DRAWING INDEX

CITY OF FORT LAUDERDALE

PROJECT #12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
SE CORNER OF SE 11TH STREET & SE 3RD AVENUE
FORT LAUDERDALE, FLORIDA

PREPARED BY:

Kimley»Horn

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FLOOD ZONE: AH
BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988

ATTENTION, THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE TAKEN INTO ACCOUNT WHEN OBTAINING SCALED DATA.

LOCATION SKETCH

PROJECT #12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
SE CORNER OF SE 11TH STREET & SE 3RD AVENUE

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
HEATHER MORAITIS	COMMISSIONER - DISTRICT I
STEVEN GLASSMAN	COMMISSIONER - DISTRICT II
ROBERT McKINZIE	COMMISSIONER - DISTRICT III
BEN SORENSEN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.
JORGE HOLGUIN	PROJECT MANAGER	(954)828-5675
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DATE: 03/10/21
CAD FILE: 12412-000-000COVR
DRAWING FILE No.: 4-142-31

DESIGN CRITERIA PACKAGE

Plotted By:Moring, Marissa Sheet Set:PUMP STATION A-16 DESIGN CRITERIA PACKAGE Layout:0 Cover Sheet September 28, 2021 04:12:17pm K:\fll_civil\043 Jobs\043184401 cons 12464-416 ps a-16 rev location\CAD\plotsheets\12412-000-000COVR.dwg

GENERAL NOTES:

1. DESIGN BUILD FIRM SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES.
2. REFER TO SPECIFICATION SECTION 01010 AND 15060 FOR DETAILED REQUIREMENTS FOR SEQUENCE OF CONSTRUCTION AND CONSTRUCTION CONSTRAINTS.
3. RECORD DRAWINGS USED FOR EXISTING FEATURES. RECORD DRAWINGS MAY BE OBTAINED FROM THE OWNER UPON REQUEST.
4. DESIGN BUILD FIRM SHALL PROVIDE ALL FIELD SURVEY AND GEOTECHNICAL SERVICES BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. DESIGN BUILD FIRM SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
5. DESIGN BUILD FIRM SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
6. ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL AND/OR DAMAGE.
7. THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT GUARANTEED. THEREFORE THE DESIGN BUILD FIRM SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
8. UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY INFORMATION. IT IS THE DESIGN BUILD FIRM'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE DESIGN BUILD FIRM SHALL CONTACT SUNSHINE 811 AT PHONE NUMBER 811 OR 1-800-432-4770 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE DESIGN BUILD FIRM SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF SUNSHINE 811.
9. THE DESIGN BUILD FIRM SHALL EXERCISE CAUTION WHEN WORKING IN OR AROUND EXISTING CITY-OWNED UTILITIES. THE DESIGN BUILD FIRM SHALL NOTIFY THE CITY AT LEAST TWO BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION WITHIN TEN FEET OF A CITY-OWNED UTILITY SO THAT A CITY REPRESENTATIVE MAY BE PRESENT.
10. DESIGN BUILD FIRM SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE DESIGN BUILD FIRM'S EXPENSE.
11. WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE DESIGN BUILD FIRM SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE DESIGN BUILD FIRM TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
12. DURING EXCAVATION AND PLACEMENT OF UTILITIES THE DESIGN BUILD FIRM SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
13. GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. THE DESIGN BUILD FIRM SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
15. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE RIGHT-OF-WAY WHERE THE PROJECT IS CONSTRUCTED.
16. ALL LOOP DETECTORS, COMMUNICATION CABLES AND CONDUITS, IF DAMAGED BY THE DESIGN BUILD FIRM'S ACTIVITIES, SHALL BE REPAIRED AND/OR REPLACED IN ACCORDANCE WITH BCTED AND FDOT REQUIREMENTS.
17. PIPING, FITTINGS, AND APPURTENANCES FOR DUCTILE IRON, C900 PVC, AND HDPE PIPE SHALL BE RESTRAINED JOINT AS SPECIFIED.
18. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE.
19. THE DESIGN BUILD FIRM WILL BE RESPONSIBLE FOR LOCATING, MOVING AND RELOCATING OR REPLACING ALL WATER SERVICES OR SEWER LATERALS WHICH ARE ENCOUNTERED DURING EXCAVATION. THE DESIGN BUILD FIRM SHALL SUBMIT A WRITTEN PLAN FOR WATER SERVICE AND WASTEWATER SERVICE DISRUPTION FOR APPROVAL 7 (SEVEN) CALENDAR DAYS PRIOR TO THE ANTICIPATED DISRUPTION. THE DESIGN BUILD FIRM SHALL NOTIFY THE PROPERTY OWNERS 48 HOURS IN ADVANCE OF ANY WORK ON THEIR SERVICES. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
20. IT WILL BE THE RESPONSIBILITY OF THE DESIGN BUILD FIRM TO NOTIFY THE UTILITIES DEPARTMENT OF THE CITY OF FORT LAUDERDALE AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE TO COORDINATE ANY ACTIVITY TO BE PERFORMED BY THE CITY'S UTILITIES DEPARTMENT.
21. DESIGN BUILD FIRM SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHTS-OF-WAY.
22. ALL WORK WITHIN STATE DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH FDOT SPECIFICATIONS AND PERMIT REQUIREMENTS.
23. ALL WORK WITHIN BROWARD COUNTY RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH THE BROWARD COUNTY MINIMUM STANDARDS AND/OR REQUIREMENTS.
24. DESIGN BUILD FIRM SHALL COMPLY WITH ALL LOCAL CITY, COUNTY AND STATE REGULATIONS PERTAINING TO THE CLOSING OF PUBLIC STREETS FOR USE OF TRAFFIC DURING CONSTRUCTION.
25. DESIGN BUILD FIRM SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC (MOT) PLANS TO FDOT, CITY OF FORT LAUDERDALE, BROWARD COUNTY AS REQUIRED FOR WORK TO BE DONE WITHIN THEIR R/W PRIOR TO COMMENCEMENT OF WORK. SPECIFIC AGENCY MOT REQUIREMENTS ARE THE SOLE RESPONSIBILITY OF THE DESIGN BUILD FIRM.
26. DESIGN BUILD FIRM SHALL SUBMIT MOT PLANS FOR APPROVAL BY THE CITY WHEN WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
27. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
28. TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS SHALL NOT BE LEFT OPEN DURING NIGHT TIME HOURS WITHOUT ADEQUATE PROTECTION.
29. DESIGN BUILD FIRM SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLER LINES, CONDUIT, CABLES, ETC. AND LANDSCAPE AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
30. DESIGN BUILD FIRM SHALL PROVIDE TEMPORARY FENCING AS REQUIRED BY AGENCIES HAVING JURISDICTION OVER THE PROJECT AND/OR WHEN REQUIRED FOR PUBLIC SAFETY.
31. THE DESIGN BUILD FIRM SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF WORK, FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE DESIGN BUILD FIRM SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
32. DESIGN BUILD FIRM SHALL ADJUST TO GRADE ALL EXISTING UTILITY CASTINGS INCLUDING VALVE BOXES, MANHOLES, HAND HOLES, PULL BOXES, INLETS AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAYED WITH ASPHALT.
33. EXISTING TRAFFIC SIGNS SHALL BE RESET UPON COMPLETION PER BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS. COST SHALL BE CONSIDERED INCIDENTAL. DESIGN BUILD FIRM SHALL REPAIR OR REPLACE DAMAGED TRAFFIC SIGNAL LOOPS PER BROWARD COUNTY TRAFFIC ENGINEERING SPECIFICATIONS; COST SHALL BE INCIDENTAL.
34. DESIGN BUILD FIRM SHALL RESTORE EXISTING PAVEMENT AND PAVEMENT MARKINGS/SIGNAGE TO ORIGINAL PRE-CONSTRUCTION CONDITION OR AS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
35. ALL CONSTRUCTION WITHIN FDOT R/W MUST CONFORM WITH FDOT SPECIFICATIONS, STANDARDS, AND PERMIT REQUIREMENTS. NO WORK SHALL COMMENCE WITHIN FDOT R/W's WITHOUT AN FDOT PERMIT. FULL LANE WIDTH RESTORATION TO MATCH EXISTING PAVEMENT SECTION IS REQUIRED IN ACCORDANCE WITH FDOT STANDARDS FOR PROPOSED WORK WITHIN FDOT R/W.
36. THE DESIGN BUILD FIRM SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR CITY APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.
37. EXISTING GAS MAINS SHALL BE IDENTIFIED BY THE APPROPRIATE UTILITY, PRIOR TO START OF CONSTRUCTION.
38. REFER TO SECTION 02065 AND DEMOLITION PLANS FOR DEMOLITION DETAILS.
39. REFER TO DIVISIONS 2 AND 15 FOR UTILITY SPECIFICATIONS.

UTILITY CONTACTS:

TECO PEOPLES GAS
5101 NW 21ST AVENUE
FORT LAUDERDALE, FL 33309
PHONE: (954)453-0794
CONTACT: DAVID RIVERA

AT&T FLORIDA
8601 WEST SUNRISE BOULEVARD
PLANTATION, FL 33322
PHONE: (305)428-05010
CONTACT: OTIS T. KEEVE

FLORIDA POWER & LIGHT COMPANY
7201 CYPRESS ROAD. CSF-CB
PLANTATION, FL 33317
PHONE: (954)717-2057
CONTACT: TROY LEWIS

CITY OF FORT LAUDERDALE MOT
290 NE 3RD AVENUE
FORT LAUDERDALE, FL 33301
PHONE: (954)828-3721
CONTACT: KRISTIN THOMPSON

TRAFFIC CONTROL PLAN NOTES:

1. THE TRAFFIC CONTROL PLANS FOR THE PROJECT SHALL COMPLY WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 600-660. MUTCD AND THE STANDARD SPECIFICATIONS. THE CONTRACTOR'S RESPONSE TIME TO ALL REPORTED MALFUNCTIONS OF TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS SHALL BE NO MORE THAN TWO (2) HOURS AND SHALL RESTORE ALL MALFUNCTIONING TRAFFIC SIGNAL EQUIPMENT TO ITS LEVEL OF OPERATION PRIOR TO THE MALFUNCTIONING WITHIN TWENTY-FOUR (24) HOURS. DURING THIS TIME THE CONTRACTOR SHALL PROVIDE AT HIS EXPENSE TEMPORARY TRAFFIC CONTROL DEVICES, FLAGGLER PERSONNEL AND LAW ENFORCEMENT PERSONNEL AS NECESSARY TO MAINTAIN A SAFE AND EFFICIENT FLOW OF TRAFFIC AT THE AFFECTED WORK ZONE. THE ENGINEER OR THE CITY OF FORT LAUDERDALE SHALL APPROVE ALL MODIFICATIONS PRIOR TO THEIR IMPLEMENTATION.
2. THE CONTRACTOR SHALL MAINTAIN PROPER OPERATION OF ALL TRAFFIC SIGNAL LOOP ASSEMBLIES AND LOOP DETECTORS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL CORRECT ALL LOOP ASSEMBLY/DETECTOR MALFUNCTIONS WITHIN 24 HOURS OF NOTIFICATION OF SUCH MALFUNCTIONS BY THE ENGINEER.
3. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING.
4. A REGULATORY SPEED OF 25 MPH SHALL BE POSTED WITHIN THE LIMITS OF THE WORK ZONE.
5. EXISTING SIGNS AND PAVEMENT MARKINGS THAT CONFLICT WITH CONSTRUCTION SIGNS AND MARKINGS SHALL BE REMOVED DURING CONSTRUCTION. ALL EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED IN A SECURE PLACE AND REINSTALLED AFTER CONSTRUCTION. REMOVE AND REPLACE ANY GROUND MOUNT SIGN BY USE OF INDEX NO. 611.
6. THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS AND PREVENT ADVERSE FLOODING OF THE TRAVEL LANES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE CITY OF FORT LAUDERDALE FOR ANY AND ALL CONSTRUCTION ACTIVITIES TO BE PERFORMED AT NIGHT. NO LANE CLOSURE SHALL BE ALLOWED BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 4:00 PM TO 7:00 PM, MONDAY THROUGH FRIDAY UNLESS APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY TWO (2) BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. SEE SPECS FOR LIST OF UTILITY COMPANIES.
9. TRAFFIC CONTROL ON ALL COUNTY RIGHTS-OF-WAY SHALL MEET THE ADDITIONAL REQUIREMENTS OF THE BROWARD COUNTY ENGINEERING DEPARTMENT.
10. CONTRACTOR SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC PLAN (MOT) WHERE REQUIRED BY FEDERAL, STATE, COUNTY, OR LOCAL AGENCIES HAVING JURISDICTION. CONTRACTOR SHALL OBTAIN ALL REQUIRED APPROVALS AND PERMITS ASSOCIATED WITH THE MOT'S. ALL MOT'S TO BE ATS CERTIFIED.
11. THE CONTRACTOR SHALL ALSO COORDINATE THE CONSTRUCTION SCHEDULE WITH FDOT, BROWARD COUNTY AND THE CITY OF FORT LAUDERDALE TO AVOID LANE CLOSURES WHICH WOULD ADVERSELY AFFECT TRAFFIC DURING RUSH HOUR.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | TRAFFIC CONTROL PLAN NOTES | GNRL 002 | 2017/07/13

BROWARD COUNTY SCHOOL MAINTENANCE OF TRAFFIC NOTES:

1. THE MAINTENANCE OF TRAFFIC PLAN, PROVIDED BY THE CONTRACTOR, SHALL INCLUDE PROVISIONS FOR PEDESTRIAN AND/OR SCHOOL STUDENT TRAFFIC AS WELL AS VEHICULAR TRAFFIC. THE FOLLOWING ARE MINIMUM REQUIREMENTS:
2. THE SAFE WALK ROUTE FOR ALL SCHOOL STUDENTS WITHIN THE VICINITY OF THE CONSTRUCTION ZONE SHALL BE MAINTAINED DURING STUDENT ARRIVAL AND DISMISSAL TIMES. IF THE CURRENT WALKING SURFACE CANNOT BE MAINTAINED, THEN A TEMPORARY WALKABLE SURFACE SHALL BE CREATED. THE SAFE WALK ROUTE SHALL BE SEPARATED FROM THE CONSTRUCTION ACTIVITY DURING THE ENTIRE LENGTH OF THE PROJECT ENCOMPASSING THE ENTIRE WALK ROUTE WITH PROPER PEDESTRIAN OPENINGS AT DESIGNATED CROSSINGS IN COMPLIANCE WITH FDOT DESIGN STANDARDS INDEX NO. 600 AS WELL AS MEETING ALL ADA REQUIREMENTS.
3. ALL CONSTRUCTION EQUIPMENT ACTIVITY AROUND ANY DESIGNATED CROSSWALK SHALL CEASE TO OPERATE DURING THE STUDENT ARRIVAL AND DISMISSAL TIMES. ALL CONSTRUCTION EQUIPMENT ACTIVITY ADJACENT TO A DESIGNATED WALK ROUTE SHALL CEASE OPERATING UNLESS SATISFACTORILY BARRICADED FROM THE WALK ROUTE.
4. IN THE CASE THAT A DESIGNATED CROSSING OR ANY PORTION OF THE DESIGNATED WALK ROUTE CANNOT BE MAINTAINED, THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO CLOSING THAT ROUTE IN ORDER TO ESTABLISH AN ALTERNATE CROSSING/ROUTE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ANY NECESSARY PAVEMENT, ROAD ROCK, PAVEMENT MARKINGS AND SIGNAGE AND/OR ANY PEDESTRIAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN EXISTING OR ALTERNATE WALK ROUTE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE STATE CERTIFIED SCHOOL CROSSING GUARDS OR OFF DUTY POLICE OFFICERS TO CROSS STUDENTS AT ALL LOCATIONS OTHER THAN THOSE PREVIOUSLY DESIGNATED. THE CONTRACTOR MAY USE FLAGMEN, BUT ONLY IF THEY ARE STATE CERTIFIED AS A SCHOOL CROSSING GUARD.
7. THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600 OR AT BROWARD@TRAFFIC.ORG TO DISCUSS ALL NECESSARY SAFETY MEASURES.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE FOLLOWING BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT PERSONNEL IF CONSTRUCTION WILL IMPACT ANY BUS ROUTES:

NAME	SECTION	PHONE	EMAIL
RUTH MASTERS	ROUTING	(754) 321-4400 EXT. # 2309	RUTH.MASTERS@BROWARDSCHOOLS.COM
VINCENT HARRELL	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4472	VINCENT.HARRELL@BROWARDSCHOOLS.COM
MARY TOCHTERMANN	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4400 EXT. # 2006	MARY.TOCHTERMANN@BROWARDSCHOOLS.COM

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | BROWARD COUNTY SCHOOL MOT NOTES SHEET 1 | GNRL 005 | 2018/09/21

9. UPON COORDINATION WITH THE AFOREMENTIONED PERSONNEL, AND IF DEEMED NECESSARY, A PRE-CONSTRUCTION MEETING WILL BE HELD TO DETERMINE ALL BUS ROUTES AND TO MAKE ANY NECESSARY ARRANGEMENTS FOR REROUTING. THE SPECIAL PROJECTS COORDINATOR FROM THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600, WILL BE NOTIFIED AND MAY ATTEND THE PRE-CONSTRUCTION MEETING.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN APPROVED MAINTENANCE OF TRAFFIC PLAN (MOT), SPECIFYING THE ABOVE SCHOOL/PEDESTRIAN CONDITIONS, THROUGH THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION OR THE LOCAL MUNICIPALITY, DEPENDING ON THE ROADWAY JURISDICTION. THE CONDITIONS OUTLINED IN THE MOT ARE FULLY EFFECTIVE AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL WORK ASSOCIATED WITH THE PROJECT IS IN COMPLIANCE WITH ALL THE REQUIREMENTS OF THE APPROVED MOT.
11. THE CONTRACTOR SHALL ENSURE THAT THERE ARE NO SPEED LIMIT SIGNS INSTALLED WITHIN THE DESIGNATED REDUCED SPEED SCHOOL ZONE AT ANY TIME THROUGHOUT THE PROJECT.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | BROWARD COUNTY SCHOOL MOT NOTES SHEET 2 | GNRL 005 | 2018/09/21

BROWARD COUNTY COMMUNICATION NOTES:

1. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED). ALL SYSTEM COMMUNICATIONS EQUIPMENT, CABLING AND RELATED MATERIAL SHALL COMPLY WITH BROWARD COUNTY'S LATEST EDITION OF THE MINIMUM STANDARDS AS EXPRESSED IN THE "STANDARDS AND SPECIFICATIONS - COMMUNICATION INFRASTRUCTURE" DOCUMENT. PLEASE REFER TO (BCTED'S) COMMUNICATIONS POLICIES AND PROCEDURES FOR ADDITIONAL INFORMATION. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION WILL NOT ACCEPT ANY PROJECTS THAT DO NOT MEET THESE STANDARDS AND SPECIFICATIONS. IF FIBER OPTIC PULL BOXES ALREADY EXIST AT AN INTERSECTION, NO ADDITIONAL FIBER OPTIC PULL BOXES WILL NEED TO BE INSTALLED. FOR A COPY OF THESE STANDARDS REFER TO THE BROWARD COUNTY WEB SITE AT WWW.BROWARD.ORG/TRAFFIC UNDER PUBLICATIONS.
2. IF THERE ARE COPPER INTERCONNECT CABLE/S WITHIN YOUR PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
3. IF THERE ARE FIBER OPTIC CABLE/S WITHIN YOUR PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
4. IF THERE ARE CELLULAR COMMUNICATIONS WITHIN YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
5. ALL BCTED COMMUNICATIONS CABLES/CONDUIT SHALL BE LOCATED A MINIMUM OF 48 HOURS IN ADVANCE.

BROWARD COUNTY TRAFFIC ENGINEERING DIVISION
PROCEDURE FOR NOTIFICATION OF COMMUNICATION DISRUPTION

COPPER INTERCONNECT CABLE NOTIFICATION CONTACT PERSON:

WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE TRAFFIC SIGNAL TECHNICIAN III AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00 AM AND ENDING AT 3:00 PM.

FIBER OPTIC CABLE NOTIFICATION CONTACT PERSON:

WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00 AM AND ENDING AT 3:00 PM.

UTILITY OWNER CONTACT PERSON:

INTERCONNECT COMMUNICATIONS CABLES - (ROBERT BLOUNT) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2745

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | BROWARD COUNTY COMMUNICATION NOTES | GNRL 006 | 2018/09/21

SCHOOL ZONE INSTALLATION REQUIREMENTS WITHIN BROWARD COUNTY:

1. THE CONTRACTOR SHALL BE GOVERNED BY THE LATEST EDITIONS OF THE FOLLOWING MANUALS:
   A. THE FDOT DESIGN STANDARDS
   B. THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   C. THE BROWARD COUNTY MINIMUM STANDARDS APPLICABLE TO PUBLIC RIGHTS-OF-WAY
2. FOR THE LATEST EDITION OF SCHOOL FLASHER DETAIL SHEETS AND MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIANS NOTES, SEE THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S WEB SITE AT: HTTP://WWW.BROWARD.ORG/TRAFFIC/PAGES/PUBLICATIONS.ASPX.
3. THE "MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN" NOTES SHALL APPEAR ON THE PLAN AS INDICATED. DEPENDING ON THE JURISDICTION OF THE ROADWAY THE CONTRACTOR WILL UTILIZE EITHER THE BCTED OR FDOT VERSION, WHICH WILL BE DETERMINED BY THE SCHOOL SAFETY PROGRAM SPECIAL PROJECTS COORDINATOR AT BCTED.
4. SCHOOL FLASHER PLANS ARE VALID FOR EIGHTEEN (18) MONTHS FROM DATE OF APPROVAL. AFTER THAT DATE, PLANS SHALL BE RESUBMITTED FOR APPROVAL.
5. NO SCHOOL FLASHER AND/OR ASSOCIATED EQUIPMENT SHALL BE PLACED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY OR ON PRIVATE PROPERTY WITHOUT THE PRIOR ACQUISITION OF THE NECESSARY TRAFFIC ENGINEERING EASEMENTS BY THE CONSULTANT/CONTRACTOR. THESE EASEMENTS SHALL BE LARGE ENOUGH TO ALLOW ACCESS TO THE TRAFFIC ENGINEERING EQUIPMENT BY TECHNICIANS AND BY LARGER VEHICLES WHICH MAY REQUIRE ACCESS TO THE EQUIPMENT. THE SIZE AND LOCATION OF THE EASEMENTS WILL BE DETERMINED ON A CASE-BY-CASE BASIS. THE EASEMENTS SHALL BE RECORDED DOCUMENTS AND A COPY OF THE FULLY EXECUTED RECORDED EASEMENT SHALL BE PROVIDED TO THE SCHOOL SAFETY PROGRAM SPECIAL PROJECTS COORDINATOR PRIOR TO INSTALLATION.
6. PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT TO THE SCHOOL SAFETY PROGRAM SPECIAL PROJECTS COORDINATOR AT BCTED FOR APPROVAL, ALL OF THE EQUIPMENT SPECIFICATIONS (I.E. SHOP DRAWINGS) FOR ALL MATERIALS PROPOSED FOR THE PROJECT. SEE SECTION 603 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR SUBMITTAL DATA REQUIREMENTS. INCLUDED IN THE SUBMITTAL SHALL BE SHOP DRAWINGS FOR GROUND MOUNT AND/OR MAST ARM DETAILS, AS APPLICABLE.
7. IF ELECTRICAL SERVICE IS REQUIRED, THE CONTRACTOR SHALL MAKE WRITTEN REQUEST TO BCTED, SYSTEMS SECTION - DESIGN ENGINEER, TO PROVIDE BILLING AUTHORIZATION TO FPL. THIS IS REQUIRED BEFORE ELECTRICAL SERVICE CAN BE OBTAINED. THE REQUEST SHALL INCLUDE A STATEMENT CERTIFYING THAT THIS ELECTRICAL INSTALLATION MEETS OR EXCEEDS ALL APPLICABLE REQUIREMENTS OF ALL APPLICABLE CODES AND IS NOW READY FOR CONNECTION TO FPL FACILITIES. ALSO INCLUDE THE DATE SERVICE IS REQUIRED BY IN THE REQUEST.
8. THE CONTRACTOR SHALL MAKE WRITTEN REQUEST TO THE SCHOOL SAFETY PROGRAM SPECIAL PROJECTS COORDINATOR AT BCTED EITHER BY FAX: 954-847-2700 OR E-MAIL: TRAFFIC@BROWARD.ORG TO SCHEDULE AN INSPECTION OF THE COMPLETE INSTALLATION, INCLUDING THE INTERIM SIGNING AND PAVEMENT MARKING PLAN. ACTIVATION OF THE FLASHERS SHALL ONLY BE PERMITTED AFTER SAID INSPECTION.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | SCHOOL ZONE INSTALLATION REQUIREMENTS SHEET 1 | GNRL 007 | 2018/09/21

9. THE CONTRACTOR SHALL PROVIDE SIX (6) SETS OF MARKED UP (AS-BUILT) CONSTRUCTION PLANS TO THE ENGINEER AND BCTED AS DEFINED IN FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 611, SEVEN (7) DAYS PRIOR TO SCHOOL FLASHER CONDITIONAL ACCEPTANCE INSPECTION BY BCTED. THE CONTRACTOR SHALL ALSO PROVIDE TWO SETS OF AS-BUILT PLANS TO BCTED SIGNAL TECHNICIAN AT THE TIME OF INSPECTION. TWO COPIES OF CABINET PRINTS, TWO SETS OF CABINET KEYS AND PAGER/TIME SWITCH OPERATION MANUALS FOR EACH LOCATION SHALL ALSO BE TURNED OVER AT THIS TIME.
10. THE CONTRACTOR IS ADVISED THAT THE PRESENCE OF OVERHEAD ELECTRICAL CONDUCTORS IN CLOSE PROXIMITY TO THE LOCATIONS OF PROPOSED SCHOOL FLASHERS MAY LIMIT THE TYPE OF EQUIPMENT THAT CAN BE USED IN CONSTRUCTION OF THE SCHOOL FLASHER. THE CONTRACTOR SHALL COORDINATE WITH FPL TO DEACTIVATE LINES IF NECESSARY.
11. ALL SIGN ASSEMBLIES SHOWN OR NOTED ON THE PLAN SHEETS FOR REMOVAL SHALL BE DELIVERED TO THE BCTED OPERATIONS BUILDING, 2300 WEST COMMERCIAL BLVD., FORT LAUDERDALE. EXISTING FLASHERS ARE NOT TO BE REMOVED UNTIL AFTER THE NEW UNIT HAS PASSED ITS FINAL INSPECTION.
12. SIGN LOCATIONS MAY BE VARIED IN THE FIELD AS NECESSARY IN ORDER TO AVOID CONFLICTS WITH UNFORESEEN OBSTACLES, DRIVEWAYS, ETC. ANY SIGN LOCATION VARIATIONS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND SHOWN ON THE AS BUILTS.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | SCHOOL ZONE INSTALLATION REQUIREMENTS SHEET 2 | GNRL 007 | 2018/09/21

LEGEND

ABBREVIATIONS

C.L.F.	=	CHAIN LINK FENCE
CMP	=	CORRUGATED METAL PIPE
CONC.	=	CONCRETE
F.H.	=	FIRE HYDRANT
GAS	=	GAS MAIN
INV.	=	PIPE INVERT
OHW	=	OVERHEAD WIRES
R/W	=	RIGHT-OF-WAY LINE
RCP	=	REINFORCED CONCRETE PIPE
SAN	=	SANITARY SEWER PIPE
SMH	=	SANITARY MANHOLE
S.V.	=	SEWER VALVE
T.O.P.	=	TOP OF PIPE
UNK.	=	UNKNOWN TREE TYPE
U.T.O.	=	UNABLE TO OBTAIN DATA
U.V.	=	UNKNOWN VALVE
W.V.	=	WATER VALVE
B.C.H.C.E.D.	=	BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DEPARTMENT.
B.C.T.E.D.	=	BROWARD COUNTY TRAFFIC AND ENGINEERING DEPARTMENT

PREPARED BY:

Kimley»Horn

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DESIGN CRITERIA PACKAGE

ENGINEER: GARY R. RATAY, P.E.
REG. No: 46682
DATE: 9/28/2021
TEL: (954) 535-5100
FAX:

DRAWN BY: AL | DATE: MAR 2021 | DESIGNED BY: GR | SCALE: AS NOTED | CHECKED BY: GR | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

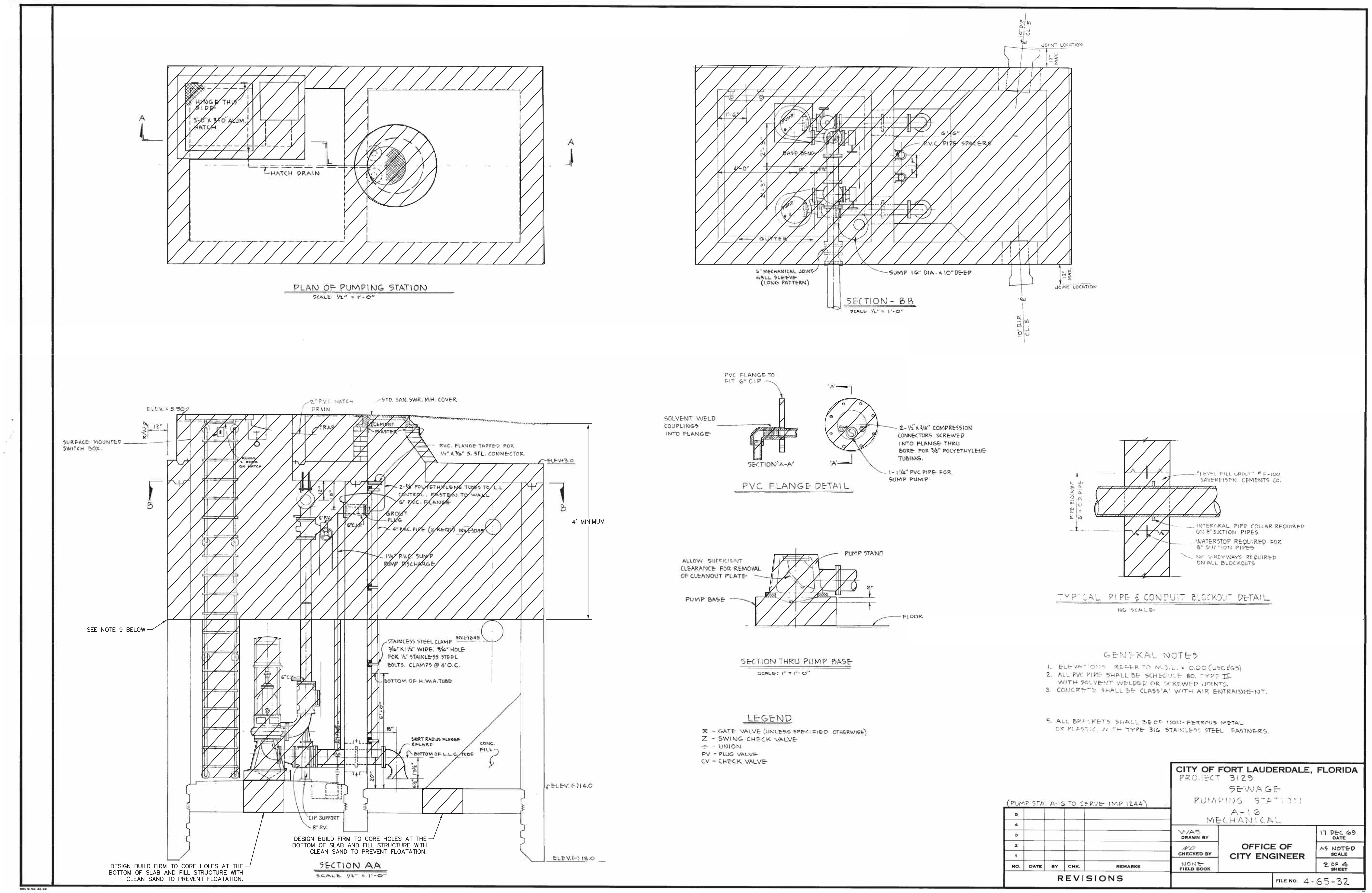
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
GENERAL NOTES

SHEET NO. 1 OF 31

CAD FILE: 12412-MULTI-NOTE

DRAWING FILE NO. 4-142-31

EXISTING PUMP STATION A-16 TO BE DEMOLISHED



LEGEND:

(hatched) TO BE DECOMMISSIONED/DEMOLISHED

NOTES:
1. THIS PREVIOUS DESIGN PLAN IS INCLUDED FOR INFORMATIONAL PURPOSES. ALL EQUIPMENT IS NOT INSTALLED EXACTLY AS SHOWN. PLANS NOT TO SCALE.
2. ELEVATIONS PROVIDED ON THIS PREVIOUS DESIGN PLAN ARE ASSUMED TO REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
3. FLOOD ZONE: AH.
4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988.
5. THE ITEMS DEPICTED FOR DEMOLITION ARE GENERAL ONLY. ALL ANCILLARY STRUCTURES, PIPING AND OTHER ASSOCIATED EQUIPMENT ARE TO BE INCLUDED IN THE DEMOLITION WORK.
6. AFTER DEMOLITION, ALL DEBRIS IS TO BE REMOVED AND LEGALLY DISPOSED BY THE DESIGN BUILD FIRM IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
7. AFTER DISPOSAL OF MATERIAL, THE DESIGN BUILD FIRM SHALL RE-GRADE THE AREA TO MATCH SURROUNDING GRADE AND DRAINAGE PATTERNS. DESIGN BUILD FIRM TO OBTAIN REQUIRED FILL NEEDED TO LEVEL AREAS WHERE STRUCTURES PREVIOUSLY EXISTED.
8. DESIGN BUILD FIRM SHALL BACKFILL, COMPACT AND RESTORE SURFACE CONDITIONS AT ALL AREAS OF PIPE/STRUCTURE DEMOLITION AND REMOVAL. COMPACT TO 98% ASTM D-1557, IN 12" LIFTS.
9. DESIGN BUILD FIRM SHALL REMOVE ALL PIPING, VALVES, AND APPURTENANCES FROM STRUCTURES TO FIRST BEND BELOW GRADE OR MINIMUM OF 4 FEET BELOW GRADE WITHIN 50 FEET OF THE LOCATION. ALL PIPING TO BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. DESIGN BUILD FIRM TO VERIFY WITH CITY THAT ANY SYSTEM TO BE REMOVED IS OUT OF SERVICE BEFORE DEMOLITION.

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DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
DEMOLITION PLAN

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: AL	DATE: MAR 2021
DESIGNED BY: GR	SCALE: AS NOTED
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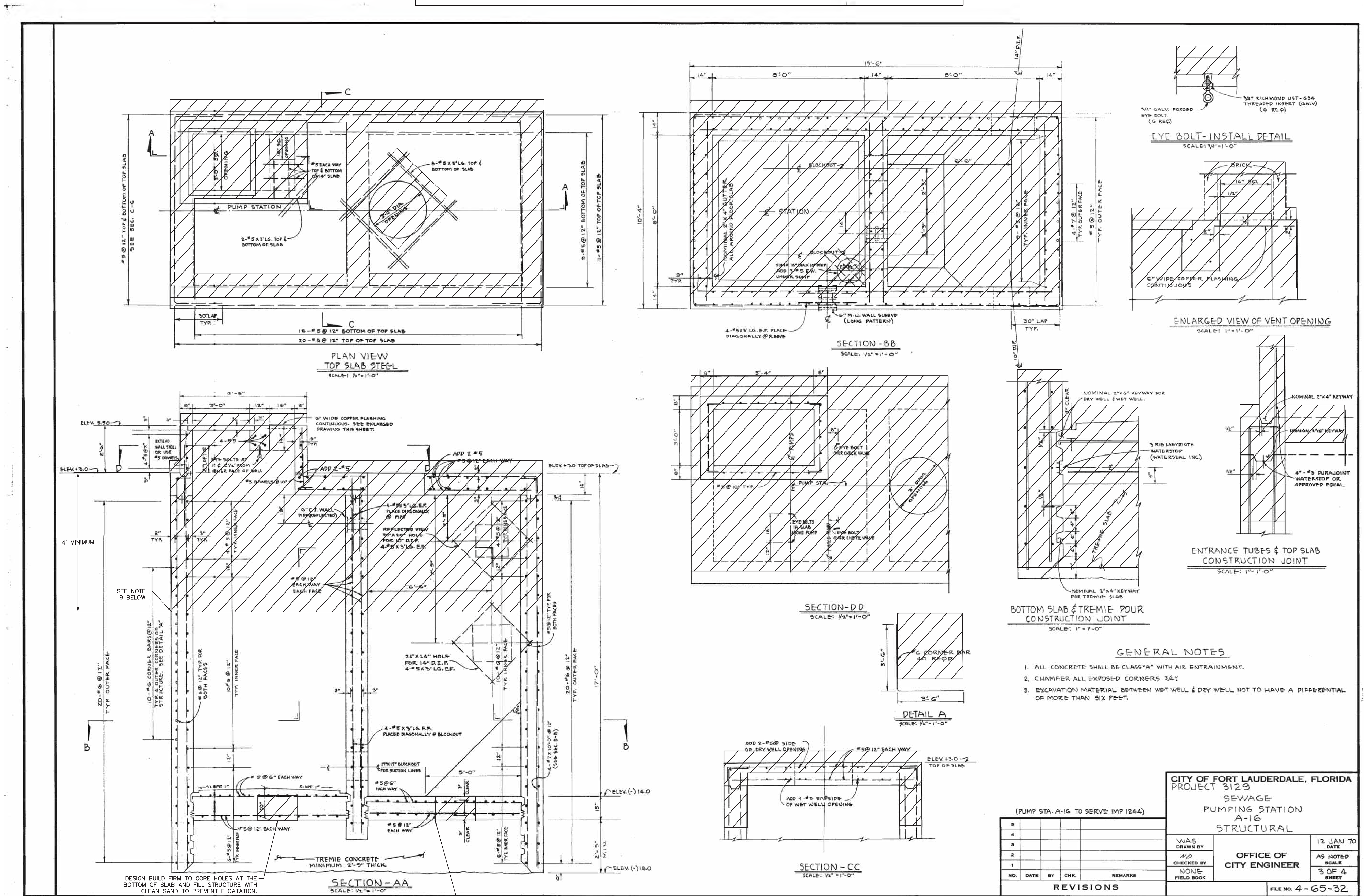
REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

SHEET NO. 2 OF 31
CAD FILE: 12412-MULTI-DEMO
DRAWING FILE NO. 4-142-31

EXISTING PUMP STATION A-16 TO BE DEMOLISHED



DESIGN BUILD FIRM TO CORE HOLES AT THE BOTTOM OF SLAB AND FILL STRUCTURE WITH CLEAN SAND TO PREVENT FLOATATION.

