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

CITY OF TAMPA

Channel District
Community Redevelopment Area

12th Street Wastewater Pump Station Improvements

Design Engineering Plans

July 2015

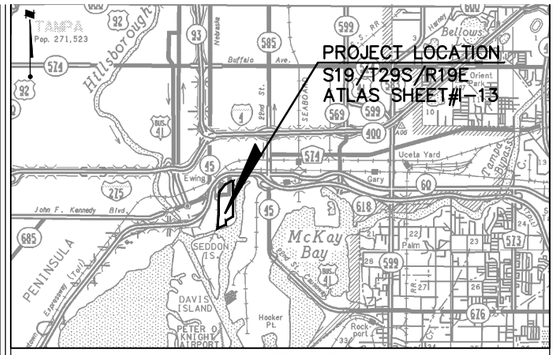
Contract No.12-C-00058

"INVESTIGATE BEFORE YOU EXCAVATE"

CALL SUNSHINE @ 1-800-432-4770
FL. STATUE 553.851 (1979) REQUIRES A MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

CITY OF TAMPA, FLORIDA



VICINITY MAP
NTS

INDEX OF SHEETS

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4	DEMOLITION PLAN
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REVISIONS

1	2-20-15	ADDRESSED CITY COMMENTS	FA
2	4-08-15	ADDRESSED CITY COMMENTS	FA
3	5-28-15	REVISED PUMP SIZE	FA

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2205 North 20th Street, Tampa, FL 33605
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Certificate of Authorization #27013 •
www.stantec.com

APPROVED BY:

CERTIFICATION

HAMIDREZA SAHEBKAR, P.E.
FLORIDA LICENSE NO. 039991

LEGEND

SS	EX. SANITARY SEWER LINE
WM	EX. WATER MAIN
FM	EX. FORCE MAIN
OHL	EX. OVERHEAD LINE
OH–TRANS	EX. OVERHEAD TRANS.
FOC	EX. FIBER OPTIC CABLE
(P)FM	PROP. FORCE MAIN
(P)SS	PROP. SANITARY SEWER LINE
(P)BE	PROP. BURIED ELECTRIC
(A)FM	FORCE MAIN TO BE ABANDONED
(A)SS	SANITARY TO BE ABANDONED
	RIGHT–OF–WAY LINE
	CENTERLINE OF ROAD
	LOCATED BUILDING LINES
	APPROXIMATE EDGE OF BUILDING AS SCALED FROM AERIAL PHOTOGRAPH
T.B.M.	TEMPORARY BENCH MARK
CONC	CONCRETE
INV.	INVERT
D.I.P.	DUCTILE IRON PIPE
P.V.C.	POLYVINYL CHLORIDE PIPE
V.C.P.	VITRIFIED CLAY PIPE
ELEV.	ELEVATION
R.O.W.	RIGHT–OF–WAY
N.I.C.	NOT IN CONTRACT
S	SANITARY SEWER MANHOLE
	REDUCER
HH	ELECTRICAL HAND HOLE
	SITE BENCH MARK
	FIRE HYDRANT
E	ELECTRIC MANHOLE
TC	TELECOMMUNICATIONS BOX
	LIGHT POLE
	WATER VALVE
C	CONFLICT MANHOLE
	EX. CONCRETE UTILITY POLE
	EX. WOODEN UTILITY POLE
	EX. MAST ARM/STRAIN POLE
	EX. LIGHT POLE
	EX. SIGN
	EX. WATER METER
	GUY ANCHOR
T	TELEPHONE MANHOLE
T	TELEPHONE UTILITY BOX
C	CABLE TV RISER
	SPRINKLER HEAD
E.B.	ELECTRIC BOX
	BACKFLOW PREVENTER
X X	TREE BARRICADE

TREE LEGEND

3"	OAK TREE
5"	UNKNOWN TREE TYPE

SPOT ELEVATION LEGEND

× 6.1	GROUND SPOT ELEVATION
× 6.13	PAVEMENT SPOT ELEVATION
25.60	TOP OF CURB ELEVATION
25.10	FLOWLINE OF CURB ELEVATION
× 25.12	EDGE OF PAVEMENT ELEVATION
25.60	TOP OF CURB ELEVATION
×25.12	EDGE OF PAVEMENT ELEVATION
6.71	PROPOSED ELEVATION

DEMOLITION LEGEND

	ASPHALT TO BE REMOVED
	CONCRETE TO BE REMOVED
	SILT FENCE
	TREE BARRICADE
	TREE TO BE REMOVED
	TO BE ABANDONED IN PLACE

SEQUENCE OF PUMP STATION CONSTRUCTION

A. COMPLETE CONSTRUCTION OF NEW PUMPING STATION INCLUDING ELECTRICAL CONNECTIONS AND CONNECTION TO EXISTING FORCE MAIN AS SHOWN ON THE CONNECTION DETAIL ON SHEET 009. COMPLETE INFLUENT GRAVITY SEWER WITHIN EXCAVATION LIMITS OF NEW STATION.

B. TEST NEW STATION AND ENSURE PROPER OPERATION.

C. BYPASS FLOW INTO EXISTING OR NEW STATION FROM EXISTING (MH EX SS–2 AND MH EX SS–4) AS NEEDED TO COMPLETE CONSTRUCTION AND TESTING OF NEW 21" GRAVITY SEWER FROM PROPOSED MH SS–4 TO MH SS–1.

D. UPON COMPLETION AND SUCESSFUL TESTING OF NEW 21" INFLUENT GRAVITY SEWER, DIVERT ALL FLOW INTO THE NEW STATION.

E. CLOSE VALVES AS NEEDED TO PLACE EXISTING STATION AND FORCE MAIN BETWEEN THE EXISTING STATION AND THE NEW STATION OUT OF OPERATION.

GENERAL NOTES

1. ALL ELEVATIONS REFER TO NAVD 1988 DATUM AS REQUIRED BY CITY OF TAMPA.

2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF THE EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS/STRUCTURES.

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

4. ALL UTILITY INFORMATION SHOWN ON THESE PLANS IS BASED ON INFORMATION PROVIDED BY THE CITY OF TAMPA UTILITY COMPANIES. ANY DISCREPANCIES OR ADDITIONAL UTILITY CONFLICTS DISCOVERED DURING CONSTRUCTION ARE TO BE BROUGHT TO THE ENGINEER OF RECORD'S ATTENTION FOR RESOLUTION.

5. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TO RESOLVE ALL CONFLICTS AND ISSUES:

TAMPA ELECTRIC CO.	813–275–3428
COT WASTEWATER DEPT.	813–274–8936
TAMPA WATER DEPT.	813–274–7423
VERIZON	813–989–7960
MCI	813–262–1913
LEVEL 3 COMM.	813–349–1431
XSPEDIUS	954–914–5862
XO COMM.	813–301–4026
BRIGHTHOUSE	813–684–6100 Ext. 325

6. STATIONS AND OFFSETS REFER TO THE SURVEY BASELINE OR TO THE CONSTRUCTION CENTERLINE AS NOTED.

7. STATIONS AND OFFSETS FOR MANHOLES, REFER TO THE CENTERPOINT OF THE STRUCTURE.

8. N/A

9. ALL CURB RADII, P.I., P.C., AND P.T. REFER TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

10. NO TREES NOR TREE ROOTS SHALL BE REMOVED WITHOUT THE PRIOR APPROVAL OF CITY PARKS AND RECREATION.

11. ALL DISTURBED AREAS SHALL BE SODDED AS DIRECTED BY THE ENGINEER.

12. WHERE CONNECTIONS TO EXISTING WALKS AND DRIVES ARE NOT INDICATED ON THE PLANS, PROPER CONNECTIONS SHALL BE MADE AT THE DIRECTION OF THE ENGINEER.

13. STREET SIGNS, STREET MARKERS, AND R–O–W MARKERS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR THESE ACTIVITIES. ANY LOST OR DAMAGED SIGNS OR MARKERS SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY.

14. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE ENVIRONMENTAL RULES AND REGULATIONS OF THE CITY, COUNTY, STATE, TAMPA PORT AUTHORITY, ARMY CORPS OF ENGINEERS, US ENVIRONMENTAL PROTECTION AGENCY (EPA), AND ANY OTHER JURISDICTIONAL AGENCIES, AND ALL CONDITIONS SET FORTH IN ENVIRONMENTAL PERMITS.

15. 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 CONTRACT PRICE.

16. THE CONTRACTOR SHALL USE ALL SURPLUS FILL APPROVED BY THE ENGINEER AS SUITABLE FROM EXCAVATION PRIOR TO SUPPLYING FILL FROM OTHER SOURCES.

17. EXISTING PAVEMENT SHALL BE SAWCUT AT THE LIMITS OF PAVEMENT RECONSTRUCTION. SAWCUTTING SHALL BE INCLUDED IN THE COST OF THE OTHER VARIOUS CONTRACT ITEMS AND NO SEPARATE PAYMENT SHALL BE MADE.

18. DISPOSAL OF CONSTRUCTION AND DEMOLITION DEBRIS MAY ONLY OCCUR AT OFFSITE DISPOSAL FACILITIES APPROVED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY APPLICABLE PERMITS AT NO ADDITIONAL COST TO THE CITY.

19. BALED HAY OR STRAW BARRIERS AND/OR SILT FENCES MEETING FDOT INDEX #102 SHALL BE USED AS DIRECTED BY THE ENGINEER AS NECESSARY FOR SEDIMENT AND EROSION CONTROL DURING CONSTRUCTION. COST OF EROSION CONTROL SHALL BE INCLUDED IN THE COST OF THE OTHER VARIOUS CONTRACT ITEMS AND NO SEPARATE PAYMENT SHALL BE MADE.

20. CURB–AND–GUTTER ENDINGS SHALL CONFORM TO CITY OF TAMPA DPW STANDARD DRAWING P–3.

21. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. COMPLETE CONSTRUCTION DOCUMENTS CONSIST OF PLANS PLUS COMPLETE SPECIFICATIONS (GENERAL PROVISIONS, TECHNICAL SPECIFICATIONS, SPECIFIC PROVISIONS AND ANY ADDENDA), AND CITY AND FDOT STANDARDS, AS APPLICABLE.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR AND OR COORDINATION OF MAINTENANCE OF ALL SERVICES (UTILITIES, ACCESS, EMERGENCY, ETC.) DURING CONSTRUCTION.

23. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC AND ALL REQUIRED PERMITS. CONTRACTOR SHALL SUBMIT MAINTENANCE OF TRAFFIC PLANS IN CONFORMANCE WITH FDOT INDEX No. 600 TO THE CITY OF TAMPA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION FOR APPROVAL PRIOR TO ANY CONSTRUCTION ACTIVITY.

24. PROFILES ARE BASED ON BEST AVAILABLE INFORMATION AND SHALL BE FIELD VERIFIED. PROPOSED PROFILES ARE SUBJECT TO CHANGE.

25. N/A

26. RIGHT–OF–WAY LOCATIONS REPRESENT BEST AVAILABLE INFORMATION.

27. DRIVEWAYS ARE TO BE CONSTRUCTED PER FDOT INDEX 515. (REFER TO 'URBAN FLARED TURNOUT W/O SIDEWALK)

28. ALL WORK PERFORMED SHALL CONFORM TO:

1. FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2010) (A.K.A. STANDARD SPECS)
2. FDOT DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND OPERATIONS ON THE STATE HIGHWAY SYSTEM, JAN., 2008, (A.K.A. STANDARD INDEX). COMPLIANCE WITH ALL APPLICABLE INDICES IS REQUIRED.
3. FLORIDA DEPARTMENT OF TRANSPORTATION FLEXIBLE PAVEMENT DESIGN MANUAL FOR NEW CONSTRUCTION AND PAVEMENT REHABILITATION, MARCH 2008.
4. ALL CONSTRUCTION AND/OR MAINTENANCE IN THE COT R/W SHALL CONFORM TO THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE COT TECHNICAL STANDARDS FOR TRANSPORTATION, LATEST EDITION.
5. ALL TRAFFIC STRIPES AND MARKINGS ARE TO BE LEAD FREE, NON SOLVENT BASED THERMOPLASTIC. THE PERMITTEE SHALL FURNISH THE DEPARTMENT WITH THE MANUFACTURER'S CERTIFICATION THAT THE THERMOPLASTIC IS "LEAD FREE."

29. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. FOR SPRINKLER SYSTEM CONTROLS CONTACT CITY OF TAMPA PARKS DEPARTMENT, MARK NEUBERGER AT 813–274–8713. (SEE DETAIL FOR PAVEMENT RESTORATION).

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

31. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE SPECIFIED, SHALL BE CLASS "B" 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

32. SALVAGEABLE MATERIAL AS DETERMINED BY WASTEWATER DEPARTMENT PERSONNEL SHALL BE DELIVERED TO THE CITY OF TAMPA'S HOWARD F. CURREN AWTP AT 2700 MARITIME BLVD.. NON–SALVAGEABLE MATERIALS ARE TO E REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY TREATMENT PLANT PERSONNEL.

33. ALL MATERIALS, ELECTRICAL AND MECHANICAL EQUIPMENT MUST BE ON SITE BEFORE BYPASS PUMPING WILL BEGIN TO MINIMIZE THE DURATION OF THE BYPASS PUMPING.

34. THE ACCESS COVERS SHALL CLOSE FLUSH WITH THE FRAME. ALL ALUMINUM SURFACES THAT CONTACT CONCRETE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE INSTALLATION AND CONFIGURATION OF THE ACCESS COVERS.

SURVEY NOTES:

1. HORIZONTAL AND VERTICAL CONTROL IS BASED UPON A CONTROL SURVEY FOR THE CHANNEL DISTRICT CRA (COMMUNITY REDEVELOPMENT AREA COMPLETED ON MARCH 9, 2009 BY WILSONMILLER, INC.

2. COORDINATES SHOWN HEREIN ARE REFERENCED TO THE STATE OF FLORIDA PLANE COORDINATE SYSTEM – FLORIDA WEST – ZONE 0902 (NORTH AMERICAN DATUM OF 1983 – 1990 ADJUSTMENT) AND ARE BASED UPON GPS OBSERVATIONS ORIGINATING FROM AND ADJUSTED TO THE FOLLOWING GEODETIC CONTROL STATIONS:

NATIONAL GEODETIC SURVEY CONTROL STATION Q 18 BEING A BRASS DISK STAMPED "Q 18 1933" SET IN A CONCRETE MONUMENT (NAD83–1990 PUBLISHED VALUE BY NGS HELD)

NATIONAL GEODETIC SURVEY CONTROL STATION FLGPS 59 AZMK BEING A BRASS DISK STAMPED "FLGPS 59 AZ MK 1989" SET IN CONCRETE SIDEWALK OF BENEFICIAL DRIVE BRIDGE. (NAD83–1990 PUBLISHED VALUE BY NGS HELD)

NATIONAL GEODETIC SURVEY CONTROL STATION THOMPSON2 BEING A BRASS DISK STAMPED "THOMPSON 2 2000" SET IN A CONCRETE MONUMENT (NAD83–1990 PUBLISHED VALUE BY HILLSBOROUGH COUNTY SURVEYING AND MAPPING SECTION HELD [HILLS. COUNTY PROJECT No.90–12–02])

3. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 AND ARE BASED UPON THE FOLLOWING CITY OF TAMPA BENCHMARKS:

HV–02 0182 HAVING A PUBLISHED ELEVATION OF 10.730 FEET.
HV–02 0213 HAVING A PUBLISHED ELEVATION OF 20.459 FEET.
HV–02 0214 HAVING A PUBLISHED ELEVATION OF 15.756 FEET.
HV–02 0215 HAVING A PUBLISHED ELEVATION OF 5.983 FEET.

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FLORIDA LICENSE NO:039991

Drawn: ELR	Date: 10/2012	
Designed: ELR	Date: 10/2012	
Checked: JDJ	Date: 10/2012	
Reviewed: HS	Date: 10/2012	
Approved:	Date:	
Approved:	Date:	

No:	Date:	Revision:	By:
1	2–20–2015	ADDRESSED CITY COMMENTS	FA

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12th STREET PUMP STATION IMPROVEMENTS

GENERAL NOTES

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005–002
Scale: AS NOTED	
SHEET 002	

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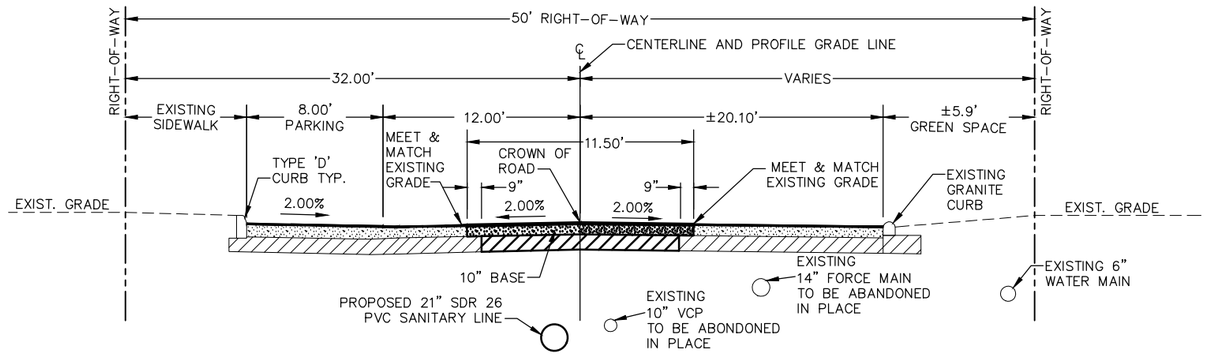

TYPICAL ROADWAY SECTION

STA: 131+50 TO STA: 134+20

LEGEND

- PROPOSED ASPHALTIC CONCRETE
- PROPOSED BASE
- EXISTING SUBGRADE
- PROPOSED SUBGRADE

50' RIGHT-OF-WAY

NO ON-STREET PARKING

(MILLING AND RESURFACING)

DESIGN SPEED = 30 MPH

MILLING

- MILL EXISTING ASPHALT PAVEMENT (1" DEPTH)

RESURFACE

- 1" FC-9.5 SURFACE COURSE (110 LB/SY AVG.) RUBBER

RESURFACING NOTE:
LEVELING COURSES ARE REQUIRED ALONG PORTIONS OF THE MAINLINE CONSTRUCTION FOR VERTICAL CONTROL. CONTRACTOR TO VERIFY ACTUAL ASPHALT THICKNESSES PRIOR TO CONSTRUCTION.

PROPOSED PAVEMENT SECTION

- 1" FC-9.5 SURFACE COURSE
- 2" TYPE SP-12.5 ASPHALTIC CONCRETE.
- 10" WELL GRADED CRUSHED CONCRETE (MINIMUM LBR OF 150)(COMPACTED TO 98% ASTM D-1557)
- 12" STABILIZED SUBGRADE MATERIAL (FDOT TYPE 'B' APPROVED) (MINIMUM LBR OF 40) (COMPACTED TO 98% ASTM D-1557)

NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO FLORIDA DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. IN NO CASE SHALL THE BEARING AND DENSITY BE LESS THAN THAT SPECIFIED IN THE FLORIDA DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, UNLESS OTHERWISE AUTHORIZED BY THE CITY OF TAMPA TRANSPORTATION ENGINEER.

2. FOR PAVED AREAS A REQUIRED MINIMUM COMPACTION DENSITY OF NINETY-EIGHT (98%) PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 FOR A MINIMUM DEPTH OF SIX (6) INCHES. FOR NON-PAVED AREAS A NINETY-FIVE (95%) PERCENT SHALL BE USED. REFER TO AASHTO T-99.

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Designed: RND	Date: 10/2012				
Checked: JDJ	Date: 10/2012				
Reviewed: HS	Date: 10/2012				
Approved:	Date:				
Approved:	Date:	No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

TYPICAL CROSS-SECTION

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-003
Job No. 04915	
Scale: AS NOTED	
SHEET 003	

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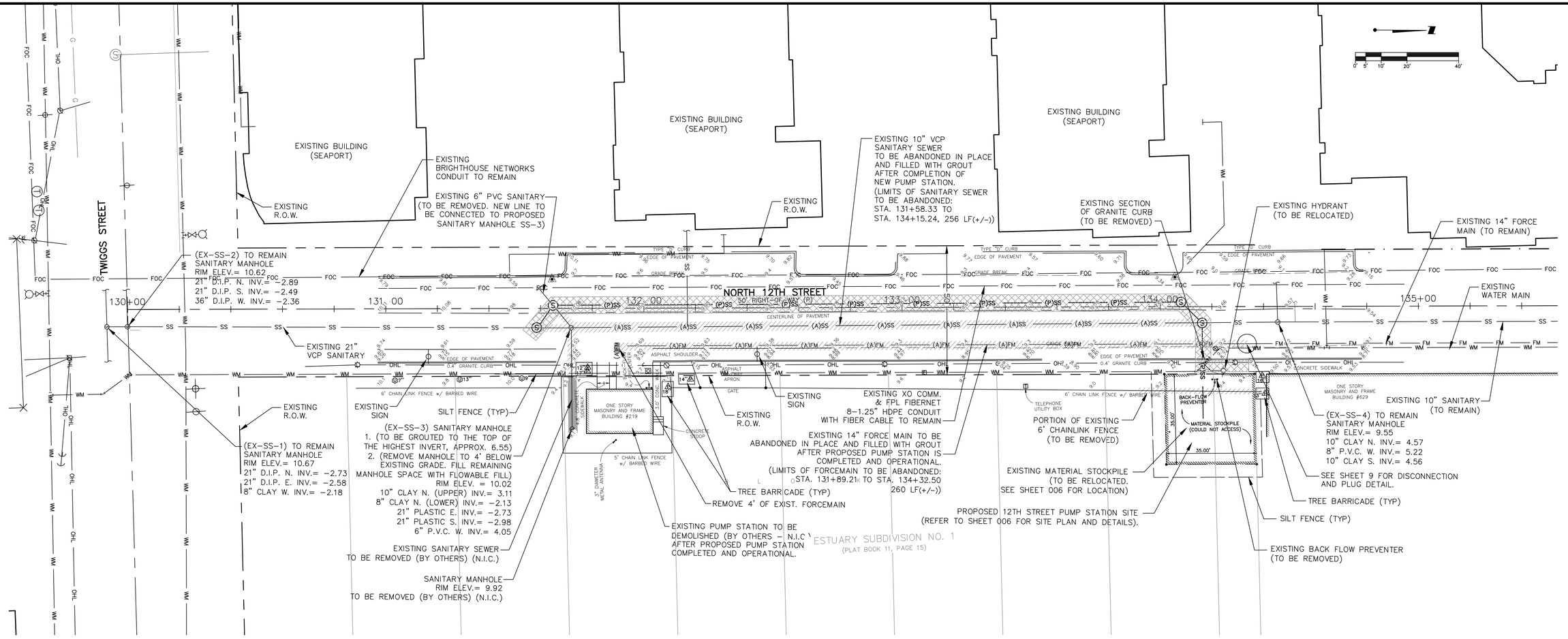
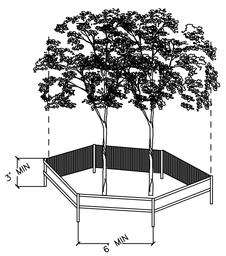


TREE PROTECTION STANDARDS

1. Protective barricades shall be placed around all trees to remain during site clearing to create a protective radius and shall remain in place until land alteration, site clearing and construction activities are complete. Barricades shall meet City of Tampa standards as outlined in Chapter 13 Section G.
2. A soil auger shall be used to tunnel under the root systems of trees to remain to install utilities.
3. Installation of artificial barriers such as protective barricades, fences, posts or walls shall not destroy or irreversibly harm the root system of protected trees and grand trees. Footers for walls shall end at the point where larger roots are encountered, and the roots shall be bridged.
4. All roots to be removed during the site clearing phase shall be severed clean at the perimeter of the designated protective radius.
5. A two-inch layer of mulch shall be applied over the surface of exposed roots of trees to remain during the site clearing phase.
6. All trimming of trees to remain during development shall be done by a certified arborist with the International Society of Arboriculture.

TREE BARRICADE REQUIREMENTS



Protective barriers are used during land alteration and construction activities to protect trees and natural areas to be retained on a site.

Protective barriers must be erected around trees to be retained within an area where land alteration and construction activities will occur as well as along natural areas where such areas are adjacent to permitted land alteration or construction activities. A protective barrier must remain in place until the land alteration and construction activities are completed or until commencement of grade finishing, sodding, and landscaping. No ground disturbance shall occur within the barricaded area.

1. Trees - To restrict access into the area within the rootzone of a tree, a physical structure not less than 3 feet in height, comprised of wood or other suitable material, is placed around the tree as shown on the plan. Vertical members shall be made of a minimum of 2x2 wood or 5/8" steel reinforcement bar, at least 3' in height and installed to a minimum depth of 1' below grade. Spacing between vertical members shall be no greater than 6'. Horizontal members shall be made of a minimum 1x2 wood or solid fencing material, such as orange or chain link fencing, and be a minimum of three feet in height.
2. Natural Areas - To restrict access into areas where land alteration and construction activities are not authorized, a physical structure not less than 3 feet in height is placed along the perimeter of such areas. Upright stakes of no less than 2" x 2" lumber spaced no more than 25' apart and connected by extra strength filter fabric at 6' maximum spacing without wire support fence. Other methods of demarcation will be considered depending upon the characteristics of the site.

