The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:

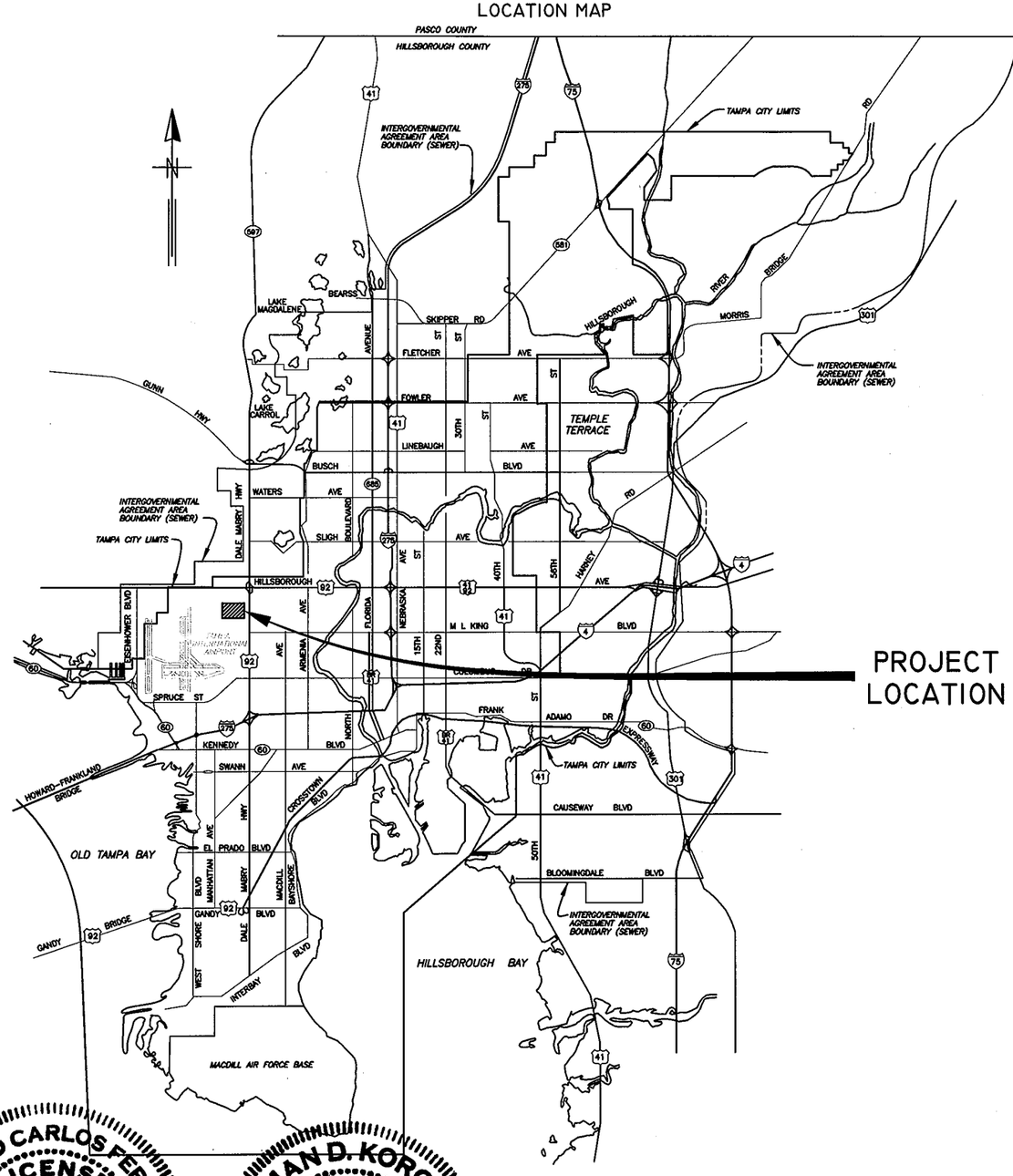
MailTo:ContractAdministration@TampaGov.net

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

B077-046

LOCATION MAP



CITY of TAMPA

CITY OF TAMPA FLORIDA
MASCOTTE
ORGANIZED JULY 15 1887

WASTEWATER DEPARTMENT

PLANS FOR

OSBORNE AVE. PUMP STATION REPLACEMENT

CONTRACT No.
13-C-00020

JACINTO CARLOS FERRAS
LICENSE
No 49454
STATE OF FLORIDA
PROFESSIONAL ENGINEER

ROMAN D. KORCHAK
LICENSE
No 42626
STATE OF FLORIDA
PROFESSIONAL ENGINEER

JACINTO CARLOS FERRAS, P.E. #49454	ROMAN D. KORCHAK, P.E. #42626
DESIGN DIVISION HEAD	ELECTRICAL SECTION HEAD
WASTEWATER DEPARTMENT	WASTEWATER DEPARTMENT

NO.	DATE	REVISIONS
3		
2		
1		

DES: M.S./J.F.
DRN: J.H.J./W.A.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PS
COVER SHEET

W.O. 5896
SHEET 1

PLOTTED BY Michael Salgado DRAWING FILE K:\ww_projects\2012\2012_5896_o osborne ave ps\ANC\COVER SHT.DWG
PLOT DATE: Monday, June 17, 2013 3:19:12 PM LAST SAVED BY salt CTB - WW-705#64.CTB

B077–047

LEGEND

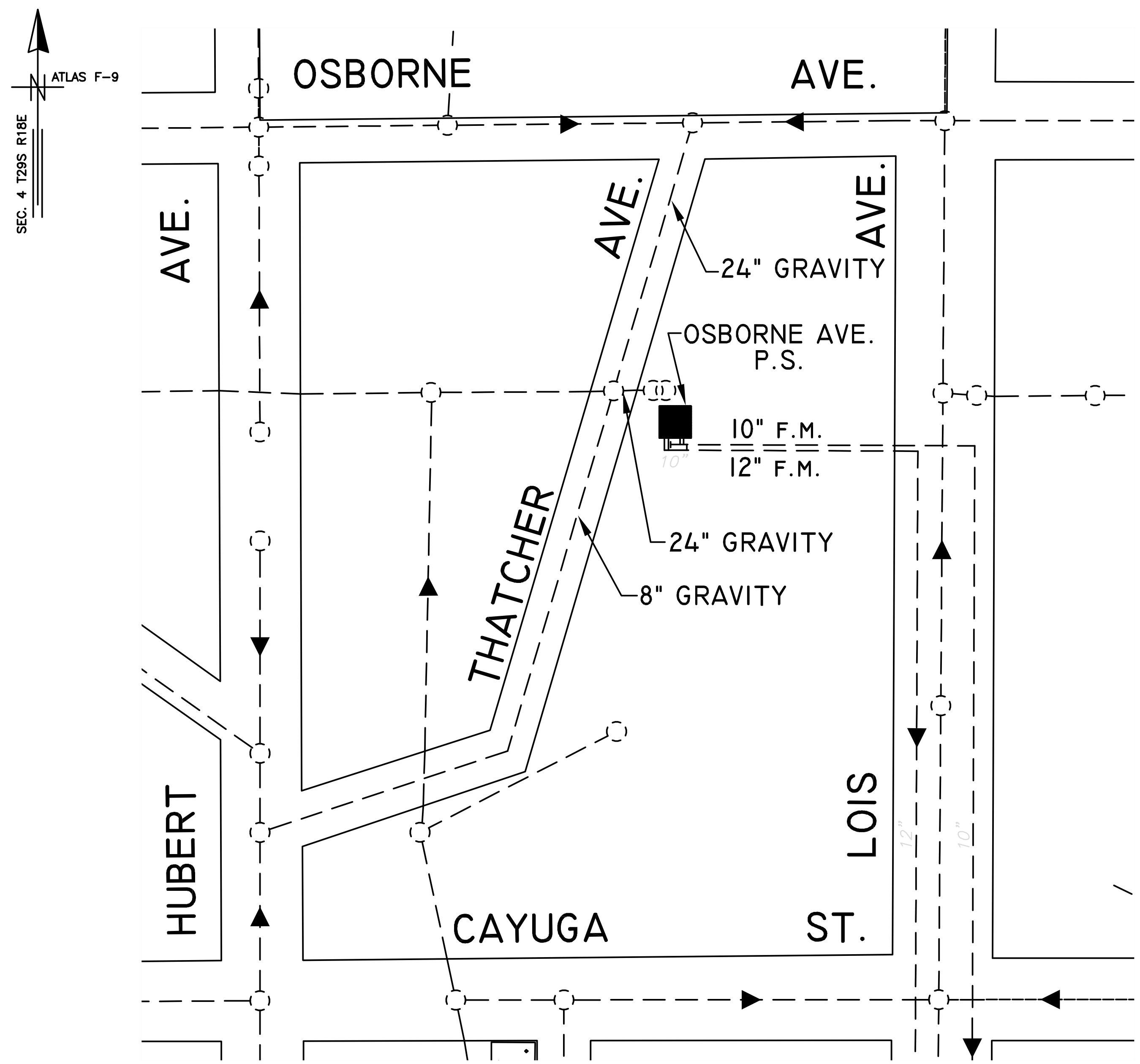
EX SEWERS	UP to 36" & SMALLER	36" & LARGER
EX FORCE MAIN		
EX SAN SEWER & MANHOLES		
EX STORM SEWER & MANHOLES		
PROP SEWERS		
PROP FORCE MAIN		
PROP SANITARY SEWER & MANHOLES		
PROP STORM SEWER & MANHOLES		

OTHER FEATURES

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

ABBREVIATIONS

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



LOCATION MAP

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3	GENERAL NOTES
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5	PROPOSED SITE PLAN
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7	WET WELL TOP SLAB PLAN & SECTION
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10	VALVE MANIFOLD SLAB SECTION "B–B"
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E–5	ELECTRICAL SCHEMATIC DIAGRAM
E–6	ELECTRICAL SCHEMATIC DIAGRAM
E–7	ELECTRICAL SCHEMATIC DIAGRAM
E–8	ELECTRICAL SCHEMATIC DIAGRAM
E–9	ELECTRICAL SCHEMATIC DIAGRAM
E–10	ELECTRICAL SCHEMATIC LEGEND
E–11	ELECTRICAL CONTROL PANEL LAYOUT
E–12	PARTS SCHEDULE
E–13	PARTS SCHEDULE
E–14	ELECTRICAL CONTROLS LEGEND PLATES
E–15	CONTROL PANEL PEDESTAL DETAILS
E–16	CONTROL PANEL PEDESTAL DETAILS
E–17	CONTROL PANEL PEDESTAL DETAILS

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

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CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
LEGEND, INDEX & PROJECT MAP

W.O. 5896
SHEET
2

PLOTTED BY Michaelf Salgado DRAWING FILE K:\WW_Projects\2012\2012_5896_O SBORNE Ave PS\DWG\LEGEND.DWG
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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 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. THREE NEW PUMPS SHALL BE SUPPLIED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT PUMPS, MODEL 3201.180. 35HP PUMPS SHALL BE SUPPLIED WITH FLYGT MIX-FLUSH VALVES. ALL PROPOSED PUMP BASES SHALL BE 10-INCH DIAMETER DISCHARGE ELBOWS.

G-7. CONTRACTOR SHALL FURNISH AND INSTALL BACK-UP PUMP MODEL CD225M, SIZE 8" X 8" AS MANUFACTURED BY XYLEM PUMPS, BRIDGEPORT, NEW JERSEY OR APPROVED EQUAL.

G-8. 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-9. CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS, AND ANY MISCELLANEOUS BRACKETS.

G-10. 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-11. 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-12. PUMP DISCHARGE PIPING IN WET WELL SHALL BE 10-INCH DIAMETER HDPE, SDR-11, GREEN STRIPE, DIPS-OD. HDPE JOINTS SHALL BE FLANGED WITH 316 SS BACK UP RINGS.

G-13. 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 HANDWHEELS.

G-14. 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-15. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.

G-16. PIPE SUPPORTS SHALL BE CONSTRUCTED AS SHOWN IN THE PIPE SUPPORT DETAIL.

G-17. 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-18. OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.

G-19. ALL METAL PIPE, FITTINGS, VALVES, ETC. SHALL RECIEVE:
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-20. 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-21. 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-22. 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-23. CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES. PROPOSED LINK SEAL OR APPROVED EQUAL.

G-24. 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-25. ALUMINUM ACCESS COVERS SHALL BE DESIGNED FOR A PEDESTRIAN LIVE LOADING OF 300 PSF WITH 316 STAINLESS STEEL HARDWARE, HINGES AND AUTOMATIC HOLD-OPEN ARM AS MANUFACTURED BY US FOUNDRY AND MANUFACTURING CORPORATION OR APPROVED EQUAL. THE PUMP ACCESS COVER SHALL BE A TRIPLE DOOR ARRANGEMENT WITH AN ANGLE FRAME FOR AN OVERALL OPENING OF 9 FT 6 IN BY 4 FT. THE DIMENSION OF EACH DOOR SHALL BE 3 FT 2 IN BY 4 FT AND OPEN/CLOSE INDEPENDENTLY TO THE OTHER DOORS. THE ACCESS DOORS SHALL ALSO BE EQUIPPED WITH A FLUSH LIFTING HANDLE, TAMPERPROOF FASTENERS AND EXPOSED PADLOCK STAPLES.

G-26. 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-27. PROPOSED PRECAST WET WELL SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-76, CLASS II WALL B. MINIMUM STEEL REINFORCEMENT SHALL BE INNER CAGE .76 IN^2/FT AND OUTER CAGE .46 IN^2/FT. (SEE SPECIFICATIONS)

G-28. AUTOMATIC AIR RELEASE VALVE SHALL BE 2" APCO 400A (EPOXY COATED) WITH 1/2" ORIFICE OR APPROVED EQUAL. CONTRACTOR SHALL INSTALL 2" STAINLESS STEEL BALL VALVE BETWEEN DISCHARGE PIPING AND AIR RELEASE VALVE.

G-29. FLEXIBLE CONNECTOR TO BACKUP DIESEL PUMP (DISCHARGE SIDE) SHALL BE MODEL 8" 240 AS MANUFACTURED BY PROCO OR APPROVED EQUAL.

G-30. ALL DIP PIPE AND FITTING SHALL BE CLASS 53 WITH PROTECTO 401 INTERIOR COATING.

G-31. PVC GRAVITY PIPE AND FITTINGS SHALL BE SDR-26 (HEAVY WALL) IN COMPLIANCE TO ASTM FG79. PVC FM PIPE AND FITTINGS SHALL BE C-900 (DR-18)

G-32. EXISTING CHEMICAL TANK SHALL BE RELOCATED TO LOCATION AS SHOWN ON SHEET 5.

BYPASSING NOTES

B-1. SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR PUMPING STRATEGY.

B-2. IT IS THE ENGINEER'S INTENT THAT THE NEW PUMPING STATION WILL BE CONSTRUCTED WHILE THE EXISTING PUMPING STATION REMAINS IN OPERATION. DURING THE START-UP OF THE NEW PUMP STATION, THE EX. PUMP STATION MUST BE CAPABLE OF OPERATING IN THE EVENT THERE ARE PROBLEMS WITH THE NEW PUMP STATION. AS AN ALTERNATIVE OF KEEPING THE OLD PUMP STATION OPERATIONAL, THE CONTRACTOR MAY PROVIDE BYPASS PUMPING RATED FOR 2,200 GPM @ 63' TDH.

PLOTTED BY: Michael F. Salgado DRAWING FILE: K:\WW_Projects\2012\2012_5896_O_SBORNE Ave DSL\DWG\LEGEND.DWG
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

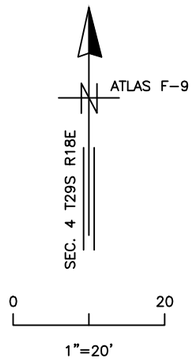
DES: M.S./J.F.
DRN: J.H.J.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

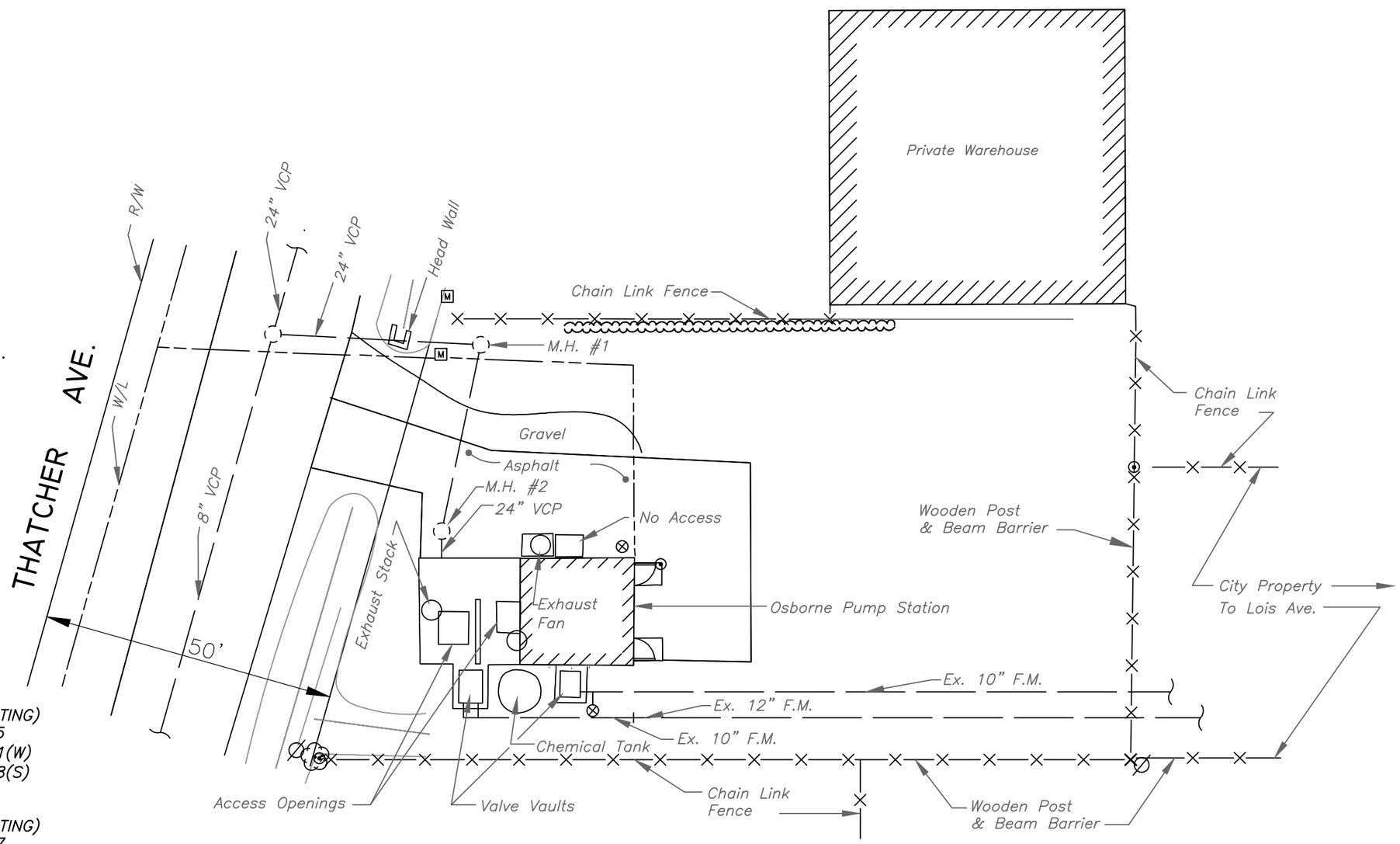
OSBORNE AVE. PUMPING STATION
GENERAL NOTES

W.O. 5896
SHEET 3

B077–049



ADDRESS:
4717 THATCHER AVE.



MANHOLE #1 (EXISTING)
TOP ELEV. = 28.95
INV. ELEV. = 17.31(W)
INV. ELEV. = 17.18(S)

MANHOLE #2 (EXISTING)
TOP ELEV. = 29.67
INV. ELEV. = 17.47(N)
INV. ELEV. = 17.47(S)

NOTE: THERE IS AN ADVERSE SLOPE IN THE EXISTING SEWER BETWEEN MH(S) #1 AND #2 BASED ON SURVEY DATA.

EXISTING SITE PLAN
1"=20'

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: M.S./J.F DRN: W.A. CKD: DATE: 05/13/13	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION EXISTING SITE PLAN	W.O. 5896 SHEET 4
	3						
	2						
	1						

B077–050

ATLAS F–9

SEC. 4 T29S R18E

0 20

1"=20'

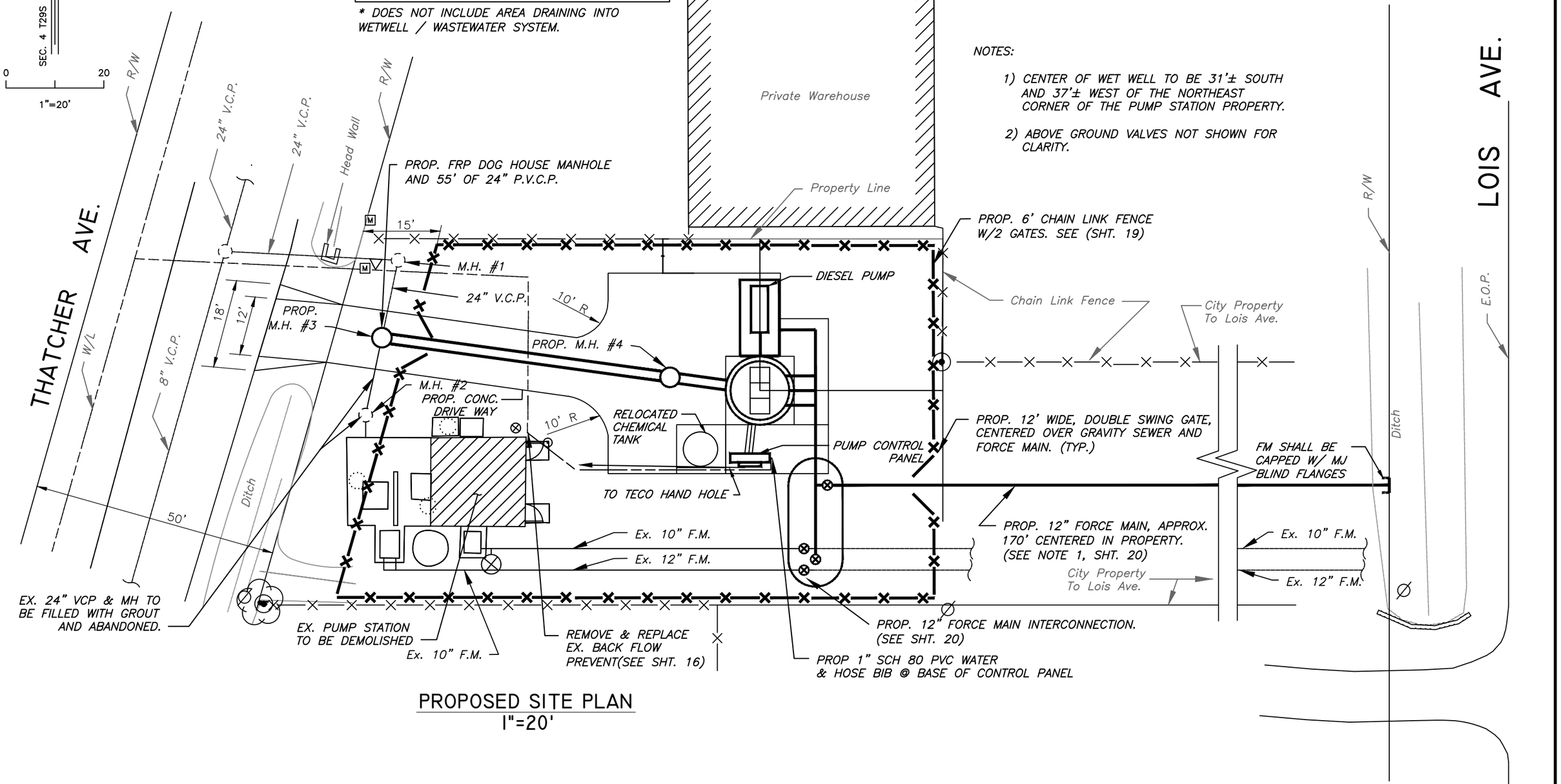
SITE DATA:
EXISTING AREA = 9600 SF
EXISTING IMPERVIOUS AREA = 2139 SF (23%)
PROPOSED IMPERVIOUS AREA = 1958 SF (21%)*
FOLIO #: 1083260000
ADDRESS: 4717 THATCHER AVE.
TAMPA FL, 33614

* DOES NOT INCLUDE AREA DRAINING INTO WETWELL / WASTEWATER SYSTEM.

NOTES:

1) CENTER OF WET WELL TO BE 31'± SOUTH AND 37'± WEST OF THE NORTHEAST CORNER OF THE PUMP STATION PROPERTY.

2) ABOVE GROUND VALVES NOT SHOWN FOR CLARITY.



PROPOSED SITE PLAN
1"=20'

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

OSBORNE AVE. PUMP STATION
PROPOSED SITE PLAN

W.O. 5896
SHEET 5

B077-051

PROP. 17'x 8'x 6" THICK CONC. SLAB REINFORCED W/ 4X4 W2.1XW2.1 WWF (MINIMUM OF 2' CLEARANCE ON THE WEST, NORTH AND EAST SIDES OF THE PROP. DIESEL BACKUP PUMP)

PROP. HDPE 90° BEND AND 10" X 8" ECCENTRIC REDUCER CONNECTER TO BACKUP DIESEL PUMP (SEE SHT. 13)

PROP. P.V.C. DRAIN FOR BACKUP PACKAGE PUMP STATION (SEE DETAIL "G" SHT. 16)

PROP. 24" SDR 26 PVC INFLUENT @ 0.08%

PROP. FABRICATED 4'-0"x 9'-6" TRIPLE DOOR ARRANGEMENT ACCESS OPENING ABOVE

PROP. 12' DIA. R.C.P. WET WELL

PROP. BUBBLER TUBE (SEE DETAIL "B" & "C" SHT. 15)

PROP. 12" SQUARE ACCESS OPENING ABOVE

PROP. 1-1/2" DIA, SCHEDULE 80 P.V.C.P. SUPPLY LINE FOR THIOGARD FEED

PROP. CONC. SLAB FOR RELOCATED THIOGARD TANK

PROP. ELECTRICAL CONTROL PANEL (SEE ELECTRICAL PLANS FOR CONDUIT LAYOUT)

PROP. 1" PVC WATER LINE

PROP. HOSE BIB 316 SS HARDWARE ATTACHED TO CONTROL PANEL BASE

PROP. 10" ECC. PLUG VALVE (FL-FL)

PROP. 8" FLEXIBLE COUPLER (PROCO STYLE 240 OR EQUAL) (FL-FL)

PROP. 10"x 8" D.I.P. REDUCER (FL-FL)

PROP. 10" SPOOL PIECE (FL-FL)

PROP. 10" CHECK VALVE (FL-FL)

PROP. 10" PLUG VALVE (FL-FL)

PROP. 10" 90° BEND D.I.P. (FL-FL)

PROP. 10" D.I.P. SPOOL PIECE (FL-FL)

PROP. 10"x 10"x 8" D.I.P. TEE (FL-FL) W/ 8" BYPASS ARRANGEMENT (SEE SHT. 10)

PROP. 10"x 10"x 10" D.I.P. TEE (FL-FL)

PROP. 10"x 14"LG SPOOL PIECE (FL-FL)

PROP. 10"x 10"x 10" D.I.P. TEE (FL-FL)

PROP. 10"x 16"LG SPOOL PIECE (FL-FL)

PROP. 10"x 10"x 10" D.I.P. TEE (FL-FL)

PROP. 10"x 10"x 6" D.I.P. TEE (FL-FL) W/ AUTOMATIC AIR RELEASE ARRANGEMENT. USE APCO 400A OR EQUAL

PROP. 10"x 12" D.I.P. REDUCER (FL-FL)

PROP. 12" D.I.P. 45° BEND (FL-FL)

PROP. 12" D.I.P. FORCE MAIN (FL-MJ)

PROP. GRAVEL BEDDING MIN 6" AROUND PIPE

PROP. 11'x 7' x 6" THICK CONC. SLAB REINFORCED W/ 4X4 W2.1XW2.1 WWF

PROP. BACKUP DIESEL PUMP

17'-0" 6'-0" 4'-9" 3'-0" 9'-6" 3'-2" 4'-9" 3'-2" 11" 2'-10" 11 1/2" 58" 1'-6 1/4" 2'-5 3/4" 38-1/2" 4'-2" 3'-2" 3'-2" 3'-0"

PLAN VIEW
1/4" = 1'

No.	DATE	REVISIONS
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2		
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

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DATE: 5/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
PLAN VIEW

