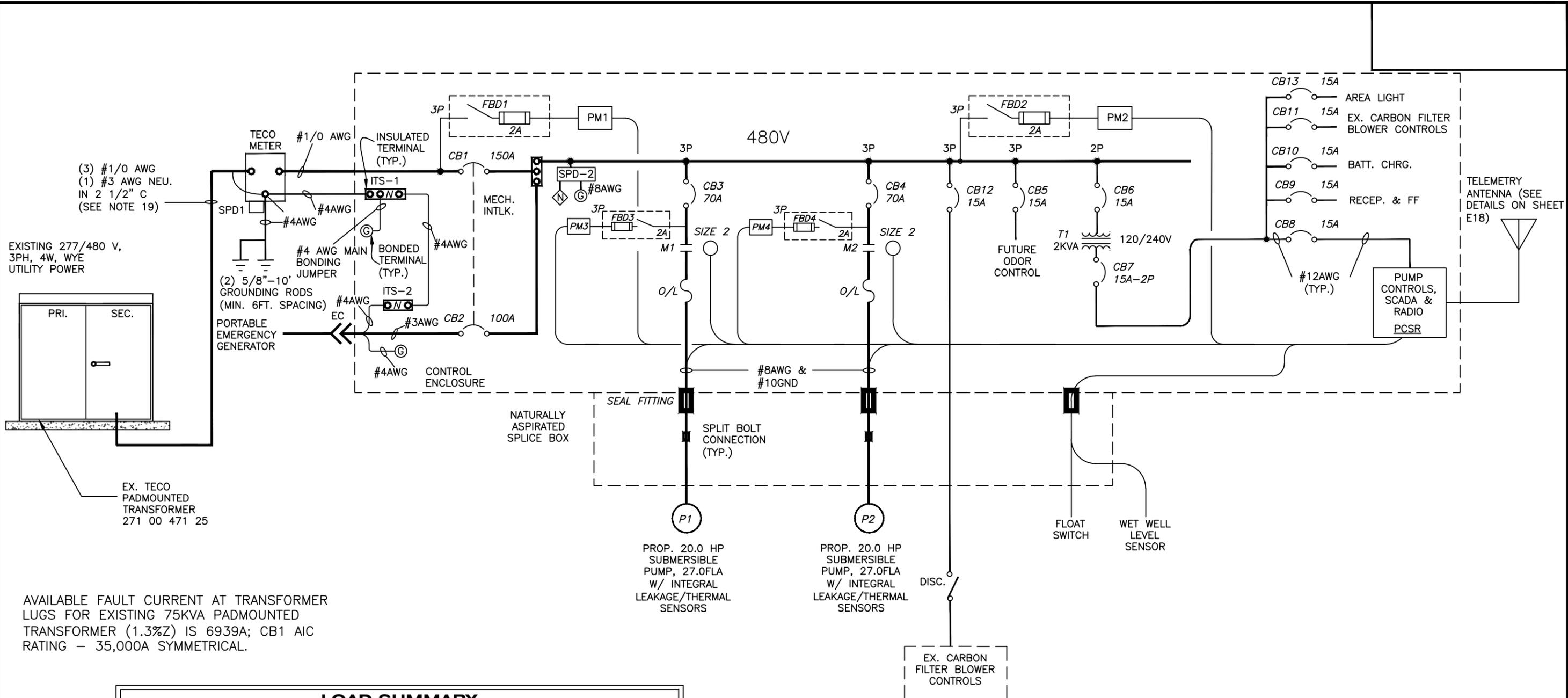
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DES: LRG
DRN: LRG
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CITY of TAMPA
WASTEWATER DEPARTMENT

DOWNSPUMP STATION
REHABILITATION
PROPOSED ELECTRICAL CONTROL PANEL LAYOUT

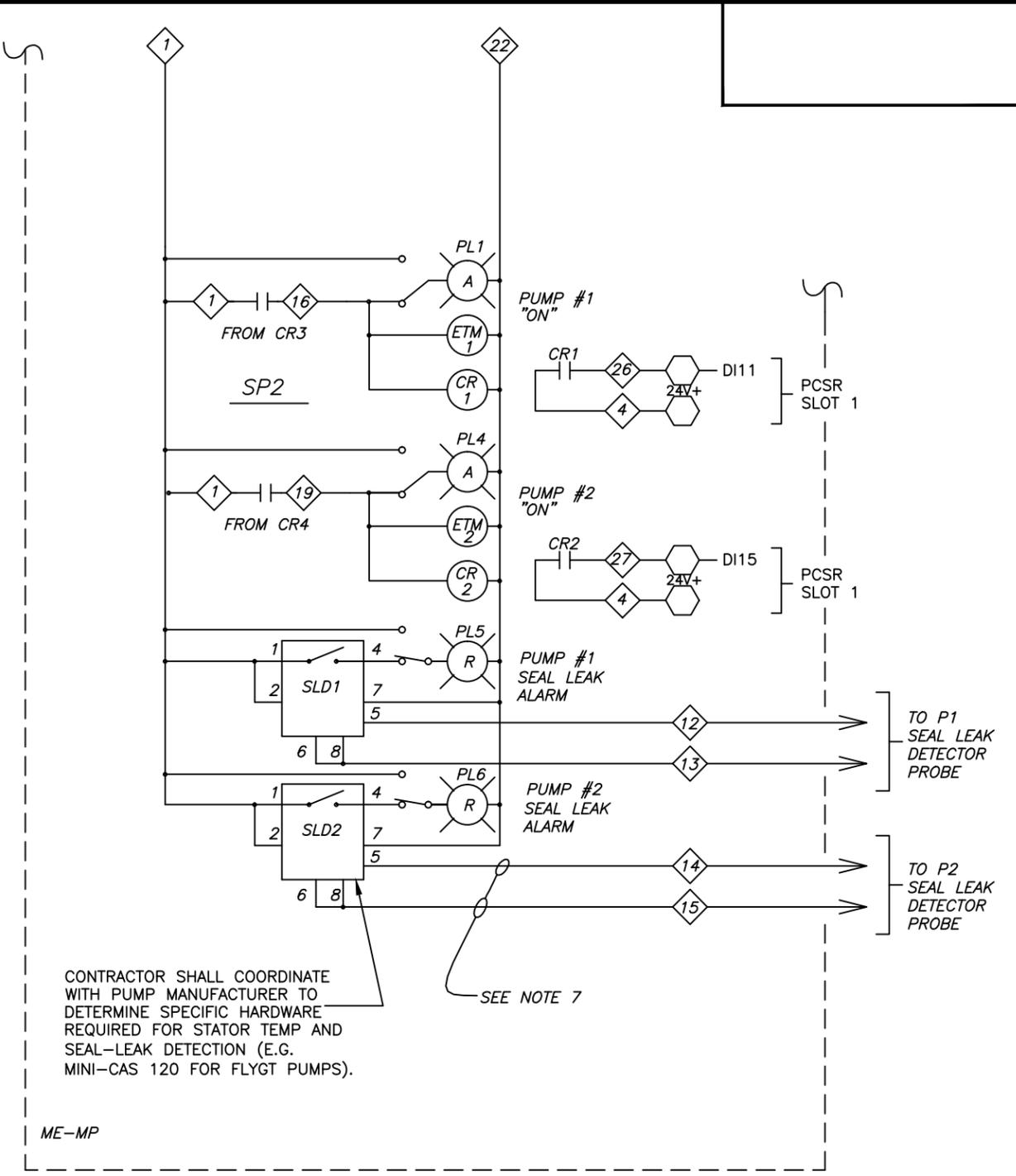
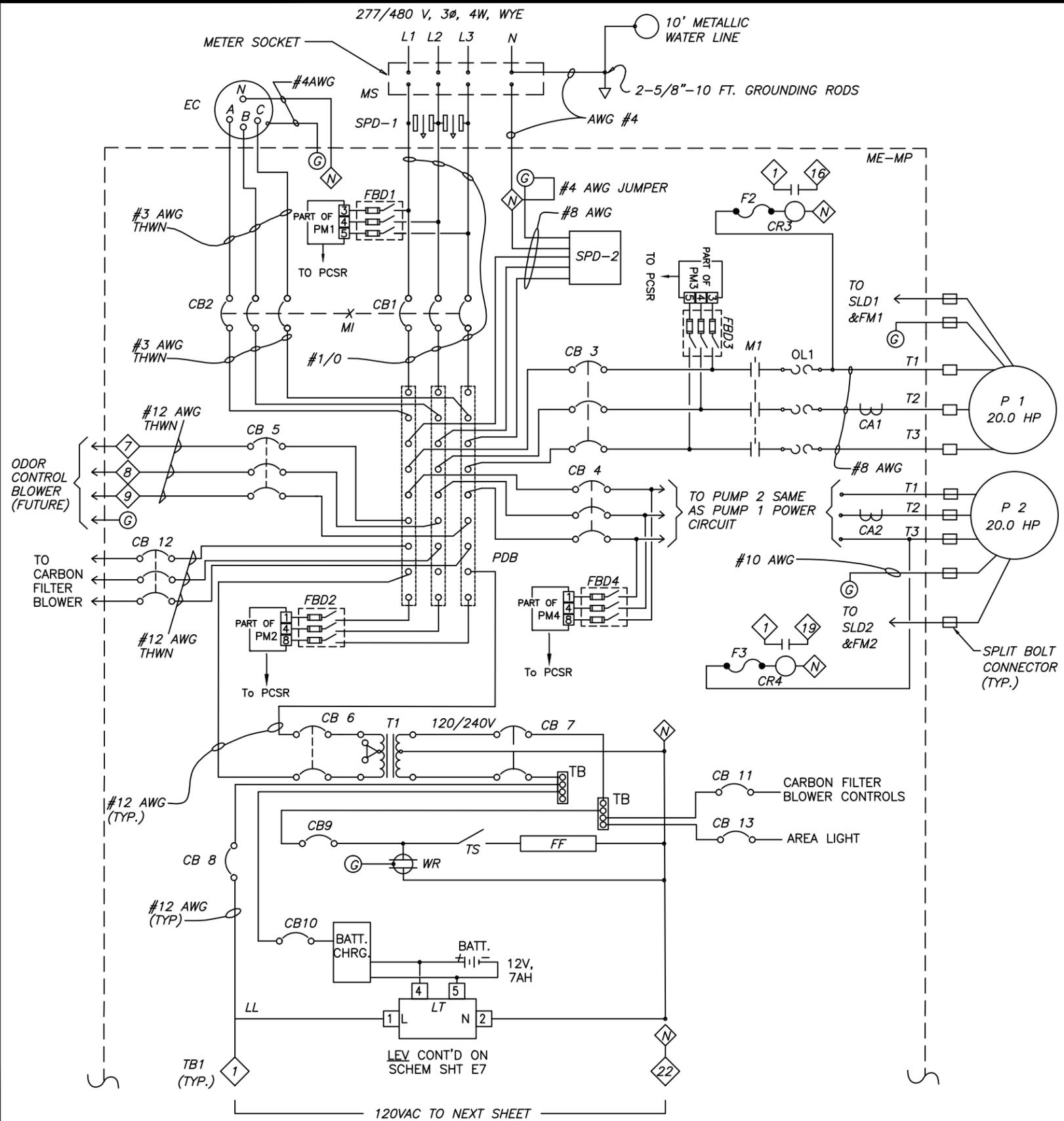
W.O. 5899
SHEET
E5



AVAILABLE FAULT CURRENT AT TRANSFORMER LUGS FOR EXISTING 75KVA PADMOUNTED TRANSFORMER (1.3%Z) IS 6939A; CB1 AIC RATING - 35,000A SYMMETRICAL.