LEGEND:

(hatched) TO BE DECOMMISSIONED/DEMOLISHED

NOTES:
1. THIS PREVIOUS DESIGN PLAN IS INCLUDED FOR INFORMATIONAL PURPOSES. ALL EQUIPMENT IS NOT INSTALLED EXACTLY AS SHOWN. PLANS NOT TO SCALE.
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3. FLOOD ZONE: AH.
4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988.
5. THE ITEMS DEPICTED FOR DEMOLITION ARE GENERAL ONLY. ALL ANCILLARY STRUCTURES, PIPING AND OTHER ASSOCIATED EQUIPMENT ARE TO BE INCLUDED IN THE DEMOLITION WORK.
6. AFTER DEMOLITION, ALL DEBRIS IS TO BE REMOVED AND LEGALLY DISPOSED BY THE DESIGN BUILD FIRM IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
7. AFTER DISPOSAL OF MATERIAL, THE DESIGN BUILD FIRM SHALL RE-GRADE THE AREA TO MATCH SURROUNDING GRADE AND DRAINAGE PATTERNS. DESIGN BUILD FIRM TO OBTAIN REQUIRED FILL NEEDED TO LEVEL AREAS WHERE STRUCTURES PREVIOUSLY EXISTED.
8. DESIGN BUILD FIRM SHALL BACKFILL, COMPACT AND RESTORE SURFACE CONDITIONS AT ALL AREAS OF PIPE/STRUCTURE DEMOLITION AND REMOVAL. COMPACT TO 98% ASTM D-1557, IN 12" LIFTS.
9. DESIGN BUILD FIRM SHALL REMOVE ALL PIPING, VALVES, AND APPURTENANCES FROM STRUCTURES TO FIRST BEND BELOW GRADE OR MINIMUM OF 4 FEET BELOW GRADE WITHIN 50 FEET OF THE LOCATION. ALL PIPING TO BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. DESIGN BUILD FIRM TO VERIFY WITH CITY THAT ANY SYSTEM TO BE REMOVED IS OUT OF SERVICE BEFORE DEMOLITION.

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DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
DEMOLITION PLAN

NO.	DATE	BY	CHK'D	DESCRIPTION

REVISIONS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: AL	DATE: MAR 2021
DESIGNED BY: GR	SCALE: AS NOTED
CHECKED BY: GR	
FIELD BOOK:	

ENGINEER:
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DATE: 9/28/2021
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FAX:

SHEET NO. 3 OF 31

CAD FILE: 12412-MULTI-DEMO

DRAWING FILE NO. 4-142-31

DEMOLITION NOTES:

GENERAL DEMOLITION SPECIFICATIONS:

1. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY.
2. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND OTHER FEATURES AFFECTING THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT MIGHT IMPACT THE WORK.
3. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING.
4. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE EXCAVATION.
5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, SUPERVISION, AND EQUIPMENT REQUIRED FOR THE ORDERLY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, PAVEMENT AND UTILITIES AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN.
6. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF WITH THE STRUCTURES TO BE DEMOLISHED.
7. THE FOLLOWING LIST OF STRUCTURES REQUIRING DEMOLITION IS INCLUDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE DRAWINGS INDICATE THE SCOPE OF DEMOLITION WHERE DEMOLITION IS REQUIRED.
   - 7.1. DEMOLITION AND REMOVAL OF A 5' MIN.± STRIP OF EXISTING ON-SITE ASPHALT, CONCRETE AND CURBING AROUND THE PERIMETER OF THE EXISTING STRUCTURES AND UTILITIES BEING DEMOLISHED.
   - 7.2. REMOVAL OF EXISTING ON-SITE ABOVEGROUND AND UNDERGROUND UTILITIES, INCLUDING REMOVAL OR PLUGGING OF EXISTING UTILITIES AS SHOWN ON PLANS.
8. PRIOR TO REMOVAL OF ANY UNDERGROUND TANK AND OTHER COMPONENT, CONTRACTOR MUST COMPLETELY DRAIN THE SYSTEMS TO AN APPROVED SANITATION TANK FOR DISPOSAL TO AN APPROVED LOCATION, AS REQUIRED BY DISPOSAL PERMIT.
9. PROTECT ALL UTILITIES, UNLESS OTHERWISE NOTED.
10. ALL THE CONCRETE AND PAVEMENT TO BE REMOVED MUST BE SAW CUT CLEAN PRIOR TO REMOVAL.
11. WET DOWN MASONRY WALLS AND DEBRIS DURING DEMOLITION AND LOADING OPERATIONS TO PREVENT THE SPREAD OF DUST (AS APPLICABLE TO PROJECT).
12. ALL EXISTING STRUCTURES, PAVEMENTS, SLABS, FOUNDATIONS, STEPS AND OTHER ON-SITE EXISTING FEATURES INDICATED ON THE DRAWINGS TO BE REMOVED SHALL BE DEMOLISHED AND REMOVED BY THE CONTRACTOR (AS APPLICABLE TO PROJECT).

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 1 | GNRL 009 2017/07/13

13. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ON THE DRAWINGS ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
14. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY ELECTRICAL, TELEPHONE, CABLE AND/OR GAS LINES. SUFFICIENT TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
15. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER/ENGINEER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINANT IS ENCOUNTERED DURING THE DEMOLITION/EXCAVATION PROCESS.
16. FILL FOR LOWER LEVELS OF DEMOLISHED STRUCTURES MAY INCLUDE CONCRETE OR MASONRY RUBBLE RESULTING FROM DEMOLITION, SUBJECT TO THE ENGINEER'S/ARCHITECT'S APPROVAL. RUBBLE SHALL PASS THROUGH A THREE-INCH RING.
17. REMOVE AND LEGALLY DISPOSE OF ALL OTHER RUBBISH, RUBBLE, AND DEBRIS. COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING DISPOSAL OF WASTES AND DEBRIS.
18. MAINTAIN ACCESS TO SURROUNDING PROPERTIES AND BUILDINGS.
19. PRIOR TO DEMOLITION OCCURRING ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
20. ALL TRAFFIC SIGNS OUTSIDE THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.
21. ANY MUCK ENCOUNTERED UNDER PROPOSED STRUCTURES SHALL BE REMOVED TO FIVE-FEET BEYOND THE FOOTPRINT OF THAT STRUCTURE. BACKFILL WITH APPROVED FILL MATERIAL SATISFYING ALL COMPACTION REQUIREMENTS.
22. ALL EXISTING UTILITIES WITHIN THE DEMOLITION SITE AREA SHALL BE ADJUSTED, REMOVED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. WORK SHALL BE COORDINATED BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
23. ALL TRASH, DEBRIS AND OTHER MATERIAL REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 2 | GNRL 009 2017/07/13

PRE-DEMOLITION RESPONSIBILITIES:

1. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRE-DEMOLITION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE OWNER, THE ENGINEER AND THE CONTRACTOR.
2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK.
3. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE FOR THE OWNER A LISTING OF THE FACILITIES THE CONTRACTOR SHALL UTILIZE FOR RECYCLING AND DISPOSAL OF SPECIFIC MATERIALS. CONTRACTOR TO INDICATE THE MATERIALS INTENDED FOR RECYCLING AND THE MATERIALS INTENDED FOR DISPOSAL FOR OWNER'S APPROVAL.
4. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE THE OWNER SKETCHES SHOWING PROPOSED HAULING ROUTES TO RECYCLING AND DISPOSAL FACILITIES FOR APPROVAL.
5. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF DEMOLITION.
6. EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. THE CITY AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITIES SHOWN OR FOR ANY EXISTING UTILITIES NOT SHOWN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH IT FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
8. THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY.
9. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL FIELD LOCATE EXISTING UNDERGROUND UTILITIES WITH THE UTILITY OWNERS.
10. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATION'S OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY MANNER TO MINIMIZE IMPACT ON DEMOLITION SCHEDULE. ANY DELAY CAUSED BY THE CONTRACTOR BY THE RELOCATION OF UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
11. SUNSHINE STATE ONE CALL OF FLORIDA, INC. REQUIRES THE CONTRACTOR TO CALL TWO (2) FULL BUSINESS DAYS (BUT NOT MORE THAN FIVE) PRIOR TO BREAKING GROUND TO FIND OUT WHERE BURIED FACILITIES (ELECTRICAL, GAS, TELEPHONE, CABLE, WATER) ARE LOCATED.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 3 | GNRL 009 2017/07/13

DEMOLITION SAFETY:

1. ALL DEMOLITION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
2. PROVIDE ADEQUATE PROTECTION FOR PERSONS AND PROPERTY AT ALL TIMES. EXECUTE THE WORK IN A MANNER TO AVOID HAZARDS TO PERSONS AND PROPERTY AND PREVENT INTERFERENCE WITH THE USE OF AND ACCESS TO ADJACENT BUILDINGS. STREETS AND SIDEWALKS SHALL NOT BE UNNECESSARILY BLOCKED BY DEBRIS AND EQUIPMENT.
3. BUILDING MATERIALS TO BE REMOVED SHALL BE TESTED FOR ASBESTOS AND LEAD PAINT.
4. IF PETROLEUM PRODUCTS ARE FOUND WHILE DEMOLISHING, DISPOSE OF PETROLEUM WASTE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

PAVEMENT DEMOLITION:

1. WHERE EXISTING PAVEMENT IS TO BE REMOVED, SAW-CUT THE SURFACING LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IF DEMOLITION RESULTS IN RAVELING OF SAW CUT SURFACE, RECUT BACK FROM THE RAVELED EDGE PRIOR TO RESTORATION.
2. WHERE EXISTING PAVEMENT, CURB, CURB AND GUTTER, SIDEWALK, DRIVEWAY, OR VALLEY GUTTER IS REMOVED FOR INLETS, MANHOLES, APPURTENANCES, FACILITIES OR STRUCTURES, SAID PAVEMENT, ETC., SHALL BE REPLACED WITH NEW PAVEMENT, ETC. CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, TOOLS, SUPPLIES, AND OTHER EQUIPMENT AS REQUIRED.
3. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THE DRAWINGS. HOWEVER, IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, SIDEWALK, BUILDINGS, UTILITIES, ETC., THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPLACEMENT. REPLACEMENT PAVEMENT, SIDEWALK, ETC., SHALL BE NEW.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 4 | GNRL 009 2017/07/13

DEMOLITION PERMITTING:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY REQUIRED PERMITS FOR DEMOLITION FROM RESPONSIBLE REGULATORY AGENCIES WHILE FULLY ACKNOWLEDGING AND COMPLYING WITH ALL REQUIREMENTS PRIOR TO COMMENCING DEMOLITION WORK.
2. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE EXTENT OF DEMOLITION, RECYCLING OR REUSE REQUIRED TO PERFORM THE CONTRACT WORK FOR THIS PROJECT. THE CONTRACTOR SHALL CONDUCT SITE VISITS AND SHALL EXAMINE ALL THE INFORMATION WITHIN THESE DOCUMENTS. ALL DISCREPANCIES AND/OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID SUBMITTAL.
3. THE CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO COMMENCEMENT OF ANY WORK. ACTUAL REMOVAL AND/OR RELOCATION OF ALL EXISTING LANDSCAPING WITHIN DEMOLITION AREAS TO BE CONDUCTED BY A LANDSCAPE CONTRACTOR. IT IS THE RESPONSBILITY OF THE SITEWORK DEMOLITION CONTRACTOR TO COORDINATE DEMOLITION ACTIVITIES WITH THE LANDSCAPE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND PRESERVING TREES AS INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TREE REMOVAL PERMIT OR ANY OTHER APPLICABLE PERMIT TO REMOVE, RELOCATE OR PRESERVE EXISTING LANDSCAPE AND TREES.
4. ANY TREES FOR REMOVAL FOUND TO BE GREATER THAN OR EQUAL TO THREE (3) INCHES IN DIAMETER AT BREAST HEIGHT (DBH) SHALL REQUIRE A PERMIT WITH THE BROWARD COUNTY ENVIRONMENTAL PROTECTION AND GROWTH MANAGEMENT DEPARTMENT (BCEPGMD).
5. SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE THE LIGHTING, STORM INLET STRUCTURES, OR OTHER STRUCTURES DESIGNATED TO BE SAVED, THEN THE CONTRACTOR SHALL PROVIDE NEW MATERIALS/STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 5 | GNRL 009 2017/07/13

DEMOLITION EROSION AND SEDIMENT CONTROL NOTES:

1. THE SCHEDULING, SEQUENCING AND CONTROL MEASURES, WHICH ARE OUTLINED HEREIN, ARE SUBJECT TO THE FINAL DEFINITION BY THE CONTRACTOR WHO SHALL BE SELECTED TO PERFORM THE WORK AND SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE.
2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK. THE CONTRACTOR SHALL ALSO BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN ENCOMPASSING THE PRINCIPALS AND THE REQUIREMENTS DESCRIBED HEREIN AND A SCHEDULE FOR THEIR IMPLEMENTATION AND MAINTENANCE FOR THE PROJECT DURATION.
3. DURING DEMOLITION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO ENSURE AGAINST POLLUTING, SILTATION OR DISTURBANCE TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEMS AND ADJACENT WATER BODIES AND WETLANDS, IN COMPLIANCE WITH ALL PERMIT REQUIREMENTS RELATED TO SUCH MEASURES.
4. METHODS MAY INCLUDE TEMPORARY EROSION AND SEDIMENT CONTROLS SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, SILT BARRIERS, SILT SCREENS, TURBIDITY BARRIERS OR THE BEST MANAGEMENT PRACTICES AVAILABLE TO THE INDUSTRY.
5. EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION PERIOD AND UNTIL NEW VEGETATIVE GROWTH HAS BEEN ESTABLISHED.
6. THROUGHOUT THE DEMOLITION PERIOD, THE CONTRACTOR SHALL INSPECT DAILY THE EROSION AND SEDIMENT CONTROL INSTALLATIONS FOR FAILURE OR SIGNS OF FAILURE OR MALFUNCTION. REPAIR OR REPLACE THE EROSION AND SEDIMENT CONTROL INSTALLATIONS IMMEDIATELY UPON DISCOVERY OF FAILURE OR MALFUNCTION.
7. INLETS AND CATCH BASINS, EXISTING ON-SITE AND OFF-SITE, SHALL BE PROTECTED FROM SEDIMENT STORM RUNOFF.
8. THE CONTRACTOR SHALL PROMPTLY REMOVE ALL MUD, DIRT OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES DUE TO DEMOLITION.
9. DEWATERING ACTIVITIES SHALL NOT RESULT IN ANY DISCHARGE OF TURBID WATER FROM THE PROJECT SITE WITHOUT PROPER EROSION AND SEDIMENT CONTROL AND APPROVAL FROM ENGINEER.
10. PHASING OF EROSION CONTROL DEMOLITION SHALL BE RECOMMENDED AS FOLLOWS:
    - 10.1. PLACEMENT OF PERIMETER PROTECTIVE MEASURES (SILT FENCE, HAY BALES, TURBIDITY BARRIERS, ETC.) AROUND ON-SITE FEATURES TO BE RETAINED, AT POINTS OF OFF-SITE DISCHARGE AND AROUND WORK AREAS TO BE EXCAVATED OR FILLED.
    - 10.2. REROUTE RUNOFF FROM AREAS OUTSIDE OF THE DEMOLITION AREA TO MINIMIZE FLOW THROUGH AREAS TO BE DISTURBED BY DEMOLITION. BERMS, SWALES AND OTHER MEANS USED FOR SUCH CONVEYANCE SHALL BE VEGETATED AND MEASURES TAKEN TO PROVIDE PROTECTION UNTIL STABILIZATION OCCURS (AS APPLICABLE TO THE PROJECT).

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 6 | GNRL 009 2017/07/13

- 10.3. SELECT LOCATIONS FOR PLACEMENT OF EXCAVATED MATERIAL, WHERE SUITABLE FOR FILL OR UNSUITABLE MATERIAL, AND CONSTRUCT CONTAINMENT BERMS AROUND THE AREA. THE USE OF STRIPING FOR THIS PURPOSE MAY ACCELERATE BERM REVEGETATION. CONSTRUCT TEMPORARY OUTLETS FOR CONTAINMENT AREAS WITH SCREENS, HAY BALES, SETTLING BASINS OR OTHER MEASURES TO PREVENT SILT TRANSPORT.
- 10.4. SELECT / DESIGNATE ACCESS ROUTING FOR DEMOLITION EQUIPMENT AND VEHICLES AND PROVIDE PERIMETER PROTECTIVE MEASURES WHERE EXISTING TERRAIN SHALL BE SUBJECT TO DISRUPTION BY SUCH TRAFFIC.
- 10.5. CONSTRUCT ABOVE GROUND OR OTHER CONTAINMENT AREAS FOR DEMOLITION AREA RUNOFF. PROVIDE SCREENS, HAY BALES, ETC. TO FILTER DISCHARGE FROM THOSE AREAS.
- 10.6. SPOIL MOUNDS SHALL NOT BE LEFT FOR MORE THAN ONE WEEK PRIOR TO REPLACEMENT UNLESS PROTECTIVE CONTAINMENT MEASURES IN THE WORK AREA ARE APPLIED.
- 10.7. GRASSING, SODDING, ETC. SHALL BE IN PLACE IMMEDIATELY UPON COMPLETION OF REGRADING, SWALE SLOPES AND THE CONSTRUCTED OR DISTURBED AREAS.

11. THE CONTRACTOR IS REQUIRED TO ADHERE TO THE REQUIREMENT 0F THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES). THE CONTRACTOR SHALL INSTITUTE BEST MANAGEMENT PRACTICES (BMPS) TO ENSURE COMPLIANCE WITH THE NPDES PROGRAM AND TO MINIMIZE THE IMPACT TO PUBLIC STORMWATER FACILITIES. A NOTICE OF INTENT (NOI) SHALL BE FILED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
12. THE CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN ALL RECORDS REQUIRED BY ITS NPDES STORMWATER PERMIT FOR ITS CONSTRUCTION ACTIVITIES.
13. PRIOR TO CONSTRUCTION, A SILT FENCE IN ACCORDANCE WITH CITY'S DETAIL SHALL BE ERECTED AS NOTED ON PLANS. ALL PROPOSED CATCH BASINS SHALL HAVE THEIR INLETS PROTECTED BY THE INSTALLATION OF FILTER INLET INSERTS INTO THE FRAME AND GRATE. SILT FENCES AND FILTER INLET INSERTS SHALL REMAIN IN PLACE DURING THE ENTIRE DURATION OF CONSTRUCTION.
14. CONTRACTOR SHALL BRACE ALL EXISTING LANDSCAPING TO REMAIN PRIOR TO BEGINNING ANY WORK AND SHALL ENSURE ITS STABILIZATION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EXISTING SOD DISTURBED BY CONSTRUCTION THAT IS NOT AFFECTED BY PROPOSED GRADING SHALL BE RESTORED TO NEW CONDITION UPON COMPLETION OF CONSTRUCTION. SODDED SLOPES STEEPER THAN FOUR HORIZONTAL TO ONE VERTICAL SHALL BE PEGGED.
15. ALL WASTE GENERATED FROM THE CONSTRUCTION SHALL BE DISCARDED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. CONTRACTOR SHALL OBTAIN ALL APPLICABLE CODES AND BECOME FAMILIAR WITH STATE, LOCAL AND FEDERAL REGULATIONS PRIOR TO BEGINNING CONSTRUCTION.
16. TO ENSURE THAT OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST IS MINIMIZED, CONTRACTOR SHALL PUT INTO PRACTICE THE METHODS DETAILED IN FLORIDA DEPARTMENT OF TRANSPORTATION INDEX 106 (2010 DESIGN STANDARDS) AND BMPS.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 7 | GNRL 009 2017/07/13

17. DUST GENERATED FROM CONSTRUCTION SHALL BE MINIMIZED BY DAILY WATERING OF THE SITE.
18. AT ANY TIME DURING CONSTRUCTION THAT THE SILT FENCING IS DISTURBED, THE SILT FENCING SHALL BE RESTORED TO ITS ORIGINAL STATE WITHIN 24 HOURS. AT NO TIME DURING CONSTRUCTION SHALL WORK BE PERFORMED WITHOUT THE INTEGRITY OF THE SILT FENCING SECURED.
19. A QUALIFIED INSPECTOR, PROVIDED BY THE CONTRACTOR, SHALL INSPECT ALL POINTS OF DISCHARGE INTO NEARBY SURFACE WATER. THE INSPECTION SHALL OCCUR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. INSPECTION INCLUDES THE WRITTEN RECORDING OF THE CONDITION OF ALL DISCHARGE POINTS, INTEGRITY OF SILT FENCING, DAILY DUST CONTROL MEASURES, VEHICULAR TRAFFIC AND CONSTRUCTION MATERIAL STORAGE AND DISPOSAL. WRITTEN RECORD OF ALL INSPECTIONS SHALL BE STORED BY THE CONTRACTOR.
20. THE INSPECTION REPORT SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING INFORMATION: NAME AND QUALIFICATION OF PERSONNEL MAKING THE INSPECTION, DATE OF INSPECTION, RAINFALL DATE, MAJOR OBSERVATIONS RELATING TO THE SWPPP, ACTIONS TAKEN BY CONTRACTOR AND ANY INCIDENT OF NONCOMPLIANCE WITH PERMIT. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENT OF NONCOMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE SWPPP AND THE PERMIT.
21. THE CONTRACTOR SHALL RETAIN A COPY OF THE SWPPP AND ALL REPORTS, RECORDS AND DOCUMENTATION REQUIRED BY THE PERMIT AT THE CONSTRUCTION SITE, OR AN APPROPRIATE ALTERNATIVE LOCATION AS SPECIFIED IN THE NOTICE OF INTENT, FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.
22. THE CONTRACTOR SHALL RETAIN THE SWPPP, NOI AND ALL RECORDS ASSOCIATED THEREWITH FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED.
23. SEE LANDSCAPE PLANS FOR TREE REMOVAL AND LANDSCAPE DEMOLITION.
24. CONTRACTOR SHALL COORDINATE THROUGH CITY'S CONSTRUCTION DIVISION AND CITY'S PARKS DEPARTMENT ON HOW TO STOCK AND RE-USE EXCAVATED SOIL FROM SITE (AS APPLICABLE TO THE PROJECT).

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 8 | GNRL 009 2017/07/13

INTERRUPTION OF EXISTING UTILITIES:

1. ANY DEMOLITION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF SEVENTY-TWO (72) HOUR WRITTEN NOTICE TO, AND WRITTEN APPROVAL BY, THE APPROPRIATE UTILITY COMPANY.
2. THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE LOCAL JURISDICTIONAL AGENCIES AND OTHER GOVERNING AGENCIES, AND OTHER AFFECTED UTILITIES PRIOR TO SCHEDULING THE SHUT DOWN TO ASSESS THE SCOPE OF WORK.
3. ALL SYSTEM SHUT DOWNS SHALL BE SCHEDULED BY THE CONTRACTOR AT SUCH TIME THAT SYSTEM DEMAND IS LOW. THIS GENERALLY REQUIRES NIGHT TIME WORK BY THE CONTRACTOR AND REQUIRES FULL-TIME INSPECTION BY A REPRESENTATIVE OF THE UTILITY. ALL COST FOR OVERTIME WORK BY THE REPRESENTATIVE OF THE UTILITY SHALL BE BORNE BY THE CONTRACTOR.
4. EACH CUSTOMER AFFECTED BY THE SHUT-DOWN SHALL BE PROVIDED, MINIMUM, FORTY-EIGHT (48) HOURS WRITTEN NOTIFICATION BY THE CONTRACTOR.

TEMPORARY DEMOLITION FACILITIES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO ITS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING DEMOLITION.
2. MAINTENANCE OF TRAFFIC (MOT) IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
3. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
4. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS WRITTEN PERMISSION OF THE CITY OR RESPECTIVE GOVERNING AGENCY.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 9 | GNRL 009 2017/07/13

WASTE MANAGEMENT PLAN:

1. IMPLEMENT A WASTE MANAGEMENT PLAN FOR APPROVAL BY THE OWNER. PROVIDE HANDLING, CONTAINERS, STORAGE, SIGNAGE, TRANSPORTATION AND OTHER ITEMS AS NEEDED TO IMPLEMENT THE WASTE MANAGEMENT PLAN DURING THE ENTIRE DURATION OF THE CONTRACT.
2. DESIGNATE A WASTE MANAGEMENT COORDINATOR TO BE RESPONSIBLE FOR IMPLEMENTING, MONITORING AND REPORTING STATUS OF WASTE MANAGEMENT WORK PLAN. COORDINATOR SHALL BE PRESENT AT PROJECT SITE FULL-TIME FOR DURATION OF PROJECT.
3. TRAIN WORKERS, SUBCONTRACTORS AND SUPPLIERS ON PROPER WASTE MANAGEMENT PROCEDURES, AS APPROPRIATE FOR THE WORK AT THE PROJECT SITE.
4. DISTRIBUTE A WASTE MANAGEMENT PLAN BEFORE WORK BEGINS. REVIEW PLAN PROCEDURES AND LOCATION ESTABLISHED FOR SALVAGE, RECYCLING AND DISPOSAL.

RECYCLING DEMOLITION WASTE:

1. SEPARATE RECYCLABLE WASTE FROM OTHER WASTE MATERIALS, TRASH AND DEBRIS. SEPARATE RECYCLABLE WASTE BY TYPE AT THE PROJECT SITE TO THE MAXIMUM EXTENT PRACTICAL.
2. PROVIDE APPROPRIATELY MARKED CONTAINERS OR BINS FOR CONTROLLING RECYCLABLE WASTE UNTIL THEY ARE REMOVED FROM THE PROJECT SITE. INCLUDE A LIST OF ACCEPTABLE AND UNACCEPTABLE MATERIALS AT EACH CONTAINER AND BIN.
3. INSPECT CONTAINERS AND BINS FOR CONTAMINATION AND REMOVE CONTAMINATED MATERIALS IF FOUND.
4. STOCKPILE PROCESSED MATERIALS ON-SITE WITHOUT INTERMIXING WITH OTHER MATERIALS. PLACE, GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
5. STOCKPILE MATERIALS AWAY FROM DEMOLITION AREA. DO NOT STORE WITHIN DRIP LINE OF REMAINING TREES.
6. STORE COMPONENTS OFF THE GROUND AND PROTECT FROM THE WEATHER.
7. REMOVE RECYCLABLE WASTE OFF THE OWNER'S PROPERTY AND TRANSPORT TO RECYCLING RECEIVER OR PROCESSOR.
8. ASPHALTIC CONCRETE PAVING: BREAK UP AND TRANSPORT PAVING TO ASPHALT RECYCLING FACILITY.
9. CONCRETE: REMOVE REINFORCEMENT AND OTHER METALS FROM CONCRETE AND SORT WITH OTHER METALS.
10. MASONRY: MASONRY WASTE SHALL INCLUDE WHOLE OR BROKEN BRICK AND CONCRETE MASONRY UNITS. WHOLE MASONRY UNITS SHALL BE CLEANED AND REUSED OR DONATED. BROKEN MASONRY SHALL BE CRUSHED AND USED AS FILL FOR OFFSITE AREAS. REMOVE METAL REINFORCEMENT, ANCHORS AND TIES FROM MASONRY AND SORT WITH OTHER METALS.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 10 | GNRL 009 2017/07/13

11. METALS: METALS FROM REINFORCED CONCRETE, REINFORCED MASONRY, STRUCTURAL STEEL MEMBERS, FLASHING AND SHEET METAL, CONDUIT PIPE, SIDING, PIPING AND WIRING SHALL BE SEPARATED BY TYPE.
12. STRUCTURAL STEEL: STACK MEMBERS ACCORDING TO THEIR SIZE, TYPE AND LENGTH.
13. NUTS AND BOLTS: REMOVE BOLTS, NUTS, WASHERS AND OTHER ROUGH HARDWARE.
14. SITE-CLEARING WASTE SHALL BE RECYCLED BY CHIPPING BRUSH, BRANCHES AND TREES, THEN HAUL TO WOOD RECYCLING CENTER.

DISPOSAL OF WASTE:

1. GENERAL: EXCEPT FOR ITEMS OR MATERIALS TO BE SALVAGED, RECYCLED OR OTHERWISE REUSED, REMOVE WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN A LANDFILL OR OTHER PERMITTED DISPOSAL FACILITY.
2. EXCEPT AS OTHERWISE SPECIFIED, DO NOT ALLOW WASTE MATERIALS THAT ARE TO BE DISPOSED OF TO ACCUMULATE ON-SITE.
3. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT SHALL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
4. BURNING: DO NOT BURN WASTE MATERIALS.
5. DISPOSAL: TRANSPORT WASTE MATERIALS OFF THE OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DEMOLITION NOTES SHEET 11 | GNRL 009 2017/07/17

MINIMUM DENSITY REQUIREMENTS

LOCATION	MATERIAL	MINIMUM DENSITY (% OF MAX)	TESTING FREQUENCY
ROADS (INCLUDES SIDEWALKS, ASPHALT PATHS)	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF ROADWAY, SIDEWALK OR PATHWAY.
	SUBGRADE	98%	
	BASE	98%	
MANHOLES AND VAULTS (IN ROADS AND PARKING AREAS)	IN-PLACE SUBGRADE BENEATH STRUCTURES	95%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE BOTTOM OF THE STRUCTURE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: PERFORM TESTING AT EACH STRUCTURE.
	BACKFILL BENEATH STRUCTURES	98%	
	BACKFILL AROUND STRUCTURES	98%	
	CRUSHED STONE BENEATH STRUCTURES	NOTE 6	
PARKING AREAS	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED EVERY 6,000 SQUARE FEET OF PARKING AREA.
	SUBGRADE	98%	
	BASE	98%	
UTILITY TRENCH BACKFILL	BEDDING AND BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE SPRING LINE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF A PIPE INSTALLATION, AND BETWEEN EACH SET OF STRUCTURES SEPARATED BY LESS THAN 300 FEET.
ROADS AND PARKING	ASPHALT	94%	ASPHALT TESTING MAY BE DONE BY CORE SAMPLING OR NUCLEAR GAUGE DENSITY TESTING. ASPHALT TESTING SHALL BE AT MAXIMUM 300 LINEAR FOOT ALONG ROADWAYS AND 6,000 SQUARE FOOT INTERVALS FOR PARKING AREAS.

NOTES:

1. THE DENSITY REQUIREMENTS PRESENTED ASSUME DRY TRENCH CONDITIONS.
2. UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS, TESTING SHALL COMPLY WITH THE REQUIREMENTS PRESENTED IN THIS TABLE.
3. LIFT THICKNESSES FOR BASE, SUBGRADE AND BACKFILL SHALL BE AS INDICATED ON THE DETAILS OR DESCRIBED IN THE SPECIFICATIONS.
4. MAXIMUM DENSITY SHALL BE DETERMINED BY ASTM D 1557 OR AASHTO T180 (MODIFIED PROCTOR).
5. FIELD DENSITY TESTS SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 1556 OR D 2922.
6. THE AGGREGATE SHALL BE COMPACTED TO A DEGREE ACCEPTABLE TO THE ENGINEER BY USE OF A VIBRATORY COMPACTOR AND/OR CRAWLER TRACTOR.

CITY of FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DENSITY TESTING NOTES | GNRL 010 2017/07/13

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DESIGN CRITERIA PACKAGE

ENGINEER: GARY R. RATAY, P.E.
REG. No: 46682
DATE: 9/28/2021
TEL: (954) 535-5100
FAX:

DRAWN BY: AL	DATE: MAR 2021
DESIGNED BY: GR	SCALE: AS NOTED
CHECKED BY: GR	
FIELD BOOK:	

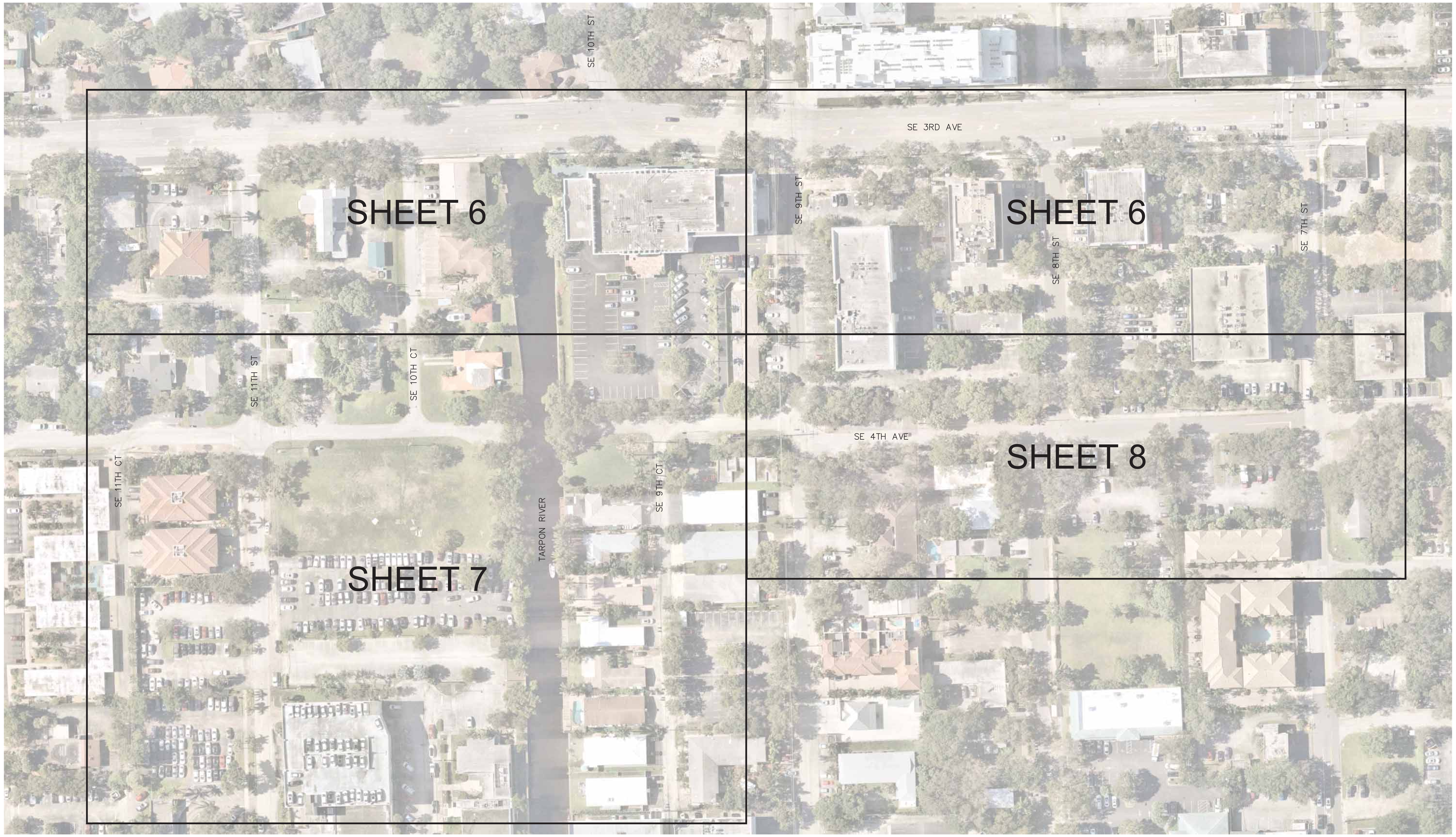
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
DEMOLITION NOTES

SHEET NO. 4 OF 31
CAD FILE: 12412-MULTI-DEMO
DRAWING FILE NO. 4-142-31



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DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
KEY MAP

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ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

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ENGINEER:
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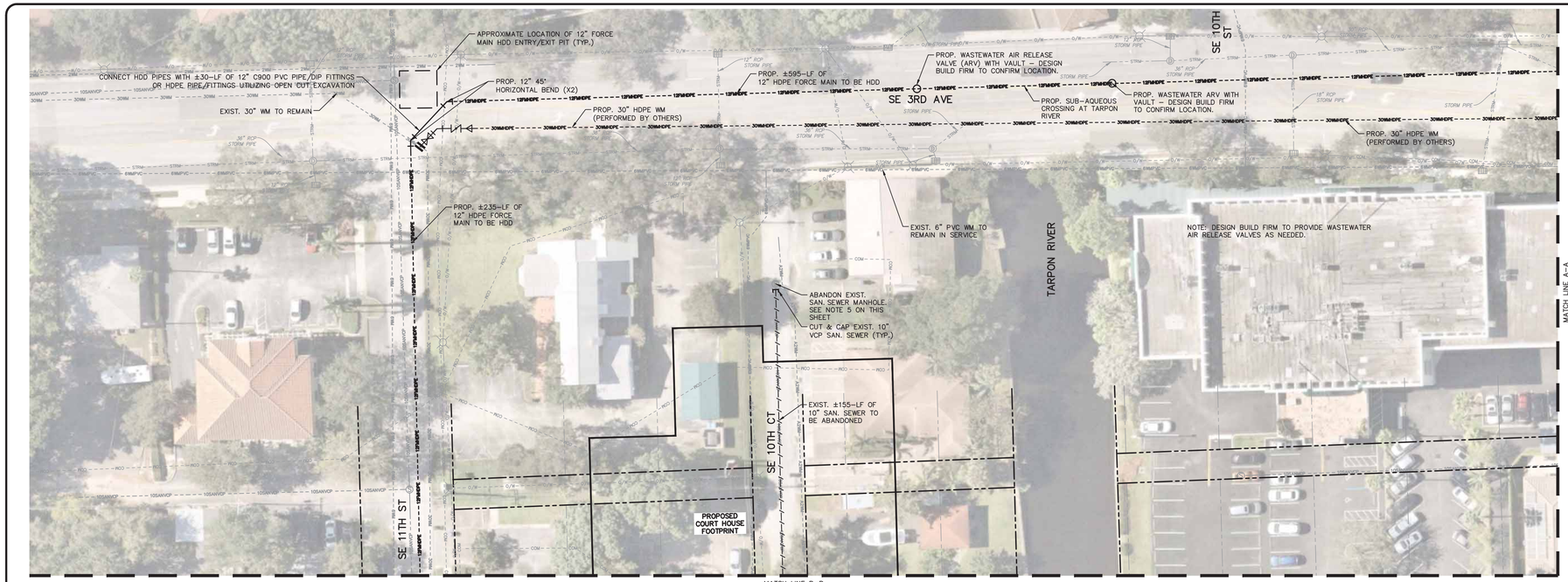
SHEET NO. 5 OF 31

CAD FILE: 12412-KEY-MAP

DRAWING FILE NO. 4-142-31



LEGEND

- PROPERTY LINE/ROW
- EXIST. 8" SANITARY SEWER
- EXIST. 8" VCP SANITARY SEWER
- EXIST. 10" VCP SANITARY SEWER
- EXIST. 15" VCP SANITARY SEWER
- EXIST. 18" VCP SANITARY SEWER
- EXIST. 10" CIP SANITARY SEWER
- ABANDONED 10" SANITARY SEWER
- EXIST. FORCE MAIN
- EXIST. 6" FORCE MAIN
- EXIST. WATER MAIN
- EXIST. 2" WATER MAIN
- EXIST. 4" WATER MAIN
- EXIST. 6" WATER MAIN
- EXIST. 6" PVC WATER MAIN
- EXIST. 12" DIP WATER MAIN
- EXIST. 30" WATER MAIN
- EXIST. 12" PVC WATER MAIN
- ABANDONED 6" WATER MAIN
- ABANDONED 2" WATER MAIN
- ABANDONED WATER MAIN
- EXIST. BCTED
- EXIST. OVERHEAD WIRE
- EXIST. COMMUNICATION LINE
- EXIST. UNKNOWN UTILITY
- EXIST. ABANDONED UTILITY
- EXIST. STORMWATER PIPE
- EXIST. STORMWATER STRUCTURE
- PROP. 12" HDPE FORCE MAIN
- EXIST. SANITARY SEWER MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. UTILITY CAP
- PROP. BENDS
- PROP. TAPPING SLEEVE AND VALVE
- PROP. WASTEWATER ARV WITH VAULT
- EXIST. PIPE TO BE ABANDONED, CUT & CAPPED, NO GROUT

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NOTE:
1. ELEVATIONS INDICATED HEREON ARE IN FEET AND DECIMALS, RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
2. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.
3. FLOOD ZONE: AH
4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988
5. ALL SANITARY MANHOLES TO BE FILLED WITH SAND AND ABANDONED IN PLACE.
6. DESIGN BUILD FIRM SHALL CONTACT CITY OPERATION STAFF ONE WEEK IN ADVANCE PRIOR TO WATER AND FORCE MAIN CONNECTIONS TO ENSURE ALL VALVES ARE WORKING. DESIGN BUILD FIRM TO ADVISE CITY OPERATION STAFF OF PROPOSED CONNECTION PROCEDURE.
7. DESIGN BUILD FIRM IS RESPONSIBLE FOR TREE REMOVAL PERMITS.
8. DESIGN BUILD FIRM IS RESPONSIBLE TO PROVIDE SURVEY/SKETCH AND LEGAL DRAWINGS AS NEEDED TO ASSIST THE CITY WITH OBTAINING ALL TEMPORARY AND/OR PERMANENT EASEMENTS FOR THE INSTALLATION OF ALL PUMP STATION AND UTILITY WORK NOT IN THE PUBLIC RIGHT-OF-WAY.