W.O. 5896
SHEET 6

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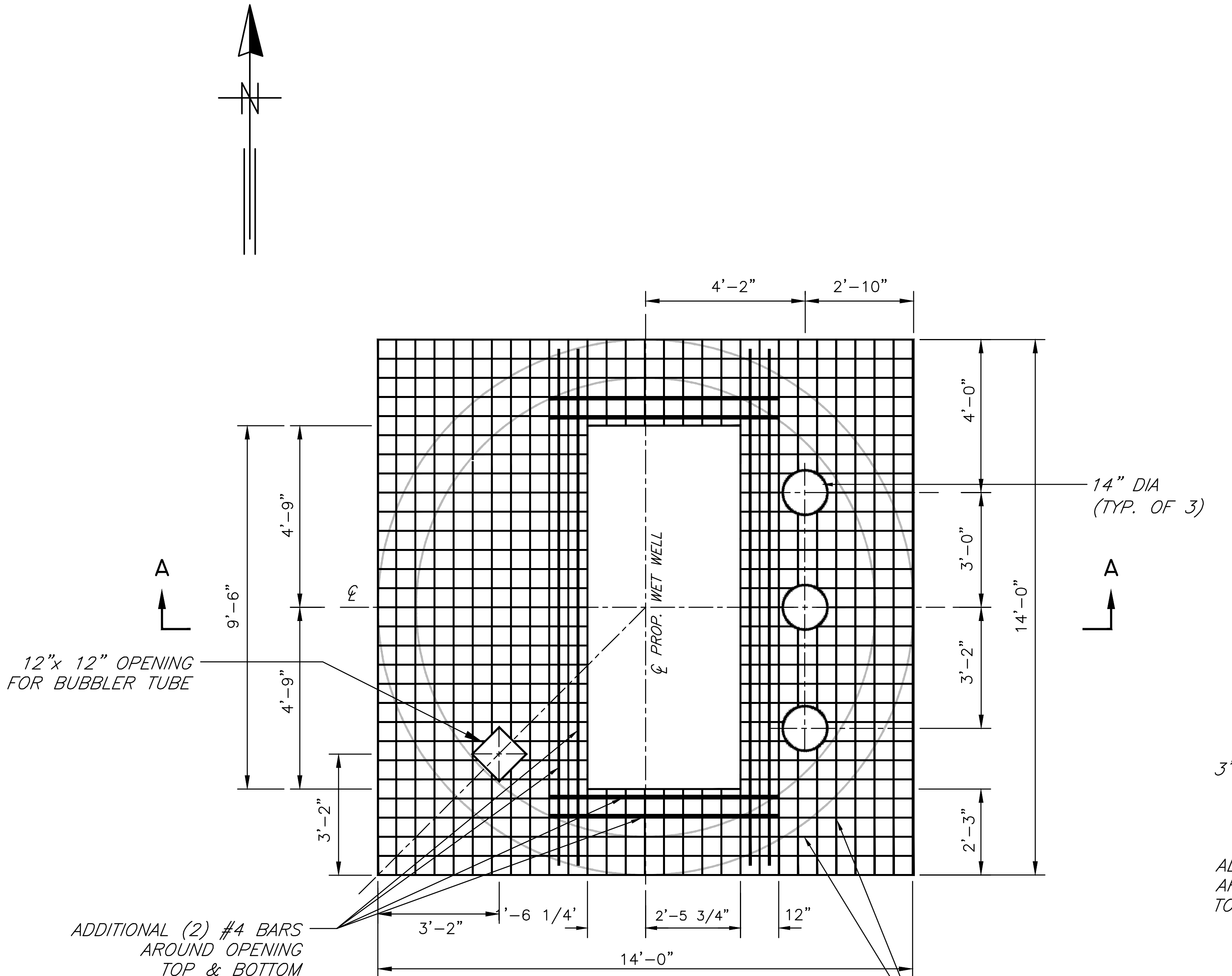
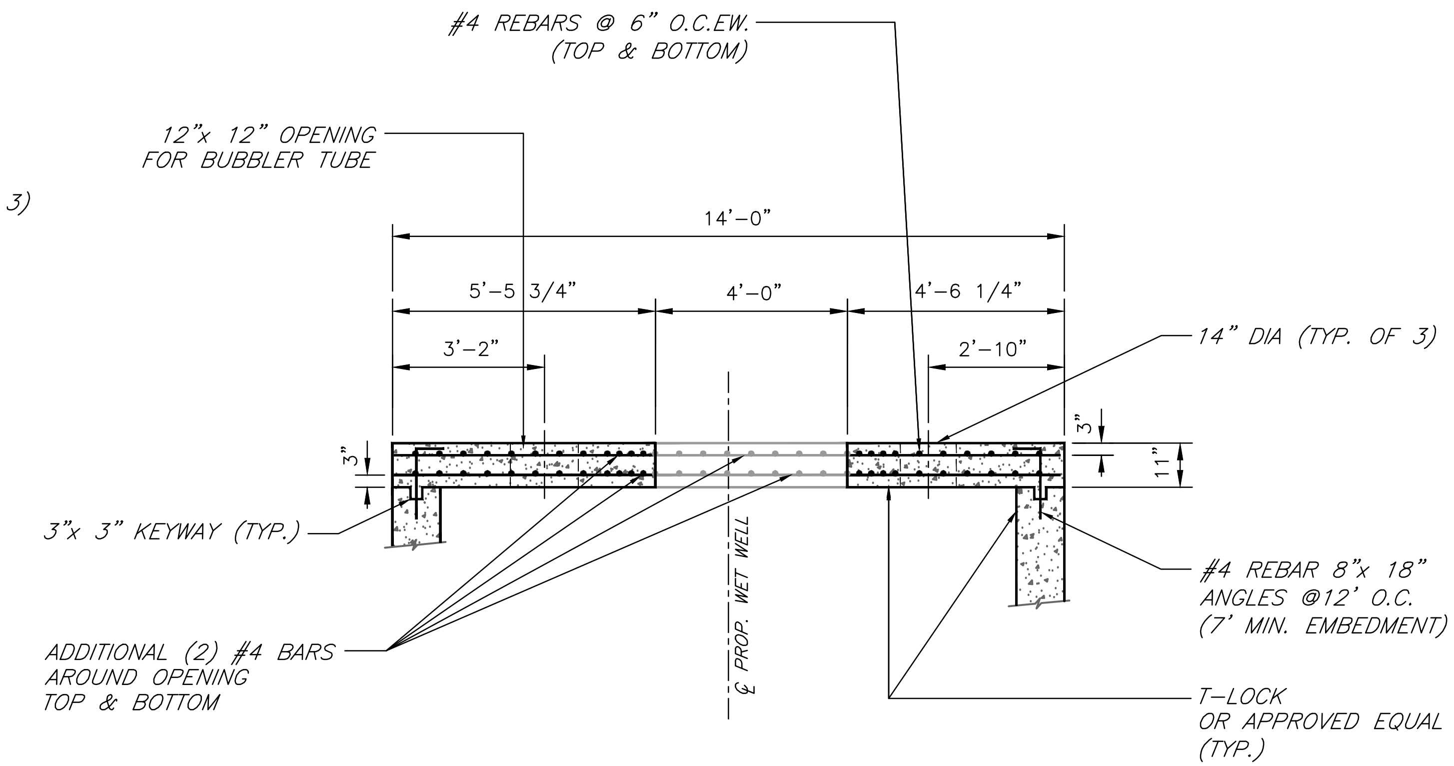


WET WELL TOP SLAB PLAN

1/4" = 1'-0"



WET WELL TOP SLAB SECTION

1/4" = 1'-0"

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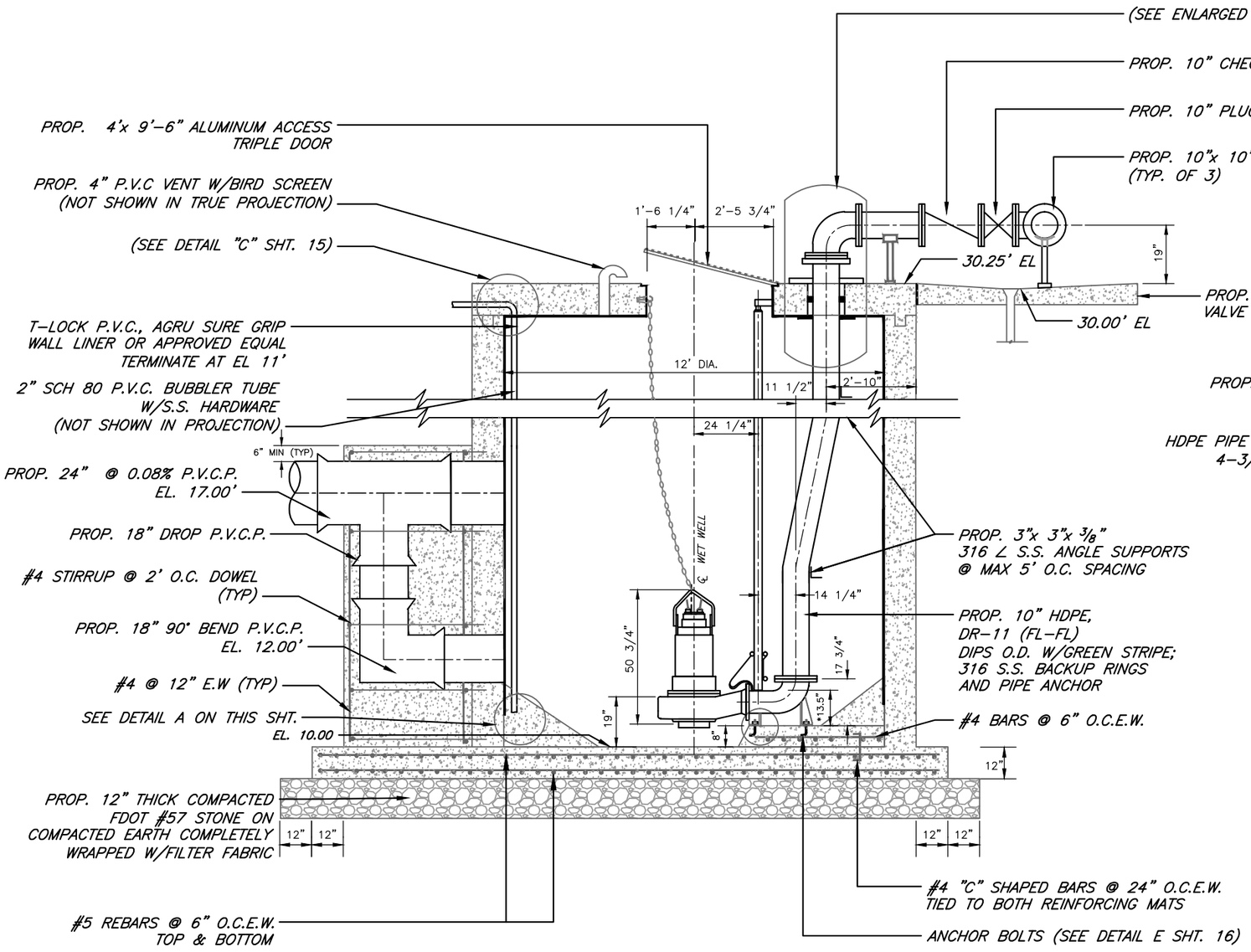
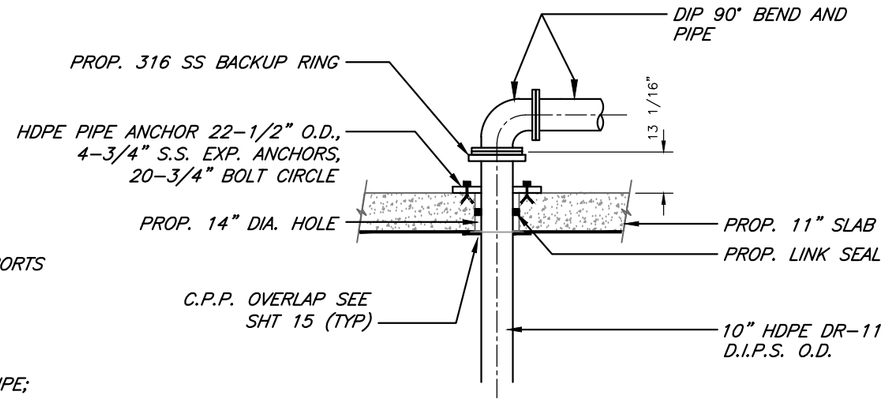
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: M.S./J.F. DRN: J.H.J.	CITY of TAMPA	OSBORNE AVE. PUMP STATION	W.O. 5896
	2			CKD:	WASTEWATER DEPARTMENT	WET WELL TOP SLAB PLAN / SECTION	SHEET
	1			DATE: 05/13/13			7

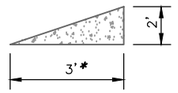
B077–053



SECTION A-A
1/4" = 1'-0"



DETAIL B
1/4" = 1'-0"



* TYP WHERE POSSIBLE; REDUCE FOR BUBBLER

DETAIL A
1/4" = 1'-0"

NOTE: FOR DIMENSION AND REINFORCING INFORMATION OF WET WELL TOP SLAB AND MANIFOLD SLAB, SEE PLAN VIEW AND SECTIONS ON SHTS. 7 & 10.

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

No.	DATE	REVISIONS
3		
2		
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DES: M.S./J.F.
DRN: J.H.J.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
SECTION A-A

W.O. 5896
SHEET 8

PLOTTED BY: Michaelf Salgado
PLOT DATE: Monday, June 17, 2013 4:47:05 PM
DRAWING FILE: K:\wr_projects\2012\2012_5896_o sborne ave ps\DWG\PLAN VIEW ORG.DWG
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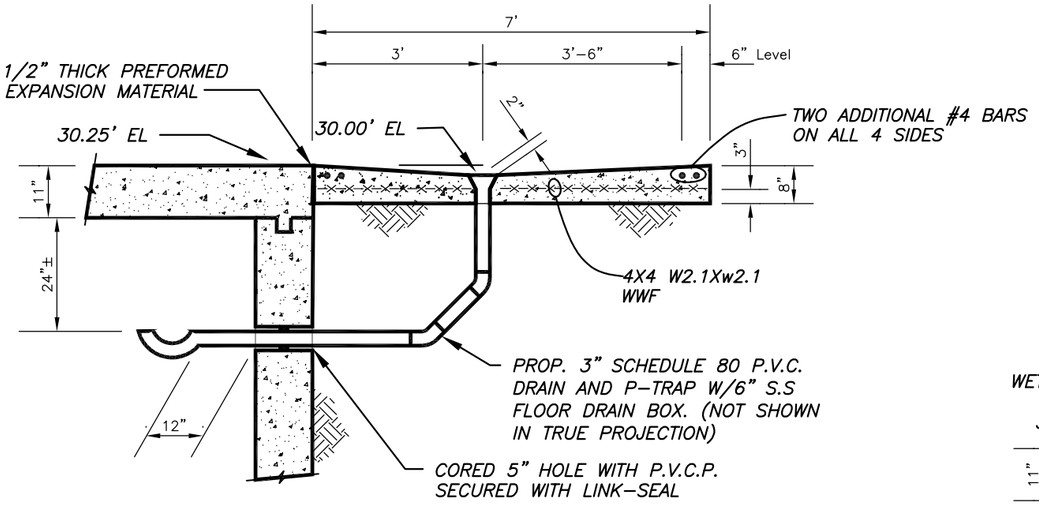
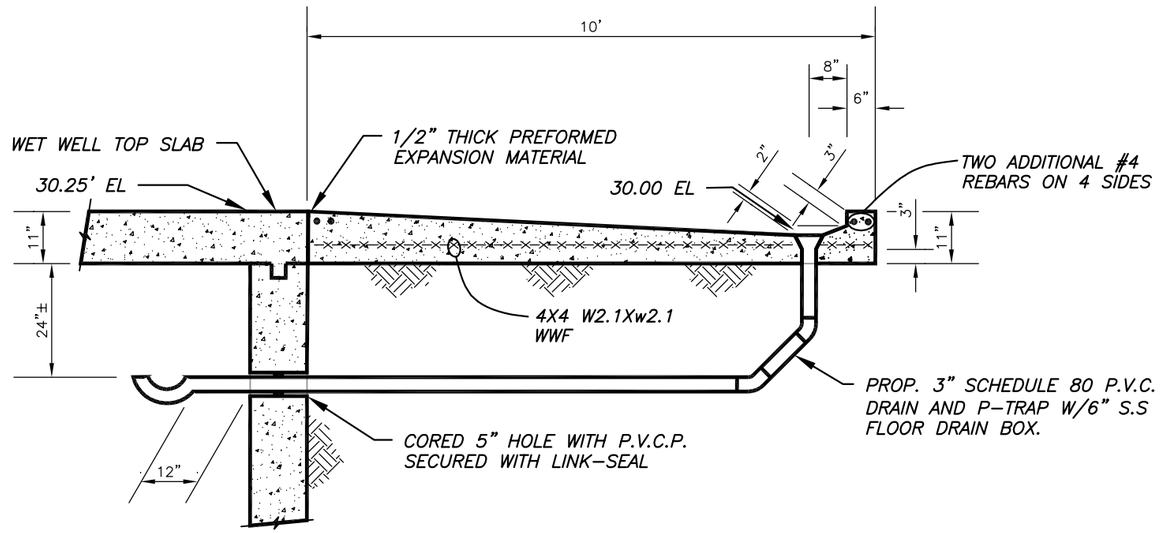
B077-054



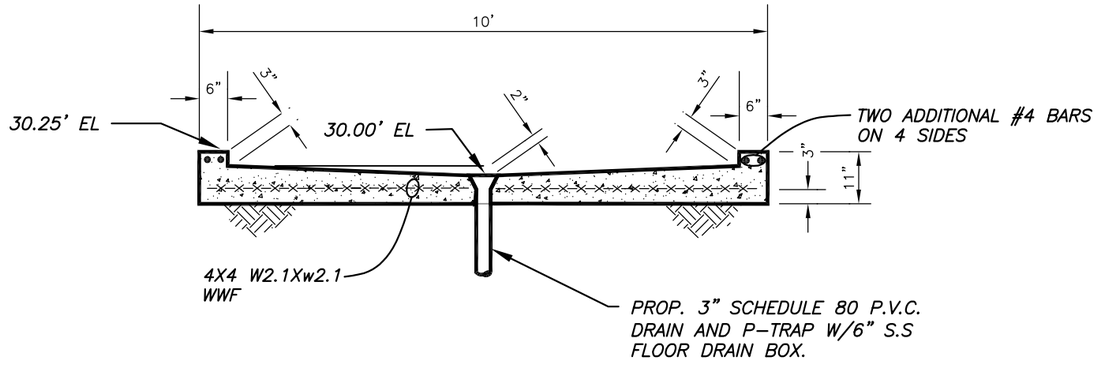
VALVE MANIFOLD SLAB SECTION B-B

3/8" = 1'



THIOGARD TANK SLAB SECTION C-C

3/8" = 1'



THIOGARD TANK SLAB SECTION D-D

3/8" = 1'

NOTE: THICKNESS OF ALL CONC. SLABS SHALL BE AS SHOWN AND NOT LESS THAN 6".

PLOTTED BY: MichaelF. Salgado
PLOT DATE: Tuesday, June 18, 2013 7:48:00 AM
DRAWING FILE K:\WW_Projects\2012\2012_5896.0 OSBORNE Ave PS\DWG\PLAN VIEW ORD.DWG
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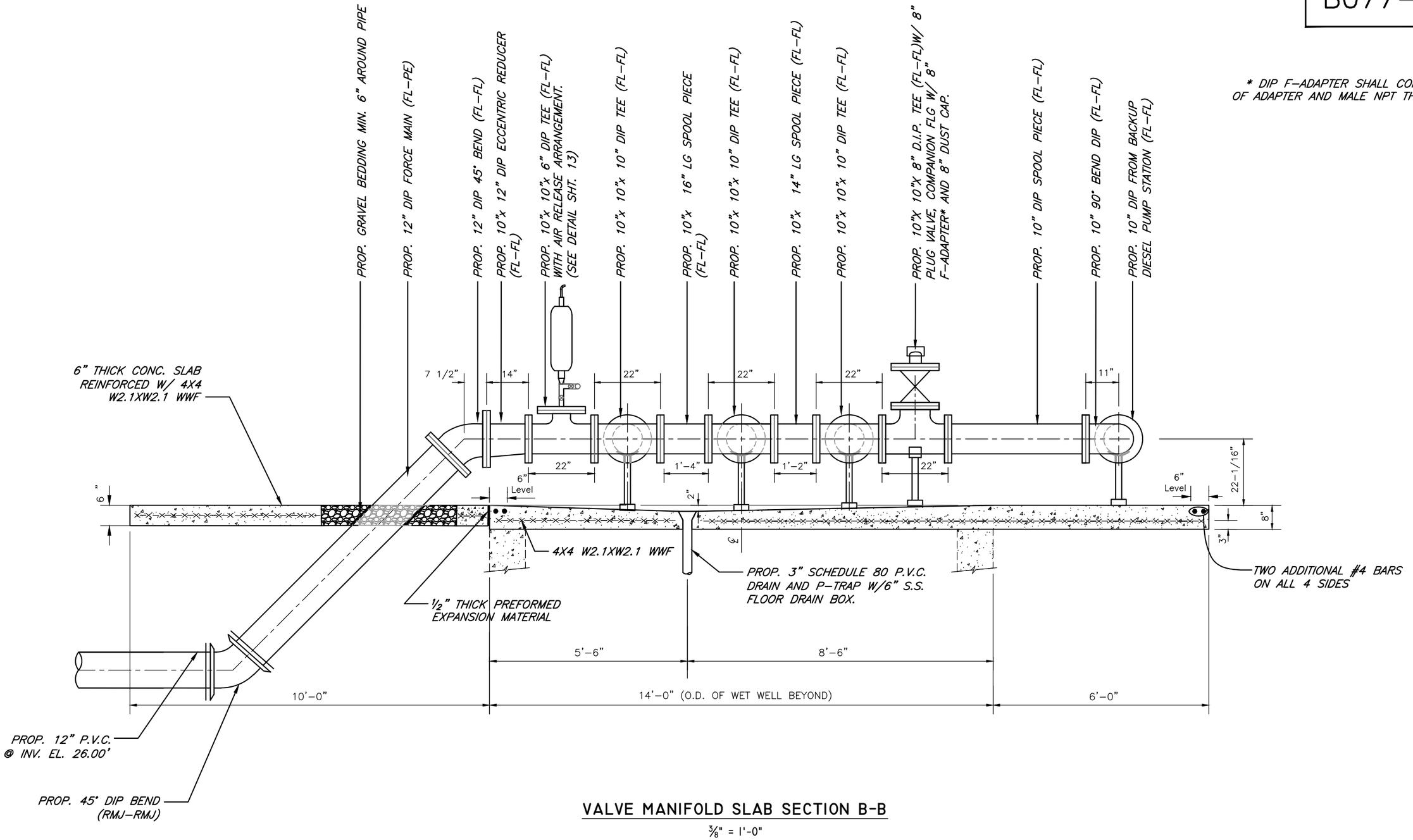
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: J.P.W. DRN: J.H.J./W.A. CKD: DATE: 05/13/13	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION SLAB SECTIONS	W.O. 5896 SHEET 9
	3						
	2						
	1						

B077-055



* DIP F-ADAPTER SHALL CONSIST OF ADAPTER AND MALE NPT THREAD

VALVE MANIFOLD SLAB SECTION B-B

3/8" = 1'-0"

PLOTTED BY: Michael Salgado
PLOT DATE: Tuesday, June 18, 2013 8:19:52 AM
DRAWING FILE K:\WW_Projects\2012\2012_5896_0 SBORNE Ave PS\DWG\PLAN VIEW ORG.DWG
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
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DRN: J.H.J.
CKD:
DATE: 5/13/13

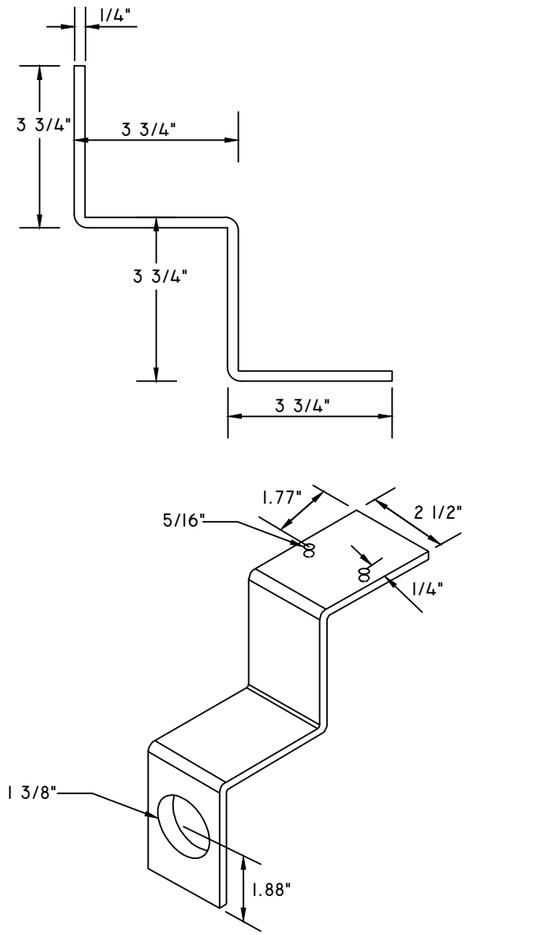
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
VALVE MANIFOLD SLAB SECTION B-B

W.O. 5896
SHEET 10

B077-056

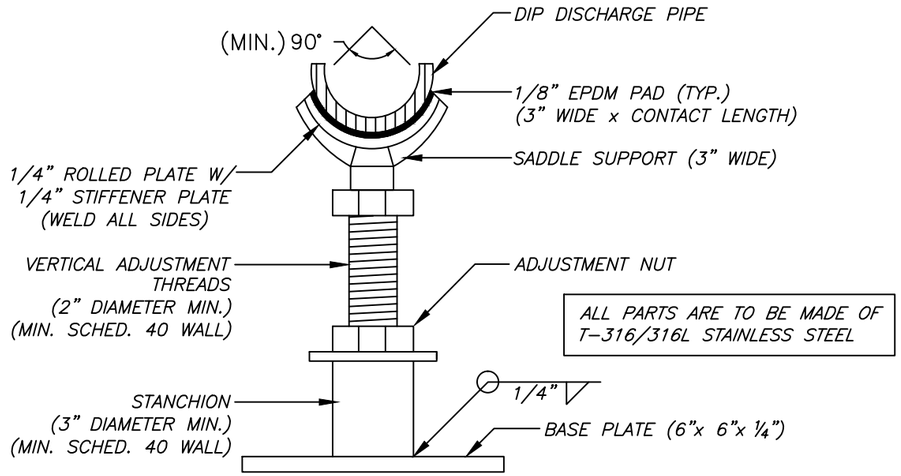
✳ *THE CONTRACTOR SHALL PROVIDE AND INSTALL A 316 S.S. MOUNTING BRACKET TO SUPPORT THE DB10 TRANSMITTER. THE BRACKET SHALL BE INSTALLED IN THE WET WELL, CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION.A WET WELL LEVEL DETECTION 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. THE DB10 TRANSDUCER SHALL BE MOUNTED USING A 2 1/2" X 1/4" S.S. BRACKET.*



2 1/2" X 1/4" 316 S.S.

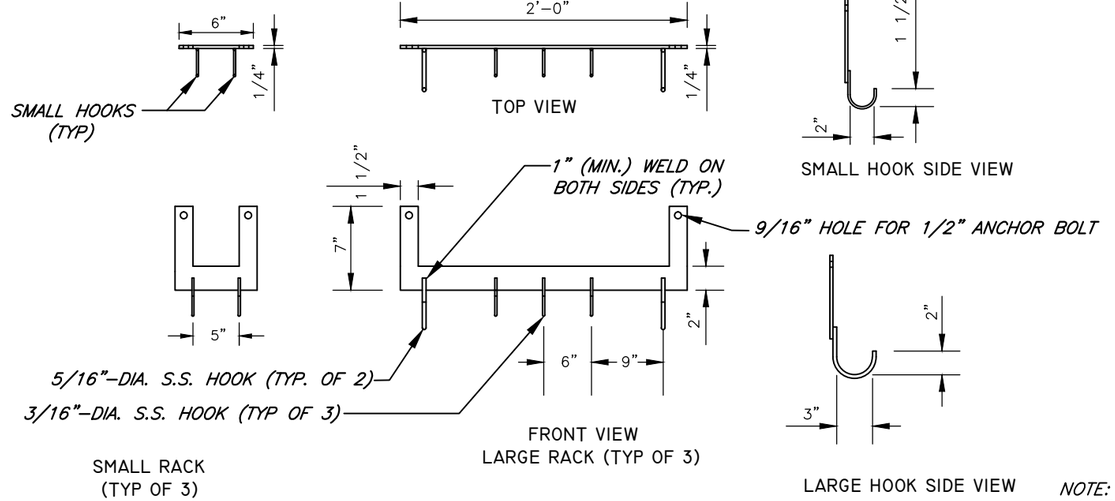
DB10 MOUNTING BRACKET DETAIL ✳

NOT TO SCALE



SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT

N.T.S.



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

DETAIL "E" PROP. STAINLESS STEEL HOOK RACKS

N.T.S.

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PLOT DATE: Tuesday, June 18, 2013 8:40:28 AM
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

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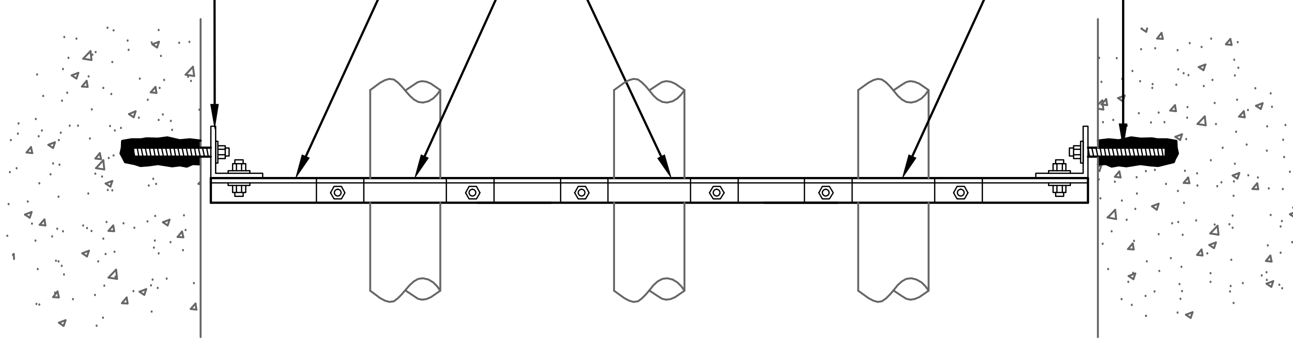
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

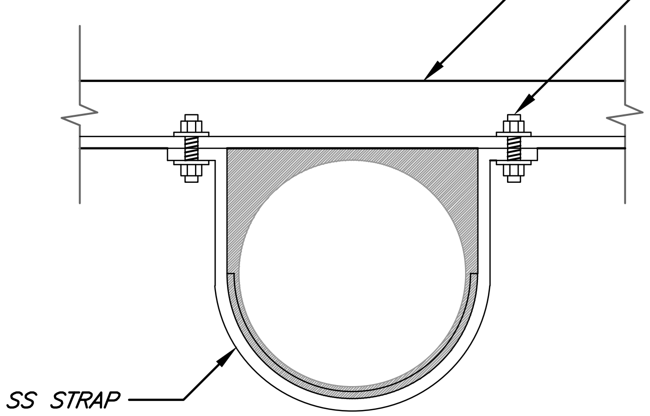
OSBORNE AVE. PUMP STATION
PIPE SUPPORT AND HOOK RACKS DETAILS

W.O. 5896
SHEET
11

B077–057



PIPE SUPPORT ASSEMBLY
N.T.S.



PIPE STRAP SUPPORT
N.T.S.