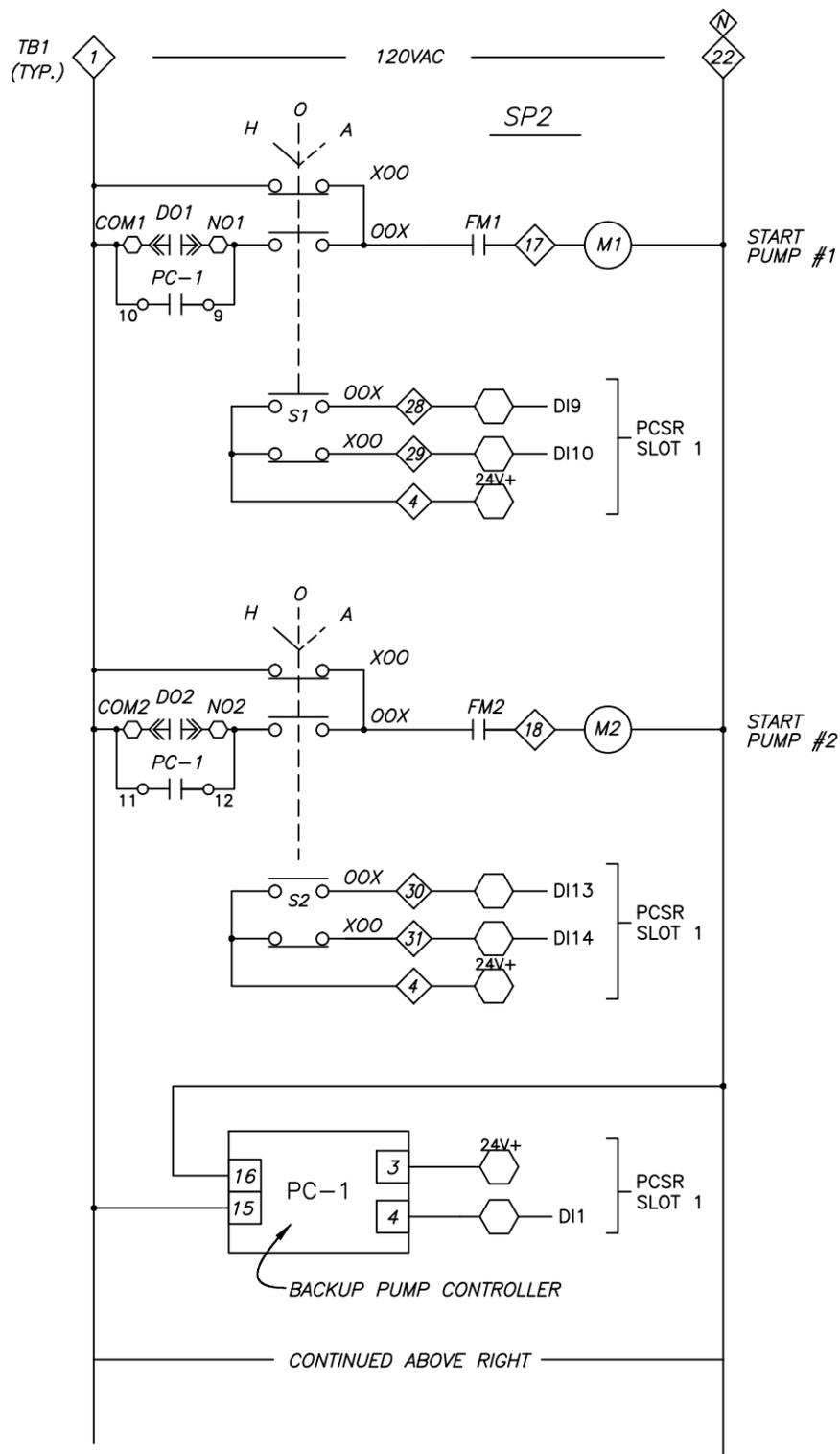
LOAD SUMMARY					
480 VAC, 3 ϕ , 4W					
LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS		
			L1	L2	L3
PUMP #1	22.4 KVA	22.4 KVA	27.0 A	27.0 A	27.0 A
PUMP #2	22.4 KVA	22.4 KVA	27.0 A	27.0 A	27.0 A
CONTROLS	2.0 KVA	2.0 KVA	4.2 A	0 A	4.2 A
CARBON FILTER	1.5 KVA	1.5 KVA	1.8 A	1.8 A	1.8 A
ODOR CONTROL	.7 KVA	.7 KVA	0.9 A	0.9 A	0.9 A
TOTAL	49.0 KVA	49.0 KVA	60.9 A	56.7 A	60.9 A

SEE NOTES ON SHEET E11

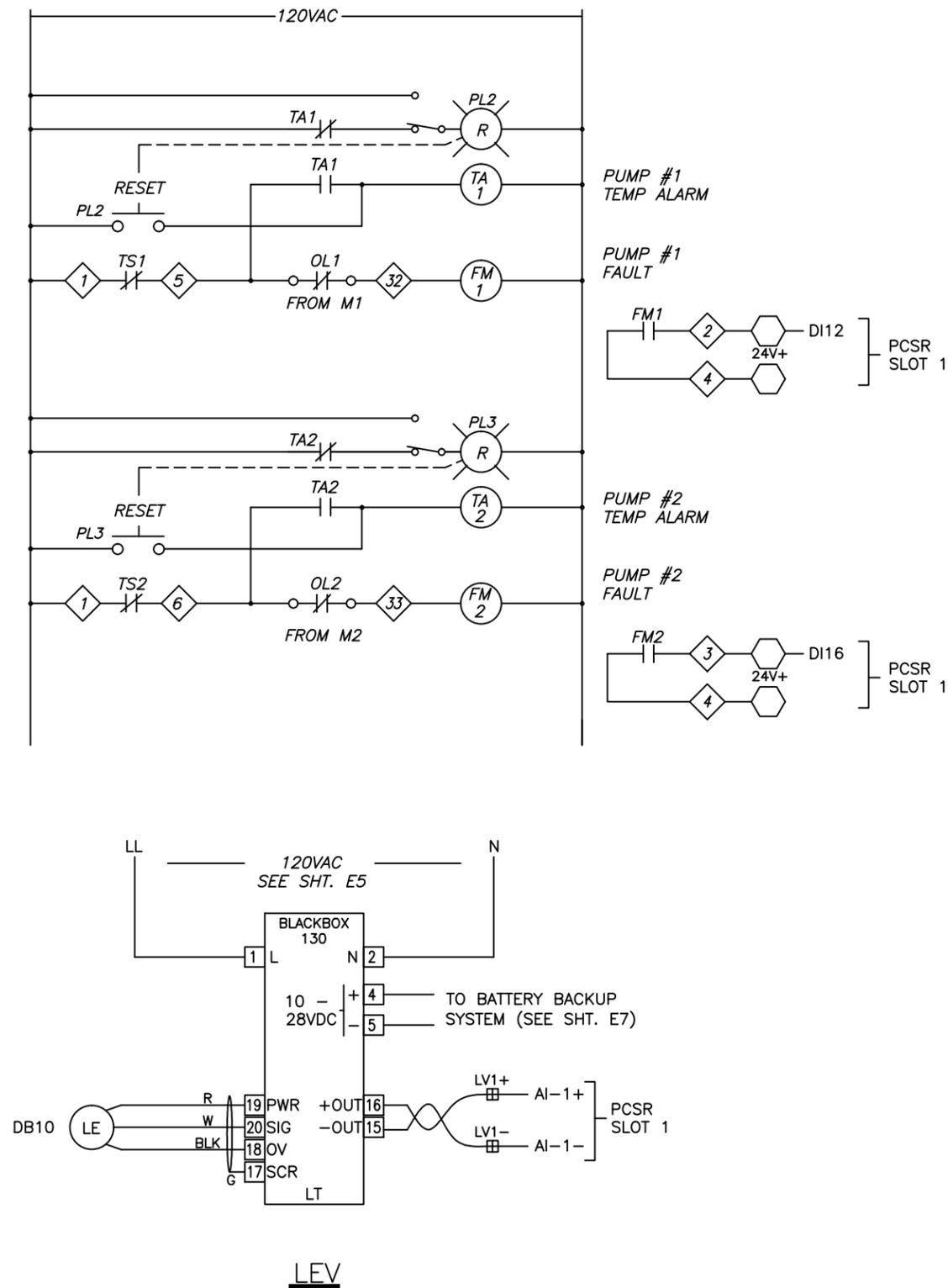


SEE NOTES ON SHEET E11

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION ELECTRICAL SCHEMATIC DIAGRAM (1 OF 3)	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E7
	1			DATE:			



