# WILDLIGHT COMMERCE PARK PARCEL B

NASSAU COUNTY, FLORIDA

PREPARED FOR

# PATTILLO INDUSTRIAL REAL ESTATE

5170 PEACHTREE ROAD, BLDG. 100, STE. 400 ATLANTA, GEORGIA 678-926-5944

		DRAWING INDEX	
PDF SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	REVISION
1	1	COVER SHEET	
2	2	SIGNATURE SHEET	
3	3	GENERAL NOTES & LEGEND	
4	4	SITE GEOMETRY PLAN	
5	5	POST DEVELOPMENT PLAN	
6	6	PAVING & DRAINAGE PLAN	
7	7	WATER & SEWER PLAN	
8	8A	PAVING & DRAINAGE DETAILS A	
9	8B	PAVING & DRAINAGE DETAILS B	
10	9A	JEA STANDARD GENERAL NOTES	
11–16	9B-9G	JEA STANDARD WATER AND RECLAIMED DETAILS	
17–21	9H-9L	JEA STANDARD SANITARY SEWER DETAILS	
22	10	SEDIMENT & EROSION CONTROL PLAN	
23	11	SEDIMENT & EROSION CONTROL DETAILS	
24	12	STORMWATER POLLUTION PREVENTION PLAN	
25	13	STORMWATER POLLUTION PREVENTION PLAN CONTRACTORS CERTIFICATION	
26	14	STORMWATER MAINTENANCE PLAN	
27	LC-01	LANDSCAPE PLAN	
28	LC-02	LANDSCAPE CODE SUMMARY	
29	LC-03	LANDSCAPE CODE CALCULATIONS AND NOTES	



### England-Thims & Miller, Inc.

14775 Old St. Augustine Road Jacksonville, FL 32258 TEL: (904) 642-8990 FAX: (904) 646-9485 CA - 00002584 LC - 0000316



**LOCATION MAP** 

A FLOW TEST WAS CONDUCTED ON 03/23/2023. THE FLOW HYDRANT LOCATION: A1A/SR 200 & STILL QUARTERS THE STATIC RESIDUAL HYDRANT LOCATION: A1A/SR 200 & OLD NUMBER OF PORTS DIAMETER OF PORTS (INCH) PITOT PRESSURE (PSI)

**FIRE FLOW TEST** 

STATIC PRESSURE (PSI) RESIDUAL PRESSURE (PSI) THE FOLLOWING COMPUTATIONAL RESULTS BASED ON THE ABOVE VARIABLES AND NFPA SECTION 291 (2002 EDITION) ARE AS

FLOW AT TEST (GPM): 2,025 FLOW AT 20 PSI (GPM): 3,074

THESE RESULTS REFLECT SYSTEM CONDITIONS AT THE TIME OF THE TEST. FLOW WILL FLUCTUATE OVER TIME IN A DYNAMIC SYSTEM AND SHOULD BE TAKEN INTO CONSIDERATION WHEN INTERPRETING OR USING THIS DATA. IF YOU HAVE ANY QUESTIONS CONCERNING THIS MATTER, CONTACT CURTIS PERRIN VIA E-MAIL AT: PERRCROJEA.COM.

JEA AVAILABILITY NO. 2023-1007 THESE PLANS ARE DESIGNED IN ACCORDANCE WITH 2023 JEA STANDARDS.

F YOU DIG IN FLORIDA, YOU ARE REQUIRED TO | CALL SUNSHINE STATE ONE-CALL OF FLORIDA, INC. 1-800-432-4770 FOR LOCATES. IT'S THE FOR 988 DA JE

VERTICAL I THIS PRO.

DRAWING NUMBER

SHEET

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JON-MICHAEL BARQUIN, P.E. ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

THE FLORIDA PROFESSIONAL ENGINEER NAMED HEREIN SHALL BE RESPONSIBLE FOR THE DRAWINGS LISTED IN THIS BOX IN ACCORDANCE WITH RULE 61G15-23-003. F.A.C. THESE SHEETS HAVE BEEN SIGNED AND SEALED USING A DIGITAL SIGNATURE BY: JON-MICHAEL BARQUIN P.E. NUMBER: 94926

ENGLAND-THIMS & MILLER, INC.
14775 OLD ST. AUGUSTINE ROAD
JACKSONVILLE, FLORIDA 32258
PHONE (904) 642-8990
CERTIFICATE OF AUTHORIZATION NUMBER: 00002584

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

		DRAWING INDEX	
PDF SHEET NUMBER	DRAWING NUMBER	DRAWING HILE	
1	1	COVER SHEET	
2	2	SIGNATURE SHEET	
3	3	GENERAL NOTES & LEGEND	
4	4	SITE GEOMETRY PLAN	
5	5	POST DEVELOPMENT PLAN	
6	6	PAVING & DRAINAGE PLAN	
7	7	WATER & SEWER PLAN	
8	8A	PAVING & DRAINAGE DETAILS A	
9	8B	PAVING & DRAINAGE DETAILS B	
10	9A	JEA STANDARD GENERAL NOTES	
11–16	9B-9G	JEA STANDARD WATER AND RECLAIMED DETAILS	
17-21	9H-9L	JEA STANDARD SANITARY SEWER DETAILS	
22	10	SEDIMENT & EROSION CONTROL PLAN	
23	11	SEDIMENT & EROSION CONTROL DETAILS	
24	12	STORMWATER POLLUTION PREVENTION PLAN	
25	13	STORMWATER POLLUTION PREVENTION PLAN CONTRACTORS CERTIFICATION	
26	14	STORMWATER MAINTENANCE PLAN	

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JONATHAN FRANCIS KORMAN, ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC

THE FLORIDA REGISTERED LANDSCAPE ARCHITECT NAMED HEREIN SHALL BE RESPONSIBLE FOR THE DRAWINGS LISTED IN THIS BOX. THESE SHEETS HAVE BEEN SIGNED AND SEALED USING A DIGITAL SIGNATURE BY:

JONATHAN FRANCIS KORMAN L.A. NUMBER: 6667357

ENGLAND—THIMS & MILLER, INC. 14775 OLD ST. AUGUSTINE ROAD JACKSONVILLE, FLORIDA 32258 PHONE (904) 642—8990

JACKSONVILLE, FLORIDA 32258
PHONE (904) 642-8990
CERTIFICATE OF AUTHORIZATION NUMBER: 00002584

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

DRAWING INDEX							
PDF SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	REVISION				
27	LC-01	LANDSCAPE PLAN					
28	LC-02	LANDSCAPE CODE SUMMARY					
29	LC-03	LANDSCAPE CODE CALCULATIONS AND NOTES					
· ·	•						