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PLOT DATE: Monday, June 17, 2013 4:48:00 PM LAST SAVED BY ss1 CTB - WW-TOSHIBA.CTB

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

No.	DATE	REVISIONS
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DRN: J.H.J.
CKD:
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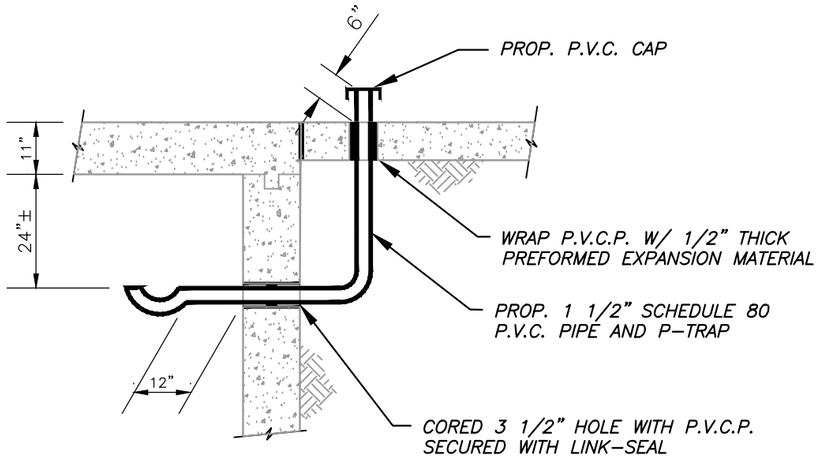
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
DETAILS (I)

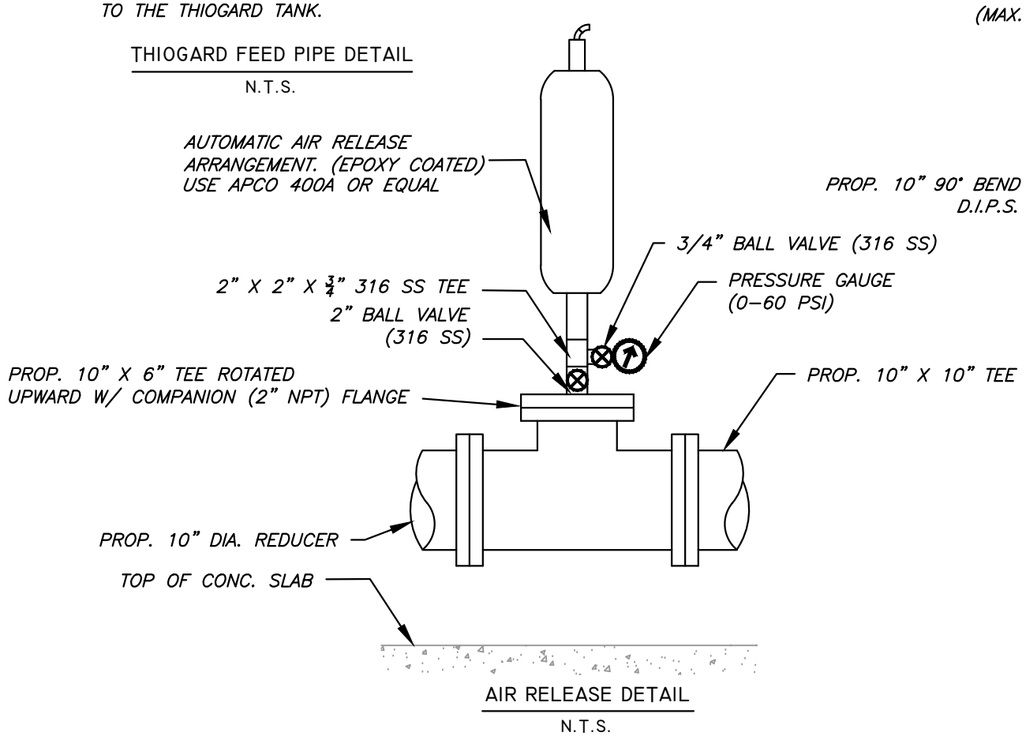
W.O. 5896
SHEET
12

B077-058

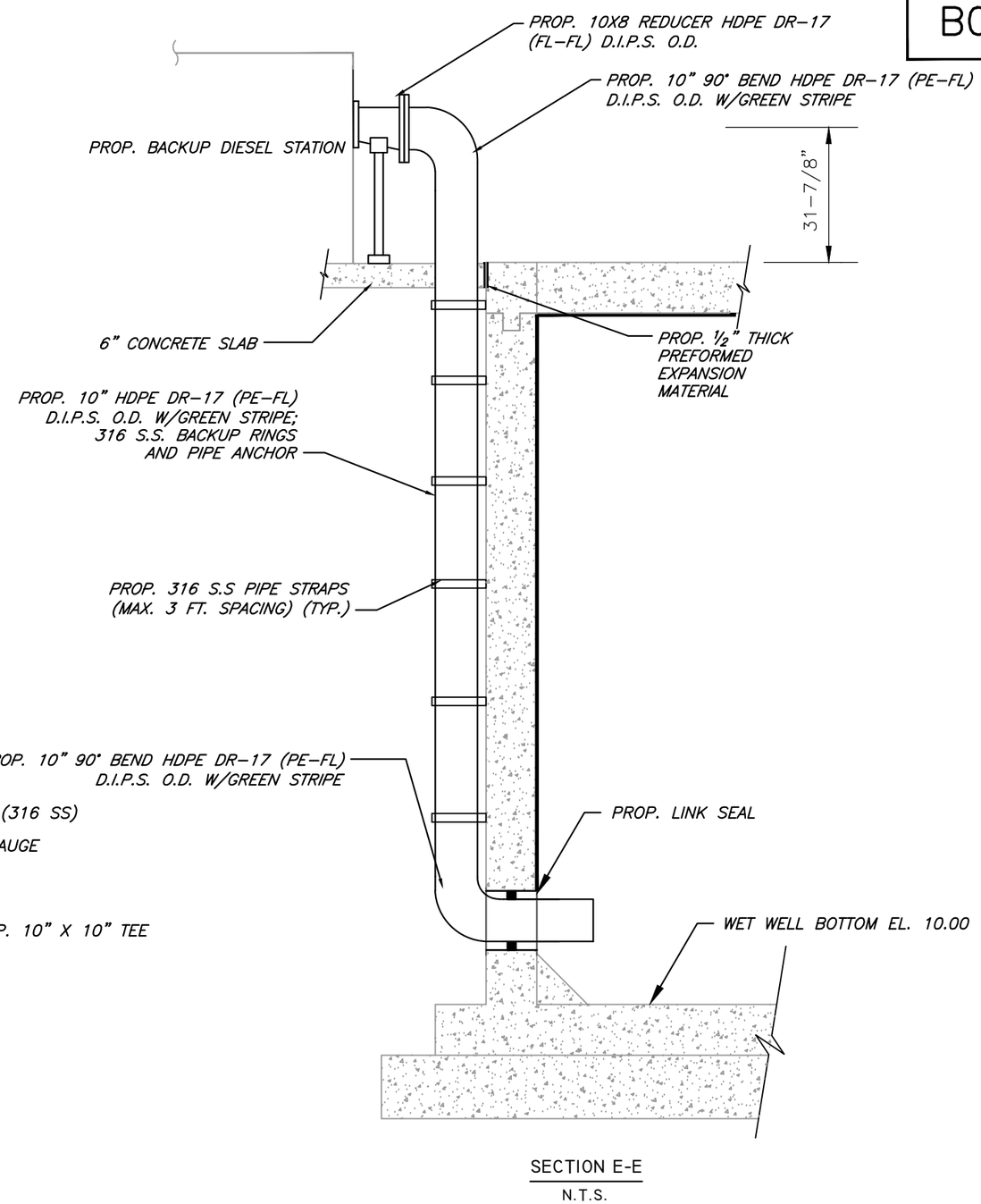


NOTES:
1. LOCATE THE THIOGARD FEED PIPE APPROXIMATELY 6-INCHES SOUTH AND WEST OF THE NORTHEAST CORNER OF THE THIOGARD TANK SLAB.
2. THE THIOGARD COMPANY WILL RELOCATE THE THIOGARD TANK FROM IT'S PRESENT LOCATION TO THE NEW LOCATION AND MAKE THE NECESSARY ELECTRICAL AND MECHANICAL CONNECTIONS. CONTRACTOR SHALL PROVIDE ELECTRICAL POWER TO THE THIOGARD TANK.

THIOGARD FEED PIPE DETAIL
N.T.S.



AIR RELEASE DETAIL
N.T.S.



SECTION E-E
N.T.S.

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

No.	DATE	REVISIONS
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CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
DETAILS (2)

W.O. 5896
SHEET 13

PLOTTED BY: Mitchell Salgado DRAWING FILE K:\ww_projects\2012\2012_5896_osborne ave ps\DWG\PLAN VIEW ORIG.DWG
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LAST SAVED BY: ms 11

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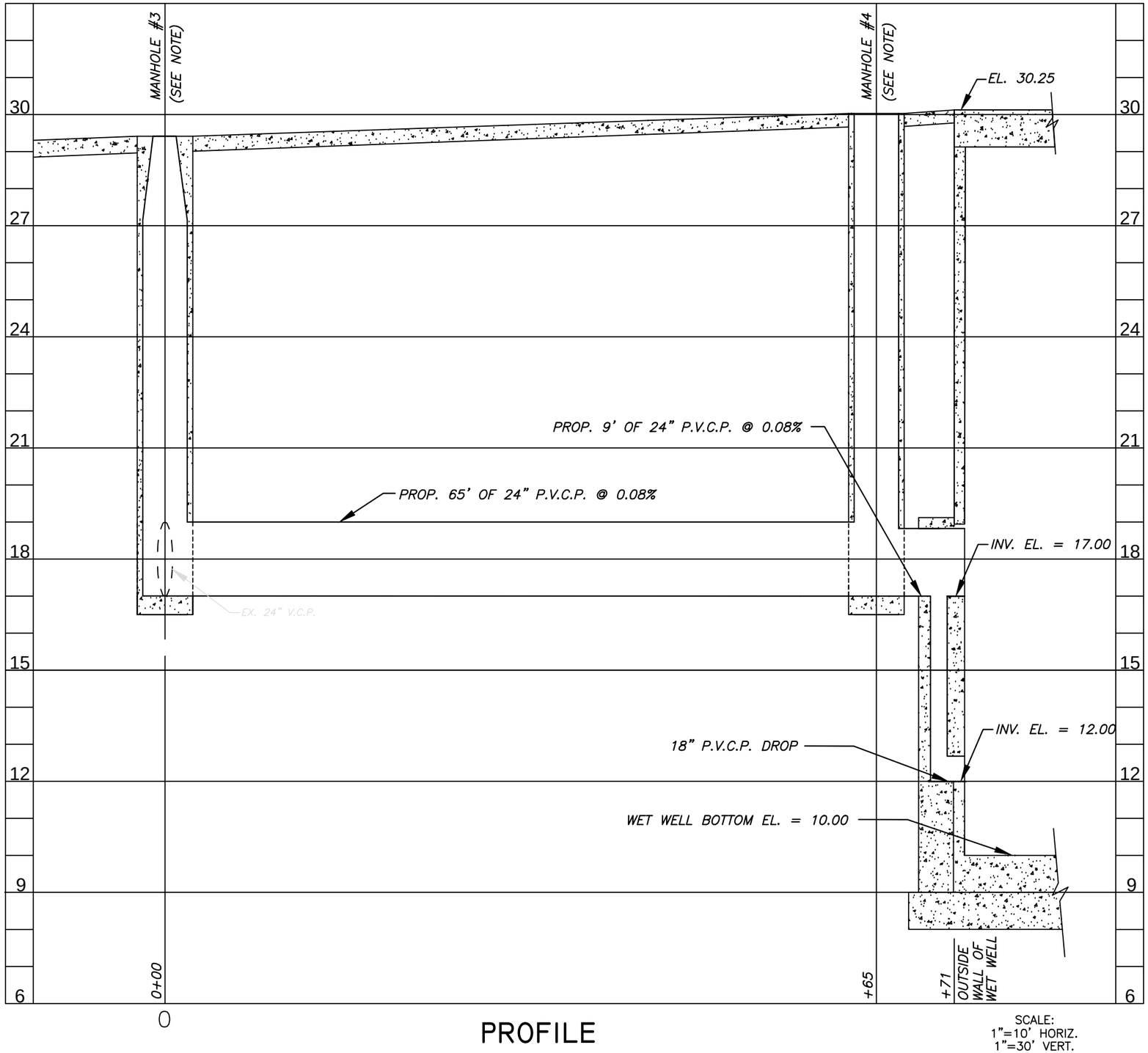

PROFILE

SCALE:
1"=10' HORIZ.
1"=30' VERT.

NOTE CONTRACTOR HAS THE FOLLOWING (2) OPTIONS FOR PROPOSED MANHOLE:

OPTION 1 – FIBERGLASS MH WITH A MIN. 6" CONCRETE ENCASEMENT AND WWF 4X4 W2.1/W2.1 STEEL REINFORCEMENT WRAPPED AROUND FRP MH. SEE SHT 25.

OPTION 2 – PRECAST CONCRETE MH WITH T–LOCK LINER. SEE SHT 26

M.H. #3

STA. 0+00
PROP. DOG–HOUSE MANHOLE CENTERED BETWEEN M.H. #1 AND M.H. #2.
TOP EL. = 29.30 +/–
INV. EL. = 17.08(E)
INV. EL. 17.32± (N) CALCULATED
PLUG 24" P.V.C.P.(SOUTH)WITH BRICK AND MORTAR. AFTER ACCEPTANCE OF NEW PUMP STATION, SEAL SOUTH OPENING WITH CONCRETE AND CONSTRUCT MANHOLE BENCHING.

M.H. #4

STA. 0+65
PROP. 4' DIAMETER MANHOLE TOP EL. 30.10
INV. EL. = 17.03(W)
INV. EL. = 17.01(E)

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

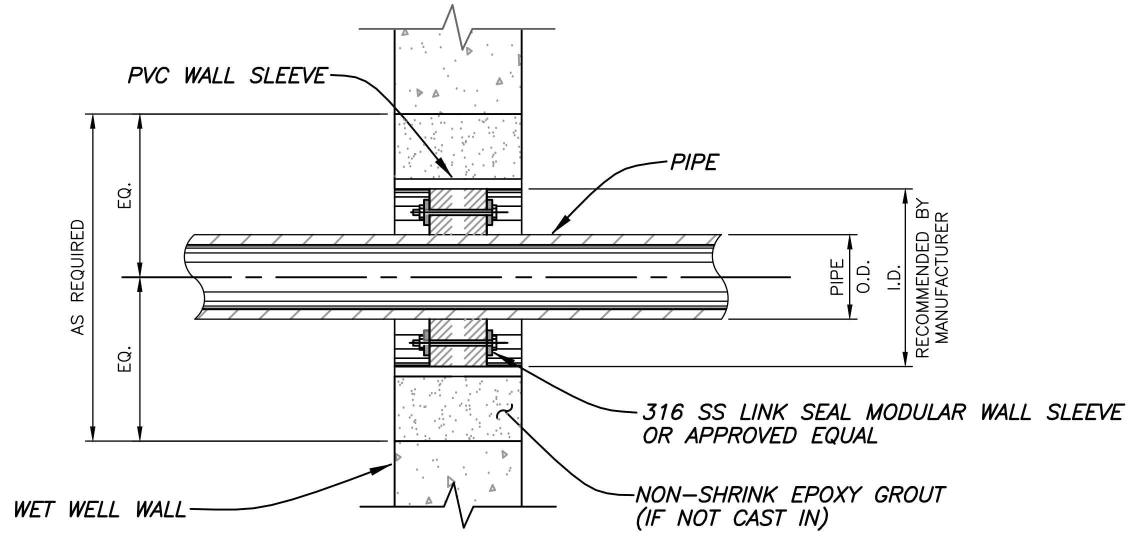
DES: J.P.W.
DRN: W.A.
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

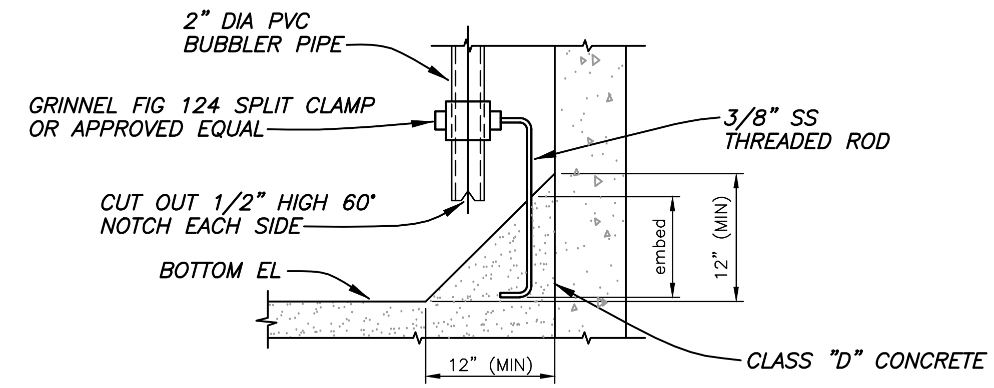
OSBORNE AVE. PUMP STATION
PROFILE VIEW

W.O. 5896
SHEET 14 OF 38

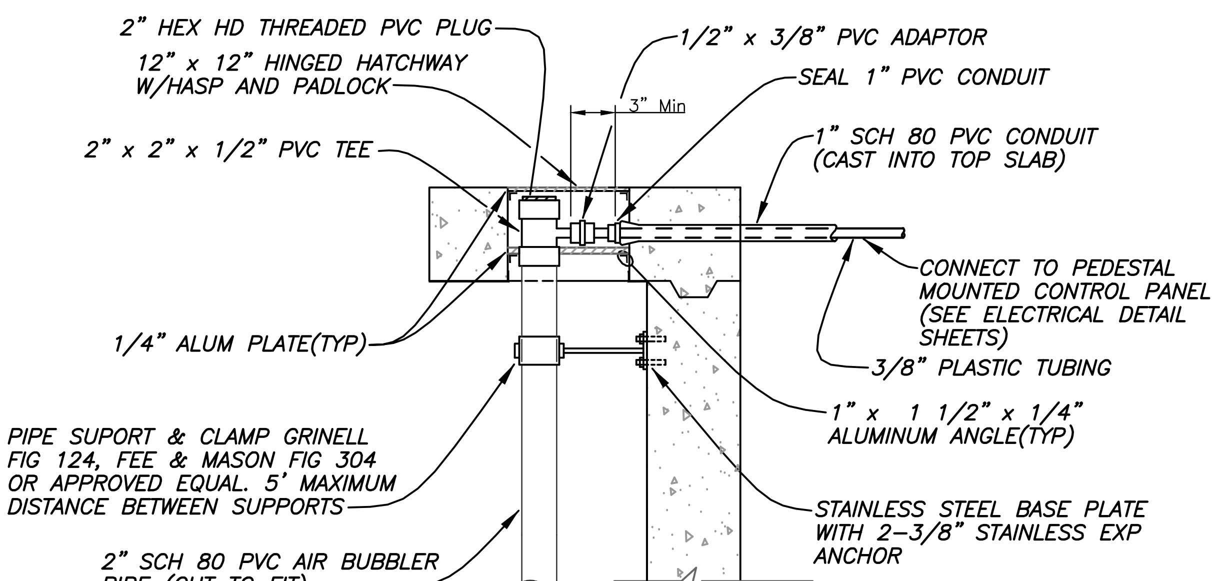
B077-060



DETAIL "A"
NOT TO SCALE

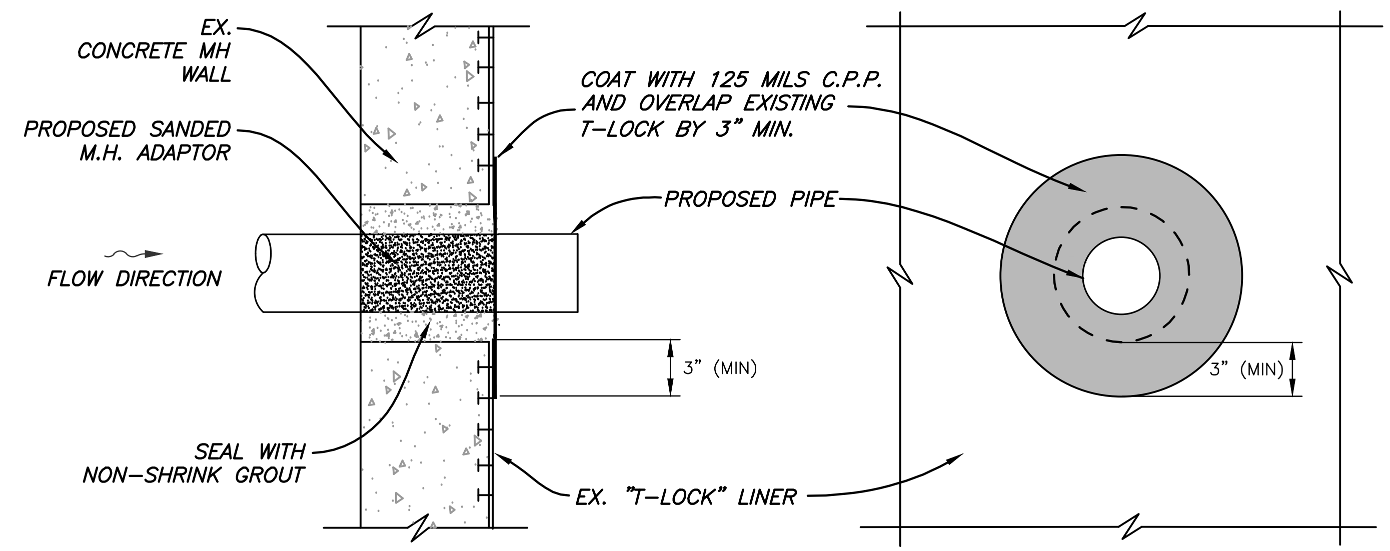


DETAIL "B"
NOT TO SCALE



DETAIL "C"
NOT TO SCALE

NOTE: ALL P.V.C. TO BE SCH. 80



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

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

No.	DATE	REVISIONS
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DES: M.S./J.F.
DRN: J.H.J
CKD:
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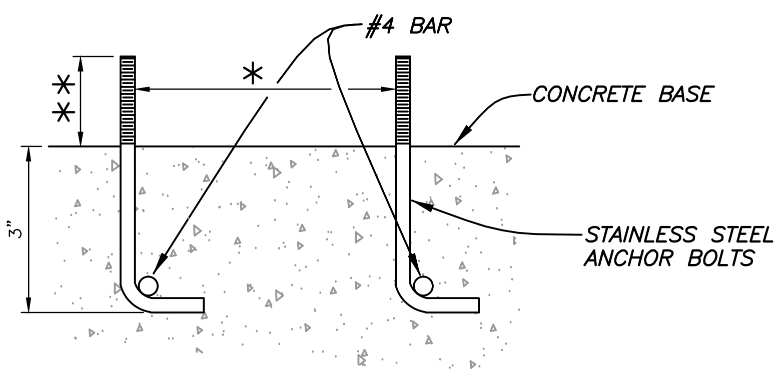
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
DETAILS (3)

W.O. 5896
SHEET
15

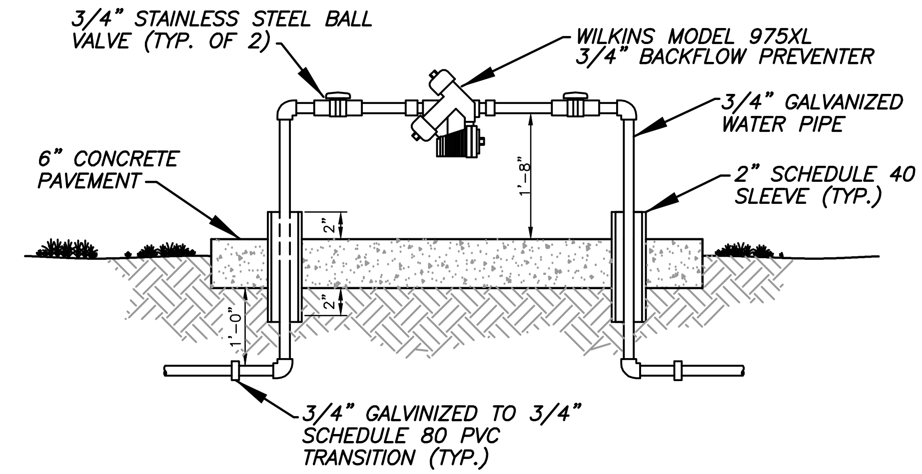
B077–061



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

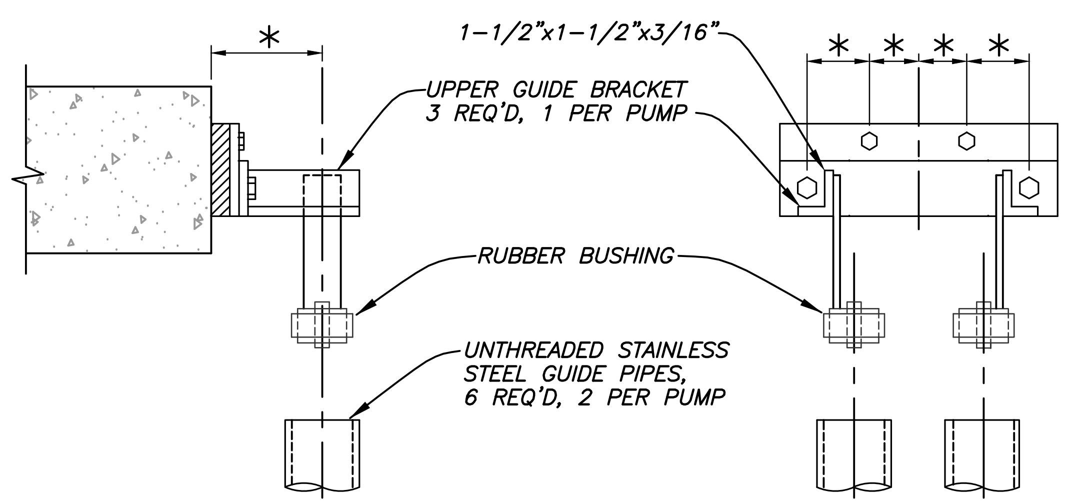
** CONTRACTOR SHALL PROVIDE A MINIMUM 1/2 INCH BOLT PROTRUSION ABOVE THE FINAL NUT LOCATION AFTER THE NUT IS TIGHTENED TO MANUFACTURER'S RECOMMENDATION.

ANCHOR BOLT DETAIL "E"
NOT TO SCALE

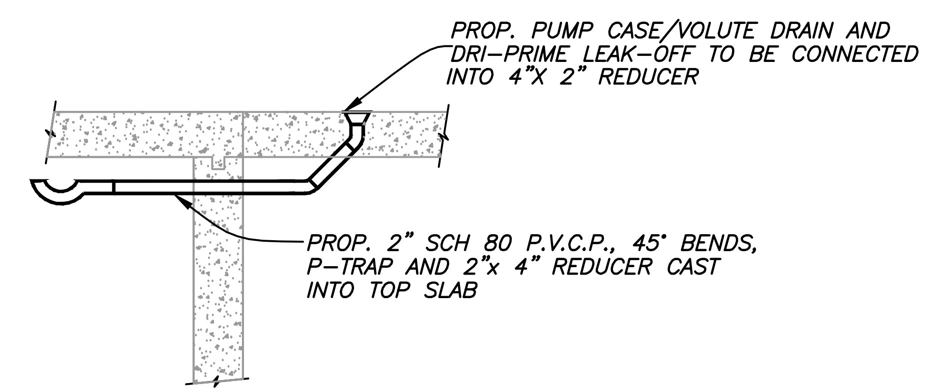


BACKFLOW PREVENTER DETAIL "H"
NOT TO SCALE

* PER PUMP MANUFACTURER'S RECOMENDATION



GUIDE BRACKET DETAIL "F" (SUPPLIED WITH PUMPS)
NOT TO SCALE



BACK UP PUMP DRAIN DETAIL "G"
NOT TO SCALE

	No.	DATE	REVISIONS				
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: M.S./J.F. DRN: J.H.J CKD: DATE: 05/13/13	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION DETAILS (4)	W.O. 5896 SHEET 16
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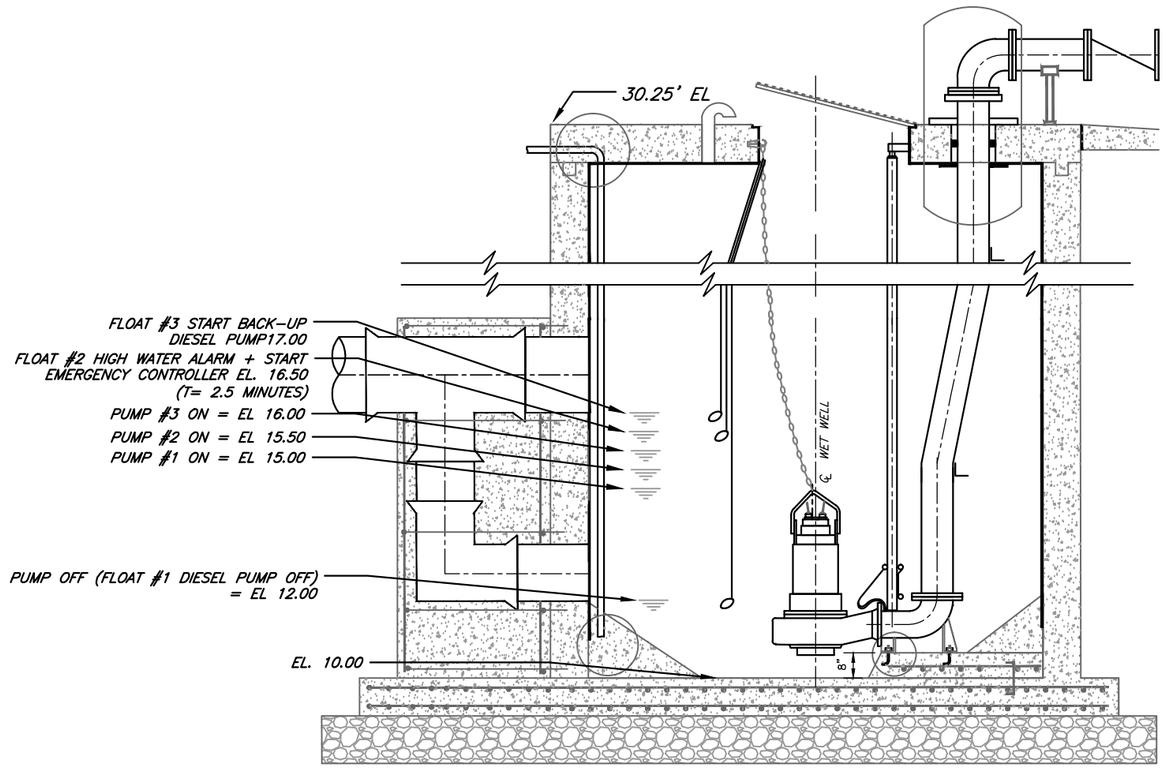
B077–062



RECCOMMENDED OPERATING ELEVATIONS

1/4" = 1'-0"

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

No.	DATE	REVISIONS
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CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION OPERATING ELEVATIONS

W.O. 5896
SHEET 17

B077–063

14.86 PROPOSED ELEVATION

00.00 EXISTING ELEVATION

DRAINAGE FLOW

PROPOSED 6" CONCRETE UNLESS OTHERWISE NOTED ON PLANS

Property Line

M

M

28.83

29.25

48'–4"

29.50

29.58

29.75

10' R

29.16

28.92

29.25

29.50

29.25

29.75

29.25

29.50

18'–00"

12'–00"

29.25

50'–1"

29.75

10' R

7'–0 MIN

5'–5"

35'–3"

29.01

9'–9"

30.25

30.25

30.25

30.00

30.25 LEVEL

30.00

29.01

30.25

30.25

30.25

30.00

30.00

11'

6'

14'

10'

7'–10"

14'

10'

14'

7'

28.42

GEOMETRIC LAYOUT
1"=10'

PLOTTED BY: MichaelF Salgado DRAWING FILE: K:\ww_projects\2012\2012_5896_o sborne ave ps\DWG\PROPOSED SITE PLAN.DWG
PLOT DATE: Monday, June 17, 2013 3:28:03 PM LAST SAVED BY: es1 CTB - WW-TOSHIBA.CTB

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

No.	DATE	REVISIONS
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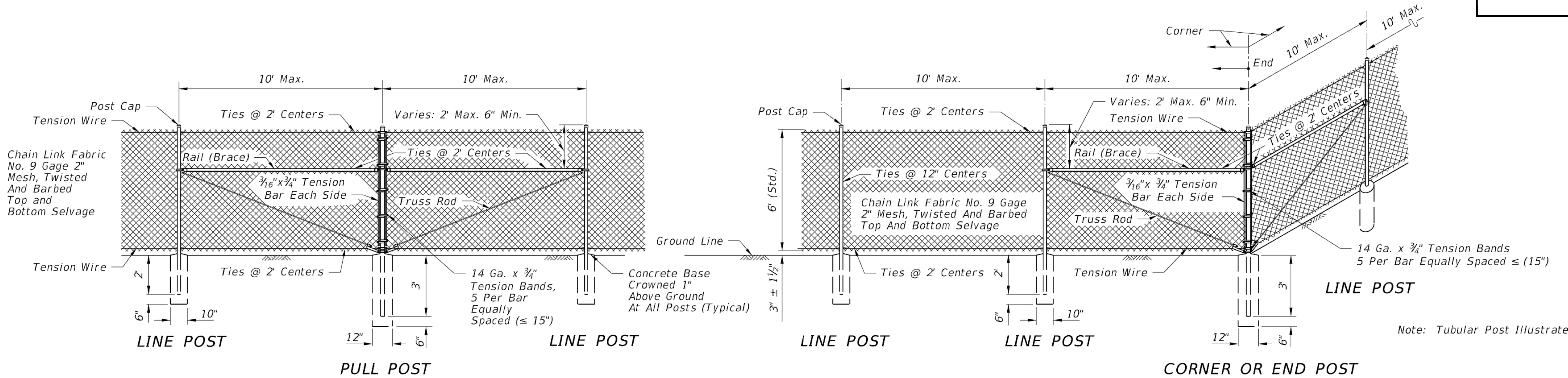
DES: M.S./J.F.
DRN: W.A./J.H.J.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION GEOMETRIC LAYOUT

W.O. 5896
SHEET 18

B077–064



GENERAL NOTES

1. This fence to be used generally in urban areas.
2. For supplemental information refer to Section 550 of FDOT Standard Specifications.
3. Chain link fabric, post, truss rods, tension wires, tie wires, stretcher bars, gates and all miscellaneous fittings and hardware shall meet the requirements of AASHTO and ASTM signify current reference.
4. Fence Component Options:
   A. Line post options:
      (1) Galvanized steel pipe, Schedule 40– $1\frac{1}{2}$" nominal dia. zinc galvanized at the rate of 1.8 oz./ft^2.: ASTM A53 Table 2 (Grade A or B), ASTM F1083, and AASHTO M111.
      (2) Aluminum coated steel pipe: ASTM A53, Table 2 (Grade A or B): Schedule 40– $1\frac{1}{2}$" nominal dia., 1.90" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
      (3) Aluminum alloy pipe– 2" nominal dia.: ASTM B241 or B221, Alloy 6063, T6.
      (4) Steel H–Beam– $1\frac{7}{8}$"x $1\frac{5}{8}$": Zinc Galv. 1.8 oz./ft.: AASHTO M111 and Detail.
      (5) Aluminum alloy H–Beam– $1\frac{7}{8}$"X $1\frac{5}{8}$" Detail.
      (6) Steel C– $1\frac{7}{8}$"X $1\frac{5}{8}$": Galv.: 1.8 oz/ft. zinc: AASHTO M111; OR , 0.9 oz./ft^2. zinc–5% aluminum–mischmetal: ASTM F1043 and Detail.
      (7) Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 2" OD, $1\frac{1}{2}$" NPS, 1.900" dec. equiv., 0.120" min. wall thick. and min. wt. 2.28 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15μg/in^2. min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.