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LEV

SEE NOTES ON SHEET E11

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

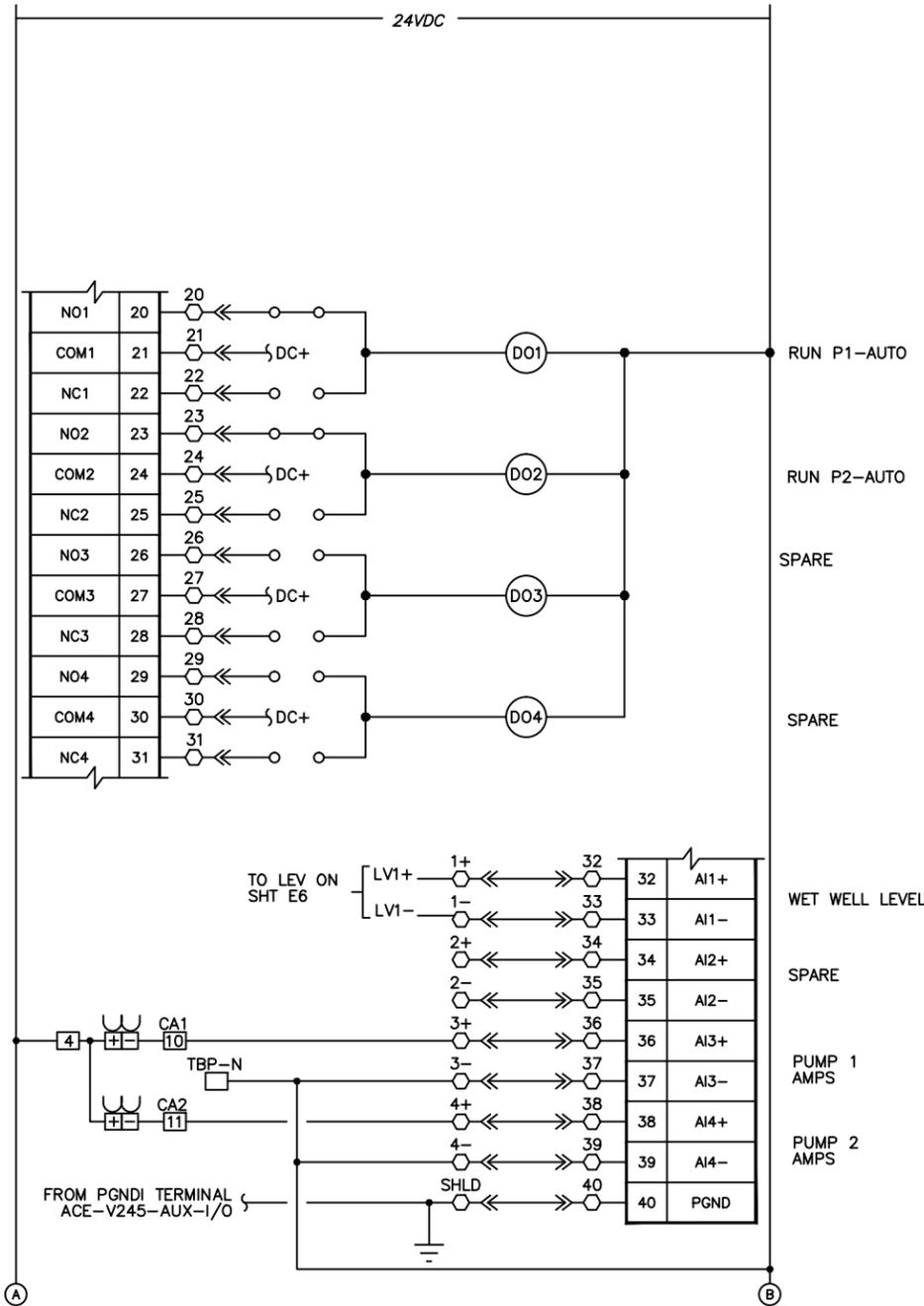
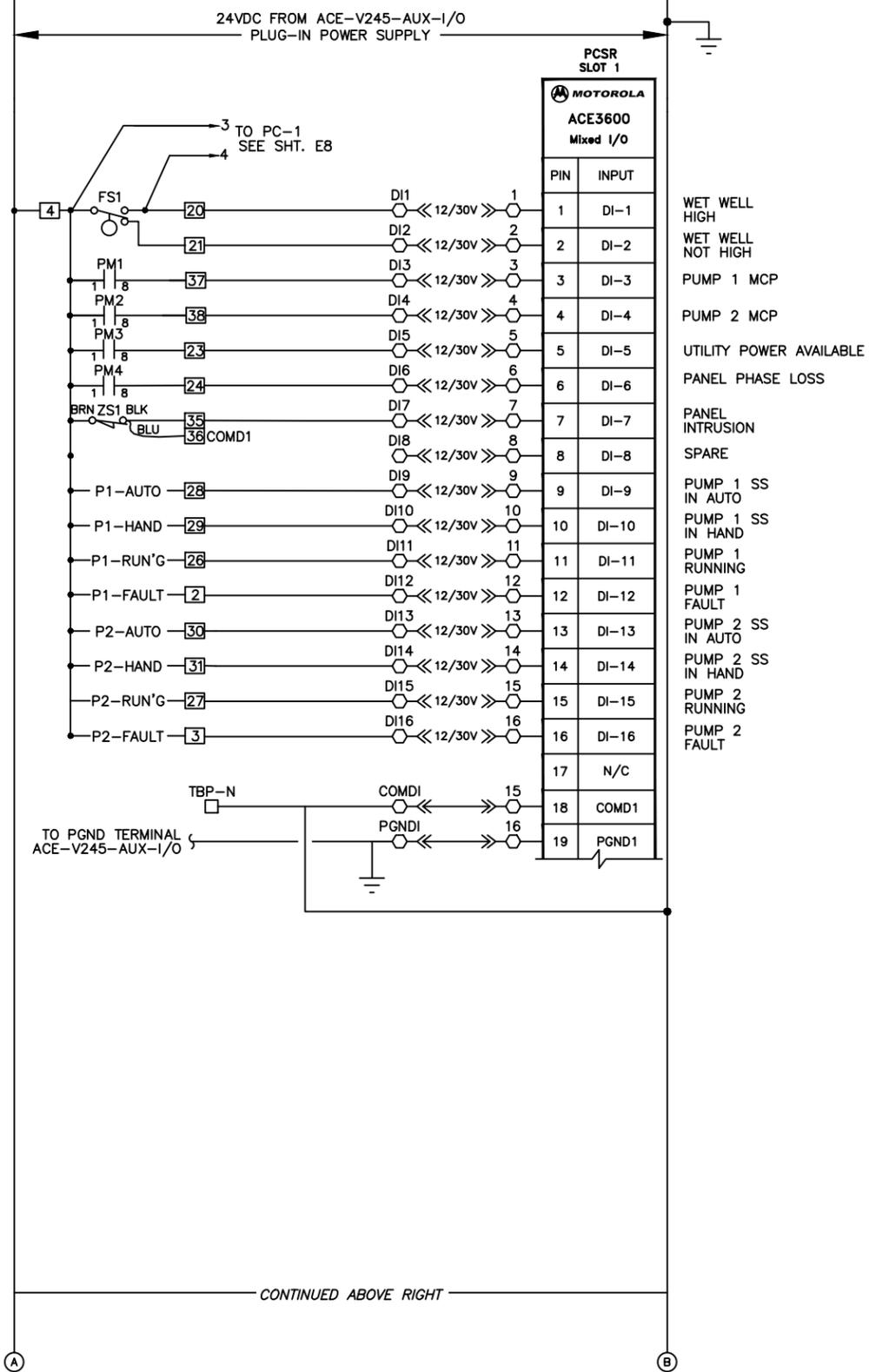
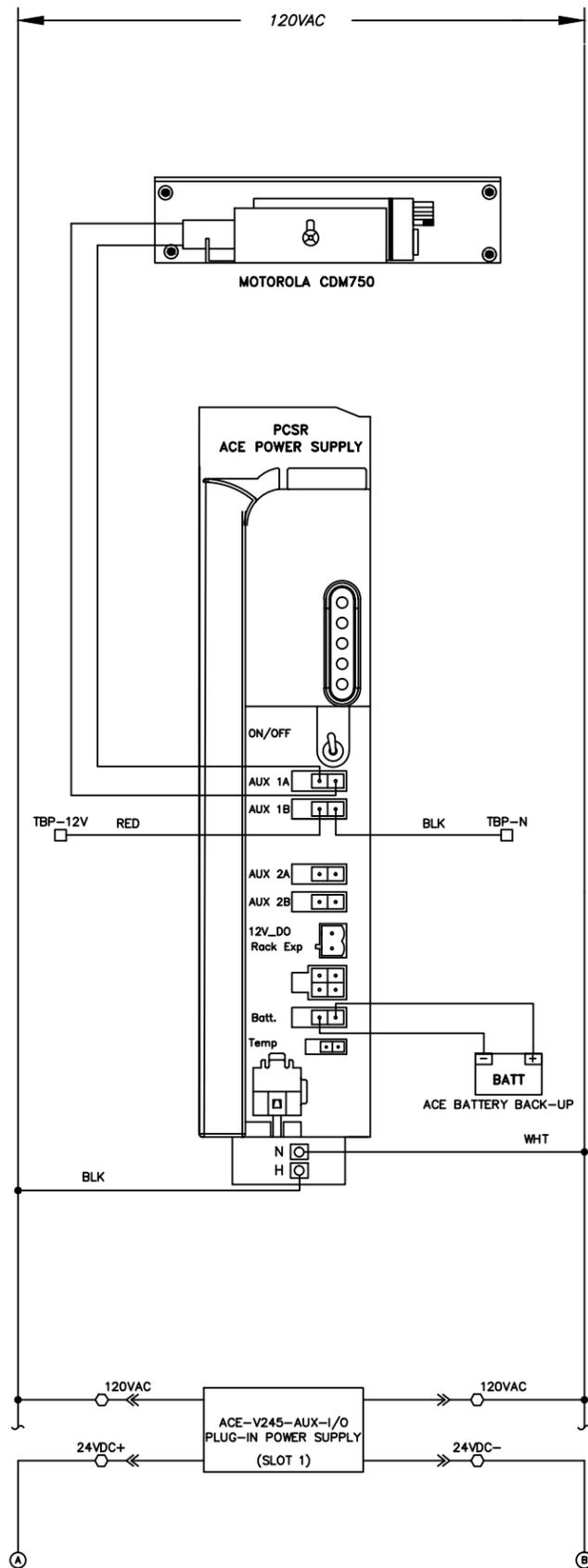
No.	DATE	REVISIONS
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CKD:
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CITY of TAMPA
WASTEWATER DEPARTMENT