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ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

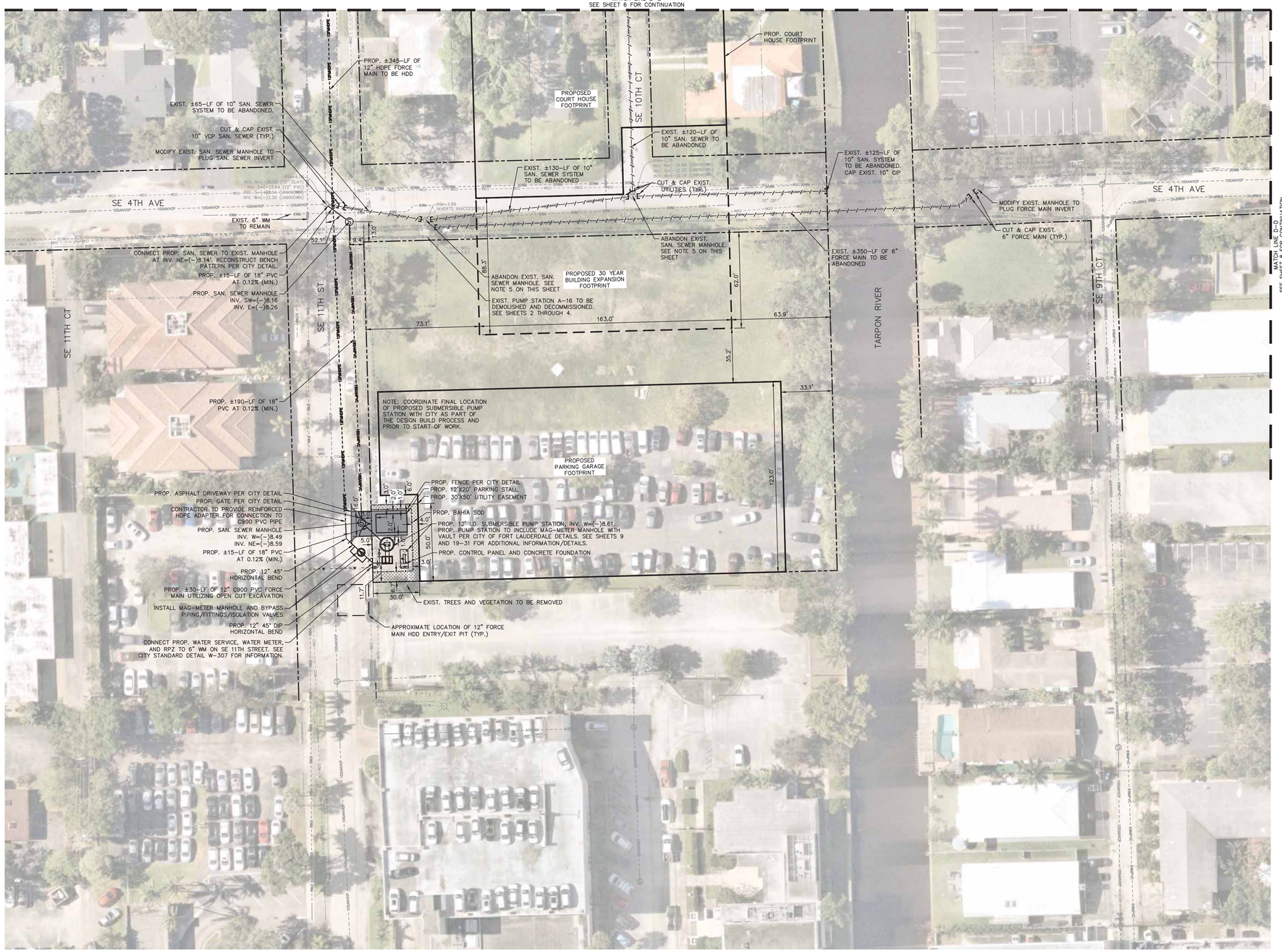
REVISIONS

NO	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONCEPTUAL UTILITY PLAN

SHEET NO. 6 OF 31

CAD FILE: 12412-MULTI-PLAN-ADD ALTERNATE
DRAWING FILE NO. 4-142-31



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4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988
5. ALL SANITARY MANHOLES TO BE FILLED WITH SAND AND ABANDONED IN PLACE.
6. DESIGN BUILD FIRM SHALL CONTACT CITY OPERATION STAFF ONE WEEK IN ADVANCE PRIOR TO WATER AND FORCE MAIN CONNECTIONS TO ENSURE ALL VALVES ARE WORKING. DESIGN BUILD FIRM TO ADVISE CITY OPERATION STAFF OF PROPOSED CONNECTION PROCEDURE.
7. DESIGN BUILD FIRM IS RESPONSIBLE FOR TREE REMOVAL PERMITS.
8. DESIGN BUILD FIRM IS RESPONSIBLE TO PROVIDE SURVEY/SKETCH AND LEGAL DRAWINGS AS NEEDED TO ASSIST THE CITY WITH OBTAINING ALL TEMPORARY AND/OR PERMANENT EASEMENTS FOR THE INSTALLATION OF ALL PUMP STATION AND UTILITY WORK NOT IN THE PUBLIC RIGHT-OF-WAY.

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Kimley»Horn

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DESIGN CRITERIA PACKAGE

ENGINEER: GARY R. RATAY, P.E.
REG. No.: 46682
DATE: 9/29/2021
TEL: (954) 535-5100
FAX:

DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

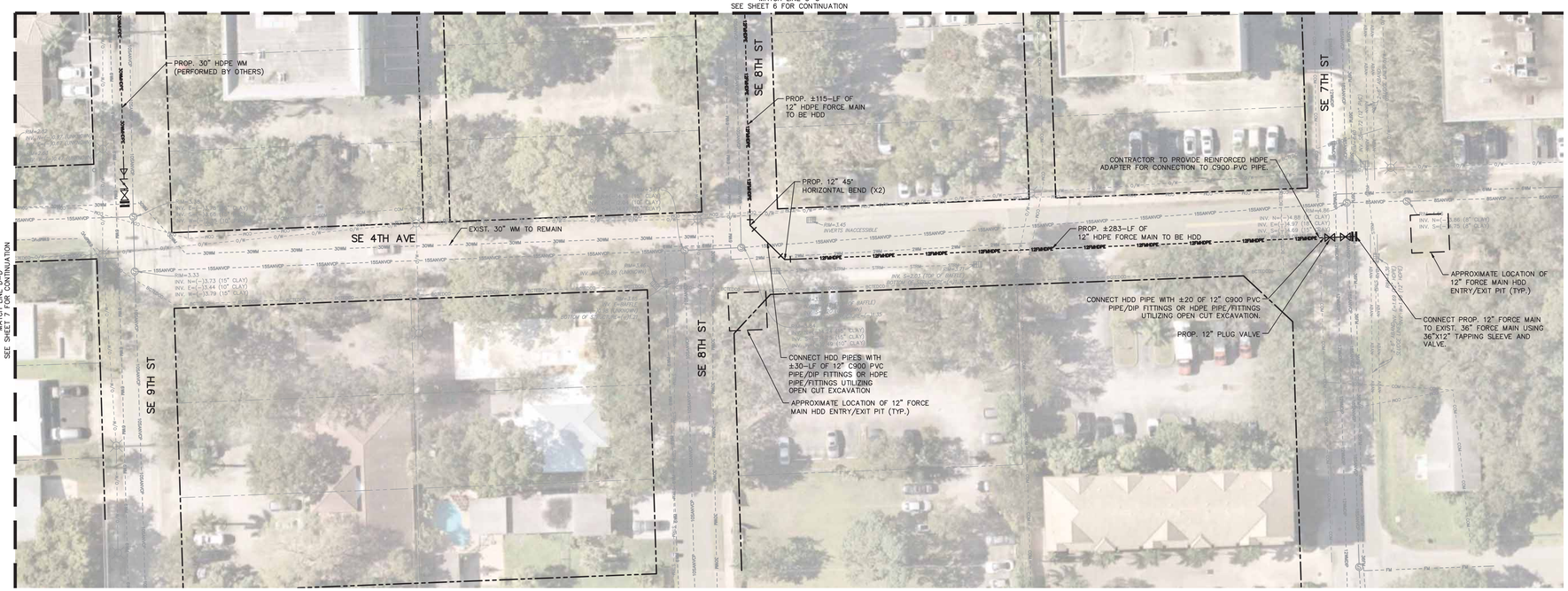
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONCEPTUAL UTILITY PLAN

SHEET NO. 7 OF 31
CAD FILE: 12412-MULTI-PLAN
DRAWING FILE NO. 4-142-31



LEGEND

- PROPERTY LINE/ROW
- EXIST. 8" SANITARY SEWER
- EXIST. 8" VCP SANITARY SEWER
- EXIST. 10" VCP SANITARY SEWER
- EXIST. 15" VCP SANITARY SEWER
- EXIST. 18" VCP SANITARY SEWER
- EXIST. 10" CIP SANITARY SEWER
- ABANDONED 10" SANITARY SEWER
- EXIST. FORCE MAIN
- EXIST. 6" FORCE MAIN
- EXIST. WATER MAIN
- EXIST. 2" WATER MAIN
- EXIST. 4" WATER MAIN
- EXIST. 6" WATER MAIN
- EXIST. 6" PVC WATER MAIN
- EXIST. 12" DIP WATER MAIN
- EXIST. 30" WATER MAIN
- EXIST. 12" PVC WATER MAIN
- ABANDONED 6" WATER MAIN
- ABANDONED 2" WATER MAIN
- ABANDONED WATER MAIN
- EXIST. BCTED
- EXIST. OVERHEAD WIRE
- EXIST. COMMUNICATION LINE
- EXIST. UNKNOWN UTILITY
- EXIST. ABANDONED UTILITY
- EXIST. STORMWATER PIPE
- EXIST. STORMWATER STRUCTURE
- PROP. 12" HDPE FORCE MAIN
- EXIST. SANITARY SEWER MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. UTILITY CAP
- PROP. BENDS
- PROP. TAPPING SLEEVE AND VALVE
- PROP. WASTEWATER ARV WITH VAULT
- EXIST. PIPE TO BE ABANDONED, CUT & CAPPED, NO GROUT

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NOTE:
1. ELEVATIONS INDICATED HEREON ARE IN FEET AND DECIMALS, RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
2. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.
3. FLOOD ZONE: AH
4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988
5. ALL SANITARY MANHOLES TO BE FILLED WITH SAND AND ABANDONED IN PLACE.
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DESIGNED BY: GR | SCALE: AS NOTED
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FIELD BOOK:

CITY OF FORT LAUDERDALE
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ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

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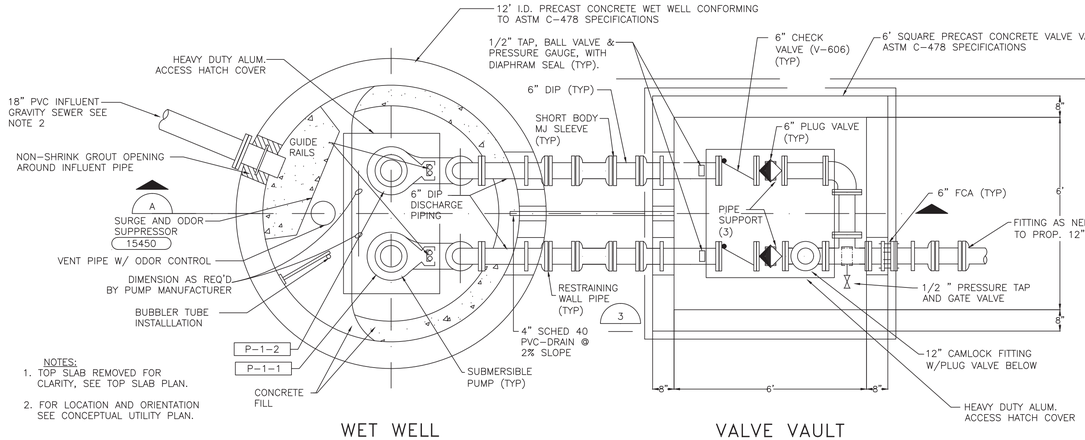
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE

CONCEPTUAL UTILITY PLAN

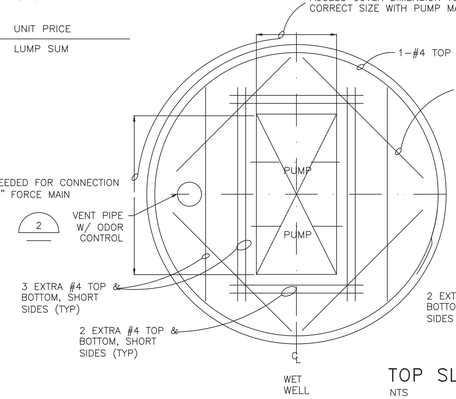
SHEET NO. 8 OF 31

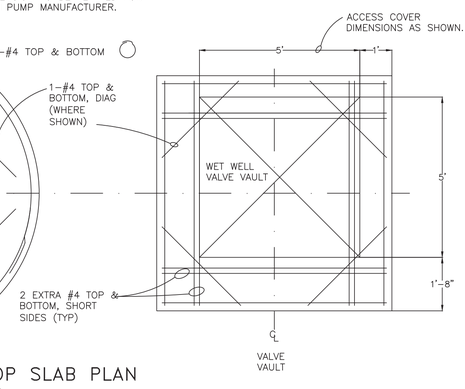
CAD FILE: 12412-MULTI-PLAN-ADD ALTERNATE

DRAWING FILE NO. 4-142-31

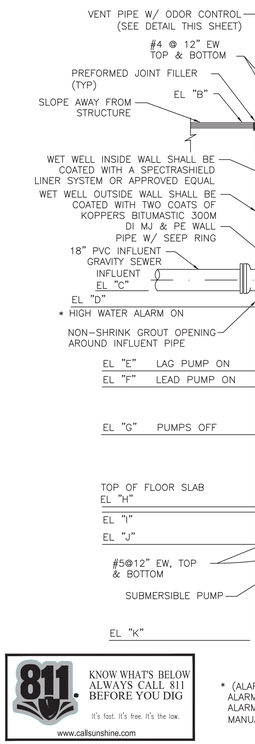


PLAN
NTS





TOP SLAB PLAN
NTS

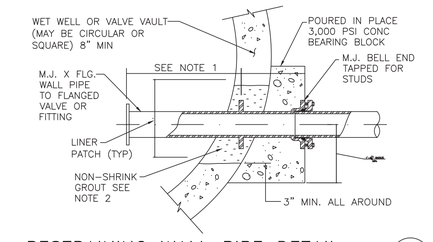


SECTION A
NTS

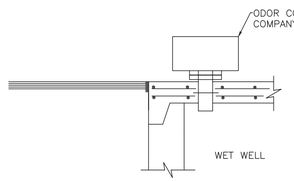
* (ALARM HAS LIGHT, AUDIBLE ALARM, AND DIALER RTU TO CITY: ALARM WILL BE DEACTIVATED BY A MANUAL SWITCH)

NOTES:
1. MINIMUM COVER FOR REINFORCING BARS SHALL BE 2".
2. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE A 90 DEGREE STANDARD HOOK AS DEFINED IN THE LATEST EDITION OF ACI 318.
3. BUBBLER TUBE INSTALL USING SST PIPESTRAPS & SST UNISTRUT.
4. ALL BOLTS, CABLE RACK, GUIDE BARS, AND PIPE STRAPS MUST BE 316 SST.

NOTES:
1. VARIES – DESIGN BUILD FIRM TO ORDER WALL PIPE WITH DIMENSIONS NECESSARY TO CENTER COLLAR IN WALL & PLACE FLANGE AT DESIRED LOCATION.
2. APPLY APPROVED WATERPROOF BONDING AGENT TO EXISTING CONCRETE SURFACE BEFORE PLACING NON-SHRINK GROUT, DRY PACK FROM EARTH SIDE, APPLY APPROVED WATERPROOF COATING AS SPECIFIED TO ELIMINATE SEEPAGE INTO VAULT OR WET WELL FROM PIPE/CONDUIT PENETRATIONS.
3. ALL BOLTS, CABLE RACK, GUIDE BARS, AND PIPE STRAPS MUST BE 316 SST.
4. ALL PIPES SHALL BE RESTRAINED.
5. ALL PUMP STATION COMPONENTS, PIPE SIZES, AND STRUCTURAL CALLOUTS SHOWN ARE FOR REFERENCE ONLY. DESIGN BUILD FIRM IS RESPONSIBLE FOR COMPLETE PUMP STATION DESIGN AND PERMITTING AS THE ENGINEER OF RECORD.
6. DESIGN BUILD FIRM TO PROVIDE WATER SERVICE/RPZ PER CITY DETAILS.



RESTRAINING WALL PIPE DETAIL 3
NTS



VENT PIPE DETAIL 2
NTS

SCHEDULE OF ELEVATIONS (FEET MSL)

LETTER	LEVEL DESCRIPTION	A-16
A	TOP OF PUMP STATION & VAULT SLABS	4.20
B	FINISH GRADE ADJACENT SLAB	3.70
C	INFLUENT GRAVITY SEWER INVERT	(–)8.61
D	HIGH WATER ALARM	(–)9.60
E	LAG PUMP ON	(–)11.60
F	LEAD PUMP ON	(–)12.60
G	PUMPS OFF	(–)14.60
H	TOP OF FLOOR SLAB	(–)16.60
I	TOP OF KEY	(–)16.90
J	BOTTOM OF KEY	(–)17.90
K	BOTTOM OF TREMIE PLUG	(–)24.50
	INSIDE DIAMETER PUMP STATION	12'
	FORCE MAIN PIPING (D.I.P.)	12"
	PUMP OPERATION REQUIREMENTS	750 gpm @ 107' 45 HP

NOTE:
1. ELEVATIONS INDICATED HEREON ARE IN FEET AND DECIMALS, RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988), AND ARE FOR REFERENCE ONLY. PUMP STATION/WETWELL DESIGN IS THE RESPONSIBILITY OF THE DESIGN BUILD FIRM.
2. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. DESIGN BUILD FIRM'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.
3. FLOOD ZONE: AH
4. BASE FLOOD ELEVATION (BFE): 6.0' NAVD 1988

ENGINEER:
GARY R. RATAY, P.E.
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DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONCEPTUAL PUMP STATION DETAILS

DESIGN CRITERIA PACKAGE

PREPARED BY:
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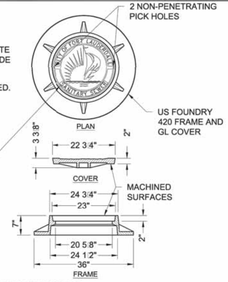
SHEET NO. 9 OF 31
CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. 4-142-31

STRM017 - MANHOLE FRAME AND COVER Friday, December 22, 2017

NOTES:
1. MATERIAL: ASTM-A48 GRAY IRON CLASS 35B.
2. ADDITIONAL GRADE RINGS MAY BE USED TO ELEVATE EXISTING MANHOLE FRAMES TO RESURFACED GRADE (MAX 4" HEIGHT).
3. OPTIONAL: HINGED FRAME AND COVER AS SPECIFIED.
4. LOAD RATING: AASHTO H-20



MANHOLE FRAME □ COVER-PAVED AREAS

NOTES:
1. MATERIAL: ASTM-A48 GRAY IRON CLASS 35B.
2. ADDITIONAL GRADE RINGS MAY BE USED TO ELEVATE EXISTING MANHOLE FRAMES TO RESURFACED GRADE (MAX 4" HEIGHT).
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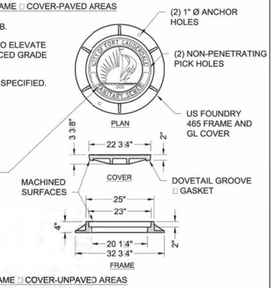

MANHOLE FRAME □ COVER-UNPAVED AREAS

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS (100 North Andrews Avenue, Fort Lauderdale, Florida 33301)	MANHOLE FRAME AND COVER	SHEET NO. STRM 017 APPROVED 20171212D

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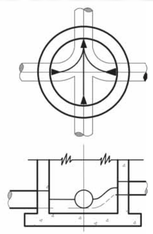
OFFICE OF THE CITY ENGINEER



NOTES:
1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. SERVICE LATERALS SHALL NOT ENTER MANHOLES UNLESS SPECIFIED ON PLANS AND THEN MUST BE TREATED AS MAINS. (ELEVATIONS SHOWN, PRECAST HOLE, FLOW CHANNEL)
4. BRICK RUBBLE PERMITTED AS FLOW CHANNEL BUILDUP.
5. SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.
6. NO INSIDE DROP LARGER THAN 6" SHALL BE ALLOWED WITH 3 OR 4 INVERTS AND MANHOLES WITH A CHANGE OF DIRECTION OF FLOW OF MORE THAN 45 DEGREES.

DATE: FEB'06	SCALE: N.T.S.	INVERT FLOW CHANNELS	S 202
REVISED: MARCH '09	DRAWN BY: R.C.		

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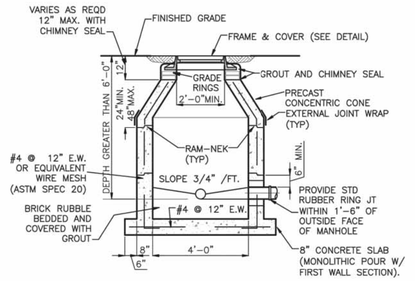

NOTES:
1. PRECAST CONCRETE TYPE II 4000 P.S.I.
2. "RAM-NEK" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH THE WIDTH AT LEAST 1/2 THE WALL THICKNESS).
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM. (SEE DETAIL)
5. LIFT HOLES ARE PERMITTED.

DATE: FEB'06	SCALE: N.T.S.	STANDARD MANHOLE	S 203 1 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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CITY OF FORT LAUDERDALE
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NOTES (CONT'D)
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE DRILLED.
   A. FOR PVC PIPE ENTERING MANHOLE WITH PRECAST HOLES USE THE APPROVED NON-ASBESTOS PVC-MANHOLE ADAPTER OR PRECAST FLEXIBLE MANHOLE SLEEVE FOR THE APPROPRIATE PIPE DIAMETER AND DIMENSION RATIO. THE ADAPTER SHALL NOT EXTEND MORE THAN 1" INTO THE MANHOLE. DOUBLE BANDING IS REQUIRED FOR FLEXIBLE MANHOLE SLEEVE.
   B. CONNECTION TO A MANHOLE WITH A CORE DRILLED HOLE SHALL BE MADE USING A 5' MIN. DUCTILE IRON PIPE SECTION (EPOXY LINED) OR THE APPROVED PVC-MANHOLE ADAPTER.
7. INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FEET AND
8. NOT CONSTRUCTED TO EXCEED 2.0 FEET. MAX. 6" INSIDE DROP IS PERMITTED FOR MANHOLES WITH 3 OR MORE INVERTS AND MANHOLES WITH A CHANGE IN FLOW DIRECTION OF MORE THAN 45 DEGREES.
9. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
10. MINIMUM 5 FEET IS REQUIRED BETWEEN OUTSIDE OF MANHOLE AND SERVICE WYE.
11. MANHOLES TO BE PAINTED INSIDE AND OUTSIDE WITH 2 COATS OF AN APPROVED PROTECTIVE COATING. (ONE COAT RED, ONE COAT BLACK) MIN. 8-10 MILS D.F.T. PER COAT.
12. MANHOLE SHALL BE SET PLUMB TO LINE AND GRADE.

DATE: FEB'06	SCALE: N.T.S.	STANDARD MANHOLE	S 203 2 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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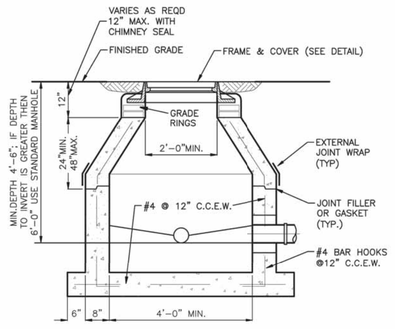

NOTE:
ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE

DATE: FEB'06	SCALE: N.T.S.	SHALLOW MANHOLE	S 204
REVISED: MARCH '09	DRAWN BY: R.C.		

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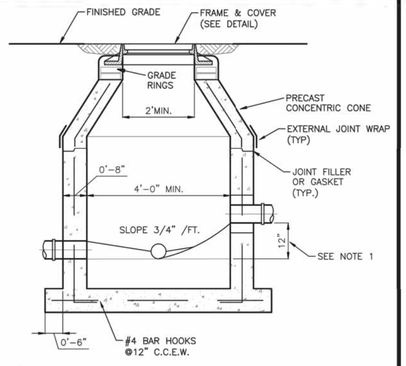

NOTES:
1. INSIDE DROP TO BE USED WHEN DROP IS GREATER THAN 6 INCHES AND LESS THAN 24 INCHES AND/OR FOR LATERAL CONNECTIONS.
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS 8".
5. SEE "STANDARD MANHOLE" DETAIL FOR ADDITIONAL REQUIREMENTS.

DATE: FEB'06	SCALE: N.T.S.	DROP CONNECTION PRECAST MANHOLE TYPE A	S 205
REVISED: MARCH '09	DRAWN BY: R.C.		

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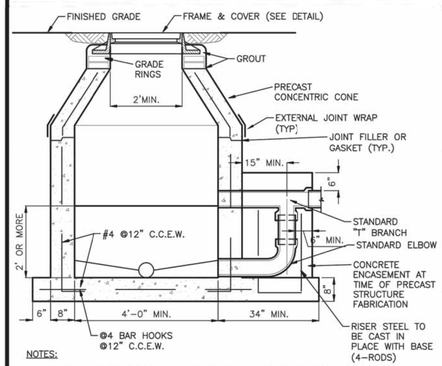

NOTES:
1. ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.0 FOOT DROP.
3. SOLVENT TYPE JOINT PVC FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY.
4. THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY AND BE CONSTRUCTED MONOLITHICALLY WITH THE BASE SECTION.
5. BRICK AND CONCRETE RUBBLE ARE PERMITTED AS FILLER IN DROP ENCASEMENT.

DATE: FEB'06	SCALE: N.T.S.	OUTSIDE DROP CONNECTION PRECAST MANHOLE TYPE B	S 206
REVISED: MARCH '09	DRAWN BY: R.C.		

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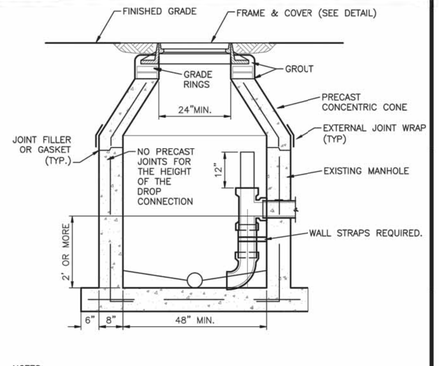

NOTES:
1. ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. INSIDE DROP CONNECTION TO BE USED ONLY FOR A SINGLE DROP CONNECTION TO AN EXISTING MANHOLE.
3. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.4 FOOT DROP.
4. SOLVENT TYPE JOINT PVC FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY.

DATE: FEB'06	SCALE: N.T.S.	INSIDE DROP CONNECTION EXISTING MANHOLE C	S 207
REVISED: MARCH '09	DRAWN BY: R.C.		

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DESIGN CRITERIA PACKAGE

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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

SHEET NO. 10 OF 31

CAD FILE: 12412-MULTI-DETL

DRAWING FILE NO. 4-142-31

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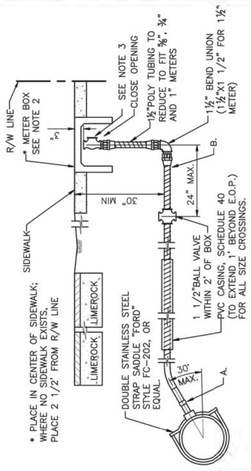
OFFICE OF THE CITY ENGINEER



DATE: FEB.'09	SCALE: N.T.S.	TYPICAL WATER SERVICE INSTALLATION	W 300 1 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

A. CORPORATION STOP, BRASS AWWA I.P. THREAD AT INLET AND CONDUCTIVE COMPRESSION CONNECTION, FOR CTS O.D. TUBING "MUELLER" B-25028, INCLUDING THE STAINLESS STEEL LINER, "MUELLER" 506141 (FOR 2-INCH), 506139 (FOR 1 -INCH), 504385 (FOR 1-INCH), OR APPROVED EQUAL.

B. POLYETHYLENE WATER SERVICE PIPE (3408 ASTM 2737 SDR9) WITH #12 GAUGE COATED COPPER WIRE SINGLE-STRAND WRAPPED AROUND POLYETHYLENE SERVICE.

NOTE:

1. GROUND KEY ANGLE METER STOP,CONDUCTIVE COMPRESSION FOR CTS O.D. TUBING, X METER FLANGE 180° TURN CHECK-LOCK WING "MUELLER" H-14277, FOR 2-INCH INCLUDING THE STAINLESS STEEL LINER, "MUELLER" 506141 (FOR 2-INCH) OR APPROVED EQUAL, AND MUELLER 110 COMPRESSION CONNECTION.
2. METER BOXES FOR 5/8, 3/4, 1, 1½ AND 2 INCH METERS SHALL BE THE OKIE DOKIE #890-40-260282 MEDIUM BOX AND 890-40-260257 MEDIUM LID OR EQUAL.
3. TIE-IN TO EXISTING ⅝, ¾, OR 1 INCH METER AND CONNECT ANGLE VALVE TO EXISTING METER WHERE APPLICABLE.
4. ALL POLY SERVICE LINES SHOULD BE WRAPPED WITH #12 WIRE STRIPPED AND GROUNDED TO EACH FITTING. A CONDUCTIVITY TEST SHOULD BE PERFORMED.
5. ALL PVC WATER MAINS SHOULD BE WRAPPED WITH #6 WIRE STRIPPED AND GROUNDED TO EACH FITTING. A CONDUCTIVITY TEST SHOULD BE PERFORMED.

DATE: FEB.'09	SCALE: N.T.S.	TYPICAL WATER SERVICE INSTALLATION	W 300 2 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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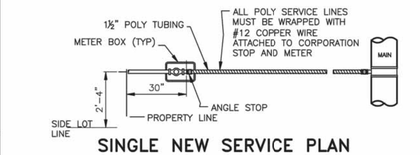
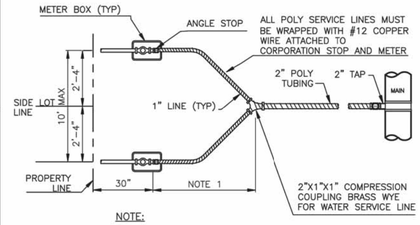


SINGLE NEW SERVICE PLAN



NOTE:

1. KEEP 1½" WYE AS CLOSE AS POSSIBLE TO METER BOX.

DOUBLE NEW SERVICE PLAN

DATE: FEB'06	SCALE: N.T.S.	TYPICAL WATER SERVICE	W 301
REVISED: MARCH '09	DRAWN BY: R.C.		

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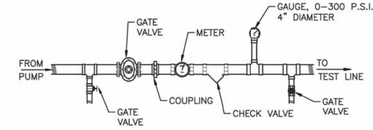

NOTE:
PRESSURE TEST TO INCLUDE SERVICES TO ANGLE STOP.

DATE: FEB'06	SCALE: N.T.S.	PRESSURE TEST DETAIL	W 306
REVISED: MARCH '09	DRAWN BY: R.C.		

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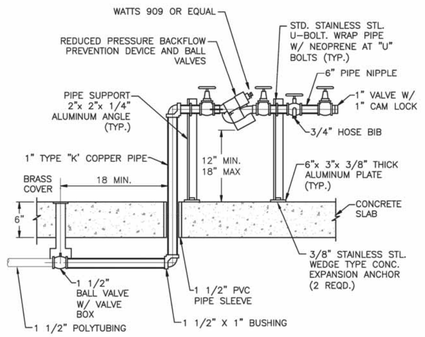

DATE: FEB'06	SCALE: N.T.S.	REDUCED PRESSURE BACKFLOW PREVENTER WITH HOSE CONNECTION FOR LIFT STATION	W 307
REVISED: MARCH '09	DRAWN BY: R.C.		

P:\eng\INTERNAL\DETAILS\CLEAN DETAILS\DETAILS FOR BLUE BOOK\CFL-BB-R307.DWG, 3/12/2009 11:15:12 AM, RamonC

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ENGINEER: GARY R. RATAY, P.E.
REG. No.: 46682
DATE: 9/30/2021

DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

TEL: (954) 535-5100
FAX:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	DATE	BY	CHK'D	DESCRIPTION
REVISIONS				

DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

PREPARED BY:
Kimley»Horn

8201 PETERS ROAD, SUITE 2200, PLANTATION, FL 33324
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WWW.KIMLEY-HORN.COM REGISTRY No. 696

SHEET NO. 11 OF 31
CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. 4-142-31

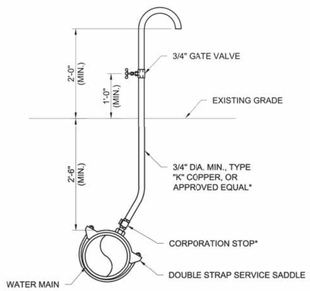
WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (NOTE 1)	JOINT SPACING AT CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (NOTE 2)	WATER MAIN / 3 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED / OTHER PIPE	NOTE 4 / WATER MAIN / JOINT (TYP.)
VACUUM SANITARY SEWER	WATER MAIN / 10 FT PREFERRED 3 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS PREFERRED 6 INCHES MINIMUM / OTHER PIPE	NOTE 4 / WATER MAIN
GRAVITY SANITARY SEWER, (NOTE 3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	WATER MAIN / 10 FT PREFERRED 6 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED / OTHER PIPE	NOTE 4 / WATER MAIN / OTHER PIPE (TYP.)
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	—	—

NOTES:

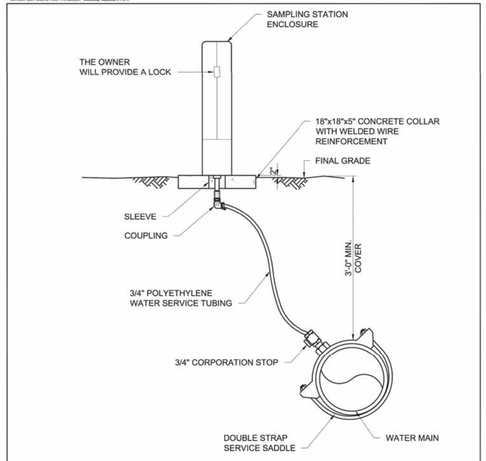
1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPE SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATE JOINT LOCATIONS ALLOWED UNDER FAC 62-555.314 WILL ONLY BE ALLOWED BY THE ENGINEER ON A CASE-BY-CASE BASIS.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — WATER MAIN SEPARATION — WATR 001 — 2018/08/01



* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND INSTALL PLUG ON CORPORATION STOP.

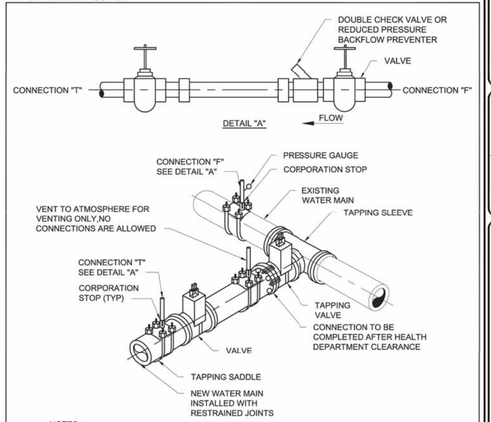
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — BACT SAMPLE POINT - TEMPORARY — WATR 002 — 2018/08/01



NOTES:

1. ENCLOSURE SHALL BE PAINTED CAST ALUMINUM. ENCLOSURE COLOR SHALL BE GREEN.
2. SAMPLING STATION STAND PIPE AND VALVES SHALL BE LEAD FREE SURGICAL STAINLESS STEEL.
3. FURNISH AND INSTALL ECLIPSE #88WC-SS BY KUPFERLE FOUNDARY COMPANY.