CITY OF TAMPA WATER DEPARTMENT NOTES

- EXERCISE CAUTION WHEN WORKING NEAR VALVE BOXES, METERS, AND HYDRANTS. IF PROBLEMS OCCUR, CALL CITY OF TAMPA TRIAGE CENTER AT 274-7400.
- PLEASE CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO LOCATE THE CITY OF TAMPA WATERMAINS.

NOTES:

1. CONTRACTOR TO FIELD VERIFY THE EXISTANCE OF ANY CONNECTIONS OR LATERALS TO THE EXISTING SANITARY SYSTEM NOT SURVEYED OR SHOWN ON THE PLANS.
2. EXISTING UTILITIES, BOTH OVERHEAD & UNDERGROUND, STORM INLETS, FIRE HYDRANTS, ETC. IN THE RIGHT-OF-WAY TO REMAIN UNLESS NOTED OTHERWISE.
3. THE EXISTING UTILITIES, UTILITY BOXES, HANDHOLES, ETC. WITHIN THE LIMITS OF CONSTRUCTION ARE TO REMAIN IN SERVICE THROUGHOUT THE CONSTRUCTION PROCESS.
4. CONTRACTOR TO MATCH GRADE WITH THE NEW CONCRETE SIDEWALK OR PROPOSED GRADE.
5. ALL EXISTING GRANITE CURBS WITHIN PROJECT LIMITS TO BE REMOVED AND HAULED TO CITY'S STORAGE AREA. CONTRACTOR TO CONTACT CITY'S TRANSPORTATION MANAGER FOR COORDINATION.
6. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF TRAFFIC PLANS PER FDOT INDEX 600 SERIES.
7. ALL DISTURBED AREAS WITHIN THE COT RIGHT-OF-WAY TO BE FULLY RESTORED AND SODDED.
8. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN THE COT RIGHT-OF-WAY PRIOR TO CONSTRUCTION.
9. CAP AND PROTECT EXISTING IRRIGATION AS NECESSARY TO PRESERVE IT FOR USE FOR LANDSCAPE IRRIGATION.
10. THE CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO MINIMIZE THE NOISE ASSOCIATED WITH THE BYPASS SYSTEM. THE NOISE ASSOCIATED WITH THE MACHINERY SHALL NOT EXCEED 40 DECIBELS, A-WEIGHED WHEN MEASURED FROM A DISTANCE OF 15 FEET, OR AT THE PROPERTY LINE.

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CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

DEMOLITION PLAN

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-004
Scale: AS NOTED	
SHEET 004	

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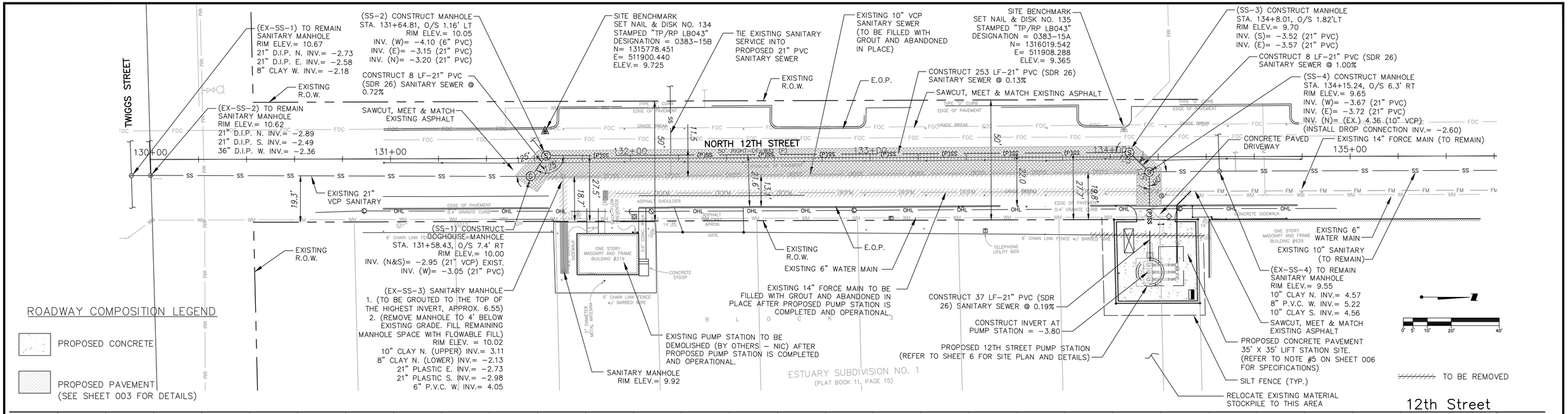

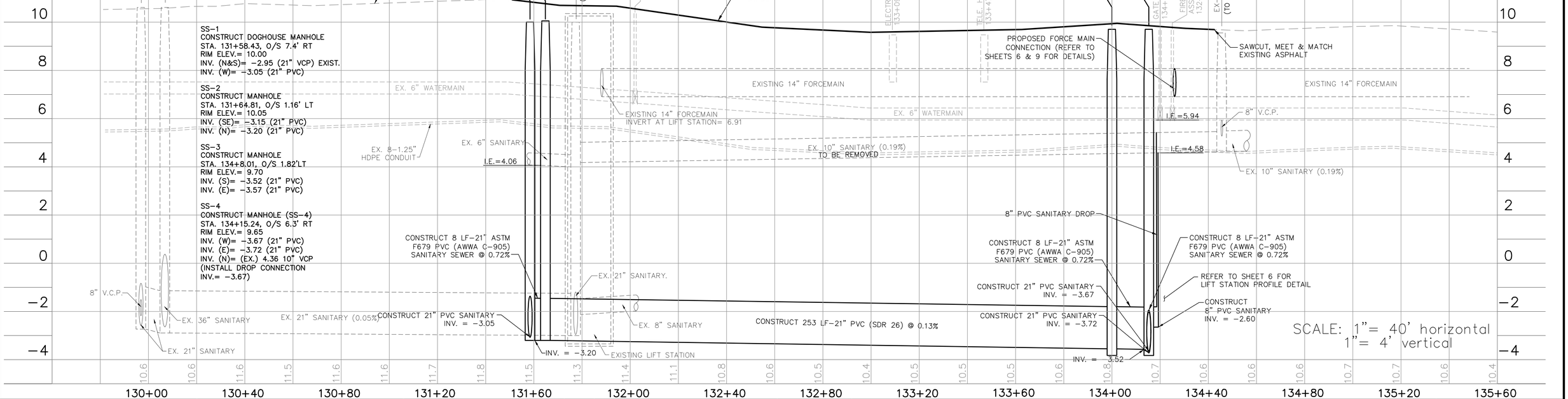

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HAMIDREZA SAHEBKAR, P.E.
FLORIDA LICENSE NO:039991

Drawn: ELR	Date: 10/2012	
Designed: ELR	Date: 10/2012	
Checked: JDJ	Date: 10/2012	
Reviewed: HS	Date: 10/2012	
Approved:	Date:	
Approved:	Date:	

No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

WASTEWATER RELOCATION PLAN

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-005
Scale: AS NOTED	
SHEET 005	

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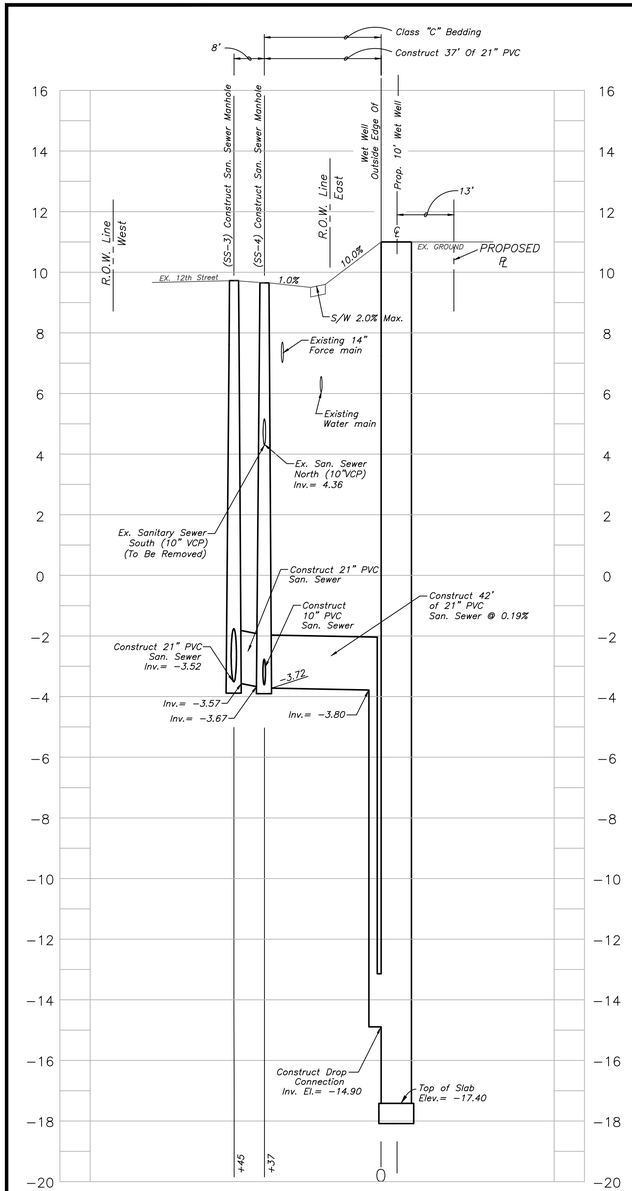
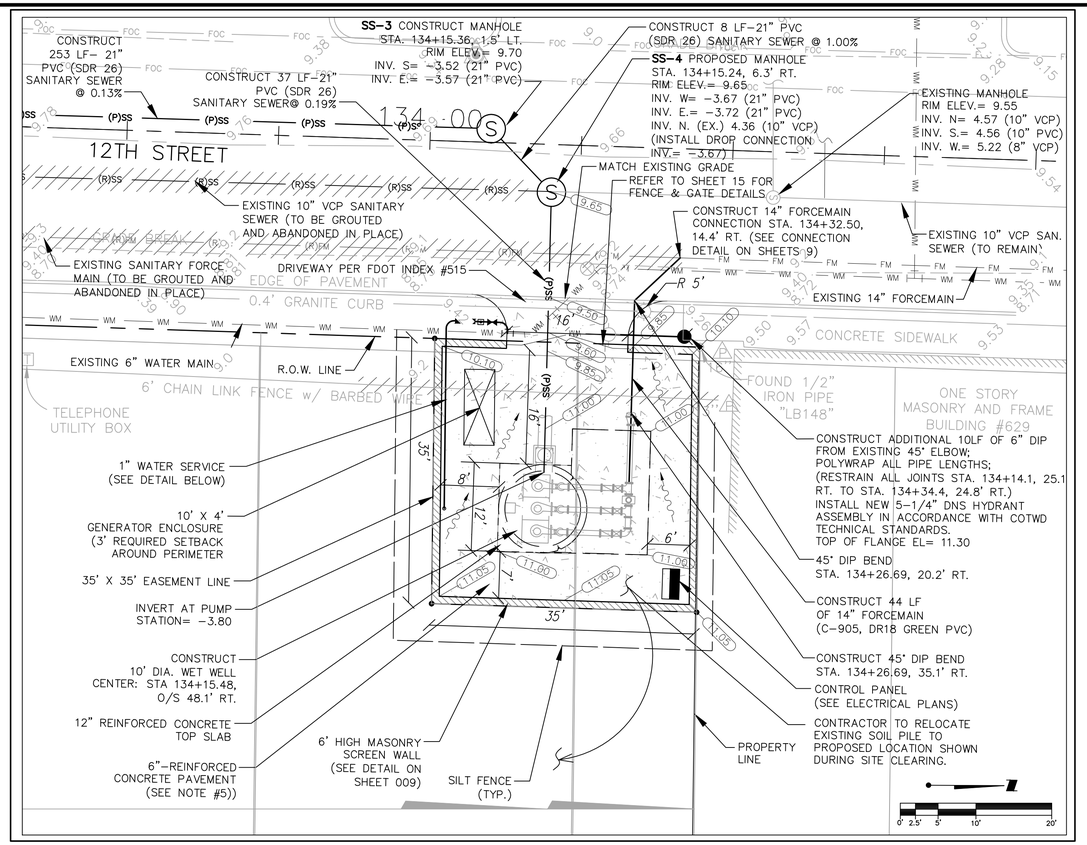


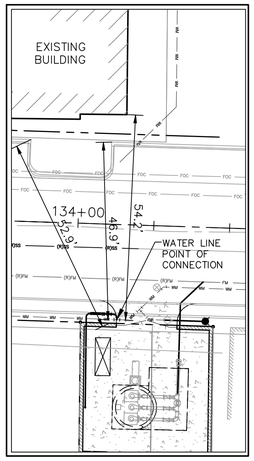
GRAVITY PROFILE

SCALE: HORIZ.: 1"=50'
VERT.: 1"= 5'



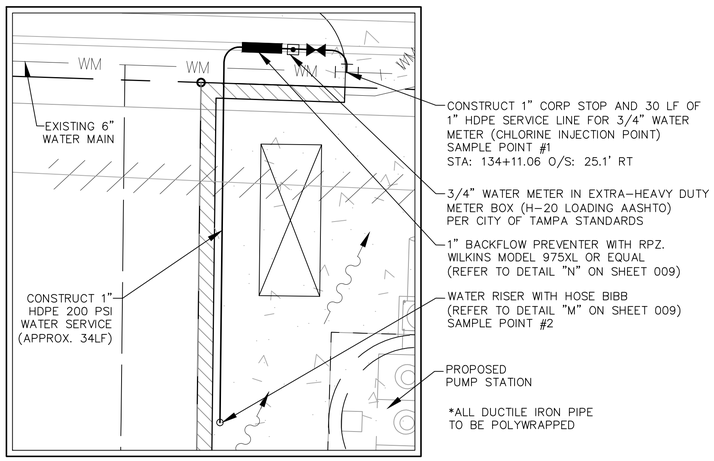
PUMP STATION SITE PLAN

SCALE: 1"=20'



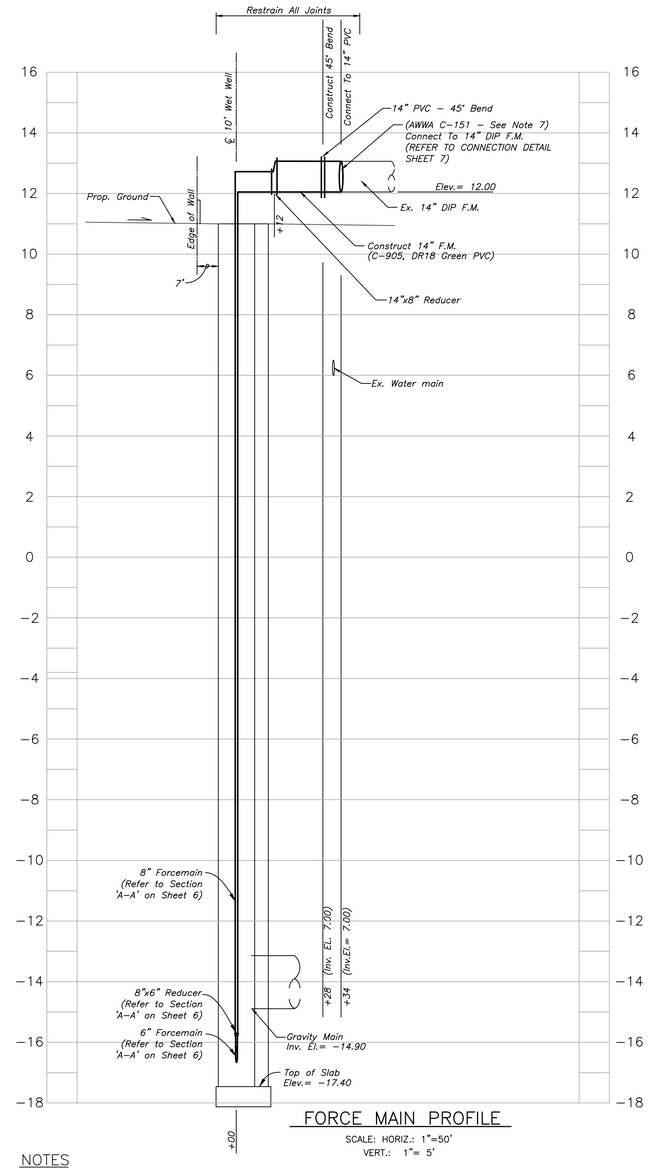
POINT OF CONNECTION DIMENSIONS

SCALE: 1"=20'



WATER SERVICE DETAIL

SCALE: 1"=10'



FORCE MAIN PROFILE

SCALE: HORIZ.: 1"=50'
VERT.: 1"= 5'

NOTES

1. EARTH BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE PLACED AND COMPACTED IN 8" LAYERS TO 98% MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T-180, METHOD A.
2. DRIVEWAY SHALL BE CONSTRUCTED AS FOLLOWS: REMOVE EXIST. CURB & SAWCUT THE EXISTING PAVEMENT, IF NEEDED. AFTER THE BACKFILL HAS BEEN PLACED, COMPACTED (12" COMPACTED SUBGRADE, 98% MOD. PROCTOR; ASTM D-1557) AND GRADED - CONSTRUCT 6" THICK REINFORCED CONCRETE (4000 PSI @ 28 DAY STRENGTH W/ #3 REBAR 16" O.C. EACH WAY, EXPANSION JOINTS 75' O.C. MAX., CONTROL JOINTS 15' O.C.) TO THE LIMITS SHOWN ON THE SITE PLAN. THE PROPOSED PAVEMENT SHALL MATCH THE EDGE OF THE ASPHALT PAVEMENT.
3. N/A
4. PLACE BAHIA SOD ON ALL DISTURBED EARTHEN AREAS AFTER FINISH FINE GRADING IS COMPLETED.
5. 35' X 35' CONCRETE PAVEMENT SHALL BE: 6" THICK, 4000 PSI @ 28 DAY STRENGTH W/ #3 REBAR 16" O.C. EACH WAY, CONTROL JOINTS 15' O.C., OVER 12" OF COMPACTED SUBGRADE (98% MOD. PROCTOR, ASTM D-1557).
6. ANY DAMAGES INCURRED TO THE PHASE-1 MANHOLE DURING CONSTRUCTION OF THE LIFT STATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR. THE CITY OF TAMPA RESERVES THE RIGHT TO REQUIRE A NEW MANHOLE IF THE EXISTING MANHOLE IS SIGNIFICANTLY DAMAGED.
7. FORCE MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF TAMPA DEPARTMENT OF SANITARY SEWERS.

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Approved:	Date:	

No:	Date:	Revision:	By:
1	2-20-2015	ADDRESSED CITY COMMENTS	FA

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

SITE PLAN AND PROFILE

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-006
Scale: AS NOTED	
SHEET 006	

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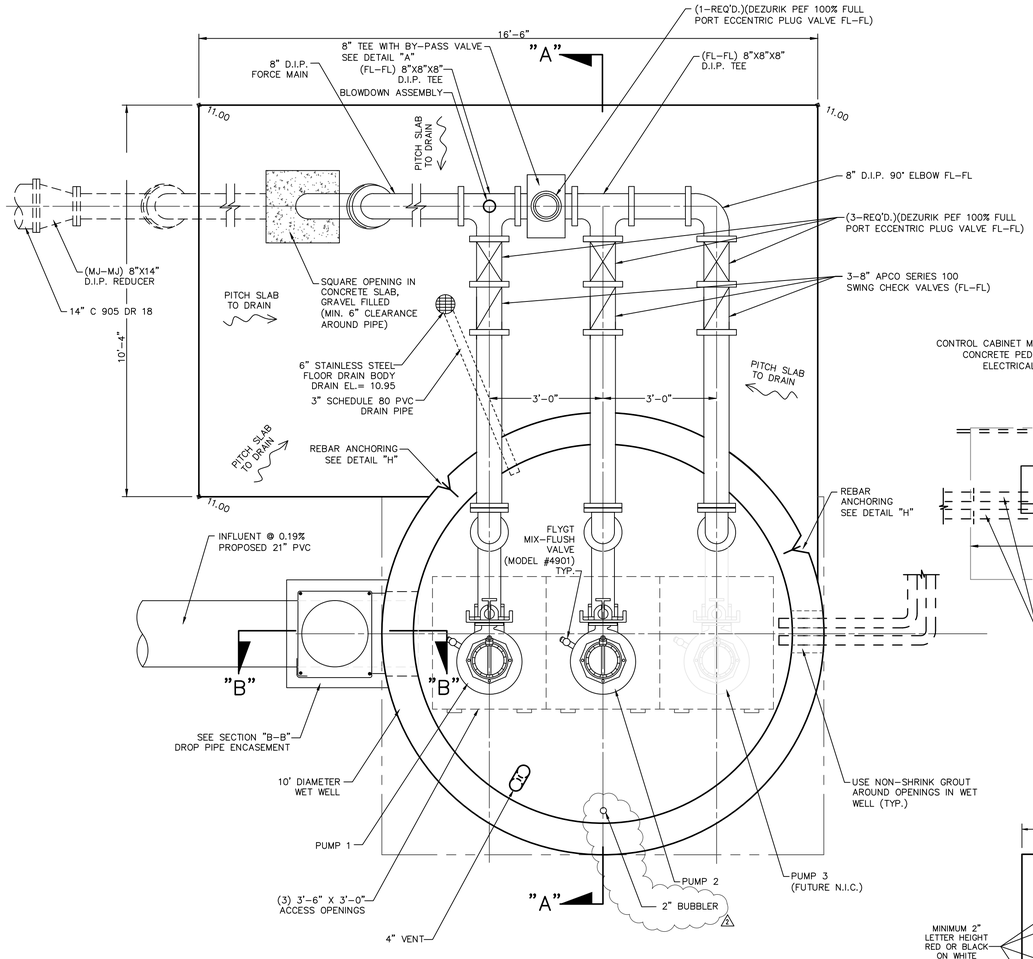
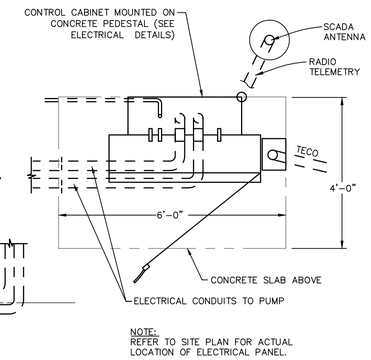
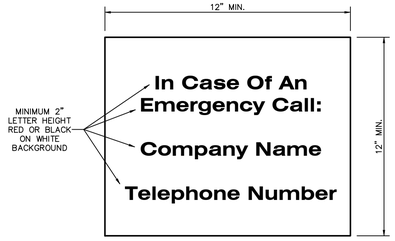


SECTIONAL PLAN

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

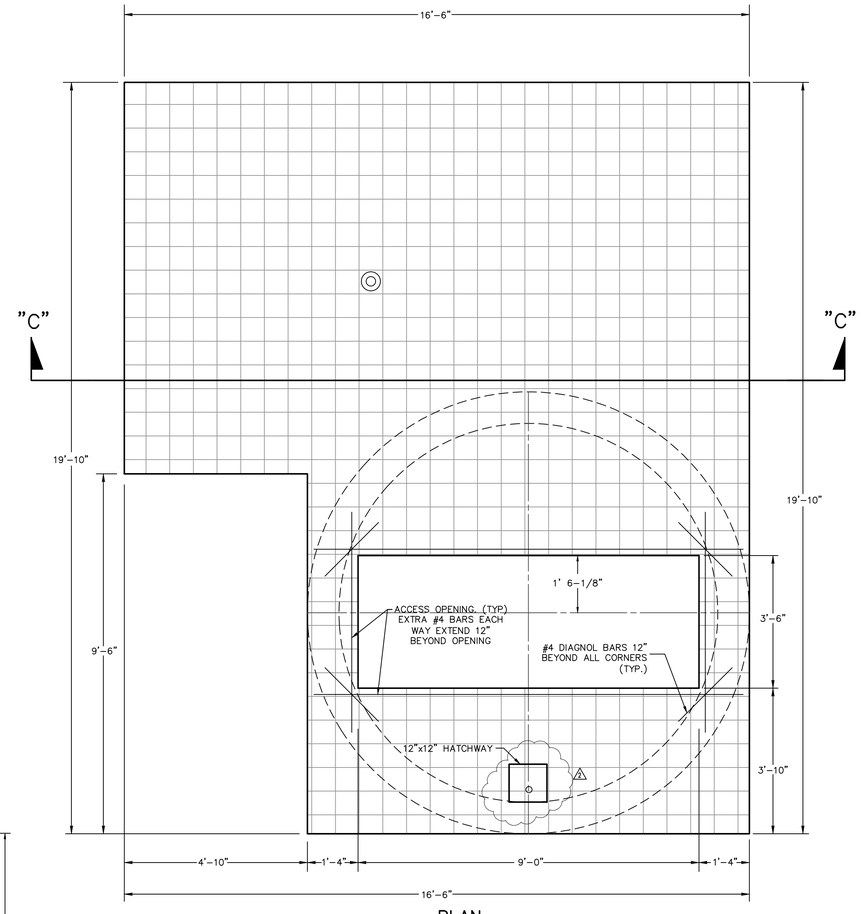


NOTE:
REFER TO SITE PLAN FOR ACTUAL LOCATION OF ELECTRICAL PANEL.