WILDLIGHT COMMERCE PARK PARTILLO INDUSTRIAL REAL E

DRAWING NUMBER

g NUMBE **2** 

### GENERAL SITE NOTES:

- ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES TO HIS EMPLOYEES. AND FOR ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT. ALL COSTS ASSOCIATED WITH COMPLYING WITH OSHA REGULATIONS AND THE FLORIDA TRENCH SAFETY ACT MUST BE INCLUDED IN THE CONTRACTORS BID.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE PRIOR TO PREPARING THE BID FOR THE PURPOSE OF FAMILIARIZING HIMSELF WITH THE NATURE AND THE EXTENT OF THE WORK AND LOCAL CONDITIONS. EITHER SURFACE OR SUB-SURFACE. WHICH MAY AFFECT THE WORK TO BE PERFORMED AND THE FOLIPMENT LABOR AND MATERIALS REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE LINDER THE CONSTRUCTION CONTRACT. THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA (811) FOR UTILITY LOCATES IN ACCORDANCE WITH STATE LAW PRIOR TO EXCAVATING. THE CONTRACTOR IS ALSO URGED TO TAKE COLOR PHOTOGRAPHS ALONG THE ROUTE OF OR WITHIN THE PROJECT TO RECORD EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND TO AID IN RESOLVING POSSIBLE FUTURE ISSUES THAT MAY OCCUR DUE TO THE CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING STRUCTURES, IMPROVEMENTS, UTILITIES, PROPERTY LINES, AND CONFIRM ALL PROPOSED DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION OR ORDERING ANY MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER NASSAU COUNTY STANDARDS AND MEETING THE NPDES FINAL STABILIZATION REQUIREMENTS. (SEE NASSAU COUNTY DEVELOPMENT REVIEW GENERAL NOTES #7 & #8.)
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL REQUIRE REMOVAL AND/OR TO ESTIMATE THE AMOUNT OF OFF SITE BORROW THAT WILL BE REQUIRED. FAILURE OF THE CONTRACTOR TO IDENTIFY/QUANTIFY THE AMOUNT OF UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED DURING THE BID PROCESS WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT.
- ALL MATERIALS AND WORKMANSHIP ARE TO BE WARRANTED BY THE CONTRACTOR TO THE OWNER AND THE NASSAU COUNTY FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER AND NASSAU COUNTY.
- THE LOCATION OF ALL EXISTING UTILITIES, STRUCTURES AND IMPROVEMENTS SHOWN ON THE DRAWINGS IS BASED ON LIMITED INFORMATION AND MAY NOT HAVE BEEN FIELD VERIFIED. THE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY OWNERS AND FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND OTHER IMPROVEMENTS PRIOR TO COMMENCING ANY CONSTRUCTION. IF THE LOCATIONS SHOWN ARE CONTRARY TO THE ACTUAL LOCATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF THE DISCREPANCY. THIS DISCREPANCY SHOULD BE RESOLVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS NEAR EXISTING UTILITIES AND IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR AND SHALL REPAIR OR PAY FOR ALL DAMAGE MADE TO EXISTING UTILITIES OR OTHER IMPROVEMENTS. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL GRADES, INVERTS AND TYPE OF MATERIAL OF EXISTING UTILITIES TO WHICH HE SHALL CONNECT, AND NOTIFY THE OWNER AND ENGINEER OF ANY
- UNLESS DIRECTED OTHERWISE BY THE OWNER OR THE ENGINEER, THE CONTRACTOR WILL CONTRACT WITH AN INDEPENDENT TESTING LABORATORY TO PERFORM MATERIAL TESTING AND SOIL TESTING IN ACCORDANCE WITH COUNTY REQUIREMENTS.

DISCREPANCIES.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE REQUIRED FOR THE PROJECT INCLUDING NASSAU COUNTY RIGHT-OF-WAY PERMITS FOR WORK IN THE COUNTY RIGHT-OF-WAY OR EASEMENT. CONTRACTOR IS RESPONSIBLE FOR CONTROL OF SEDIMENTATION AND RUNOFF RESULTING FROM RAINFALL EVENTS DURING THE CONSTRUCTION OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH REGULATORY PERMITS ISSUED FOR THE PROJECT.
- 10. THE CONTRACTOR SHALL COORDINATE THE WORK WITHIN COUNTY OR STATE RIGHT-OF-WAY WITH THE APPROPRIATE AGENCIES FOR MAINTENANCE OF TRAFFIC AND METHOD OF CONSTRUCTION & REPAIR
- IF DEWATERING CAPACITY REQUIRES A CONSUMPTIVE USE PERMIT (C.U.P.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN HE PÉRMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND THE ENGINEER FOR APPROVAL OF ALL DEWATERING OPERATIONS PRIOR
- 12. PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED CONSTRUCTION ACTIVITY AND THE TEST RESULTS TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DISTRICT OFFICE. WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.

### **GENERAL SITE NOTES:**

- 12. ALL AREAS SHOWN TO BE FILLED SHALL BE CLEARED AND GRUBBED IN ACCORDANCE WITH NASSAU COUNTY STANDARDS AND SHALL BE FILLED WITH CLEAN STRUCTURAL FILL COMPACTED AND TESTED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
- 13. CLEARING AND GRUBBING REQUIRED FOR ALL ROADWAY, UTILITIES, DITCHES, BERMS, RIGHTS-OF-WAYS AND EASEMENTS (INCLUDING ELECTRIC EASEMENTS) ARE INCLUDED IN THIS PROJECT.
- 15 ALL ACCESS EASEMENTS ARE TO BE STABILIZED AND DRIVABLE.
- 16. ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
- 17. BURNING OF TREES, BRUSH AND OTHER MATERIAL SHALL BE APPROVED, PERMITTED AND COORDINATED WITH NASSAU COUNTY FIRE MARSHAL AND ALL OTHER PERMITTING AUTHORITIES BY THE
- UNSUITABLE MATERIALS UNDER UTILITY OR STORM PIPE, STRUCTURES, PAVEMENT, BUILDING PADS, OR HARDSCAPE ELEMENTS SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT
- CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL SURVEY AND PROPERTY MONUMENTS. IF A MONUMENT IS DISTURBED, THE CONTRACTOR SHALL CONTRACT WITH THE SURVEYOR OF RECORD FOR REINSTALLATION OF THE MONUMENT.
- 20. ALL UNDERGROUND UTILITIES TO BE INSTALLED UNDER PAVEMENT MUST BE INSTALLED PRIOR TO PREPARATION OF SUBGRADE FOR PAVEMENT.

THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION WITH ALL

- OTHER CONTRACTORS. IN THE EVENT OF ANY CONFLICT WHATSOEVER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 22. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE OR CONSTRUCTION OF ANY UTILITY OR STORM PIPE OR STRUCTURE.
- 23. AUGER BORINGS PROVIDED BY ECS FLORIDA, LLC, DATED: 05/09/2022,
- 24. FLOOD ZONE BASED UPON FEMA INSURANCE RATE MAPS PANEL NOS. 12089C0215G, DATED: 08/02/2017,
- 25. FOR SEDIMENT AND EROSION CONTROL PLANS, DETAILS AND NOTES REFER TO DRAWINGS 10-11. CONTRACTOR TO COORDINATE WITH AUTHORITY FOR INSPECTIONS PRIOR TO CLEARING OPERATIONS.
- 26. ELEVATIONS ARE BASED ON NAVD 1988.
- 27. TOPOGRAPHIC INFORMATION BASED ON SURVEY PROVIDED BY L.D. BRADLEY LAND SURVEYORS, DATED: 07/08/2022,
- 28. BOUNDARY INFORMATION BASED ON SURVEY PROVIDED BY L.D. BRADLEY LAND SURVEYORS, DATED: 07/08/2022,
- 29. S.U.E. (SUBSURFACE UTILITY ENGINEERING) PROVIDED BY ####, DATED:
- 30. ALL WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELATIVE SECTIONS OF "NASSAU COUNTY LAND DEVELOPMENT CODE". (LATEST REVISION) AND ALL CURRENT COUNTY STANDARD DETAILS. THE WORK SHALL ALSO BE PERFORMED AND TESTED IN ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY ECS FLORIDA, LLC DATED: 05/25/2022, IF MORE STRINGENT THAN CITY REQUIREMENTS.
- 31. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CIVIL ENGINEER TO DETERMINE IF THIS PROJECT IS WITHIN THE COUNTY'S JURISDICTION FOR INSPECTION. IF SO THEN, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE COUNTY FOR PRE-CONSTRUCTION MEETING AND INSPECTIONS.
- 32. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE EXISTING SOIL IN ALL LANDSCAPE AREAS FROM CONTAMINATION INCLUDING BUT NOT LIMITED TO BASE MATERIALS SUCH AS LIMÉROCK. CRUSHCRETE AND SHALL NOT BURY OR MIX BASE MATERIAL INTO SOILS USED FOR LANDSCAPE AREAS. LANDSCAPE AREAS INCLUDE ALL AREAS WITHIN THE LIMITS OF WORK THAT ARE SHOWN ON THE APPROVED LANDSCAPE PLANS TO BE COVERED BY PRESERVED VEGETATION, TURF, PLANT BEDS, MULCHED AREAS, AND TREES CONTRACTOR SHALL PAY SPECIAL ATTENTION TO CLEAN-UP OF THE LANDSCAPED AREAS OF THE SITE THAT ARE ADJACENT TO ASPHALT
- 33. CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIAL WITHIN 24" OF THE FINAL SURFACE FROM THE LANDSCAPE AREAS, IMMEDIATELY AFTER THE PLACEMENT OF THE BASE MATERIALS (LIMEROCK / CRUSHCRETE, FTC.). CONTRACTOR SHALL ALSO ENSURE THAT ALL SOIL THAT IS CONTAMINATED WITH BASE MATERIALS. WASTE. CONSTRUCTION DEBRIS FUEL OR OTHER HAZARDOUS MATERIALS IS REMOVED FROM THE SITE AND PROPERLY DISPOSED OF PROPERLY IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL LAWS. CONTRACTOR SHALL REMOVE ALL CONTAMINATED SOIL AND REPLACE WITH TOP SOIL.
- 34. CONTRACTOR SHALL NOT INSTALL THE TOP LAYER OF SOIL OR FINISH GRADING LANDSCAPE AREAS UNTIL THESE AREAS HAVE BEEN REVIEWED BY THE PROJECT ENGINEER.
- 35. PROJECT LOCATION: NASSAU COUNTY, FLORIDA.
- 36. THESE PLANS WERE GENERATED UTILIZING AUTOCAD CIVIL 3D 2019.

PAVING AND DRAINAGE LEGEND

### PAVING AND DRAINAGE NOTES:

- 1. ALL DRAINAGE STRUCTURES TO HAVE TRAFFIC BEARING GRATES. 2. ALL DRAINAGE PIPE JOINTS ARE TO BE FILTER FABRIC WRAPPED.
- 3. ALL INVERTS IN DRAINAGE STRUCTURES TO BE PRECAST OR BRICK WITH AYER OF MORTAR BETWEEN EACH LAYER OF BRICK, OR REDDI-MIX CONCRETE WITH #57 STONE.
- 4. ALL PIPE LENGTHS ARE SCALED DIMENSIONS. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED TO CONFORM WITH COUNTY REQUIREMENTS AND SHALL BE CONSTRUCTED TO CONFORM WITH CURBING, PROPERTY LINES AND LOW POINTS AS SHOWN ON THE PLANS.
- 5. CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEAN AND FUNCTIONING PROPERLY AT TIME OF ACCEPTANCE.
- THE CONTRACTOR SHALL PROVIDE ACCESSIBLE CURB RAMPS AT ALL SIDEWALK AND CURB CONNECTIONS. RAMPS SHALL MEET ALL APPLICABLE ADA REQUIREMENTS.

### NASSAU COUNTY DEVELOPMENT REVIEW GENERAL NOTES

ENGINEERING PLANS APPROVAL DOES NOT CONSTITUTE PERMISSION TO VIOLATE

ANY DISCREPANCY BETWEEN STANDARDS. THE MOST STRINGENT SHALL PREVAIL.