DOWNSPUMP STATION
REHABILITATION
ELECTRICAL SCHEMATIC DIAGRAM (2 OF 3)

W.O. 5899
SHEET
E8



○ TERMINALS ON ACE I/O MODULE (GENERAL)
 □ TERMINALS IN PUMP CONTROL PANEL

CONTINUED ABOVE RIGHT

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

No.	DATE	REVISIONS
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DES: LRG
 DRN: LRG
 CKD:
 DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

DOWN'S PUMP STATION
REHABILITATION
 ELECTRICAL SCHEMATIC DIAGRAM (3 OF 3)

W.O. 5899
 SHEET
E9

TBI- 

MOUNTED ON MAIN
PANEL (MP)

TERM.	DESCRIPTION
1	CB 8 OUT PUMPS CONTROL POWER
2	PUMP 1 FAULT CONTROL INTERLOCK
3	PUMP 2 FAULT CONTROL INTERLOCK
4	SLOT 1 PCSR 24V+
5	STATOR TEMP SWITCH FROM P1
6	STATOR TEMP SWITCH FROM P2
7	
8	ODOR CONTROL BLOWER (FUTURE)
9	
10	PUMP 1 AMPS
11	PUMP 2 AMPS
12	P1 SEAL LEAK PROBE
13	
14	P2 SEAL LEAK PROBE
15	
16	P1 "ON" DISC.
17	M1 "RUN" CMD
18	M2 "RUN" CMD.
19	P2 "ON" DISC.
20	WET WELL HIGH
21	WET WELL NOT HIGH
22	NEUTRAL

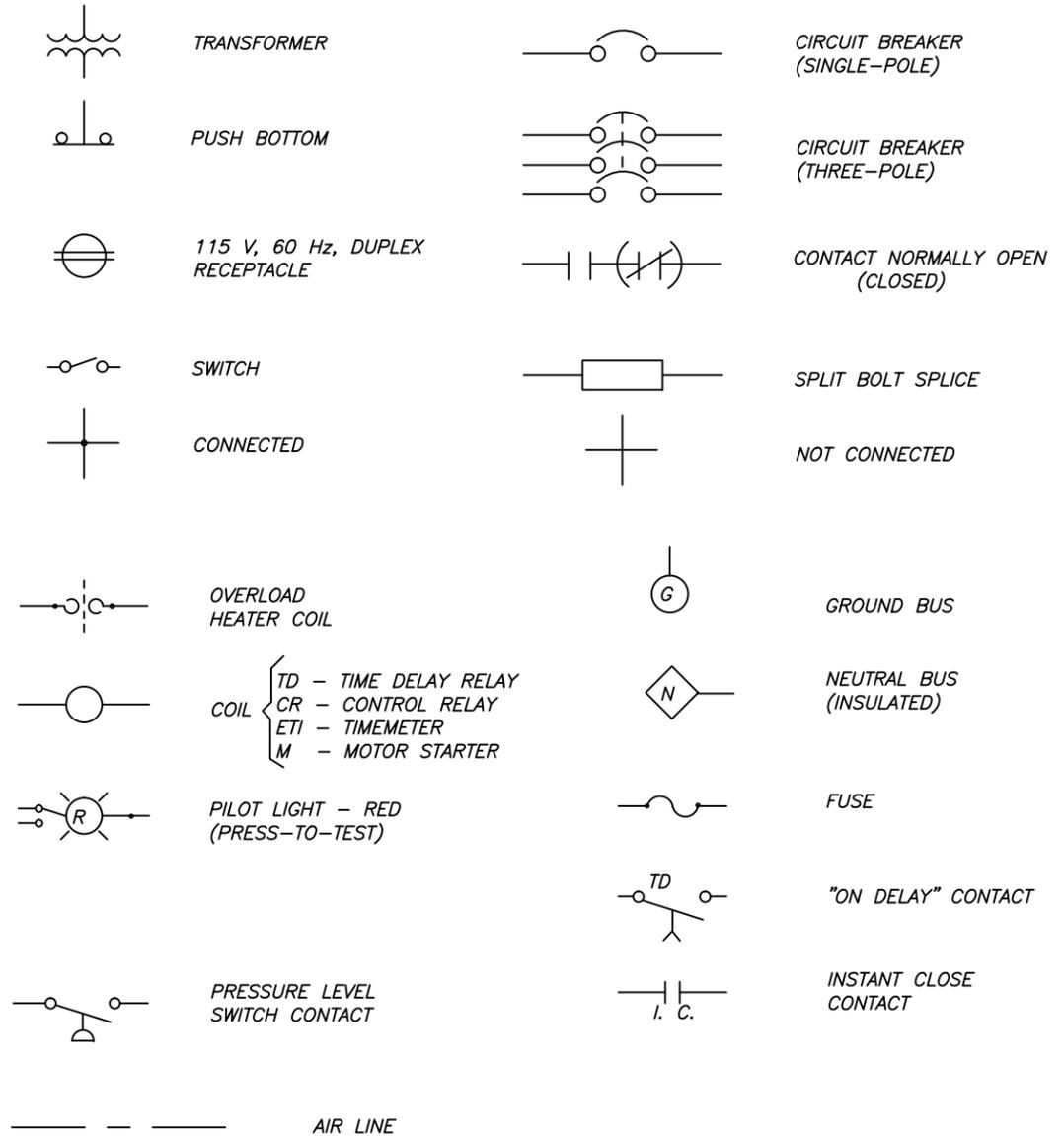
TB1 CONT'D

23	UTIL. POWER AVAILABLE
24	PANEL PHASE LOSS
25	SPARE
26	P1 "ON" TO PCSR
27	P2 "ON" TO PCSR
28	P1 "AUTO" TO PCSR
29	P1 "HAND" TO PCSR
30	P2 "AUTO" TO PCSR
31	P2 "HAND" TO PCSR
32	M1 OVERLOAD
33	M2 OVERLOAD
34	SPARE
35	PANEL INSTUSION
36	
37	PUMP 1 MCP STATUS
38	PUMP 2 MCP STATUS

x-y  TB2 TERM STRIP MTD
ON MP-- (PCSR
INTERFACE)

 TERMINAL STRIP
IN PCSR

CONTROL SCHEMATIC SYMBOLS



SEE NOTES ON SHEET E11

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

No.	DATE	REVISIONS
3		
2		
1		

DES: LRG
DRN: LRG
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

DOWN'S PUMP STATION
REHABILITATION
ELECTRICAL SCHEMATIC LEGEND

W.O. 5899

SHEET
E10

NOTES

1. TECO SERVICE: PROP. 277/480V, 3 ϕ , 4W, WYE CALCULATED FAULT CURRENT- 6939A PROPOSED 150 AMP, CB1 AIC RATING - 35,000A SYMMETRICAL.
2. THE WET WELL CLASSIFICATION IS CLASS I, DIVISION 2, GROUP D, (HAZARDOUS AREA) NEC, CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
3. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN LATEST EDITION OF THE NEC ADOPTED BY THE STATE OF FLORIDA AND CITY OF TAMPA/HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
4. 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.
5. THE ENCLOSURE SHALL BE NEMA 3, SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304 S.S. SHALL HAVE RAL 9003 WHITE POWDER COAT SURFACE, AND THE CLOSING SURFACE SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOOR WITH 3-POINT LATCH AND LOCKABLE HANDLE. REFERENCE PART SCHEDULE.
6. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
7. ALL WIRING SHALL BE COPPER. ALL CONTROL WIRING SHALL BE STRANDED THWN COPPER, MINIMUM AWG #14, AND SHALL HAVE SPADE LUG TERMINATIONS.
8. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY BUT INSTALLED BY CONTRACTOR.
9. DIMENSIONS, ITEMS, OR ELEVATIONS MARKER '*' TO BE DETERMINED AFTER EQUIPMENT SELECTION.
10. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURERS SPECIFICATIONS.
11. INSTALL LAMINATED SCHEMATIC AND LAMINATED DATA SHEET ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
12. ENSURE THAT THE LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT ROTATION.
13. ROUTE AND SECURE SERVICE ENTRANCE CONDUCTORS SO AS NOT TO INTERFERE WITH OR CONTACT EQUIPMENT AND COMPONENTS IN THE PANEL. ALSO, PROVIDE SPACING BETWEEN THE ENCLOSURE AND ALL CONDUCTORS.