TYPICAL PUMP STATION EMERGENCY ADVISORY SIGN DETAIL

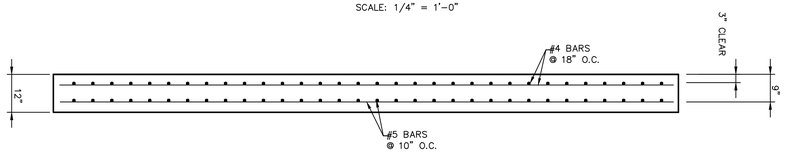
NOT TO SCALE
SIGN TO BE POSTED CONSPICUOUSLY ON PUMP STATION WALL OR GATE.



PLAN

TOP SLAB REINFORCING DETAIL

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



TOP SLAB SECTION "C-C

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1	2-20-2015	ADDRESSED CITY COMMENTS	FA
2	4-08-2015	ADDRESSED CITY COMMENTS	FA
3			
4			
5			
6			

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

DETAIL SHEET (1 OF 3)

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-007
Job No. 04915	
Scale: AS NOTED	
SHEET 007	

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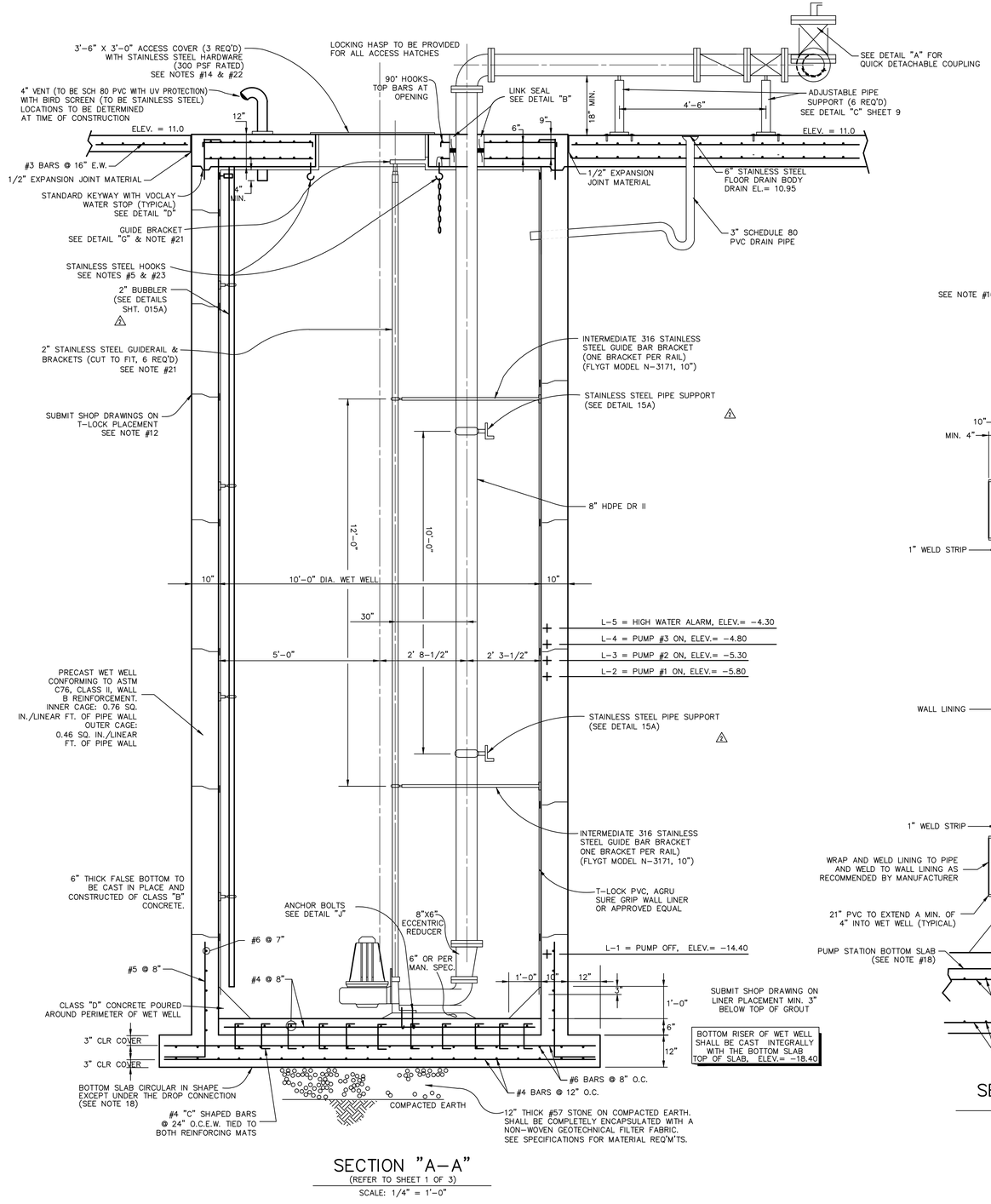
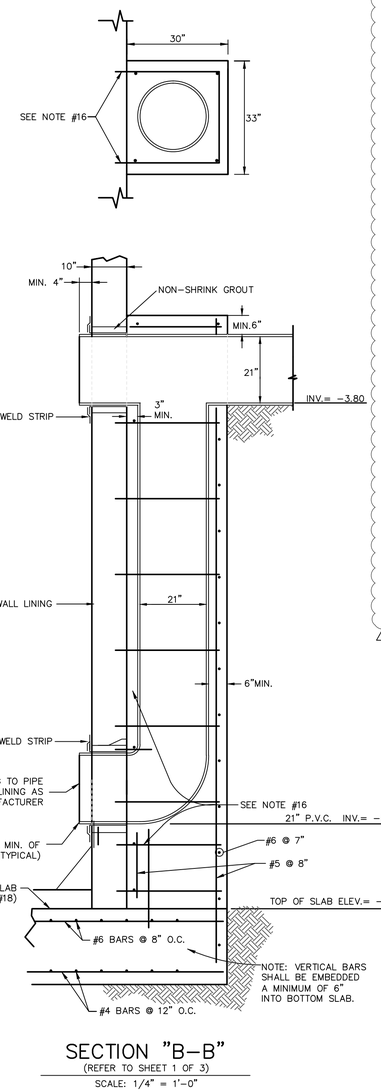


SECTION "A-A"

(REFER TO SHEET 1 OF 3)

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



SECTION "B-B"

(REFER TO SHEET 1 OF 3)

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

ITT Water & Wastewater

PERFORMANCE CURVE

PRODUCT	TYPE
NP3171.181	MT

DATE	PROJECT	CURVE NO	ISSUE
2011-03-21	Tampa 12th St 1427@48.7	63-435-00-3030	5

	1/1-LOAD	3/4-LOAD	1/2-LOAD
POWER FACTOR	0.87	0.83	0.74
EFFICIENCY	88.0 %	89.5 %	90.0 %
MOTOR DATA	---	---	---

RATED POWER	25	hp
STARTING CURRENT	180	A
RATED CURRENT	30	A
RATED SPEED	1755	rpm
TOT MOM.OF INERTIA	0.14	kgm2
NO. OF BLADES	2	

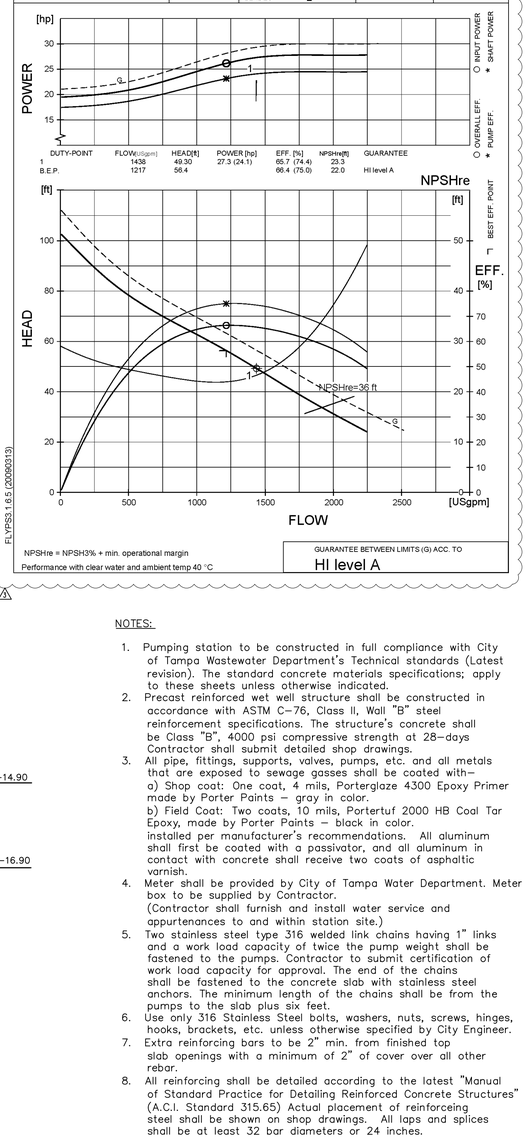
IMPELLER DIAMETER: 244 mm

MOTOR #	STATOR	REV
25-14-4AA	07YSER	11

FREQ.	PHASES	VOLTAGE	POLES
60 Hz	3	460 V	4

COMMENTS: INLET/OUTLET -/ 6 inch; IMP. THROUGHLET ---

GEARTYPE: --- RATIO: ---



NOTES:

1. Pumping station to be constructed in full compliance with City of Tampa Wastewater Department's Technical standards (Latest revision). The standard concrete materials specifications; apply to these sheets unless otherwise indicated.
2. Precast reinforced wet well structure shall be constructed in accordance with ASTM C-76, Class II, Wall "B" steel reinforcement specifications. The structure's concrete shall be Class "B", 4000 psi compressive strength at 28-days Contractor shall submit detailed shop drawings.
3. All pipe, fittings, supports, valves, pumps, etc. and all metals that are exposed to sewage gasses shall be coated with-
   a) Shop coat: One coat, 4 mils, Porterglaze 4300 Epoxy Primer made by Porter Paints - gray in color.
   b) Field Coat: Two coats, 10 mils, Portertuf 2000 HB Coal Tar Epoxy, made by Porter Paints - black in color.
   installed per manufacturer's recommendations. All aluminum shall first be coated with a passivator, and all aluminum in contact with concrete shall receive two coats of asphaltic varnish.
4. Meter shall be provided by City of Tampa Water Department. Meter box to be supplied by Contractor. (Contractor shall furnish and install water service and appurtenances to and within station site.)
5. Two stainless steel type 316 welded link chains having 1" links and a work load capacity of twice the pump weight shall be fastened to the pumps. Contractor to submit certification of work load capacity for approval. The end of the chains shall be fastened to the concrete slab with stainless steel anchors. The minimum length of the chains shall be from the pumps to the slab plus six feet.
6. Use only 316 Stainless Steel bolts, washers, nuts, screws, hinges, hooks, brackets, etc. unless otherwise specified by City Engineer.
7. Extra reinforcing bars to be 2" min. from finished top slab openings with a minimum of 2" of cover over all other rebar.
8. All reinforcing shall be detailed according to the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (A.C.I. Standard 315.65) Actual placement of reinforceing steel shall be shown on shop drawings. All laps and splices shall be at least 32 bar diameters or 24 inches.
9. All backfill shall be compacted in 8" layers to 98% maximum dry density in conformance with AASHTO T-180, method A.
10. Tap and drill one 3/4" corporation stop in the discharge pipe in the valve vault downstream of the plug and check valves, and install schedule 80 pvc pipe and fittings to direct flow downward.
11. Fill all openings around pipes with non-shrink grout except where otherwise specified.
12. Line all exposed concrete areas in wet well from underside of top slab to top of bottom slab. Use Ameron T-Lock, Agru Sure-Grip or approved equal. Contractor shall submit shop drawings concerning placement of liner. Contractor shall submit shop drawings detailing all terminations and transitions (i.e.liner/aluminum hatch frame, liner/discharge pipe) before construction begins.
13. All shown dimensions are approximate. True dimensions should be determined in the field after pump selection and approval.
14. Wet well aluminum access covers shall be Halliday or approved equal with stainless steel hardware and shall withstand a live load of 300 p.s.f. Contractor to submit shop drawings detailing installation.
15. Driveway and paved area shall be paved with 6" reinforced concrete pavement on compacted subgrade. Pavement elevation along pump station top slab shall be even with top slab.
16. Drop pipe encasement shall be anchored to wet well using #4 bars doweled and epoxied into the wet well wall. The dowels shall be imbedded a minimum of 6" and shall be tied to the reinforcing for the drop pipe encasement @ 24" O.C. each side.
17. Contractor to notify and coordinate with all utilities necessary for proposed work prior to excavating.
18. Bottom slab shall include additional area for support of Drop Pipe encasement. (See Section "B-B")
19. Spool piece shall be provided at one end with screw on flange or series 2100 Mega-Flange restrained flange adapter.
20. All access covers over wet well shall have ¼ inch-thick Aluminum skirting attached that runs depth of top slab. Aluminum skirting shall have a flat two-inch return at bottom (of top slab), for plastic liner (of wet well top slab) to terminate on (prior to pouring concrete top slab). Contractor shall submit shop drawings detailing the installation and configuration. See Top Slab Access Details
21. Guide rail and guide rail brackets shall be 316 stainless steel.
22. Contractor shall install a reduced-pressure backflow prevention device in water service line, as shown in detail "N", at a place to be specified during construction. Backflow prevention device shall be a 1" Wilkins, Model #975XL, or equal.
23. Install two stainless steel "J" hooks on the side with the guide brackets to support the lifting chains. Install a stainless steel bracket with four stainless steel "J" hooks on the opposite side to support various cables. Both end hooks on stainless steel bracket shall have a minimum diameter of ⅜". Contractor shall submit shop drawings for approval.
24. Force mains shall be class 52 DIP, SDR 26 PVC, or HDPE DR II green PVC.
25. Force main fittings shall be RMJ. Restraining devices shall be "Mega-Lug" or approved equal.
26. All concrete shall be Class "B", 4000 psi compressive strength @ 28 days unless otherwise indicated in plans. HDPE shall be DR II, DIP's OD with greens; Joints shall be Butt Fused, Electrofused, or Flanged using 316 stainless steel back-up rings and hardware
27. Precast concrete structure's shall be of design strength prior to shipping. Contractor shall provide City Engineer with representative concrete compressive strength reports prior to shipment of structure. Concrete sampling and testing shall be done by an independent testing laboratory that has been approved by City of Tampa. The approved testing laboratory shall also verify reinforcing steel placement in forms prior to concrete placement for precast structures.
28. The direction in which the access doors open, shall correspond to the location of the hinges shown on the plans.
29. Contractor to install radio telemetry antenna behind the controls enclosure as indicated in the plans. See electrical sheets for antenna specifications.
30. All pipe, wall sleeves and conduit penetrating wet well wall (or top slab) shall extend into wet well 4" minimum and shall have Ameron PVC liner terminate on extension in collar-like fashion.
31. Contractor shall cast 4" Schedule 80, sunlight resistant, PVC pipe vertically through top slab for ventilation. Contractor shall turn down with two 90° bends and install a non-metallic bird screen at top opening. Vent pipe shall extend 4" (minimum) into wet well.
32. All ductile iron pipe and fittings shall be lined with a ceramic epoxy such as Protecto 401, or equal. Contractor shall make repairs to field cuts with approved materials only.
33. Contractor shall place ½" thick pre formed expansion joint material between pump station top slab and surrounding 6 inch concrete pad.
34. Install pipe fittings,base elbow, and guide rail brackets for future pump #3. △3

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Checked: JDJ	Date: 10/2012	△3	5-28-2015	REVISED PUMP	FA
Reviewed: HS	Date: 10/2012	△4			
Approved:	Date:	△5			
Approved:	Date:	△6			
		No:	Date:	Revision:	By:

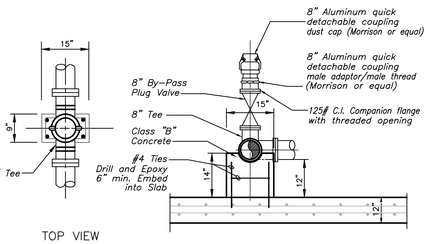
CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

DETAIL SHEET (2 OF 3)

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-008
Scale: AS NOTED	
SHEET 008	

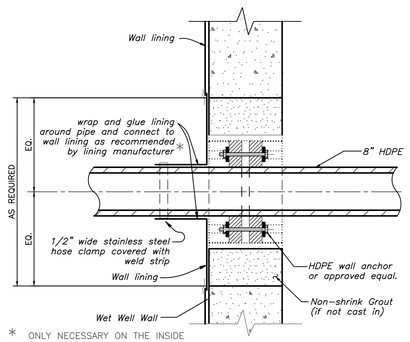
Saved: 4/9/2015 9:11 AM FARNOLD | Plotted: 5/29/2015 7:46 AM FARNOLD | V:\2156\active\215600214\land_development\drawing\005-209_Pmp_Stat\Active\Sheets\04915-005008.dwg[Sheet 8



TOP VIEW

DETAIL "A"

NOT TO SCALE



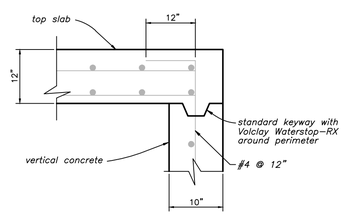
* ONLY NECESSARY ON THE INSIDE WALL OF THE WETWELL

DETAIL "B"

NOT TO SCALE

PIPE SUPPORT DETAIL "C"

NOT TO SCALE



NOTE: similar connection for bottom slabs to vertical concrete

DETAIL "D"
HORIZONTAL SLAB CONNECTION

NOT TO SCALE

ITT

Upper Guide Bar Bracket (for 3000, 5500 & 8000 Series Pumps)

Issued: 8/10	Supersedes: 2/10

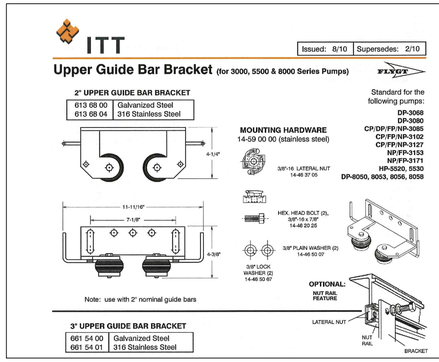
FLYGT

2" UPPER GUIDE BAR BRACKET

613 68 00	Galvanized Steel
613 68 04	316 Stainless Steel

Standard for the following pumps:

DP-3068
DP-3080
CP/DP/FP/NP-3085
CP/FP/NP-3102
CP/FP/NP-3127
NP/FP-3153
NP/FP-3171
HP-5520, 5530
DP-8050, 8053, 8056, 8058



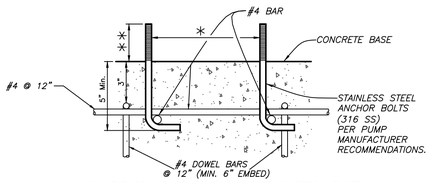
Note: use with 2" nominal guide bars

3" UPPER GUIDE BAR BRACKET

661 54 00	Galvanized Steel
661 54 01	316 Stainless Steel

GUIDE BRACKET DETAIL "G"

NOT TO SCALE

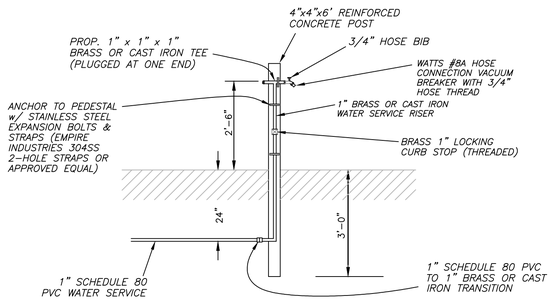


* ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMMENDED BY PUMP MANUFACTURER.

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

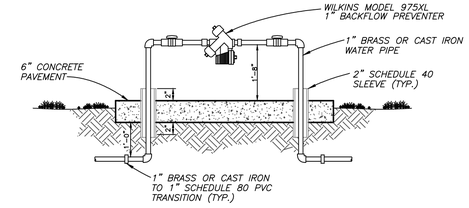
ANCHOR BOLT DETAIL "J"

NOT TO SCALE



WATER SERVICE RISER, DETAIL "M"

NOT TO SCALE



BACKFLOW PREVENTER DETAIL "N"

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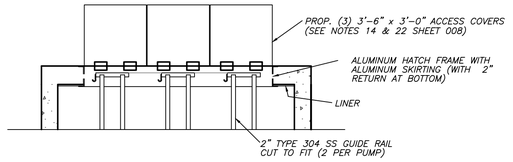
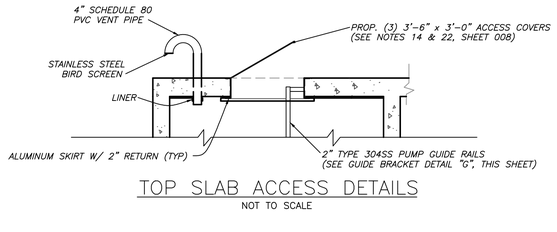
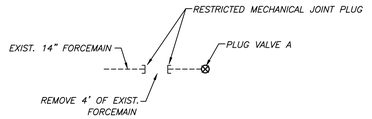




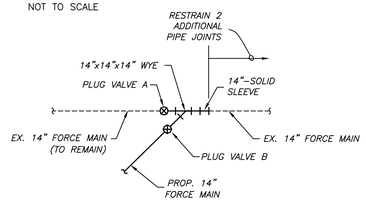
TOP SLAB ACCESS DETAILS

NOT TO SCALE



LATERAL DETAIL

NOT TO SCALE



NOTE: ALL VALVES AND FITTINGS SHALL HAVE RESTRAINED MECHANICAL JOINTS

1) THE CONTRACTOR SHALL CONTACT CITY OF TAMPA WASTEWATER DEPT. TO SCHEDULE PUMPING STATION SHUTDOWNS AND OPERATION OF VALVES AT LEAST 48-HOURS PRIOR TO CONSTRUCTION OF THE INTERCONNECTION.

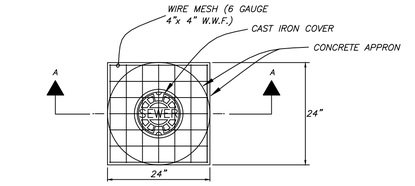
2) PRIOR TO MAKING CONNECTION TO THE EXISTING FORCE MAIN, THE PLUG VALVE SHALL BE CLOSED TO ISOLATE 14" FORCE MAIN.

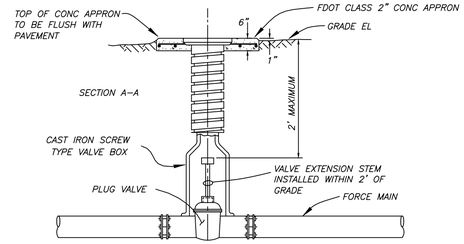
3) THE CONTRACTOR SHALL CONSTRUCT THE FORCE MAIN CONNECTION AND LEAVE VALVE 'B' CLOSED AND VALVE 'A' OPEN. AFTER THE COMPLETION OF THE CONNECTION, THE CONTRACTOR SHALL REOPEN THE VALVE.

4) AFTER THE PUMPING STATION IS COMPLETED, THE FLOW SHALL BE DIVERTED TO THE NEW PUMPING STATION AND VALVE 'B' SHALL BE OPENED AND VALVE 'A' CLOSED. DISCONNECT AND PLUG EXISTING FORCEMAIN AFTER PUMP STATION IS COMPLETED AND OPERATIONAL.