- ANY ADOPTED FEDERAL, STATE, OR LOCAL LAW, CODE, OR ORDINANCE. 2. ALL WORK WITHIN THE PUBLIC STREETS AND RIGHT-OF-WAYS SHALL CONFORM TO NASSAU COUNTY LAND DEVELOPMENT CODES (LDC), FDOT STANDARD NDICES, FLORIDA GREENBOOK, NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, AND NASSAU COUNTY STANDARD DETAILS AS NECESSARY. FOR
- PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS. ORDINANCE 99-17 SECTION 6.2.4. SITE SHALL BE CONSTRUCTED PER APPROVED CONSTRUCTION DRAWINGS. ANY SUBSTANTIAL DEVIATION SHALL BE CONCURRENTLY REVIEWED. BY ENGINEER OF RECORD AND NASSAU COUNTY DEVELOPMENT REVIEW COMMITTEE PRIOR TO FIELD CHANGES.
- 4. A PRE-CONSTRUCTION MEETING WITH NASSAU COUNTY ENGINEERING SERVICES CONSTRUCTION INSPECTOR IS REQUIRED. ATTENDEES SHALL BE NASSAU COUNTY, ENGINEER OF RECORD, CONTRACTOR, TESTING FIRM, PAVING FIRM, AND UTILITY COMPANIES PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.2.3. NASSAU COUNTY MAY CANCEL PRE-CONSTRUCTION MEETING IF ATTENDEE LIST IS INADEQUATE. NASSAU COUNTY ENGINEERING SERVICES CAN BE REACHED AT 904-530-6225.
- THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK WITH THE APPROPRIATE NASSAU COUNTY CONSTRUCTION INSPECTOR ASSIGNED TO THE PROJECT PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.2.
- 6. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES TO HIS EMPLOYEES AND ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT.
- 7. PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 11.8.1, ANY DISTURBED AREAS WITHIN NASSAU COUNTY RIGHT-OF-WAY SHALL BE SODDED.
- PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 7.4.1, AT THE TIME OF FINAL INSPECTION, GRASSING SHALL BE A MINIMUM OF SEVENTY PERCENT COVERAGE AND FULLY ESTABLISHED AND/OR SODDING TO BE ONE HUNDRED PERCENT COVERAGE AND STABILIZED.
- NASSAU COUNTY CONSTRUCTION INSPECTOR A MINIMUM OF ONE WEEK BEFORE BEGINNING STRUCTURE INSTALLATION. 10. PARKING AT MAIL KIOSKS IS REQUIRED PER NASSAU COUNTY ROADWAY AND

ENGINEER OF RECORD APPROVED SHOP DRAWINGS SHALL BE PROVIDED TO

- DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 8.4. MAIL KIOSK LOCATIONS ARE SUBJECT TO USPS POSTMASTER APPROVAL. 11. THE DEVELOPER'S CONTRACTOR IS THE SINGLE RESPONSIBLE PARTY FOR THE PROPER IMPLEMENTATION OF AN EROSION PROTECTION SEDIMENT CONTROL
- SUBCONTRACTORS, AND/OR SUPPLIERS. 12. SIDEWALKS TO BE PROVIDED AND BUILT IN ACCORDANCE FLORIDA BUILDING CODE. ALL PROPOSED SIDEWALKS SHALL MEET ADA REQUIREMENTS.

RESPONSIBILITY FOR THE ACTIONS/INACTIONS OF EMPLOYEES,

(EPSC) WITHIN EACH LOT OR CONSTRUCTION SITE. THIS INCLUDES THE

- 13. THE CONTRACTOR SHALL COMPLY WITH CURRENT FLORIDA ACCESSIBILITY STANDARDS FOR ALL WORK ON THIS PROJECT.
- 14. PER ORDINANCE 99-17 SECTION 8.5.1. MINIMUM COVER FOR WATER LINES AND FORCE MAINS UNDER PAVEMENT SHALL BE 42" AND 36"IN GREEN AREAS.
- WATER SEWER AND STORM WATER CONSTRUCTION WITHIN NASSAU COUNTY ROW SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 409 OF THE FLORIDA
- 16. NO WORK SHALL BE PERMITTED BETWEEN THE HOURS OF 7:00 PM 7:00AM
- WITHOUT PRIOR APPROVAL FROM NASSAU COUNTY ENGINEERING SERVICES. 17. ALL TREES REQUIRED TO BE PROTECTED SHALL BE FLAGGED FOR PROTECTION PRIOR TO CLEARING.
- 18. ALL GRADING AND PLACEMENT OF COMPACTED FILL SHALL BE IN ACCORDANCE WITH THE LATEST NASSAU COUNTY SPECIFICATIONS.
- 19. ANY DAMAGES (SIDEWALK, CURB, ASPHALT, DITCH GRADING, ET CETERA) WITHIN PUBLIC RIGHT-OF-WAY SHALL BE REPAIRED OR REPLACED IN ACCORDANCE WITH NASSAU COUNTY SPECIFICATIONS. PROPOSED REPAIR METHOD SHALL BE APPROVED BY NASSAU COUNTY ENGINEERING SERVICES.
- 20. ANY ASPHALT MILLINGS FROM NASSAU COUNTY ROW SHALL BE DELIVERED TO THE ROAD DEPARTMENT LAYDOWN YARD LOCATED ON GENE LASSERRE BOULEVARD OR PEA FARM ROAD. PLEASE CONTACT THE ROAD DEPARTMENT AT (904) 530-6175.
- 21. PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.4.2 AND 7.4.4, AS-BUILT DRAWINGS SHALL BE SUBMITTED TO NASSAU COUNTY BEFORE A FINAL INSPECTION CAN BE SCHEDULED. AS-BUILTS SUBMITTALS WILL BE IN ACCORDANCE WITH NASSAU COUNTY AS-BUILT REQUIREMENT CHECKLIST AS-BUILT DRAWINGS SHALL BE CERTIFIED BY REQUIRED LICENSED SURVEYOR AND APPROVED BY ENGINEER OF RECORD.