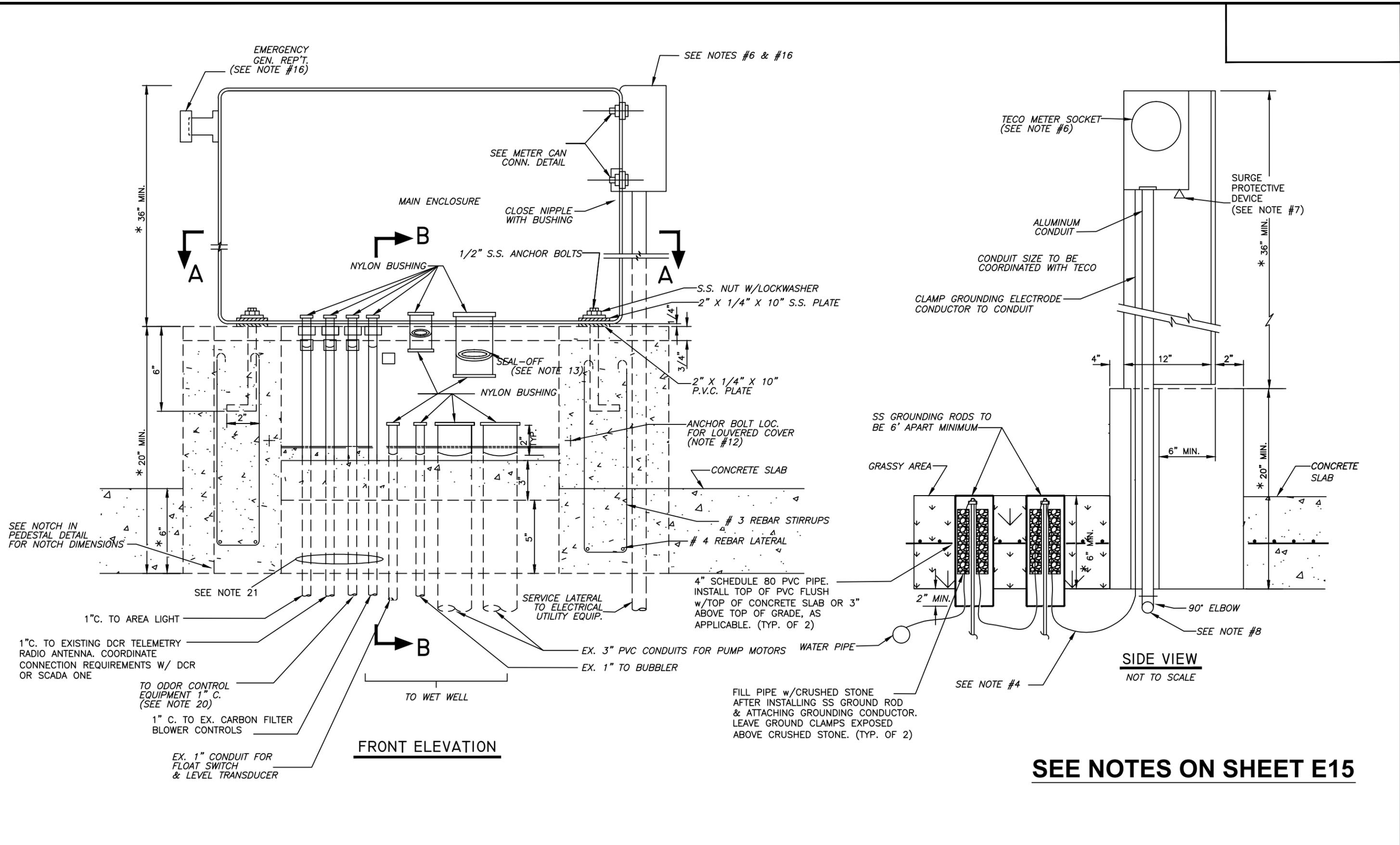
14. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACKPANEL WITH MECHANICAL FASTENERS. FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
15. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
16. THE PCSR SHALL BE A MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC. OR SCADAONE, LLC. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH DCR OR SCADAONE TO ENSURE SYSTEM COMPATIBILITY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE DUPLEX CONTROL SYSTEM/SCADA PACKAGE, AS PROGRAMMED BY DCR OR SCADAONE-- THE EXISTING PUMPING STATION DCR CONTROLS SHALL REVERT TO THE CITY AS A SPARE.
17. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20 mA 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 STAINLESS STEEL BRACKET, SEE PULSAR MOUNTING BRACKET DETAIL, SHEET E14. THE EXISTING PUMPING STATION WET WELL LEVEL DETECTION SYSTEM SHALL REVERT TO THE CITY AS A SPARE.
18. PROVIDE 1/4" MINIMUM THICKNESS LEXAN SHIELDS OVER POWER DISTRIBUTION BLOCK AND OTHER EXPOSED CABLE TERMINATIONS.
19. REMOVE AND REPLACE EXISTING ABOVE GRADE CONDUIT AND REUSE THE BELOW GRADE PVC CONDUIT FROM THE TECO METER TO THE EXISTING PAD MOUNTED TRANSFORMER 271 00 47 25, REPLACE ALL CONDUCTORS. FIELD VERIFY LOCATION OF EXISTING PAD MOUNTED TRANSFORMER PRIOR TO COMMENCING WITH WORK.

PUMP MOTOR DATA

MAKE: FLYGT
 MODEL: NP3153.181
 HP : 20.0
 460 V, 3 PHASE, 26.0 FLA

TOTAL PUMP LOAD: 52 AMPS, 43.2 KVA

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION ELECTRICAL NOTES FOR SHEETS E5 - E10	W.O. 5899
	3			DRN: LRG			EII
	2			CKD:			
	1			DATE:			



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

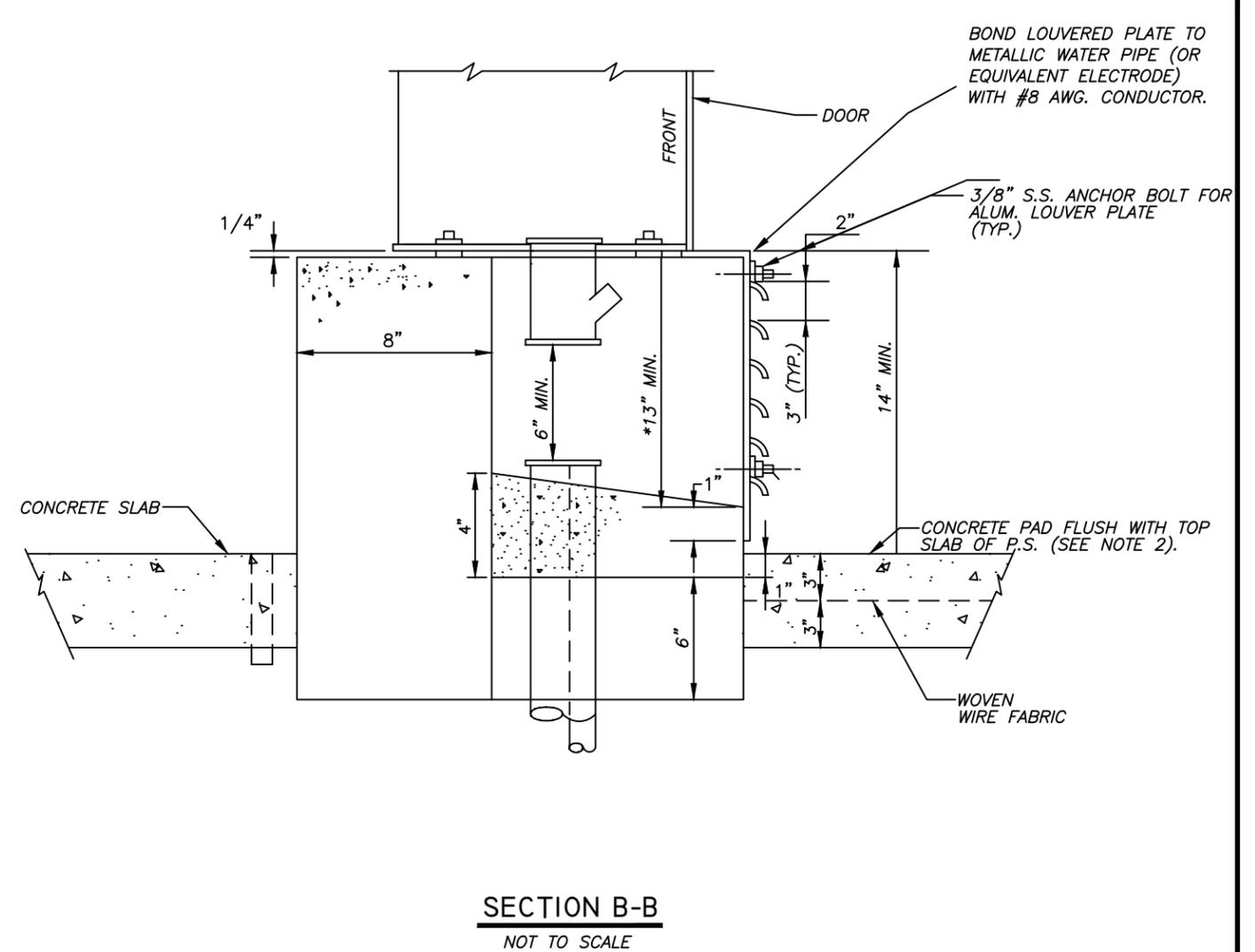
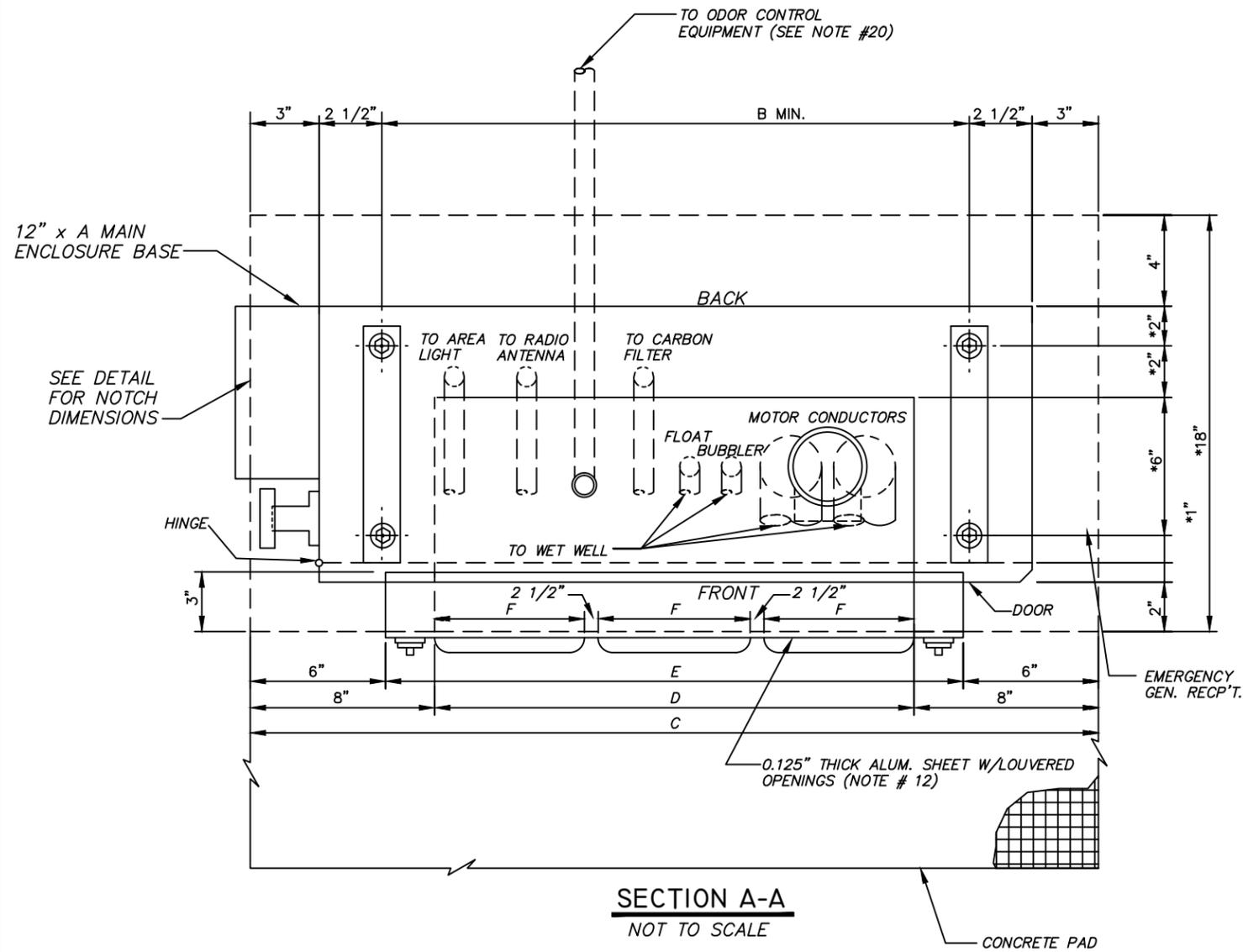
No.	DATE	REVISIONS
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DES: LRG
DRN: LRG
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