FORCE MAIN INTERCONNECTION

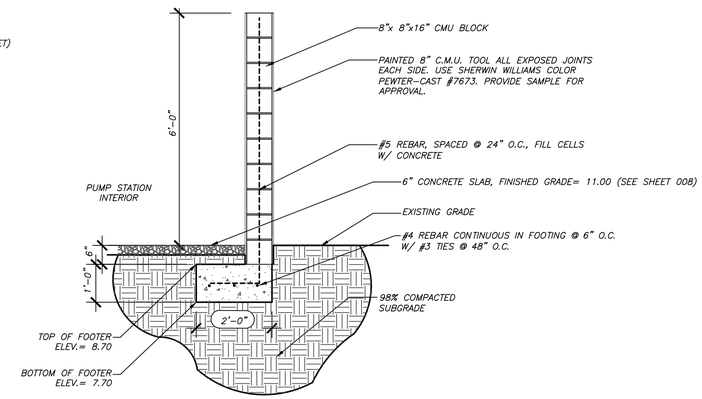
NOT TO SCALE





VALVE BOX DETAIL

NOT TO SCALE



6' MASONRY SCREEN WALL W/ ECCENTRIC FOOTER

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FLORIDA LICENSE NO.039991

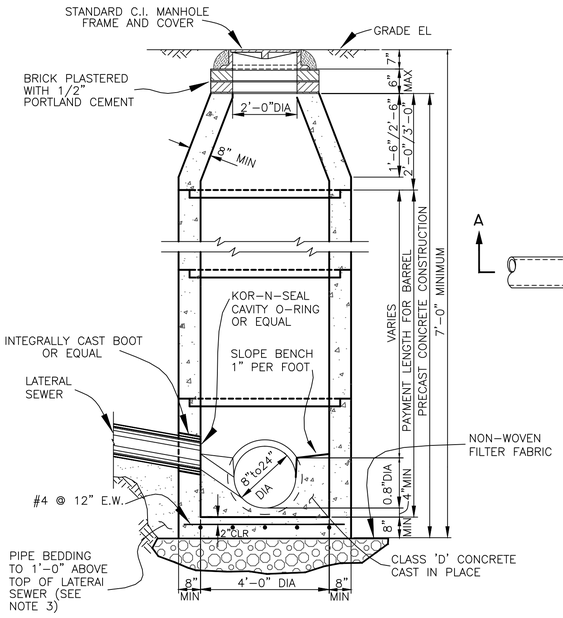
Drawn: VM	Date: 10/2012					
Designed: RND	Date: 10/2012					
Checked: JDJ	Date: 10/2012					
Reviewed: HS	Date: 10/2012					
Approved:	Date:					
Approved:	Date:	No:	Date:	Revision:	By:	

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

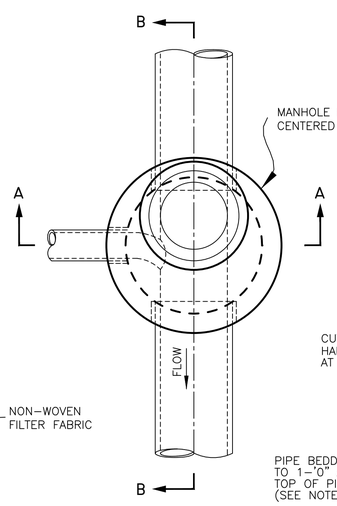
12TH STREET PUMP STATION IMPROVEMENTS

DETAIL SHEET (3 OF 3)

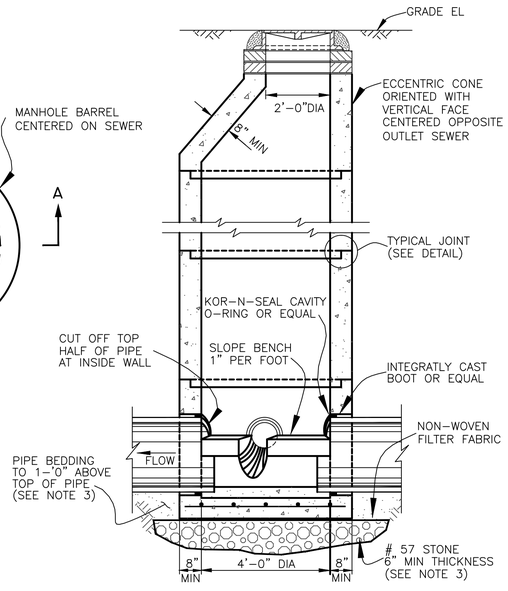
Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-009
Scale: AS NOTED	
SHEET 009	



SECTION A-A



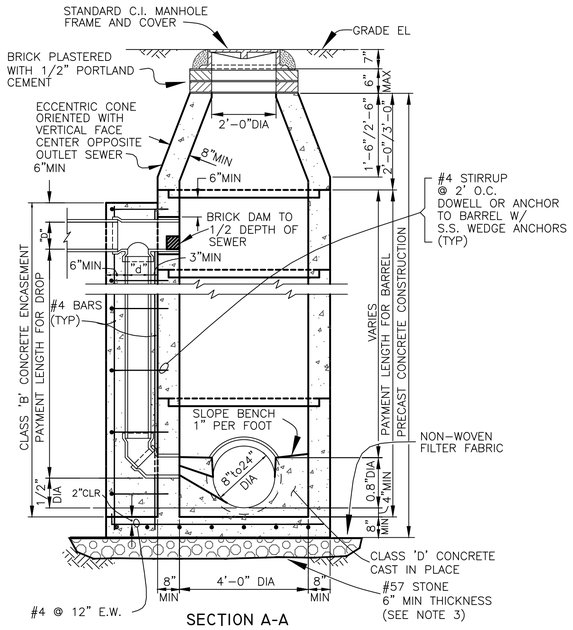
PLAN



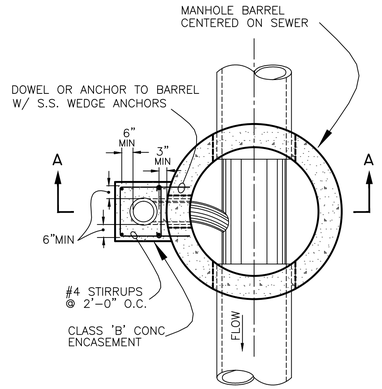
SECTION B-B

STANDARD MANHOLE - DEEP TYPE

FOR SEWERS 24" OR LESS IN DIAMETER



SECTION A-A

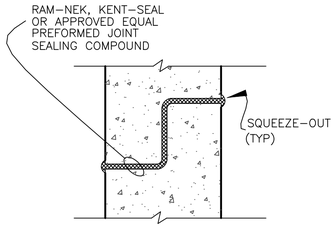


SECTIONAL PLAN

STANDARD DROP MANHOLE

FOR SEWERS 24" OR LESS IN DIAMETER

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"

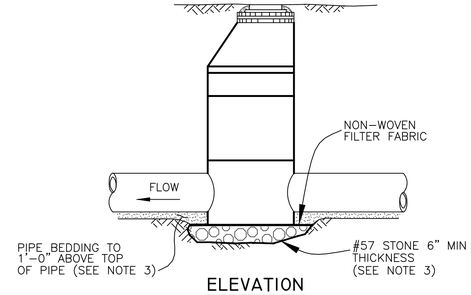


MANHOLE BARREL JOINT DETAIL

NOT TO SCALE
(SEE NOTE 5)

NOTES

1. REINFORCING STEEL FOR ALL MANHOLES SHALL CONFORM TO ASTM-DES: C-48 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. 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.
5. 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.



ELEVATION

FOR SEWERS 24" OR LESS IN DIAMETER

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Drawn: ELR	Date: 10/2012	
Designed: ELR	Date: 10/2012	
Checked: JDJ	Date: 10/2012	
Reviewed: HS	Date: 10/2012	
Approved:	Date:	
Approved:	Date:	

No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

MANHOLE DETAILS (1 OF 2)

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-010
Scale: AS NOTED	
SHEET 010	

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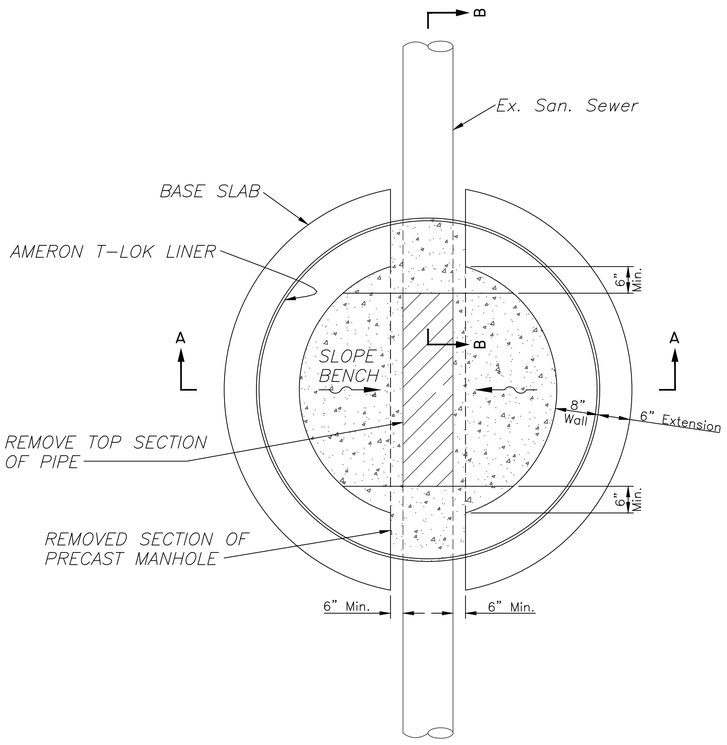
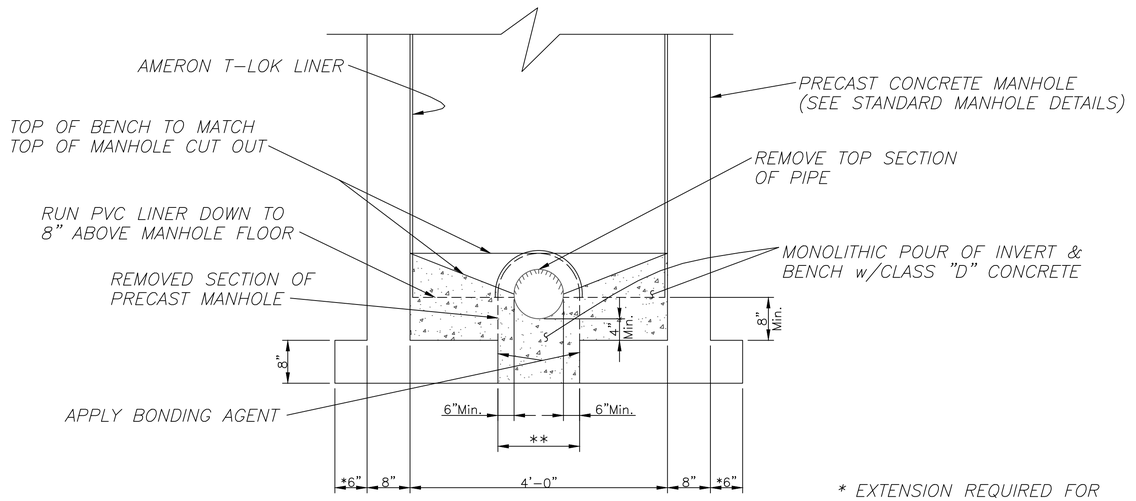


DOGHOUSE MANHOLE PLAN VIEW

N.T.S.

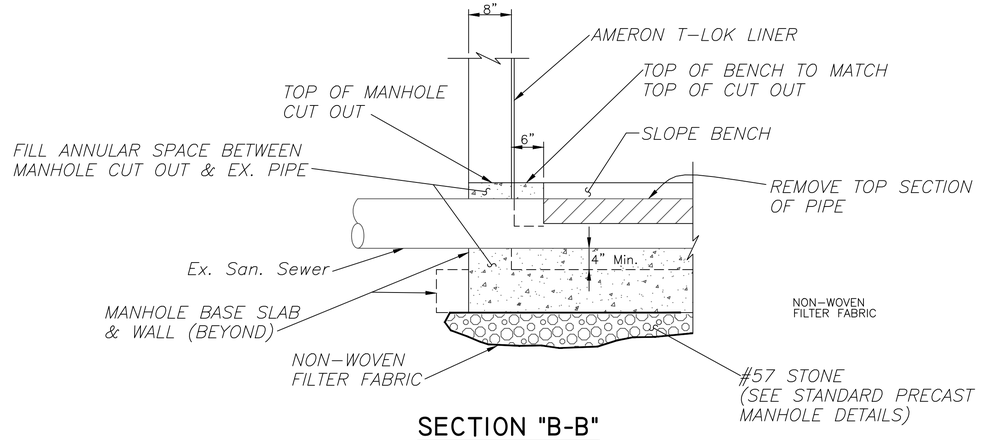


* EXTENSION REQUIRED FOR DOGHOUSE STYLE MANHOLES

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

SECTION "A-A"

N.T.S.



SECTION "B-B"

N.T.S.

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No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

MANHOLE DETAILS (2 OF 2)

Field Book:	
Atlas Sheet:	
File No.	Index No. 005–011
Job No. 04915	
Scale: AS NOTED	
SHEET 011	

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CITY OF TAMPA WATER SYSTEM NOTES:

1. WATER SERVICE TO BE PROVIDED BY CITY OF TAMPA WATER DEPARTMENT.
2. ALL WATER WORK FOR THE CITY SHALL BE PERFORMED IN ACCORDANCE WITH THE TAMPA WATER DEPARTMENT TECHNICAL MANUAL, LATEST EDITION, AND WITH ALL CONSTRUCTION DETAILS THEREIN. THE DETAILS AND STANDARDS DESCRIBED ABOVE SHALL BE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT.
3. PRIOR TO PRE-CONSTRUCTION MEETING WITH WATER DEPARTMENT, CONTRACTOR SHALL OBTAIN THE 2002 "TAMPA WATER DEPARTMENT TECHNICAL MANUAL". ALL DEVELOPER INSTALLED CONSTRUCTION MATERIALS AND WORKMANSHIP ARE TO CONFORM WITH THE LATEST CITY OF TAMPA SPECIFICATIONS, AS OUTLINED IN THE TECHNICAL MANUAL.
4. CONSTRUCTION OF ANY WATER INSTALLATIONS TO BE CITY-OWNED SHALL BE COORDINATED WITH THE WATER DEPARTMENT PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR TO CONTACT TWO TECHNICAL SERVICES @ 622-1911 ABOUT SCHEDULING A PRE-CONSTRUCTION MEETING WITH THE CITY, FOR REVIEW OF INSTALLATION TECHNIQUES AND PROCEDURES. A MINIMUM OF 10 WORKING DAYS PRIOR TO PLANNED CONSTRUCTION.
5. ALL ELEVATIONS ARE BASED ON NAVD 1988 DATUM UNLESS NOTED OTHERWISE. STATIONING OF THE WATER MAIN AND FITTINGS AS SHOWN HEREON REFERS TO CENTERLINE OF ROADWAY UNLESS OTHERWISE INDICATED.
6. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES UNLESS OTHERWISE NOTED. WATER MAIN SHALL BE LOCATED 5' OFF EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
7. ALL WATER MAINS SHALL BE CONSTRUCTED IN A MANNER SUCH AS TO MAINTAIN A MINIMUM OF THREE (3) FEET HORIZONTAL SEPARATION FROM OTHER UTILITIES, EXCEPT STORM, SANITARY, AND GAS.
8. IN ACCORDANCE WITH COT WATER DEPARTMENT STANDARD DETAIL 2.06, A SHOCK PAD SHALL BE INSTALLED OVER THE WATER MAIN WHENEVER THE DEPTH OF COVER MUST BE LESS THAN 30". WATER MAIN INSTALLATION WITH <36" COVER MUST BE APPROVED BY THE CITY OF TAMPA WATER DEPARTMENT.
9. ALL WATER MAIN MATERIALS AND INSTALLATIONS ARE TO BE IN ACCORDANCE WITH THE CITY OF TAMPA SPECIFICATIONS. ALL DUCTILE IRON PIPE (DIP) SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C-151/A21.51. PIPE SHALL BE LINED WITH A STANDARD THICKNESS CEMENT-MORTAR LINING AND SEAL COATED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C104/A21.4 AND NSF 61. PIPE SHALL BE PRESSURE CLASS 350.
10. ALL DUCTILE IRON PIPE JOINTS SHALL BE PUSH-ON JOINT OR MECHANICAL JOINT CONFORMING TO AWWA STANDARD C-111/A21.11.
11. ALL WATER MAIN FITTINGS SHALL BE DUCTILE IRON AND MECHANICAL JOINT. WEDGE-ACTION MJ RESTRAINTS SUCH AS EBBA MEGA-LUG OR APPROVED EQUAL, SHALL BE INSTALLED TO JOIN THE FITTINGS TO THE PIPE.
12. NO CONCRETE THRUST BLOCKS ARE TO BE USED FOR THRUST RESTRAINT. RESTRAINT OF PUSH-ON DUCTILE IRON PIPE JOINTS, OTHER THAN FOR FITTINGS, SHALL BE IN ACCORDANCE WITH THE RESTRAINT TABLES SHOWN IN THE DETAIL SHEETS, AND AS INDICATED BY THE ENGINEER ON THE PLANS. PUSH-ON PIPE JOINTS SHALL BE RESTRAINED WITH APPROVED GASKET-TYPE (GRIPPER) RESTRAINT DEVICES SUCH AS AMERICAN "FAST-GRIP" OR U.S. PIPE "FIELD-LOK" GASKETS.
13. BENDS SHALL BE INSTALLED ON DIP WATER MAIN AS NECESSARY, TO MAINTAIN PROPER ALIGNMENT. DIP JOINT DEFLECTION SHALL BE IN ACCORDANCE WITH AWWA C-600, LATEST EDITION, EXCEPT DEFLECTION ALLOWED SHALL BE LESS THAN 80% OF THE DEFLECTION VALUES GIVEN IN THE AWWA DEFLECTION TABLES.
14. FIRE HYDRANT AND GATE VALVE ASSEMBLIES SHALL CONSIST OF ALL PIPE, VALVES, TEES, FITTINGS AND ANY AND ALL OTHER APPURTENANCES COMPRISING A COMPLETE, WORKING UNIT AS REQUIRED BY THE CITY OF TAMPA SPECIFICATIONS. FIRE HYDRANTS SHALL BE 5-1/4" DNS, WITH BOTTOM OF FLANGE ELEVATION TO BE 3"-6" ABOVE FINISHED GRADE. (SEE CITY OF TAMPA STANDARD DETAILS 4.01 AND 4.02).
15. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED IN A MANNER THAT MAINTAINS AT LEAST SIX (6) FEET OF CLEARANCE BETWEEN ROADWAY BACK OF CURB AND THE HYDRANT.
16. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS SHOULD CROSS (UNDER) WATER MAINS, SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE (WATER MAIN) AND THE CROWN OF THE LOWER PIPE (STORM OR SANITARY).
17. WHEN SANITARY SEWERS, FORCE MAINS AND STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 12 INCHES VERTICAL DISTANCE, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING (SANITARY SEWER MAIN MAY BE CONSTRUCTED OF PVC MEETING AWWA C-900 STANDARDS; DIP IS NOT REQUIRED FOR STORM SEWERS IF IT IS NOT AVAILABLE IN THE SIZE PROPOSED). SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE LEAK FREE AND MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT THE CROSSING.
18. WHERE THERE IS NO ALTERNATIVE TO SEWER PIPES CROSSING (OVER) A WATER MAIN, THE CRITERIA FOR MINIMUM SEPARATION OF 12 INCHES BETWEEN LINES AND 10 FEET BETWEEN JOINTS SHALL BE REQUIRED.
19. ALL CROSSINGS SHALL BE ARRANGED SO THAT THE JOINTS OF THE CROSSING PIPES ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING).
20. A MINIMUM 6' HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER/STORM AND WATER MAIN IN PARALLEL INSTALLATIONS. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION BETWEEN ANY TYPE OF PARALLEL SEWER AND WATER MAIN, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE TOP OF THE SEWER.
21. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 12 INCHES OR A HORIZONTAL DISTANCE OF 6 FEET IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR FORCE MAIN SHALL BE CONSTRUCTED OF DIP (IF AVAILABLE IN SIZE PROPOSED) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
22. IN AREAS OF HIGH GROUND WATER, UNSATISFACTORY SOILS, CROSSING GAS LINES, OR AS SPECIFIED BY THE ENGINEER, THE WATER MAIN AND APPURTENANCES WILL BE INSTALLED IN LOOSE POLYETHYLENE ENCASEMENT NOT LESS THAN 8 MILS THICK IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE SPECIFICATION A21.5 AND CITY OF TAMPA STANDARD DETAIL 2.05.
23. CLEARANCE BETWEEN ALL TREES AND WATER MAINS SHALL MEET CITY OF TAMPA PARKS DEPARTMENT LATEST REQUIREMENTS. NO TREE SHALL BE PLANTED WITHIN 10 FEET OF INSTALLED OR EXISTING WATER MAINS.

WATER SYSTEM TESTING REQUIREMENTS FOR FACILITIES CONSTRUCTED FOR THE CITY

1. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, HYDRANTS, CONNECTIONS, AND VALVES SHALL BE PROPERLY PRESSURE TESTED AND ACCEPTED BY THE OWNER'S ENGINEER. PRESSURE TESTS TO BE IN ACCORDANCE WITH WATER DEPARTMENT SPECIFICATIONS. CONTRACTOR TO NOTIFY OWNER'S ENGINEER AND CITY INSPECTOR A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF PERFORMING TESTS.
2. CONTRACTOR SHALL PRESSURE TEST WATER MAINS AT 150 PSI FOR A PERIOD OF 2 HOURS IN ACCORDANCE WITH AWWA C600-87 STANDARDS. THE CONTRACTOR SHALL MAKE ALL NECESSARY APPLICATIONS AND ARRANGEMENTS.
3. CONTRACTOR TO PERFORM CHLORINATION AND COORDINATE BACTERIOLOGICAL SAMPLING WITH THE CITY OF TAMPA CONSTRUCTION INSPECTION SECTION IN ACCORDANCE WITH TAMPA WATER DEPARTMENT TECHNICAL MANUAL AND AWWA SPECIFICATION C651. CONTRACTOR TO OBTAIN SAMPLE CLEARANCE ON DOMESTIC WATER SYSTEM.
4. ALL TEST POINTS AND CHLORINATION POINTS PIPING SHALL BE COMPLETELY REMOVED PRIOR TO FINAL ACCEPTANCE. THE CORPORATION STOP SHALL BE REMOVED AND THE MAIN PLUGGED AFTER OPERATION (SEE CITY OF TAMPA STANDARD DETAIL 2.17).

NOTES:
1. WATER MAIN TAPS TO BE PERFORMED BY CITY WATER DEPARTMENT PERSONNEL ONLY. CONTRACTOR SHALL EXCAVATE, INSTALL APPROVED TAPPING SLEEVE, AND CONDUCT PRESSURE TEST OF SLEEVE (TO BE WITNESSED BY CITY). CITY TO PERFORM ACTUAL TAP. CONTACT WATER DEPARTMENT CHIEF CONSTRUCTION ENGINEER AT 635-3432 (M-TR), 10 WORKING DAYS MINIMUM PRIOR TO INTENDED CONNECTION, TO COORDINATE AND SCHEDULE TAP WITH CITY.
2. FOR DDCV: RESTRAIN ALL DIP WATER MAIN JOINTS FROM TAP OF MAIN TO TEMPORARY PLUG.
3. POLYWRAP ALL DIP WATER MAIN FITTINGS NOT INSIDE VAULT.
4. VALVES ON EXISTING PUBLIC WATER MAINS TO BE OPERATED BY CITY PERSONNEL ONLY.
5. ALL DEVELOPER INSTALLED FACILITIES DESIGNATED TO BE CITY-OWNED SHALL BE TRANSFERRED TO THE CITY FOR OWNERSHIP PRIOR TO ACTIVATION OF CITY WATER SERVICE.

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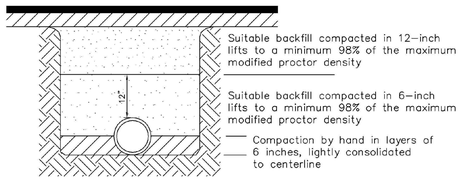
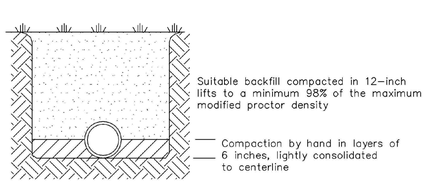


NOTES:
1. Type 2 trench is defined as a flat-bottom trench. Lightly consolidate backfill to centerline of pipe.
2. This standard shall be utilized in the absence of specific standards. The standard of the agency controlling the Right-of-Way shall govern unless otherwise directed by the Engineer.
3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	TYPICAL TRENCHING, BEDDING AND BACKFILL DETAIL FOR PAVED AREAS	2.01

K:\Standard Details 02\202



NOTES:
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3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	TYPICAL TRENCHING,BEDDING AND BACKFILL DETAIL FOR NON-PAVED AREAS	2.02

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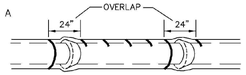
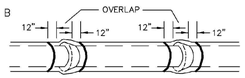
METHOD A



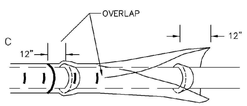
Polyethylene tube is cut into lengths approximately two feet longer than the pipe section and placed around it. After the pipe joint is assembled, the polyethylene tube is made to overlap the joint and the overlap secured in place. Since the tube is considerably larger than the barrel of pipe, it is made to fit snugly by folding over at the top and securing at quarter points along the pipe section.

METHOD B



Polyethylene tube is cut one foot shorter than the length of the pipe section. After placement of the pipe, it is folded and secured snugly overall. A three foot length of polyethylene tube placed over the end of the preceeding section is then pulled in place over the joint after assembly and secured.

METHOD C

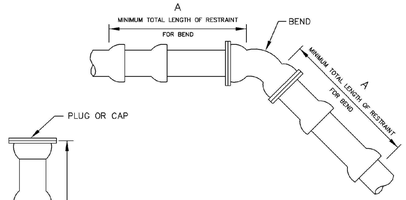


Polyethylene sheet is cut to a length two feet longer than the pipe section. The sheet is wrapped around the pipe so that it overlaps circumferentially over the top quadrant of the pipe, then secured. After joint assembly, the surplus length of polyethylene film is secured around the joint, providing an overlap of each joint. Tape at each joint or at 3' intervals in between.