### NASSAU COUNTY STORMWATER DRAINAGE NOTES:

- ALL STORMWATER DRAINAGE FACILITIES WITHIN PUBLIC RIGHT-OF-WAY AND PAVED AREAS, INCLUDING NASSAU COUNTY RIGHT-OF-WAY, TURN LANES, RESIDENTIAL ROADWAYS, DRIVE AISLES FOR MULTI-FAMILY DEVELOPMENTS, AND MAJOR DRIVE AISLES FOR COMMERCIAL DEVELOPMENTS SHALL BE LASER PROFILED PER FDOT SECTION 430.
- A BUILDER CANNOT MODIFY THE COUNTY'S STORM WATER MANAGEMENT SYSTEM INCLUDING THE PIPES, INLETS, AREA DRAINS, DITCHES AND RELATED ELEMENTS TYPICALLY WITHIN THE STREET OR WITHIN A DRAINAGE EASEMENT WITHOUT THE PRIOR WRITTEN APPROVAL OF THE COUNTY ENGINEER OR DESIGNEE.
- DRAINAGE EASEMENTS AND DITCHES SHOULD REMAIN FREE OF STOCKPILED SOIL. SEDIMENT, MUD. CONSTRUCTION MATERIALS/WASTE, ET CETERA AT ALL TIMES. POSITIVE STORMWATER FLOW MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
- 4. THE CONTRACTOR SHALL TEMPORARILY OR PERMANENTLY STABILIZE BARE SOIL AREAS AND SOIL STOCKPILES WHEN THE AREA IS INACTIVE FOR FOURTEEN DAYS OR MORE OR HAS REACHED FINISHED GRADE.
- PER ORDINANCE 99-17 SECTION 11.11.5.4, ALL GRAVITY FLOW PIPE INSTALLATIONS SHALL HAVE A SOIL TIGHT JOINT PERFORMANCE UNLESS SPECIFIC SITE FACTORS WARRANT WATERTIGHT JOINT PERFORMANCE.
- PER ORDINANCE 99-17 SECTION 10.6.5.1, IMMEDIATELY INSTALL ADDITIONAL EROSION PROTECTION SEDIMENT CONTROL MEASURES IF SEDIMENT IS LEAVING YOUR SITE. FAILURE TO CONTAIN SEDIMENT TO YOUR SITE MAY RESULT IN DELAYED INSPECTIONS, NOTICES OF VIOLATION, CITATIONS, FINES, PENALTIES, AND/OR STOP WORK ORDERS
- PER 99-17 SECTION 10.1.2.A-E, STORMWATER MANAGEMENT FOR A PROJECT SHALL NOT HAVE ADVERSE EFFECTS ON ADJACENT PROPERTIES, DOWNSTREAM STRUCTURES, OR RIGHTS OF OTHER LANDOWNERS.

### NASSAU COUNTY PAVING NOTES

- PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS. ORDINANCE 99-17 SECTION 12.2 AND 12.4, A CONSTRUCTION BOND AND 26-MONTH MAINTENANCE BOND WILL BE REQUIRED FOR ALL WORK WITHIN NASSAU COUNTY RIGHT-OF-WAY.
- A PRE-PAVE MEETING IS REQUIRED PRIOR TO ANY PAVING OPERATIONS WITHIN NASSAU COUNTY ROW, RESIDENTIAL SUBDIVISIONS, OR
- MULTI-FAMILY DEVELOPMENTS APPROVED MIX DESIGNS SHALL BE PROVIDED TO NASSAU COUNTY

CONSTRUCTION INSPECTOR 48 HOURS PRIOR TO PRE-PAVE MEETING OR

- CONTRACTOR IS REQUIRED TO HAVE A CERTIFIED QC ASPHALT LEVEL II TECHNICIAN DURING ANY ASPHALT OPERATIONS WITHIN NASSAU COUNTY
- ROW, RESIDENTIAL SUBDIVISION, OR MULTI-FAMILY DEVELOPMENTS. ALL BASES SHALL BE PRIMED IN ACCORDANCE WITH ORDINANCE 99-17 SECTION 11.5.2.3, NASSAU COUNTY STANDARD DETAILS, AND FDOT
- STANDARD SPECIFICATIONS. SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH NASSAU COUNTY STANDARDS, MANUAL ON UNIFORM TRAFFIC CONTROL
- MAINTENANCE OF TRAFFIC (MOT) SHALL BE IN COMPLIANCE WITH FDOT STANDARD INDEX 600 SERIÈS.

DEVICES (MUTCD), AND FDOT STANDARD PLANS.

- ALL WORK, MATERIALS, AND TESTING PERFORMED WITHIN NASSAU COUNTY RIGHT-OF-WAY AND SINGLE-FAMILY/MULTI-FAMILY DEVELOPMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT REVISION OF NASSAU COUNTY'S ORDINANCE 99-17 AND ALL CURRENT NASSAU COUNTY STANDARD
- PER ORDINANCE 99-17 SECTION 11.9.2. ALL PAVEMENT MARKINGS WITHIN NASSAU COUNTY ROW SHALL BE LEAD FREE THERMOPLASTIC MEETING
- NASSAU COUNTY AND FDOT STANDARD SPECIFICATION LATEST EDITION. 10. REMOVING PAVEMENT MARKINGS WITHIN NASSAU COUNTY ROW SHALL BE: a. GRINDING OR HYDRO-BLASTING ON WEATHERED ASPHALT SURFACES.
- b. HYDRO-BLASTING ONLY ON NEW ASPHALT SURFACES. c. PAINT BLACKOUT IS PROHIBITED.
- PER ORDINANCE 99-17 SECTION 8.5.5, ANY DAMAGE TO PAVEMENT RESULTING FROM CONSTRUCTION OR PAVEMENT MARKING REMOVAL WITHINPUBLIC ROW NOT PLANNED AS PART OF THE PROJECT SHALL BE MILLED AND OVERLAID FOR ENTIRE WIDTH OF ROADWAY AND LENGTH OF
- DAMAGE PLUS 50' IN EACH DIRECTION. 12. ALL UNDERGROUND UTILITIES, OR APPROPRIATE CONDUIT SLEEVES, THAT ARE TO BE INSTALLED UNDER PAVEMENT MUST BE INSTALLED PRIOR TO PREPARATION OF THE SUBGRADE FOR PAVEMENT.
- 13. SINGLE VERTICAL JOINTS IN ROADWAY CONSTRUCTION SHALL BE AVOIDED IN NASSAU COUNTY RIGHT-OF-WAY USING NASSAU COUNTY STANDARD
- 14. ALL DRAINAGE STRUCTURES SHALL HAVE TRAFFIC BEARING GRATES THAT MEET OR EXCEED THE RATING FOR THE FACILITIES EXPECTED TRAFFIC.
- 15. ALL CONCRETE SHALL BE A MINIMUM OF 3000 PSI WITHIN PUBLIC RIGHT-OF-WAY