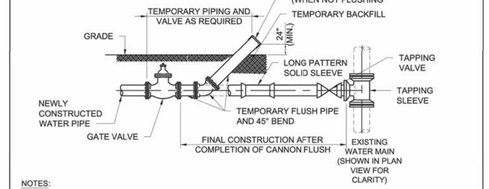
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — BACT SAMPLE POINT - PERMANENT — WATR 003 — 2018/08/01



NOTES:

1. REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON EXISTING MAIN AFTER FILLING AND FLUSHING OF NEW LINE.
2. DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL ALL TESTING HAS BEEN CLEARED BY HEALTH DEPARTMENT.
3. CLOSE CORPORATION STOPS AND PLUG/CAP WITH LEAD-FREE BRASS FITTINGS AFTER SAMPLING IS COMPLETED.
4. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT CR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — FILLING AND FLUSHING CONNECTION — WATR 004 — 2018/08/01

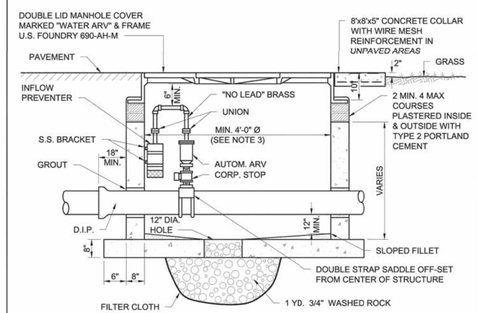


NOTES:

1. FLUSHING LOCATIONS ARE TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ENGINEER OF RECORD.
2. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER.
3. INSTALL A TEMPORARY 45° BEND, VALVE AND ASSOCIATED TEMPORARY PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
4. BENDS AND PIPING SHALL BE THE SAME SIZE OR LARGER AS THE LINE BEING FLUSHED.
5. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION THE CONTRACTOR SHALL PROPERLY NOTIFY OWNER'S INSPECTOR OF SUCH INTENDED WATER USE.
6. NO EXISTING VALVES SHALL BE OPERATED, EXCEPT BY AUTHORIZED OWNER PERSONNEL.
7. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE OWNER'S INSPECTOR.
8. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
9. ALL PIPING SHALL BE RESTRAINED.
10. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.
11. CONTRACTOR IS CAUTIONED THAT GOVERNING AGENCIES OR UTILITIES MAY HAVE REGULATIONS LIMITING OR PROHIBITING DISCHARGE INTO SEWERS, SURFACE WATERS, CANALS, DITCHES AND OTHER CONVEYANCES/RETENTION AREAS. ALL COMPLIANCE WITH GOVERNING AGENCY REQUIREMENTS (INCLUDING PERMITTING, IF REQUIRED) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
12. CANNON FLUSHING TO PROCEED AFTER HEALTH DEPARTMENT CLEARANCE IS RECEIVED.

FLUSHING CONNECTION
NOT TO SCALE

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — CANNON FLUSHING — WATR 005 — 2018/08/01

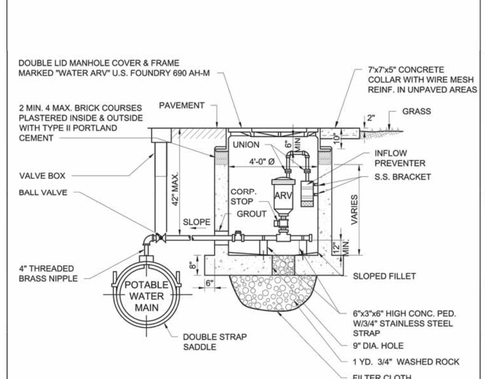


NOTES:

1. MANHOLE SHALL BE PRECAST AND DESIGNED BY FABRICATOR TO COMPLY WITH FDOT INDEX 200.
2. DUCTILE IRON PIPE IS REQUIRED WITHIN THE MANHOLE. NO PIPE JOINTS INSIDE OF MANHOLE.
3. LARGER MANHOLES REQUIRED FOR PIPES LARGER THAN 12", AS FOLLOWS:

PIPE SIZE	MIN. MANHOLE DIAMETER
16"- 24"	60"
30" - 42"	72"

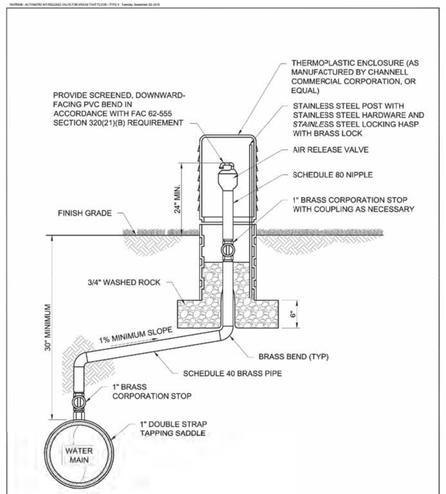
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — AUTOMATIC AIR RELEASE VALVE FOR AREAS THAT FLOOD TYPE 1 — WATR 006 — 2018/08/01



NOTES:

1. MANHOLE SHALL BE PRECAST AND DESIGNED BY FABRICATOR TO COMPLY WITH FDOT INDEX 200.
2. ALL VALVES, PIPING AND FITTINGS SHALL BE LEAD-FREE BRASS OR BRONZE.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — AUTOMATIC AIR RELEASE VALVE FOR AREAS THAT FLOOD TYPE 2 — WATR 007 — 2018/08/01



CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — AUTOMATIC AIR RELEASE VALVE FOR AREAS THAT FLOOD TYPE 3 — WATR 008 — 2018/08/01

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DESIGN CRITERIA PACKAGE

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DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

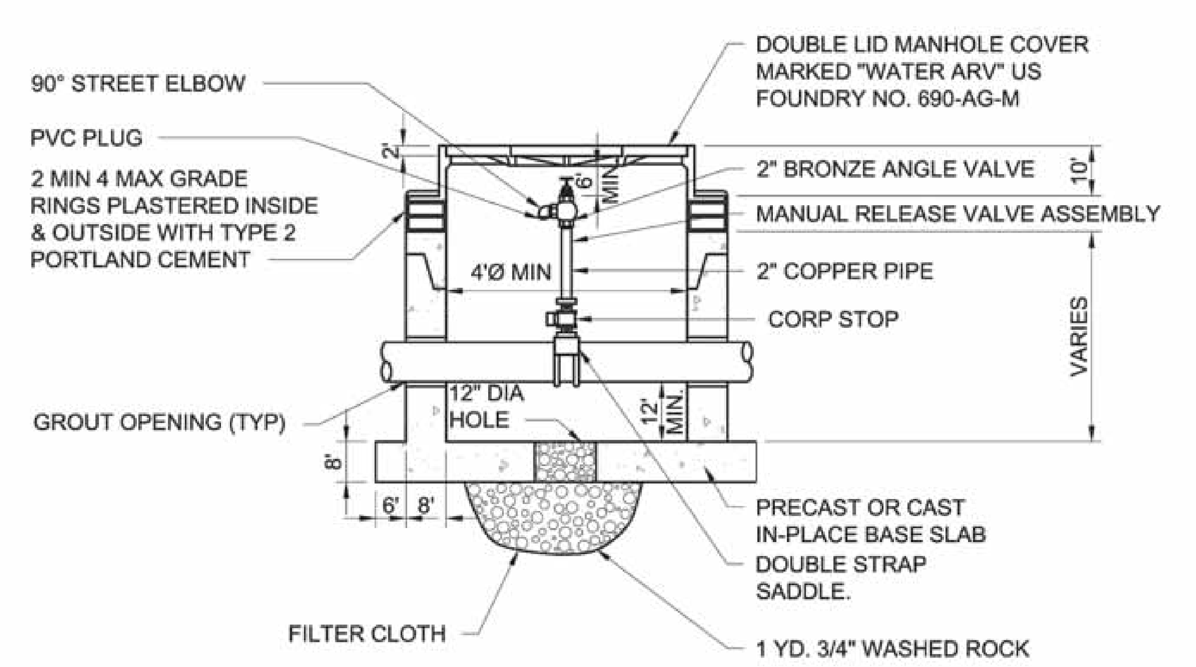
REVISIONS

NO	DATE	BY	CK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

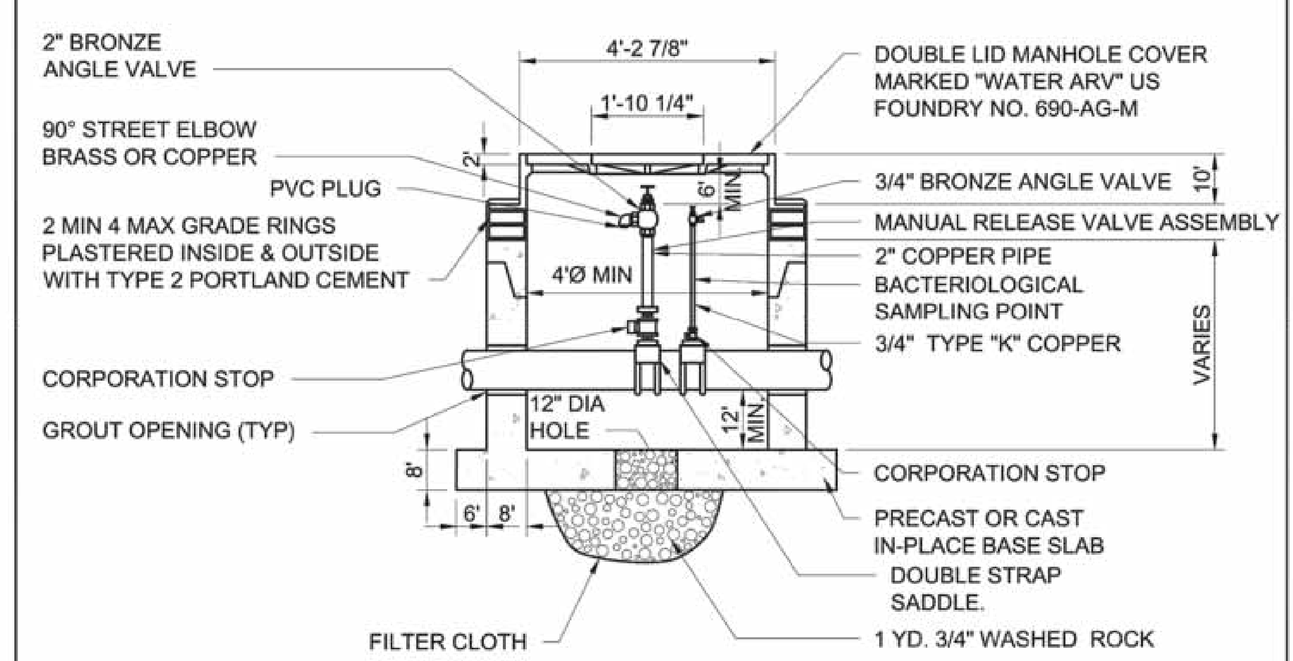
SHEET NO. 12 | OF 31
CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. 4-142-31



NOTES:

1. MANHOLE SHALL BE PRECAST AND DESIGNED BY FABRICATOR TO COMPLY WITH FDOT INDEX 200.
2. DUCTILE IRON PIPE IS REQUIRED WITHIN THE MANHOLE. NO PIPE JOINTS WITHIN THE MANHOLE.

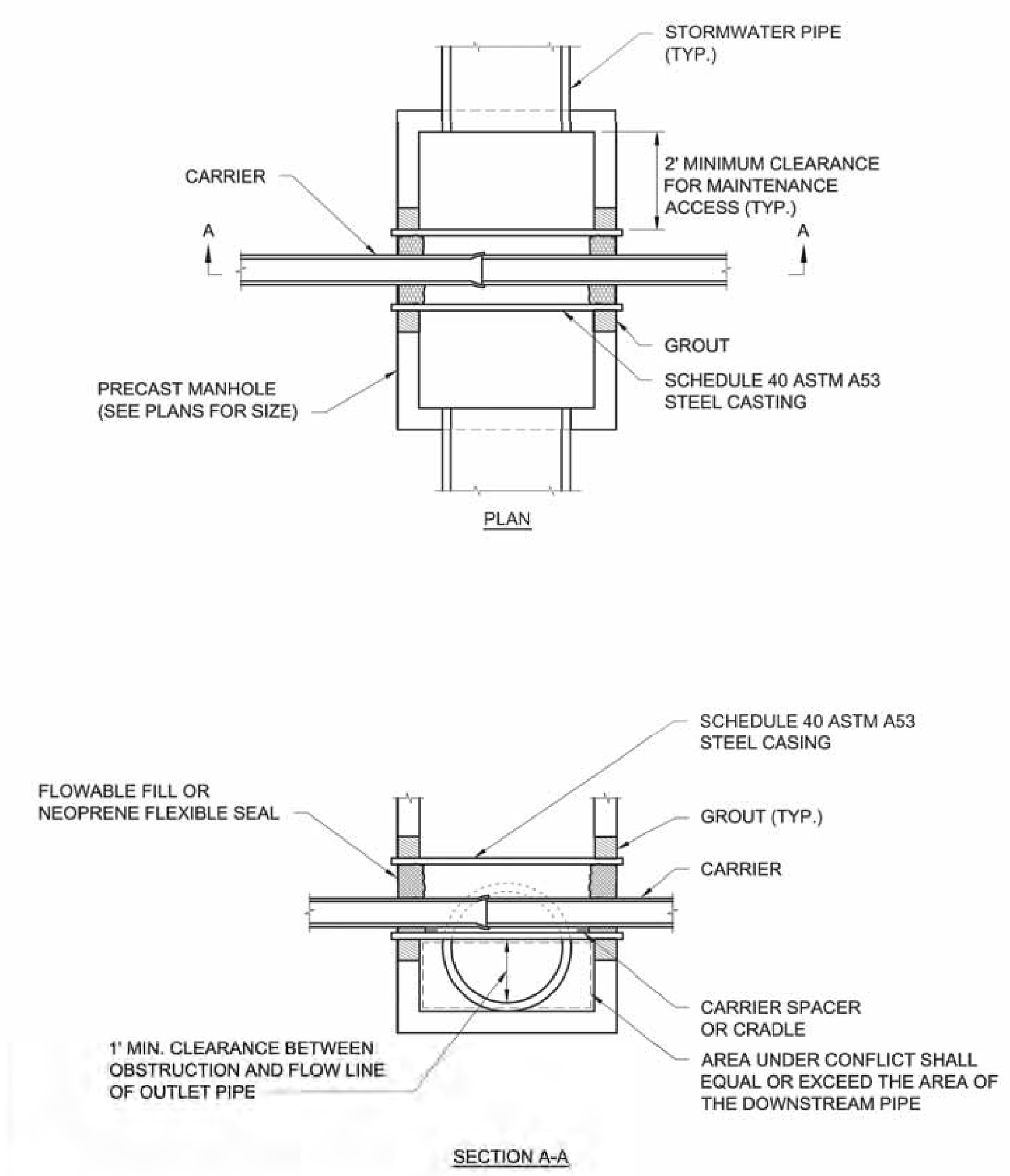
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — MANUAL AIR RELEASE VALVE FOR AREAS THAT FLOOD TYPE 1 — WATR 009 — 2016/09/21



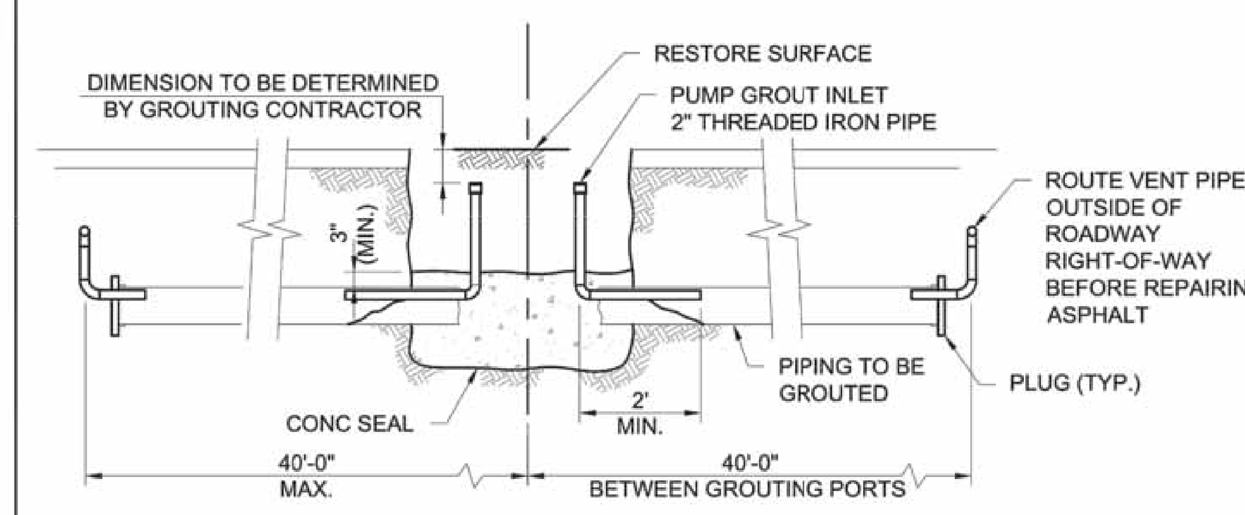
NOTES:

1. MANHOLE SHALL BE PRECAST AND DESIGNED BY FABRICATOR TO COMPLY WITH FDOT INDEX 200.
2. DUCTILE IRON PIPE IS REQUIRED WITHIN THE MANHOLE. NO PIPE JOINTS WITHIN THE MANHOLE.
3. AFTER COMPLETION OF THE BACTERIOLOGICAL TESTING, REMOVE THE SAMPLE PIPING AND INSTALL PLUG ON THE CORPORATION STOP.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — MANUAL AIR RELEASE VALVE FOR AREAS THAT FLOOD TYPE 2 — WATR 010 — 2016/09/21



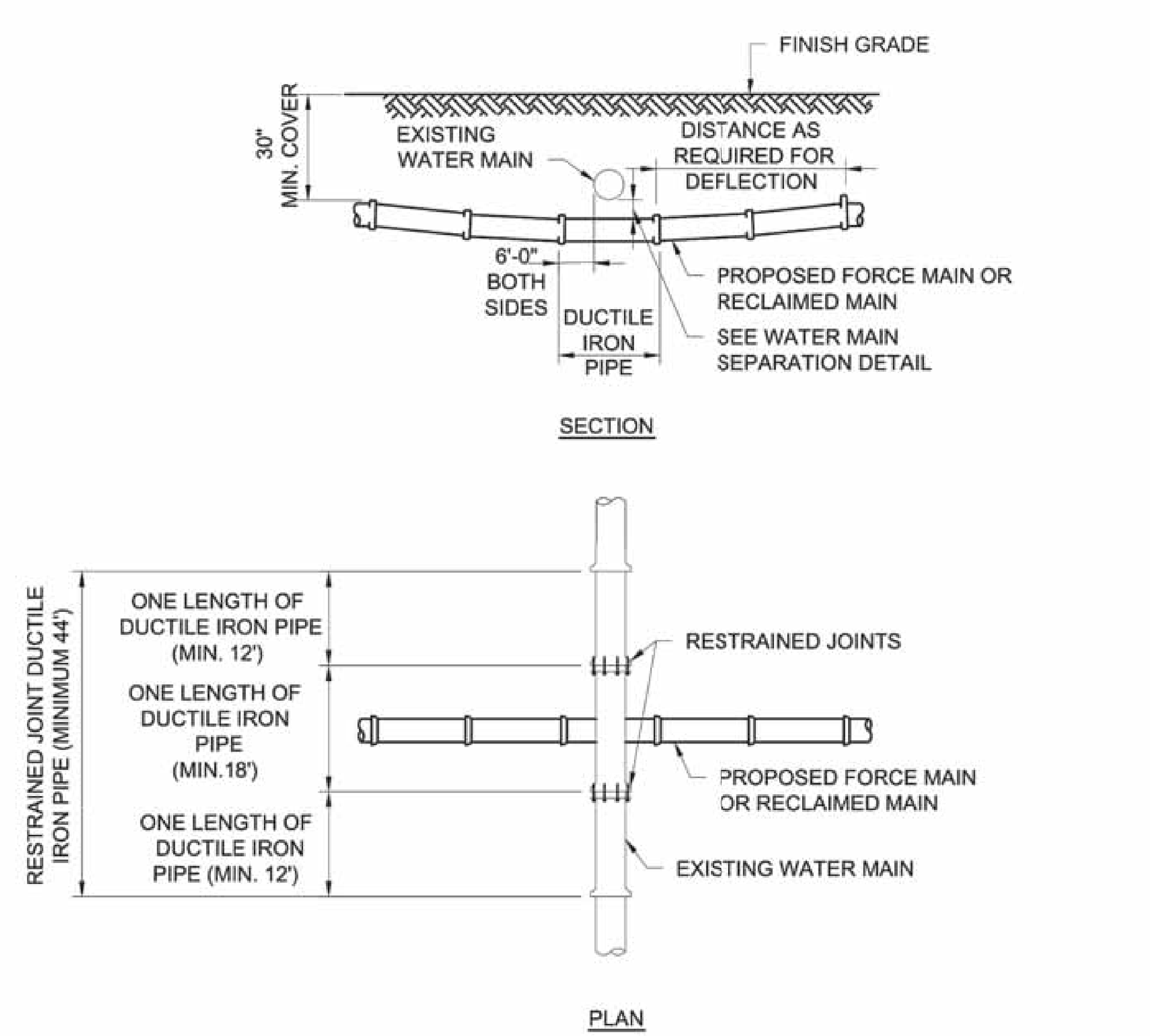
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — CONFLICT MANHOLE — WATR 011 — 2016/09/21



NOTE:

1. PROVIDE PLUGS, CORPORATION STOPS AND PIPING AS REQUIRED TO REMOVE AIR FROM THE ABANDONED PIPELINES WHILE GROUTING.

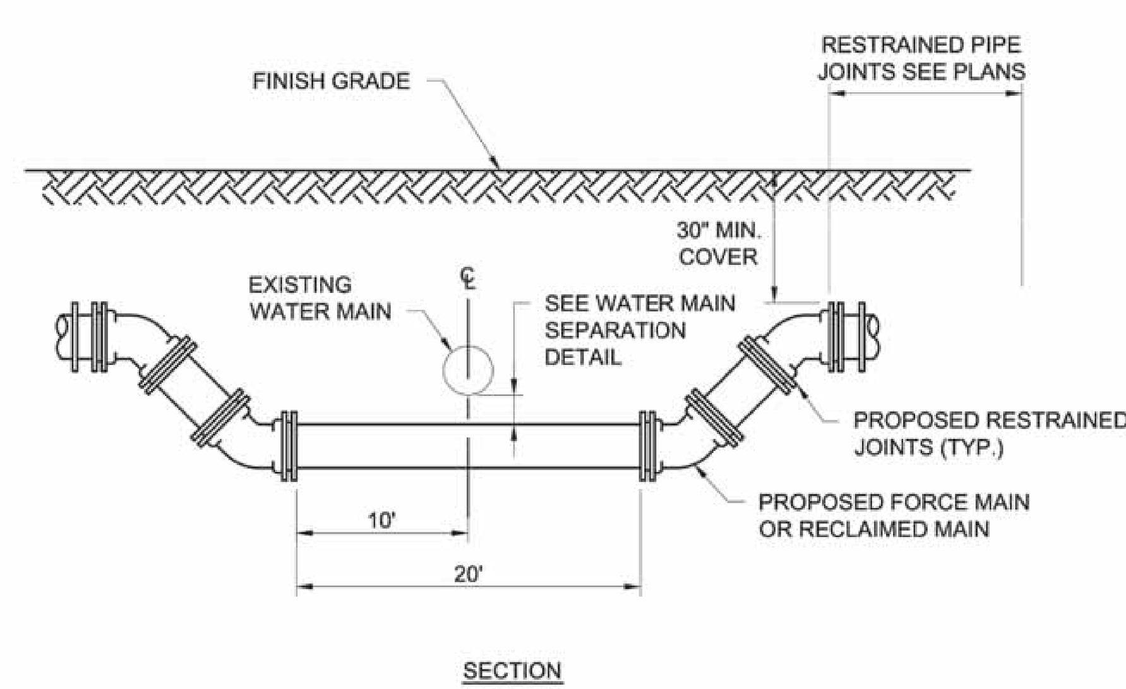
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — PIPE GROUTING — WATR 012 — 2016/09/21



NOTE:

1. JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION.

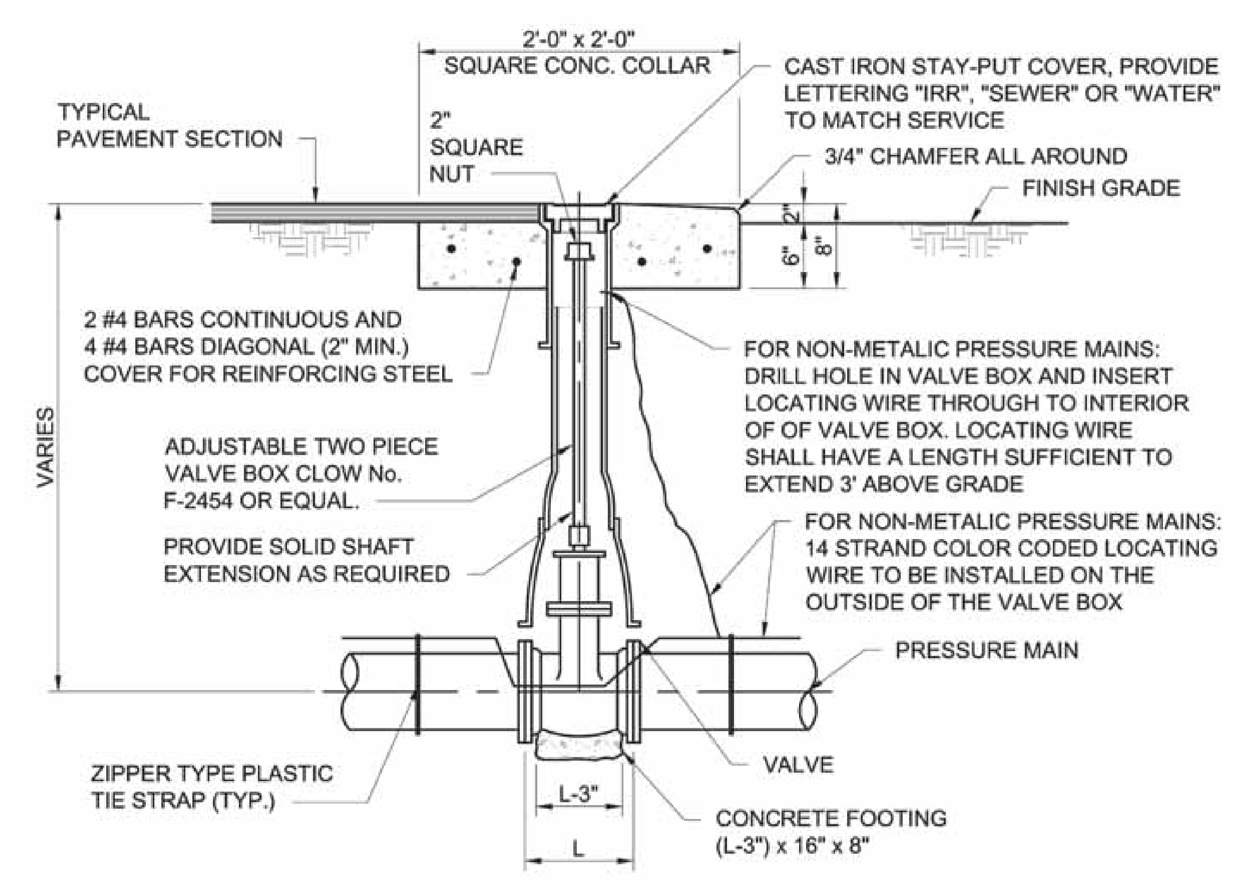
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — UTILITY CROSSING DEFLECTION TYPE — WATR 013 — 2016/09/21



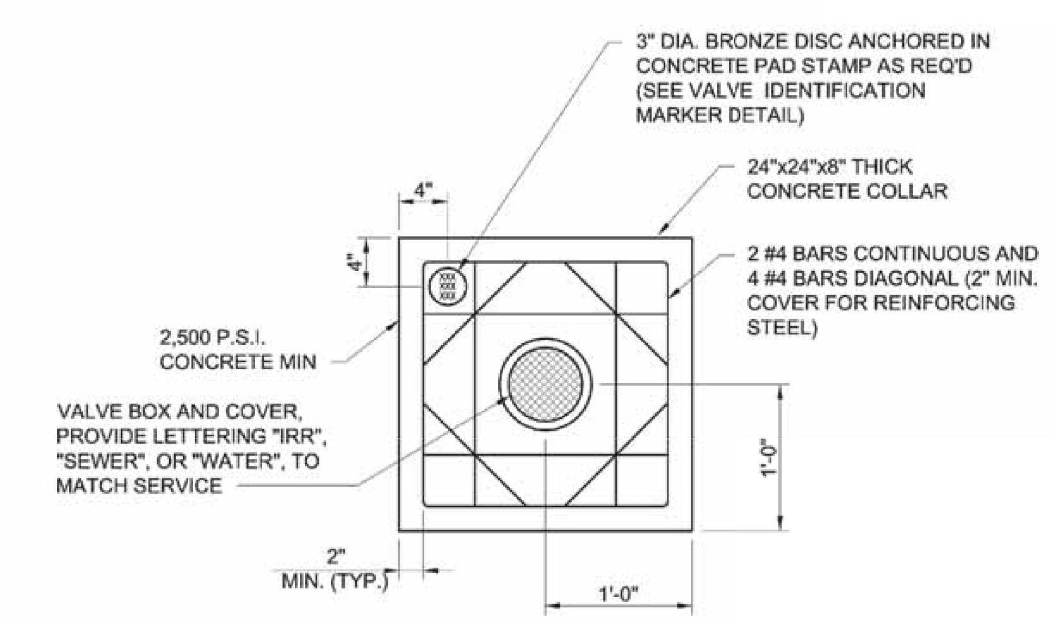
NOTE:

1. WHEREVER POSSIBLE, DEFLECTION OF THE PIPE (PER THE DETAIL TITLED "UTILITY CROSSING - DEFLECTION TYPE") SHALL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS DETAIL SHALL BE USED ONLY WHEN APPROVED BY ENGINEER.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — UTILITY CROSSING FITTING TYPE — WATR 014 — 2016/09/21



CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — VALVE BOX — WATR 015 — 2016/09/21



CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS — VALVE BOX COLLAR — WATR 016 — 2016/09/21

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WWW.KIMLEY-HORN.COM REGISTRY No. 696

DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

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DESIGNED BY: GR — SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

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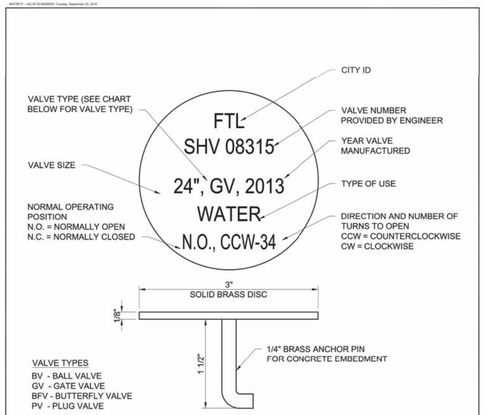
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

SHEET NO. 13 OF 31

CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. 4-142-31



NOTES:

1. VALVE INFORMATION TO BE ENGRAVED INTO TOP SURFACE WITH 1/4" CAPITAL LETTERS.
2. ENTIRE MARKER TO BE COATED WITH CLEAR EPOXY TO PREVENT TARNISHING.
3. MARKERS SHALL BE MANUFACTURED BY WAGER COMPANY OF FLORIDA.

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

VALVE ID MARKER

WWA no. WATR 017
REVISED: 2016/09/01

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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

NOTES:

1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STA'ED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN. VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
4. FITTINGS SHALL BE RESTRAINED.
5. THE DEFLECTION TYPE CROSSING IS PREFERRED.
6. DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE. NO DEFLECTION AT THE JOINT IS ALLOWED FOR P.V.C. PIPE. BENDING OF P.V.C. PIPE SHALL NOT EXCEED THE FOLLOWING PARAMETERS:

PVC PIPE SIZE (INCH)	MIN. ALLOWED RADIUS (FT.)	MAX. DEFLECTION (INCH) PER 20' LENGTH
6"	300	8"
8"	400	6"
10"	600	4"
12"	600	4"

DATE: FEB'06 | SCALE: N.T.S. | REVISED: MARCH '09 | DRAWN BY: R.C.
PRESSURE PIPE CONFLICT NOTES — P 401

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OFFICE OF THE CITY ENGINEER

I. FORCE MAIN AND WATER MAIN OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE.

(MECHANICAL OR PUSH-ON JOINT, 18 FT, NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE PSI	PIPE DIAMETER (INCHES) 2	3	4	6	8	10	12	14	16	18	20	24	30
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38

NOTES:

1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9.
2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.
4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600-05. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF RECOMMENDED LIMIT PER APPLICABLE AWWA C-600-05 STANDARD.

DATE: FEB'06 | SCALE: N.T.S. | REVISED: MARCH '09 | DRAWN BY: R.C.
PRESSURE TEST CRITERIA — P 403 1 OF 2

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CONTINUES:

5. STANDARD TEST PRESSURE = 150 P.S.I.
6. FORMULA BASIS: $L = \frac{(S)x(D)x(P)^{\frac{1}{2}}}{133,200}$

   L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
   S = LENGTH OF PIPE TESTED (FEET)
   D = DIAMETER OF PIPE (INCHES)
   P = TEST PRESSURE (P.S.I.)
7. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.
8. DISINFECTION OF MAINS SHALL COMPLY WITH A.N.S.I./A.W.W.A. C-651-05 STANDARD.
9. DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO THE REQUIREMENTS OF A.N.S.I./A.W.W.A. C-151-'02.

II. FORCE MAIN AND WATER MAIN WITHIN WELLFIELD PROTECTION ZONE.

NOTES:
1. PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600-05 STANDARD (150psi, (2) HOUR DURATION). THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

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PRESSURE TEST CRITERIA — P 403 2 OF 2

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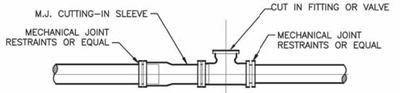

DUCTILE IRON-MECHANICAL JOINT (FORCE MAIN)

1. MECHANICAL JOINTS RESTRAINTS ARE REQUIRED THROUGHOUT ASSEMBLY.

DATE: FEB'06 | SCALE: N.T.S. | REVISED: MARCH '09 | DRAWN BY: R.C.
PRESSURE PIPE STANDARD CUT-IN DETAIL — P 404

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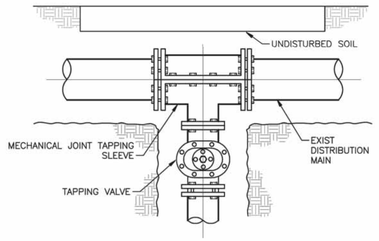

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PLAN VIEW TAPPING TEE ASSEMBLY DETAIL — P 405

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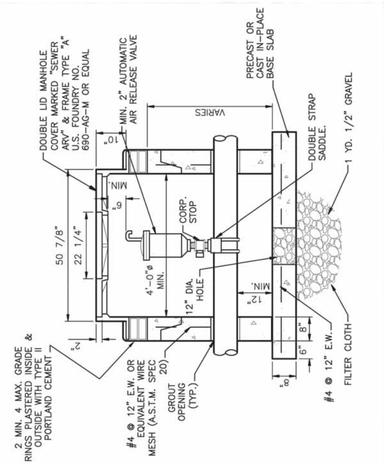

DATE: FEB'06 | SCALE: N.T.S. | REVISED: MARCH '09 | DRAWN BY: R.C.
AIR RELEASE VALVE AND MANHOLE IN PAVED AREAS — P 407 1 OF 2

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NOTES:

1. PRECAST CONCRETE TYPE # 4000 P.S.I.
2. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
3. LIFT HOLES ARE PERMITTED.
4. ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
5. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
6. PAINT INSIDE & OUTSIDE WITH 2 COATS OF AN APPROVED PROTECTIVE COATING. (MIN. 10 MIL D.F.T. PER COAT.)
7. CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT, SEE DETAIL.
8. AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED (2"MIN.).
9. CONSTRUCTION JOINT AT BASE IS PERMITTED.
10. DUCTILE IRON PIPE IS REQUIRED THROUGH THE MANHOLE.
11. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO LAYERS OF TEFLON TAPE.
12. IF MANHOLE IS LARGER THAN 4' DIAMENTER USE REDUCING GRADE RING OR CONE SECTION.
13. USE CONFLICT TYPE MANHOLE WITH PRECAST OR CAST IN-PLACE BOTTOM SLAB.

DATE: FEB'06 | SCALE: N.T.S. | REVISED: MARCH '09 | DRAWN BY: R.C.
AIR RELEASE VALVE AND MANHOLE IN PAVED AREAS — P 407 2 OF 2

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Kimley»Horn

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ENGINEER: GARY R. RATAY, P.E.
REG. No.: 46682
DATE: 9/20/2021
TEL: (954) 535-5100
FAX:

DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

SHEET NO. 14 OF 31
CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. 4-142-31

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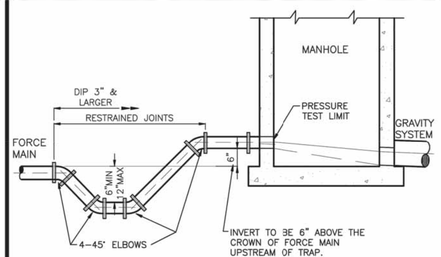

NOTES:

1. FORCE MAIN TO ENTER MANHOLE AS CLOSE AS POSSIBLE TO 180° TO GRAVITY OUTLET.
2. THE INVERT LEVEL OF FORCE MAIN AT POINT OF ENTRY SHALL BE 6" ABOVE INVERT OF MANHOLE.
3. CORE ENTRY ONLY INTO EXISTING MANHOLES.
4. TRAP TO BE LOCATED PRIOR TO DROP INTO MANHOLE.
5. USE TWO 45° ELBOWS PAST TRAP IF ELEVATION DROP IS REQUIRED TO ENTER MANHOLE.
6. FLOW CHANNEL REQUIRED.
7. MANHOLE TO BE COATED AS SPECIFIED.