NOTES: 1. Use blue polyethylene film and tape only.
2. Polyethylene film shall be a minimum of 8 mil. thickness.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	INSTALLATION OF POLYETHYLENE ENCASEMENT DETAIL	2.05

K:\Standard Details 02\211



	RESTRAIN "A" (LF)								
Fitting	4"	6"	8"	12"	16"	20"	24"	30"	36"
11-1/4°	3	4	6	8	9	10	12	15	17
22-1/2°	6	9	12	16	17	21	25	30	35
45°/Offset	13	18	24	34	36	44	52	62	73
90°	31	44	58	82	87	106	125	151	176
Plug/Cap	55	78	102	143	143	174	204	245	285

A=Minimum footage of pipe to be restrained.

NOTES:
1. This table is based on:
   a) maximum test pressure of 190 psi
   b) laying condition type 2 (see Details 2.01 and 2.02)
   c) poor soil conditions
   d) using D.I.P.
   e) 3 feet of cover for 12" and smaller mains; 4 feet of cover for 16" and larger mains
   f) Horizontal bends only – Engineer to submit calculations for vertical restraints
2. For polywrapped D.I.P., multiply the footage by 1.25
3. For PVC pipe, multiply footage by 1.2.
4. Restrained pipe shall be manufactured restrained pipe, push-on restraints or mechanical joint pipe restrained by Megalug or equivalent.
5. Any additional fittings within the restrained section shall be restrained accordingly.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	RESTRAINED JOINT STANDARD FOR BENDS, PLUGS, AND CAPS	2.11

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FLORIDA LICENSE NO.039991

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Designed: ELR	Date: 10/2012				
Checked: JDJ	Date: 10/2012				
Reviewed: HS	Date: 10/2012				
Approved:	Date:				
Approved:	Date:	No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

WATER DETAILS (1 OF 2)

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-012
Scale: AS NOTED	
SHEET 012	

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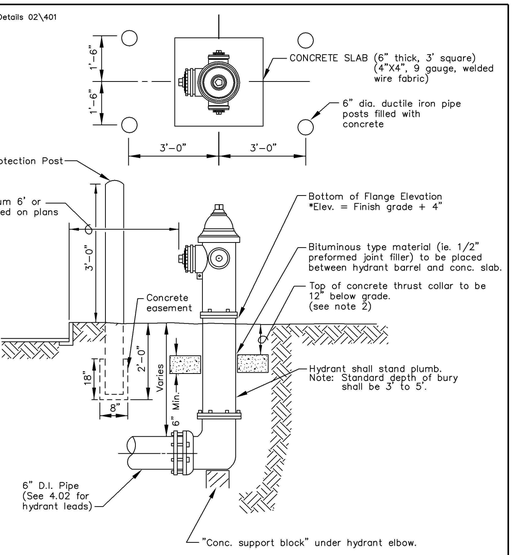

NOTES:
1. All fire hydrants shall be painted with a high grade enamel, Federal Safety Yellow (OSHA approved) above the ground line. Paint used for flow test color coding shall also be OSHA approved.
2. Concrete slab may be eliminated in areas where hydrant is set in sidewalk and sidewalk has been installed prior to final acceptance of the hydrant.
3. Thrust restraint for hydrant:
   a) hydrant shall be firmly supported under elbow in all methods by support block
   b) all backfill shall be thoroughly compacted under support block and under thrust collar
   c) all hydrant leads shall be restrained by Megalugs or equivalent mechanical restraints
4. Protection posts are required when hydrant is less than 6 feet from edge of pavement, or as directed by the Engineer.
5. For PVC mains, install concrete support block under all hydrant tees.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	TYPICAL FIRE HYDRANT INSTALLATION	4.01

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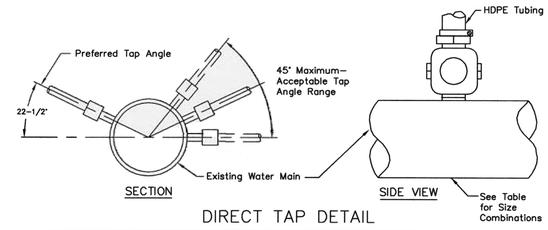
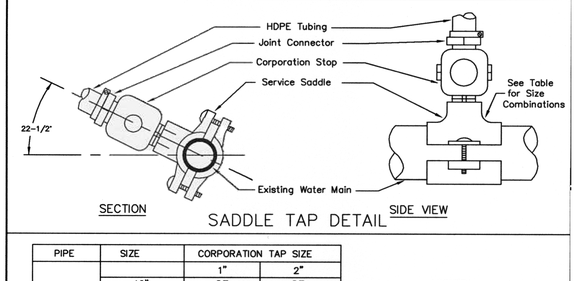


DIRECT TAP DETAIL



SADDLE TAP DETAIL

PIPE	SIZE	CORPORATION TAP SIZE	
		1"	2"
DI/CI	12"	DT	DT
	8"	DT	SS
	6"	DT	SS
	4"	SS	SS
PVC	2",2-1/2"	SS	NA
	8" C-900	SS	SS
	6" C-900	SS	SS
	2"-SDR21	SS	NA
OTHER*	12"	SS	SS
	10"	SS	SS
	8"	SS	SS
	6"	SS	SS
	4"	SS	NA
	3"	SS	NA
	2",2-1/2"	SS	NA

LEGEND
DT– Direct Tap Can be Allowed
SS– Service Saddle Is Required
NA– Not Allowed
*Asbestos Cement, Steel, Galvanized Iron Pipe, Non Std PVC, etc.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	TAPPING DETAIL FOR 3/4", 1", 1-1/2" & 2" CORPORATION STOP	5.01

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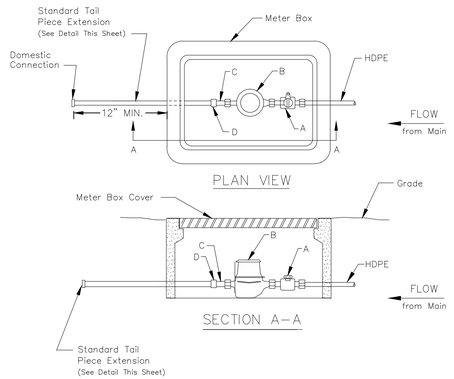
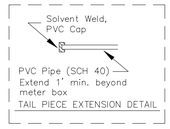


METER INSTALLATION
–PARTS LIST–

ITEM	DESCRIPTION
A	HDPE CJ X METER, SWIVEL NUT
B	METER
C	BRASS METER COUPLING
D	PVC FIP X WELD COUPLING



TAIL PIECE EXTENSION DETAIL

* All PVC pipe and fittings shall be SCH 80 except for standard tail piece section which will be SCH 40.
NOTE: Parts list is for standard installation; actual parts required may vary as directed by the Engineer.

TAMPA WATER DEPARTMENT	APPROVED	REVISED	SINGLE METER SET DETAIL 3/4", 1", 1-1/2", 2"	5.02

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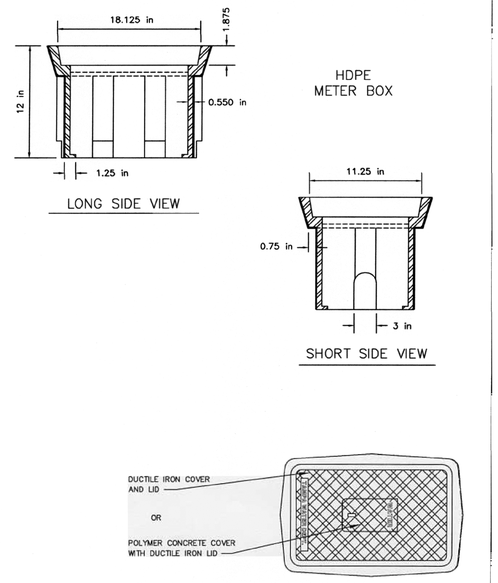

TAMPA WATER DEPARTMENT	APPROVED	REVISED	3/4" OR 1" SINGLE SERVICE METER BOX	5.10

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CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12TH STREET PUMP STATION IMPROVEMENTS

WATER DETAILS (2 OF 2)

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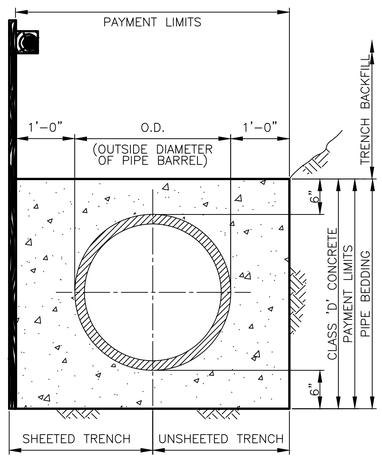
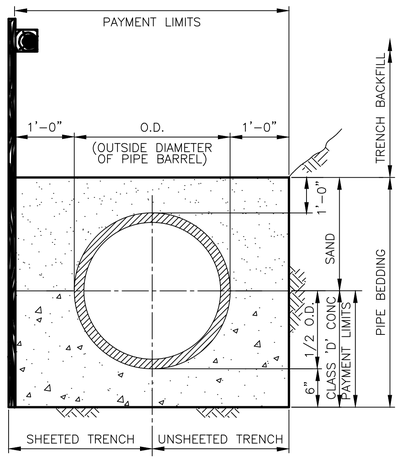
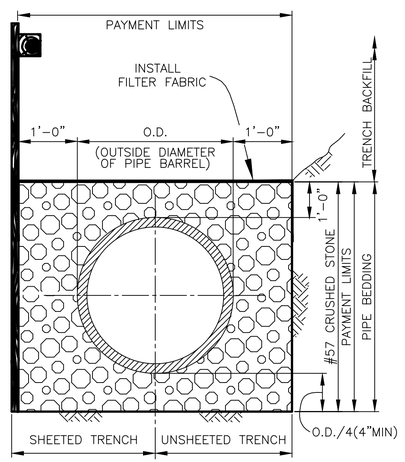


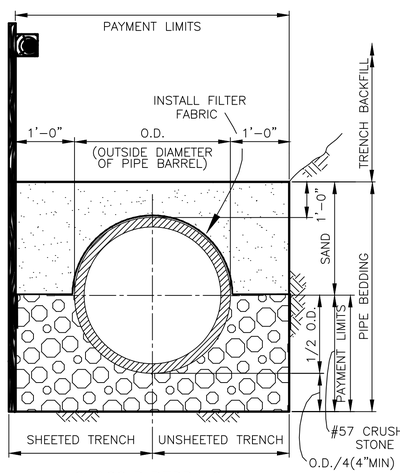
CONCRETE ENCASEMENT



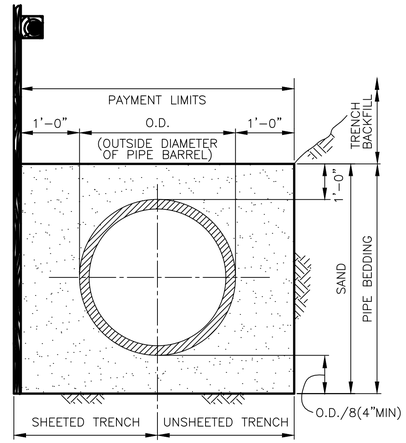
CLASS A BEDDING (CONCRETE CRADLE)



CLASS B-I BEDDING



CLASS B BEDDING



CLASS C BEDDING

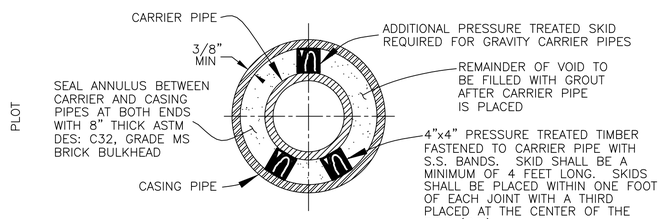
PIPE BEDDING DETAILS

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.

QUANTITIES FOR PAYMENT FOR ADDITIONAL PIPE BEDDING MATERIALS ORDERED IN WRITING BY THE ENGINEER																				
NOMINAL INSIDE PIPE DIAMETER (INCHES)	6	8	10	12	14	15	16	18	20	21	24	27	30	36	42	48	54	60	66	72
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CONCRETE ENCASEMENT	0.141	0.167	0.191	0.216	0.229	0.256	0.252	0.299	0.300	0.340	0.383	0.427	0.472	0.588	0.690	0.797	0.909	1.027	1.150	1.279
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CLASS A BEDDING (CONBCRETE CRADLE)	0.071	0.084	0.096	0.108	0.115	0.128	0.126	0.150	0.150	0.170	0.192	0.214	0.236	0.294	0.345	0.399	0.455	0.514	0.575	0.640
CUBIC YARD OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B-1 BEDDING	0.172	0.201	0.228	0.225	0.269	0.304	0.298	0.362	0.363	0.419	0.479	0.542	0.608	0.781	0.936	1.103	1.281	1.471	1.673	1.887
CUBIC YARDS OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B BEDDING	0.055	0.068	0.078	0.088	0.094	0.111	0.108	0.143	0.143	0.173	0.207	0.243	0.280	0.381	0.475	0.578	0.690	0.810	0.939	1.078

NOTE: STAINLESS STEEL CASING SPACERS AS MANUFACTURED BY CASCADE OR EQUAL MAY BE USED RATHER THAN A TIMBER SKID SYSTEM



NOTES:

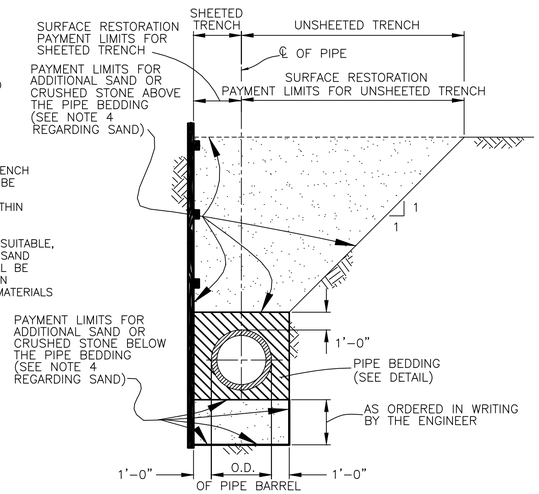
ALL CASING PIPES SHALL BE WELDED STEEL PIPE CONFORMING TO ASTM DES A139 GRADE B OR ASTM DES A53 GRADE B, HAVING A MINIMUM INSIDE DIAMETER AS INDICATED ON PLANS. THE MINIMUM WALL THICKNESS SHALL BE 3/8" OR THICKER IF SO INDICATED ON THE PLAN AND PROFILE DRAWINGS.

CORRESPONDING CARRIER AND CASING PIPE SIZES																					
NOMINAL INSIDE DIAMETER OF CARRIER PIPE (INCHES)	4	6	8	10	12	14	15	16	18	20	21	24	27	30	36	42	48	54	60	66	72
MINIMUM INSIDE DIAMETER OF CASING PIPE (INCHES)	12	18	20	24	30	30	30	30	36	36	36	48	48	60	60	66	78	84	90	96	102

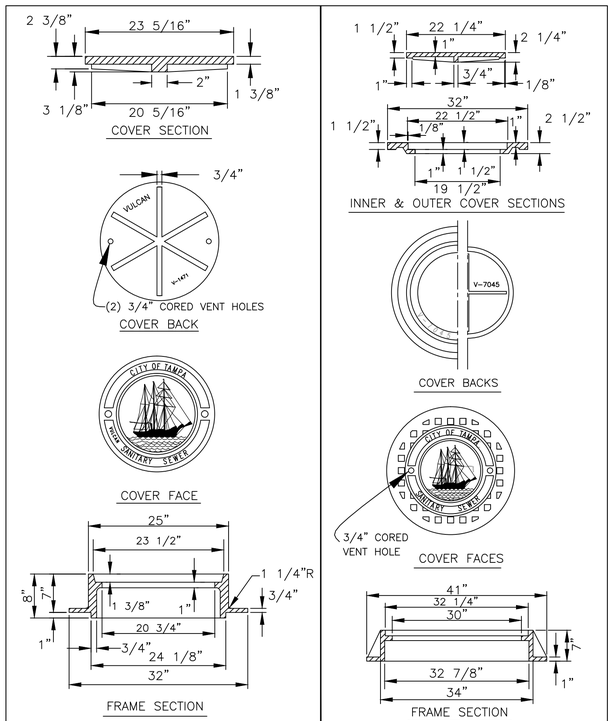
DETAIL OF JACKED CROSSINGS

NOTES:

1. PAYMENT FOR ADDITIONAL CRUSHED STONE OR CLASS D CONCRETE PIPE BEDDING MATERIALS WILL BE MADE ONLY FOR PIPE BEDDING NOT SHOWN IN THE PLANS AND ORDERED IN WRITING BY THE ENGINEER.
2. PAYMENT FOR SURFACE RESTORATION WILL MADE FOR THE ACTUAL QUANTITIES, AS DETERMINED BY THE ENGINEER, OF SURFACE RESTORED WITHIN THE PAYMENT LIMITS SHOWN.
3. PAYMENT FOR ADDITIONAL SAND OR CRUSHED STONE FOR TRENCH STABILIZATION, ORDERED IN WRITING BY THE ENGINEER, WILL BE MADE ONLY FOR SAND SUPPLIED FROM SOURCES OTHER THAN EXCAVATIONS IN THIS CONTRACT. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS.
4. CONTRACTOR SHALL USE ALL SURPLUS SAND, APPROVED AS SUITABLE, FROM EXCAVATIONS IN THIS CONTRACT PRIOR TO SUPPLYING SAND FROM OTHER SOURCES. PAYMENT FOR ADDITIONAL SAND WILL BE MADE ONLY FOR SAND SUPPLIED FROM SOURCES OTHER THAN EXCAVATIONS IN THIS CONTRACT. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS.



PAYMENT LIMITS FOR SURFACE RESTORATION AND ADDITIONAL SAND OR CRUSHED STONE FOR TRENCH STABILIZATION



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

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CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12th STREET PUMP STATION IMPROVEMENTS

MISCELLANEOUS DETAILS

Field Book:	
Atlas Sheet:	
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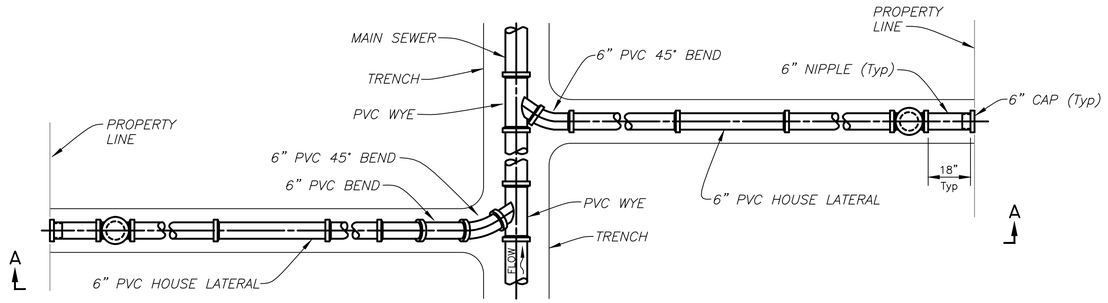
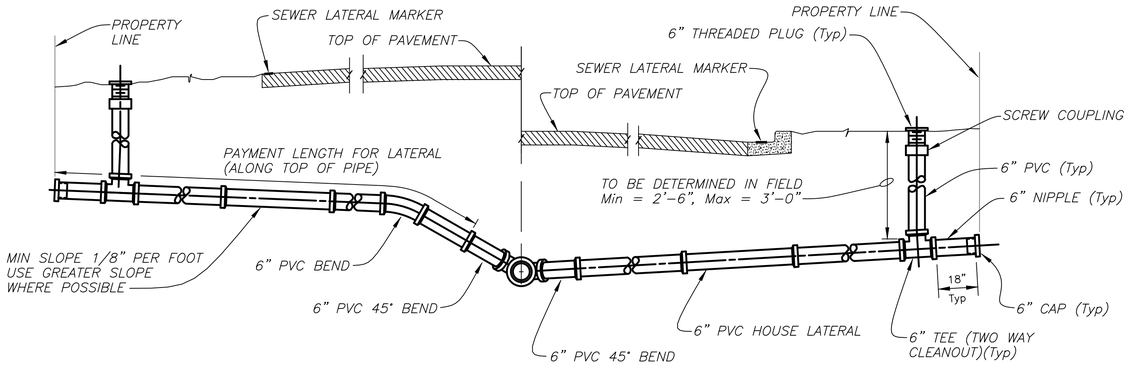


PLAN



SECTION A-A

TYPE A HOUSE LATERAL DETAIL

Not to Scale

NOTES:

1. The locations of house laterals by symbols on plans are approximate only and the actual location and slopes will be determined in the field by the contractor with the approval of the engineer.

2. The minimum diameter of all house laterals shall be 6 inches.

3. House laterals which pass under drainage ditches with less than 18" of cover or which have less than 30" of cover under pavement shall be Pressure Class 350 with protecto 401 interior coacting per specifications.

4. The department's standard regarding vertical perpendicular conflicts requires that there be a minimum of 18" clearance between house laterals and all crossing utilities. If, however, conditions dictate that it is impossible to meet this standard, the following notes are intended to address the most common conflict conditions.

A. The minimum clearance between house laterals and water lines shall be 6" under all circumstances. If the house lateral is below a water line and has between 6" and 18" of clearance or if the lateral is above the water line regardless of clearance, then a nominal 20' length of green AWWA Class 150 C900 PVC pipe shall be centered over/under the water line.

B. If the house lateral must pass over any utility other than a water line with less than 18" clearance, the lateral shall remain SDR 35 PVC pipe.

C. If the house lateral must pass under any utility other than a water line with less than 18" clearance, the lateral shall remain SDR 35 PVC pipe unless the utility poses a structural load too great for the PVC lateral as determined by the engineer, each conflict will be reviewed on a case by case basis.

5. Transitions from SDR 35 PVC to either C900 or ductile iron pipes shall be made with PVC rigid adaptors. Transitions from SDR 35 PVC to either existing clay or concrete pipes shall be made with a Fernco 1000 series flexible coupling with stainless steel shear ring or approved equal.

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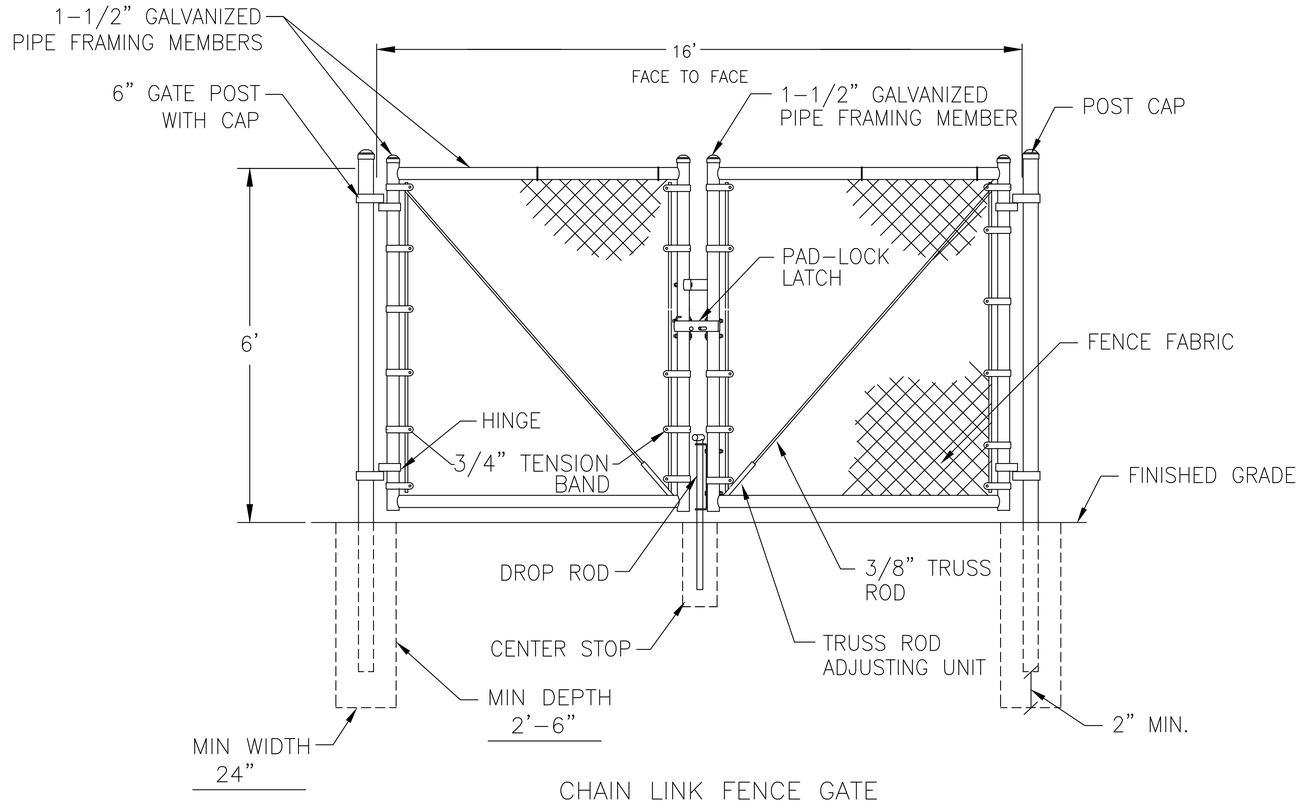

CHAIN LINK FENCE GATE

NOTES:

1. ALL FOOTINGS FOR FENCE POSTS SHALL BE 3,000PSI CONCRETE. FOOTINGS SHALL BE A DIAMETER 4 TIMES THE LARGEST CROSS-SECTION OF THE POST AND THE DEPTH SHALL BE A MINIMUM OF 24" PLUS AN ADDITIONAL 3" FOR EACH ONE (1) FOOT INCREASE IN FENCE HEIGHT OVER 4 FEET.