### WATER, REUSE, & SEWER REQUIREMENTS

- ALL WATER, REUSE WATER. SANITARY SEWER AND STORM SEWER CONSTRUCTION SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR, LICENSED UNDER THE PROVISIONS OF CHAPTER 489 FLORIDA STATUTES. THE CONTRACTOR SHALL FURNISH A COPY OF THE CURRENT LICENSE AND QUALIFIERS TO THE DESIGN ENGINEER PRIOR TO START OF CONSTRUCTION. ALL WATER. REUSE WATER AND SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH JEA STANDARDS. DETAILS AND MATERIALS MANUAL (LATEST REVISIONS) UNLESS MORE STRINGENT STANDARDS ARE SPECIFIED.
- FIRE PROTECTION MAINS (NON-JEA OWNED WATER SYSTEMS) SHALL BE C-900 PVC DR18 PIPE AND SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA REQUIREMENTS BY A FLORIDA LICENSED CONTRACTOR QUALIFIED TO INSTALL FIRE PROTECTION MAINS. LOCAL PERMITTING AND INSPECTION OF FIRE PROTECTION SYSTEM INSTALLATION, FLUSHING AND TESTING IS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR LOCAL PERMIT, NOTICE, AND COMPLIANCE WITH PERMIT.
- FINAL CONNECTION TO THE JEA SYSTEM MAY BE CONTINGENT UPON THE CONSTRUCTION, DEDICATION, AND FINAL ACCEPTANCE OF OFF-SITE
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER (AND THE JEA IF REQUIRED) ON ALL STRUCTURES AND MATERIALS, FOR REVIEW AND APPROVAL PRIOR TO PURCHASE OR FABRICATION OF ANY UTILITY PIPE OR STRUCTURE.
- UNSUITABLE MATERIALS UNDER UTILITY PIPES AND STRUCTURES SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
- MECHANICALLY RESTRAINED JOINTS ARE REQUIRED ON PRESSURE MAINS AT VALVES, FITTINGS AND DEAD ENDS IN ACCORDANCE WITH JEA STANDARDS.
- CONTRACTOR SHALL FURNISH AND INSTALL LOCATE WIRING ON ALL PVC WATER MAINS, REUSE MAINS, FORCE MAINS, POLYETHYLENE AND PVC WATER SERVICES, INSTALLATION SHALL BE IN ACCORDANCE WITH JEA STANDARDS, DETAILS AND MATERIAL MANUAL, LATEST EDITION
- ALL POINTS OF CONNECTION FOR WATER, REUSE WATER AND SEWER MUST BE IN ACCORDANCE WITH THE AVAILABILITY RESPONSE FROM JEA.
- 9. F.D.E.P. PERMITS SUBMITTED THROUGH THE DEPARTMENT FOR PROCESSING SHALL BE IN CONFORMANCE WITH BOTH THE DESIGN PLANS AND THE WATER AND SEWER AVAILABILITY RESPONSE. ANY MINOR OR MAJOR DEVIATIONS BETWEEN THE PRELIMINARY DESIGN AND FINAL DESIGN SUBMITTAL SHALL REQUIRE REVISED F.D.E.P. PERMITS REFLECTING THESE CHANGES.
- 10. A JEA PRE-CONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL CONTACT THE JEA NEW DEVELOPMENT PROJECT COORDINATOR: CHRIS BARRINGTON OR JEA DESIGNEE AT (904) 665-4081 TO SCHEDULE THIS CONFERENCE.
- 11. A TAP APPLICATION FEE IS REQUIRED AND SHALL BE PAID @ 515 N. LAURA ST., 1ST FLOOR. THIS MUST BE ACCOMPLISHED PRIOR TO CONNECTION TO THE JEA'S SYSTEM (WATER, SEWER, REUSE). IN ADDITION, CAPACITY FEES MUST BE PAID AT TIME OF OR PRIOR TO THE TAP FEE AND WILL BE BASED ON THE TOTAL NUMBER OF FIXTURE UNITS AND OR AVERAGE DAILY FLOWS.
- 12. THE CONTRACTOR SHALL MINIMIZE SERVICE INTERRUPTIONS AND MAINTAIN ANY EXISTING WATER AND SEWER SERVICE TO MEET THE SYSTEM DEMANDS AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED CUSTOMERS AND UTILITY A MINIMUM OF 48 HOURS IN ADVANCE OF ANY INTERRUPTION OF
- 13. CONTRACTOR SHALL OBTAIN A COPY OF THE F.D.E.P. OR JEA WATER AND SEWER PERMITS FROM THE ENGINEER PRIOR TO START OF CONSTRUCTION AND MUST COMPLY WITH ALL CONDITIONS OF PERMIT(S).
- 14. ALL JEA ELECTRICAL CONDUIT WORK SHALL BE COMPLETED PRIOR TO THE PRESSURE TESTING OF WATER MAINS. REUSE MAINS AND SEWAGE FORCE MAINS. ALL PRESSURE TESTING AND PUMP TESTING SHALL BE WITNESSED BY JEA AND THE ENGINEER.

### WATER AND REUSE MAINS

- 15. UNLESS OTHERWISE INDICATED, ALL WATER MAINS AND REUSE MAINS WILL BE PVC DR18, C-900/C-905 (AS APPROPRIATE) PIPE. ALL 2" MAINS SHALL BE HDPE CTS SDR 9.
- 16. WATER MAINS AND REUSE MAINS SHALL HAVE A MINIMUM OF 30" COVER LINDER LINPAVED AREAS AND 36" MINIMUM COVER FROM FINISHED GRADE UNDER PAVED AREAS UNLESS OTHERWISE SHOWN. ADDITIONAL COVER IS REQUIRED FOR VALVE INSTALLATION CLEARANCE FOR PIPE GREATER THAN 8 INCHES IN DIAMETER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT INSTALLED PIPING UNTIL FINAL ACCEPTANCE BY F.D.E.P AND JEA.
- 17. ALL WATER MAINS AND REUSE MAINS SHALL BE FLUSHED IN ACCORDANCE WITH, AND UNDER THE DIRECTION OF THE JEA.
- 18. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND REUSE MAINS AND HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND REUSE MAINS TO OTHER UTILITIES SHALL BE IN ACCORDANCE WITH JEA AND F.D.E.P. REQUIREMENTS.
- 19. ALL GATE VALVES SHALL BE JEA STANDARD. VALVES SHALL BE MECHANICAL JOINT, CAST IRON, BRONZE FITTED WITH RESILIENT SEAT. ALL VALVES SHALL OPEN BY TURNING TO THE LEFT. VALVES SHALL BE RATED AT 250 PSI WORKING PRESSURE AND 500 PSI TEST PRESSURE
- 20. ALL NEW AND / OR RELOCATED WATER MAIN AND REUSE MAIN PIPE AND FITTINGS SHALL NOT CONTAIN MORE THAN EIGHT PERCENT LEAD, AND ALL PACKING AND JOINT MATERIALS USED IN THE JOINTS SHALL CONFORM WITH ALL APPLICABLE AWWA STANDARDS. ALL NEW AND OR RELOCATED SERVICES AND PLUMBING SHALL CONTAIN NO MORE THAN EIGHT PERCENT LEAD AND ALL SOLDERS AND FLUX SHALL CONTAIN NO MORE THAN 0.2 PERCENT LEAD.