DOWN'S PUMP STATION
REHABILITATION
ELECTRICAL PEDESTAL DESIGN

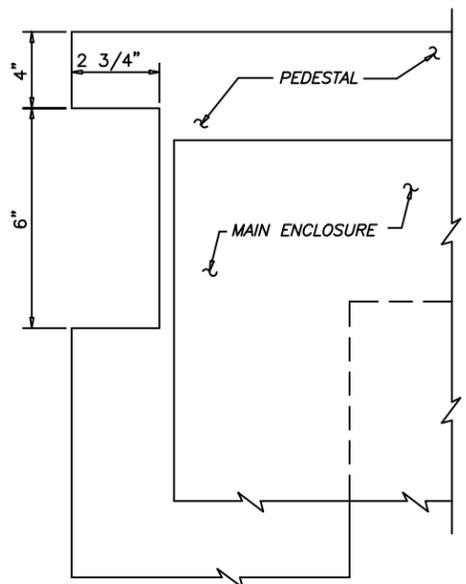
W.O. 5899
SHEET
E12



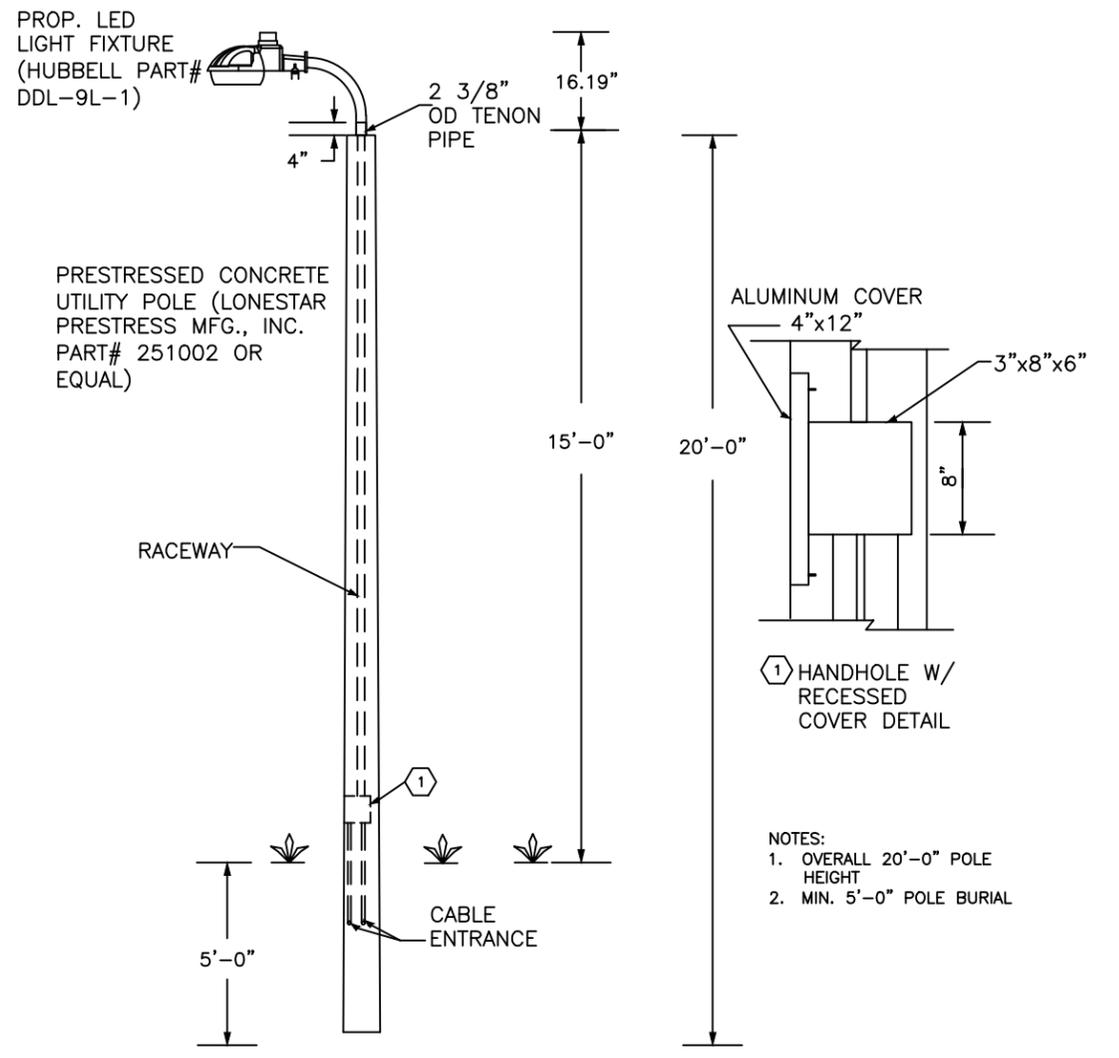
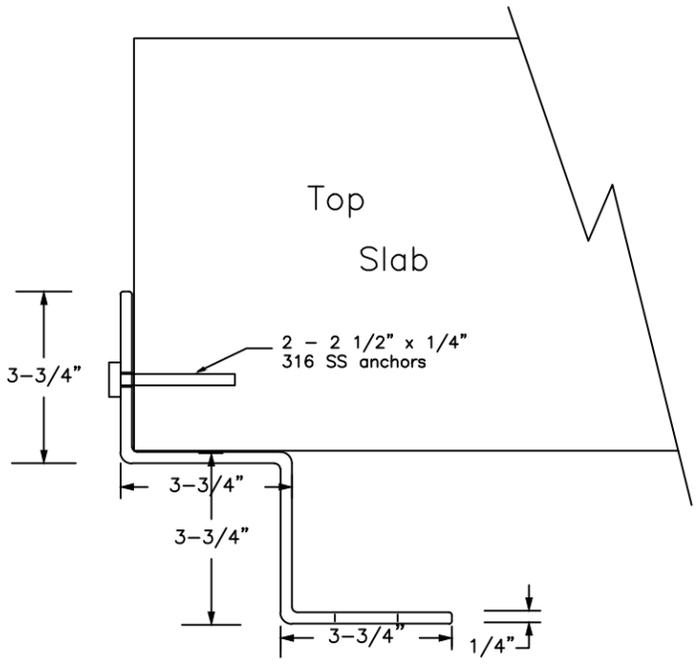
PUMP SIZE	DIMENSIONS (INCHES)						ENCLOSURE SIZE
	A	B	C	D	E	F	
20.0 HP @ 480V	60	55	66	50	54	15	42"H X 60"W X 12"D

SEE NOTES ON SHEET E15

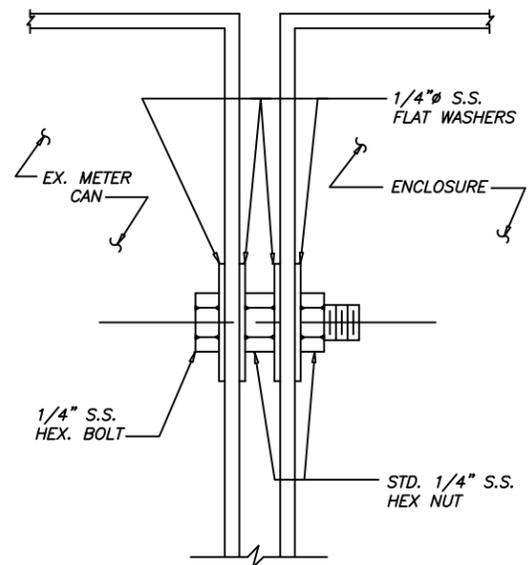
ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION ELECTRICAL PEDESTAL DESIGN	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E13
	1			DATE:			



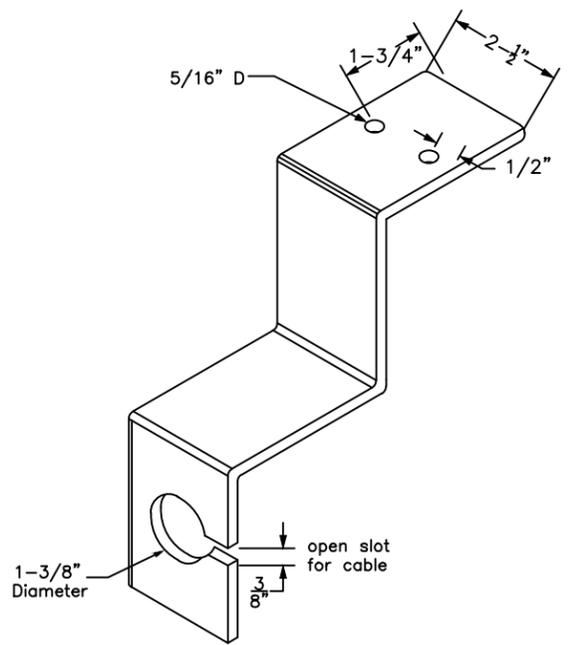
NOTCH IN PEDESTAL DETAIL
NOT TO SCALE



AREA LIGHT DETAIL
NOT TO SCALE



METER CAN CONNECTION
NOT TO SCALE



PULSAR MOUNTING BRACKET DETAIL
NOT TO SCALE

- NOTES:
 1. ROUND OVER ALL EDGES
 2. RADIUS ALL CORNERS
 3. USE 316 STAINLESS STEEL MATERIAL

- NOTES:
 1. OVERALL 20'-0" POLE HEIGHT
 2. MIN. 5'-0" POLE BURIAL

SEE NOTES ON SHEET E15

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION ELECTRICAL DETAILS	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E14
	1			DATE:			