   B. Corner, end, and pull post options:
      (1) Galvanized steel pipe, Schedule 40– 2" nominal dia. zinc galvanized at the rate of 1.8 oz./ft^2.: ASTM A53 Table X 2, ASTM F1083, and AASHTO M111.
      (2) Aluminum coated steel pipe: ASTM A53 steel, X 2 Tables: Schedule 40; 2" nominal dia., 2.375" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
      (3) Aluminum alloy pipe– $2\frac{1}{2}$" nominal dia.: ASTM B241 or B221, Alloy 6063,T6.
      (4) Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry $2\frac{1}{2}$" OD, 2" NPS, 2.375" dec. equiv., 0.130"min. wall thick. and min. wt. 3.117 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15μg/in^2. min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.

   C. Rail options:
      (1) Galvanized steel pipe, Schedule 40– $1\frac{1}{4}$" nominal dia. zinc galvanized at the rate of 1.8 oz./ft^2.: ASTM A53 Table X 2, ASTM F1083, and AASHTO M111.
      (2) Aluminum coated steel pipe; ASTM A53 steel, X 2 Tables Schedule 40; $1\frac{1}{4}$" nominal dia., 1.660" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
      (3) Aluminum alloy pipe– $1\frac{1}{4}$" nominal dia.: ASTM B241 or B221, Alloy 6063, T6.
      (4) Resistance welded steel pipe; 50,000 psi min. yeild strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry $1\frac{5}{8}$" OD, $1\frac{1}{4}$" NPS, 1.660" dec. equiv., 0.111" min. wall thick. and min. wt. 1.836 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15μg/in^2. min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.

   D. Chain link fabric options (2" mesh with twisted and barbed selvage top and bottom for all options except as described in Note No. 10):
      (1) AASHTO M181 Type I – Zinc Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 1.8 oz./ft^2. (M181 Class D 2.0 oz./ft^2. modified to 1.8 oz./ft^2.).
      (2) AASHTO M181 Type II –Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.40 oz./ft^2.
      (3) AASHTO M181 Type IV– Polyvinyl Chloride (PVC) Coated Steel, No. 9 guage (coated core wire diameter), core wire–zinc coated steel. PVC coating: M181 Class A (either extruded or extruded and bonded) or Class B (bonded). See table right. Unless the plans call for M181 standard colors medium green, dark green or black the coating color shall be soft gray matching that of No. 36622 of Federal Standard 595a.

   E. Tension wire options:
      (1) Steel wire No. 7 gage zinc galvanized at the rate of 1.2 oz./ft^2.: AASHTO M181.
      (2) Aluminum alloy wire with a diameter of 0.1875" or larger conforming to the requirements of ASTM B211, Alloy 5056 Temper H38, or, Alclad Alloy 5056 Temper H192.
      (3) Aluminum coated steel wire No.7 gage coated at the rate of 0.040 oz./ft^2.: AASHTO M181.

   F. Tie wire and hog ring options:
      (1) Steel wire No.9 gage zinc galvanized at the rate of 1.2 oz./ft^2.
      (2) Aluminum alloy wire with a diameter of 0.1443" or larger conforming to the requirements of ASTM B211, Alloy 5056 Temper H38, or, Alclad Alloy 5056 Temper H192.
      (3) Aluminum coated steel wire No. 7 gage coated at the rate of 0.040 oz./ft^2.

	No.	DATE	REVISIONS				W.O. 5896
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: M.S./J.F.	CITY of TAMPA	OSBORNE AVE. PUMP STATION	SHEET
	2			DRN: J.H.J.	WASTEWATER DEPARTMENT	TYPE "B" FENCE	19
	1			CKD:			
				DATE: 05/13/13			

B077–065

1. AFTER CONSTRUCTION OF THE NEW PUMP STATION VALVE MANIFOLD AND A PORTION OF THE NEW 12–INCH DISCHARGE FORCE MAIN TO THE VICINITY OF THE EXISTING 10–INCH FORCE MAIN, SHUT DOWN PUMPS NUMBER 3 AND 4 IN THE EXISTING PUMP STATION. THE PORTION OF THE NEW 12–INCH DISCHARGE FORCE MAIN SHALL INCLUDE A 12–INCH TEE WITH A CLOSED 12–INCH PLUG VALVE AND 12" FM EXTENSION TO LOIS AVE. WEST OF PROPERTY LINE APPROXIMATELY 170' AND A CLOSED 12–INCH PLUG VALVE ON THE SOUTH END OF THE TEE.

2. INSTALL A LINE STOP ON THE 10–INCH FORCE MAIN IN THE AREA OF THE WOODEN POST AND BEAM BARRIER TOWARD THE EAST, FAR ENOUGH AWAY TO AVOID THE PLANNED CONSTRUCTION.

3. CLOSE THE VALVE ON THE 8–INCH DIP CONNECTING THE TWO EXISTING FORCE MAINS LOCATED OUTSIDE OF THE SOUTHEAST CORNER OF VALVE VAULT #2 (EAST VALVE VAULT). THIS ALLOWS PUMPS NUMBER 1 AND 2 TO CONTINUE PUMPING SEWAGE THROUGH THE 12–INCH FORCE MAIN.

4. OPEN ONE OF THE CHECK VALVES IN THE VALVE VAULT #2 AND ALLOW THE SEWAGE IN THE 10–INCH FORCE MAIN TO DRAIN INTO THE EXISTING PUMP STATION WET WELL.

5. CONTINUE CONSTRUCTING THE 12–INCH DISCHARGE FORCE MAIN TO THE EXISTING 10–INCH FORCE MAIN AT WHICH POINT REMOVE A PORTION OF THE 10–INCH FORCE MAIN AND INSTALL A 12–INCH BY 10–INCH CROSS. CONNECT THE 10–INCH FORCE MAIN ONTO THE EAST BRANCH OF THE CROSS USING A CUTTING–IN SLEEVE. CONNECT THE 10–INCH FORCE MAIN ONTO THE WEST BRANCH OF THE CROSS WITH A 12–INCH LONG SPOOL PIECE, AN OPEN 10–INCH PLUG VALVE AND A CUTTING–IN SLEEVE.

6. INSTALL A CLOSED 12–INCH PLUG VALVE ONTO THE SOUTH END OF THE 12–INCH CROSS.

7. REMOVE THE LINE STOP FROM THE 10–INCH FORCE MAIN AND RESTART PUMPS NUMBER 3 AND 4.

8. SHUT DOWN PUMPS NUMBER 1 AND 2 IN THE EXISTING PUMP STATION AND INSTALL A LINE STOP ON THE 12–INCH FORCE MAIN IN THE AREA OF THE WOODEN POST AND BEAM BARRIER TOWARD THE EAST, FAR ENOUGH AWAY TO AVOID THE PLANNED CONSTRUCTION. THIS ALLOWS PUMPS NUMBER 3 AND 4 TO CONTINUE PUMPING SEWAGE THROUGH THE 10–INCH FORCE MAIN.

9. OPEN ONE OF THE CHECK VALVES IN VALVE VAULT #1 (WEST VALVE VAULT) AND ALLOW THE SEWAGE IN THE 12–INCH FORCE MAIN TO DRAIN INTO THE EXISTING PUMP STATION WET WELL.

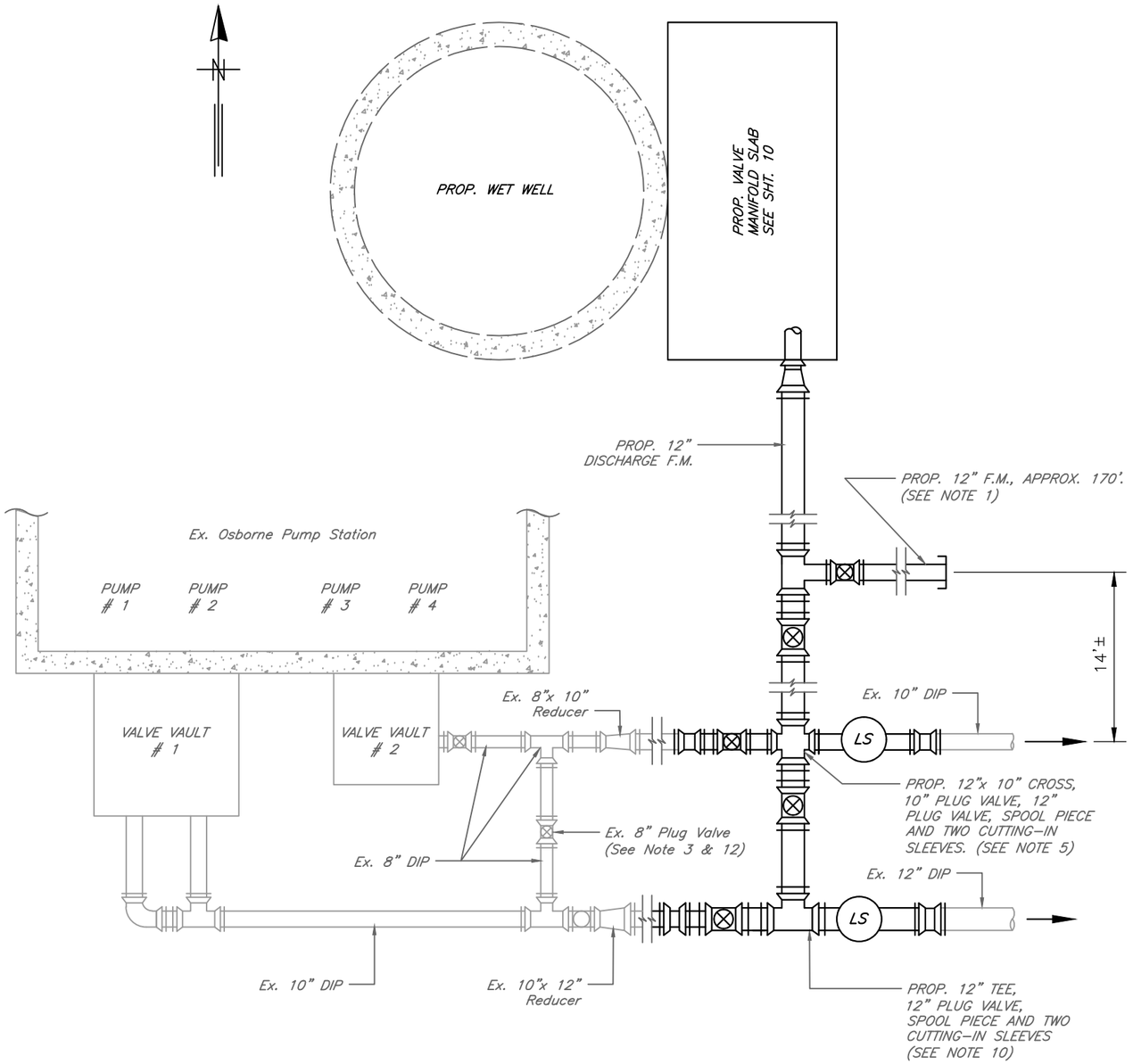
10. CONTINUE CONSTRUCTING THE 12–INCH DISCHARGE FORCE MAIN TO THE EXISTING 12–INCH FORCE MAIN AT WHICH POINT REMOVE A PORTION OF THE 12–INCH FORCE MAIN AND INSTALL A 12–INCH TEE, CONNECT THE 12–INCH FORCE MAIN ONTO THE EAST RUN OF THE TEE USING A CUTTING IN SLEEVE, CONNECT THE 12–INCH FORCE MAIN ONTO THE WEST RUN OF THE TEE WITH A 12–INCH LONG SPOOL PIECE, AN OPEN 12–INCH PLUG VALVE AND A CUTTING–IN SLEEVE.

11. REMOVE THE LINE STOP FROM THE 12–INCH FORCE MAIN AND RESTART PUMPS NUMBER 1 AND 2.

12. OPEN THE VALVE ON THE 8–INCH DIP CONNECTING THE TWO EXISTING FORCE MAINS LOCATED OUTSIDE OF THE SOUTHEAST CORNER OF THE EAST VALVE VAULT AND THE VALVE ON THE SOUTH END OF THE CROSS MENTIONED IN STEP SIX. THIS WILL ALLOW THE PUMP STATION TO CONTINUE OPERATING AS BEFORE.

13. AFTER THE NEW PUMP STATION HAS BEEN INSPECTED, TESTED AND ACCEPTED, OPEN THE 12–INCH PLUG VALVE ON THE SOUTH END OF THE TEE MENTIONED IN STEP ONE AND CLOSE THE 10–INCH PLUG VALVE MENTIONED IN STEP FIVE AND THE 12–INCH PLUG MENTIONED VALVE MENTIONED IN STEP TEN.

14. REMOVE THE 10–INCH AND 12–INCH FORCE MAINS BACK TO THE ORIGINAL PUMP STATION AND CAP BOTH THE 10–INCH AND 12–INCH PLUG VALVES.



PROPOSED CONNECTION TO EXISTING FORCE MAINS

N.T.S.

NOTE: (A) ALL CONNECTIONS ARE TO BE MADE WITH DIP FITTINGS, C900 PVC PIPE AND RESTRAINED.

(B) EXCAVATING BOTH 10–INCH AND 12–INCH FORCE MAIN IN THE VICINITY OF THE PROPOSED INTERCONNECTIONS TO EXPOSE THE RELATIVE ELEVATIONS OF THE FORCE MAINS. INFORM THE ENGINEER IF THE PROPOSED INTERCONNECTION CANNOT BE MADE USING STANDARD BENDS AND/OR DEFLECTIONS

PLOTTED BY: MichaelF. Salgado, DRAWING FILE: K:\wp_projects\2012\2012_5896_-_sharma_ave_pw\DWG\PLAN VIEW ORD.DWG
PLOT DATE: Monday, June 17, 2013 4:49:33 PM LAST SAVED: 6/7/2013 CTB WWW.TOSHIBA.COM/CTB

	No.	DATE	REVISIONS
	3		
	2		
	1		

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

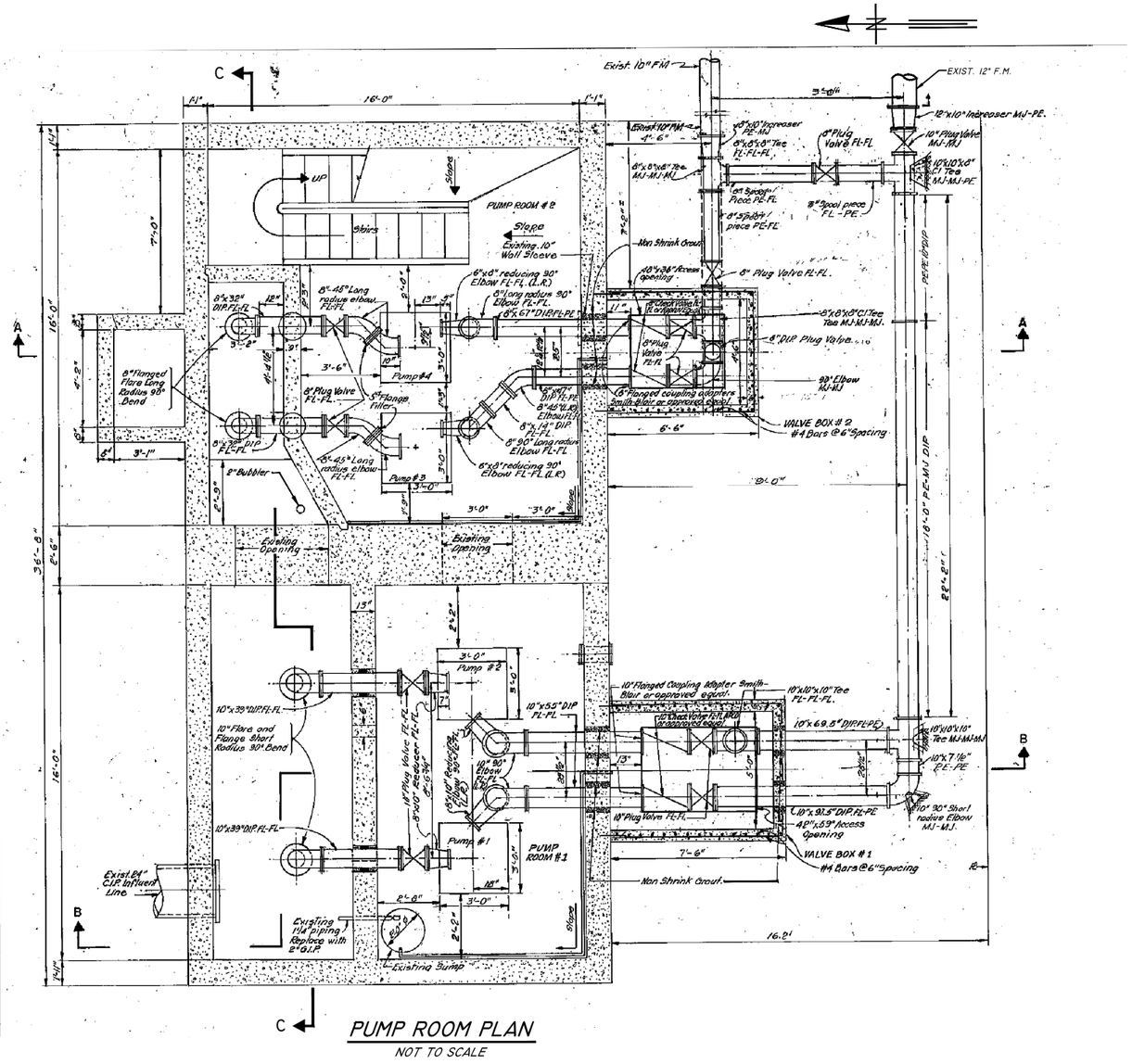
DES: M.S./J.F.
DRN: J.H.J.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

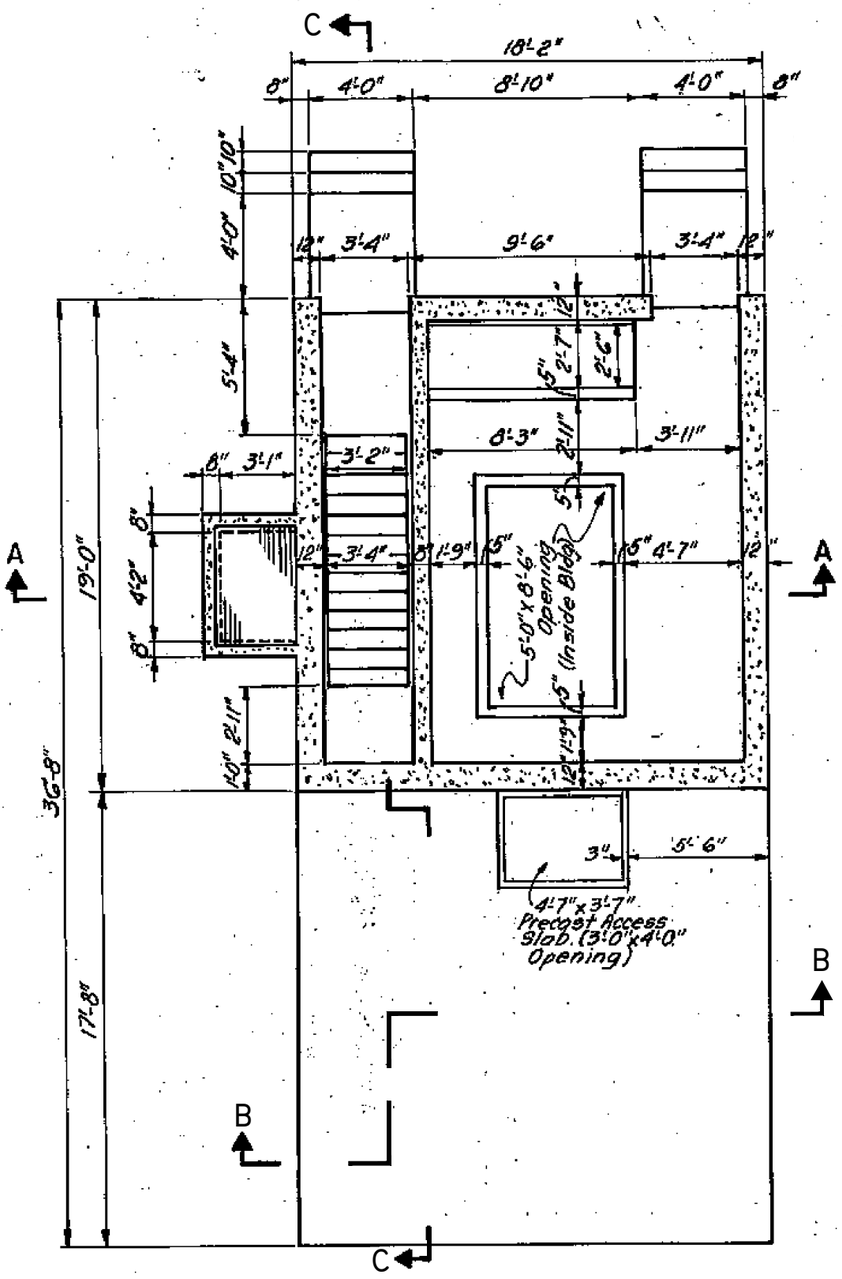
OSBORNE AVE. PUMP STATION
FORCE MAIN INTERCONNECTIONS

W.O. 5896
SHEET 20

B077-066



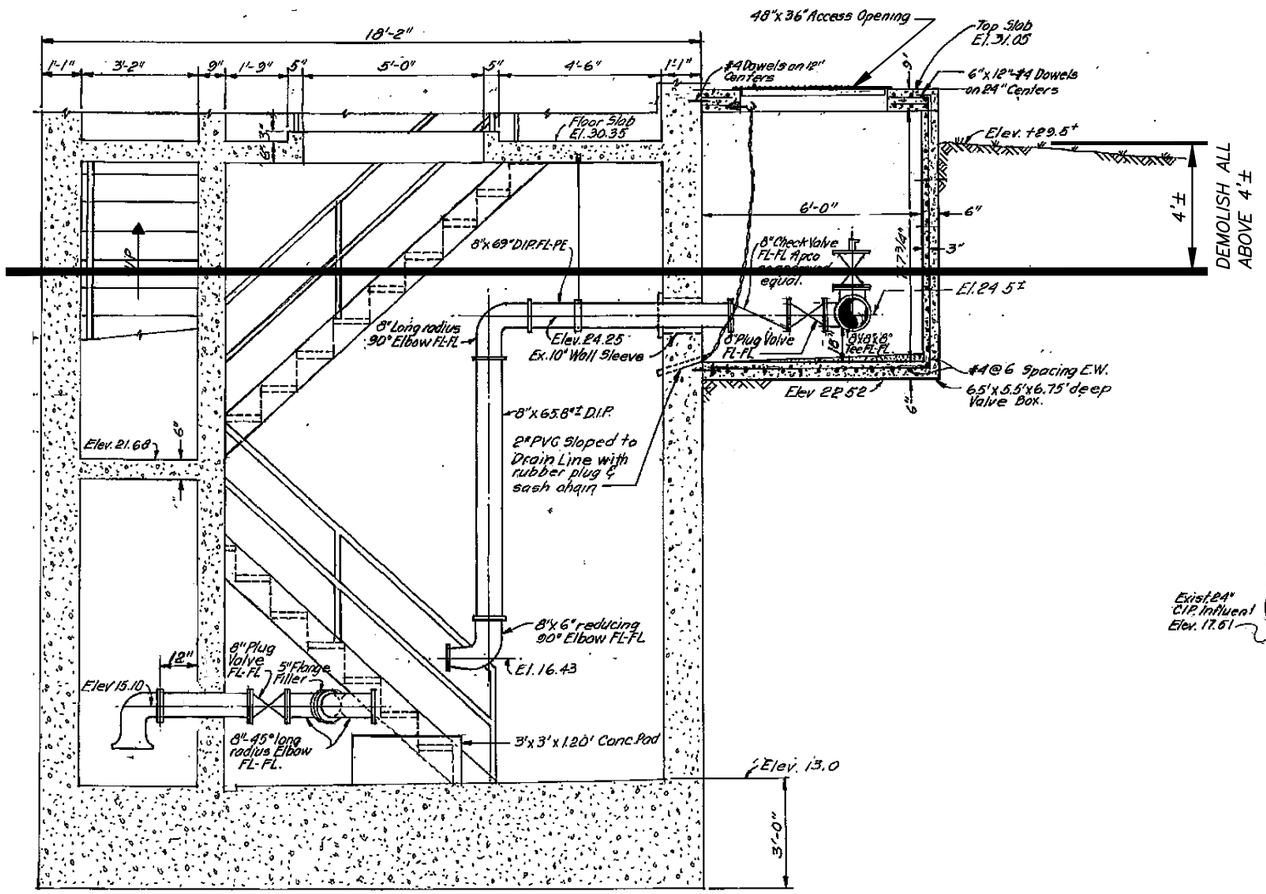
PUMP ROOM PLAN
NOT TO SCALE



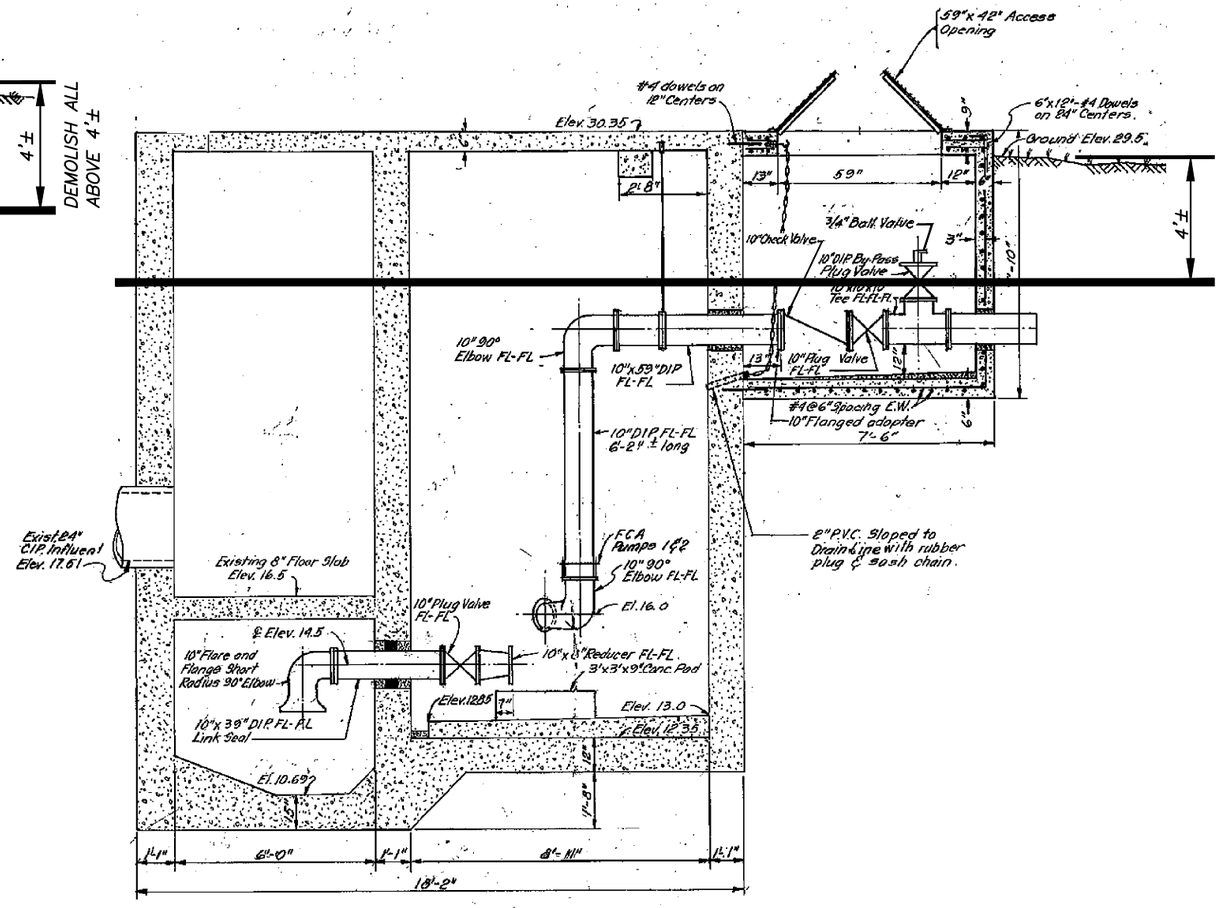
GROUND FLOOR PLAN
NOT TO SCALE

	No.	DATE	REVISIONS			
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: J.P.W. DRN: W.A. CKD: DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION GROUND AND BELOW DEMOLITION PLAN	W.O. 5892 SHEET 21 OF 38
	2						
	1						

B077–067



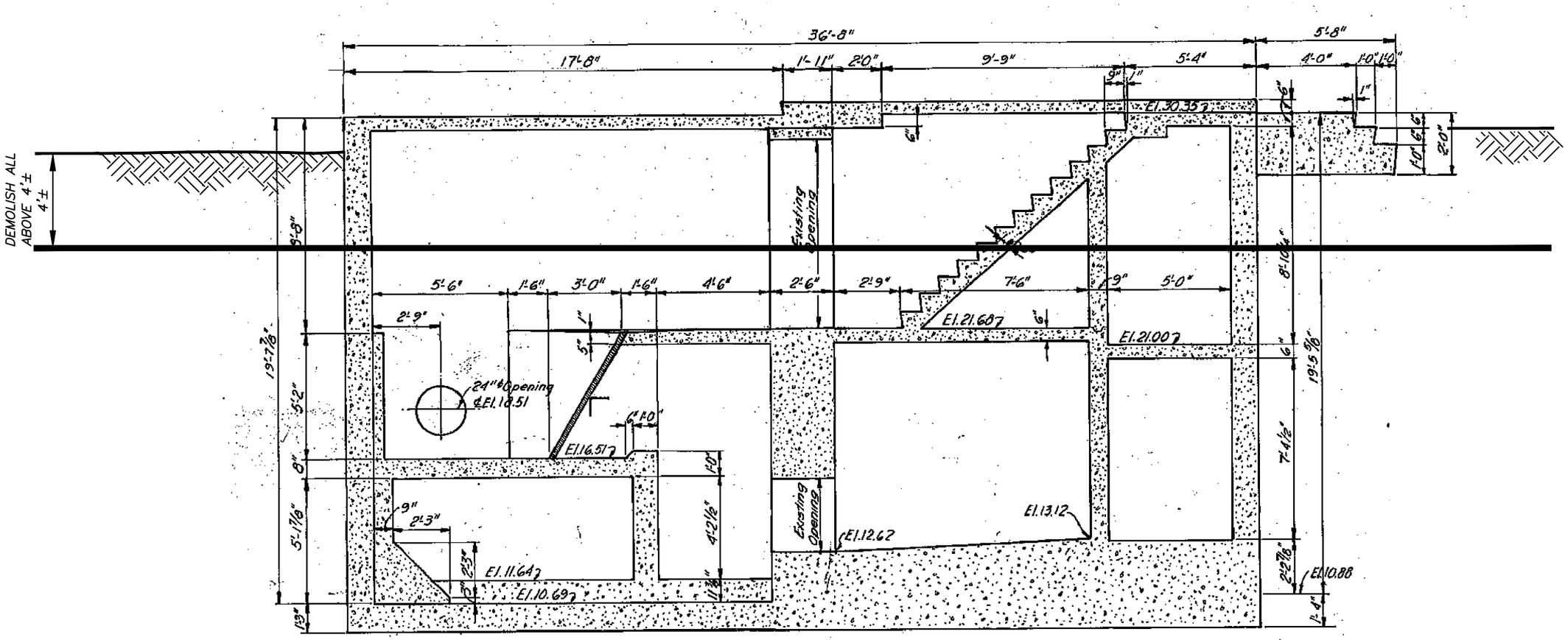
SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

NOTES:
1. DEMOLISH ALL ITEMS DOWN TO 4–FEET (±) BELOW EXISTING GROUND ELEVATION.
2. FILL REMAINING VOIDS WITH FDOT FLOWABLE FILL.
3. MAY USE CONCRETE, MASONARY, METAL OR OTHER NON–DEGRADABLE MATERIAL AS A FILLER IN THE FLOWABLE FILL.
4. BACKFILL WITH CLEAN, COMPACTED EARTH FILL TO MATCH EXISTING GROUND ELEVATIONS.