DATE: FEB'06	SCALE: N.T.S.	FORCE MAIN ENTERING MANHOLE	P 408
REVISED: MARCH '09	DRAWN BY: R.C.		

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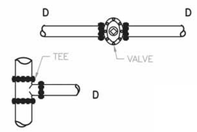

DEAD ENDS

SIZE	DISTANCE IN FEET A & B	C	D
4"	18	18	54
6"	18	18	72
8"	15	36	90
10"	18	36	108
12"	18	36	126
14"	18	54	144
16"	18	54	162
18"	18	54	180
20"	18	72	198
24"	18	72	216

NOTE:
1. FOR PIPE SIZE OVER 24" SEE SPECIFICATIONS
2. ALL JOINTS WITHIN THE CALCULATED LENGTH PLUS THE NEXT JOINT BEYOND THE CALCULATED LENGTH MUST BE RESTRAINED.
3. IF THE DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

DATE: FEB'06	SCALE: N.T.S.	MINIMUM RESTRAINED JOINT LENGTH FOR PRESSURE MAINS	P 409 3 OF 3
REVISED: MARCH '09	DRAWN BY: R.C.		

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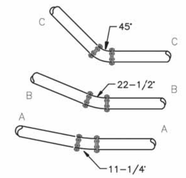

DEFLECTIONS

DATE: FEB'06	SCALE: N.T.S.	MINIMUM RESTRAINED JOINT LENGTH FOR PRESSURE MAINS	P 409 2 OF 3
REVISED: MARCH '09	DRAWN BY: R.C.		

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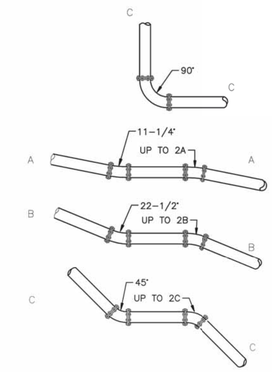

OFFSETS

DATE: FEB'06	SCALE: N.T.S.	MINIMUM RESTRAINED JOINT LENGTH FOR PRESSURE MAINS	P 409 1 OF 3
REVISED: MARCH '09	DRAWN BY: R.C.		

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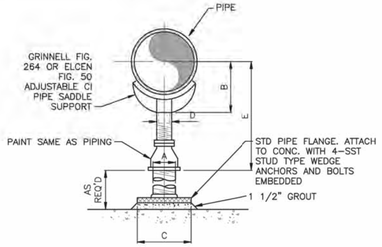

NOTES:

1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD, SIMILAR TO GRINNELL FIGURE 167 OR ELCEN FIGURE 219, WHERE PIPING IS INSULATED.
2. PROVIDE NEOPRENE WAFFLE ISOLATION PAD, SIMILAR TO MASON TYPE 'W' OR KORFUND KORPAD 40, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE.

DIMENSION TABLE

PIPE SIZE	A	B	C	D	E MIN.	E MAX.
4"	3"	4-1/4"	9"	2-1/2"	9-1/4"	14"
6"	3"	5-1/2"	9"	2-1/2"	10-1/2"	15-1/4"
8"	3"	6-7/8"	9"	2-1/2"	11-3/4"	16-1/2"
10"	3"	8-1/2"	9"	2-1/2"	13-1/2"	18-1/4"
12"	3"	9-15/16"	9"	2-1/2"	15"	19-3/4"

DATE: FEB'06	SCALE: N.T.S.	PIPE SUPPORT	PS 500
REVISED: MARCH '09	DRAWN BY: R.C.		

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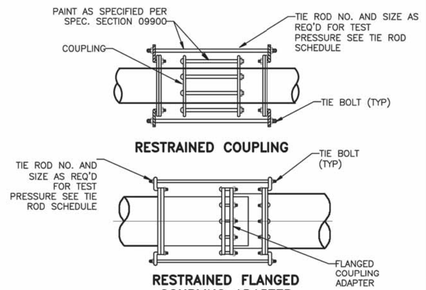

RESTRAINED COUPLING

RESTRAINED FLANGED COUPLING ADAPTER

TIE ROD SCHEDULE

TEST PRESSURE		25 PSI		50 PSI		100 PSI		150 PSI		225 PSI		375 PSI	
PIPE DIAMETER (IN.)	MINIMUM PIPE WALL THICKNESS (IN.) *	TIE RODS DIA (IN.)	NO. REQD	TIE RODS DIA (IN.)	NO. REQD	TIE RODS DIA (IN.)	NO. REQD	TIE RODS DIA (IN.)	NO. REQD	TIE RODS DIA (IN.)	NO. REQD	TIE RODS DIA (IN.)	NO. REQD
6	3/16	—	—	—	—	5/8	2	5/8	2	5/8	2	5/8	2
8	3/16	—	—	—	—	5/8	2	5/8	2	3/4	2	7/8	2
10	3/16	—	—	—	—	5/8	2	5/8	2	3/4	2	7/8	2
12	3/16	5/8	2	5/8	2	5/8	2	5/8	2	3/4	2	7/8	4

DATE: FEB'06	SCALE: N.T.S.	RESTRAINED COUPLING DETAILS	PS 501
REVISED: MARCH '09	DRAWN BY: R.C.		

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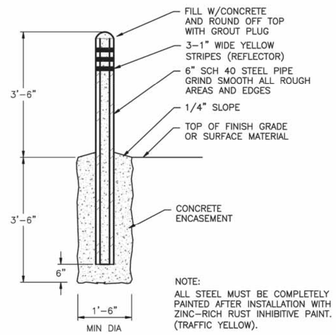

NOTE:
ALL STEEL MUST BE COMPLETELY PAINTED AFTER INSTALLATION WITH ZINC-RICH RUST INHIBITIVE PAINT. (TRAFFIC YELLOW).

DATE: FEB'06	SCALE: N.T.S.	GUARD POST	PS 502
REVISED: MARCH '09	DRAWN BY: R.C.		

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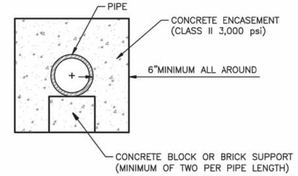

NOTES:

1. WHERE MINIMUM COVER, 36", IS NOT AVAILABLE ENCASEMENT WILL BE REQUIRED.
2. ALL CONCRETE ENCASEMENTS MUST BE FORMED AND INSPECTED BY THE CITY'S INSPECTOR PRIOR TO PLACING CONCRETE AND BACKFILLING.
3. WRAP PIPE IN VISQUEEN PRIOR TO POURING ENCASEMENT.
4. AT CROSSINGS, ENCASEMENT SHALL EXTEND TEN FEET (10') ON EITHER SIDE OF CROSSING.
5. BEGINNING AND ENDING OF ENCASEMENTS SHALL NOT BE MORE THAN 6" FROM A PIPE JOINT.

DATE: FEB'06	SCALE: N.T.S.	PIPE CONCRETE ENCASEMENT	PS 503
REVISED: MARCH '09	DRAWN BY: R.C.		

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DESIGN CRITERIA PACKAGE

ENGINEER: GARY R. RATAY, P.E.
REG. No.: 46682
DATE: 9/30/2021
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FAX:

DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
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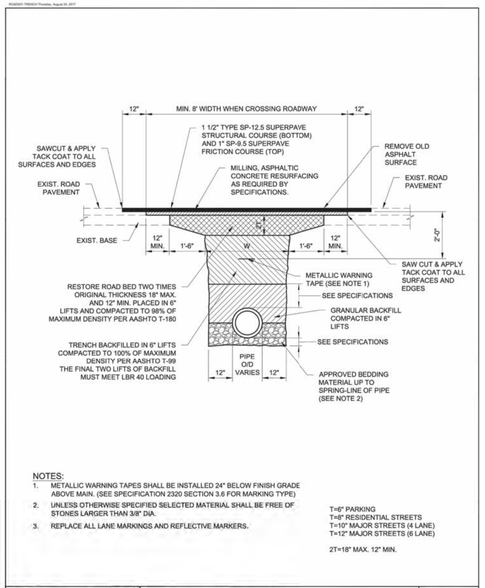
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

SHEET NO. 15 OF 31

CAD FILE: 12412-MULTI-DETL

DRAWING FILE NO. 4-142-31



NOTES:

1. METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE ABOVE MAIN. (SEE SPECIFICATION 2320 SECTION 3.6 FOR MARKING TYPE)
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
3. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.

T=6" PARKING
T=8" RESIDENTIAL STREETS
T=10" MAJOR STREETS (4 LANE)
T=12" MAJOR STREETS (6 LANE)

2T=18" MAX. 12" MIN.

CITY OF FORT LAUDERDALE
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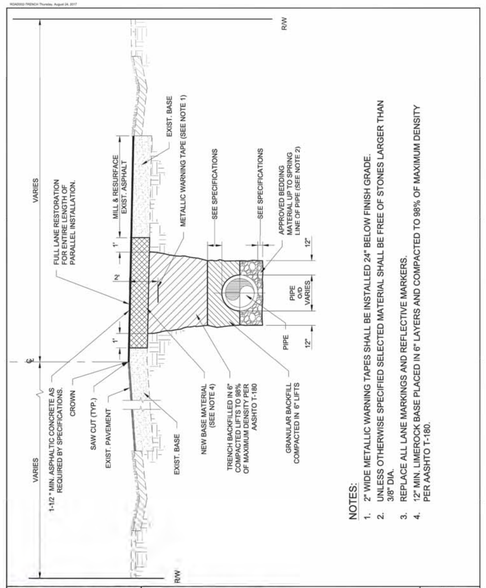
TYPICAL TRENCH AND PAVEMENT RESTORATION FOR TRANSVERSE PIPE CROSSING
SHEET 1

ROAD 001
2017/03/11



NOTES:

1. 2" WIDE METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE.
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
3. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.
4. 12" MIN. LIMEROCK BASE PLACED IN 6" LAYERS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180.

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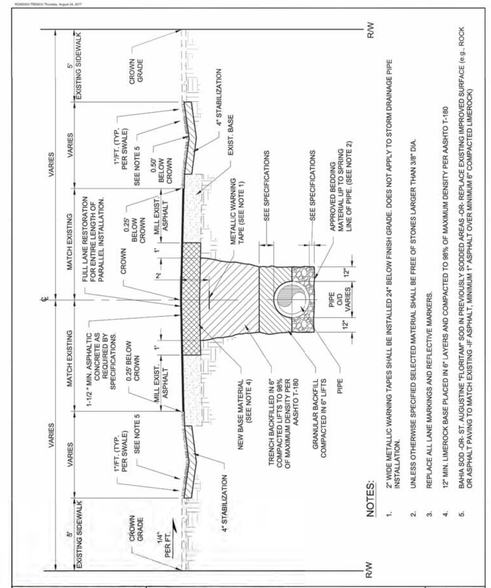
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

TYPICAL ROAD SECTION, TYPICAL TRENCH AND TRENCH RESTORATION FOR PARALLEL PIPE TRENCH
SHEET 2

ROAD 002
2017/03/11



NOTES:

1. 2" WIDE METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE. DOES NOT APPLY TO STORM DRAINAGE PIPE
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
3. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.
4. 12" MIN. LIMEROCK BASE PLACED IN 6" LAYERS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180
5. BASIA SOD ;OR; ST. AUGUSTINE "FLORITAM" SOD IN PREVIOUSLY SODDED AREAS ;OR; REPLACE EXISTING IMPROVED SURFACE (e.g. ROCK OR ASPHALT PAVING TO MATCH EXISTING ;IF ASPHALT, MINIMUM 1" ASPHALT OVER MINIMUM 6" COMPACTED LIMEROCK)

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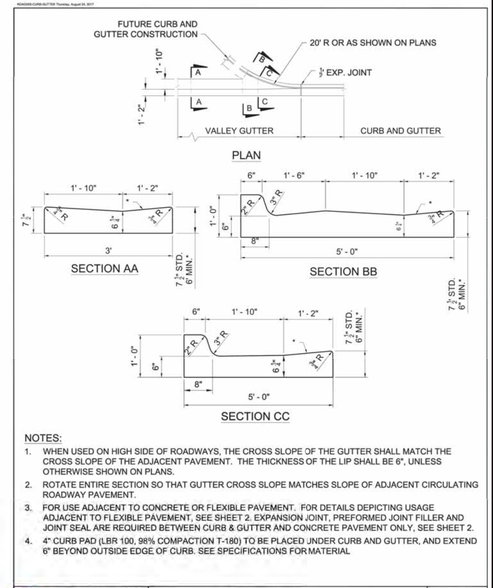
TYPICAL ROAD SECTION, TYPICAL TRENCH, PAVEMENT AND SWALE RESTORATION FOR PARALLEL PIPE TRENCH
SHEET 3

ROAD 003
2017/08/07



NOTES:

1. WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.
2. ROTATE ENTIRE SECTION SO THAT GUTTER CROSS SLOPE MATCHES SLOPE OF ADJACENT CIRCULATING ROADWAY PAVEMENT.
3. FOR USE ADJACENT TO CONCRETE OR FLEXIBLE PAVEMENT. FOR DETAILS DEPICTING USAGE ADJACENT TO FLEXIBLE PAVEMENT, SEE SHEET 2. EXPANSION JOINT, PREFORMED JOINT FILLER AND JOINT SEAL ARE REQUIRED BETWEEN CURB & GUTTER AND CONCRETE PAVEMENT ONLY, SEE SHEET 2.
4. 4" CURB PAD (LBR 100, 98% COMPACTION T-180) TO BE PLACED UNDER CURB AND GUTTER, AND EXTEND 6" BEYOND OUTSIDE EDGE OF CURB. SEE SPECIFICATIONS FOR MATERIAL

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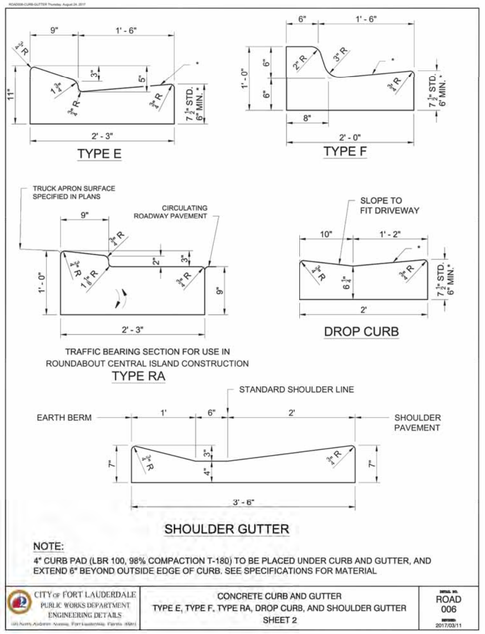
CONCRETE CURB AND GUTTER
VALLEY GUTTER
SHEET 1

ROAD 005
2017/03/11



NOTE:

4" CURB PAD (LBR 100, 98% COMPACTION T-180) TO BE PLACED UNDER CURB AND GUTTER, AND EXTEND 6" BEYOND OUTSIDE EDGE OF CURB. SEE SPECIFICATIONS FOR MATERIAL

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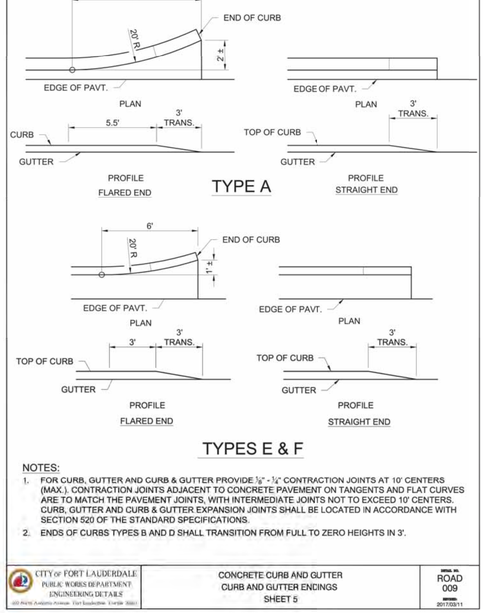
CONCRETE CURB AND GUTTER
TYPE E, TYPE F, TYPE RA, DROP CURB, AND SHOULDER GUTTER
SHEET 2

ROAD 006
2017/03/11



NOTES:

1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

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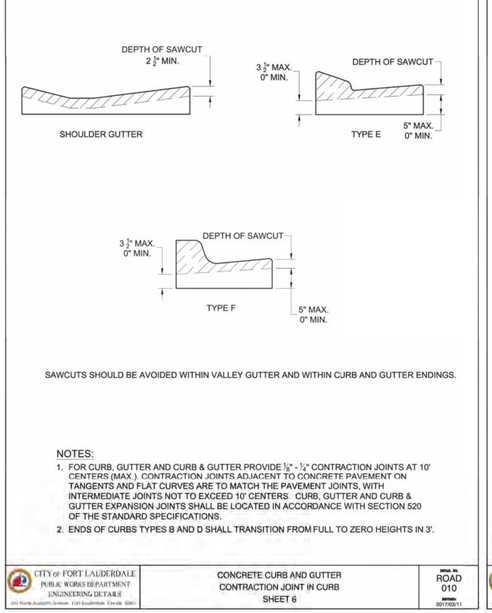
CONCRETE CURB AND GUTTER
CURB AND GUTTER ENDINGS
SHEET 5

ROAD 009
2017/03/11



SAWCUTS SHOULD BE AVOIDED WITHIN VALLEY GUTTER AND WITHIN CURB AND GUTTER ENDINGS.

NOTES:

1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

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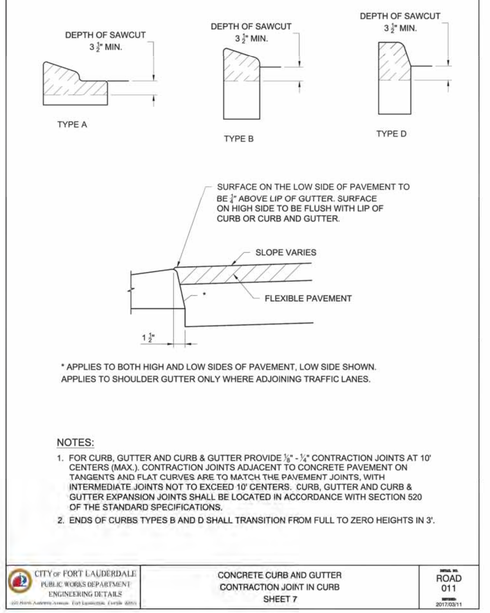
CONCRETE CURB AND GUTTER
CONTRACTION JOINT IN CURB
SHEET 6

ROAD 010
2017/03/11



* APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN.
APPLIES TO SHOULDER GUTTER ONLY WHERE ADJOINING TRAFFIC LANES.

NOTES:

1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

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ENGINEERING DETAILS
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CONCRETE CURB AND GUTTER
CONTRACTION JOINT IN CURB
SHEET 7

ROAD 011
2017/03/11

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PREPARED BY:
Kimley»Horn

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WWW.KIMLEY-HORN.COM REGISTRY No. 696

DESIGN CRITERIA PACKAGE

ENGINEER:
GARY R. RATAY, P.E.
REG. No.: 46682
DATE: 9/20/2021

DRAWN BY: AL
DATE: MAR 2021
DESIGNED BY: GR
SCALE: AS NOTED
CHECKED BY: GR
FIELD BOOK:

TEL: (954) 535-5100
FAX:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

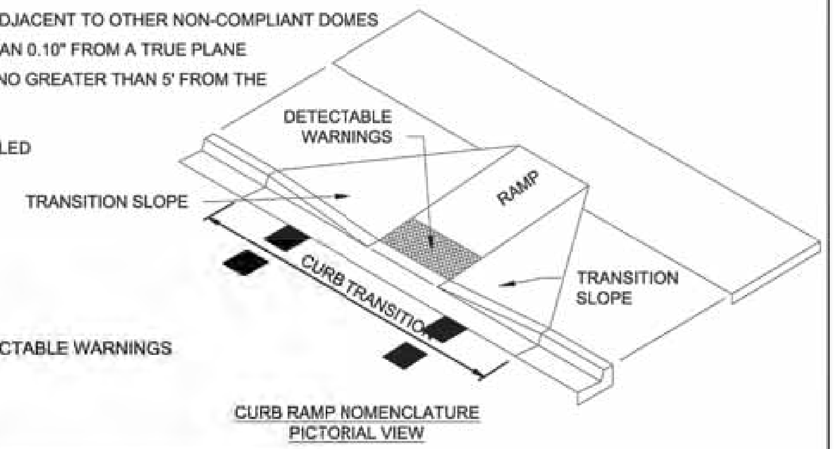
SHEET NO. 16 OF 31

CAD FILE: 12412-MULTI-DETL

DRAWING FILE NO. 4-142-31

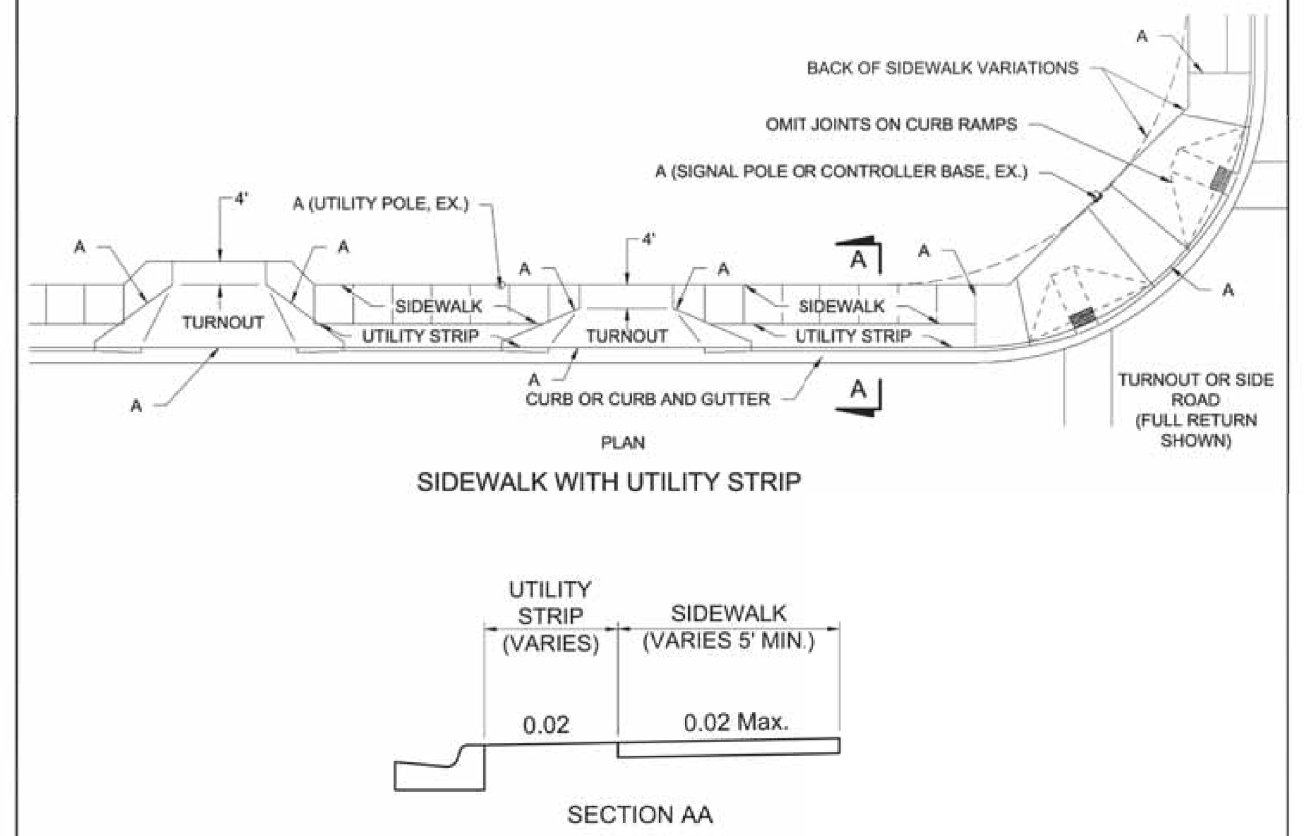
GENERAL NOTES

1. SIDEWALK CURB RAMPS SHALL BE CONSTRUCTED AT LOCATIONS THAT WILL PROVIDE CONTINUOUS UNOBSTRUCTED PEDESTRIAN CIRCULATION PATH TO PEDESTRIAN AREAS, ELEMENTS AND FACILITIES WITHIN THE RIGHT OF WAY AND TO ACCESSIBLE PEDESTRIAN ROUTES ON ADJACENT SITES. CURBED FACILITIES WITH SIDEWALKS AND THOSE WITHOUT SIDEWALKS ARE TO HAVE CURB RAMPS CONSTRUCTED FOR ALL INTERSECTIONS AND TURNOUTS WITH CURBED RETURNS. TO ACCOMMODATE CURB RAMPS, PARTIAL CURB RETURNS ARE TO EXTEND TO THE LIMITS PRESCRIBED IN INDEX NO. 515. RAMPS CONSTRUCTED AT LOCATIONS WITHOUT SIDEWALKS ARE TO HAVE A LANDING CONSTRUCTED AT THE TOP OF EACH RAMP, SEE LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS.
2. WHEN ALTERING EXISTING PEDESTRIAN FACILITIES, WHERE EXISTING RESTRICTED CONDITIONS PRECLUDE THE ACCOMMODATION OF A RAMP SLOPE OF 1:12, A RAMP SLOPE BETWEEN 1:12 AND 1:10 IS PERMITTED FOR A RISE OF 6" MAXIMUM. WHERE COMPLIANCE WITH THE REQUIREMENTS FOR CROSS SLOPE CANNOT BE FULLY MET, THE MINIMUM FEASIBLE CROSS SLOPE SHALL BE PROVIDED. RAMP SLOPES ARE NOT REQUIRED TO EXCEED 15' IN LENGTH.
3. IF SIDEWALK CURB RAMPS ARE LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, THEN PROVIDE TRANSITION SLOPES TO THE RAMP; OTHERWISE A SIDEWALK CURB MAY BE REQUIRED.
4. ALL SIDEWALKS, RAMPS, AND LANDINGS WITH A CROSS SLOPE OF 0.02 SHOWN IN THIS INDEX ARE 0.02 MAXIMUM. ALL RAMP SLOPES SHOWN IN THIS INDEX AS 1:12 ARE 1:12 MAXIMUM. LANDINGS SHALL HAVE SLOPES LESS THAN OR EQUAL TO 0.02 IN ANY DIRECTION.
5. GRADE BREAKS AT THE TOP AND BOTTOM OF RAMPS SHALL BE PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE DIRECTION OF THE RAMP SLOPE.
6. WHERE A SIDEWALK CURB RAMP IS CONSTRUCTED WITHIN EXISTING CURB, CURB AND GUTTER AND/OR SIDEWALK, THE EXISTING CURB OR CURB AND GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITION OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB AND GUTTER IS LESS THAN 5' LONG. EXISTING SIDEWALKS SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG. FOR CONCRETE SIDEWALK DETAILS REFER TO INDEX 310.
7. SIDEWALK CURB RAMP ALPHA-IDENTIFICATIONS ARE FOR REFERENCE PURPOSES (PLANS, PERMITS, ETC.). ALPHA-IDENTIFICATIONS CR-I AND CR-J WERE INTENTIONALLY OMITTED.
8. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE RAMP AND TO A DEPTH OF 2'. DETECTABLE WARNINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 527. FOR THE LAYOUT OF DETECTABLE WARNINGS, REFER TO THE TYPICAL PLACEMENT OF DETECTABLE WARNINGS DETAILS. DETECTABLE WARNINGS SHALL NOT BE PROVIDED ON TRANSITION SLOPES.
9. WHEN DETECTABLE WARNINGS ARE PLACED ON A SLOPE GREATER THAN 5%, DOMES SHALL BE ALIGNED WITH THE CENTERLINE OF THE RAMP; OTHERWISE DOMES ARE NOT REQUIRED TO BE ALIGNED.
10. DETECTABLE WARNINGS SHALL BE REQUIRED ON SIDEWALKS AND SHARED USE PATHS AT:
    - A. INTERSECTING ROADS
    - B. MEDIAN CROSSINGS GREATER THAN OR EQUAL TO 6' IN WIDTH
    - C. RAILROAD CROSSINGS
    - D. SIGNALIZED DRIVEWAYS
11. DETECTABLE WARNINGS - ACCEPTANCE CRITERIA:
    - A. COLOR AND TEXTURE SHALL BE COMPLETE AND UNIFORM
    - B. 90% OF INDIVIDUAL TRUNCATED DOMES SHALL BE IN
    - C. ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT STANDARDS FOR TRANSPORTATION FACILITIES, SECTION 705
    - D. THERE SHALL BE NO MORE THAN 4 NON-COMPLIANT DOMES IN ANY ONE SQUARE FOOT
    - E. NON-COMPLIANT DOMES SHALL NOT BE ADJACENT TO OTHER NON-COMPLIANT DOMES
    - F. SURFACES SHALL NOT DEVIATE MORE THAN 0.10" FROM A TRUE PLANE
12. DETECTABLE WARNINGS SHALL BE INSTALLED NO GREATER THAN 5' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
13. DETECTABLE WARNINGS SHALL NOT BE INSTALLED OVER GRADE BREAKS.



CURB RAMP NOMENCLATURE
PICTORIAL VIEW

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS | ROAD 013 | 2017/03/11



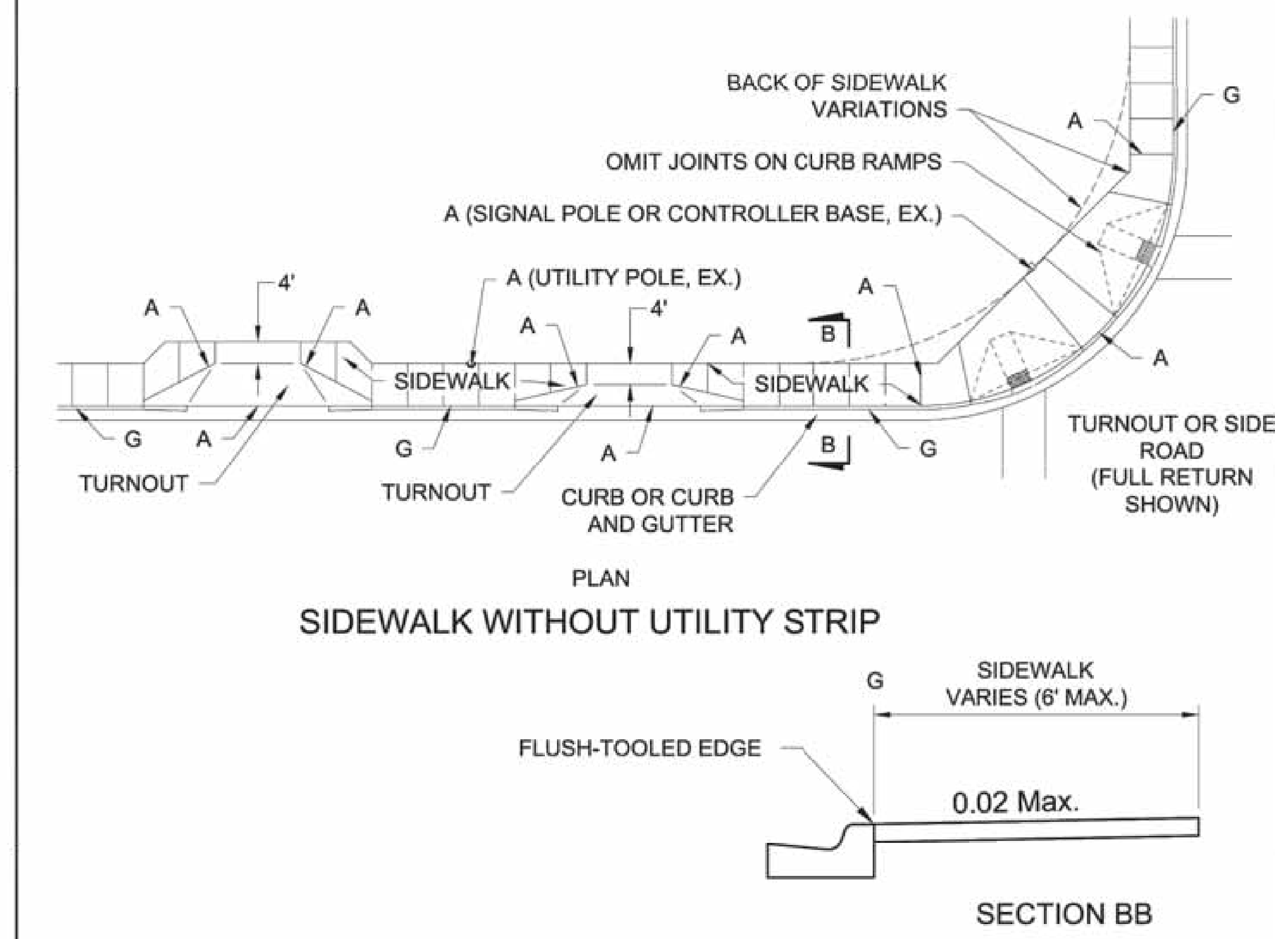
BACK OF SIDEWALK VARIATIONS
OMIT JOINTS ON CURB RAMPS
A (SIGNAL POLE OR CONTROLLER BASE, EX.)
A (UTILITY POLE, EX.)
TURNOUT
SIDEWALK
UTILITY STRIP
CURB OR CURB AND GUTTER
TURNOUT OR SIDE ROAD (FULL RETURN SHOWN)
PLAN
SIDEWALK WITH UTILITY STRIP
UTILITY STRIP (VARIES)
SIDEWALK (VARIES 5' MIN.)
0.02
0.02 Max.
SECTION AA

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. CONSTRUCT SIDEWALKS IN ACCORDANCE WITH SPECIFICATION SECTION 522.
2. INCLUDE DETECTABLE WARNINGS ON SIDEWALK CURB RAMPS AND CONSTRUCT IN ACCORDANCE WITH INDEX NO. 304.
3. DETECTABLE WARNINGS ARE NOT REQUIRED WHERE SIDEWALKS INTERSECT URBAN FLARED TURNOUTS.
4. BOND BREAKER MATERIAL CAN BE ANY IMPERMEABLE COATED OR SHEET MEMBRANE OR PREFORMED MATERIAL HAVING A THICKNESS OF NOT LESS THAN 6 MILS NOR MORE THAN ½".
5. FOR TURNOUTS SEE INDEX NO. 515.
6. CONSTRUCT SIDEWALKS WITH 1' THICK EDGE BEAM THROUGH THE LIMITS OF ANY SURFACE MOUNTED PEDESTRIAN/BICYCLE PICKET RAILING OR PIPE GUIDERAIL SHOWN IN THE PLANS.

CONCRETE SIDEWALK ON CURBED ROADWAYS

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | CONCRETE SIDEWALK SHEET 1 | ROAD 035 | 2017/03/11



BACK OF SIDEWALK VARIATIONS
OMIT JOINTS ON CURB RAMPS
A (SIGNAL POLE OR CONTROLLER BASE, EX.)
A (UTILITY POLE, EX.)
SIDEWALK
TURNOUT
CURB OR CURB AND GUTTER
TURNOUT OR SIDE ROAD (FULL RETURN SHOWN)
PLAN
SIDEWALK WITHOUT UTILITY STRIP
SIDEWALK VARIES (6' MAX.)
FLUSH-TOOLED EDGE
0.02 Max.
SECTION BB

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. CONSTRUCT SIDEWALKS IN ACCORDANCE WITH SPECIFICATION SECTION 522.
2. INCLUDE DETECTABLE WARNINGS ON SIDEWALK CURB RAMPS AND CONSTRUCT IN ACCORDANCE WITH INDEX NO. 304.
3. DETECTABLE WARNINGS ARE NOT REQUIRED WHERE SIDEWALKS INTERSECT URBAN FLARED TURNOUTS.
4. BOND BREAKER MATERIAL CAN BE ANY IMPERMEABLE COATED OR SHEET MEMBRANE OR PREFORMED MATERIAL HAVING A THICKNESS OF NOT LESS THAN 6 MILS NOR MORE THAN ½".
5. FOR TURNOUTS SEE INDEX NO. 515.
6. CONSTRUCT SIDEWALKS WITH 1' THICK EDGE BEAM THROUGH THE LIMITS OF ANY SURFACE MOUNTED PEDESTRIAN/BICYCLE PICKET RAILING OR PIPE GUIDERAIL SHOWN IN THE PLANS.

CONCRETE SIDEWALK ON CURBED ROADWAYS

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS | CONCRETE SIDEWALK SHEET 2 | ROAD 036 | 2017/03/11

CITY OF FORT LAUDERDALE
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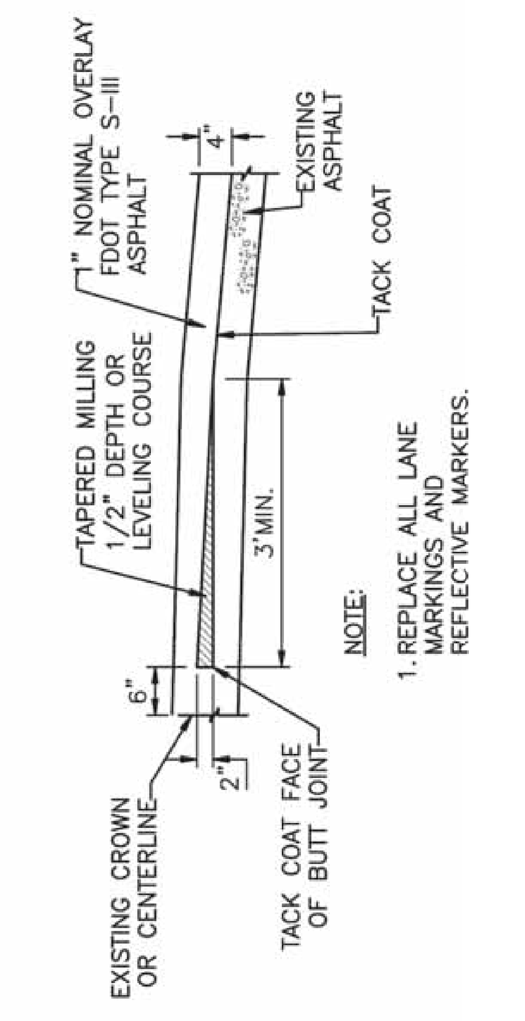

NOTE:
1. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.

DATE: FEB'06	SCALE: N.T.S.	ASPHALT TAPER DETAIL	C 101
REVISED: MARCH '09	DRAWN BY: R.C.		