NOTES:

1. THWN CONDUCTORS (3-#8 AWG & 1-#10 GND. FOR EA. MOTOR) SHALL EXTEND FROM THE CONTROL PANEL BELOW THE SEAL-OFF A MINIMUM OF 18" AND SHALL BE SEALED IN THE SEAL-OFF SHOWN. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENTS. WHEN INSTALLING THE PUMPS, THE MOTOR CONDUCTORS SHALL BE SPLICED USING SPLIT BOLTS. FOR INSULATION, USE MATERIALS THAT ARE RECOMMENDED BY MANUFACTURER TO EQUAL INSULATION ON CONDUCTORS. FOLLOW THE SAME PROCEDURE FOR THE LEAKAGE AND THERMAL SENSOR CONDUCTORS.
2. RESERVED.
3. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
4. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED STAINLESS STEEL GROUNDING RODS (MINIMUM SPACING 6'-0") AND THE METALLIC WATER LNE. GROUNDING CONDUCTOR SHALL BE AWG #4 MIN. STRANDED BARE COPPER, CLAMP TO CONDUIT.
5. THE CONTRACTOR SHALL PROVIDE AND INSTALL A 316 S.S. MOUNTING BRACKET TO SUPPORT THE DB10 TRANSMITTER. THE BRACKET SHALL BE INSTALLED IN THE WET WELL. CITY INSTRUMENTATION PERSONAL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATIONS.
6. METER SOCKET SUPPLIED AND INSTALLED BY CONTRACTOR, ALSO SEE NOTE #16. THE SOCKET EDGES ARE TO BE ALIGNED WITH THE BACK AND TOP EDGE OF MAIN ENCLOSURE.
7. CITY APPROVED TYPE 1 SURGE PROTECTIVE DEVICE/LIGHTNING ARRESTOR TO BE INSTALLED BY CONTRACTOR ON LOAD SIDE OF METER SOCKET.
8. ELBOWS TO BE LONG BUSHED AND THE EXISTING HORIZONTAL PVC CONDUIT SHALL BE REUSED AND EXTEND TO AN EXISTING TECO OWNED HANDHOLE AS SHOWN ON PLANS. COORDINATE THIS WORK WITH TECO.
9. RESERVED.
10. WATER SERVICE RISER TO BE LOACTED ON THE SIDE OF PANEL OPPOSITE TO THE TECO METER BOX.
11. ALUMINUM CONDUIT SURFACE THAT IS 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.
12. FRONT OF OPEN SPACE TO BE COVERED BY A LOUVERED ALUM. METAL SHEET (MIN. THICKNESS 0.125) AND FASTENED WITH MIN. OF FOUR 3/8" STAINLESS STEEL BOLTS ANCHORED IN THE CONCRETE. THE LOUVERED ALUM. SHEET SHALL BE PROPERLY BONDED TO EXISTING METALLIC WATER PIPE USING MINIMUM #8 AWG EXTRA FLEXIBLE GROUNDING CONDUCTOR.
13. SEAL-OFF TO BE CAST ALUMINUM AND SIZED FOR CONDUCTORS. ALL CONDUITS AND SEAL-OFFS SHALL HAVE BUSHINGS.
14. ENSURE THAT SEALING FITTING CONNECTIONS TO MAIN ENCLOSURE IS GAS TIGHT, USE HIGH QUALITY SEALING LOCKNUTS OR WATER TIGHT HUBS WITH A SUPPLEMENTAL BARRIER (IF NECESSARY) TO EXCLUDE GASES.
15. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
16. TECO PREFERS STRAIGHT UNDERGROUND SERVICE CONNECTION TO THE METER BOX. TO AVOID ANY CONFIGURATION CHANGES, THE ENCLOSURE HOLES FOR THE METER BOX AND EMERGENCY CONNECTOR SHALL BE CUT AFTER THE TECO ROUTING IS VERIFIED AT THE TIME OF INSTALLATION. THE LENGTH OF CONDUCTORS FROM TECO AND EMERGENCY SERVICES WILL DEPEND ON THE SELECTED CONFIGURATION.
17. 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.
18. TOP OF ENCLOSURE SHALL BE A MAXIMUM OF 66" ABOVE FINAL GRADE.
19. EXTEND CONCRETE PAD SUCH THAT IT IS FLUSH W/ PUMPING STATION TOP SLAB.
20. PROVIDE AND INSTALL 1" PVC CONDUIT FOR FUTURE ODOR CONTROL EQUIPMENT AS SHOWN. EXTEND CONDUIT TO EDGE OF PAVEMENT, TURN UP, AND CAP ABOVE GRADE.
21. FOR ANY CONDUIT NOT EXTENDING TO THE WET WELL, USE COATED RIGID ALUMINUM FOR RISER, MYERS HUB, AND UNY TYPE EXPLOSION PROOF UNION.
22. PROVIDE AND INSTALL A PRESTRESSED CONCRETE POLE WITH A LED OUTDOOR SECURITY FIXTURE.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWN'S PUMP STATION REHABILITATION ELECTRICAL NOTES FOR SHEETS EI2-EI4	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E15
	1			DATE:			

PARTS SCHEDULE

SYMBOL	NAME	P A R T				R E M A R K S
		M A K E	T Y P E	MODEL or CAT. #	R A T I N G	
CB 1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HGL 36150	600 V, 150 A	35 KAIC @ 480 VAC
CB 2	CIRCUIT BREAKER	SQUARE D	THREE POLE	HGL 36100	600 V, 100 A	35 KAIC @ 480 VAC
CB 3, 4	CIRCUIT BREAKER	SQUARE D	THREE POLE	FAL 34070	480 V, 70A	
CB 5, 12	CIRCUIT BREAKER	SQUARE D	THREE POLE	FAL 34015	480 V, 15A	
CB 6	CIRCUIT BREAKER	SQUARE D	TWO POLE	FAL 24015	480 V, 15A	
CB 7	CIRCUIT BREAKER	SQUARE D	TWO POLE	FAL 22015	240 V, 15A	
CB 8, 9, 10, 11, 13	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU 115	120 V, 15A	
M1, 2	MOTOR STARTER	SQUARE D	NEMA SIZE 2	CLASS 8536 TYPE SD01V02	120 V, (COIL)	25 HP (MAX) 1 N.O.
OL 1, 2	OVERLOAD RELAY	SQUARE D	BIMETALLIC, AMBIENT COMPENSATED	AR51	25.0 - 26.9	
T1	TRANSFORMER	SQUARE D	DRY TYPE, NEMA 3R	CLASS 7400- 2S1F	480 V PRI, 120/240 V SEC.	2KVA
CA1, CA2	CURRENT SENSOR	ENERCORP INSTRUMENTS	4-20 mA OUTPUT	SC200-1	0 - 50A	ADJUSTABLE RANGE
PL1, PL4	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST
PL5, PL6	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST
F2, F3	FUSE BLOCK	SQUARE D	CLASS 9999	SF3	600 V	SCREW TERMINALS
WITH	FUSE	BUSSMANN		KTK	600 V, 1.0 A	
PL2, PL3	ILLUM. PUSH BUTTON	SQUARE D	CLASS 9001	SK2L38LRRH13	120 V, LED TYPE	RED LENS & INO, INC
S1, S2	HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V	
ETM1, ETM2	ELAPSE TIME METER	CRAMER	NON-RESET	635E&S	120 V	W.W. GRAINGER CAT.NO. 6X144
ZS1	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5E1 (GRAINGER- 6C826)	10-30VDC, 3-WIRE PNP	W/ SQUARE D MTG. BRACKET (GRAINGER- 5B233)
FF & TS	FLUORESCENT FIXTURE	DAYTON	INDUSTRIAL	2 V 811	120 V 20w	W/TOGGLE SWITCH-TS AND TUBE GUARD
WR	WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/UTILITY BOX AND COVER
EC	EMERGENCY CONNECTOR	CROUSE & HINDS	ARKTROL	AR-1047-S22 w/AJA6 ANGLE ADAPTER	600 V, 100 A	MALE
SPD-2	SURGE PROTECTIVE DEVICE	ADVANCED PROTECTION TECHNOLOGIES	MAIN PANEL SPD-2	TE04XDS104X	277/480 V, 3Ø WYE	
MI	MECHANICAL INTERLOCK	SQUARE D	SLIDING BAR TYPE	S29354	UL LISTED	INTERLOCK CB-1 & 2
MS	METER SOCKET	MILBANK	7-TERMINAL W/BYPASS	UAP9701-X-QG-HSP	480 VAC, 200A	ALUM. CONSTRUCTION

PARTS SCHEDULE IS CONTINUED ON NEXT SHEET

NOTES:

1. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY 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	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION PARTS SCHEDULE (1 OF 2)	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E16
	1			DATE:			

PARTS SCHEDULE (CONT'D)