### WATER, REUSE, & SEWER REQUIREMENTS

- 21. ALL FIRE HYDRANTS SHALL BE JEA STANDARD. FIRE HYDRANTS LOCATED WITHIN JEA RIGHT OF WAYS OR EASEMENTS SHALL BE PAINTED YELLOW. ALL PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED, OR IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- 22. ALL FIRE HYDRANTS THAT ARE SUPPLIED BY A FIRE PUMP AND SUBJECT TO HIGH PRESSURE (IN EXCESS OF 60 P.S.I.) SHALL BE PAINTED GREEN WITH RED LETTERS "H.P." APPROXIMATELY 2" HIGH. THESE LETTERS SHALL BE STENCILED ON THE HYDRANT IN A

CONSPICUOUS/ VISIBLE AREA.

- 23. ALL NEW FIRE HYDRANT INSTALLATIONS, PUBLIC AND PRIVATE, SHALL HAVE A BLUE F.D.O.T. TYPE REFLECTIVE PAVEMENT MARKER INSTALLED IN THE CENTER OF THE TRAFFIC LANE NEAREST THE NEW FIRE
- 24. ALL WATER MAINS SHALL BE BACTERIOLOGICAL AND PRESSURE TESTED AT 150 PSI FOR 2 HOURS IN ACCORDANCE WITH AWWA STANDARDS AND JEA STANDARD REQUIREMENTS. NO CONNECTION TO THE EXISTING POTABLE WATER SYSTEM SHALL BE ALLOWED UNTIL ALL PROPOSED WATER LINES HAVE BEEN PRESSURE TESTED, DISINFECTED, AND CLEARED FOR SERVICE. THE ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO PERFORMING THE PRESSURE TEST. DISINFECTION SHALL BE IN ACCORDANCE WITH AWWA-C-651. REUSE MAINS REQUIRE PRESSURE TEST ONLY.
- 25. ALL BACKFLOW PREVENTORS SHALL BE IN ACCORDANCE WITH JEA CROSS CONNECTION CONTROL PROGRAM. BACKFLOW PREVENTORS MUST BE TESTED AFTER INSTALLATION BY A CERTIFIED TESTER AND ANNUALLY THEREAFTER. THE CONTRACTOR SHALL CONTACT JEA COORDINATOR OR JEA DESIGNEE: DAVID KAPLAN AT (904) 665-5522. BACKFLOW PREVENTORS ON FIRE LINES OR COMBINATION FIRE/POTABLE MAINS SHALL BE HAVE FREEZE PROTECTION.
- 26. THE WATER TAPS DEPICTED ON THESE DESIGN PLANS SHALL BE CONSTRUCTED AS FOLLOWS: ALL POTABLE, REUSE, AND IRRIGATION WATER TAPS. FIRE LINE SERVICES AND FIRE HYDRANT INSTALLATIONS SHALL BE PERFORMED BY A LICENSED MASTER PLUMBER OR UNDERGROUND UTILITY CONTRACTOR UNDER THE FOLLOWING CONDITIONS:
- 1.) THE TAPS ARE TO BE SCHEDULED 48 HOURS IN ADVANCE WITH 2.) TAPS REQUIRING METER INSTALLATIONS OF SIZE 2" AND BELOW MÚST INCLUDE THE SERVICE PIPE, METER BOX, AND CORP. STOP SIZED READY TO ACCEPT THE METER INSTALLATION BY JEA FORCES. 3.) JEA FORCES WILL INSTALL THE METER UPON APPLICATION AND PÁYMENT BY LICENSED MASTER PLUMBER OR UTILITY CONTRACTOR AT JEA WATER AND SEWER, 515 N. LAURA ST., 1ST FLOOR. 4.) ALL TAPS REQUIRING METER INSTALLATIONS OF SIZE 3" AND ABOVE SHALL TERMINATE SIZED READY FOR VAULT, METER AND BYPASS INSTALLATION. VAULT FURNISHED BY CONTRACTOR.
- 27. WATER METERS SHALL NOT BE LOCATED WITHIN PAVEMENT, CURB AND GUTTER OR DRIVEWAYS.

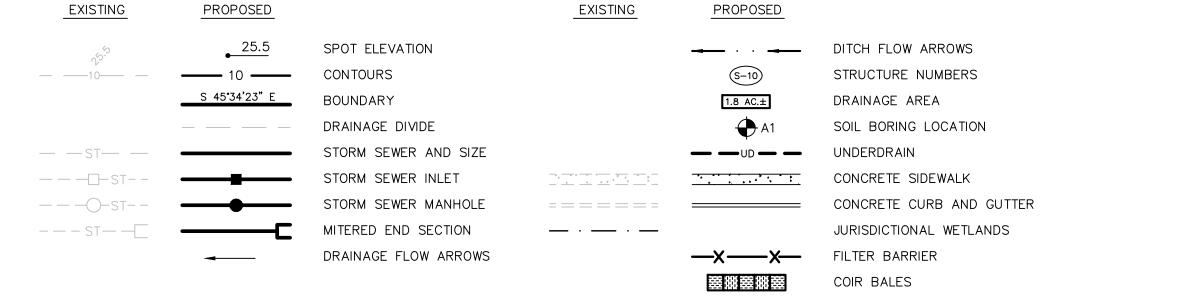
INSTALLATION BY JEA FORCES. SPECIAL ESTIMATE REQUIRED.

28. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH. WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SUCH AS FLUOROCARBON SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE PIPE SHALL EXTEND AT LEAST 100 FEFT BEYOND ANY SOLVENT NOTED ANY CONTAMINATED SOIL THAT IS EXCAVATED SHALL BE PLACED ON AN IMPERMEABLE MAT AND COVERED WITH A WATERPROOF COVERING. THE PROPER AUTHORITIES WILL BE NOTIFIED AND THE CONTAMINATED SOIL HELD FOR PROPER DISPOSAL.