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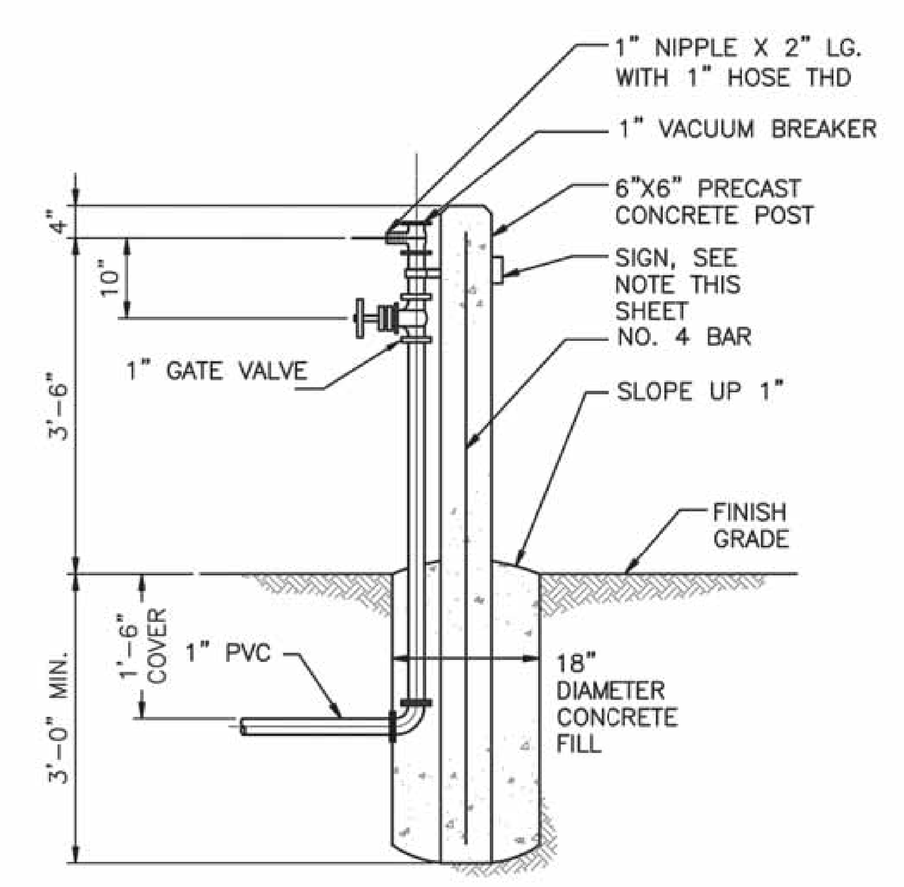

DATE: FEB'08	SCALE: N.T.S.	HOSE BIB	M 961
REVISED: MARCH '09	DRAWN BY: R.C.		

CITY OF FORT LAUDERDALE
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GENERAL NOTES

1. BASE MATERIAL SHALL BE PLACED IN LAYERS NOT THICKER THAN 6" COMPACTED THICKNESS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
2. ASPHALT PAVEMENT JOINTS (ASPHALTIC CONCRETE) SHALL BE MECHANICALLY SAWED.
3. NEW SURFACE MATERIAL WILL BE D.O.T. TYPE III ASPHALTIC CONCRETE.
4. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 & MINIMUM CARBONATE CONTENT OF 70% FOR MAJOR STREETS AND 60% FOR RESIDENTIAL STREETS.
5. IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH ON MAJOR STREET AND 1-1/2" ASPHALTIC CONCRETE PATCH ON RESIDENTIAL STREET AND PARKING LOT TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL PLACED WITH A PERMANENT PATCH.
6. GAS MAINS 4" OR SMALLER IN SIZE SHALL BE CONSTRUCTED AS SHOWN IN THIS DETAIL WITH THE PROVISION OF 3" MINIMUM WIDTH CONTINUOUS METALLIC TAPE OR #12 WIRE WRAPPED AROUND THE CONDUITS.
7. THE PROVISIONS IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.
8. THIS DETAIL APPLIES FOR ROAD CROSSINGS ONLY. FOR PARALLEL INSTALLATIONS WITHIN THE ROADWAY, EITHER HALF A LANE OR A FULL RESTORATION SHALL BE CONSTRUCTED IN CONFORMANCE WITH APPLICABLE DETAILS.

DATE: APRIL'04	SCALE: N.T.S.	RESTORATION OF PAVEMENT UTILITIES INSTALLATION CROSSING	P 4.11 2 OF 3
REVISED: MARCH '09	DRAWN BY:		

CITY OF FORT LAUDERDALE
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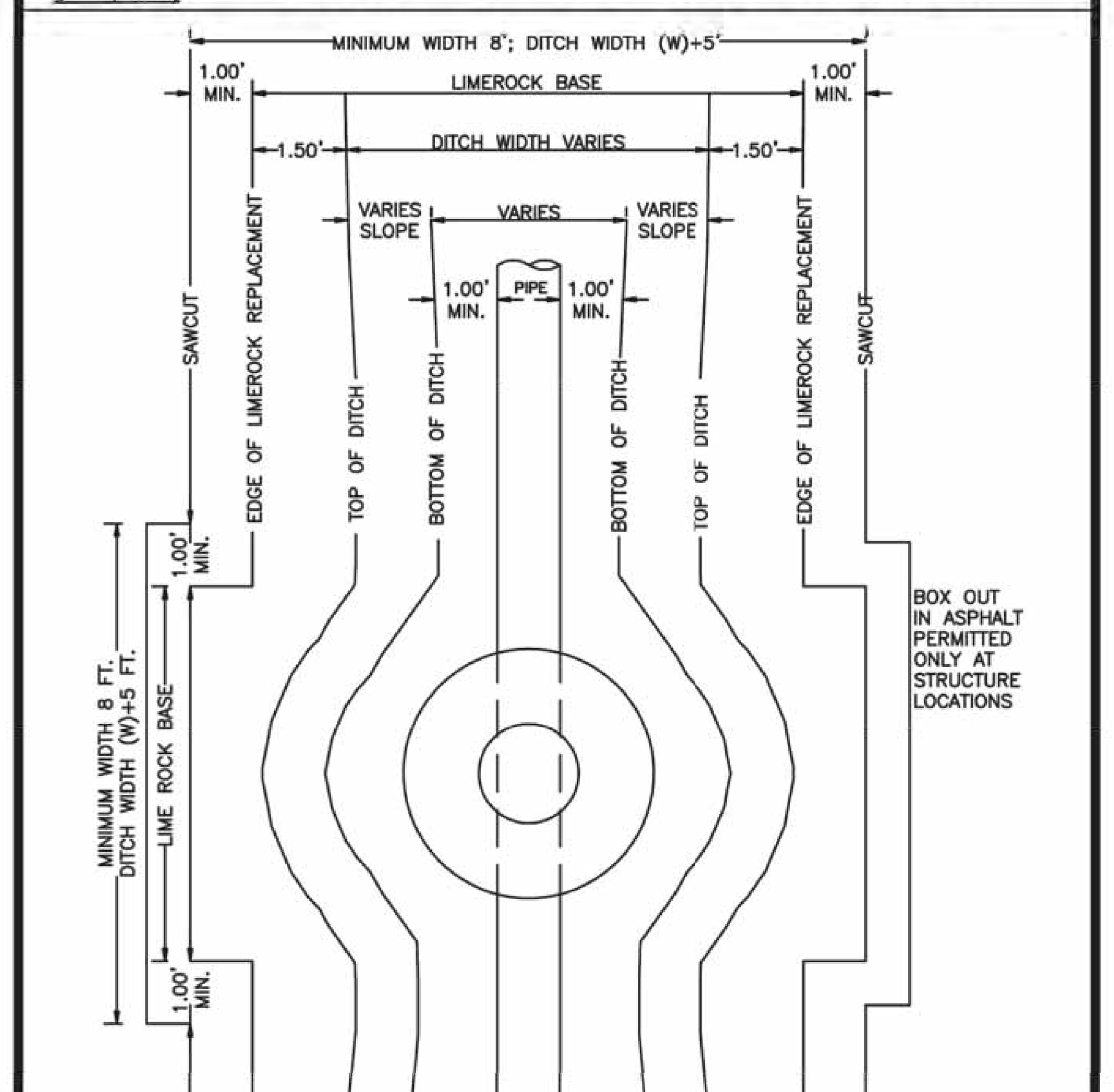

MINIMUM WIDTH 8'; DITCH WIDTH (W)+5'
1.00' MIN.
LIMEROCK BASE
1.50'
DITCH WIDTH VARIES
VARIES SLOPE
VARIES
PIPE
SAWCUT
EDGE OF LIMEROCK REPLACEMENT
TOP OF DITCH
BOTTOM OF DITCH
MINIMUM WIDTH 8 FT. DITCH WIDTH (W)+5 FT.
LIME ROCK BASE
BOX OUT IN ASPHALT PERMITTED ONLY AT STRUCTURE LOCATIONS

DATE: APRIL'04	SCALE: N.T.S.	RESTORATION OF PAVEMENT UTILITIES INSTALLATION PARALLEL	P 4.12
REVISED: MARCH '09	DRAWN BY:		

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PREPARED BY:

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DESIGN CRITERIA PACKAGE

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STANDARD DETAILS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
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ENGINEER: GARY R. RATAY, P.E.
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DATE: 9/28/2021

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DRAWN BY: AL	DATE: MAR 2021
DESIGNED BY: GR	SCALE: AS NOTED
CHECKED BY: GR	FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

SHEET NO. 17 OF 31

CAD FILE: 12412-MULTI-DETL

DRAWING FILE NO. 4-142-31

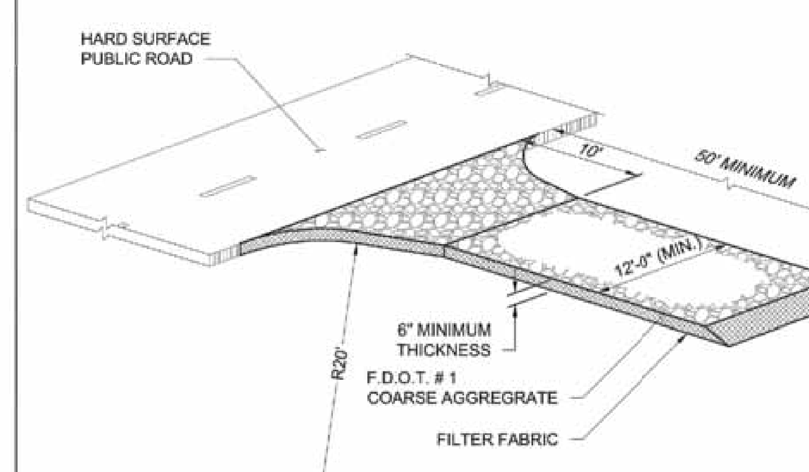
EROSION AND SEDIMENT CONTROL:

1. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION IN ORDER TO ENSURE POLLUTION PREVENTION. CONTRACTOR TO COMPLY WITH ALL LOCAL STATE AND OTHER GOVERNMENTAL ENVIRONMENTAL REGULATIONS THROUGHOUT CONSTRUCTION.
2. DURING CONSTRUCTION ALL CATCH BASIN INLETS SHALL BE PROTECTED TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE CATCH BASIN.
3. SILT FENCES SHALL BE INSTALLED AS NECESSARY TO CONTROL OR PREVENT DISCHARGE OF SEDIMENT ONTO ADJACENT UNDISTURBED AREAS, OR OFF-SITE AREAS.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITHIN A REASONABLE PERIOD OF TIME TO ASSURE MINIMUM EROSION OF SOILS.
5. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
6. ALL EXPOSED AREAS SHALL BE SODDED AS SPECIFIED WITHIN 30 DAYS OF FINAL GRADING.
7. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST ONCE A WEEK.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
9. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
10. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY CITY, COUNTY, AND STATE OF FLORIDA ON SITE INSPECTION, AT NO ADDITIONAL COST TO THE OWNER.
11. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.
12. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL. THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
13. BURNING OF DEBRIS WILL NOT BE ALLOWED.
14. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
15. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATER WAYS. IN ADDITION CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT SITE IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES IF EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC. THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES. EROSION CONTROL BARRIER SHALL BE ESTABLISHED AS THE FIRST ITEM OF WORK.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | EROSION AND SEDIMENT CONTROL NOTES SHEET 1 | ESC 001

16. THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM APPLIES TO ALL CONSTRUCTION ACTIVITY THAT: 1) CONTRIBUTE STORMWATER DISCHARGES TO SURFACE WATER OF THE STATE OR INTO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4); 2) DISTURBS ONE OR MORE ACRES OF LAND; OR 3) LESS THAN ONE ACRE IS INCLUDED IF THE ACTIVITY IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT THAT WILL MEET OR EXCEED THE ONCE ACRE THRESHOLD. DISTURB INCLUDES CLEARING, GRADING AND EXCAVATING.
17. FOR CONSTRUCTION ACTIVITY THAT IS SUBJECT TO THE NPDES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM, THE CONTRACTOR SHALL:
    - 17.1. OBTAIN A GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DOCUMENT 62-621.300(4)(A).
    - 17.2. COMPLY WITH ALL REQUIREMENTS OF THE GENERIC PERMIT.
    - 17.3. DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
    - 17.4. COMPLETE A NOTICE OF INTENT (NOI) FLORIDA DEPARTMENT OF ENVIORNMENTAL PROTECTION FORM 62-621.300(4)(B) IN ITS ENTIRETY USING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S WEBSITE.
18. SUBMIT COPIES OF THE SWPPP AND THE NOI TO THE ENGINEER AS INFORMATIONAL RECORDS. THESE SUBMITTALS WILL NOT BE REVIEWED BY THE ENGINEER.
19. CONTRACTOR TO CLEAN AND REPAIR ALL EXISTING STORMWATER INFRASTRUCTURE THAT IS IMPACTED BY CONSTRUCTION ACTIVITIES, BEFORE LEAVING THE JOBSITE.
20. CONTRACTOR TO REMOVE ALL FILTER FABRIC AND POLLUTION PREVENTION ITEMS BEFORE THE FINAL WALK-THROUGH.

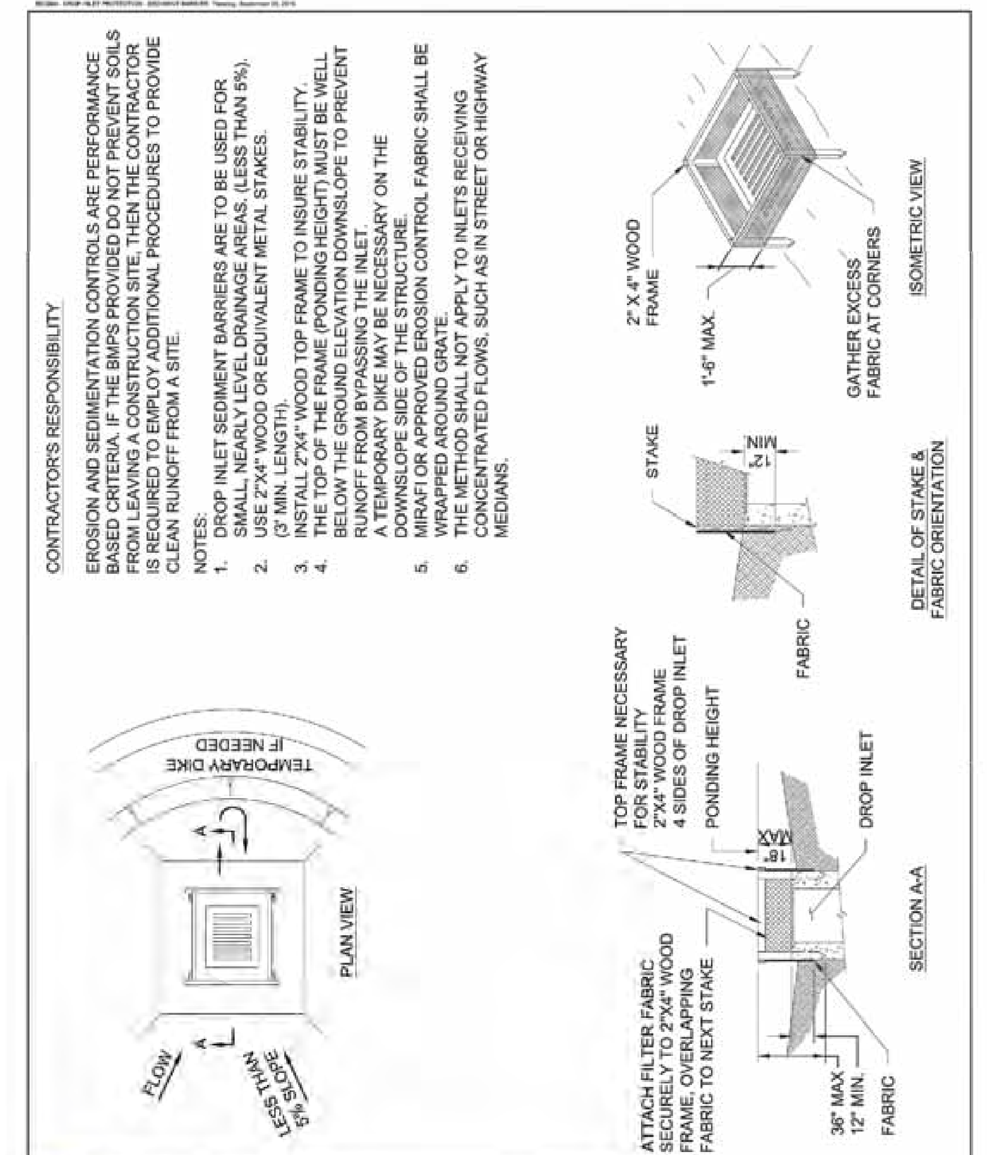
CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | EROSION AND SEDIMENT CONTROL NOTES SHEET 2 | ESC 001



NOTES:

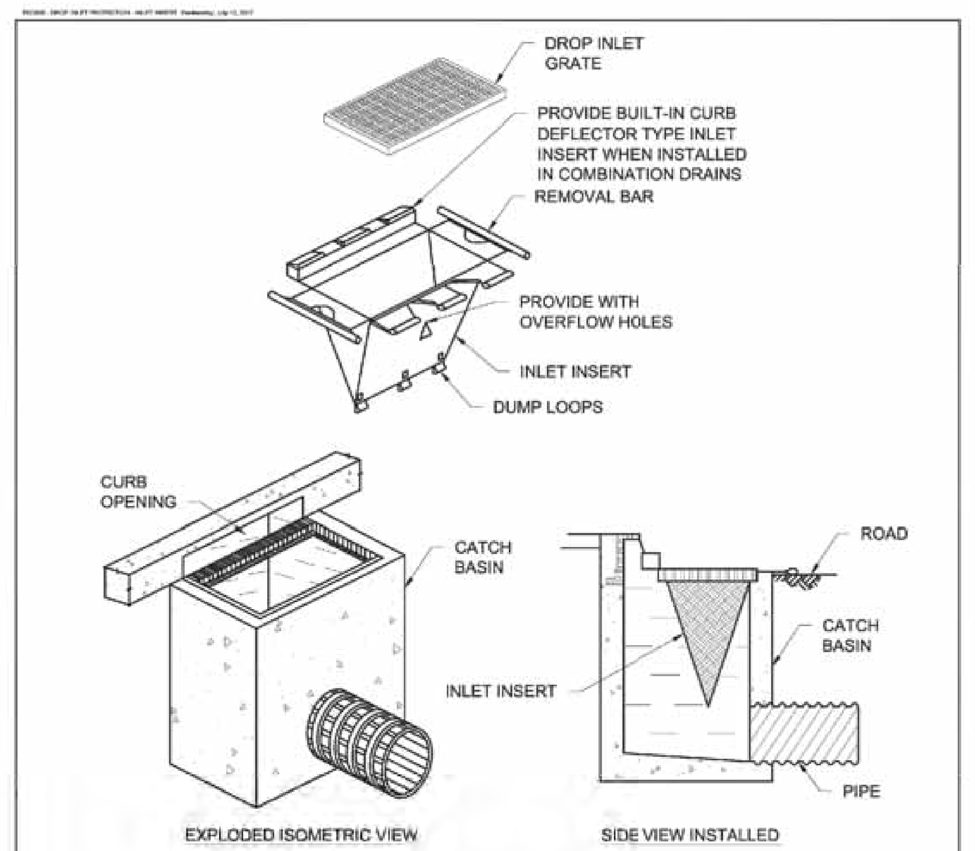
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | GRAVEL CONSTRUCTION ENTRANCE | ESC 002



TEMPORARY DIKE IF NEEDED
FLOW
LESS THAN 5% SLOPE
PLAN VIEW
TOP FRAME NECESSARY FOR STABILITY 2"X4" WOOD FRAME 4 SIDES OF DROP INLET
PONDING HEIGHT
18" MAX
DROP INLET
ATTACH FILTER FABRIC SECURELY TO 2"X4" WOOD FRAME, OVERLAPPING FABRIC TO NEXT STAKE
36" MAX 12" MIN.
FABRIC
SECTION A-A
DETAIL OF STAKE & FABRIC ORIENTATION
ISOMETRIC VIEW

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | DROP INLET PROTECTION - SEDIMENT BARRIER | ESC 004

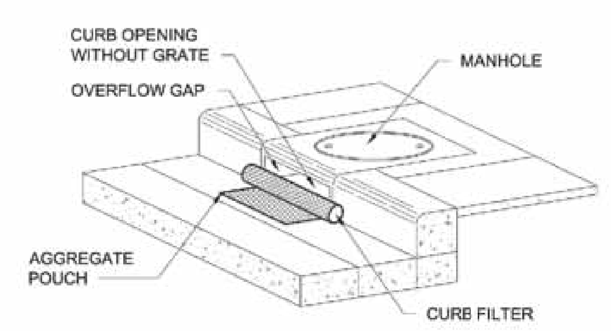


DROP INLET GRATE
PROVIDE BUILT-IN CURB DEFLECTOR TYPE INLET INSERT WHEN INSTALLED IN COMBINATION DRAINS
REMOVAL BAR
PROVIDE WITH OVERFLOW HOLES
INLET INSERT
DUMP LOOPS
CURB OPENING
CATCH BASIN
ROAD
INLET INSERT
PIPE
EXPLODED ISOMETRIC VIEW
SIDE VIEW INSTALLED

NOTES:

1. THE INLET INSERT SHALL BE A SEDIMENT CONTROL DEVICE DESIGNED FOR DROP INLETS OR COMBINATION DRAINS WHERE A DROP INLET IS COUPLED WITH A CURB INLET.
2. THE INLET INSERT SHALL BE MADE OF A PERMEABLE GEOTEXTILE THAT ALLOWS WATER TO PASS BUT PREVENTS SILT AND SEDIMENT FROM CLOGGING THE DRAIN SYSTEM.
3. THE CONTRACTOR SHALL CLEAN AND INSPECT REGULARLY AND AFTER EVERY MAJOR RAIN EVENT.
4. INLET INSERTS SHALL BE "SILTSACK" BY ACF ENVIRONMENTAL, OR EQUAL. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS.

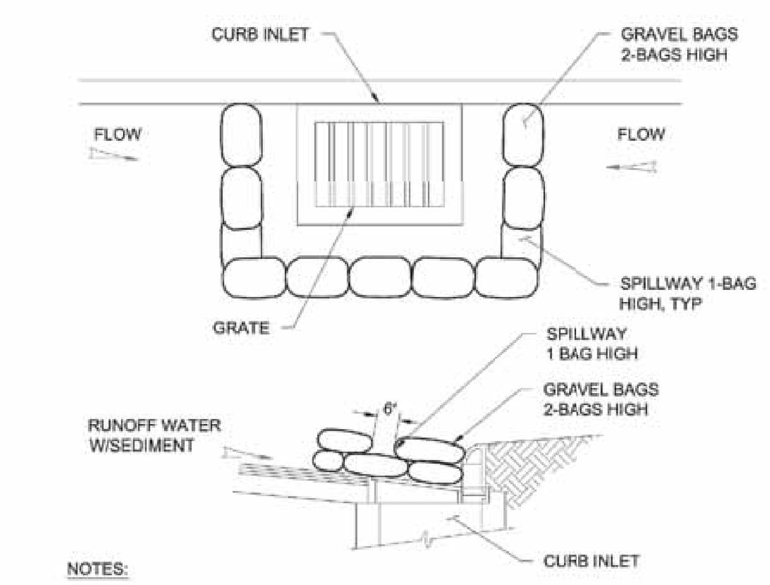
CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | DROP INLET PROTECTION - INLET INSERT | ESC 005



NOTES:

1. INSTALL CURB FILTERS AT ALL INLETS WITHOUT GRATES TO KEEP SILT, SEDIMENT AND CONSTRUCTION DEBRIS OUT OF THE STORM SYSTEM
2. THE CURB FILTER SHALL BE DANDY CURB AS MANUFACTURED BY DANDY PRODUCTS INC., OR EQUAL. SUBMIT SHOP A SHOP DRAWING FOR THE CURB FILTERS.
3. THE CURB FILTER SHALL FORM OF A CYLINDRICAL TUBE PLACED IN FRONT OF AND EXTENDING BEYOND THE INLET OPENING ON BOTH SIDES.
4. THE CURB FILTER SHALL HAVE A POUCH ON THE STREET SIDE OF THE UNIT FOR STONE AGGREGATE TO HOLD THE FILTER IN PLACE.
5. THE CURB FILTER SHALL BE CONSTRUCTED OF A HIGH VISIBILITY ORANGE MONOFILAMENT FABRIC.
6. FILL POUCH WITH FDOT #57 STONE AGGREGATE TO A LEVEL (AT LEAST HALF-FULL) THAT WILL KEEP UNIT IN PLACE DURING A RAIN EVENT AND CREATE A SEAL BETWEEN THE CURB FILTER AND THE SURFACE OF THE STREET.
7. CENTER THE UNIT AGAINST CURB OR MEDIAN INLET OPENING SO THAT THE CURB SIDE OF THE UNIT CREATES A SEAL WITH THE CURB OR MEDIAN BARRIER AND INLET STRUCTURE. THERE WILL BE APPROXIMATELY TWELVE (12) INCHES OF THE INLET PROTECTION UNIT OVERHANGING ON EACH SIDE OF THE OPENING.
8. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH RAIN EVENT.

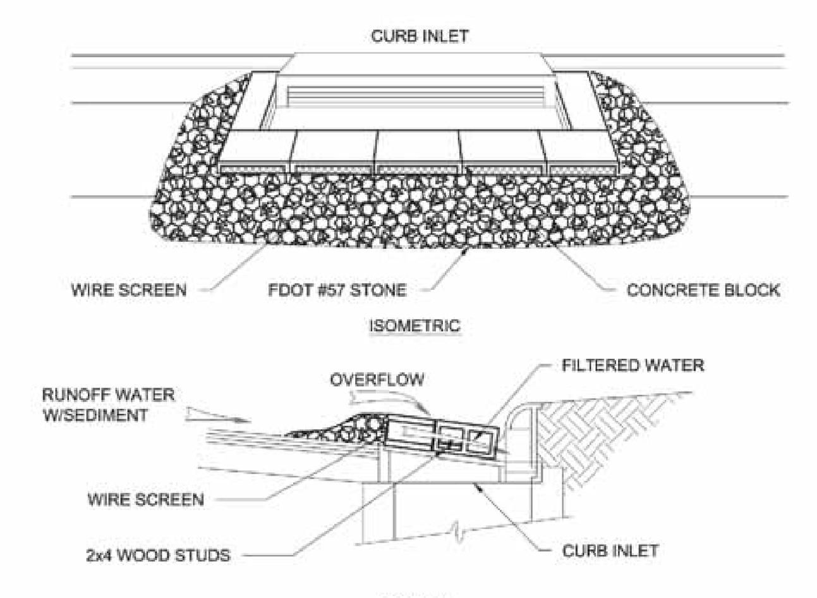
CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | CURB INLET PROTECTION - CURB FILTER | ESC 006



NOTES:

1. A SPILLWAY SHALL BE DESIGNATED FOR EACH DIRECTION OF APPROACHING FLOW AS SHOWN. THE SPILLWAY SHALL BE LOCATED TO ALLOW THE MAXIMUM AMOUNT OF STORMWATER TO POOL WITHOUT FLOODING AREAS UP GRADE OF THE INLET.
2. FOR INLETS THAT ARE NOT ADJACENT TO CURBS, PLACE GRAVEL BAGS ONE BAG HIGH AROUND THE ENTIRETY OF THE INLET TO ACCOMMODATE FLOW FROM ALL DIRECTIONS.
3. BAG MATERIAL: BAGS SHALL BE WOVEN POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE FABRIC, MINIMUM UNIT WEIGHT FOUR OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI IN CONFORMANCE WITH THE REQUIREMENTS IN ASTM D3786, AND ULTRAVIOLET STABILITY EXCEEDING 70% IN CONFORMANCE WITH THE REQUIREMENTS IN ASTM D4355.
4. BAG SIZE: EACH GRAVEL-FILLED BAG SHALL BE 18-INCHES X 12-INCHES X 3-INCHES AND HAVE A MASS OF APPROXIMATELY 33 LBS. ALTERNATIVE BAG SIZES SHALL BE CONSIDERED BASED ON LOCALLY AVAILABLE MATERIALS.
5. FILL MATERIAL: GRAVEL SHALL BE PEA GRAVEL 3/8 INCHES IN DIAMETER AND SHALL BE CLEAN AND FREE OF CLAY BALLS, ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | CURB INLET PROTECTION - GRAVEL BAG | ESC 007



NOTES:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2 - 3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR INLETS IN ROADWAYS WITH HEAVY TRAFFIC CONDITIONS PREFABRICATED FILTER INSERTS MAY BE USED.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | CURB INLET PROTECTION - BLOCK AND STONE | ESC 007

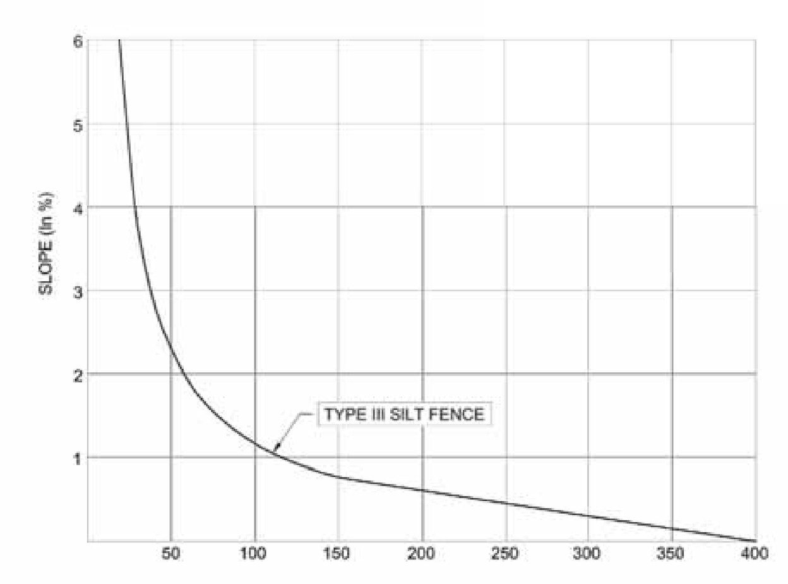
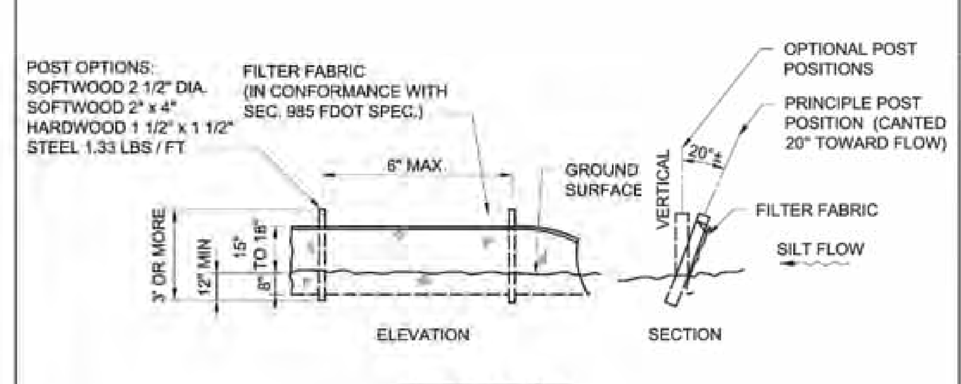


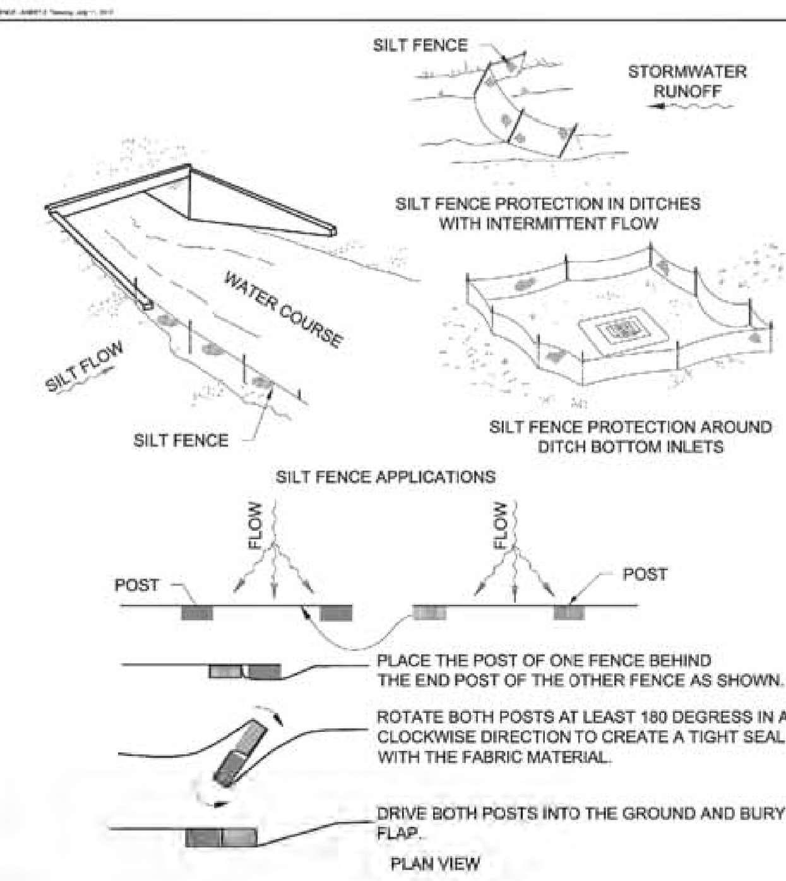
CHART 1: SILT FENCE SPACING



POST OPTIONS:
SOFTWOOD 2 1/2" DIA.
SOFTWOOD 2" x 4"
HARDWOOD 1 1/2" x 1 1/2"
STEEL 1.33 LBS / FT
FILTER FABRIC (IN CONFORMANCE WITH SEC. 985 FOOT SPEC.)
OPTIONAL POST POSITIONS
PRINCIPLE POST POSITION (CANTED 20° TOWARD FLOW)
6' MAX
GROUND SURFACE
FILTER FABRIC
SILT FLOW
ELEVATION
SECTION

TYPE III SILT FENCE

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | SILT FENCE - SHEET 1 | ESC 009



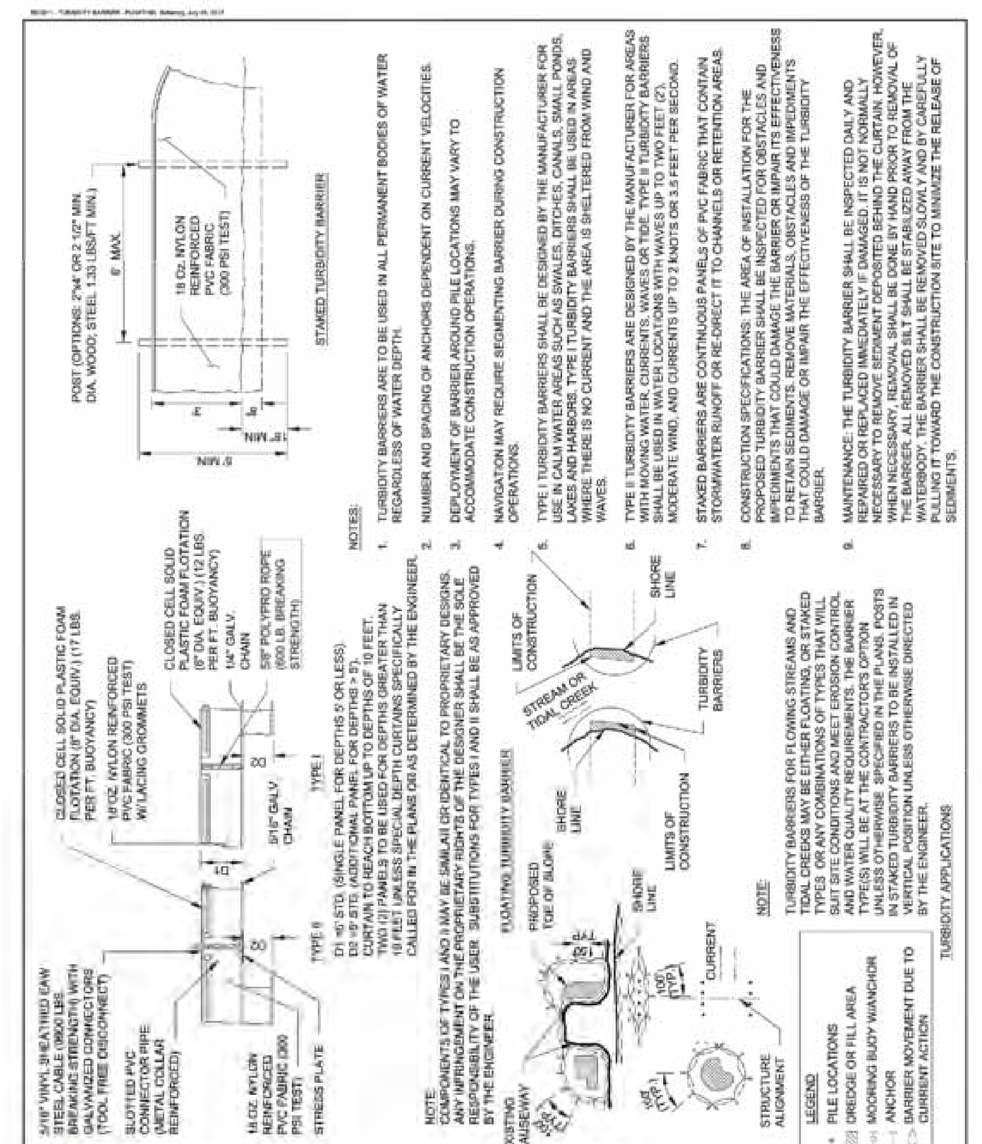
SILT FENCE
STORMWATER RUNOFF
SILT FENCE PROTECTION IN DITCHES WITH INTERMITTENT FLOW
WATER COURSE
SILT FLOW
SILT FENCE
SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
SILT FENCE APPLICATIONS
FLOW
POST
POST
PLACE THE POST OF ONE FENCE BEHIND THE END POST OF THE OTHER FENCE AS SHOWN.
ROTATE BOTH POSTS AT LEAST 180 DEGRESS IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
DRIVE BOTH POSTS INTO THE GROUND AND BURY FLAP.
PLAN VIEW

JOINING TWO SILT FENCES

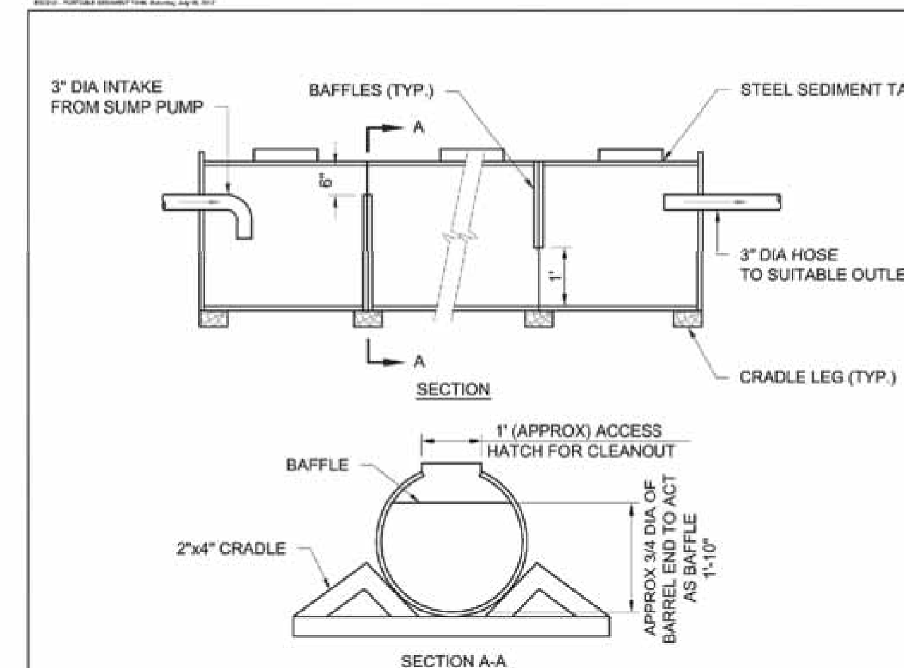
NOTES:

1. WHERE USED IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH CHART 1.
2. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
3. WHERE USED AS SLOPE PROTECTION . SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | SILT FENCE - SHEET 2 | ESC 010



CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | TURBIDITY BARRIER - FLOATING | ESC 011



NOTES:

1. CLEAN OUT THE SEDIMENT TANK WHEN ONE THIRD (1/3) FILLED WITH SILT.
2. ALL SEDIMENT COLLECTED IN THE TANK SHALL BE DISPOSED OF IN A SEDIMENT TRAPPING DEVICE, AN APPROVED LOCATION IN WHICH FURTHER SEDIMENT TRANSPORT WILL NOT OCCUR OR AS APPROVED BY THE INSPECTOR.
3. PORTABLE SEDIMENT TANK SHALL BE AN ABOVE GROUND HORIZONTAL SINGLE-WALL UL-142 MANUFACTURED BY HIGHLAND TANK OR WEIR BOX MANUFACTURED BY RAIN FOR RENT OR EQUIVALENT.