2. INSTALLATION OF FENCE SYSTEMS SHALL FOLLOW ASTM F-567 'STANDARD PRACTICE FOR INSTALLATION OF CHAIN-LINK FENCES'.

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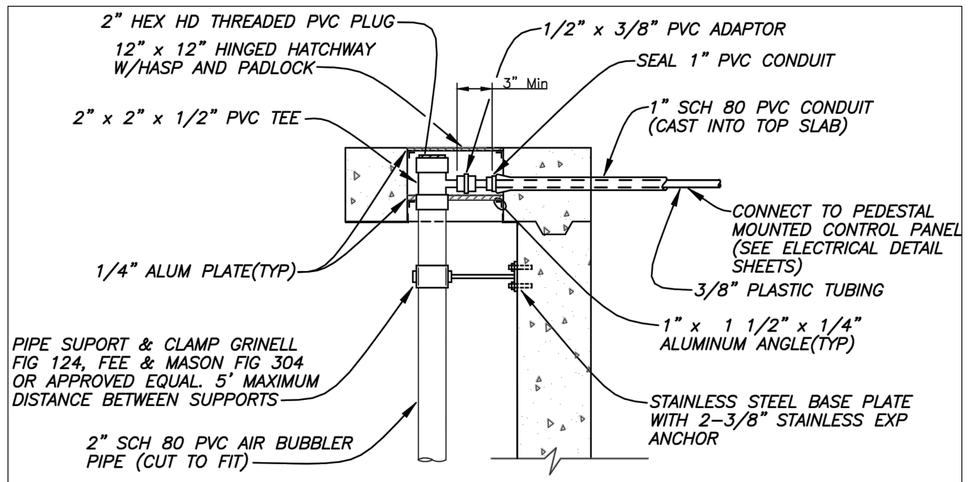
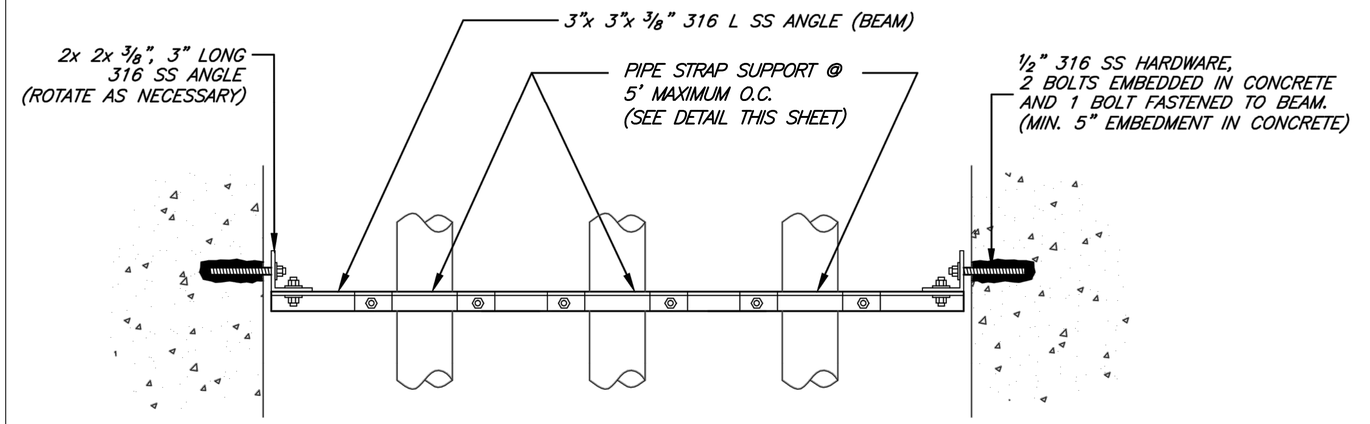
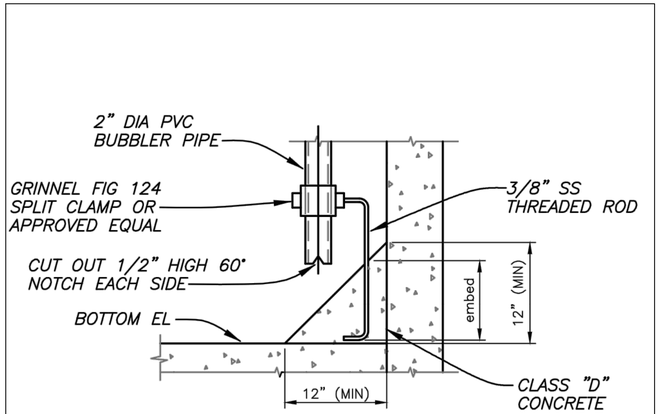


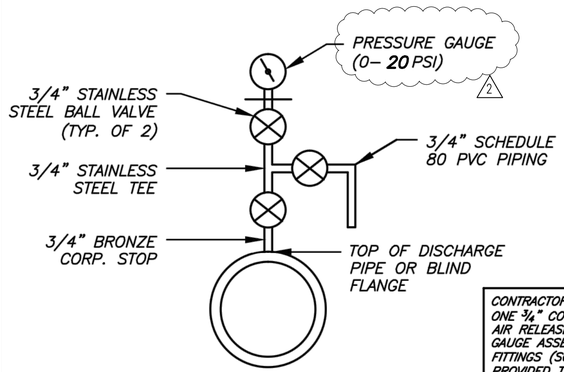
BUBBLER DETAIL-TOP



PIPE SUPPORT ASSEMBLY
N.T.S.

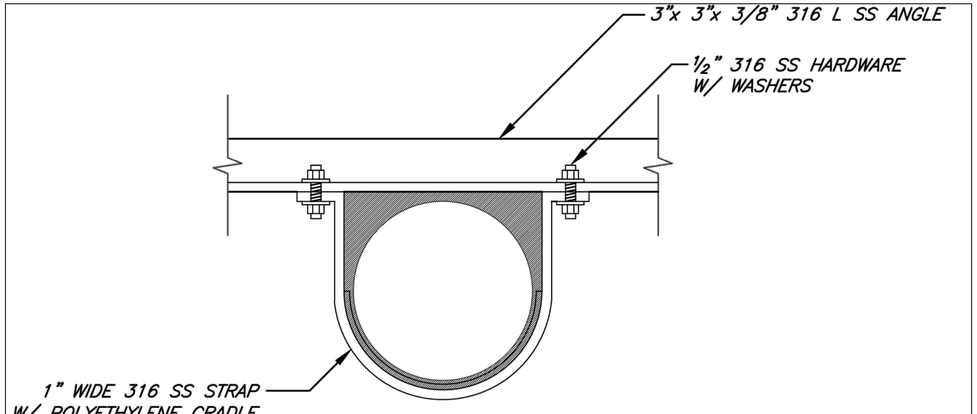


BUBBLER DETAIL-BOTTOM
N.T.S.



CONTRACTOR SHALL TAP AND DRILL ONE ¾" CORPORATION STOP WITH AIR RELEASE VALVE AND PRESSURE GAUGE ASSEMBLY. PVC PIPE AND FITTINGS (SCH80) SHALL BE PROVIDED TO DIRECT FLOW FROM THE BALL VALVE DOWNWARD TO THE FLOOR.

AIR RELEASE AND PRESSURE GAUGE
N.T.S.



PIPE STRAP SUPPORT
N.T.S.

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2	2-20-2015	SHEET ADDED	FA
1	4-08-2015	PRESSURE GAUGE	FA

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

12th STREET PUMP STATION IMPROVEMENTS

MISCELLANEOUS DETAILS

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 04915	005-015A
Scale: AS NOTED	
SHEET 015A	

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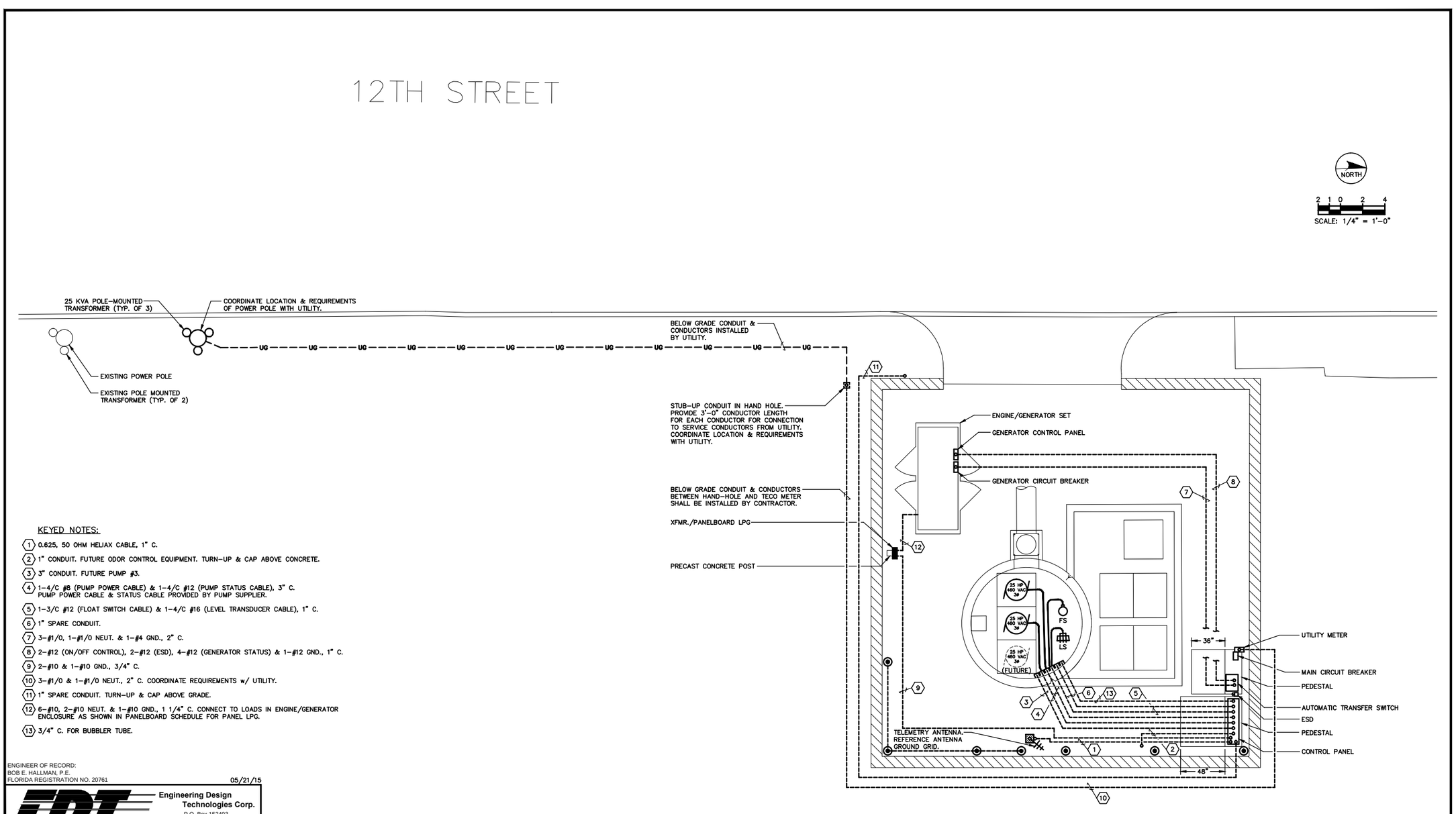

KEYED NOTES:

1. 0.625, 50 OHM HELIAX CABLE, 1" C.
2. 1" CONDUIT. FUTURE ODOR CONTROL EQUIPMENT. TURN-UP & CAP ABOVE CONCRETE.
3. 3" CONDUIT. FUTURE PUMP #3.
4. 1-4/C #8 (PUMP POWER CABLE) & 1-4/C #12 (PUMP STATUS CABLE), 3" C. PUMP POWER CABLE & STATUS CABLE PROVIDED BY PUMP SUPPLIER.
5. 1-3/C #12 (FLOAT SWITCH CABLE) & 1-4/C #16 (LEVEL TRANSDUCER CABLE), 1" C.
6. 1" SPARE CONDUIT.
7. 3-#1/0, 1-#1/0 NEUT. & 1-#4 GND., 2" C.
8. 2-#12 (ON/OFF CONTROL), 2-#12 (ESD), 4-#12 (GENERATOR STATUS) & 1-#12 GND., 1" C.
9. 2-#10 & 1-#10 GND., 3/4" C.
10. 3-#1/0 & 1-#1/0 NEUT., 2" C. COORDINATE REQUIREMENTS w/ UTILITY.
11. 1" SPARE CONDUIT. TURN-UP & CAP ABOVE GRADE.
12. 6-#10, 2-#10 NEUT. & 1-#10 GND., 1 1/4" C. CONNECT TO LOADS IN ENGINE/GENERATOR ENCLOSURE AS SHOWN IN PANELBOARD SCHEDULE FOR PANEL LPG.
13. 3/4" C. FOR BUBBLER TUBE.

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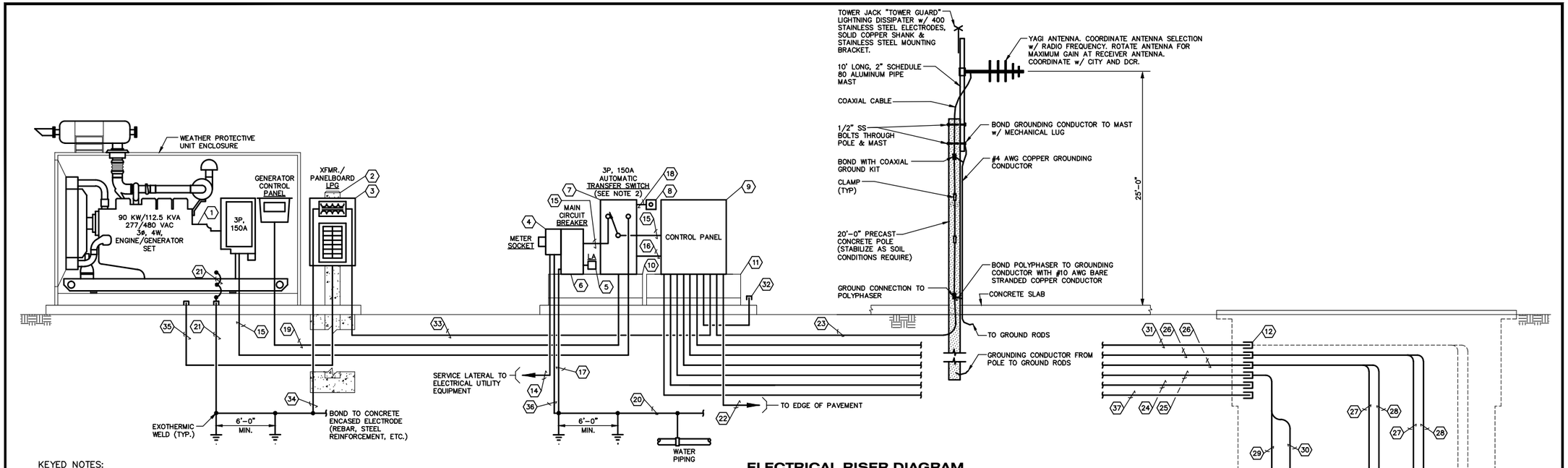
CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

CHANNEL DISTRICT
12TH STREET PUMP STATION
ELECTRICAL SITE PLAN

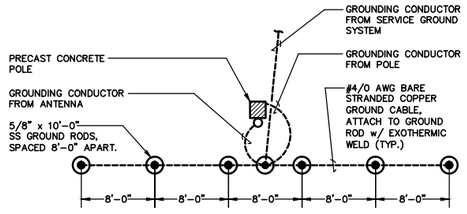
Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 01021WM	005-016
Scale: 1/4" = 1'-0"	
SHEET E-1/016	



ELECTRICAL RISER DIAGRAM

KEYED NOTES:

1. 90 KW/112.5 KVA, 277/480, 3ø, 4W PRIME DUTY, ENGINE/GENERATOR SET c/w MAIN CIRCUIT BREAKER, CONTROL PANEL, VIBRATION ISOLATORS & FUEL TANK. REFERENCE SPECIFICATIONS.
2. 6" x 6" x 8'-0" PRECAST REINFORCED CONCRETE POST STABILIZE AS REQUIRED.
3. INDOOR/OUTDOOR PACKAGED POWER SUPPLY w/ 480 VAC PRIMARY, 120/240 VAC, 1ø SECONDARY, 10 KVA TRANSFORMER, TRANSFORMER PRIMARY & SECONDARY CIRCUIT BREAKER, 10 CKT. PANELBOARD, UL LISTED & MOUNTED IN A NEMA 3R SS ENCLOSURE. SQUARE D MINI POWER-ZONE CAT. NO. MPZ10S40FSS. MOUNT TOP OF ENCLOSURE 6'-0" ABOVE FINISHED CONCRETE. MOUNT ON PRECAST CONCRETE POST w/ SS UNISTRUT. REFERENCE TRANSFORMER NEUTRAL GROUNDING DETAIL. PROVIDE CIRCUIT BREAKERS PER PANELBOARD SCHEDULE.
4. METER SOCKET PROVIDED & INSTALLED BY CONTRACTOR. REFERENCE MOUNTING DETAILS ON SHEET E-11.
5. LIGHTNING ARRESTER – GE MODEL 9L5ECC001.
6. 3P, 150A CIRCUIT BREAKER MOUNTED IN A NEMA 4X SS ENCLOSURE w/ GROUND BAR KIT & SOLID NEUTRAL ASSEMBLY. SQUARE D CAT. NO. KAL36150 (CIRCUIT BREAKER), IK250DS (ENCLOSURE), PKOGTA (GROUND BAR KIT) & SN400LA (SOLID NEUTRAL ASSEMBLY). PROVIDE PHENOLIC SIGN ON CIRCUIT BREAKER ENCLOSURE. SIGN SHALL BE THREE PLY PHENOLIC RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 1/2" MIN. EDGES OF SIGN SHALL BE BEVELED 45 DEG. SIGN SHALL BE LABELED "WARNING – GENERATOR MAY ALSO POWER LOAD". REFERENCE MOUNTING DETAILS ON SHEET E-11.
7. 3P, 150A AUTOMATIC TRANSFER SWITCH (ATS) w/ AUXILIARY CONTACTS, TIME DELAYS, ENGINE STARTING CONTACTS, INSULATED NEUTRAL BLOCK & PILOT LIGHTS MOUNTED IN A NEMA 3R ENCLOSURE. PROVIDE ADDITIONAL LOAD SIDE LUGS AS REQUIRED. REFERENCE SPECIFICATIONS. REFERENCE MOUNTING DETAILS ON SHEET E-11.
8. GENERATOR EMERGENCY SHUTDOWN (ESD) PUSH BUTTON STATION. MAINTAINED 2-POSITION SWITCH 1 5/8" RED OPERATOR, (1)-N.O. & (1)-N.C. CONTACT MNTD. IN A NEMA 4X SS ENCLOSURE. CENTER 4'-6" ABOVE FINISHED CONCRETE. SQUARE D CAT. NO. SKR905H13 (OPERATOR w/ CONTACTS) & KYSS1 (ENCLOSURE). PROVIDE PHENOLIC SIGN ABOVE ESD. SIGN SHALL BE THREE PLY PHENOLIC RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 1/2" MIN. EDGES OF SIGN SHALL BE BEVELED 45 DEG. SIGN SHALL BE LABELED "GENERATOR EMERGENCY SHUTDOWN".
9. CONTROL PANEL: REFERENCE ELECTRICAL CONTROL PANEL LAYOUT.
10. CONCRETE PEDESTAL: REFERENCE MAIN CIRCUIT BREAKER AND ATS PEDESTAL DETAILS.
11. CONCRETE PEDESTAL: REFERENCE CONTROL PANEL PEDESTAL DETAILS.
12. PROVIDE DUCT SEAL AROUND CABLES TO MINIMIZE THE PASSAGE OF MOISTURE THROUGH CONDUIT. (TYP.)
13. SUBMERSIBLE PUMP MOTOR: 25.0 HP, 460 VAC, 3ø, 34.0 F.L.A. MOTOR SHALL BE EQUIPPED w/ AN INTEGRALLY MTD. THERMAL SWITCH (TS) TO INDICATE MOTOR OVERLOAD & AN INTEGRALLY MTD. CONDUCTANCE PROBE (CS) TO INDICATE SEAL FAILURE.
14. 3-#1/0 & 1-#1/0 NEUT., 2" C. COORDINATE REQUIREMENTS w/ UTILITY.
15. 3-#1/0, 1-#1/0 NEUT. & 1-#4 GND., 2" C.
16. 6-#12 (GENERATOR & AUTOMATIC TRANSFER SWITCH STATUS) & 1-#12 GND., 3/4" C. COORDINATE STATUS CONDUCTOR TERMINATIONS w/ CITY & DCR.
17. 1-#4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR.
18. 2-#12 & 1-#12 GND., 3/4" C.
19. 2-#12 (ON/OFF CONTROL), 2-#12 (ESD), 4-#12 (GENERATOR STATUS) & 1-#12 GND., 1" C.
20. SERVICE GROUND SYSTEM: REFERENCE GROUNDING ROD CONNECTION DETAILS ON SHEET E-11.
21. GROUNDING CONDUCTOR: 1-#4, 3/4" C. PROVIDE EXOTHERMIC WELD AT CONNECTION POINTS TO GENERATOR FRAME, UNIT SKID & FUEL TANK STRUCTURAL FRAME & CONNECT TO (2) 5/8" x 10'-0" STAINLESS STEEL GROUND RODS. DO NOT GROUND GENERATOR NEUTRAL AT GENERATOR.
22. 1" SPARE CONDUIT. TURN UP & CAP ABOVE GRADE. REFERENCE SITE PLAN FOR STUB UP LOCATION.
23. 0.625, 50 OHM HELIAX CABLE, 1" C.
24. 1" SPARE CONDUIT.
25. 1-3/C #12 (FLOAT SWITCH CABLE) & 1-4/C #16 (LEVEL TRANSMITTER CABLE), 1" C.
26. 1-4/C #8 (PUMP POWER CABLE) & 1-4/C #12 (PUMP STATUS CABLE), 3" C. PUMP POWER CABLE & STATUS CABLE PROVIDED BY PUMP SUPPLIER.
27. SUBMERSIBLE PUMP POWER CABLE: 3-#8 PHASE CONDUCTORS & 1-#8 GND. PROVIDED BY PUMP VENDOR.
28. STATUS CABLE: 2-#12 THERMAL SWITCH CONDUCTORS & 2-#12 SEAL FAILURE CONDUCTORS PROVIDED BY PUMP VENDOR.
29. 1-3/C #12 FLEXIBLE FLOAT SWITCH CABLE PROVIDED BY FLOAT SWITCH MANUFACTURER.
30. 1-4/C #16 LEVEL TRANSMITTER CABLE PROVIDED BY LEVEL TRANSMITTER SUPPLIER.
31. 3" CONDUIT. FUTURE PUMP #3.
32. 1" CONDUIT. FUTURE ODOR CONTROL EQUIPMENT. REFERENCE SITE PLAN FOR STUB UP LOCATION.
33. 2-#10 & 1-#10 GND., 3/4" C.
34. 1-#4, 3/4" C. GROUNDING ELECTRODE CONDUCTOR.
35. 6-#10, 2-#10 NEUT. & 1-#10 GND., 1 1/4" C. CONNECT TO LOADS IN ENGINE/GENERATOR ENCLOSURE AS SHOWN IN PANELBOARD SCHEDULE FOR PANEL LPG.
36. 1-#4, 3/4" C. GROUNDING CONDUCTOR.
37. 3/4" C. FOR BUBBLER TUBE.



ANTENNA GROUND GRID

NOTES:

1. CONTRACTOR SHALL DETERMINE FINAL TOWER HEIGHT & WIND LOADING REQUIREMENTS. BURIAL DEPTH OF POLE SHALL BE SUITABLE FOR SOIL CONDITIONS TO ENDURE A 120 MPH WIND SPEED w/ A 3 SECOND GUST OF 140 MPH AS DETERMINED BY A REGISTERED PROFESSIONAL CIVIL ENGINEER. PROVIDE CALCULATIONS.

   SHOP DRAWINGS SHALL BE IN CONFORMANCE WITH CHAPTER 16, SECTION 1609 OF THE FBC2004 FOR A BASIC WIND SPEED OF 120 MPH AS SHOWN IN FIGURE 1609 OF THE CODE. THE SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF FLORIDA.
2. ADJUST PLACEMENT OF GROUND RODS AS NECESSARY SO GROUND GRID DOES NOT EXTEND BEYOND PROPERTY LINE OF PUMP STATION.