	No.	DATE	REVISIONS			
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: J.P.W. DRN: W.A. CKD: DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STAION DEMOLITION PLAN SECTION "A-A" AND "B-B"	W.O. 5896 SHEET 22 OF 38
	2						
	1						

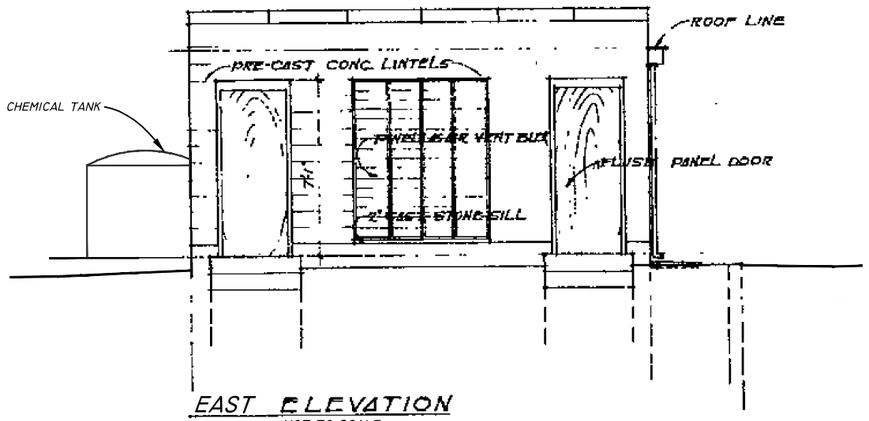


SECTION C-C

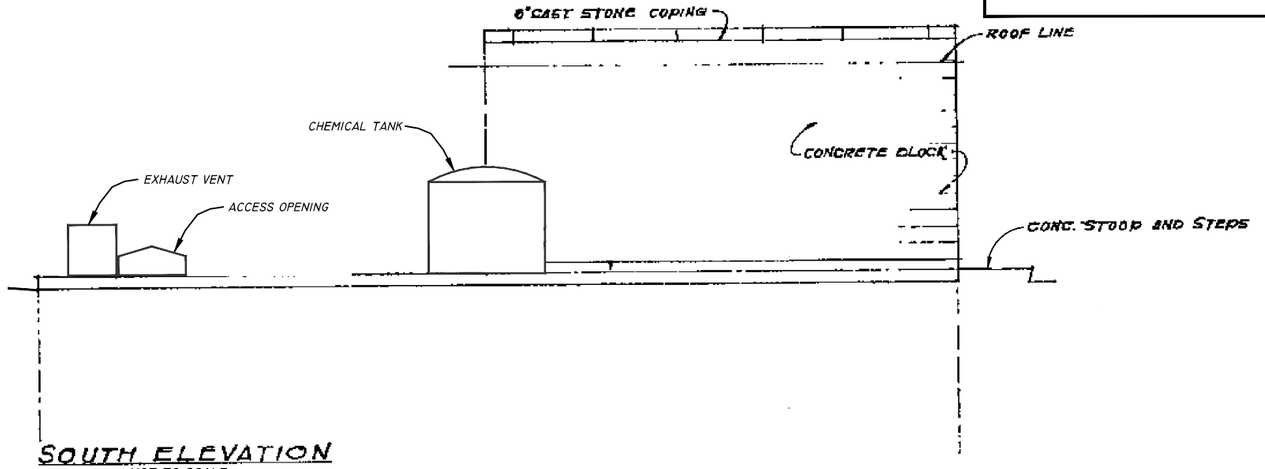
NOT TO SCALE

	No.	DATE	REVISIONS				
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: J.P.W DRN: W.A. CKD: DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION DEMOLITION PLAN SECTION "C-C"	W.O. 5896 SHEET 23 OF 38
	2						
	1						

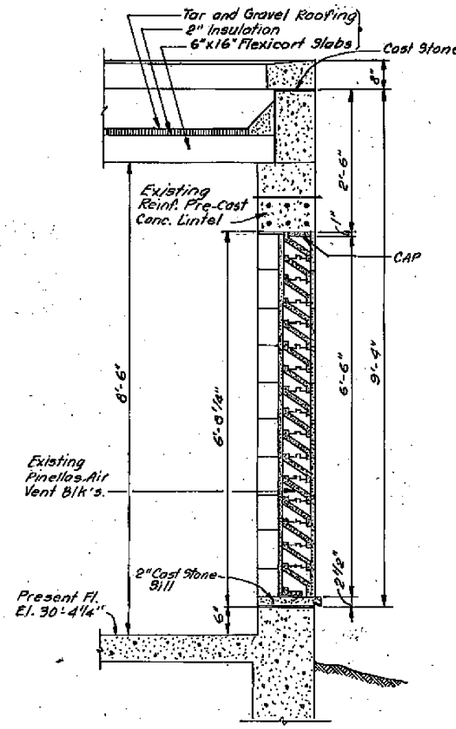
B077-069



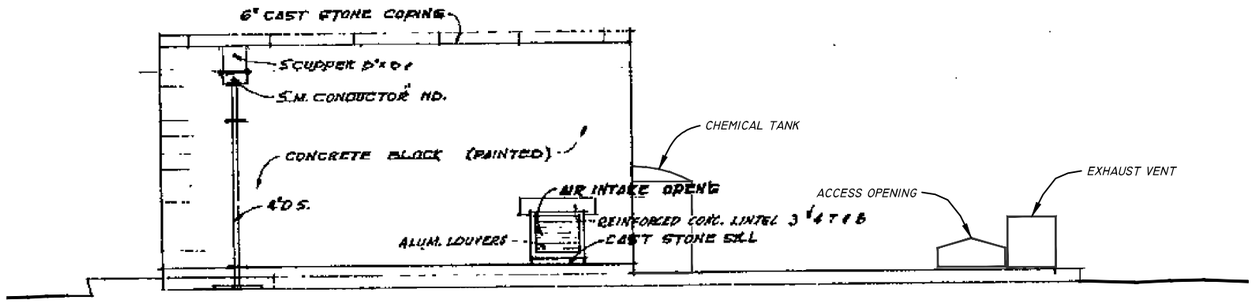
EAST ELEVATION
NOT TO SCALE



SOUTH ELEVATION
NOT TO SCALE



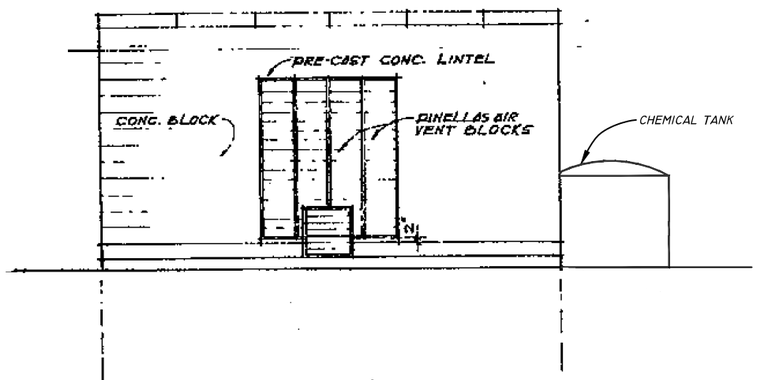
TYPICAL WALL SECTION
NOT TO SCALE



NORTH ELEVATION
NOT TO SCALE

NOTES: 1. RELOCAT CHEMICAL TANK TO NEW PUMP STATION.

2. DEMOLISH EXISTING PUMP STATION TO 4-FEET± BELOW EXISTING GROUND ELEVATION.



WEST ELEVATION
NOT TO SCALE

	No.	DATE	REVISIONS			
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: J.P.W. DRN: W.A. CKD: J.F. DATE:	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION ABOVE GROUND DEMOLITION PLAN
	2					
	1					

W.O. 5896
SHEET 24 OF 38

NOTES

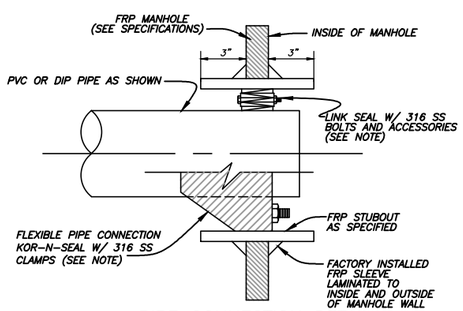
1. FIBERGLASS REINFORCED POLYESTER (FRP) MANHOLES SHALL CONFORM TO ASTM D-3753 LATEST EDITION.
2. THE MANHOLE BOTTOM SHALL BE INTEGRALLY JOINED TO THE BARREL SECTION AND SHALL BE A MINIMUM OF 1/2" THICK. TO ALLOW THE MANHOLE TO BE ANCHORED TO THE PRECAST BOTTOM SLAB, THE MANHOLE BOTTOM SHALL EXTEND 3 INCHES BEYOND THE OUTER EDGE OF THE BARREL.
3. FRP MANHOLES SHALL BE ANCHORED TO THE PRECAST CONCRETE BOTTOM SLAB WITH HILTI 316 STAINLESS STEEL KWIK BOLT II WEDGE ANCHORS OR APPROVED EQUAL. THE SIZE, NUMBER OF ANCHORS, EMBEDMENT DEPTH, ETC. SHALL BE AS INDICATED IN TABLE "A" AND SHALL BE BASED ON THE DEPTH OF THE MANHOLE. THE DEPTH OF THE MANHOLE SHALL BE MEASURED FROM THE RIM ELEVATION TO THE BOTTOM OF THE MANHOLE. THE ANCHORS SHALL BE INSTALLED A MINIMUM OF 1-1/2" FROM THE OUTER EDGE OF THE ANCHORING FLANGE AND SHALL BE EQUALLY SPACED AROUND THE CIRCUMFERENCE OF THE MANHOLE.
4. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS AND PLACEMENTS AND COMPACTION OF PIPE AND STRUCTURE BEDDING.
5. ALL PIPE STUBS FROM MANHOLES FOR FUTURE CONNECTIONS OR OTHER CONTRACT DIVISIONS SHALL BE PROVIDED WITH WATERTIGHT PLUGS PLACED FROM WITHIN THE MANHOLE.

TECHNICAL DATA FOR HILTI 316 S.S. KWIK BOLT II

	ANCHOR BOLT SIZE		
	1/2"	5/8"	3/4"
MINIMUM PULL-OUT CAPACITY (LBS):	2130	2930	3870
MINIMUM EMBEDMENT DEPTH (IN):	3 1/2	4	4 3/4

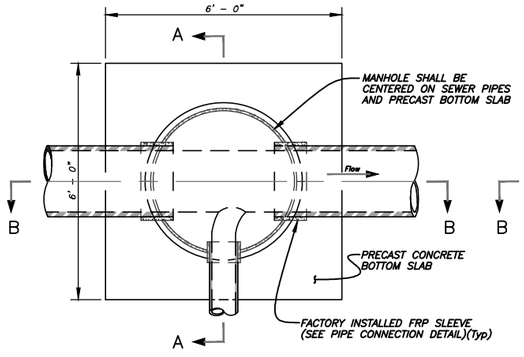
* ABOVE DATA IS BASED ON 4000 PSI CONCRETE

TABLE "A"		
MANHOLE DEPTH (FT)	ANCHOR SIZE (IN)	NUMBER OF ANCHORS
0 - 5	1/2	4
5 - 10	1/2	6
10 - 15	5/8	6
15 - 20	3/4	6
20 - 25	3/4	8

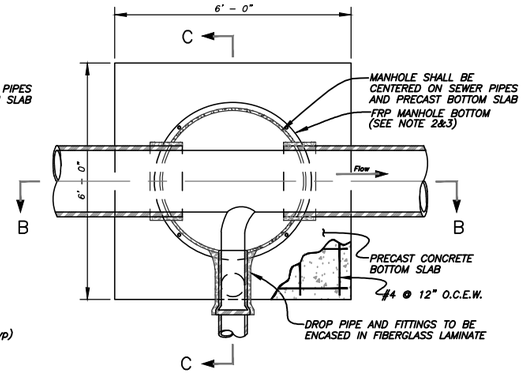


PIPE CONNECTION DETAIL

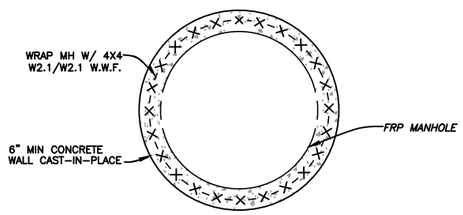
NOTE:
FORCE MAIN PIPE CONNECTIONS TO FRP MANHOLES SHALL BE MADE WITH "LINK SEAL."
GRAVITY SEWER PIPE CONNECTIONS SHALL BE MADE WITH "KOR-N-SEAL."



SECTIONAL PLAN

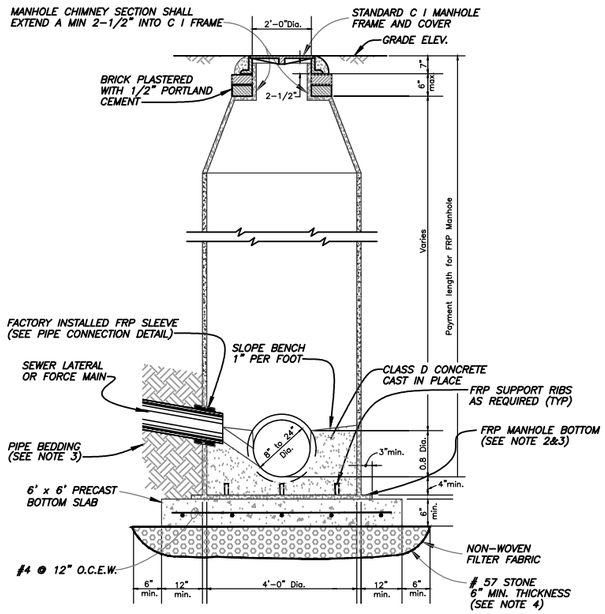


SECTIONAL PLAN
FRP DROP MANHOLE

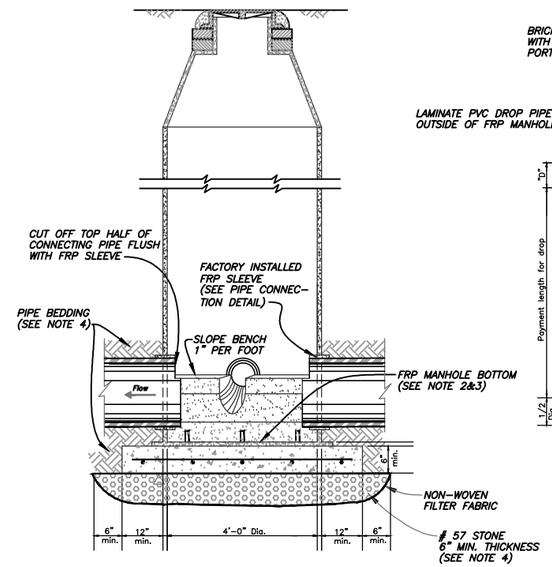


CAST-IN-PLACE WRAP DETAIL

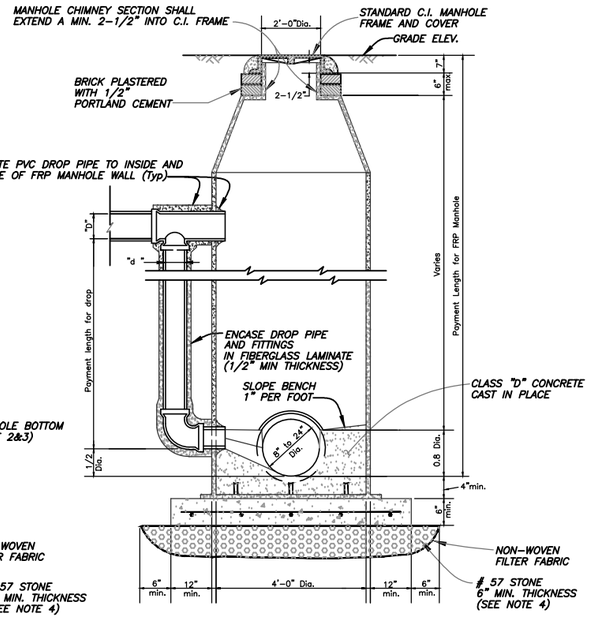
SCHEDULE FOR DROP MANHOLE	
INLET PIPE DIAMETER "D"	DROP PIPE DIAMETER "d"
8"	8"
10"	8"
12"	10"
15"	12"
18"	15"
21"	18"
24"	18"
27"	18"



SECTION A-A



SECTION B-B



SECTION C-C

	No.	DATE	REVISIONS
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3		
	2		
	1		

DES: M.S./J.F.
DRN: W.A./J.H.J.
CKD:
DATE: 05/13/13

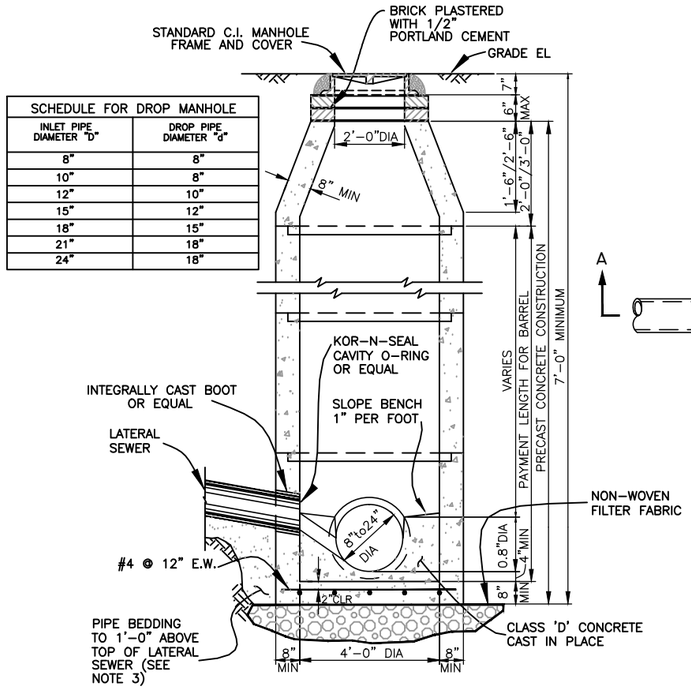
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
FIBERGLASS MANHOLE

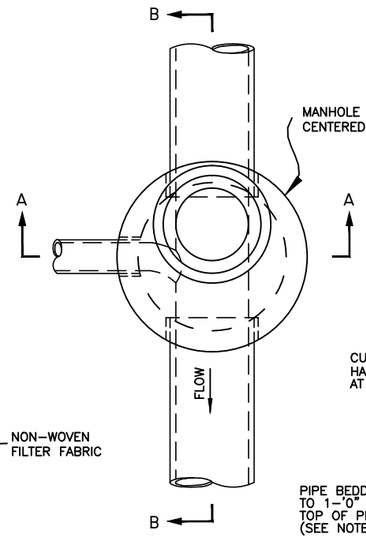
W.O. 5896
SHEET 25

B077-071

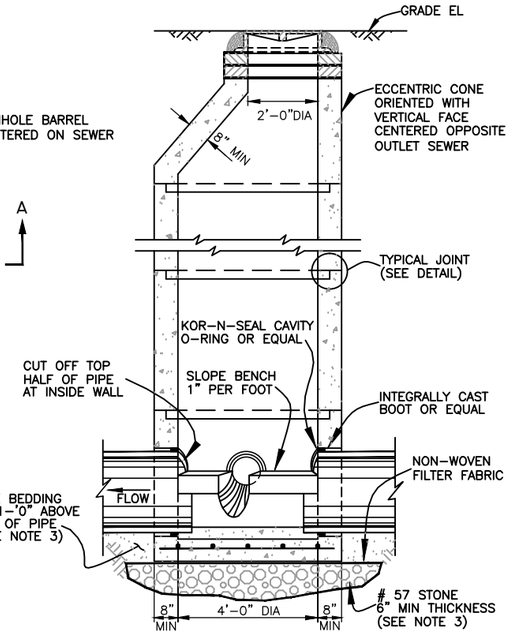
SCHEDULE FOR DROP MANHOLE	
INLET PIPE DIAMETER "D"	DROP PIPE DIAMETER "d"
8"	8"
10"	8"
12"	10"
15"	12"
18"	15"
21"	18"
24"	18"



SECTION A-A



PLAN

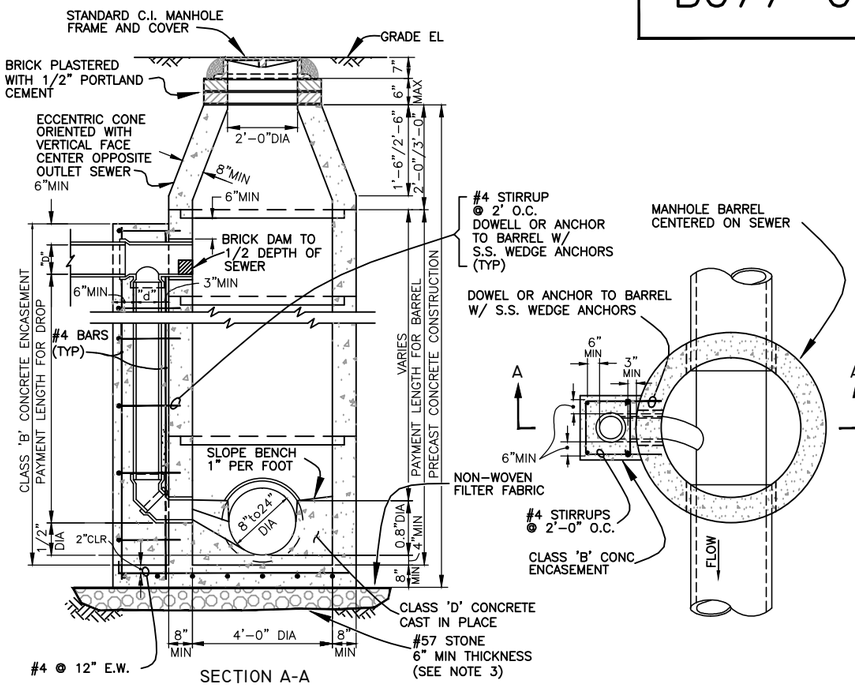


SECTION B-B

STANDARD MANHOLE – DEEP TYPE

FOR SEWERS 24" OR LESS IN DIAMETER

N.T.S

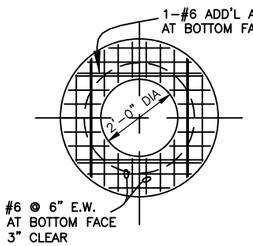


SECTION A-A

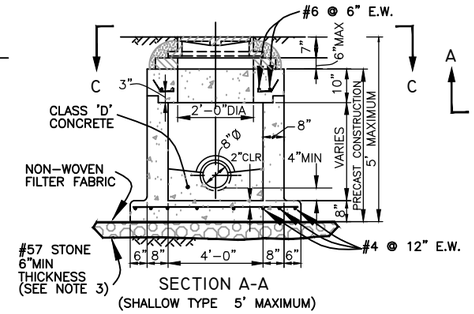
STANDARD DROP MANHOLE

FOR SEWERS 24" OR LESS IN DIAMETER

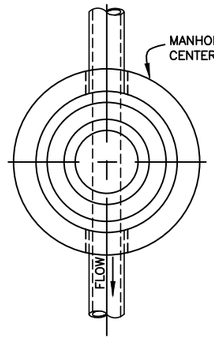
N.T.S



CONCRETE SLAB DETAIL
SECTION C-C



SECTION A-A
(SHALLOW TYPE 5' MAXIMUM)

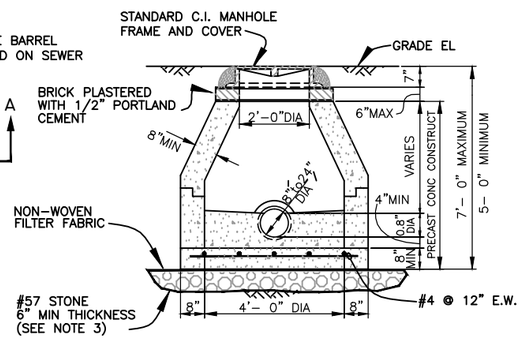


PLAN

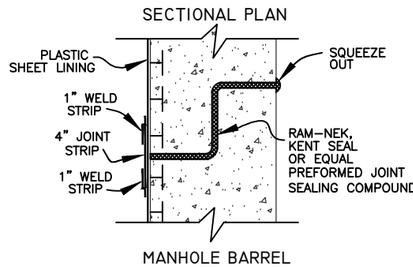
STANDARD MANHOLE – SHALLOW TYPE

FOR SEWERS 24" OR LESS IN DIAMETER

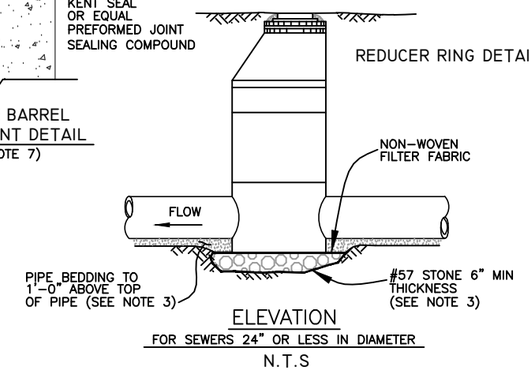
N.T.S



SECTION A-A
5'-0" TO 7'-0" DEEP
(SEE NOTE 4)



MANHOLE BARREL
T-LOCK JOINT DETAIL
(SEE NOTE 7)



ELEVATION
FOR SEWERS 24" OR LESS IN DIAMETER
N.T.S

MANHOLE SHALL BE "T-LOCK" LINED

NOTES

1. REINFORCING STEEL FOR ALL MANHOLES SHALL CONFORM TO ASTM-C478 AND PLACED AS DESCRIBED IN THE SPECIFICATIONS.
2. ALL PIPE STUBS FROM MANHOLES FOR FUTURE CONNECTIONS OR OTHER CONTRACT DIVISIONS SHALL BE PROVIDED WITH WATER TIGHT PLUGS PLACED FROM WITHIN THE MANHOLE.
3. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS AND PLACEMENTS AND COMPACTION OF PIPE AND STRUCTURE BEDDING.
4. STANDARD SHALLOW-TYPE MANHOLES WITH DEPTHS BETWEEN A MAXIMUM OF 7'-0" AND A MINIMUM OF 5'-0" MUST HAVE A CONCRETE CONE FOR THE TOP SECTION.
5. ALL MANHOLE JOINTS MUST BE SEALED WITH AN ACCEPTABLE JOINT SEALING COMPOUND REGARDLESS OF WHETHER AN O-RING GASKET IN A PREFORMED GROOVE IS USED.
6. FILTER FABRIC SHALL BE NON-WOVEN FABRIC PER D.O.T. SPECIFICATION SECTIONS 514 AND 985 AND SHALL BE WRAPPED ENTIRELY AROUND THE #57 STONE.
7. PLASTIC SHEET LINER SHALL BE "T-LOCK" BY AMERON INTERNATIONAL OR APPROVED EQUAL.