SYMBOL	NAME	P A R T			R A T I N G	R E M A R K S
		M A K E	T Y P E	M O D E L or CAT. #		
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S20N0NC	10 A @ 120 V	
SPD1	LIGHTNING ARRESTOR	GENERAL ELECTRIC	TRANQUEL	9LI 15 ECC 001	650 V	
ITS-1	INSULATED TERMINAL STRIP	BUSSMANN	SERIES PDB	PDB321-1	600 V AC	WIRE RANGE 2/0 TO 8 AWG
ITS-2	INSULATED TERMINAL STRIP	BUSSMANN	SERIES 160, 162, 163, & 165	PDB16200-1	600 V AC	WIRE RANGE #2 TO #14 AWG Cu
ITS-3	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/SHORTING BARS
ME	CONTROL ENCLOSURE *	QUALITY METALS	NEMA 3 THREE POINT LATCH	42"X60"X12" SS 3	304 SS, 14 GAUGE	TWO DOORS W/ DOOR STOP KITS- EXTERNAL FINISH DURABLE RAL 9003 WHITE POWDERCOAT
MP	ENCLOSURE PANEL *	QUALITY METALS	56"X 38", STEEL		STEEL, 12 GAUGE	
GB 1, 2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
SLD1, SLD2	SEAL LEAK DETECTOR	SYRELEC (MINI-CAS120 FOR FLYGT)	8 PIN PLUG-IN	PNRU110	110V INPUT, 10A CONTACT	SPDT W/SOCKET
TA1, TA2, FM1, FM2 CR1, CR2	CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG-IN	KRPA-11AG-120	120V COIL, 10A CONTACTS	PANEL MOUNTING
CR3, CR4	CONTROL RELAY	SQUARE D	NEMA TYPE RELAY	8501-X020-V04 277	277V COIL, 10A CONTACTS	
LEV	WET WELL LEVEL SENSOR	PULSAR, INC.	ULTRASONIC	dB10 TRANSDUCER W/ BLACKBOX 130 TRANSMITTER PART #: 130-110-300-00P-KP-TROP	1 TO 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
TB 1	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUMINUM DIN RAIL	38 CONTACTS (MIN)
						1- 10.0 Ah BATTERY
PCSR	PLC BASED PUMP CONTROLLER, SCADA, AND RADIO SYSTEM	MOTOROLA CORPORATION	DUPLEX PUMP CONTROLLER BASED ON ACE 3600 PROGRAM CONTROLLER	ACE 3600 W/ UHF RADIO CDM 750, 403-512 MHz PART #: F7564	1-AC POWER SUPPLY 85-264V W/ BAT CHARGER PART #:V261	COORDINATE EFFORT W/ SCADA INTEGRATOR
	SLOTS 1 & 2	MOTOROLA CORPORATION	1- MIXED I/O AUXILLARY INTERFACE BOARD PART #: V245-AUX-I/O	1- 40 WIRE CABLE W/TB HOLDER 3M PART #: V358	1- ACE CPU3640 PART #:V446	PART #: V328
	1-3 I/O SLOT FRAME PART #: V103	1-20 PIN TB HOLDER KIT PART #: V158	1- 14x 14 METAL CHASSIS PART #: V214	2- 16DI, 4DO(E), 20mA MODULE PART #: V245	1- 40 PIN TB HOLDER KIT PART #:V153	
PM1, PM2, PM3, PM4	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SLA-440-ASA	440 VAC	W/OPTIONAL 5-SEC. RELEASE AND DIN RAIL SOCKET
PDB	PWR DIST. BLOCK	ILSCO	THREE POLE	PDB-26-2/0-3	600 V, 350 AMP	W/ LEXAN COVER
FBD1, FBD2, FBD3, FBD4	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
BATT.	BATTERY	POWERSONIC	ABSORBENT GLASS MAT (AGM)	PS-1270 F2	12 VOLT, 7.0 AH	W/ 0.25" X 0.032" TABS
BATT. CHR.G.	BATTERY CHARGER	DELTRAN CORP.	BATTERY TENDER	WATERPROOF 800	12 VOLT, 800 mADC	QUALIFICATION, BULK, & FLOAT CHARGING
PC-1	BACKUP PUMP CONTROLLER	DCR ENGG. OR WILKERSON	DUPLEX LIFT STATION	BR560 OR DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING

NOTES:
DIMENSIONS, ITEMS, OR ELEVATIONS
MARKED '*' SHALL BE DETERMINED
AFTER EQUIPMENT SELECTION.

LEGEND PLATE SCHEDULE

SYMBOL	DEVICE	LEGEND
<i>ETM1</i>	<i>ELAPSED TIME METER</i>	<i>PUMP NO. 1 HOURS</i>
<i>ETM2</i>	<i>ELAPSED TIME METER</i>	<i>PUMP NO. 2 HOURS</i>
<i>PL1</i>	<i>YELLOW PILOT LIGHT</i>	<i>PUMP NO. 1 ON</i>
<i>PL2</i>	<i>RED ILLUMINATED PUSH BUTTON</i>	<i>PUMP NO. 1 HIGH TEMPERATURE AND RESET</i>
<i>PL3</i>	<i>RED ILLUMINATED PUSH BUTTON</i>	<i>PUMP NO. 2 HIGH TEMPERATURE AND RESET</i>
<i>PL4</i>	<i>YELLOW PILOT LIGHT</i>	<i>PUMP NO. 2 ON</i>
<i>PL5</i>	<i>RED PILOT LIGHT</i>	<i>PUMP NO. 1 SEAL LEAK</i>
<i>PL6</i>	<i>RED PILOT LIGHT</i>	<i>PUMP NO. 2 SEAL LEAK</i>
<i>S1</i>	<i>3 POSITION SWITCH</i>	<i>PUMP NO. 1 HAND-OFF-AUTO</i>
<i>S2</i>	<i>3 POSITION SWITCH</i>	<i>PUMP NO. 2 HAND-OFF-AUTO</i>

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

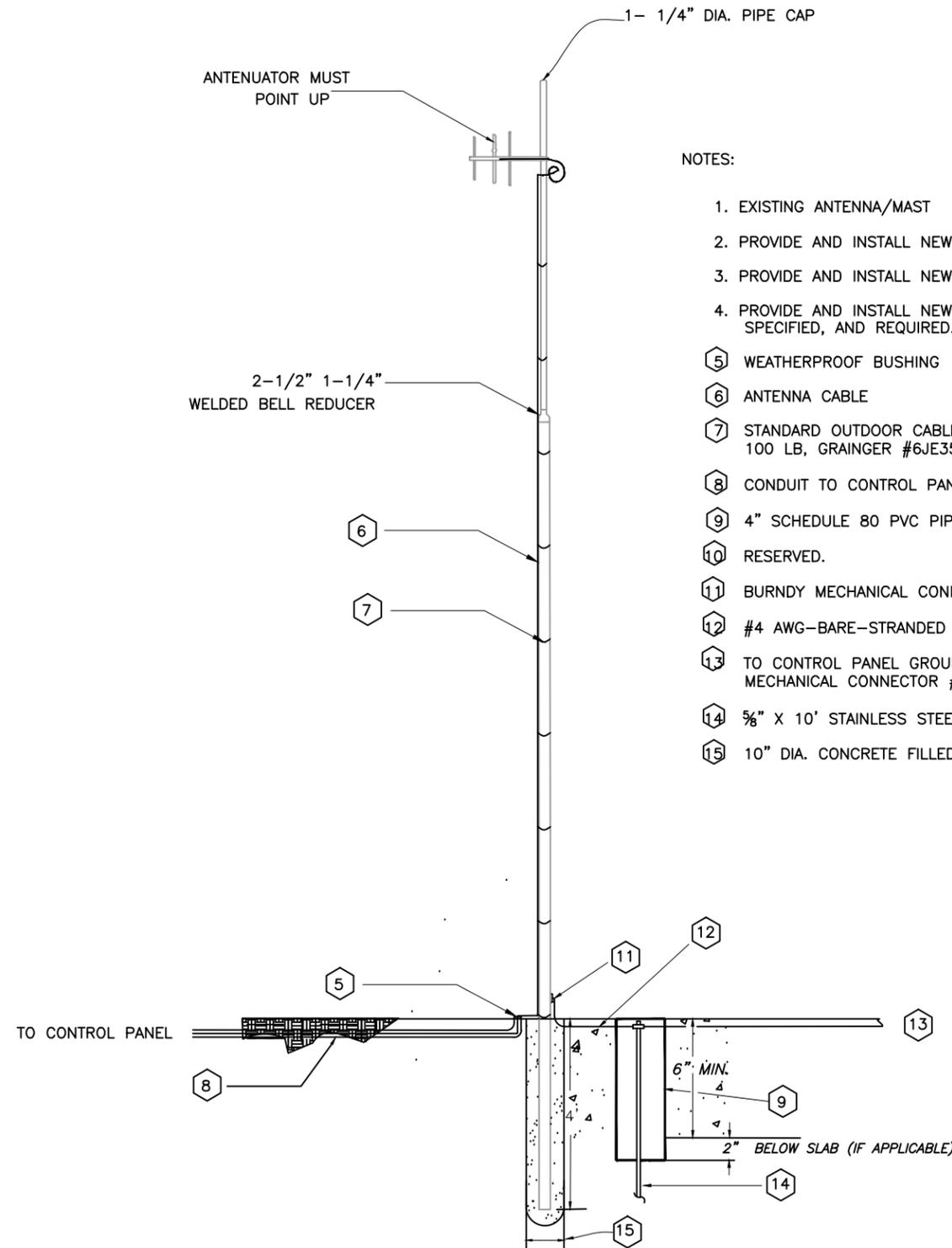
No.	DATE	REVISIONS
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CITY of TAMPA
WASTEWATER DEPARTMENT

**DOWN'S PUMP STATION
REHABILITATION**
ELECTRICAL CONTROLS LEGEND PLATES

W.O. 5899
SHEET
E18



NOTES:

1. EXISTING ANTENNA/MAST
2. PROVIDE AND INSTALL NEW ANTENNA COAX CABLE, AS REQUIRED.
3. PROVIDE AND INSTALL NEW UNDERGROUND CONDUIT, AS REQUIRED.
4. PROVIDE AND INSTALL NEW ANTENNA GROUNDING SYSTEM, AS SHOWN, SPECIFIED, AND REQUIRED.
- 5 WEATHERPROOF BUSHING
- 6 ANTENNA CABLE
- 7 STANDARD OUTDOOR CABLE TIES, 304 STAINLESS STEEL, TENSILE STRENGTH 100 LB, GRAINGER #6JE35
- 8 CONDUIT TO CONTROL PANEL, 3/4" ALUMINUM CONDUIT.
- 9 4" SCHEDULE 80 PVC PIPE
- 10 RESERVED.
- 11 BURNDY MECHANICAL CONNECTOR #KA25-4-1/0
- 12 #4 AWG-BARE-STRANDED
- 13 TO CONTROL PANEL GROUNDING SYSTEM, USE CADWELD OR BURNDY MECHANICAL CONNECTOR #VT2525
- 14 5/8" X 10' STAINLESS STEEL GROUND ROD
- 15 10" DIA. CONCRETE FILLED HOLE

EXISTING ANTENNA MODIFICATIONS DETAIL
SCALE: N.T.S

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	CITY of TAMPA WASTEWATER DEPARTMENT	DOWNS PUMP STATION REHABILITATION ELECTRICAL DETAILS	W.O. 5899
	3			DRN: LRG			SHEET
	2			CKD:			E19
	1			DATE:			