WET WELL

NOTES:

1. ALL EQUIPMENT SHALL BE INSTALLED AT AN ELEVATION ABOVE THE FLOODPLAIN ESTABLISHED BY FEMA AND/OR LOCAL AUTHORITIES.
2. THE GENERATOR NEUTRAL CONDUCTOR SHALL BE ROUTED THROUGH THE AUTOMATIC TRANSFER SWITCH (ATS). THE CONNECTION BETWEEN GENERATOR NEUTRAL CONDUCTOR & SYSTEM NEUTRAL SHALL BE WITH AN INSULATED NEUTRAL BLOCK IN THE AUTOMATIC TRANSFER SWITCH ENCLOSURE.

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No:	Date:	Revision:	By:

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

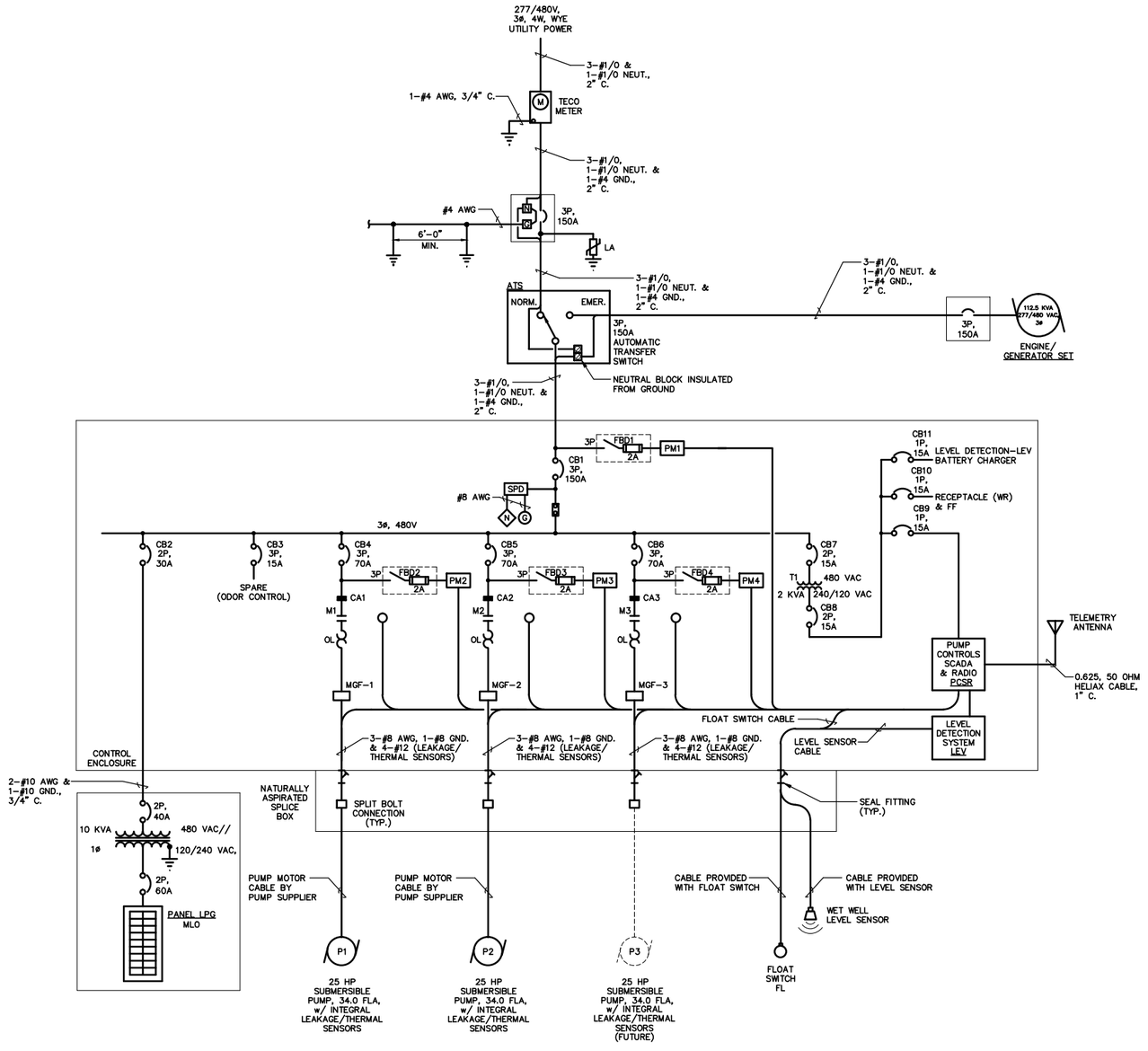
CHANNEL DISTRICT 12TH STREET PUMP STATION

ELECTRICAL RISER DIAGRAM

Field Book:	
Atlas Sheet:	
File No.	Index No.
Job No. 01021WM	005-017
Scale: NTS	
SHEET E-2/017	

LOAD SUMMARY
277/480 VAC, 3ø, 4W

LOAD	CONNECTED	DEMAND
PUMP #1	23.9 KVA	23.9 KVA
PUMP #2	21.5 KVA	21.5 KVA
PUMP #3 (FUTURE)	--- KVA	--- KVA
CONTROLS	2.0 KVA	2.0 KVA
10 KVA TRANSFORMER	4.8 KVA	4.8 KVA
TOTAL	52.2 KVA	52.2 KVA



PUMP MOTOR DATA
MAKE: FLYGT
MODEL: NP3171.181
HP : 25
460 V, 3 PHASE, 30.0 FLA

TOTAL ESTIMATED LOAD: 60.0 AMPS, 47.8 KVA

NOTE: AVAILABLE FAULT CURRENT AT TRANSFORMER LUGS FOR ANTICIPATED 3-25 KVA POLE-MOUNTED TRANSFORMERS (Z=2%) IS 4,860A; AIC RATING - 25,000A SYMMETRICAL.

ELECTRICAL ONE-LINE DIAGRAM

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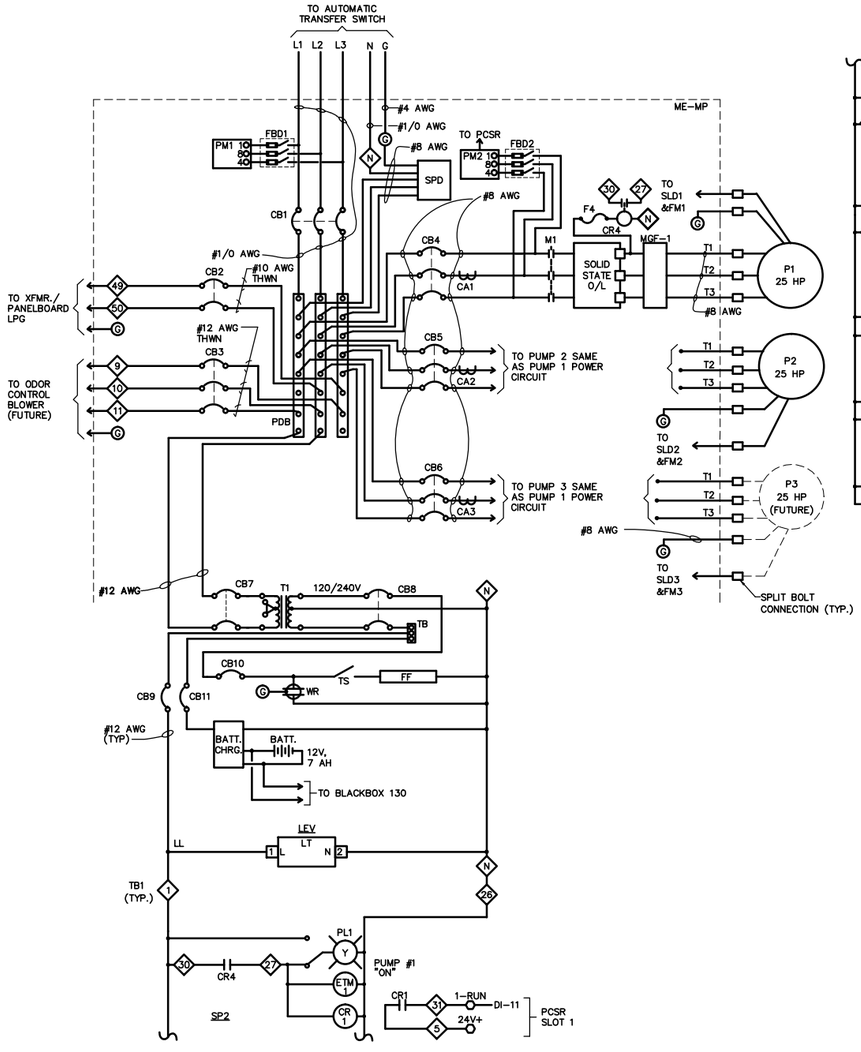
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

CHANNEL DISTRICT 12TH STREET PUMP STATION
ELECTRICAL ONE-LINE DIAGRAM

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-018
Job No. 01021WM	
Scale: NTS	
SHEET E-3/018	



SEE NOTES ON SHEET E-8

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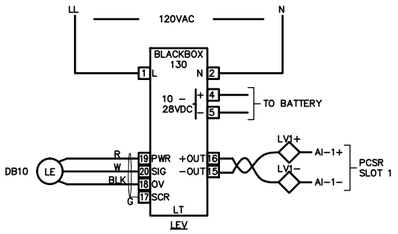
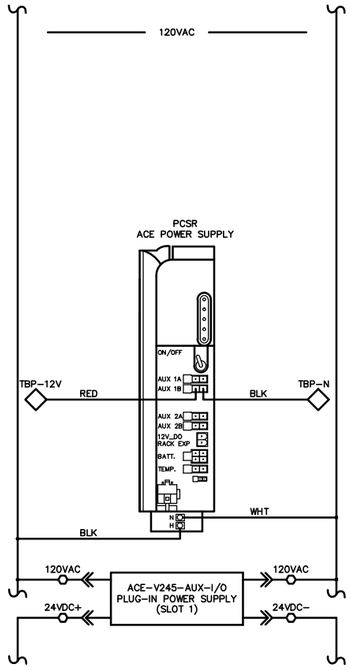
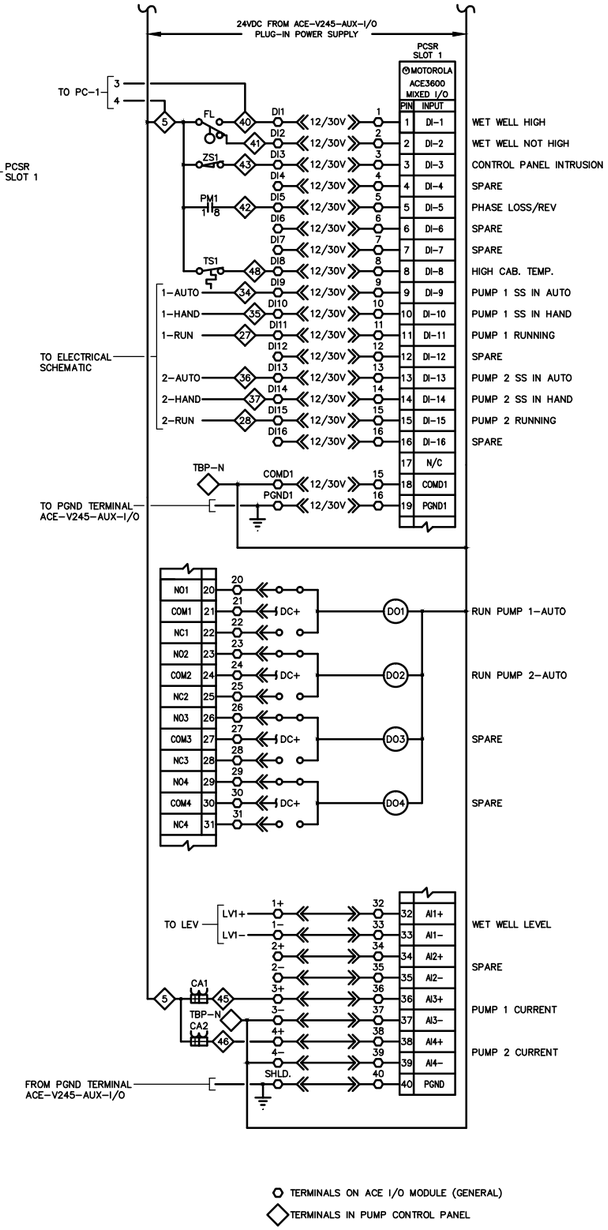
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

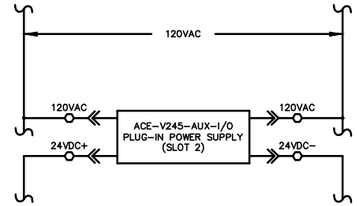
CHANNEL DISTRICT
12TH STREET PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (1 OF 2)

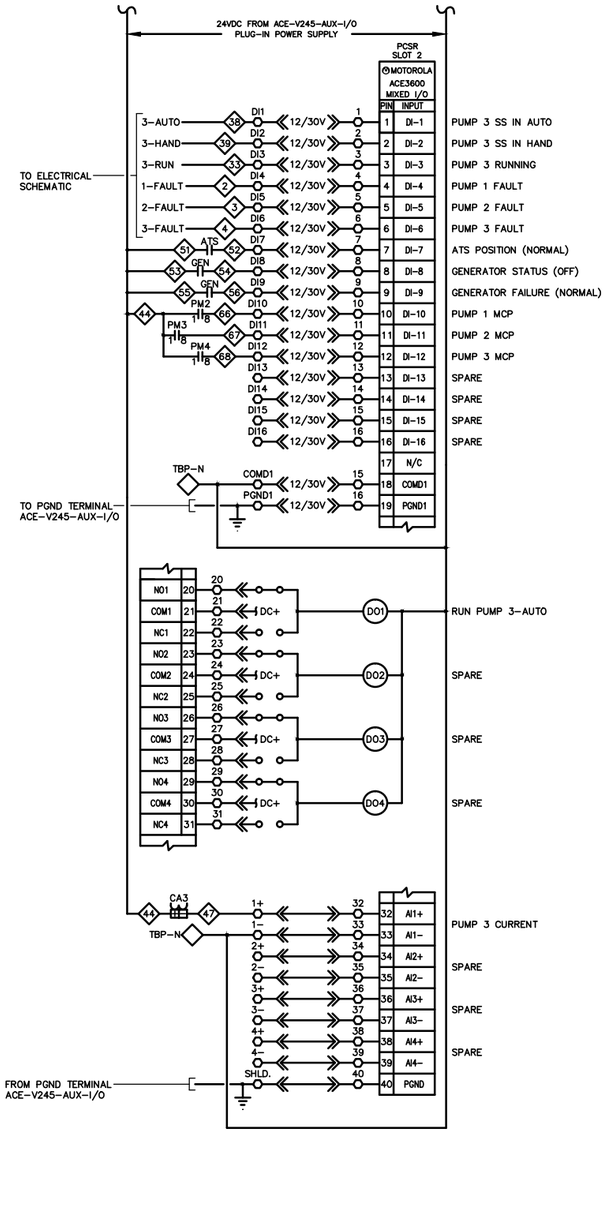
Field Book:	
Atlas Sheet:	
File No.	Index No. 005-019
Job No. 01021WM	
Scale: NTS	
SHEET E-4/019	











○ TERMINALS ON ACE I/O MODULE (GENERAL)

◇ TERMINALS IN PUMP CONTROL PANEL

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CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

CHANNEL DISTRICT
12TH STREET PUMP STATION
ELECTRICAL SCHEMATIC DIAGRAM (2 OF 2)

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-020
Job No. 01021WM	
Scale: NTS	
SHEET E-5/020	

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 BLOWER (FUTURE)
10	
11	
12	SPARE
13	SPARE
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	SPARE
25	SPARE
26	NEUTRAL
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 WATER FLOAT SWITCH
41	
42	PM1
43	PANEL INTRUSION
44	SLOT–2 PCSR 24V +
45	PUMP 1 CURRENT

TB1 CONT'D

46	PUMP 2 CURRENT
47	PUMP 3 CURRENT
48	CABINET THERMOSTAT
49	TRANSFORMER/PANELBOARD LPG
50	
51	ATS POSITION TO PCSR
52	
53	GENERATOR STATUS (OFF/RUNNING) TO PCSR
54	
55	GENERATOR FAILURE (NORMAL/ALARM) TO PCSR
56	
57	M1 FAULT
58	M2 FAULT
59	M3 FAULT
60	M1 OVERLOAD
61	
62	M2 OVERLOAD
63	
64	M3 OVERLOAD
65	
66	PM2 (PUMP 1 MCP)
67	PM3 (PUMP 2 MCP)
68	PM4 (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
- (R) PILOT LIGHT – RED (PRESS–TO–TEST)
- PRESSURE LEVEL SWITCH CONTACT
- AIR LINE
- CIRCUIT BREAKER (SINGLE–POLE)
- CIRCUIT BREAKER (THREE–POLE)
- CONTACT NORMALLY OPEN (CLOSED)
- SPLIT BOLT SPLICE
- NOT CONNECTED
- (G) GROUND BUS
- (N) NEUTRAL BUS (INSULATED)
- FUSE
- TD "ON DELAY" CONTACT
- I. C. INSTANT CLOSE CONTACT
- X–Y TB2 TERM STRIP MTD ON MP–– (PCSR INTERFACE)
- TERMINAL STRIP IN PCSR

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CHANNEL DISTRICT
12TH STREET PUMP STATION
ELECTRICAL SCHEMATIC LEGEND

Field Book:	
Atlas Sheet:	
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Job No. 01021WM	
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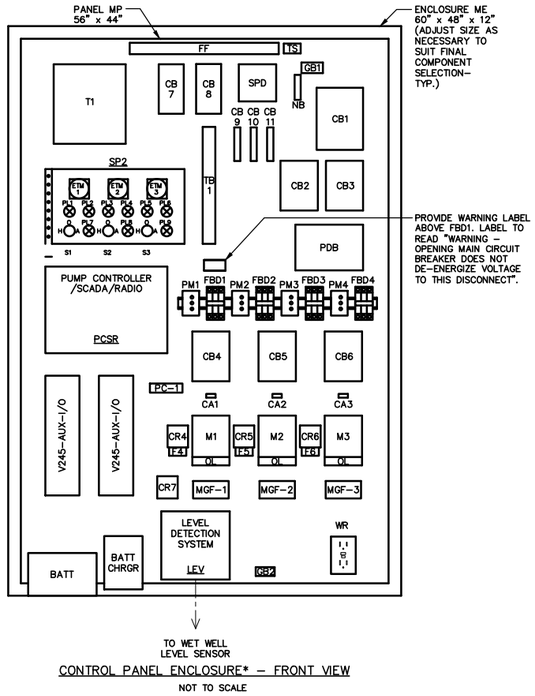
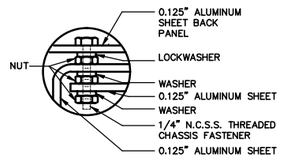
SHEET E–6/021	

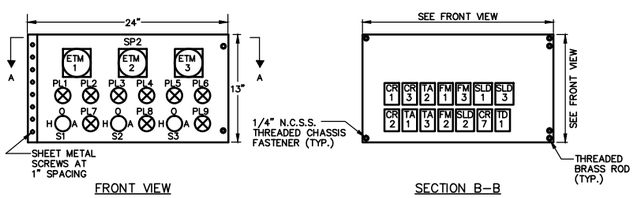


CONTROL PANEL ENCLOSURE* – FRONT VIEW

NOT TO SCALE



FASTENER DETAIL



FRONT VIEW

SECTION B–B

SECTION A–A

CONTROL CHASSIS LAYOUT

ENGINEER OF RECORD:
BOB E. HALLMAN, P.E.
FLORIDA REGISTRATION NO. 20761 05/21/15

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Certificate of Authorization Number: 4795

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

PARTS SCHEDULE

SYMBOL	NAME	MAKE	TYPE	MODEL or CAT. #	RATING	REMARKS
CB1	CIRCUIT BREAKER	SQUARE D	3 POLE	KAL36150	600V, 150A	
CB2	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL24030	480V, 30A	
CB3	CIRCUIT BREAKER	SQUARE D	3 POLE	FAL34015	480V, 15A	
CB4, CB5, CB6	CIRCUIT BREAKER	SQUARE D	3 POLE	FAL34070	480V, 70A	
CB7	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL24015	480V, 15A	
CB8	CIRCUIT BREAKER	SQUARE D	2 POLE	FAL22015	240V, 15A	
CB9, CB10, CB11	CIRCUIT BREAKER	SQUARE D	1 POLE	QOU115	120V, 15A	
M1, M2, M3	MOTOR STARTER	SQUARE D	NEMA SIZE 2	CLASS 8536 TYPE SDO1	120 VAC (COIL)	25 HP (MAX) 1 N.O.
FBD1, FBD2, FBD3, FBD4	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	3 PHASE VOLTAGE MONITOR	MOTOR CONTROLS CORP.	DISCRETE/ANALOG	PM–440–118A	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	
TB1	TERMINAL BOARD	ALLEN–BRADLEY	STYLE AA	1492–15T	600V	30 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 3 THREE POINT LATCH	60" x 48" x 12" SS 3R	304 SS, 14 GAUGE	w/ DOOR STOP KIT – # A–DSTOPK DURABLE RAL 9003 WHITE POWDER COAT
MP	ENCLOSURE PANEL *	QUALITY METALS	56" x 44", STEEL	S56 P44, 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, CR7	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–OOP–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/ BATTERY BACKUP	COORDINATE w/ SCADA SUPPLIER
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	277/480 VAC, 3ø, 200A	COORD. w/ TECO
PDB	POWER DIST. BLOCK	ILSCO	3 POLE	PDB–26–2/0–3	600V, 350A	
MGF–1, MGF–2, MGF–3	MOTOR GROUND FAULT RELAY	BENDER	AUTO–RESET	RCM465Y	120 V	
OL1, OL2, OL3	OVERLOAD RELAY	SQUARE D	SOLID STATE	H20	15–45A	TRIP CLASS 20
CR4, CR5, CR6	CONTROL RELAY	SQUARE D	TYPE "X" (IND. CONTROL RELAY)	CL 8501 X20–V04	277V (COIL)	2 N.O.
F4, F5, F6	FUSE BLOCK	SQUARE D	CLASS 9999	SF3	600V	SCREW TERMINALS
	FUSE	BUSSMANN		KTK	600V, 1A	
TD1	TIME DELAY RELAY	POTTER & BRUMFIELD	8 PIN PLUG–IN	CN1 SERIES, OR EQUAL	120V COIL, 10A CONTACTS	ADJUSTABLE DPDT w/ SOCKET & HOLD DOWN SPRING

NOTES:

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

SEE NOTES ON SHEET E-8

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CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

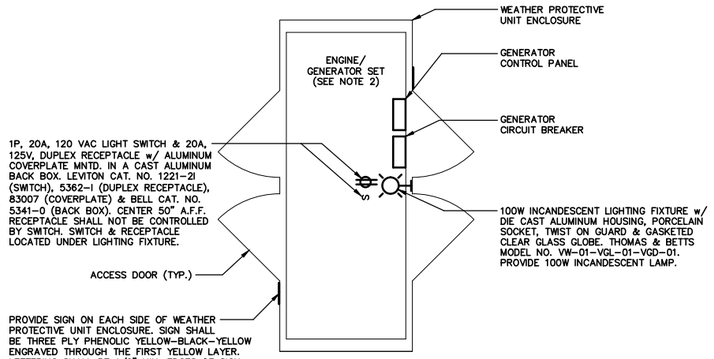
CHANNEL DISTRICT
12TH STREET PUMP STATION
ELECTRICAL CONTROL PANEL LAYOUT

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-022
Job No. 01021WM	
Scale: NTS	
SHEET E-7/022	

PANELBOARD SCHEDULE — PANEL "LPG"

bus amps A	bus amps B	LOAD	poles	amps	bus A	bus B	poles	amps	LOAD	bus amps A	bus amps B
11		GENERATOR JACKET WATER HEATER	2	20	1	2	1	20	GENERATOR SPACE HEATER	3	
	11	⊥	⊥	⊥		4	1	20	GENERATOR BATTERY CHARGER		4
1		GENERATOR ENCLOSURE LIGHT	1	20	5		1	20	SPARE		
	10	GENERATOR ENCLOSURE RECEPTACLE	1	20			1	20	SPARE		
		SPARE	1	20			1	20	SPARE		

RATED VOLTAGE: 120/240 VAC, 1ø, 3W				BRANCH POLES: 10
RATED AMPS: 60				CABINET: SURFACE
FULL NEUTRAL BUS	GROUND BUS	HINGED DOOR	KEYED DOOR LATCH	MAIN LUGS ONLY
CIRCUIT BREAKER (PLUG-IN) BRANCH DEVICES				FEED IS TO BE TOP
ALL BRKRS. MUST BE RATED TO INTERRUPT A SHORT CIRCUIT I_{sc} OF 22,000 AMPS SYMMETRICAL				
APPROVED MANUFACTURERS: SQUARE D				MAIN LUGS: 1 SET; SIZE #6
TOTAL AMPS: BUS A 15, BUS B 25, CONNECTED KVA 4.8, DEMAND KVA 4.8				



NOTES:

1. REFERENCE ELECTRICAL RISER DIAGRAM FOR ADDITIONAL ELECTRICAL CONNECTION REQUIREMENTS.
2. COORDINATE ELECTRICAL CONNECTIONS TO THE ENGINE/GENERATOR SET w/ UNIT SUPPLIER.
3. ALL ELECTRICAL CONNECTIONS TO THE ENGINE/GENERATOR SET SHALL BE FLEXIBLE CONNECTIONS.
4. ALL CONDUITS AND CONDUIT FITTINGS INSTALLED IN THE ENGINE/GENERATOR ENCLOSURE SHALL BE RIGID ALUMINUM. THE USE OF EMT IS NOT PERMITTED.