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

No.	DATE	REVISIONS
3		
2		
1		

DES: M.S./J.F.
DRN: W.A./J.H.J.
CKD:
DATE: 05/13/13

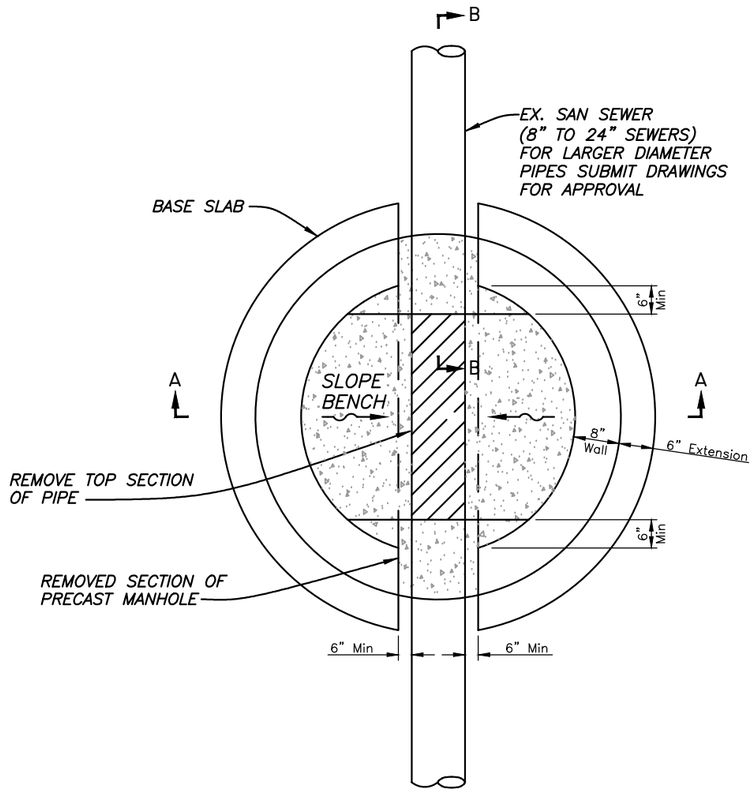
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
STANDARD MANHOLE

W.O. 5896
SHEET 26

User: ssl1 Drawing Name: K:\ww_projects\2012\2012_5896_o sborne ave ps\DWG\Standard Manhole.dwg
Layout: Standard Manhole Plotted: 6/18/2013 8:21:04 AM CTB: WW-TOSHIBA.CTB Default LW: 25mm

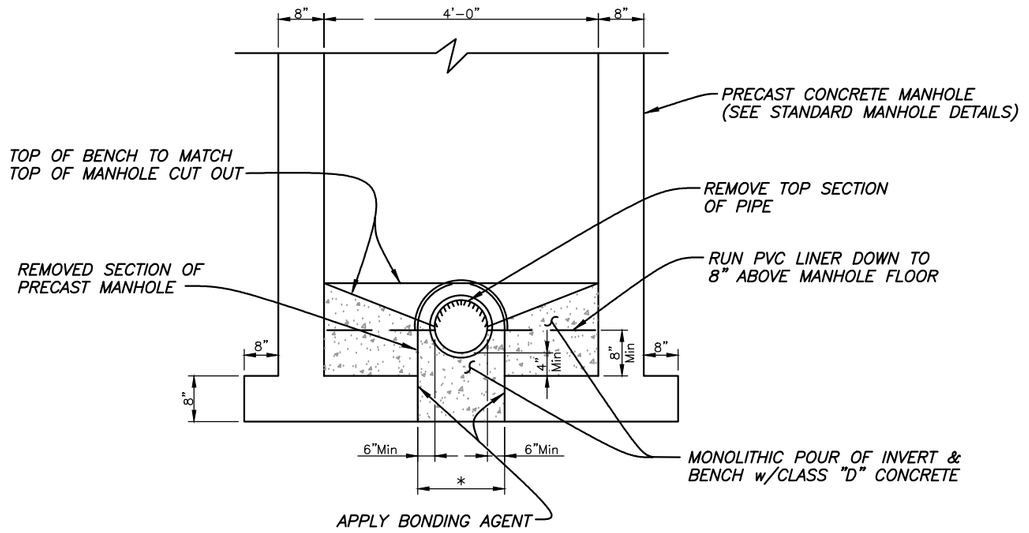
B077-072



DOGHOUSE MANHOLE PLAN VIEW

Not to Scale

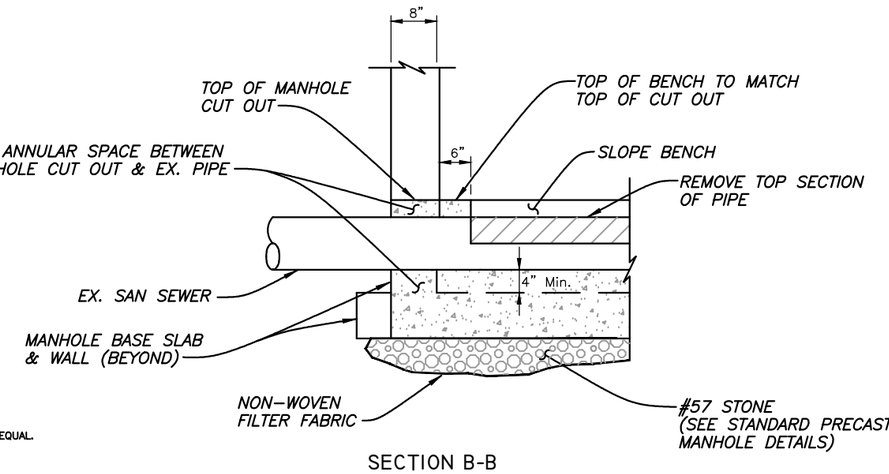
MANHOLE SHALL BE "T-LOCK" LINED



SECTION A-A

Not to Scale

* TYPICAL WIDTH OF OPENING IS 24" FOR AN EX. 8" PIPE



SECTION B-B

Not to Scale

NOTES

1. PLASTIC SHEET LINER SHALL BE "T-LOCK" BY AMERON INTERNATIONAL OR APPROVED EQUAL.

User: ssl1 Drawing Name: K:\ww_projects\2012\2012_5896_o sborne ave ps\DWG\Standard Manhole.dwg
Layout: Doghouse Manhole Plotted: 6/18/2013 8:21:25 AM CTB: WW-TOSHIBA.CTB Default LW: 25mm

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

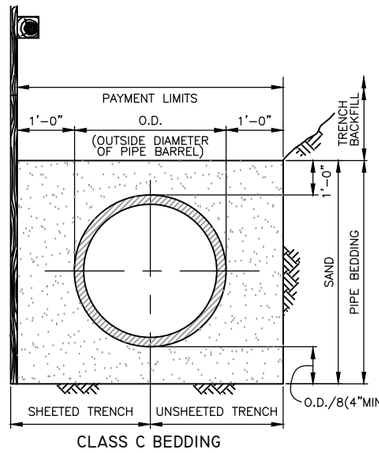
No.	DATE	REVISIONS
3		
2		
1		

DES: M.S./J.F.
DRN: W.A./J.H.J.
CKD:
DATE: 05/13/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
DOGHOUSE MANHOLE

W.O. 5896
SHEET
27

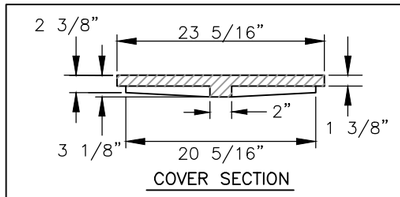


CLASS C BEDDING

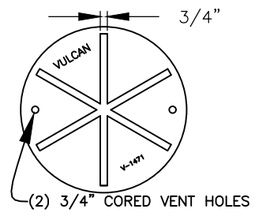
NOTES:

1 ALL TYPES OF PIPE BEDDING SHALL EXTEND TO UNDISTURBED EARTH AT SIDES AND BOTTOM OF THE TRENCH.
2. SAND AND CRUSHED STONE PIPE BEDDING SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

PIPE BEDDING DETAILS
N.T.S.

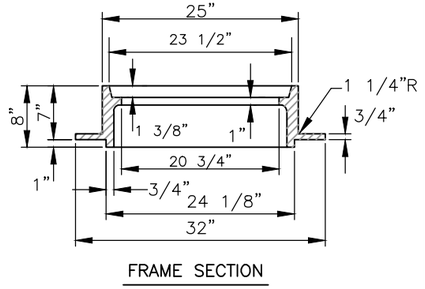


COVER SECTION



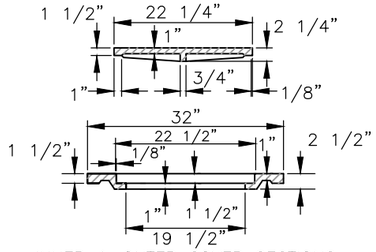
COVER BACK

COVER FACE

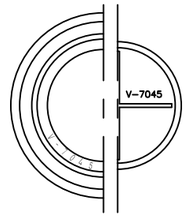


FRAME SECTION

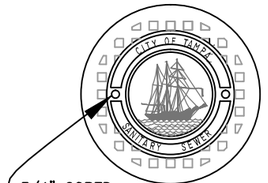
FOR MH'S OF SEWERS 24" OR LESS IN DIAMETER:
VULCAN FOUNDRY NO. V–1471,
U.S. FOUNDRY NO. 575–AT, OR EQUAL



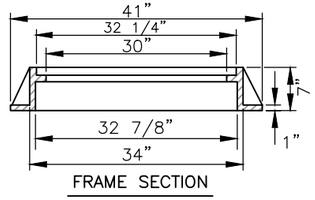
INNER & OUTER COVER SECTIONS



COVER BACKS



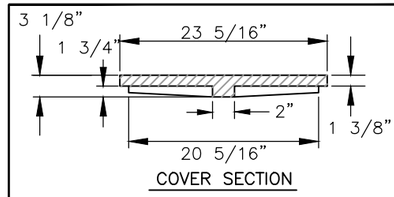
COVER FACES



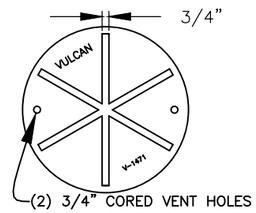
FRAME SECTION

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

HEAVY DUTY CAST IRON MANHOLE FRAME & COVER DETAILS
N.T.S.

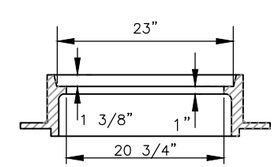


COVER SECTION



COVER BACK

COVER FACE



FRAME SECTION

HEAVY DUTY CAST IRON MANHOLE FRAME & COVER DETAILS

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: M.S./J.F. DRN: W.A./J.H.J. CKD: DATE: 05/13/13	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION COVER AND BEDDING	W.O. 5896 SHEET 28
	3						
	2						
	1						

User: ss1 Drawing Name: K:\ww_projects\2012\2012_5896_o sborne ave ps\DWG\Standard Manhole.dwg
Layout: Cover and Bedding Plotted: 6/18/2013 8:21:45 AM CTB: WW-TOSHIBA.CTB Default LW: 25mm

LEGEND

SYMBOL	DESCRIPTION
	HEAVY DUTY SAFETY SWITCH
	TRANSFORMER
	FLUORESCENT FIXTURE – CEILING MTD.
	INCAND. OR HID FIXTURE – CEILING MTD.
	INCAND. OR FLUORESCENT FIXTURE – STANCHION MTD.
	INCAND. OR HID FIXTURE – WALL MTD.
	EMERGENCY EXIT LIGHT
	EMERGENCY LIGHT
	20A, 125V, 3–WIRE DUPLEX RECEPT.
	BRANCH CIRCUIT PANELBOARD
	120V, 1ø CIRCUIT HOMERUN TO 1–POLE BRKR.
	SLASH MARKS DENOTE NO. OF WIRES; LONG – NEUTRAL, X – GROUND.
75	MOTOR, 75 HP
	LIMIT SWITCH – NORMALLY OPEN
MSH	MOTOR SPACE HEATER
	KEYED NOTE

SYMBOL	DESCRIPTION
	LIMIT SWITCH – NORMALLY CLOSED
LS	LEVEL SWITCH
	LIQUID LEVEL SWITCH – NORMALLY OPEN
	LIQUID LEVEL SWITCH – NORMALLY CLOSED
	PRESSURE SWITCH – NORMALLY OPEN
	PRESSURE SWITCH – NORMALLY CLOSED
J	JUNCTION BOX, PULL BOX – SIZED PER NEC
	CONDUIT – DOWN
	CONDUIT – UP
	SELECTOR SWITCH – NORMALLY OPEN
xM	MOTOR STARTER COIL, x DESIGNATES MOTOR ID. NO.
Rx	RELAY COIL, x DESIGNATES ID. NO.
xxR–y	RELAY CONTACT – NORMALLY OPEN, xx DESIGNATES RELAY ID. NO. & y DESIGNATES CONTACT NO.
xxR–y	RELAY CONTACT – NORMALLY CLOSED, xx DESIGNATES RELAY ID. NO. & y DESIGNATES CONTACT NO.
xMOL	MOTOR OVERLOAD RELAY – x DESIGNATES MOTOR I.D. NO.
	SOLENOID VALVE
	FUSE

ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
CAT	CATALOG
CLG	CEILING
CKT	CIRCUIT
CTR	CENTER
DISC	DISCONNECT
DT	DOUBLE THROW
DWG	DRAWING
ELEC	ELECTRICAL, ELECTRIC
EXH	EXHAUST
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
JB, JBOX	JUNCTION BOX
KW	KILOWATTS
LPX	LIGHTING PANEL X
MLO	MAIN LUGS ONLY
MNTD	MOUNTED
ø	PHASE
PB	PUSH BUTTON
PT	PRESSURE TRANSMITTER
PWR	POWER
RECEPT	RECEPTACLE
SW	SWITCH
SWBD	SWITCHBOARD
THRU	THROUGH
TR	TRIP
TT	TEMPERATURE TRANSMITTER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
w/	WITH
XFMR	TRANSFORMER
XFR	TRANSFER
XMTR	TRANSMITTER

GENERAL NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL CONDUCTORS SHALL BE STRANDED COPPER, AWG 12 MIN. w/ THHN 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 RATINGS PRIOR TO CONNECTING.
5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
6. ALL ELECTRICAL WORK SHALL BE PERFORMED 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).
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 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+). U.O.N.
13. PROVIDE A MINIMUM OF 3'–0" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE w/ ARTICLE 110 OF THE NEC. CLEARANCE SHALL NOT BE LESS THAN 42" FOR VOLTAGES GREATER THAN 150V TO GROUND.
14. ALL INSTALLATIONS SHALL BE IN ACCORDANCE w/ CITY OF TAMPA CODE 5–111.6.1.5 CITY OF TAMPA CODE CHAPTER 5 ISSUED 10/01/2005.
15. ALL FASTENING HARDWARE (SCREWS, BOLTS, NUTS, ETC.) SHALL BE 316 STAINLESS STEEL. FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
16. ALL CONDUITS SHALL BE RIGID HEAVY WALL ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED.
17. A 316 STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES, ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
18. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
19. 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.
20. 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.
21. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC UNLESS OTHERWISE NOTED. CONTRACTOR SHALL OPTIMIZE THE CONDUIT ROUTING, TAKING INTO ACCOUNT THE FIELD CONDITIONS AND THE FINAL EQUIPMENT SELECTED AND APPROVED IN THE SUBMITTALS.

B077–074

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Tampa, FL 33684-2403
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engineering@edt1.com
Certificate of Authorization Number: 4795

No.	DATE	REVISIONS
3		
2		
1		

ENGINEER OF RECORD:
ROMAN D. KORCHAK, P.E.
FLORIDA REGISTRATION NO. 42626

DES: STK
DRN: RWB
CKD:
DATE: 06/07/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION

ELECTRICAL LEGEND & ABBREVIATIONS

W.O. ----
SHEET E-1

B077-075

THATCHER AVE.

NORTH

2 1 0 3 6

SCALE: 3/32" = 1'-0"

PROPOSED PUMP STATION BACK-UP PUMP & DIESEL ENGINE

PROPOSED PUMP STATION

50 KVA POLE-MOUNTED TRANSFORMER (TYP. OF 3)

COORDINATE LOCATION & REQUIREMENTS OF POWER POLE WITH UTILITY.

3-#4/0 & 1-#4/0 NEUT., 2 1/2" C.

METER

PUMP CONTROL PANEL. COORDINATE FINAL LOCATION w/ OWNER.

UTILITY TO PROVIDE & INSTALL ABOVE GROUND PEDESTAL FOR SPLICES TO SERVICE CONDUCTORS. STUB-UP CONDUIT IN ABOVE GROUND PEDESTAL. PROVIDE 3'-0" CONDUCTOR LENGTH FOR EACH CONDUCTOR FOR CONNECTION TO SERVICE CONDUCTORS FROM UTILITY. COORDINATE LOCATION & REQUIREMENTS. WITH UTILITY.

EXISTING PUMP STATION TO BE DEMOLISHED. REFERENCE ELECTRICAL DEMOLITION PLAN ON SHEET E-3.

ELECTRICAL SITE PLAN

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ROMAN D. KORCHAK, P.E.
FLORIDA REGISTRATION NO. 42626

No.	DATE	REVISIONS
3		
2		
1		

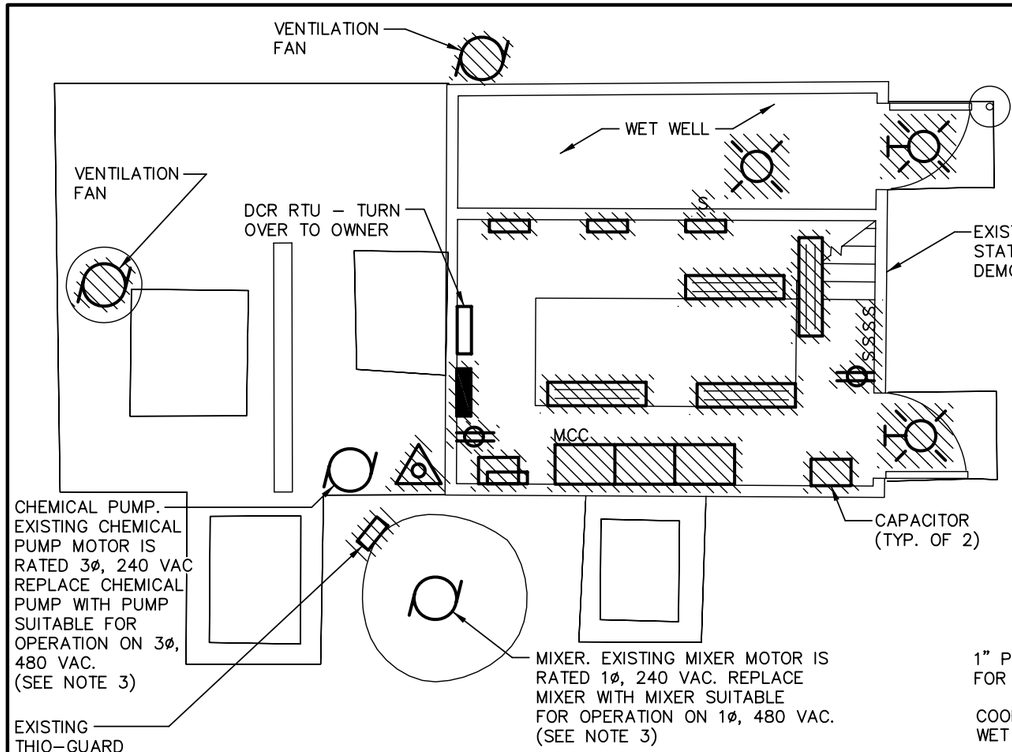
DES: STK
DRN: RWB
CKD:
DATE: 06/07/13

CITY of TAMPA
WASTEWATER DEPARTMENT

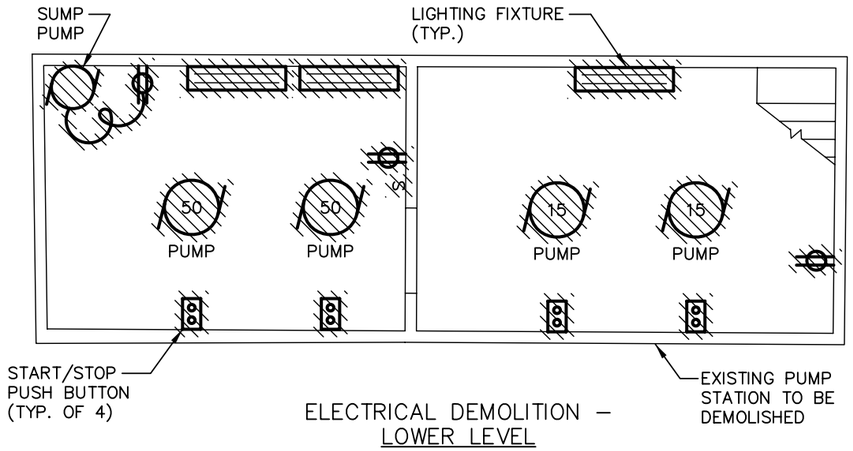
OSBORNE AVE. PUMP STATION

ELECTRICAL SITE PLAN

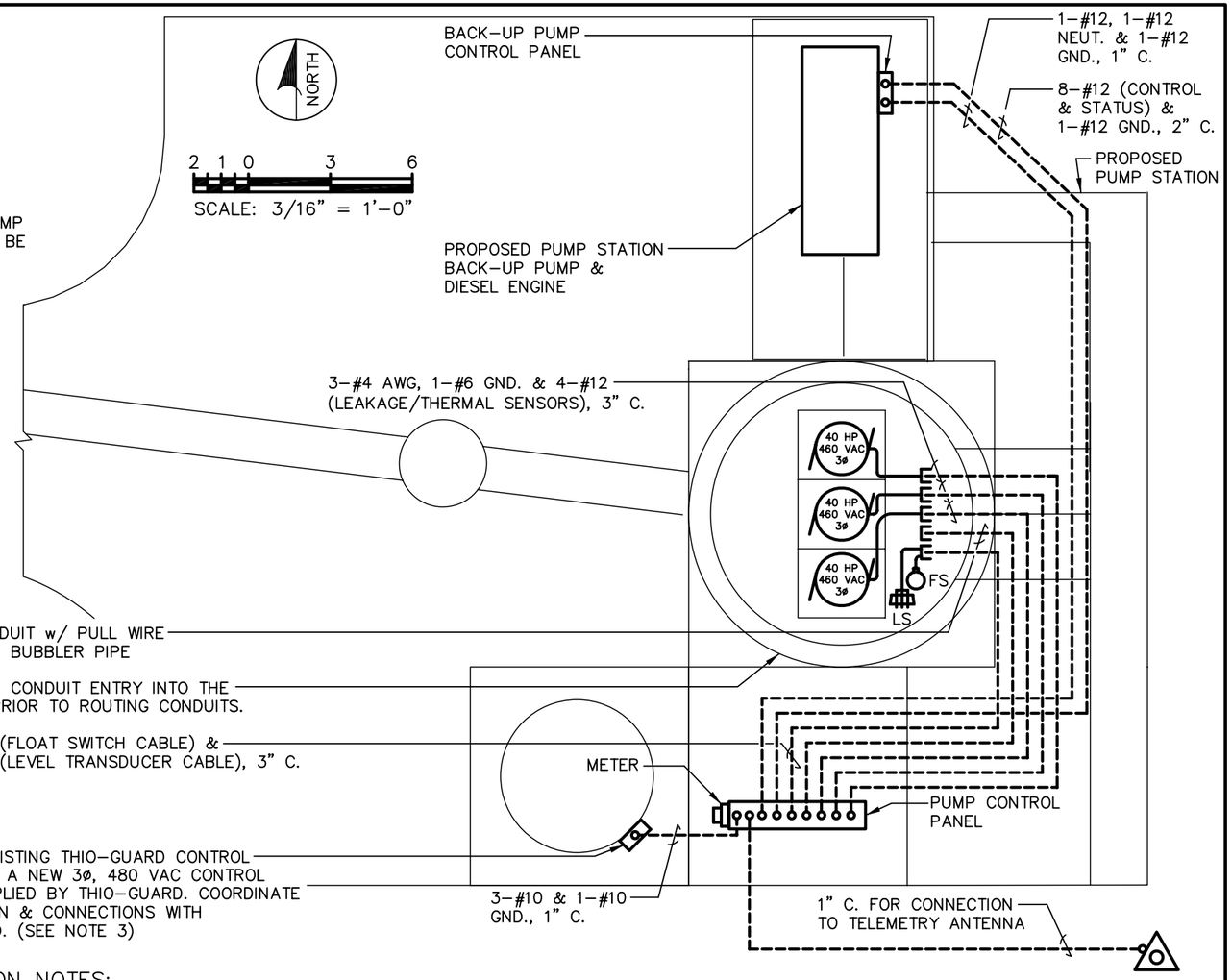
W.O. ----
SHEET E-2



ELECTRICAL DEMOLITION – UPPER LEVEL



ELECTRICAL DEMOLITION – LOWER LEVEL



DEMOLITION NOTES:

– DENOTES EXISTING EQUIPMENT TO BE REMOVED. ITEM SHALL BE REMOVED FROM PREMISES AND DISPOSED OF PROPERLY. UNLESS OTHERWISE NOTED, REMOVE ALL ASSOCIATED CONDUIT & WIRING CONNECTED TO EQUIPMENT TO BE REMOVED, INCLUDING ABANDONED CONDUIT & WIRING.

1. COORDINATE ALL DEMOLITION ACTIVITIES WITH OWNER AND ALL TRADES.
2. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
3. ALL LOADS CONNECTED TO THE THIO–GUARD CONTROL PANEL SHALL BE COORDINATED WITH THE NEW CONTROL PANEL FOR 3ø, 480 VAC OPERATION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE CHEMICAL PUMP MOTOR & THE MIXER MOTOR.
4. THE CONTRACTOR SHALL ENSURE THAT THE EXISTING ODOR CONTROL SYSTEM REMAINS IN SERVICE DURING CONSTRUCTION. THE EXISTING ODOR CONTROL SYSTEM UTILIZES A 120/240 VAC, 1ø ELECTRICAL SERVICE. THE EXISTING ODOR CONTROL SYSTEM SHALL BE REMOVED AND REPLACED WITH A 3ø, 480V ODOR CONTROL SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH CITY PERSONNEL TWO–WEEKS IN ADVANCE WHEN 480V ODOR CONTROL SYSTEM CAN BE INSTALLED. THE CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT AND CONDUCTORS TO CONNECT THE 480V ODOR CONTROL SYSTEM AS SHOWN ON PLANS.

ELECTRICAL SITE PLAN & ELECTRICAL DEMOLITION PLAN

B077–076

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Certificate of Authorization Number: 4795

ENGINEER OF RECORD:
ROMAN D. KORCHAK, P.E.
FLORIDA REGISTRATION NO. 42626

No.	DATE	REVISIONS
3		
2		
1		

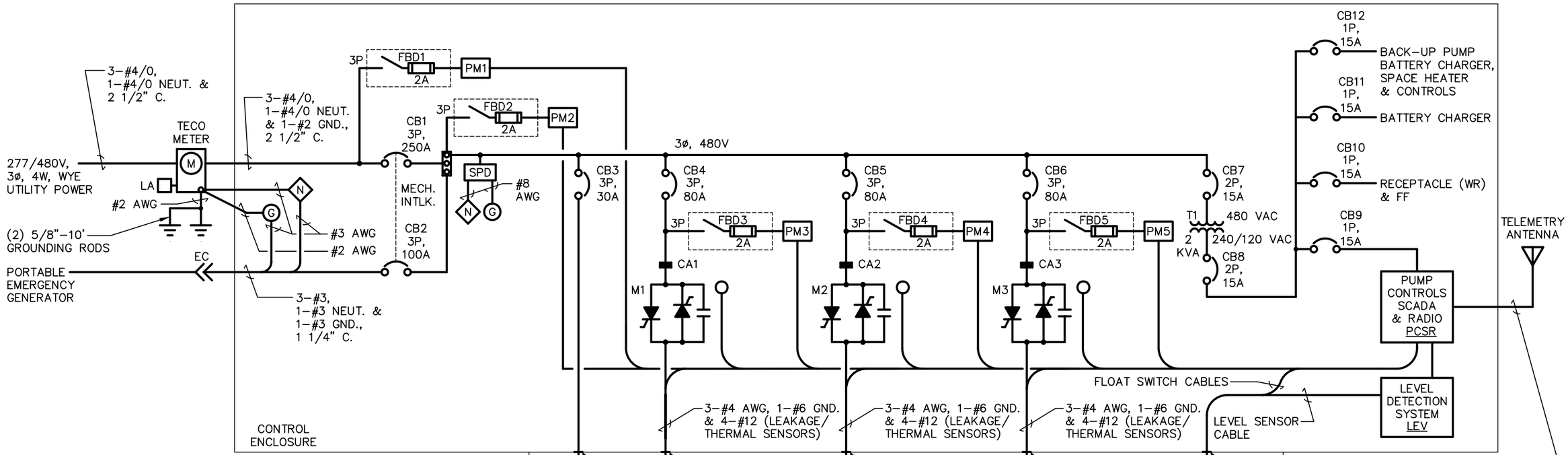
DES: STK
DRN: RWB
CKD:
DATE: 06/07/13

CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
ELECTRICAL SITE PLAN/ ELECTRICAL DEMOLITION PLAN

W.O. ----
SHEET E-3

B077-077



LOAD SUMMARY

277/480 VAC, 3ø, 4W

LOAD	CONNECTED	DEMAND
PUMP #1	35.1 KVA	35.1 KVA
PUMP #2	35.1 KVA	35.1 KVA
PUMP #3	35.1 KVA	35.1 KVA
ODOR CONTROL	12.5 KVA	12.5 KVA
CONTROLS	2.0 KVA	2.0 KVA
TOTAL	119.8 KVA	119.8 KVA

PUMP MOTOR DATA

MAKE: FLYGT
MODEL: CP3201.180
HP : 40
460 V, 3 PHASE, 44.0 FLA

TOTAL ESTIMATED LOAD: 132.0 AMPS, 105.2 KVA

NOTE: AVAILABLE FAULT CURRENT AT TRANSFORMER LUGS FOR ANTICIPATED 3-50 KVA POLE-MOUNTED TRANSFORMERS (Z=2%) IS 9,720A; AIC RATING - 25,000A SYMMETRICAL.

ELECTRICAL ONE-LINE DIAGRAM

Engineering Design Technologies Corp.
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CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION

ELECTRICAL ONE-LINE DIAGRAM

W.O. ----

SHEET E-4

B077-078

277/480 V, 3ø, 4W
L1 L2 L3 N
METER SOCKET
MS
LA
EC
N
A B C
#3 AWG
G
N
10' METALLIC WATER LINE
2-5/8"-10ft. GROUNDING RODS
AWG #2
ME-MP
#2 AWG
#4/0 AWG
#8 AWG
SPD
FBD1
PM1 1 8 4
TO PCSR
#3 AWG
CB2
CB1
#3 AWG
#4/0 AWG
TO PCSR
FBD3
PM3 1 8 4
#4 AWG
TO SLD1 &FM1
CB4
M1
L1 L2 L3
U V W
T1 T2 T3
CA1
P1 40 HP
#4 AWG
SEE NOTE 16
TO PCSR
FBD4
PM4 1 8 4
#10 AWG THWN
CB3
CB5
TO PUMP 2 SAME AS PUMP 1 POWER CIRCUIT
CA2
P2 40 HP
TO 3ø, 480 VAC THIO-GUARD CONTROL PANEL
9
10
11
G
PDB
TO PCSR
FBD5
PM5 1 8 4
TO SLD2 &FM2
CB6
TO PUMP 3 SAME AS PUMP 1 POWER CIRCUIT
CA3
FBD2
PM2 1 8 4
TO PCSR
T1 T2 T3
P3 40 HP
#6 AWG
TO SLD3 &FM3
SPLIT BOLT CONNECTION (TYP.)
#12 AWG
CB7
T1
120/240V
CB8
N
TB
CB10
TS
FF
G
WR
CB9
CB11
CB12
#12 AWG (TYP)
G
12
N
TO BACK-UP PUMP BATTERY CHARGER, SPACE HEATER & CONTROLS
#12 AWG (TYP)

BATT. CHRG.
BATT.
12V, 7 AH
TO BLACKBOX 130
LEV
LT
LL
1 L
N 2
N
TB1 (TYP.)
1
26
PL1
Y
30 13 14 27
M1 RUN STATUS
ETM 1
CR 1
PUMP #1 "ON"
CR1
1-RUN
31
DI-11
5
24V+
PCSR SLOT 1
PL3
Y
30 13 14 28
M2 RUN STATUS
ETM 2
CR 2
PUMP #2 "ON"
CR2
2-RUN
32
DI-15
5
24V+
PCSR SLOT 1
PL5
Y
30 13 14 29
M3 RUN STATUS
ETM 3
CR 3
PUMP #3 "ON"
CR3
3-RUN
33
DI-3
44
24V+
PCSR SLOT 2
RVSSS TERMINAL (TYP.)