CITY OF FORT LAUDERDALE — PUBLIC WORKS DEPARTMENT — ENGINEERING DETAILS | PORTABLE SEDIMENT TANK | ESC 012

PREPARED BY:

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DESIGN CRITERIA PACKAGE

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

ENGINEER: GARY R. RATAY, P.E.
REG. No.: 40682
DATE: 9/28/2021
TEL: (954) 535-5100
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DRAWN BY: AL | DATE: MAR 2021
DESIGNED BY: GR | SCALE: AS NOTED
CHECKED BY: GR | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
STORMWATER POLLUTION PREVENTION PLAN

SHEET NO. 18 OF 31

CAD FILE: 12412-MULTI-DETL

DRAWING FILE NO. 4-142-31

PLAN SYMBOLS

- HOME RUN TO PANELBOARD. NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2 #12 CONDUCTORS.
- CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING
- CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
- CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
- FLEXIBLE CONDUIT WITH EQUIPMENT CONNECTION.
- CONDUIT ROUTING ENVELOPE (CONCRETE ENCASED DUCTBANK).
- WALL MOUNTED LED LIGHTING FIXTURE.
- LED LIGHTING FIXTURE, CEILING MOUNTED.
- EXTERIOR LED LUMINAIRE AND MOUNTING STANDARD.
- EXISTING EXTERIOR LIGHTING.
- EMERGENCY BATTERY PACK LIGHTING FIXTURE.
- (J) JUNCTION BOX N.E.C. SURFACE MOUNTED UNLESS INDICATED OTHERWISE.
- [J] JUNCTION BOX PER N.E.C., NEMA 4X 316 SSS, FLUSH MOUNTED UNLESS INDICATED OTHERWISE.
- [JB] MOTOR JUNCTION BOX, NEMA 4X 316 SS JUNCTION BOX, 12" X 12" X 6" MINIMUM SIZE ENLARGE IF REQUIRED PER N.E.C.
- FLUSH OR SURFACE MOUNTED LIGHTING PANELBOARD.
- FLUSH OR SURFACE MOUNTED POWER PANELBOARD.
- XØ DRY TYPE TRANSFORMER. NO. INDICATES KVA RATING.
- XØ LIQUID FILLED TRANSFORMER, KVA RATING AS SHOWN
- FLUSH MOUNTED RECEPTACLE WITH USB OUTLET
- 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
- 20A, 125V, 3W GFI DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR OR 6" ABOVE FINISHED COUNTER AS REQUIRED (AFC)
- 20A, 125V, 3W DUPLEX RECEPTACLE, SURFACE MOUNTED.
- SURFACE MOUNTED GROUND FAULT DUPLEX WEATHERPROOF RECEPTACLE 20A, 125V, 3W – MOUNTED 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
- 20A, 125, 3W DOUBLE DUPLEX RECEPTACLE IN FLUSH OUTLET BOX.
- FLUSH MOUNTED GROUND FAULT WEATHERPROOF DUPLEX RECEPTACLE 20A, 125V, 3W –MOUNTED 48" ABOVE FINISHED FLOOR.
- FLUSH MOUNTED GFI WP DUPLEX RECEPTACLE WITH COVER RATED NEMA 4 WHILE IN USE.
- DISCONNECT RACK MOUNTED.
- OFF REMOTE/DISCONNECT RACK MOUNTED WITH JUNCTION BOX MOUNTED BELOW OFF REMOTE. NEMA 3R SS UNLESS OTHERWISE NOTED.
- S SINGLE POLE SWITCH IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED (TYPICAL).
- S_S SINGLE POLE SWITCH, SURFACE MOUNTED.
- S_3 THREE–WAY SWITCH IN FLUSH OUTLET BOX.
- S_4 FOUR–WAY SWITCH IN FLUSH OUTLET BOX.
- NON–FUSIBLE DISCONNECT SWITCH, 30A,3P NEMA 4X 316 SS UNLESS OTHERWISE INDICATED.
- 30/20 NON–FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS.
- (10) ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
- [F] FUSED DISCONNECT SWITCH(30/20: 30=SWITCH RATING, 20=FUSE RATING) 3 POLE–UNLESS NOTED OTHERWISE.
- (M) MOTORIZED VALVE
- COMBINATION MOTOR STARTER, DISCONNECT SWITCH
- [VFD] VARIABLE FREQUENCY DRIVE
- (T) THERMOSTAT
- ELECTRIC HEATER

PLAN SYMBOLS (CONTINUED)

- □ CMH CONTROL PULLBOX. SEE "PULL BOX DETAIL"
- □ PMH POWER MANHOLE. SEE "MANHOLE DETAIL"
- (FS) FLOW SWITCH
- (FE) FLOW ELEMENT
- (LE) LEVEL ELEMENT
- (LS) LIMIT SWITCH
- (SF) SEAL FAIL
- (LLS) LIQUID LEVEL SWITCH
- (VS) VIBRATION SWITCH
- [AIT] ANALYSIS INDICATING TRANSMITTER
- [FIT] FLOW INDICATING TRANSMITTER
- [LIT] LEVEL INDICATING TRANSMITTER
- (TS) TEMPERATURE SWITCH
- (SH) SPACE HEATER
- (AE) ANALYTICAL ELEMENT
- (PIT) PRESSURE INDICATING TRANSMITTER

SINGLE LINE DIAGRAM SYMBOLS

- COMBINATION MOTOR STARTER
- (GFI) GROUND FAULT INTERRUPTER
- FUSE
- CAPACITOR
- MOLDED CASE CIRCUIT BREAKER
- TYPICAL SELECTOR SWITCH AND CONTROL. SEE ELEMENTARY DIAGRAMS FOR EXACT TYPE.
- (10) ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
- SERVICE OR EQUIPMENT GROUND.
- NON–FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED.
- NON–FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS.
- CROUSE HINDS EYSR FITTING w/CHICO SPEED SEAL COMPOUND
- LIGHTING PANELBOARD
- POWER PANELBOARD.
- CURRENT TRANSFORMERS
- POTENTIAL TRANSFORMERS.
- [TC] NEMA 4X 316 STAINLESS STEEL TERMINATION CABINET.
- (TS) TEMPERATURE SWITCH
- (SF) SEAL FAIL SWITCH
- (PIT) PRESSURE INDICATING TRANSMITTER
- (LSH) HIGH LEVEL FLOAT
- [FIT] FLOW INDICATING TRANSMITTER
- (FE) FLOW ELEMENT

CONTROL DIAGRAM SYMBOLS

- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- LIMIT SWITCH, NORMALLY OPEN
- LIMIT SWITCH, NORMALLY CLOSED
- PRESSURE SWITCH, NORMALLY OPEN
- PRESSURE SWITCH, NORMALLY CLOSED
- FLOAT SWITCH, NORMALLY OPEN
- FLOAT SWITCH, NORMALLY CLOSED
- FLOW SWITCH, NORMALLY OPEN
- FLOW SWITCH, NORMALLY CLOSED
- TEMPERATURE SWITCH, NORMALLY OPEN
- TEMPERATURE SWITCH, NORMALLY CLOSED
- NORMALLY OPEN, TIMED TO CLOSE CONTACT
- NORMALLY CLOSED, TIMED TO OPEN CONTACT
- NORMALLY CLOSED, TIMED TO CLOSE CONTACT
- NORMALLY OPEN, TIMED TO OPEN CONTACT
- (LS) LIMIT SWITCH
- (FS) FLOW SWITCH
- (PS) PRESSURE SWITCH
- (SV) SOLENOID VALVE
- (LLS) LIQUID LEVEL SWITCH
- (VS) VIBRATION SWITCH
- (SD) SMOKE DETECTOR
- (AR) ALARM RELAY
- (AT) ALARM TIMER
- (CR) CONTROL RELAY
- (M) MOTOR STARTER
- (TR) TIMING RELAY
- (XS) TORQUE SWITCH
- (A) ALARM INDICATING LIGHT
- (R) RUN INDICATING LIGHT
- MOMENTARY CONTACT PUSHBUTTON
- MOMENTARY BREAK PUSHBUTTON OR RESET
- K KEYED SWITCH
- MAINTAINED CONTACT ON–OFF SWITCH
- START/STOP(S/S) CONTROL SWITCH MAINTAINED CONTACT
- THREE POSITION MAINTAINED CONTACT SELECTOR SWITCH
- FUSE
- MOLDED CASE CIRCUIT BREAKER
- CONTROL POWER TRANSFORMER
- REMOTE TERMINAL BLOCK POINT

ABBREVIATIONS

A	AMPERES
AC	AIR CONDITIONER
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CURRENT
BKR	BREAKER
BLDG	BUILDING
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CU	CONDENSING UNIT
CT	CURRENT TRANSFORMER
DB	DIGESTER BLOWER
DE	DUKE ENERGY
EEB	EAST ELECTRICAL BUILDING
EFF	EFFLUENT
ELEC	ELECTRICAL
EM	EMERGENCY
ENCL	ENCLOSURE
ETM	ELAPSED TIME METER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FPL	FLORIDA POWER & LIGHT
FTC	FLOAT CABLE TERMINATION CABINET
FVNR	FULL VOLTAGE NON–REVERSING
GEN	GENERATOR
GFR	GROUND FAULT RECEPTACLE
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND–OFF–AUTOMATIC
HOR	HAND–OFF–REMOTE
HP	HORSEPOWER
JB	JUNCTION BOX
KVA	KILO VOLT–AMPERES
KW	KILOWATT
LCP	LOCAL CONTROL PANEL
LP	LOOP NUMBER
LOP	LOCAL OPERATOR PANEL
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MSC	MANUFACTURER SUPPLIED CABLE
MTD	MOUNTED
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
OH	OVERHEAD
P	POLE
PM	PHASE MONITOR
PS	PUMP STATION
PSCP	PUMP STATION CONTROL PANEL
SH	SHIELDED
SPD	SURGE PROTECTION DEVICE
SS	STAINLESS STEEL
SSS	SOLID STATE STARTER
STR	STARTER
SW	SWITCH
TC	TERMINATION CABINET
TYP	TYPICAL
UG	UNDERGROUND
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLT
VFD	VARIABLE FREQUENCY DEVICE
WEB	WEST ELECTRICAL BUILDING
W	WATT
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER
Ø	PHASE

NOTES

1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED.
2. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC... THAT ARE PART OF THE FINAL SYSTEM SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING HIS BID.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE, 2020 FLORIDA BUILDING CODE, 2014 NATIONAL FIRE PROTECTION ASSOCIATION AND SHALL COMPLY WITH ALL LOCAL RULES AND ORDINANCES.
4. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING, UNLESS OTHERWISE NOTED.
5. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
6. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE LATEST EDITION OF THE N.E.C. OR LOCAL CODES. ALL CONDUITS SHALL HAVE A BOND WIRE SIZED PER TABLE 250–122 OF THE NATIONAL ELECTRIC CODE.
7. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
8. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/OWNER.
9. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN TWO YEARS FROM DATE OF ACCEPTANCE.
10. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
11. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF THE FPL. SEE 16050 FOR ADDITIONAL INFORMATION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED OF HIS WORK.
13. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/ TYPE WRITTEN DIRECTORIES (NEW & EXISTING).
14. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
15. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL DRAWINGS & THE APPROVED MANUFACTURER'S SHOP DRAWINGS FOR THE EXACT LOCATION OF ALL EQUIPMENT.
16. NON–SHADED TEXT DENOTES NEW EQUIPMENT, STRUCTURES AND WORK. *SHADED AND SLANTED* TEXT DENOTES EXISTING EQUIPMENT OR STRUCTURES.
17. ALL CONTROL PANELS SHALL BE UL LISTED AND SHALL COMPLY WITH ARTICLE 409 OF THE NEC.
18. ALL EMPTY CONDUITS SHALL BE INSTALLED WITH PULL STRING.

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ERIC J. HAMMOND P.E.
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P.E. #39048
EB 5315

DESIGN CRITERIA PACKAGE

ERIC HAMMOND, P.E.
FL. LICENSE # PE39048

DRAWN BY: H.A | DATE: 04/08/2021
DESIGNED BY: H.A | SCALE: AS NOTED
CHECKED BY: E.H | FIELD BOOK:

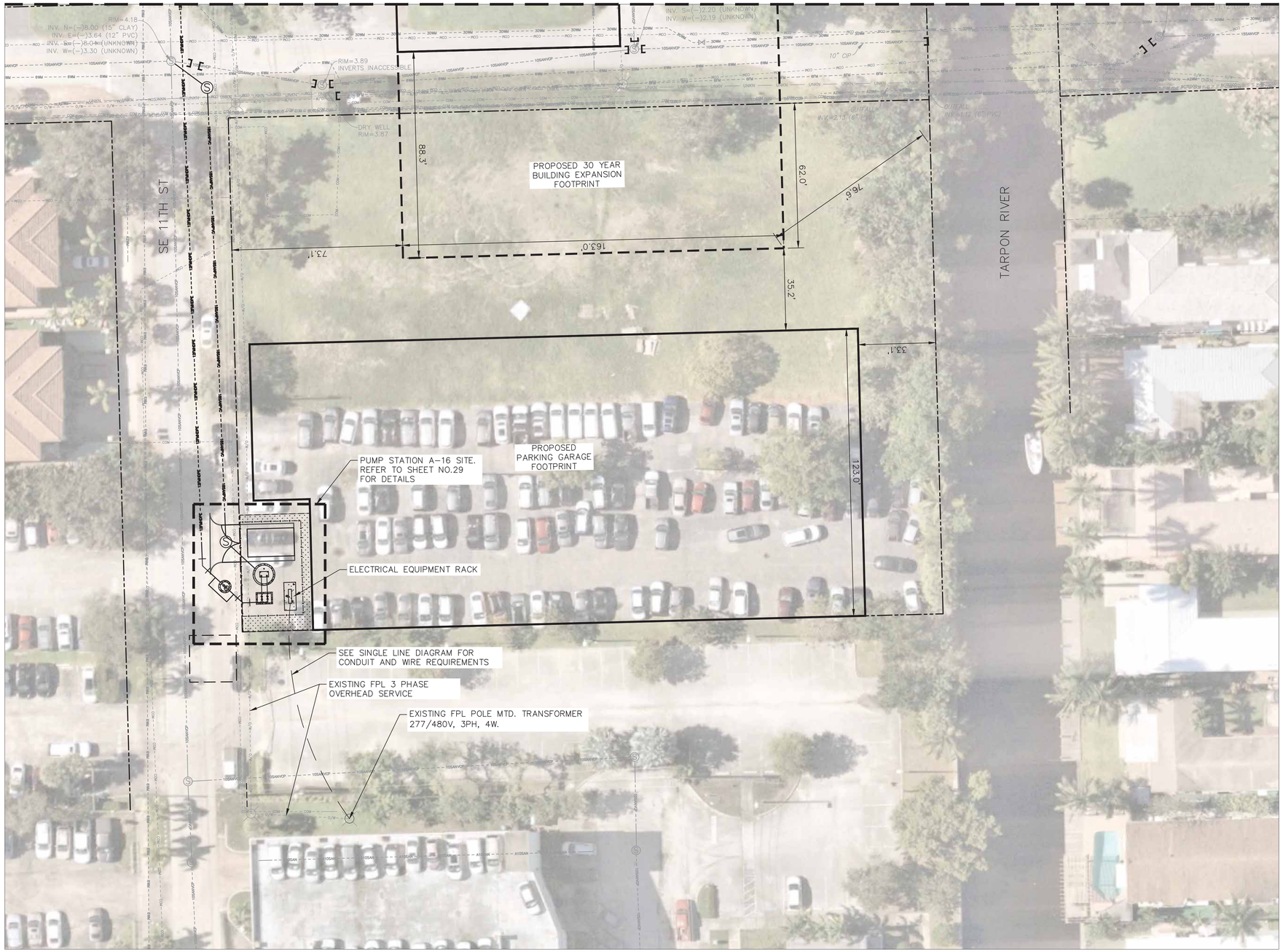
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS

SHEET NO. 19 OF 31
CAD FILE: 12412–19–LGND
DRAWING FILE NO. 4–142–31



ELECTRICAL SITE PLAN

SCALE: 1"=20'-0"

20 10 0 20'

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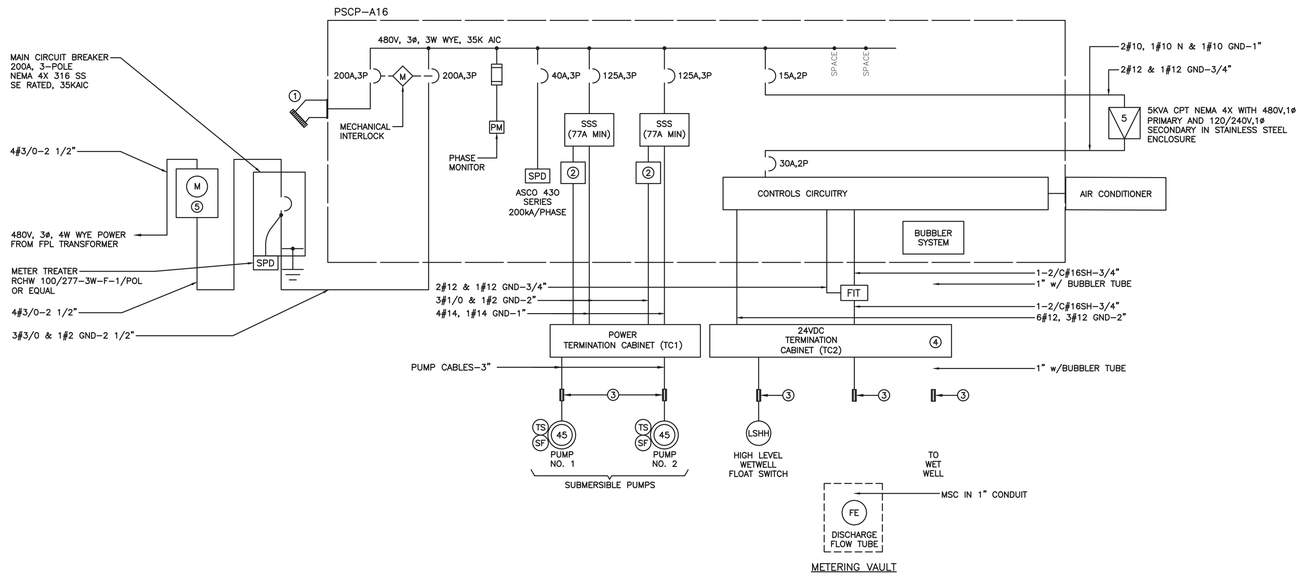
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
ELECTRICAL SITE PLAN

SHEET NO. 20 OF 31

CAD FILE: 12412-20-SITE

DRAWING FILE NO. 4-142-31



SINGLE LINE DIAGRAM

KEY NOTES:

1. GENERATOR RECEPTACLE EATON ARL2042.
2. PUMP SUPERVISION RELAY.
3. CROUSE HINDS EYSR FITTING FILLED WITH CHICO CEMENT (TYP.)
4. FURNISH WITH 20 PERCENT SPARE TERMINALS.
5. FPL METER CAN. FURNISHED AND INSTALLED BY CONTRACTOR.
6. CONFIGURE FLOW METER FOR OPERATION EXTERNALLY POWERED 4-20MA CIRCUIT.

LOAD TABULATION

SERVICE VOLTAGE: 480V, 3ø WYE

	DESCRIPTION	LOAD		AMPACITY
1	SUBMERSIBLE PUMPS	2 @ 45 HP EACH	=	130.0 AMPS
	MISCELLANEOUS	5 KVA	=	10.6 AMPS
		CONNECTED LOAD	=	140.5 AMPS

2 MINIMUM SERVICE ENTRANCE = 140.5 AMPS + (0.25)(65.0)= (156.75) AMPS

NOTES:

1. AMPACITIES PER PUMP NEC TABLE 250, USING NEXT LARGEST STANDARD SIZE.
2. SERVICE ENTRANCE MINIMUM SIZE AS PER ARTICLE 230 OF THE NATIONAL ELECTRICAL CODE.

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PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
SINGLE LINE DIAGRAM

SHEET NO. 21 OF 31
CAD FILE: 12412-21-RISR
DRAWING FILE NO. 4-142-31

POS	QTY	DESCRIPTION	MANUFACTURER PART NUMBER
1	1	MICROLOGIX 1100 PROGRAMMABLE CONTROLLER	ALLEN-BRADLEY, 1763-L16BWA
2	1	16-POINT SINK/SOURCE 24V INPUT MODULE	ALLEN-BRADLEY, 1762-IQ16
3	0	6-POINT SINK/SOURCE DC INPUT AND 6-POINT AC/DC RELAY OUTPUT MODEL	ALLEN-BRADLEY, 1762-IQ8OW6
4	1	4-CHANNEL CURRENT ANALOG INPUT MODULE	ALLEN-BRADLEY, 1762-IF4
5	1	COMPACT POWER SUPPLY, OUTPUT 24-28V DC, 100W, 4A INPUT VOLTAGE 100/240V AC	ALLEN-BRADLEY, 1606-XLP100E
6	1	SPIDER STX INDUSTRIAL RAIL ETHERNET SWITCH	HIRSCHMAN, 943 824-002
7	25	END ANCHOR, USED W/ STANDARD 35MM DIN RAIL, GRAY	ALLEN-BRADLEY, 1492-EAJ35
8	13	FINGER-SAFE SINGLE CIRCUIT FUSE BLOCK, NO BLOWN FUSE INDICATOR #30-#12 AWG, BLACK	ALLEN-BRADLEY, 1492-H6
9	5	1/2A, FAST-ACTING GLASS BODY FUSE 1/4IN X 1 1/4IN	LITTLEFUSE, 0312.500
10	6	1/32A, FAST-ACTING GLASS BODY FUSE 1/4IN X 1 1/4IN	GRANGER, ICM28
11	1	2A, SLO-BLO GLASS BODY FUSE, 1/4IN X 1 1/4IN	LITTLEFUSE, 0313.002
12	0	4A, SLO-BLO GLASS BODY FUSE, 1/4IN X 1 1/4IN	LITTLEFUSE, 0313.004
13	8	END BARRIER SINGLE CIRCUIT FUSE OR ISOLATION BLOCKS, BLACK	ALLEN-BRADLEY, 1492-N37
14	100	IEC 1-CIRCUIT FEED-THROUGH BLOCK, 4MM MAX WIRE, GRAY	ALLEN-BRADLEY, 1492-J4
15	12	END BARRIER, GRAY	ALLEN-BRADLEY, 1492-EBJ3
16	1	MINIATURE CIRCUIT BREAKER, 10 AMP RATING	ALLEN-BRADLEY, 1492-GH100
17	2	MINIATURE CIRCUIT BREAKER, 5 AMP RATING	ALLEN-BRADLEY, 1492-GH050
18	2	MINIATURE CIRCUIT BREAKER, 2 AMP RATING	ALLEN-BRADLEY, 1492-GH020
19	5	SURGE AND FILTER PROTECTION, DIN RAIL MOUNT, DATALINE UL 4979, 24V DC	ALLEN-BRADLEY, 4983-DD24
20	1	DIN RAIL AC SOLA-HD UNINTERRUPTIBLE POWER SYSTEM SDU - A SERIES AND SDU CF DRY CONTACT I/O RELAY CARD	EMMERSON SDU500A + SDUCFRELAYCARD
21	3	CONTROL RELAY OCTAL 8 PIN/COIL 120 VAC/ DPDT, 10 AMP RATING	750XBXRM4L
22	3	DIN RAIL MOUNT RELAY SOCKET SCREW TYPE, 8 PIN	IDEC, SR2P-06
23	1	ENCLOSURE BACK PANEL, WHITE	HOFFMAN, A60P36
24	1	ENCLOSURE CABINET SS 316 NEMA 4X ONE-DOOR, 3 POINT LATCH, 72 X 36 X 16	HOFFMAN
25	6	CENTER JUMPERS	ALLEN-BRADLEY, 1492-CJJ6-10
26	1	SNAP-IN MARKER CARD, WHITE	ALLEN-BRADLEY, 1492-M6X12
27	1	GROUND BAR KIT, 14 POSITION #14-4AWG	ELECTRICENTER ECGB14
28	4	DIN RAIL 35MM ALUMINUM 1M	IDEC, BNDN-1000
29	3	PANDUCT TYPE MC METRIC NARROW SLOT WIRING DUCT, GRAY 0.97 X 2.85 IN, 2M	PANDUIT, MC25X75IG2
30	3	WIRING DUCT COVER, 2M	PANDUIT, C251G2
31	0	RECTANGULAR LOUVERED VENT, STAINLESS STEEL 5"W X 4-5/8"H	WEST MARINE, 226993
32	1	CONTROL CABINET OUTLET FOR MOUNTING ON DIN RAILS	PHOENIX CONTACT SD-US/SC/LA/GY - 2963860
33	2	500 OHM RESISTORS, 1/2 WATT	
34	2	CAT 5E ETHERNET PATCH CABLE 2 FT	
35	0	WIRE LABELS, HEAT SHRINK WIRE LABELS	
36	0	PIN TERMINALS - BLUE	PANDUIT, FSD80-8DSL6
37	0	PIN TERMINAL - RED	PANDUIT, FS78-8-DSL2
38	1	MAPLE SYSTEMS 7" HMI TOUCHSCREEN 24VDC	MAPLESYSTEMS HMI5070B
39	2	YELLOW, PILOT LIGHT, LED 120 VAC	ALLEN-BRADLEY, 800FD-P5N5
40	2	RED PILOT LIGHT, LED 120 VAC	ALLEN-BRADLEY, 800FD-P4N5
41		AMBER PILOT LIGHT, LED 120 VAC	ALLEN-BRADLEY, 800FD-P0N5
42	2	UWZ SERIES AC HOUR METERS, FLUSH MOUNT, 120 VAC	INTERMATIC UWZ52E-120U
43	0	APC SMART-UPS ON-LINE, 1050 WATTS/1500VA, INPUT 120V / OUTPUT 120V	APC, SURTA1500XL
44	1	18" LED UNDERCABINET, WHITE + 48" POWER CORD	HALO HU1018D930P + HU105P
45	1	GFI DUAL RECEPTACLE, 20 AMP	HUBBLE GFWRST20W OR SIMILAR
46	0	750 OCTAL RELAYS, 11 PIN/ 3PDT, 16 AMP RATING	MAGNECRAFT, 750XCXM4L
47	0	RELAY SOCKET 300 VAC 10 AMP TYPE K	SQUARE D, 8501NR62
48	2	30MM SELECTOR SWITCH 3 POSITION, TYPE K, BLACK KNOB	SQUARE D, 9001KS43B/LEGENT PLAT
49	0	30MM CONTACT BLOCK 1N/O 1N/C	SQUARE D, 9001KA1
50	2	SELECTOR PADLOCK	SQUARE D, 9001K7
51	0	PANEL LIGHT SWITCH	SQUARE D, 9001SKS11BH5
52	1	40MM MUSHROOM HEAD BUTTON, TWO POSITIONS, NON-ILLUMINATED	CUTLER-HAMMER, HT8DBR
53	1	PRESSURE GAUGE, 4" DIAL, 1/4" PROCESS CONNECTION, RANGE 0-200", PANEL MOUNT WITH FRONT FLANGE	MCDANIEL CONTROLS
54	1	DIN RAIL MOUNTED CABINET THERMOSTAT, 32-140 F, NO CONTACT	PFANNENBERG FLZ 530 PN#17121000010
55	6	MINIATURE CIRCUIT BREAKER (QOU) STANDARD, 10A, 1 POLE, 120/240 VAC, HACR RATED	SQUARE D, QOU110
56	2	MINIATURE CIRCUIT BREAKER (QOU), STANDARD 15A, 1 POLE, 120/240 VAC, HACR RATED	SQUARE D, QOU115
57	2	MINI-CAS 120V RELAYS FOR PUMP THERMAL/SEAL FAIL PROTECTION	FLYGT MINI-CAS 120, 14-407129
58	1	PHASE MONITORING RELAY 3 PHASE 180-500 VOLT	MARCOMATIC PMPU
59	2	480V THREE PHASES S-811+ EATON SOFTSTARTER WITH DIM. INCLUDING PROTECTIVE MODEL EMS39 AND FAN COOLING KIT	EATON S811+ SERIES
60	2	CURRENT TRANSFORMERS 10A TO 50A, 4-20MA, 24VDC	EATON EAC1420SC
61	2	3P 600VAC POWERPACT H-FRAME MOLDED CASE THERMAL-MAGNETIC CIRCUIT BREAKERS, UNIT MOUNT	SQUARE D
62	2	3P 600VAC POWERPACT H-FRAME MOLDED CASE THERMAL-MAGNETIC CIRCUIT BREAKERS, UNIT MOUNT	SQUARE D
63	2	POWER SUPPLY, OUTPUT 24-28V DC, 10A INPUT VOLTAGE 100/240V AC	EATON, PSG240E
64	1	600VAC POWER DISTRIBUTION BLOCKS, SURFACE MOUNT, 3 POLES, 2 LINE TERMINALS, 6 LOAD TERMINALS	SQUARE D 9080LB SERIES
65	1	600VAC POWER DISTRIBUTION BLOCKS, SURFACE MOUNT, 1 POLE, 2 LINE TERMINALS, 6 LOAD TERMINALS	SQUARE D 9080LB SERIES
66	1	3-POLE FUSE HOLDER, AC: 600VAC, FINGER-SAFE DESIGN, DIN RAIL MOUNTING	EATON BUSSMAN CHM3DNU OR SIMILAR
67	3	1A FAST ACTING MIDGET FUSE WITH 600VAC VOLTAGE RATING FOR PROTECTION OF CONTROL AND ELECTRONIC CIRCUITS	LITTLEFUSE 0BLS001.T OR SIMILAR
68	1	AIR COMPRESSOR FOR FUSE WITH BUBBLER TYPE LIQUID LEVEL CONTROL SYSTEMS W/ MOUNTING BRACKET RANGE OF 0-15 FEET OF WATER COLUMN	INGRAM PRODUCTS PART NO. HR10WB3 + PART NO. HRMTBKT
69	1	GENERAL PURPOSE PRESSURE TRANSMITTER, 4-20MA 2-WIRE SIGNAL OUTPUT, SS 316L WETTED PARTS, 0-15 PSI RANGE, +/-0.5% ACCURACY, 1/4" MALE NPT CONNECTION	WIKA 50426397
70	2	24VDC STANDARD DPDT SCREW CONNECTION TERMINAL BLOCK RELAYS	EATON XRU2D24 + XRR2D24
71	1	ENCLOSURE INNER DOOR ALARM (BRUSHED)	DEAD FRONT
72	1	LIGHT SOURCE	FEDERAL SIGNAL LP1-120R
73	1	RECEPTACLE ASSEMBLY WITH AJ BACK BOXES AND ANGLE ADAPTERS 200A 3 PHASES 4 POLES	CROUSE HINDS
74	1	MAGNETIC SWITCH INC FOR SS ENCLOSURE	
75	1	MAGNETIC FLOW METER	ABB MAGMASTER

NOTES:

1. BILL OF MATERIALS SHALL NOT BE CONSIDERED AS FINAL. VENDOR SHALL PROVIDE ALL DEVICES AND EQUIPMENT REQUIRED TO PROVIDE THE FUNCTIONALITY POWER SOURCE CIRCUITS INDICATED AND REQUIRED.

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DESIGN CRITERIA PACKAGE

ERIC HAMMOND, P.E.
FL. LICENSE # PE39048

DRAWN BY: H.A | DATE: 04/08/2021
DESIGNED BY: H.A | SCALE: AS NOTED
CHECKED BY: E.H | FIELD BOOK:

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PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

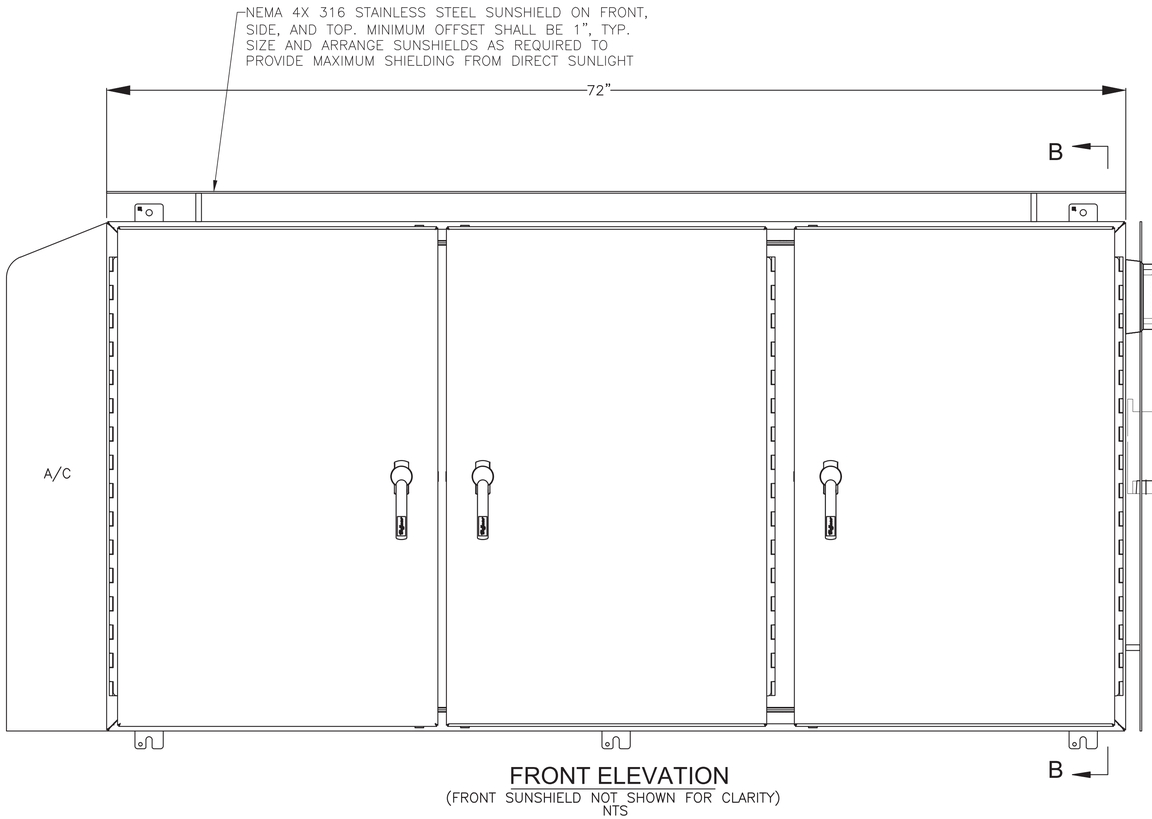
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL BILL OF MATERIALS

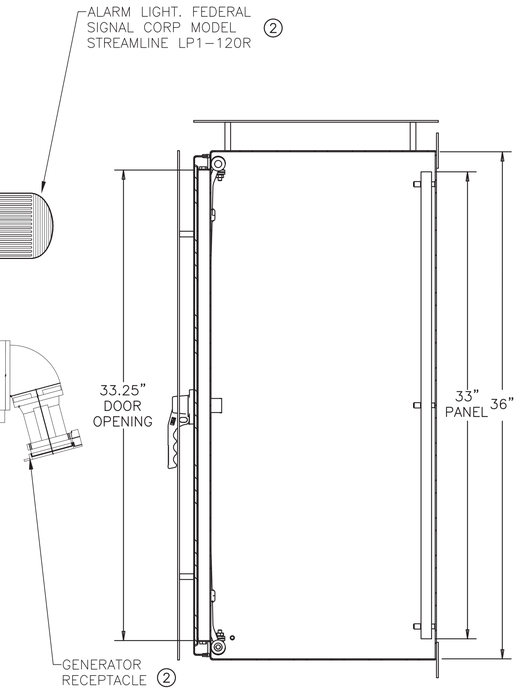
SHEET NO. 22 OF 31

CAD FILE: 12412-22-PBOM

DRAWING FILE NO. 4-142-31



FRONT ELEVATION
(FRONT SUNSHIELD NOT SHOWN FOR CLARITY)
NTS



SECTION B-B
NTS

NOTES:

(1) CABINET DIMENSIONS SHALL NOT EXCEED DIMENSIONS SHOWN.