ENGINE/GENERATOR ENCLOSURE DETAIL

NOT TO SCALE

NOTES:

1. TECO SERVICE: 277/480V, 150A, 3ø, 4W, WYE. CALCULATED FAULT CURRENT - 4,860A; AIC RATING - 25,000A SYMMETRICAL.
2. THE WET WELL CLASSIFICATION IS CLASS 1, DIVISION 2, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
3. ALL ELECTRICAL WORK SHALL BE PERFORMED 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.
4. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER.
5. THE ENCLOSURE SHALL BE NEMA 3, SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304 SS, SHALL HAVE RAL 9003 WHITE POWDER COAT EXTERIOR SURFACES, AND THE CLOSING SURFACE SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOOR WITH 3-POINT AND LOCKABLE HANDLE. REFERENCE PARTS SCHEDULE.
6. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
7. ALL WIRING SHALL BE COPPER. ALL CONTROL WIRING SHALL BE STRANDED THWN COPPER, MINIMUM AWG #14, AND SHALL HAVE SPADE LUG TERMINATIONS.
8. ALARM FLOAT SWITCH WILL BE SUPPLIED BY DSS BUT INSTALLED BY CONTRACTOR.
9. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED '*' TO BE DETERMINED AFTER EQUIPMENT SELECTION.
10. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURERS SPECIFICATIONS.
11. INSTALL LAMINATED SCHEMATIC AND LAMINATED DATA SHEET ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
12. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT METER ROTATION.
13. ROUTE AND SECURE SERVICE ENTRANCE CONDUCTORS SO AS NOT TO INTERFERE WITH OR CONTACT EQUIPMENT AND COMPONENTS IN THE PANEL. ALSO, PROVIDE SPACING BETWEEN THE ENCLOSURE AND ALL CONDUCTORS.
14. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACKPANEL WITH MECHANICAL FASTENERS. FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
15. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
16. THE PCSR SHALL BE A MOTOROLA ACE3600 PACKAGE AS DISTRIBUTED BY DCR ENGINEERING SERVICES INC., SCADA ONE AND REVERE CONTROLS. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH SCADA INTEGRATOR TO INSURE SYSTEM COMPATABILITY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE TRIPLEX CONTROL SYSTEM PACKAGE, AS PROGRAMMED BY DCR, SCADA ONE OR REVERE CONTROLS.
17. 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.
18. CONDUITS:

    ALL EXPOSED CONDUITS SHALL BE RIGID ALUMINUM.

    ALL BURIED CONDUITS SHALL BE SCHEDULE 80 PVC.

    ALL FLEXIBLE CONDUITS SHALL BE NONMETALLIC LIQUIDTIGHT.

    CONDUITS THAT ARE ROUTED IN THE WET WELL AREA SHALL BE PVC COATED RIGID ALUMINUM.

    CONDUIT BODIES, FITTINGS, ETC. SHALL BE OF THE SAME MATERIAL AS THE CONDUIT.
19. ALUMINUM CONDUITS, ETC. IN CONTACT WITH CONCRETE, SOIL OR OTHER INCOMPATIBLE MATERIALS SHALL BE ISOLATED WITH TWO COATS OF BITUMASTIC, A SHEET OF EPDM OR OTHER APPROVED MATERIAL.

ENGINEER OF RECORD:
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Drawn: RWB	Date: 05/15	1				
Designed: SS	Date: 05/15	2				
Checked: BEH	Date: 05/15	3				
Reviewed: BEH	Date: 05/15	4				
Approved:	Date:	5				
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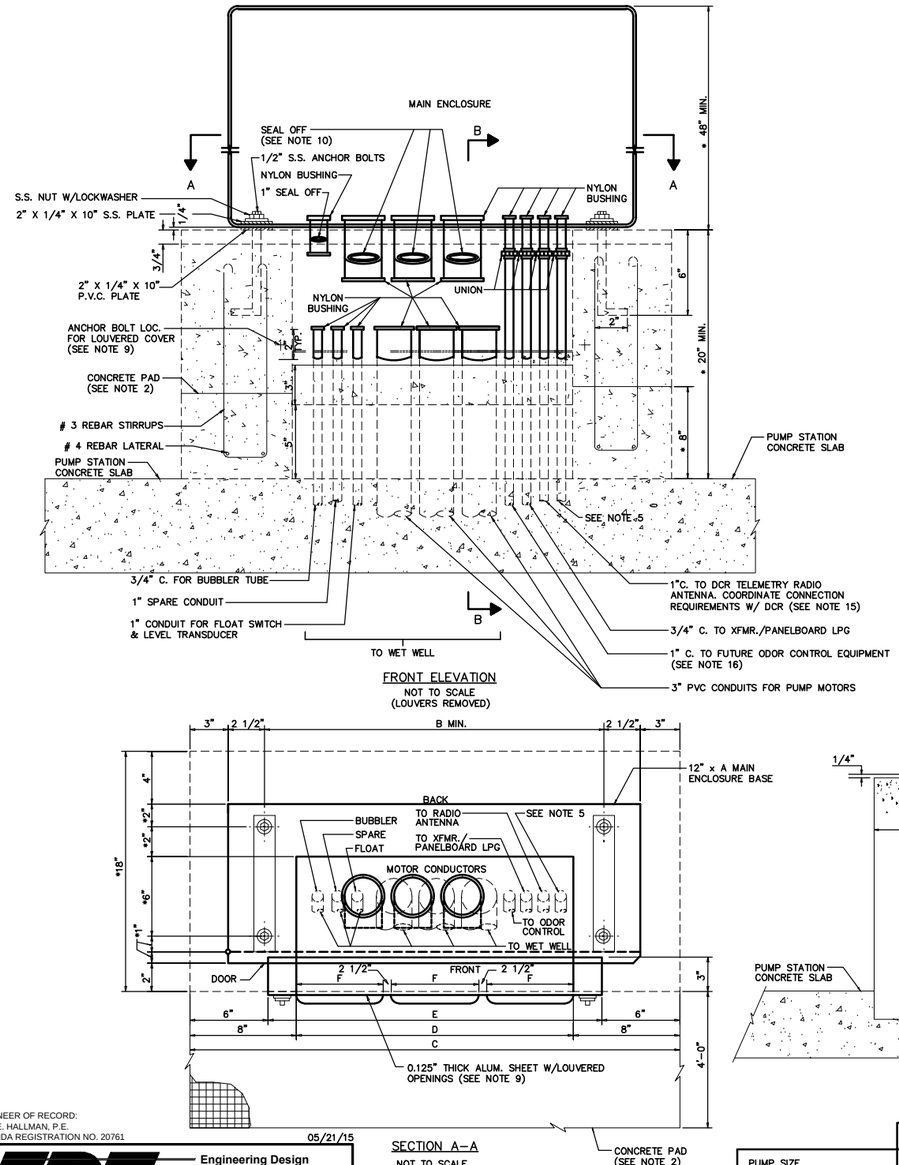
CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

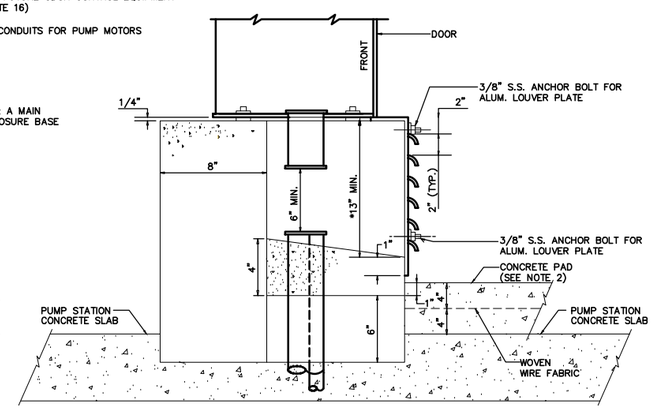
CHANNEL DISTRICT
12TH STREET PUMP STATION
GENERATOR PANELBOARD

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-023
Job No. 01021WM	
Scale: NTS	
SHEET E-8/023	



FRONT ELEVATION
NOT TO SCALE
(LOUVERS REMOVED)

SECTION A–A
NOT TO SCALE



SECTION B–B
NOT TO SCALE

PUMP SIZE	DIMENSIONS (INCHES) A	B	C	D	E	F	ENCLOSURE SIZE
3 – 25 HP @ 460V.	48	43	54	32	36	9	60"H X 48"W X 12"D

NOTES:

1. THWN CONDUCTORS (4–EACH #8 AWG COPPER) SHALL EXTEND FROM THE CONTROL PANEL A MINIMUM OF 18". WHEN INSTALLING THE PUMPS, THE MOTOR CONDUCTORS SHALL BE SPLICED USING SPLIT BOLTS. FOR INSULATION USE MATERIALS THAT ARE RECOMMENDED BY MANUFACTURER TO EQUAL INSULATIONON CONDUCTORS. FOLLOW THE SAME PROCEDURE FOR THE LEAKAGE AND THERMAL SENSOR CONDUCTORS.
2. CONCRETE PAD SHALL BE CONSTRUCTED OF CLASS B CONCRETE REINFORCED WITH 4X4–W6X6 WWF AND SHALL HAVE A MINIMUM THICKNESS OF 8" AND SHALL EXTEND 4'–0" IN FRONT OF CONTROL PANEL.
3. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
4. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'–0") AND THE METALLIC WATER LINE. GROUNDING CONDUCTOR SHALL BE AWG # 4 MIN. BARE COPPER, CLAMP TO CONDUIT.
5. CONTRACTOR SHALL SUPPLY AND INSTALL SPARE 1" PVC UNDERGROUND CONDUIT FOR COMMUNICATIONS BACKUP. EXTEND CONDUIT TO EDGE OF PAVEMENT, TURN UP, AND CAP ABOVE GRADE.
6. UNDERGROUND ALUMINUM CONDUIT SHALL BE COATED WITH KOPPERS BITUMASTIC NO. 50, OR EQUAL PRODUCTS BY TNEMEC, PORTAR OR MOBILE – SEE N.E.C.
7. WATER SERVICE RISER TO BE LOCATED ON THE SIDE OF PANEL OPPOSITE TO THE TEC METER BOX.
8. 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.
9. FRONT OF OPEN SPACE TO BE COVERED BY A LOUVERED ALUM. METAL SHEET (MIN. THICKNESS 0.125) AND FASTENED WITH MIN. OF FOUR 3/8" STAINLESS STEEL BOLTS ANCHORED IN THE CONCRETE.
10. SEAL OFF TO BE SIZED FOR CONDUCTORS. ALL CONDUITS AND SEAL OFFS SHALL HAVE BUSHINGS.
11. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
12. STAINLESS STEEL HANGERS TO SUPPORT THE EXCESS LENGTH OF MOTOR CABLES SHALL BE INSTALLED IN THE WET WELL. THESE HANGERS SHALL BE LOCATED IN A SEPARATE AREA FROM THE HANGERS SUPPORTING THE PUMP CHAINS.
13. TOP OF ENCLOSURE SHALL BE A MAXIMUM OF 7'–0" ABOVE FINAL GRADE.
14. BOTTOM OF ENCLOSURE SHALL BE A MINIMUM ELEVATION OF 10".
15. PROVIDE AND INSTALL 1" CONDUIT FOR DCR TELEMETRY RADIO ANTENNA CONNECTION. COORDINATE REQUIREMENTS WITH DCR.
16. PROVIDE & INSTALL 1" CONDUIT FOR FUTURE ODOR CONTROL BLOWER. TURN–UP AND CAP ABOVE CONCRETE.
17. ALL CONDUIT EXPOSED ABOVE GRADE SHALL BE RIGID HEAVY WALL ALUMINUM, UNLESS OTHERWISE NOTED. CONDUITS EXTENDING BELOW GRADE SHALL BE RIGID HEAVY WALL ALUMINUM CONDUIT THROUGH AND INCLUDING THE FIRST 90 DEGREE ELBOW (OR EQUIVALENT SET OF FITTINGS) INSTALLED BELOW GRADE. ALL PVC CONDUIT SHALL BE SCHEDULE 80. CONNECTIONS TO PVC CONDUIT SHALL BE MADE w/ A RIGID ALUMINUM TO PVC CONDUIT ADAPTER. ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF BITUMASTIC TO A HEIGHT OF 4" ABOVE FINISHED GRADE OR FINISHED CONCRETE.
18. THE CONTRACTOR SHALL PROVIDE AND INSTALL A 316 SS 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.

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No:	Date:	Revision:	By:
1			
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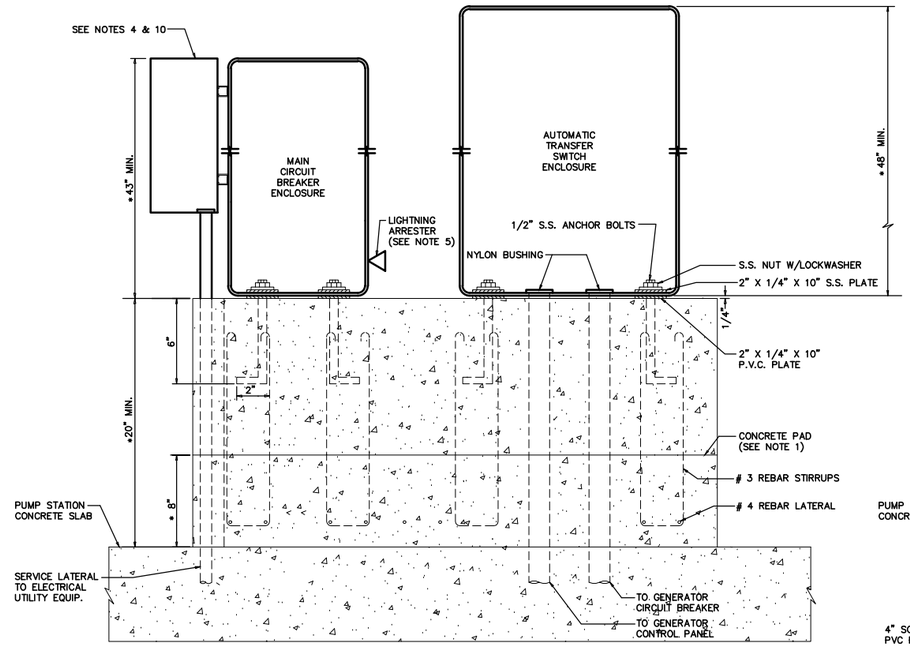
3			
4			
5			

CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

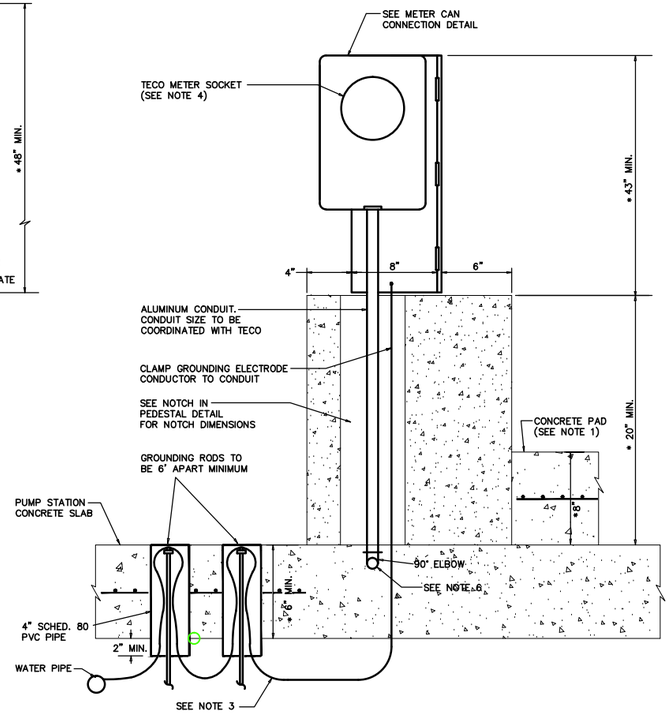
CHANNEL DISTRICT
12TH STREET PUMP STATION
CONTROL PANEL PEDESTAL DETAILS

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-024
Job No. 01021WM	
Scale: NTS	
SHEET E–9/024	

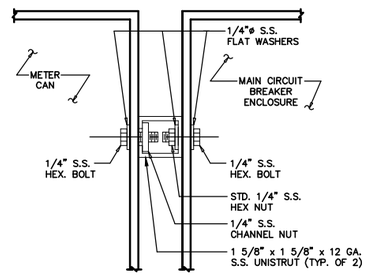


FRONT ELEVATION

NOT TO SCALE

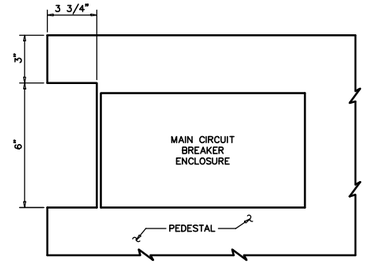


SIDE VIEW



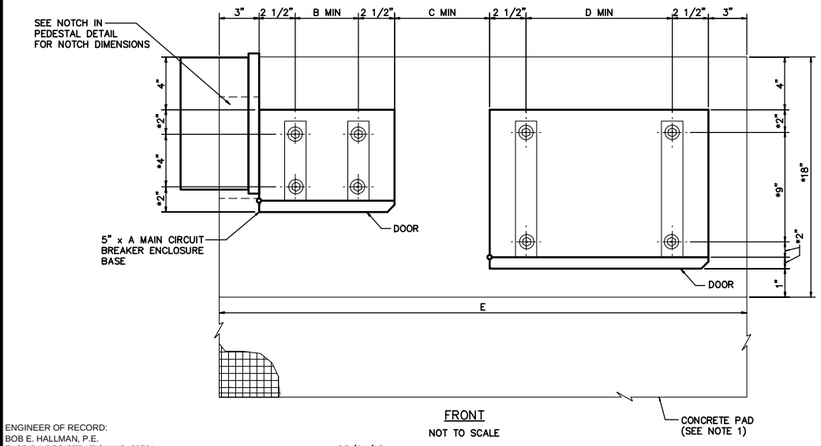
METER CAN CONNECTION

NOT TO SCALE



NOTCH IN PEDESTAL

NOT TO SCALE



FRONT

NOT TO SCALE

NOTES:

1. CONCRETE PAD SHALL BE CONSTRUCTED OF CLASS B CONCRETE REINFORCED WITH 4X4–W6X6 WWF AND SHALL HAVE A MINIMUM THICKNESS OF 8" AND SHALL EXTEND 4'–0" IN FRONT OF CONTROL PANEL.
2. DIMENSIONS, ITEMS OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
3. APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'–0") AND THE METALLIC WATER LINE. GROUNDING CONDUCTOR SHALL BE AWG # 4 MIN. BARE COPPER, CLAMP TO CONDUIT.
4. METER SOCKET SUPPLIED, AND INSTALLED BY CONTRACTOR, ALSO SEE NOTE 10. THE SOCKET EDGES ARE TO BE ALIGNED WITH THE BACK AND TOP EDGE OF THE MAIN ENCLOSURE.
5. CITY APPROVED LIGHTNING ARRESTER TO BE INSTALLED BY CONTRACTOR ON LOAD SIDE OF METER SOCKET.
6. 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.
7. UNDERGROUND ALUMINUM CONDUIT SHALL BE COATED WITH KOPPERS BITUMASTIC NO. 50, OR EQUAL PRODUCTS BY TNEMEC, PORTAR OR MOBILE – SEE N.E.C.
8. 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.
9. REINFORCEMENT SHALL BE AT LEAST 3" FROM EDGE OF PEDESTAL.
10. 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. SERVICES WILL DEPEND ON THE SELECTED CONFIGURATION.
11. TOP OF ENCLOSURE SHALL BE A MAXIMUM OF 7'–0" ABOVE FINAL GRADE.
12. BOTTOM OF ENCLOSURE SHALL BE A MINIMUM ELEVATION OF 10".

DIMENSIONS (INCHES)						
A	B	C	D	E	MAIN CIRCUIT BREAKER ENCLOSURE SIZE	AUTOMATIC TRANSFER SWITCH ENCLOSURE SIZE
14	9	10	13	48	43"H x 14"W x 8"D	48"H x 18"W x 13"D

ENGINEER OF RECORD:
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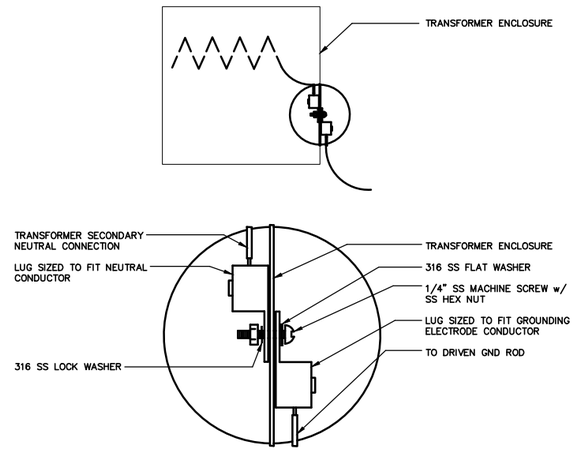
Drawn: RWB	Date: 05/15	
Designed: SS	Date: 05/15	
Checked: BEH	Date: 05/15	
Reviewed: BEH	Date: 05/15	
Approved:	Date:	
Approved:	Date:	

No:	Date:	Revision:	By:

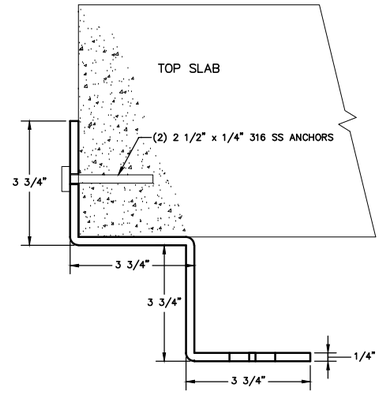
CITY OF TAMPA
ECONOMIC AND URBAN DEVELOPMENT DEPARTMENT

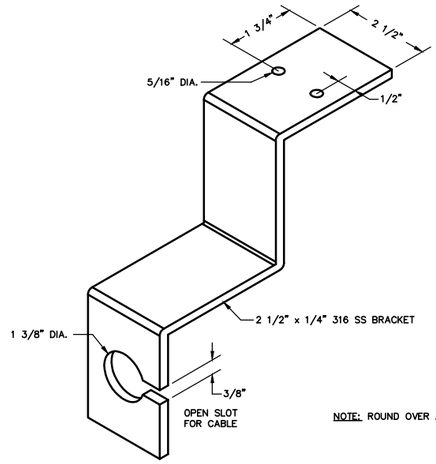
CHANNEL DISTRICT
12TH STREET PUMP STATION
MAIN CIRCUIT BREAKER AND ATS PEDESTAL DETAILS

Field Book:	
Atlas Sheet:	
File No.	Index No. 005-025
Job No. 01021WM	
Scale: NTS	
SHEET E-10/025	



1 TRANSFORMER NEUTRAL GROUNDING DETAIL

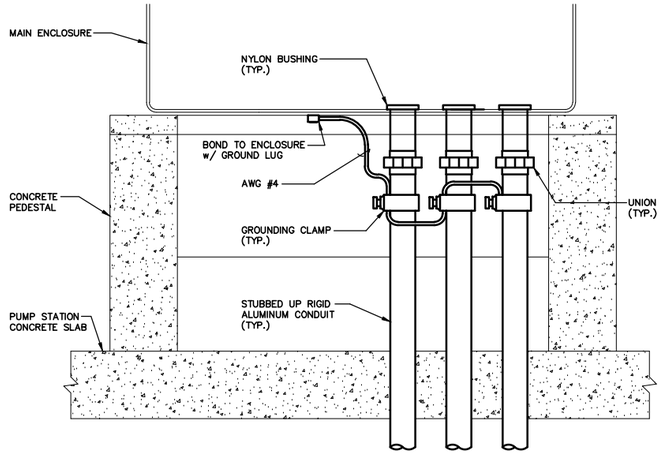




NOTE: ROUND OVER ALL EDGES, RADIUS ALL CORNERS.

2 DB10 OR PULSAR MOUNTING BRACKET DETAIL

4



5 CONDUIT BONDING DETAIL

6

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CITY OF TAMPA
ECONOMIC AND URBAN
DEVELOPMENT DEPARTMENT

CHANNEL DISTRICT
12TH STREET PUMP STATION

ELECTRICAL DETAILS

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SHEET E-11/026	