SEE NOTES ON SHEET E-14

⬡ TERMINALS ON ACE I/O MODULE (GENERAL)
◇ TERMINALS IN PUMP CONTROL PANEL

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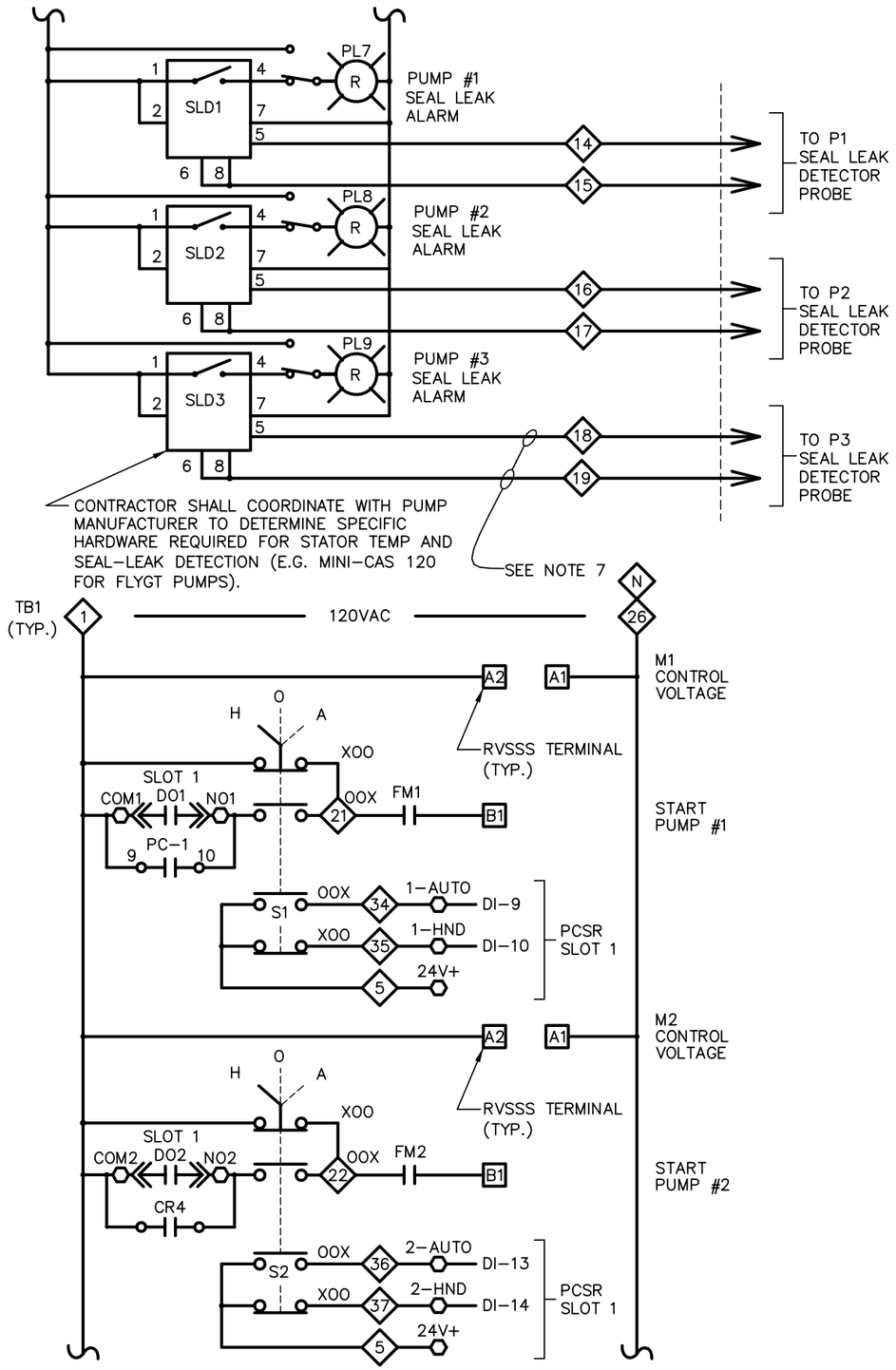
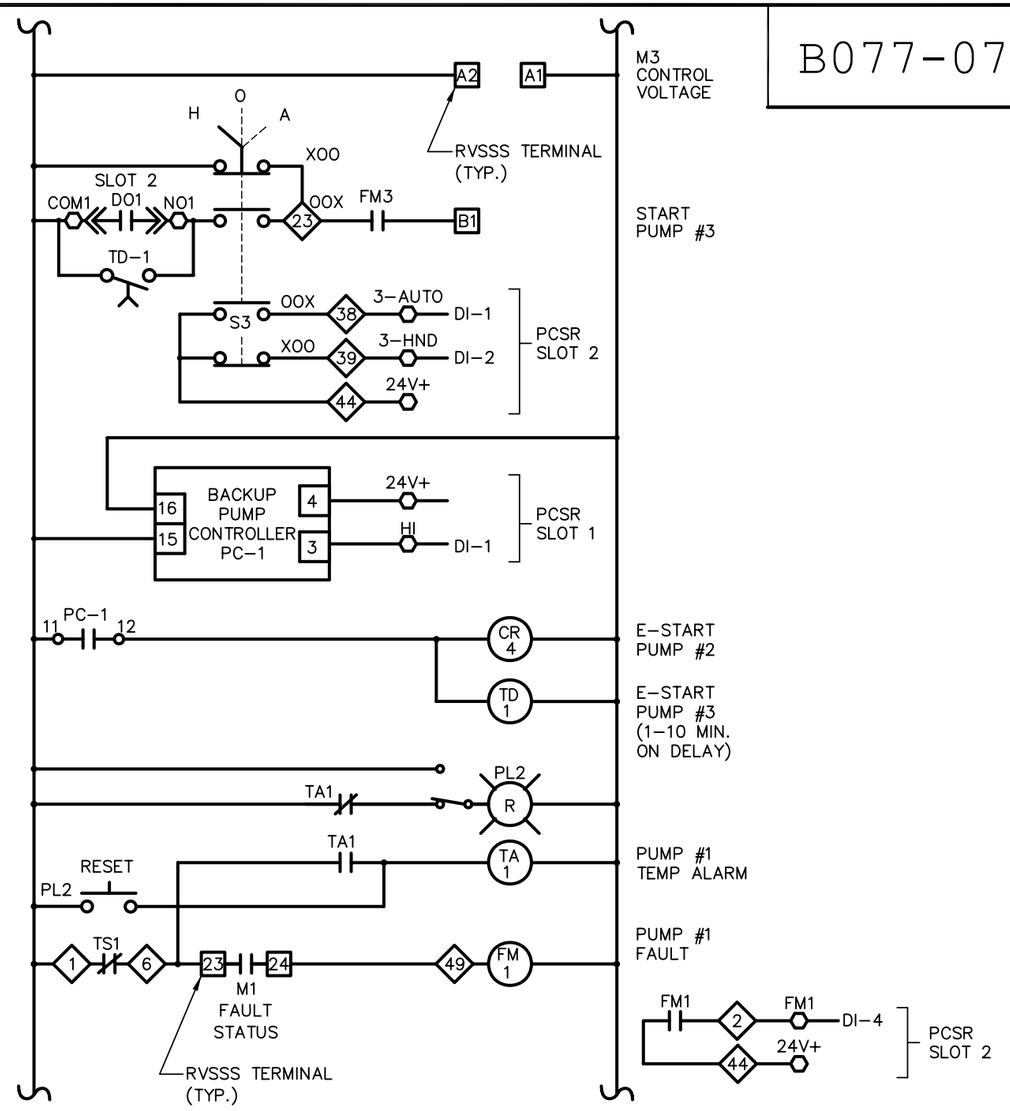
OSBORNE AVE. PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (SHEET 1 OF 5)

W.O. ----
SHEET
E-5

B077-079





SEE NOTES ON SHEET E-14

TERMINALS ON ACE I/O MODULE (GENERAL)

TERMINALS IN PUMP CONTROL PANEL

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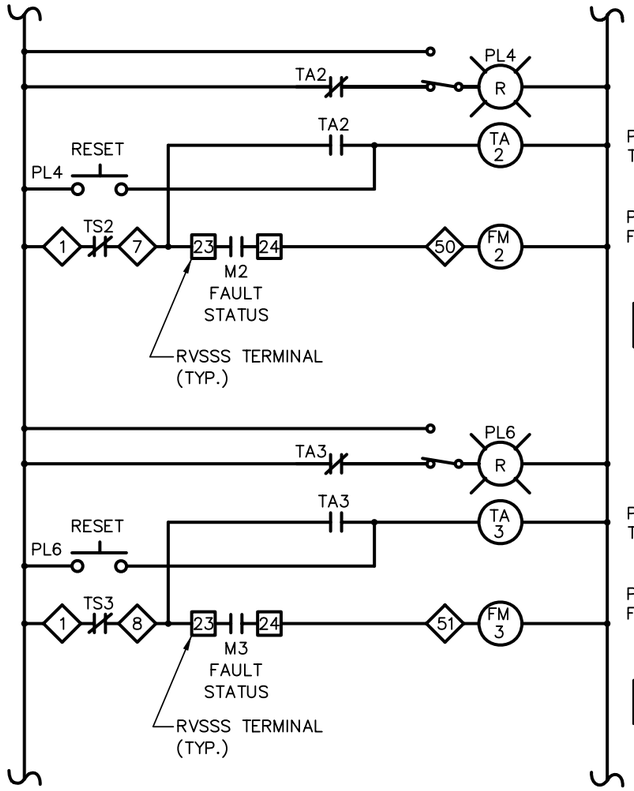
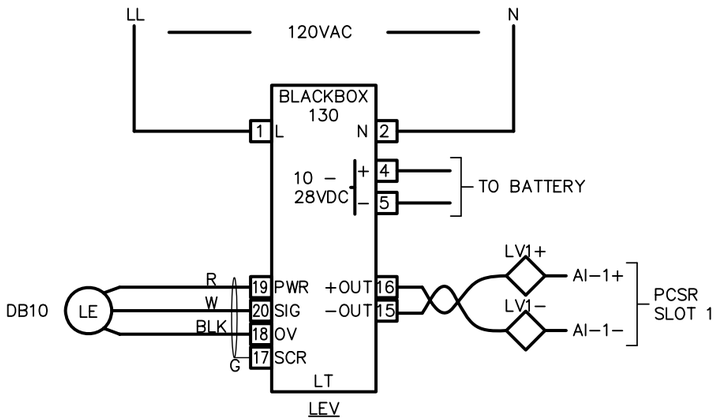
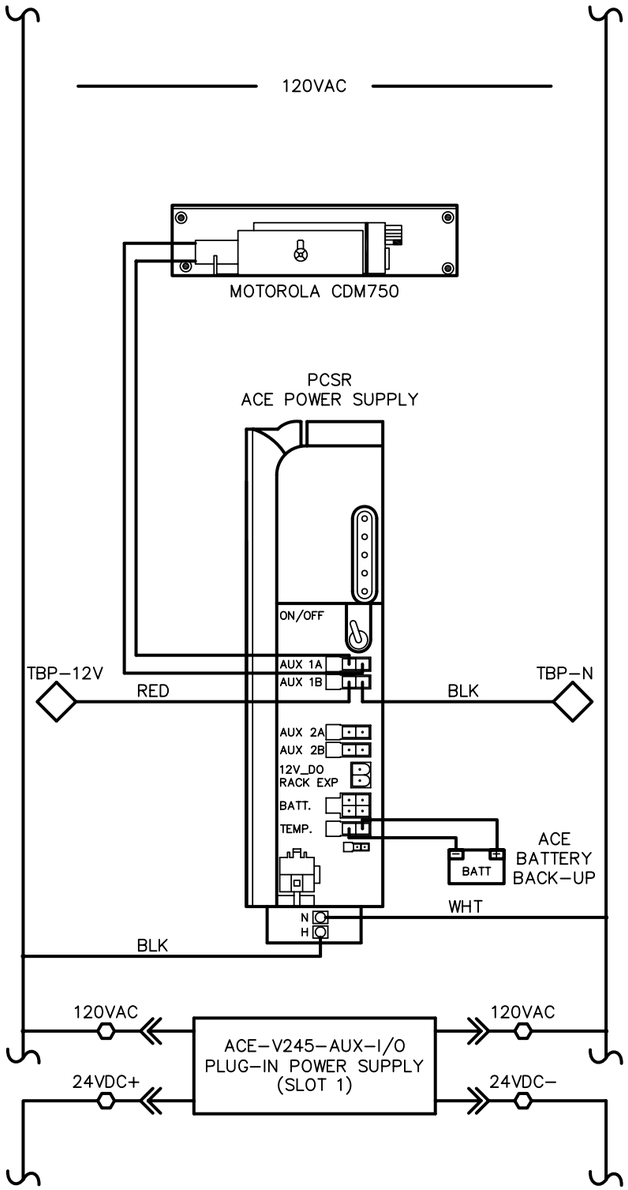
OSBORNE AVE. PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (SHEET 2 OF 5)

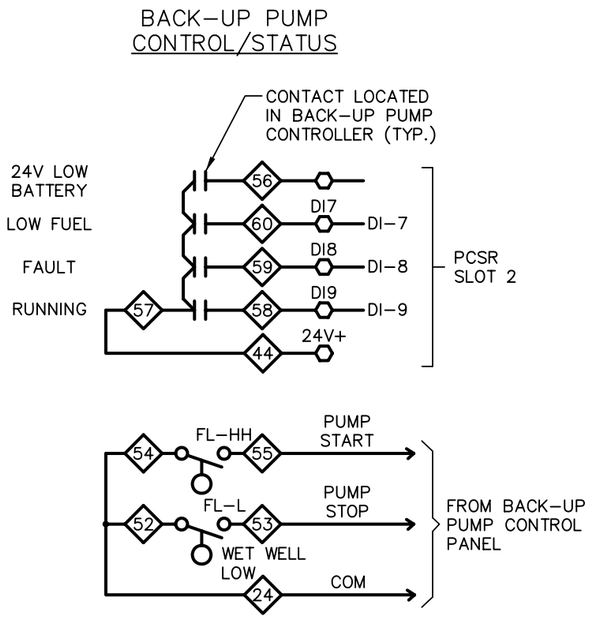
W.O. ----
SHEET E-6

B077-080









SEE NOTES ON SHEET E-14

TERMINALS ON ACE I/O MODULE (GENERAL)

TERMINALS IN PUMP CONTROL PANEL

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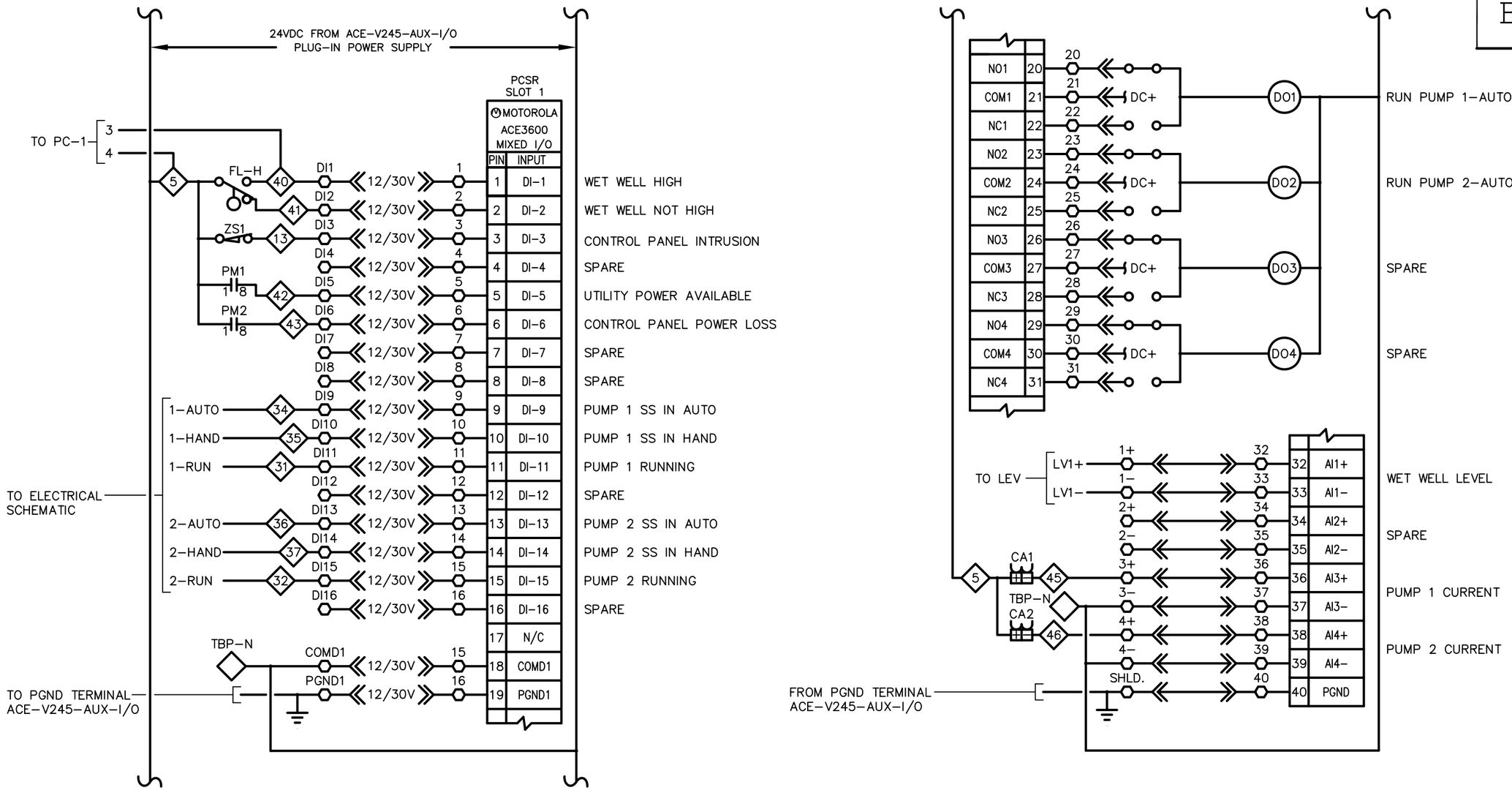
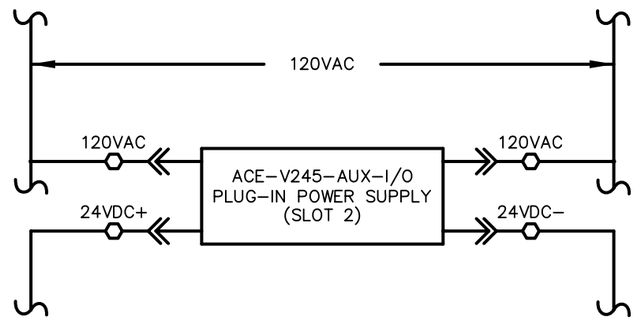
OSBORNE AVE. PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM
(SHEET 3 OF 5)

W.O. ----
SHEET
E-7

B077-081



SEE NOTES ON SHEET E-14



TERMINALS ON ACE I/O MODULE (GENERAL)

TERMINALS IN PUMP CONTROL PANEL

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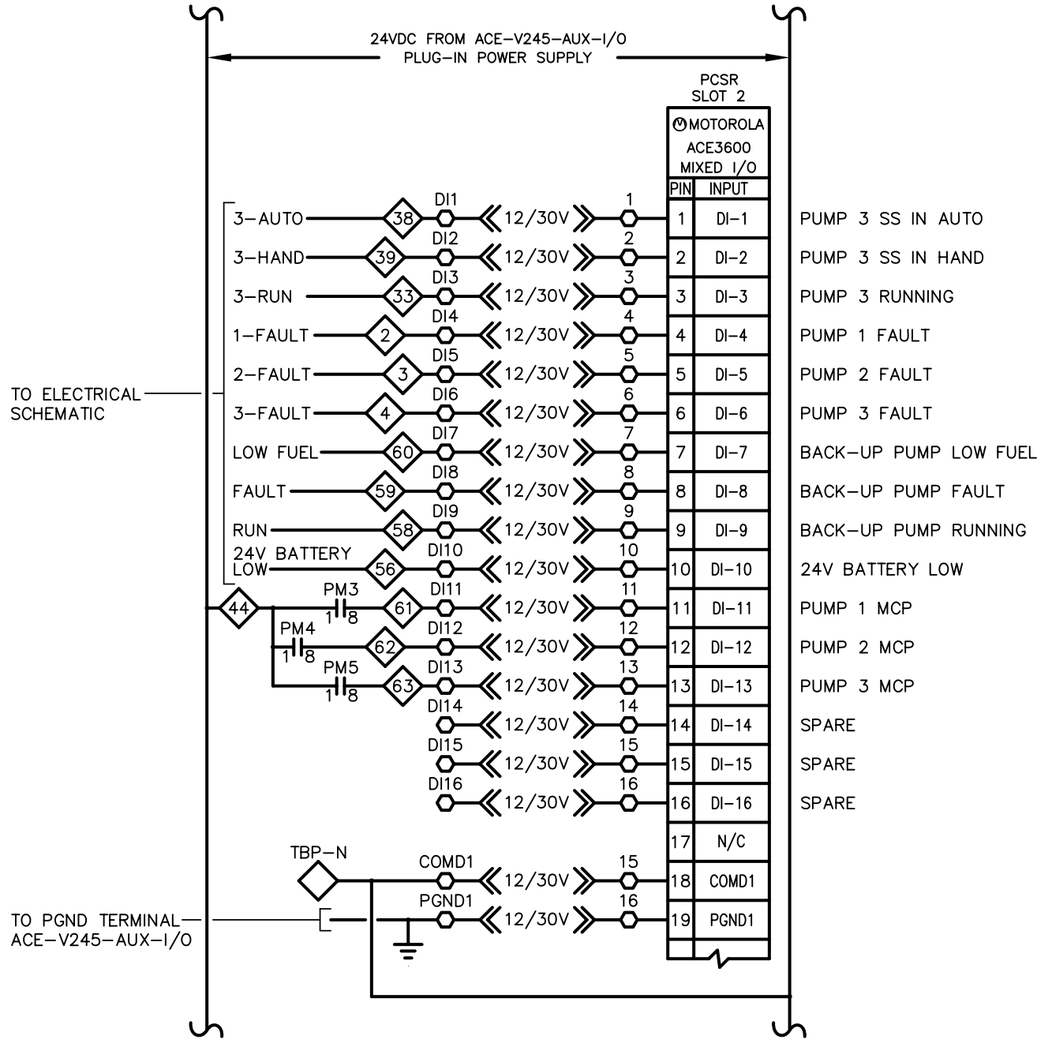
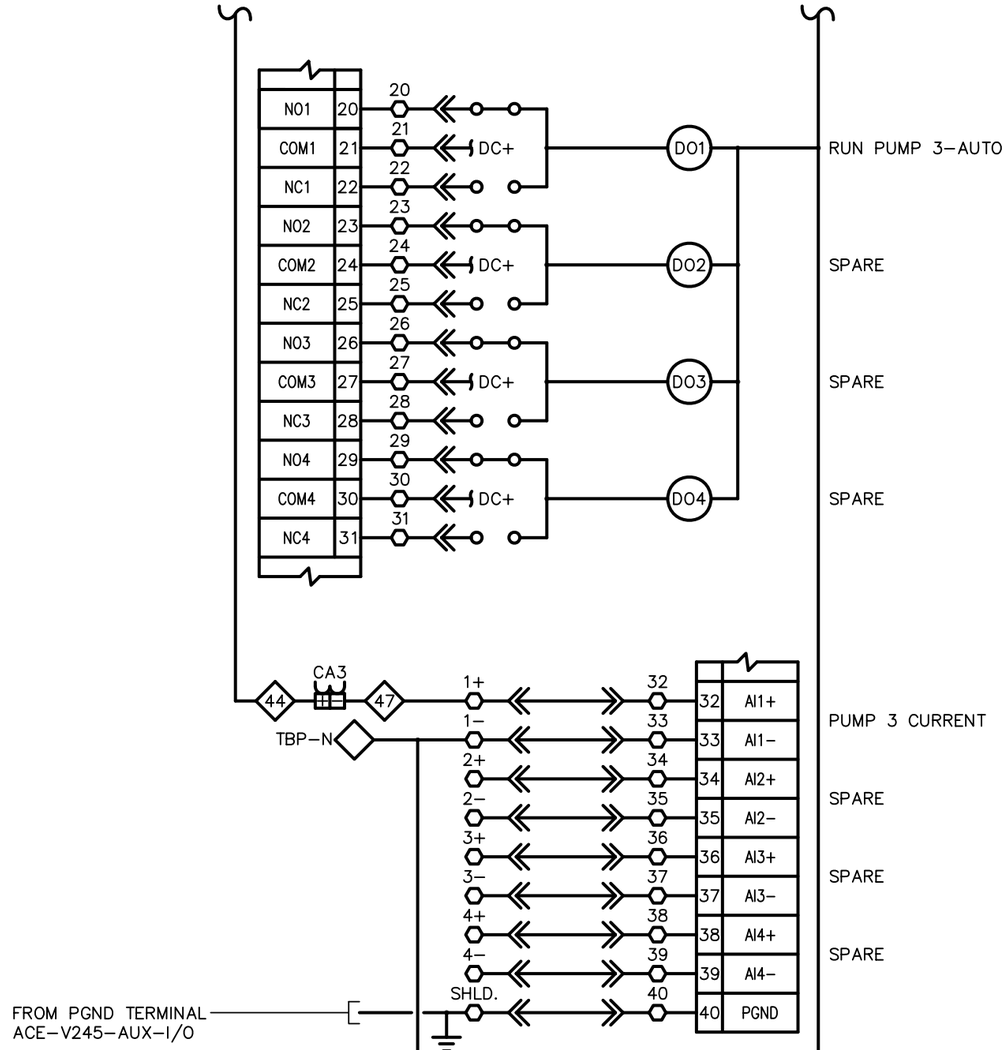
OSBORNE AVE. PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (SHEET 4 OF 5)

W.O. ----
SHEET E-8





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

SEE NOTES ON SHEET E-14

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OSBORNE AVE. PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (SHEET 5 OF 5)

W.O. ----
SHEET E-9

B077-083

TBI- ◇ MOUNTED ON MAIN PANEL (MP)

TERM.	DESCRIPTION
1	CB9 OUT PUMPS CONTROL POWER
2	PUMP 1 FAULT CONTROL INTERLOCK
3	PUMP 2 FAULT CONTROL INTERLOCK
4	PUMP 3 FAULT CONTROL INTERLOCK
5	SLOT–1 PCSR 24V +
6	STATOR TEMP SWITCH FROM P1
7	STATOR TEMP SWITCH FROM P2
8	STATOR TEMP SWITCH FROM P3
9	ODOR CONTROL PANEL
10	
11	
12	BACK–UP PUMP BATTERY CHARGER, SPACE HEATER & CONTROLS
13	PANEL INTRUSION
14	P1 SEAL LEAK PROBE
15	
16	P2 SEAL LEAK PROBE
17	
18	P3 SEAL LEAK PROBE
19	
20	SPARE
21	M1 "RUN" CMD
22	M2 "RUN" CMD
23	M3 "RUN" CMD
24	BACK–UP PUMP COMMON
25	SPARE
26	NEUTRAL

TB1 CONT'D

27	P1 "ON" DISCRETE
28	P2 "ON" DISCRETE
29	P3 "ON" DISCRETE
30	P1, P2, P3 "ON" EXCITATION
31	P1 "ON" TO PCSR
32	P2 "ON" TO PCSR
33	P3 "ON" TO PCSR
34	P1 "AUTO" TO PCSR
35	P1 "HAND" TO PCSR
36	P2 "AUTO" TO PCSR
37	P2 "HAND" TO PCSR
38	P3 "AUTO" TO PCSR
39	P3 "HAND" TO PCSR
40	HIGH HIGH WATER FLOAT SWITCH
41	
42	PM1 (UTILITY POWER)
43	PM2 (CONTROL PANEL POWER)
44	SLOT–2 PCSR 24V +
45	PUMP 1 CURRENT
46	PUMP 2 CURRENT
47	PUMP 3 CURRENT
48	SPARE
49	M1 FAULT
50	M2 FAULT
51	M3 FAULT
52	LOW WATER FLOAT SWITCH (BACK–UP PUMP STOP)
53	
54	HIGH HIGH WATER FLOAT SWITCH (BACK–UP PUMP START)
55	
56	BACK–UP PUMP 24V LOW BATTERY
57	BACK–UP PUMP RUNNING
58	

TB1 CONT'D

59	BACK–UP PUMP FAULT
60	BACK–UP PUMP LOW FUEL
61	PM3 (PUMP 1 MCP)
62	PM4 (PUMP 2 MCP)
63	PM5 (PUMP 3 MCP)

CONTROL SCHEMATIC SYMBOLS

- TRANSFORMER
- PUSH BUTTON
- 115 V, 60 Hz, DUPLEX RECEPTACLE
- SWITCH
- CONNECTED
- OVERLOAD HEATER COIL
- COIL { TD – TIME DELAY RELAY; CR – CONTROL RELAY; ETI – TIMEMETER; M – MOTOR STARTER }
- PILOT LIGHT – RED (PRESS–TO–TEST) (R)
- PRESSURE LEVEL SWITCH CONTACT
- TD "ON DELAY" CONTACT
- I. C. INSTANT CLOSE CONTACT
- AIR LINE
- CIRCUIT BREAKER (SINGLE–POLE)
- CIRCUIT BREAKER (THREE–POLE)
- CONTACT NORMALLY OPEN (CLOSED)
- SPLIT BOLT SPLICE
- NOT CONNECTED
- (G) GROUND BUS
- (N) NEUTRAL BUS (INSULATED)
- FUSE
- X–Y TB2 TERM STRIP MTD ON MP–– (PCSR INTERFACE)
- TERMINAL STRIP IN PCSR

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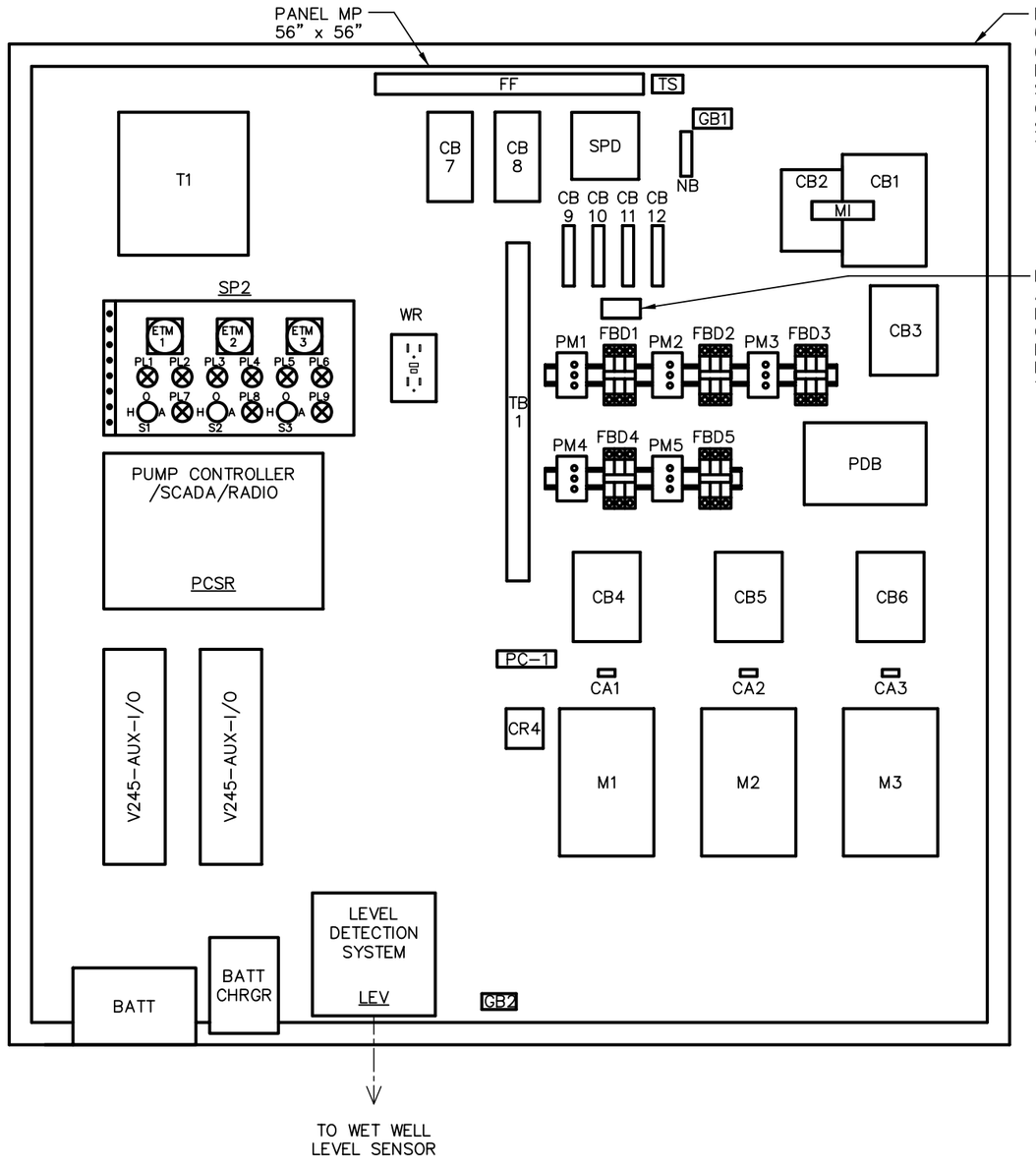
ELECTRICAL SCHEMATIC LEGEND