(2) CUT OUT AREAS OF SUNSHIED AS REQUIRED FOR INSTALLATION.

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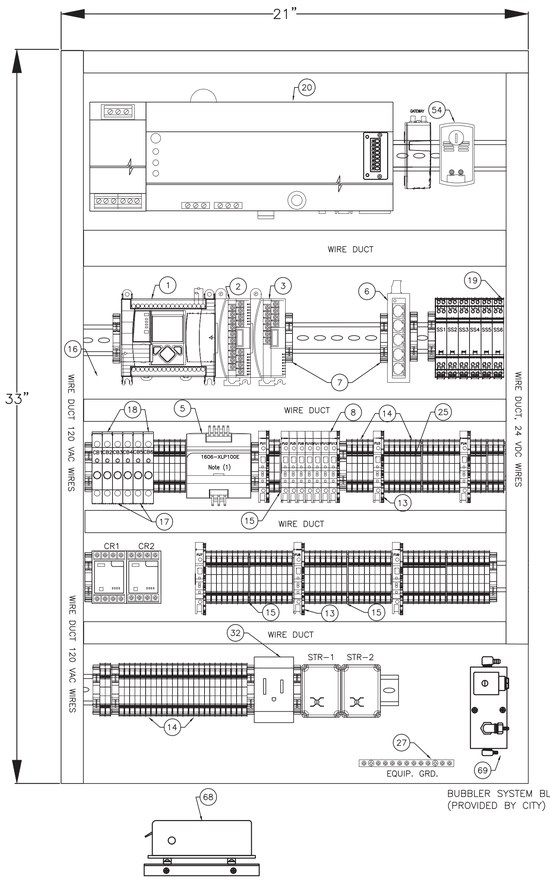
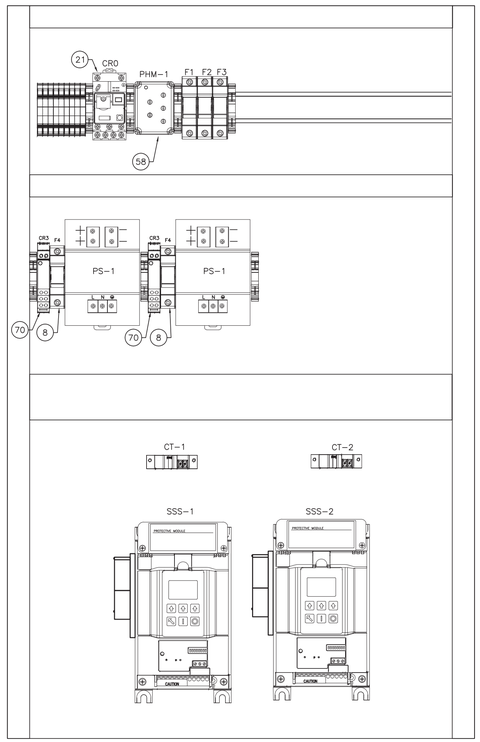
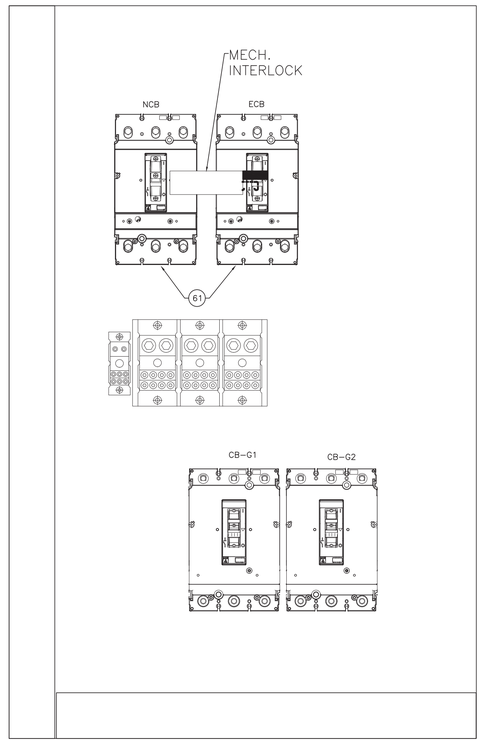
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL EXTERIOR LAYOUT

SHEET NO. 23 OF 31
CAD FILE: 12412-23-PANL
DRAWING FILE NO. 4-142-31



BUBBLER SYSTEM BLOCK
(PROVIDED BY CITY)





GENERAL ELECTRICAL NOTES:

1. FOR EACH SECTION, USE LEFT WIRE DUCTS FOR 120 VAC WIRES AND RIGHT WIRE DUCTS FOR 24 VDC WIRES.

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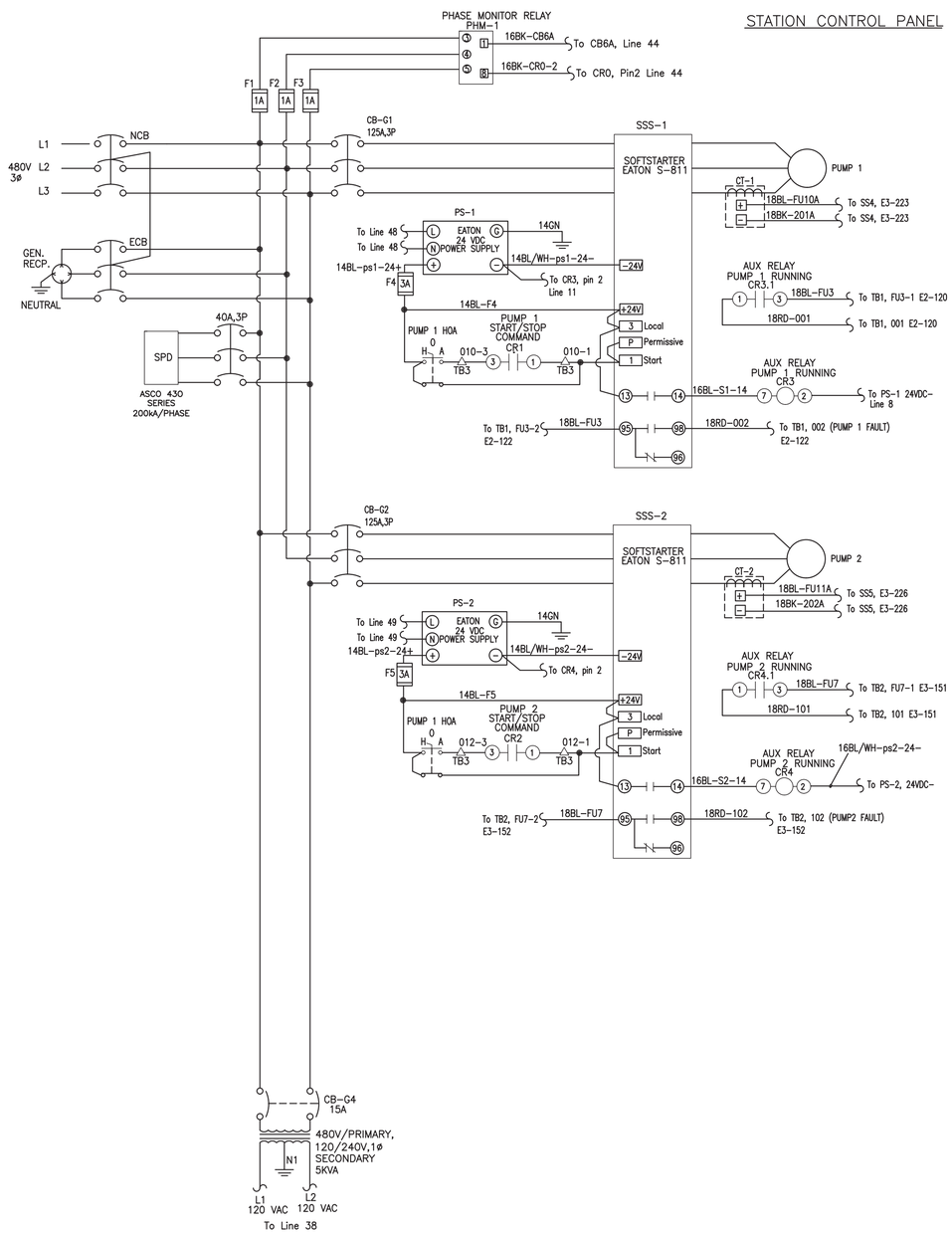
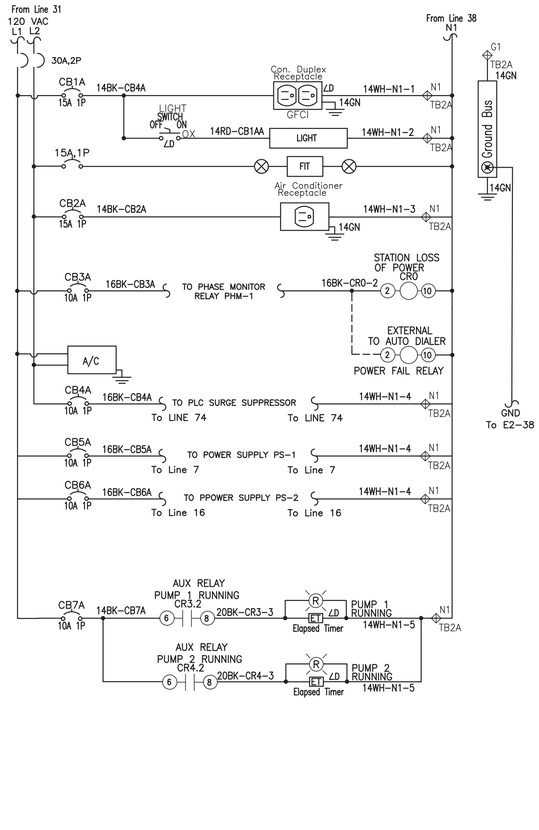
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL COMPONENT LAYOUT

SHEET NO. 24 OF 31
CAD FILE: 12412-24-PANL
DRAWING FILE NO. 4-142-31

STATION CONTROL PANEL





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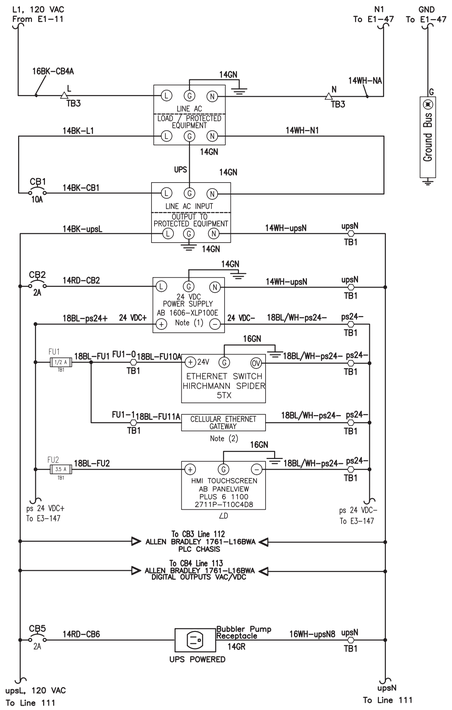
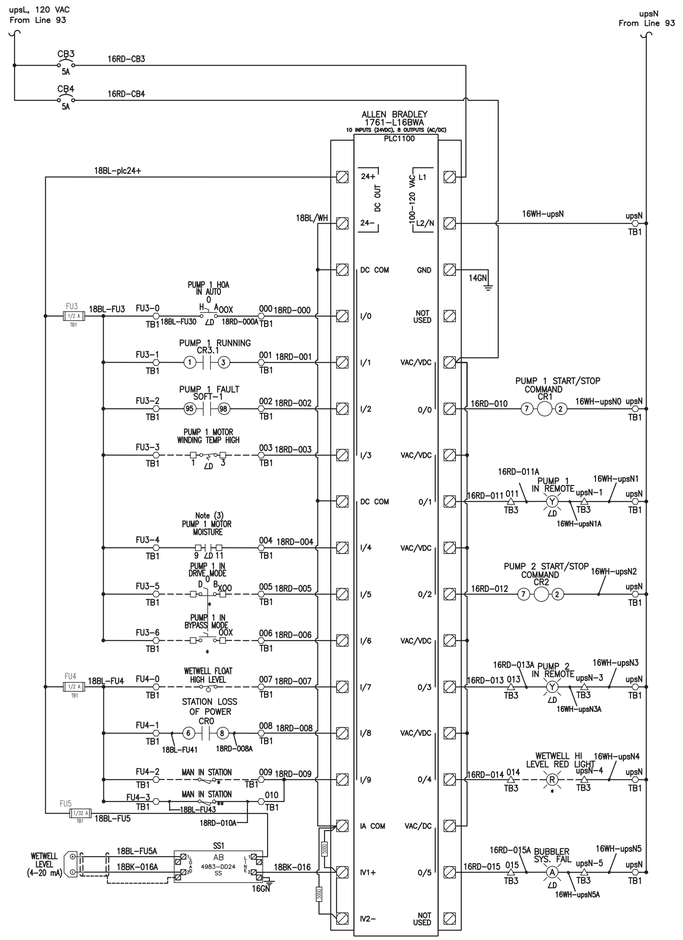
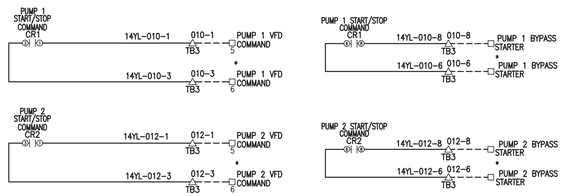
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 1

SHEET NO. 25 OF 31
CAD FILE: 12412-25-PANL
DRAWING FILE NO. 4-142-31



SLOT 0





GENERAL ELECTRICAL NOTES:

1. FINAL COMPONENT SIZE AND SELECTION TO BE DETERMINED BY SYSTEM SUPPLIER IN COORDINATION WITH CITY. IF PANEL VIEW PLUS 400 OR 600 IS REQUIRED, CHANGE POWER SUPPLY TO AB MODEL 1606-XLP100E.
2. SIERRA MODEL Raven XE V2221E-V CELLULAR RADIO TO BE PROVIDED AND CONFIGURED BY CITY.
3. PUMP SEAL FAIL RELAY. IF NEEDED AS PER SPEC OF PUMP MANUFACTURER.
4. ∠D DENOTES DEVICE MOUNTED ON PANEL DOOR.
5. WIRING GUIDE: 18BL-FU1
   - WIRE NUMBER (CHARACTERS TO RIGHT OF DASH ONLY)
   - WIRE COLOR
   - WIRE GAUGE IN AWG
6. * DENOTES COMPONENT MOUNTED OUTSIDE CONTROL PANEL
7. — — — DENOTES FIELD WIRING OUTSIDE CONTROL PANEL
   - ○ TB1 Terminal Block
   - ○ TB2 Terminal Block
   - △ TB3 Terminal Block
   - ◈ TB2A Terminal Block
   - ◇ TB3A Terminal Block
8. ** DOOR INTRUSION SWITCH. PROVIDE ONE FOR EACH DOOR AND WIRE IN SERIES.

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EB 5315

ERIC HAMMOND, P.E.
FL. LICENSE # PE39048

DRAWN BY: H.A
DATE: 04/08/2021
DESIGNED BY: H.A
SCALE: AS NOTED
CHECKED BY: E.H
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

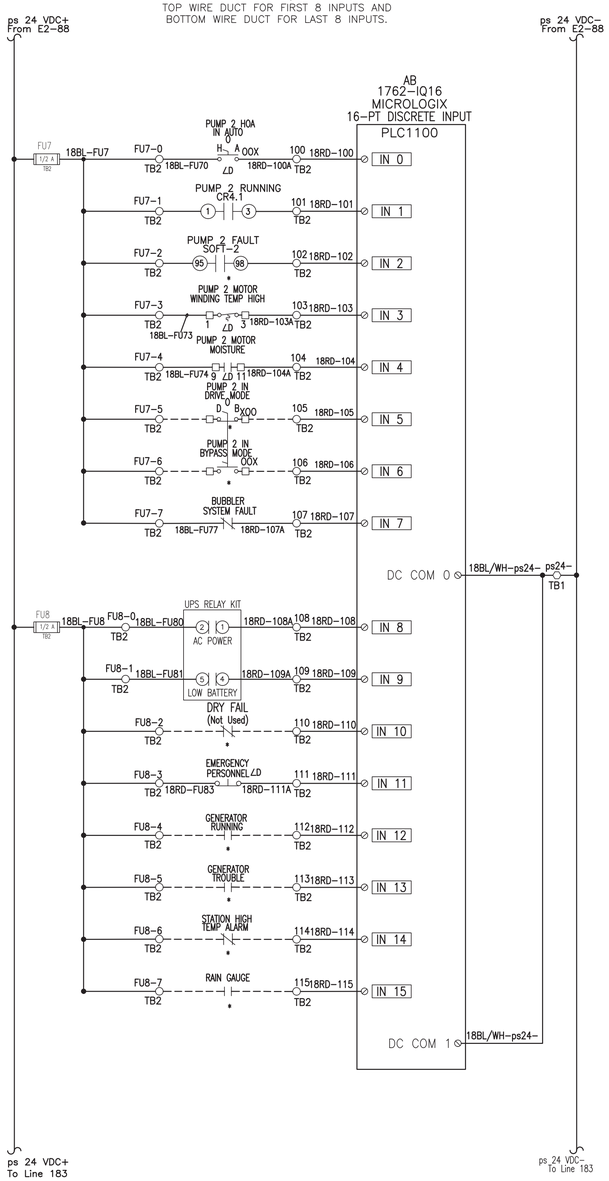
NO.	DATE:	BY	CHK'D

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 2

SHEET NO. 26 OF 31
CAD FILE: 12412-26-PANL
DRAWING FILE NO. 4-142-31

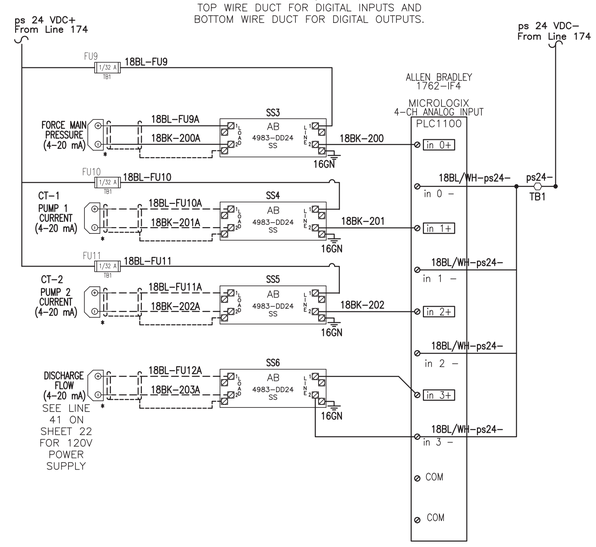
SLOT 1

WHEN WIRING 1762-IQ16 IO CARD USE TOP WIRE DUCT FOR FIRST 8 INPUTS AND BOTTOM WIRE DUCT FOR LAST 8 INPUTS.



SLOT 2

WHEN WIRING 1762-IQ8OW6 IO CARD USE TOP WIRE DUCT FOR DIGITAL INPUTS AND BOTTOM WIRE DUCT FOR DIGITAL OUTPUTS.



GENERAL ELECTRICAL NOTES:

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2. SIERRA MODEL Raven XE V2221E-V CELLULAR RADIO TO BE PROVIDED AND CONFIGURED BY CITY.
3. PUMP SEAL FAIL RELAY. IF NEEDED AS PER SPEC OF PUMP MANUFACTURER.
4. ∠D DENOTES DEVICE MOUNTED ON PANEL DOOR.
5. WIRING GUIDE: 18BL-FU1
   - 18BL-FU1 — WIRE NUMBER (CHARACTERS TO RIGHT OF DASH ONLY)
   - 18BL-FU1 — WIRE COLOR
   - 18BL-FU1 — WIRE GAUGE IN AWG
6. * DENOTES COMPONENT MOUNTED OUTSIDE CONTROL PANEL
7. ---- DENOTES FIELD WIRING OUTSIDE CONTROL PANEL
   - ○ TB1 Terminal Block
   - ○ TB2 Terminal Block
   - △ TB3 Terminal Block
   - ⊕ TB2A Terminal Block
   - ◇ TB3A Terminal Block

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DRAWN BY: H.A | DATE: 04/08/2021
DESIGNED BY: H.A | SCALE: AS NOTED
CHECKED BY: E.H | FIELD BOOK:

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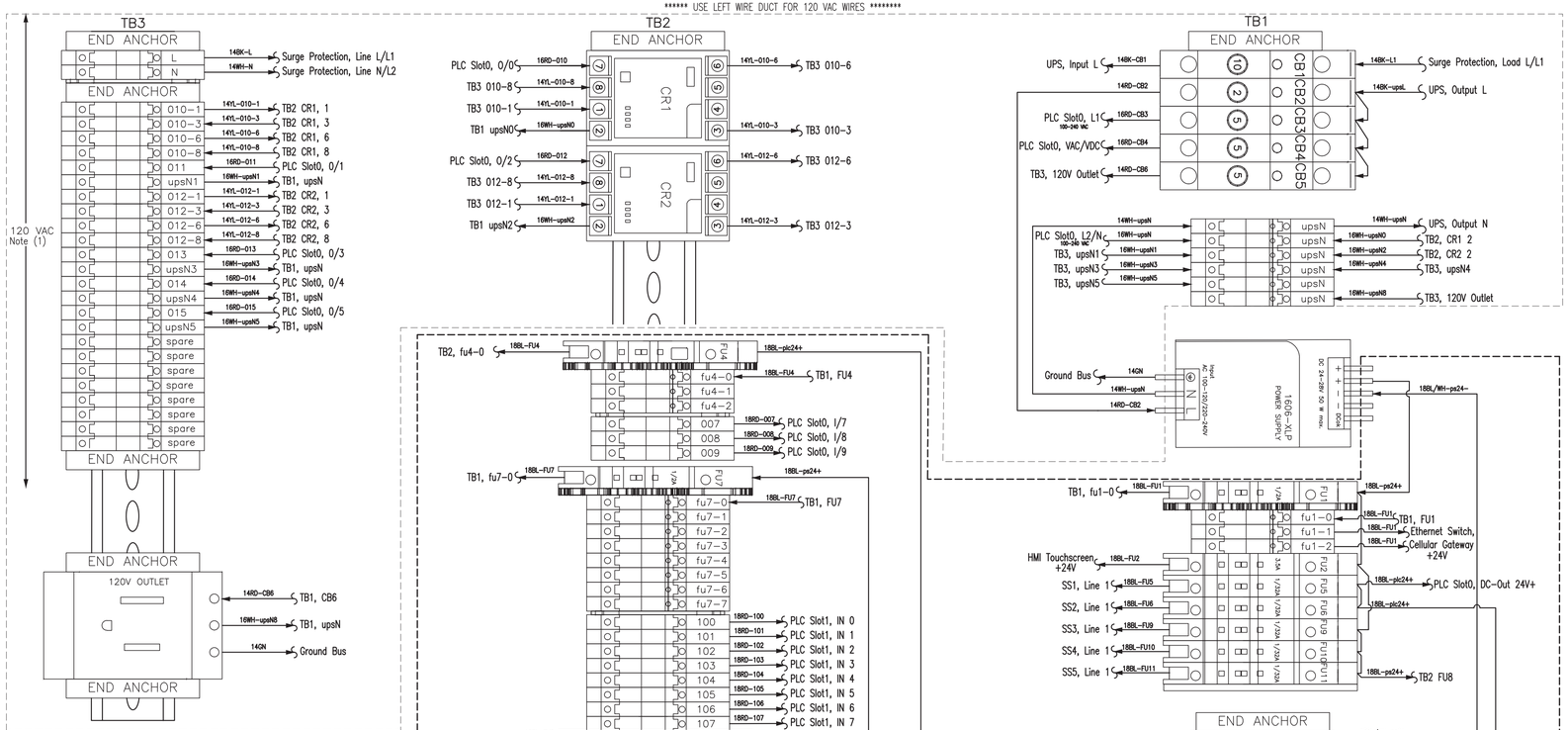
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL ELEMENTARY DIAGRAM - SHEET 3

SHEET NO. 27 OF 31
CAD FILE: 12412-27-PANL
DRAWING FILE NO. 4-142-31

****** USE LEFT WIRE DUCT FOR 120 VAC WIRES ********



GENERAL ELECTRICAL NOTES:

1. USE LEFT WIRE DUCT FOR 120 VAC WIRES.
2. USE RIGHT WIRE DUCT FOR 24 VDC WIRES.
3. WIRING GUIDE: 18BL–FU1
   - WIRE NUMBER (CHARACTERS TO RIGHT OF DASH ONLY)
   - WIRE COLOR
   - WIRE GAUGE IN AWG

****** USE RIGHT WIRE DUCT FOR 24 VDC WIRES ********

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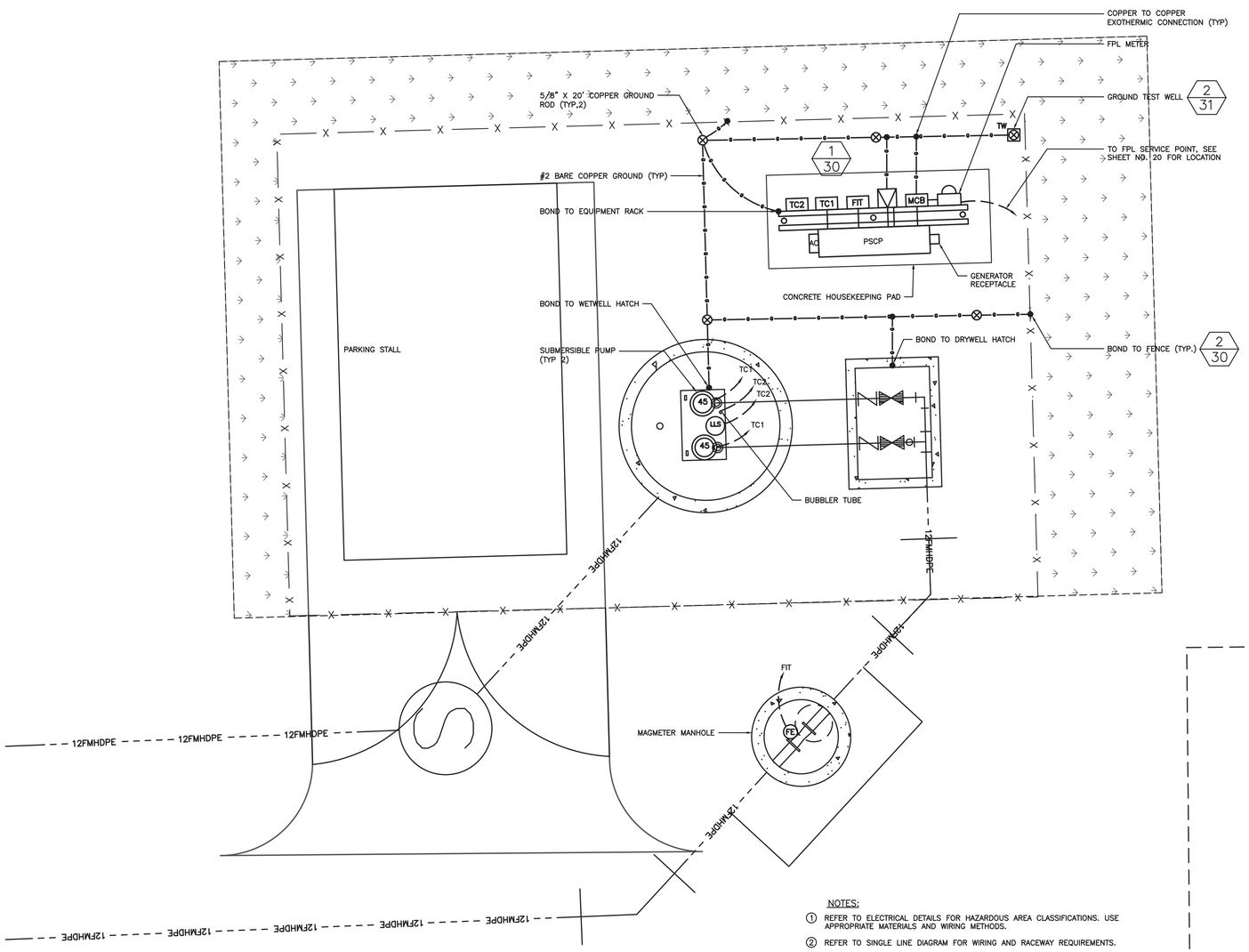
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
CONTROL PANEL INTERCONNECTION
WIRING DIAGRAM

SHEET NO. 28 OF 31
CAD FILE: 12412–28–PANL
DRAWING FILE NO. 4–142–31



ELECTRICAL PLAN VIEW

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

12" 0 1 2 4'

NOTES:

1. REFER TO ELECTRICAL DETAILS FOR HAZARDOUS AREA CLASSIFICATIONS. USE APPROPRIATE MATERIALS AND WIRING METHODS.
2. REFER TO SINGLE LINE DIAGRAM FOR WIRING AND RACEWAY REQUIREMENTS.
3. ALL CONDUITS ENTERING THE WET WELL, INCLUDING PIPING FOR BUBBLER TUBE, SHALL TERMINATE WITHIN SIX INCHES OF THE WET WELL ACCESS HATCH OPENING.
4. AVOID MOISTURE TRAPS IN RACEWAY INSTALLATION.
5. WHEREVER POSSIBLE, PROVIDE 24" SPACING BETWEEN RACEWAYS HOUSING POWER CONDUCTORS AND RACEWAYS HOUSING 24VDC DISCRETE AND ANALOG CIRCUITS.

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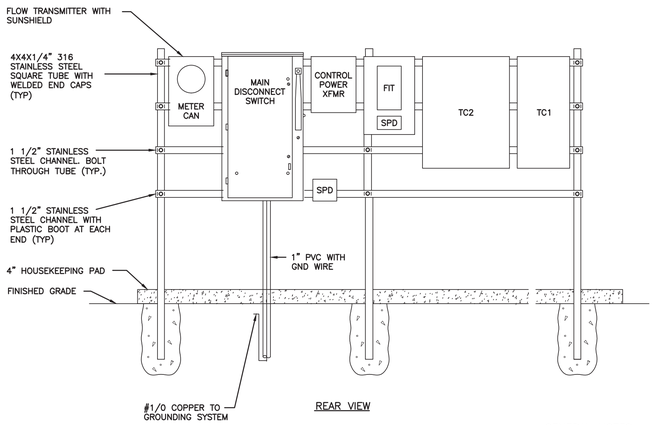
PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
ENLARGED ELECTRICAL PLAN

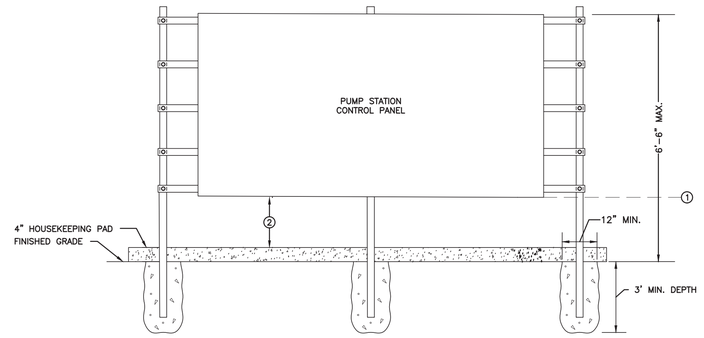
SHEET NO. 29 OF 31

CAD FILE: 12412-29-PLAN

DRAWING FILE NO. 4-142-31



REAR VIEW



FRONT VIEW

GENERAL NOTES:

A. DEPTH AS REQUIRED TO MEET FLORIDA BUILDING CODE WIND LOAD REQUIREMENTS. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED WIND LOAD CALCULATIONS FROM A STRUCTURAL ENGINEER LICENSED IN THE STATE OF FLORIDA.

B. ALL HARDWARE SHALL BE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.

C. REAR SUNSHIELDS ARE REQUIRED FOR ALL ELECTRICAL EQUIPMENT RACKS. SEE TYPICAL EQUIPMENT RACK REAR SUNSHIELD DETAIL BELOW.

D. REFER TO SINGLE LINE DIAGRAM FOR WIRING AND RACEWAY REQUIREMENTS.

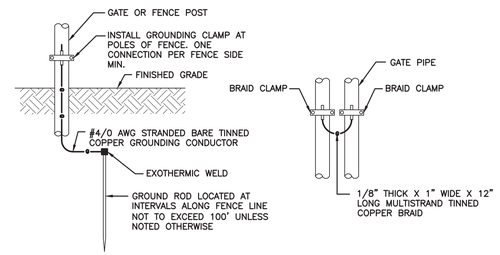
E. CONTRACTOR MAY REARRANGE THE ORDER OF EQUIPMENT ON THE RACK, TO SUIT THE INSTALLATION.

KEY NOTES:

(1) BASE FLOOD ELEVATION IS 6'-0" NAVD 88, FLOOD ZONE X. INSTALL BOTTOM OF ALL ELECTRICAL EQUIPMENT AT BASE FLOOD ELEVATION.

(2) DIMENSION "X". CONFIRM GRADE ELEVATION AND DIMENSION "X" WITH ENGINEER PRIOR TO PANEL INSTALLATION.

1/30 ELECTRICAL EQUIPMENT RACK FRONT/REAR VIEW ELEVATION
NOT TO SCALE



2/30 TYPICAL GATE/FENCE POST GROUNDING DETAIL
NOT TO SCALE

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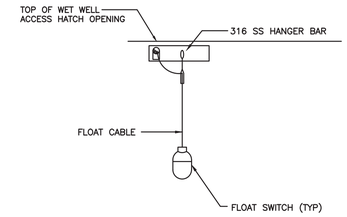
REVISIONS

PROJECT # 12412
PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
ELECTRICAL DETAILS - 1

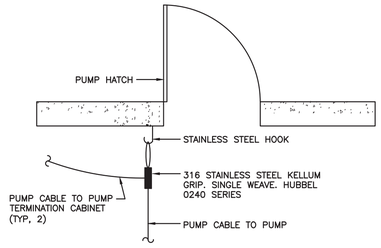
SHEET NO.	OF
30	31

CAD FILE: 12412-30-DETL

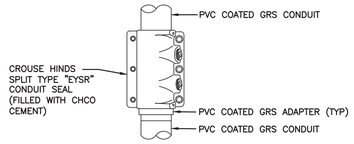
DRAWING FILE NO. 4-142-31



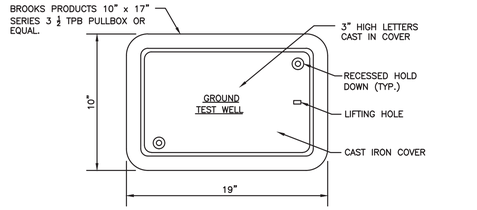
1/31 TYPICAL LEVEL SWITCH MOUNTING DETAIL
N.T.S.



3/31 TYPICAL PUMP CABLE MOUNTING DETAIL
N.T.S.

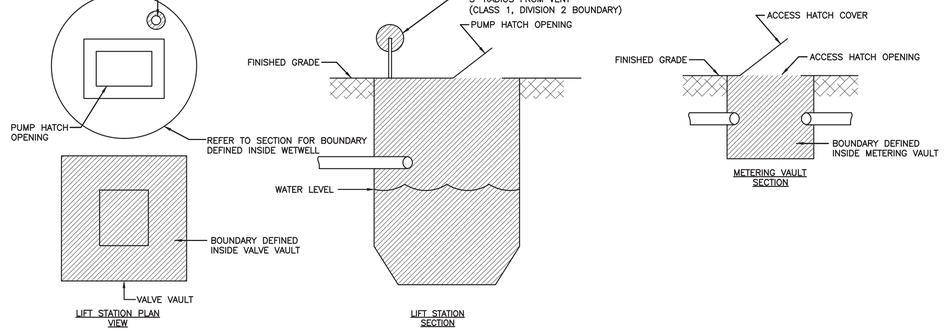


5/31 CONDUIT SEAL DETAIL
SCALE: N.T.S.



NOTES:
① TEST WELL AND COVER SHALL BE H-20 RATED.

2/31 TYPICAL GROUND TEST WELL
SCALE: N.T.S.



NOTES:
① WET WELL HAZARDOUS AREA CLASSIFICATION ASSIGNED PER 2018 NFPA 820, TABLE 4.2.2, ROW 11-a.
② DRY WELL HAZARDOUS AREA CLASSIFICATION ASSIGNED PER 2018 NFPA 820, TABLE 4.2.2, ROW 12-a.
③ VALVE VAULT HAZARDOUS AREA CLASSIFICATION ASSIGNED PER 2018 NFPA 820, TABLE 4.2.2, ROW 31-a.
④ METERING VAULT HAZARDOUS AREA CLASSIFICATION ASSIGNED PER 2018 NFPA 820, TABLE 4.2.2, ROW 36-a.

CLASS 1 DIVISION 1
CLASS 1 DIVISION 2
UNCLASSIFIED

4/31 HAZARDOUS AREA CLASSIFICATION
SCALE: N.T.S.

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PUMP STATION A-16 UPGRADE
WASTEWATER DESIGN CRITERIA PACKAGE
ELECTRICAL DETAILS - 2

SHEET NO.	OF
31	31

CAD FILE: 12412-31-DETL
DRAWING FILE NO. 4-142-31