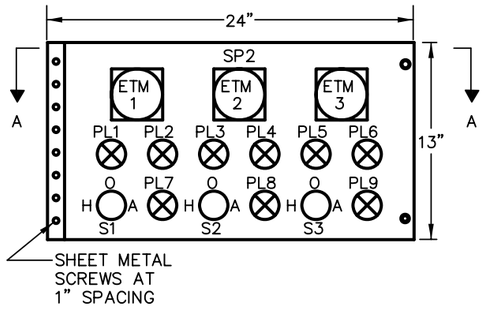
W.O. ----
SHEET E-10

B077-084

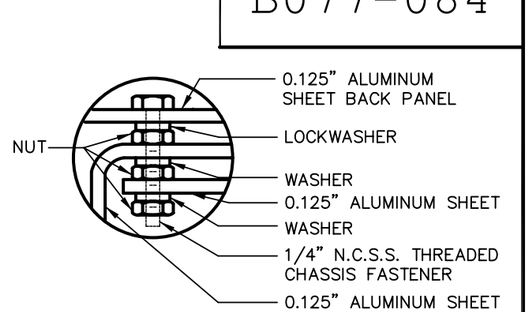


CONTROL PANEL ENCLOSURE* – FRONT VIEW

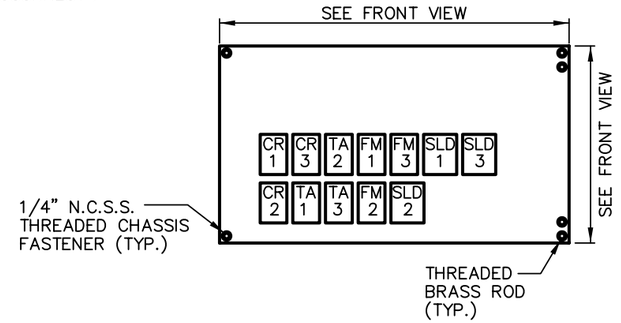
NOT TO SCALE



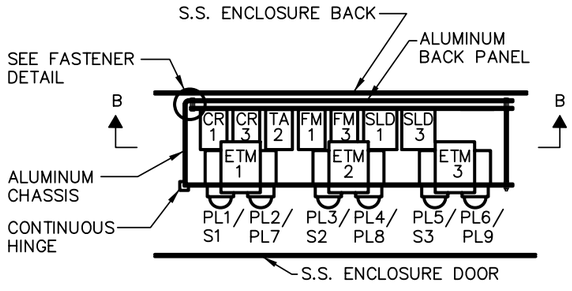
FRONT VIEW



FASTENER DETAIL



SECTION B–B



SECTION A–A

CONTROL CHASSIS LAYOUT

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SEE NOTES ON SHEET E-14

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OSBORNE AVE. PUMP STATION

ELECTRICAL CONTROL PANEL LAYOUT

W.O. ----
SHEET
E-11

PARTS SCHEDULE

SYMBOL	NAME	MAKE	TYPE	MODEL or CAT. #	RATING	REMARKS
CB1	CIRCUIT BREAKER	SQUARE D	3 POLE	KAL36250	600V, 250A	
CB2	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL34100	480V, 100A	
CB3	CIRCUIT BREAKER	SQUARE D	3 POLE	FAL34030	480V, 30A	
CB4, CB5, CB6	CIRCUIT BREAKER	SQUARE D	3 POLE	FAL34080	480V, 80A	
CB7	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL24015	480V, 15A	
CB8	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL22015	240V, 15A	
CB9, CB10, CB11, CB12	CIRCUIT BREAKER	SQUARE D	1 POLE	QOU115	120V, 15A	
M1, M2, M3	MOTOR STARTER	SOLCON	RVSSS	RVS-DX72-480-115-3M-8-D-U-S	72A (40 HP)	
FBD1, FBD2, FBD3, FBD4, FBD5	FUSE BLOCK/DISCONNECT	ABB SSAC	THREE PHASE - HIGH INTER. CAP.	P0700-241 BLOCK, P0600-11 FUSE	500 VAC, 2A FUSE	100,000 AIC KLK TYPE FUSES
PM1, PM2, PM3, PM4, PM5	3 PHASE VOLTAGE MONITOR	ATC DIVERSIFIED	DISCRETE	SLA-440-ASA	480 VAC	DIN RAIL MOUNTING
PC-1	BACKUP PUMP CONTROLLER	WILKERSON	DUPLEX LIFT STATION	DR1920	10A CONTACTS	DIN RAIL MOUNTING
T1	TRANSFORMER	SQUARE D	DRY TYPE	CLASS 7400-2S1F	480//240/120 V 2 KVA	
PL1, PL3, PL5	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT38LYY9	120V LED TYPE	YELLOW LENS & PRESS TEST
PL7, PL8, PL9	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT38LRR9	120V LED TYPE	RED LENS & PRESS TEST
PL2, PL4, PL6	ILLUM. PUSH BUTTON	SQUARE D	CLASS 9001	SK2L38LRRH13	120V LED TYPE	RED LENS & 1 N.O., 1 N.C.
S1, S2, S3	HOA SWITCH ASSEMBLY	SQUARE D	OILTIGHT CLASS 9001	SKS - 43B H2	10A @ 120V	
ETM1, ETM2, ETM3	ELAPSE TIME METER	CRAMER	NON-RESET	635	120V	
FF & TS	FLUORESCENT FIXTURE	DAYTON	INDUSTRIAL	2 V 811	120V, 20W	w/ TOGGLE SWITCH-TS AND TUBE GUARD
WR	WALL RECEPTACLE	HUBBELL	DUPLEX w/ GFI	GF 5262	125 VAC, 15A GFI	w/ CAST ALUMINUM BOX AND COVER
SPD	SURGE SUPPRESSOR	ADVANCE PROTECTION TECHNOLOGIES	MAIN PANEL SPD	TE04XDS104X	277/480 VAC, 3ø, WYE	
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S2NONC	10A @ 120V	
LA	LIGHTNING ARRESTER	GENERAL ELECTRIC	TRANQUELL	9L15ECC001	650V	

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OSBORNE AVE. PUMP STATION
PARTS SCHEDULE
(SHEET 1 OF 2)

W.O. ----
SHEET
E-12

B077-086

PARTS SCHEDULE

SYMBOL	NAME	MAKE	TYPE	MODEL or CAT. #	RATING	REMARKS
TB1	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30A w/ ALUMINUM DIN RAIL	41 CONTACTS (MIN)
CA1, CA2, CA3	CURRENT SENSOR	ENERCORP INSTRUMENTS	4–20 mA OUTPUT	200–2	0–100A	ADJUSTABLE RANGE
NB	INSULATED TERMINAL STRIP	ALLEN–BRADLEY	STYLE AA	1492–15T	600 VAC, NEUTRAL BLOCK	4 CONTACTS (MIN) w/ SHORTING BARS
ME	CONTROL ENCLOSURE *	QUALITY METALS	NEMA 3R THREE POINT LATCH	60" x 60" x 12" SS 3R	304 SS, 14 GAUGE	w/ DOOR STOP KIT – # A–DSTOPK. EXTERNAL FINISH–DURABLE RAL 9003 WHITE POWDER COAT.
MP	ENCLOSURE PANEL *	QUALITY METALS	56" x 56", STEEL	S56 P56, WHITE AS REQUIRED	STEEL, 12 GAUGE	
GB1, GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED			
SLD1, SLD2, SLD3	SEAL LEAK DETECTOR	SYRELEC	8 PIN PLUG–IN	PNRU110	110V INPUT, 10A CONTACTS	SPDT w/ SOCKET
TA1, TA2, TA3, FM1, FM2, FM3, CR1, CR2, CR3, CR4	CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG–IN	KRPA–11AG–120	120V COIL, 10A CONTACTS	DPDT w/ SOCKET AND HOLD DOWN SPRING
LEV	LEVEL DETECTION SYSTEM	PULSAR INC.	CONTROLLER	BLACKBOX 130 (TROPICALIZED) w/ KEYPAD & DISPLAY 130–110–300–00P–KP–TROP	120V, 5 WATT	PROVIDE TRANSDUCER MODEL DB10
BATT.	BATTERY	POWERSONIC AGM		PS–1270 F2	12V, 7.0 AH	
BATT. CHRG.	BATTERY CHARGER	DELTRAN CORP.		WATERPROOF 800	12V, 0.800A OUTPUT	
PCSR	PLC BASED PUMP CONTROLLER, SCADA & RADIO SYSTEM	MOTOROLA CORPORATION	TRIPLEX PUMP CONTROLLER BASED ON ACE 3600 PROG. CONTROLLER	ACE 3600 RTU w/ CONVENTIONAL UHF RADIO CDM 750, 403–470, 450–512 MHZ & ACE–V245–AUX–I/O INTERFACE BOARD	24 VDC w/ 10A/HR BATTERY BACKUP	COORDINATE w/ DCR ENG. SERVICES OR SCADAONE LLC
	SLOTS 1 & 2 I/O MODULE FOR ACE 3600 RTU	MOTOROLA CORPORATION	MIXED I/O	ACE 3600 MIXED I/O	(4) 4–20 mA ANALOG IN, (16) DIGITAL IN, (4) DIGITAL OUT	
MS	METER SOCKET	MILBANK	7–TERMINAL	SELF CONTAINED ALUMINUM METER SOCKET	277/480 VAC, 3ø, 320A	COORD. w/ TECO
PDB	POWER DIST. BLOCK	ILSCO	3 POLE	PDB–212–4/0–3	600V, 460A	
EC	EMERGENCY CONNECTOR	CROUSE–HINDS	ARKTITE	AR1047/S22	600V, 100A	PROVIDE AN AJA6 ANGLE ADAPTER

NOTES:

1. ITEMS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.

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WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
PARTS SCHEDULE
(SHEET 2 OF 2)

W.O. ----
SHEET E-13

B077-087

NOTES:

1. TECO SERVICE: 277/480V, 250A, 3ø, 4W, WYE. CALCULATED FAULT CURRENT – 9,720A; CB1 AIC RATING – 25,000A SYMMETRICAL.
2. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND CITY OF TAMPA/ HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE.
3. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER.
4. THE ENCLOSURE SHALL BE NEMA 3, SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304 SS, SHALL HAVE BRUSH FINISHED SURFACE, AND THE CLOSING SURFACE SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOOR WITH 3–POINT AND LOCKABLE HANDLE. REFERENCE PARTS SCHEDULE.
5. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
6. ALL WIRING SHALL BE COPPER. ALL CONTROL WIRING SHALL BE STRANDED THWN COPPER, MINIMUM AWG #14, AND SHALL HAVE SPADE LUG TERMINATIONS.
7. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED '*' TO BE DETERMINED AFTER EQUIPMENT SELECTION.
8. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURERS SPECIFICATIONS.
9. INSTALL LAMINATED SCHEMATIC AND LAMINATED DATA SHEET ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
10. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT METER ROTATION.
11. 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.
12. 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.
13. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
14. THE PCSR SHALL BE A MOTOROLA ACE3600 PACKAGE. THE CONTRACTOR SHALL EMPLOY DCR ENGINEERING SERVICES INC. OR SCADAONE, LLC TO SUPPLY THE MOTOROLA ACE3600 PACKAGE, COORDINATE THE INSTALLATION AND PROGRAM THE CONTROL SYSTEM. ALL WORK RELATED TO, INCLUDING THE INSTALLATION, PROGRAMMING AND TESTING OF THE PCSR AND THE MOTOROLA ACE3600, SHALL BE PROVIDED BY DCR ENGINEERING SERVICES INC. OR SCADAONE, LLC. THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THE INSTALLATION OF THE PCSR.
15. 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 TRANSDUCER MOUNTING AND CALIBRATION.
16. THE RVSSS PROTECTION FEATURES SHALL INCLUDE:
    - PHASE LOSS
    - PHASE SEQUENCE AND UNDER/OVER FREQUENCY
    - UNDER/OVER AND NO VOLTAGE
    - LOAD LOSS (MOTOR NOT CONNECTED)
    - SHORTED SCR

LEGEND PLATE SCHEDULE

SYMBOL	DEVICE	LEGEND
ETM1	ELAPSED TIME METER	PUMP NO. 1 HOURS
ETM2	ELAPSED TIME METER	PUMP NO. 2 HOURS
ETM3	ELAPSED TIME METER	PUMP NO. 3 HOURS
PL1	YELLOW PILOT LIGHT	PUMP NO. 1 ON
PL2	RED ILLUMINATED PUSH BUTTON	PUMP NO. 1 HIGH TEMPERATURE
PL3	YELLOW PILOT LIGHT	PUMP NO. 2 ON
PL4	RED ILLUMINATED PUSH BUTTON	PUMP NO. 2 HIGH TEMPERATURE
PL5	YELLOW PILOT LIGHT	PUMP NO. 3 ON
PL6	RED ILLUMINATED PUSH BUTTON	PUMP NO. 3 HIGH TEMPERATURE
PL7	RED PILOT LIGHT	PUMP NO. 1 SEAL LEAK
PL8	RED PILOT LIGHT	PUMP NO. 2 SEAL LEAK
PL9	RED PILOT LIGHT	PUMP NO. 3 SEAL LEAK
S1	3–POSITION SWITCH	PUMP NO 1 HAND–OFF–AUTO
S2	3–POSITION SWITCH	PUMP NO. 2 HAND–OFF–AUTO
S3	3–POSITION SWITCH	PUMP NO. 3 HAND–OFF–AUTO

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ENGINEER OF RECORD:
ROMAN D. KORCHAK, P.E.
FLORIDA REGISTRATION NO. 42626

No.	DATE	REVISIONS
3		
2		
1		

DES: STK
DRN: RWB
CKD:
DATE: 06/07/13

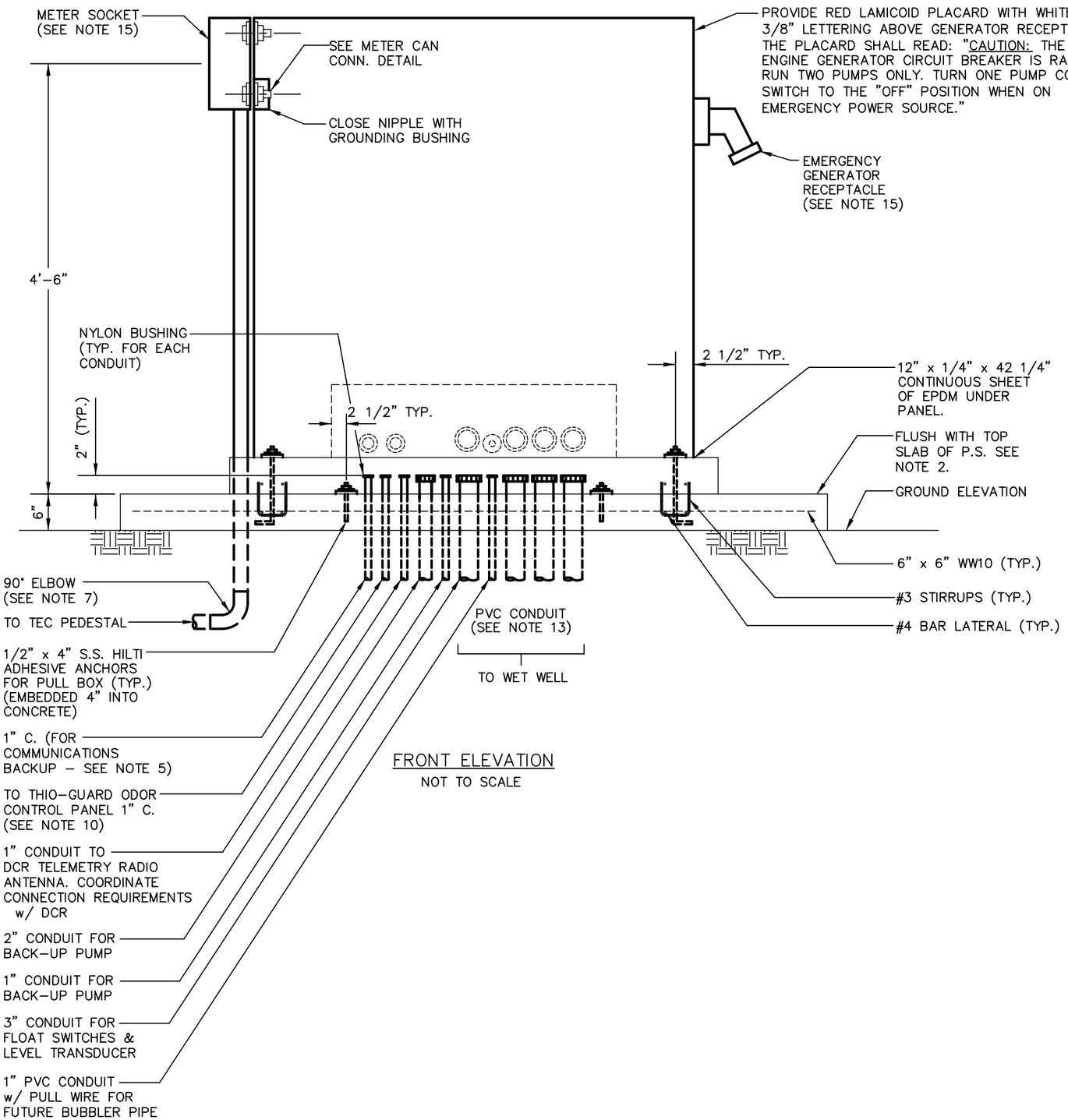
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION

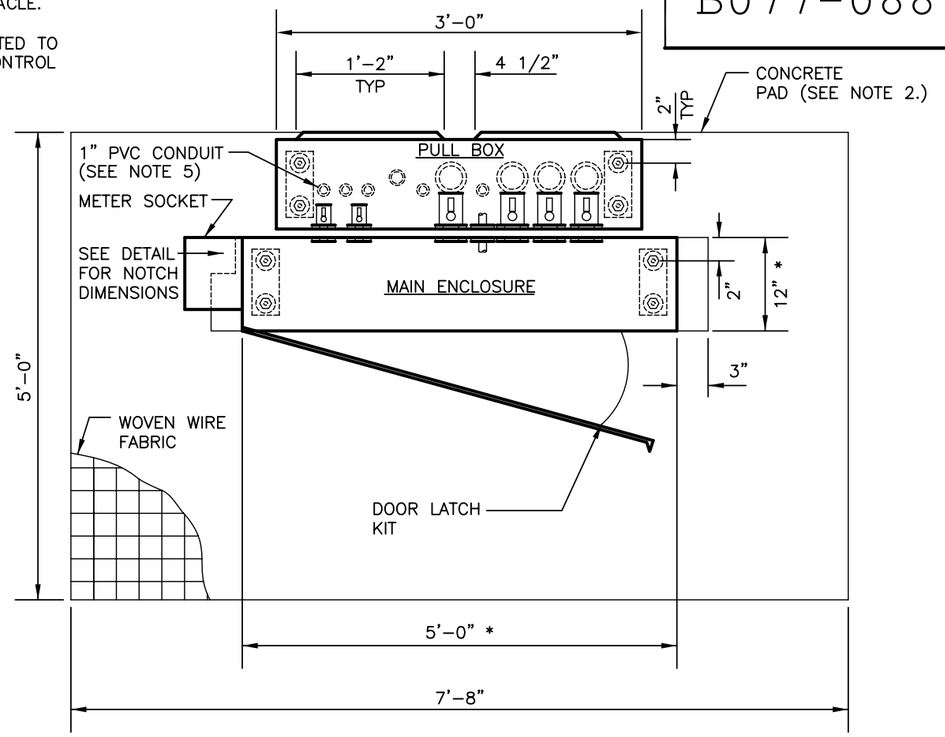
ELECTRICAL CONTROLS LEGEND PLATES

W.O. ----
SHEET E-14

B077-088



FRONT ELEVATION
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

SEE NOTES ON SHEET E-17

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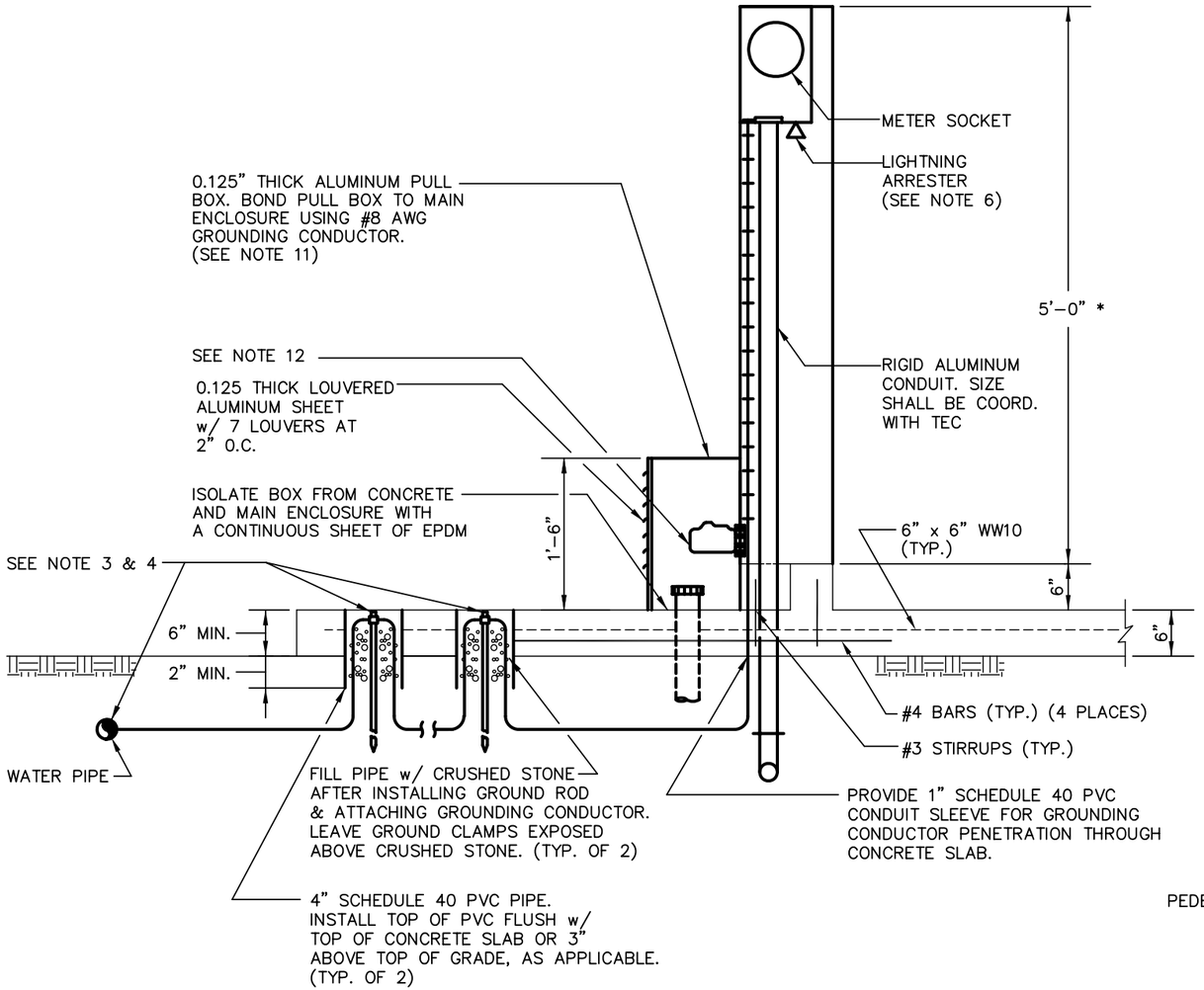
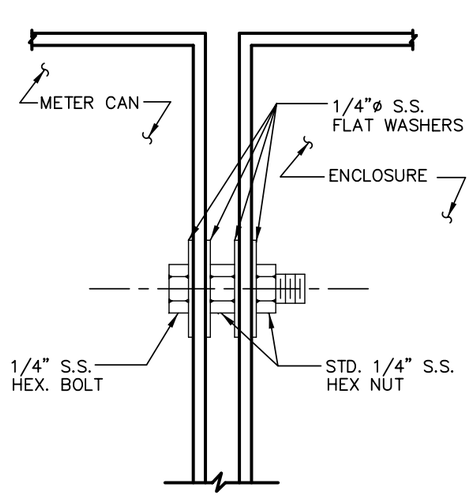
CITY of TAMPA
WASTEWATER DEPARTMENT

OSBORNE AVE. PUMP STATION
CONTROL PANEL PEDESTAL DETAILS (SHEET 1 OF 3)

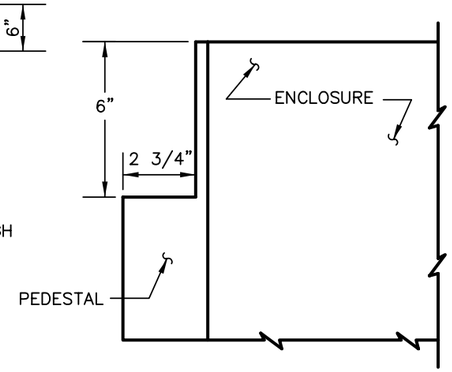
W.O. ----
SHEET E-15



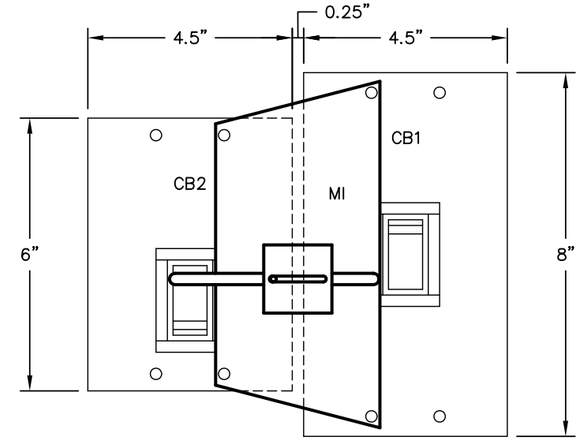
LEFT SIDE ELEVATION
NOT TO SCALE

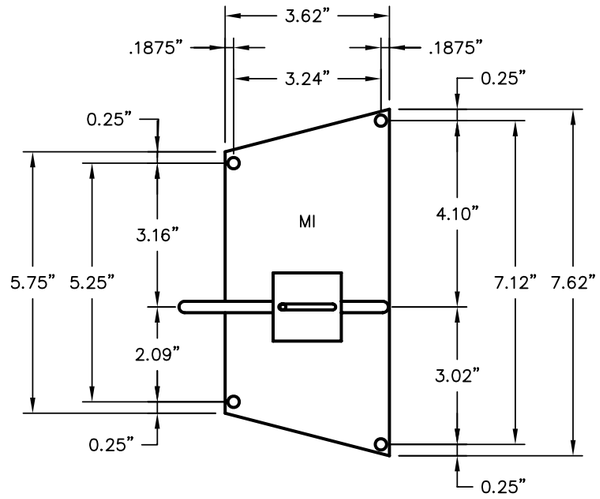


METER CAN CONNECTION
NOT TO SCALE



NOTCH IN PEDESTAL DETAIL
NOT TO SCALE





INTERLOCK NOTES:

1. PROVIDE STANDOFFS OR MNTG. BRACKET BELOW CKT. BRKR. CB2 TO ENSURE PROPER FIT & OPERATION OF MECHANICAL INTERLOCK (MI).
2. FABRICATE ALL PIECES FROM COPPER FREE ALUMINUM. PROVIDE STAINLESS STEEL FASTENING HARDWARE.
3. GRIND ALL EDGES SMOOTH.
4. VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

CB1 & CB2 INTERLOCK DETAILS
NOT TO SCALE

SEE NOTES ON SHEET E-17

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B077-089

ENGINEER OF RECORD: ROMAN D. KORCHAK, P.E. FLORIDA REGISTRATION NO. 42626	No.	DATE	REVISIONS	DES: STK DRN: RWB CKD: DATE: 06/07/13	CITY of TAMPA WASTEWATER DEPARTMENT	OSBORNE AVE. PUMP STATION CONTROL PANEL PEDESTAL DETAILS (SHEET 2 OF 3)	W.O. ---- SHEET E-16
	3						
	2						
	1						

B077-090

NOTES:

1. THWN CONDUCTORS (3–AWG #4 & 1–AWG #6 GND. COPPER EACH PUMP) SHALL EXTEND FROM THE CONTROL PANEL OUT OF THE SEALING FITTING A MINIMUM OF 18" & SHALL BE SEALED IN THE SEALING FITTING SHOWN. THE SHOWN SEALING FITTINGS SHALL BE CROUSE–HINDS, OR EQUIVALENT. WHEN INSTALLING THE PUMPS, THE MOTOR CONDUCTORS SHALL BE SPLICED USING SPLIT BOLTS. FOR INSULATION USE MATERIALS THAT ARE RECOMMENDED BY THE MANUFACTURER TO EQUAL INSULATION ON CONDUCTORS. FOLLOW THE SAME PROCEDURE FOR THE LEAKAGE AND THERMAL SENSOR CONDUCTORS.
2. CONCRETE PAD TOP ELEVATION SHALL BE ADJUSTED TO EQUAL TOP ELEVATION OF P. S. TOP SLAB.
3. GROUNDING ELECTRODE CONDUCTOR SHALL BE AWG #2 STRANDED COPPER MINIMUM. SEE SERVICE CONDUCTOR SIZE ON ELECTRICAL SCHEMATIC DRAWING.
4. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED 5/8" DIA. x 10'–0" GROUNDING RODS (MINIMUM SPACING 6'–0") AND THE METAL WATER LINE. CONDUCTOR SHALL BE AWG #4 MIN. BARE STRANDED COPPER. SEE CONDUCTOR SIZE ON ELECTRICAL SCHEMATIC DRAWING.
5. 1" PVC CONDUIT w/ PULL WIRE BURIED IN TRENCH WITH POWER CONDUITS. THE CONDUIT SHALL EXTEND FROM THE CONTROL PANEL 3' BEYOND EDGE OF SLAB, CAP & STAKE LOCATION.
6. CITY APPROVED LIGHTNING ARRESTER SHALL BE INSTALLED ON LOAD SIDE OF METER SOCKET.
7. ELBOWS TO BE LONG BUSHED AND THE HORIZONTAL PVC CONDUIT SHALL EXTEND TO A TAMPA ELECTRIC COMPANY HAND–HOLE AT THE BASE OF THE POWER POLE. COORDINATE THIS WORK WITH TEC.
8. ALL CONDUIT TERMINATIONS SHALL BE FITTED WITH NYLON BUSHINGS.
9. WATER SERVICE RISER SHALL BE LOCATED ON SIDE OF PANEL OPPOSITE TO THE TEC METER SOCKET.
10. PROVIDE 1" PVC CONDUIT FOR ODOR CONTROL PANEL. COORDINATE REQUIREMENTS w/ THIO–GUARD.
11. FRONT OF PULL BOX IS TO BE COVERED BY A LOUVERED ALUMINUM METAL SHEET (MIN. THICKNESS 0.125") AND FASTENED WITH MIN. OF FOUR 1/2" STAINLESS STEEL BOLTS ANCHORED IN THE CONCRETE. LOUVERED PANEL TO BE REMOVABLE AND ATTACHED TO PULL BOX WITH STAINLESS STEEL BOLTS. PULL BOX COVER SHALL BE BONDED TO PULL BOX/MAIN ENCLOSURE USING MINIMUM #8 AWG EXTRA FLEXIBLE GROUNDING CONDUCTOR.
12. SEALING FITTING SHALL BE SIZED FOR CONDUCTORS. ENSURE THAT SEALING FITTING CONNECTION TO MAIN ENCLOSURE IS GAS TIGHT. USE HIGH QUALITY SEALING LOCKNUTS OR WATERTIGHT HUBS WITH A SUPPLEMENTAL BARRIER (IF NECESSARY) TO EXCLUDE GASES.
13. MINIMUM 3" PVC CONDUITS SIZED FOR NO MORE THAN 35% FILL SHALL BE INSTALLED.
14. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
15. TEC 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 TEC ROUTING IS VERIFIED AT THE TIME OF INSTALLATION.
16. POSITION CONTROL PANEL 90° TO WET WELL HATCH OPENING.
17. COORDINATE WITH CONTROL PANEL MANUFACTURER CONDUIT NIPPLE INSTALLATION IN REAR OF PANEL.
18. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "*" SHALL BE DETERMINED AFTER EQUIPMENT SELECTION.
19. CONDUIT SURFACE THAT IS IN CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. SPEC. TT–V–51) TO 4" ABOVE AND BELOW CONCRETE.

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OSBORNE AVE. PUMP STATION
CONTROL PANEL PEDESTAL DETAILS (SHEET 3 OF 3)

W.O. ----
SHEET
E-17