BY F.D.E.P AND JEA

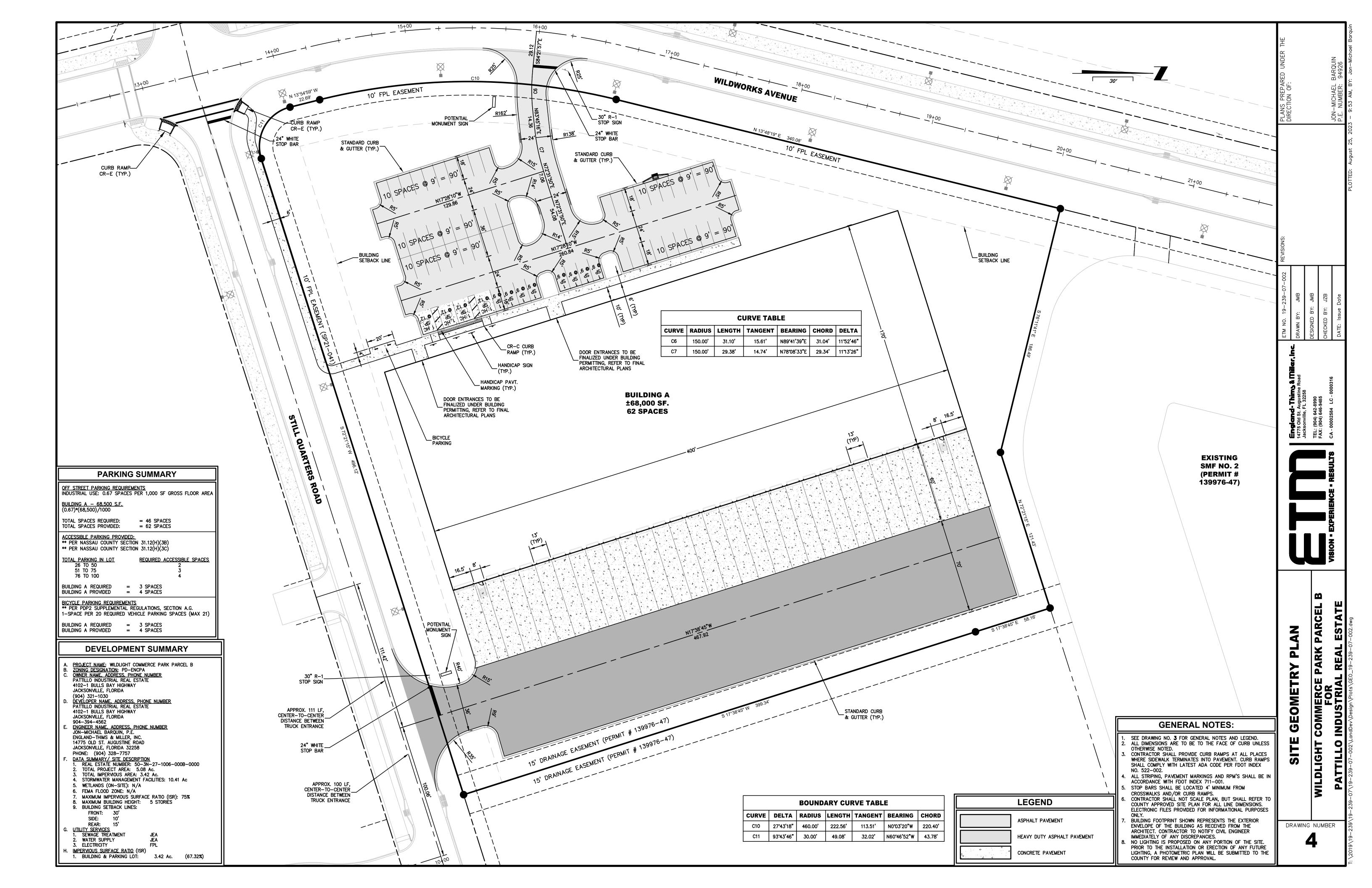
- 29. ALL SEWER MAINS, SERVICES, AND FITTINGS SHALL BE PVC (ASTM-3034) SDR 26 UNLESS OTHERWISE INDICATED. FORCE MAINS SHALL BE PVC DR 18 PIPE UNLESS OTHERWISE INDICATED. FORCE MAINS SHALL BE PRESSURE TESTED THE SAME AS WATER AND REUSE
- 30. SANITARY SEWER SERVICES SHALL BE 6" PVC WITH A MINIMUM SLOPE OF 1.04% AND SHALL BE TERMINATED AT THE RIGHT-OF-WAY LINE WITH A DEPTH OF 30" TO 60" UNLESS OTHERWISE DETAILED OR RESTRICTED DUE TO DEPTH OF SEWER MAIN. FORCE MAINS SHALL HAVE A MINIMUM COVER OF 30 INCHES IN UNPAVED AREAS AND 36 INCHES IN PAVED AREAS UNLESS OTHERWISE INDICATED. SEE FORCE MAIN PROFILE SHEET(S).
- SEWER LINES AND FORCE MAINS ARE DESIGNED TO FINISHED GRADES AND SHALL BE PROTECTED UNTIL WORK IS COMPLETED AND ACCEPTED
- PRIOR TO THE PLACEMENT OF THE LIMEROCK BASE COURSE, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER A SCHEDULE OF INVERT FLEVATIONS OF ALL SANITARY MANHOLES. THIS SCHEDULE SHALL BE PROVIDED BY THE REGISTERED LAND SURVEYOR SUBMITTING THE "AS-BUILT" DRAWINGS FOR THIS PROJECT.
- 33. THE CONTRACTOR SHALL INSTALL ANY ADDITIONAL AIR RELEASE VALVES AT CHANGES IN ELEVATION OF 2 FT. DUE TO ACTUAL FIELD CONDITIONS OR CONFLICTS NOT IDENTIFIED ON THESE DESIGN PLANS.
- 34. TELEVISION INSPECTION SHALL BE REQUIRED ON ALL GRAVITY SEWER MAINS. INSPECTION SHALL BE RECORDED ON VIDEO TAPE OR DVD. ALL LINES ARE TO BE CLEANED AND FLUSHED PRIOR TO INSPECTION. A FULL WRITTEN REPORT AS TO THE CONDITION OF THE PIPE WITH PERTINENT DATA SUCH AS DISTANCE BETWEEN MANHOLES, LOCATION OF SERVICES, ETC. SHALL BE SUBMITTED TO THE OWNER AND ENGINEER PRIOR TO ACCEPTANCE AND ONE COPY OF THE VIDEO INSPECTION SHALL BE SUBMITTED TO THE JEA. ALL DEFECTIVE AREAS AND ITEMS SHALL BE REPLACED OR REPAIRED PRIOR TO FINAL ACCEPTANCE. ALL REPAIRED SECTIONS MUST BE REINSPECTED PRIOR TO ACCEPTANCE. THE MAXIMUM DEFLECTION SHALL NOT EXCEED 7.5% OF THE NOMINAL DIAMETER IN ACCORDANCE WITH JEA STANDARDS. INFILTRATION AND/OR EXFILTRATION TESTING OF GRAVITY SEWERS MAY BE REQUIRED IF DEEMED NECESSARY BY THE ENGINEER. THE MAXIMUM ALLOWABLE INFILTRATION-EXFILTRATION RATE WILL BE 50 GALLONS PER INCH DIAMETER PER MILE PER DAY.

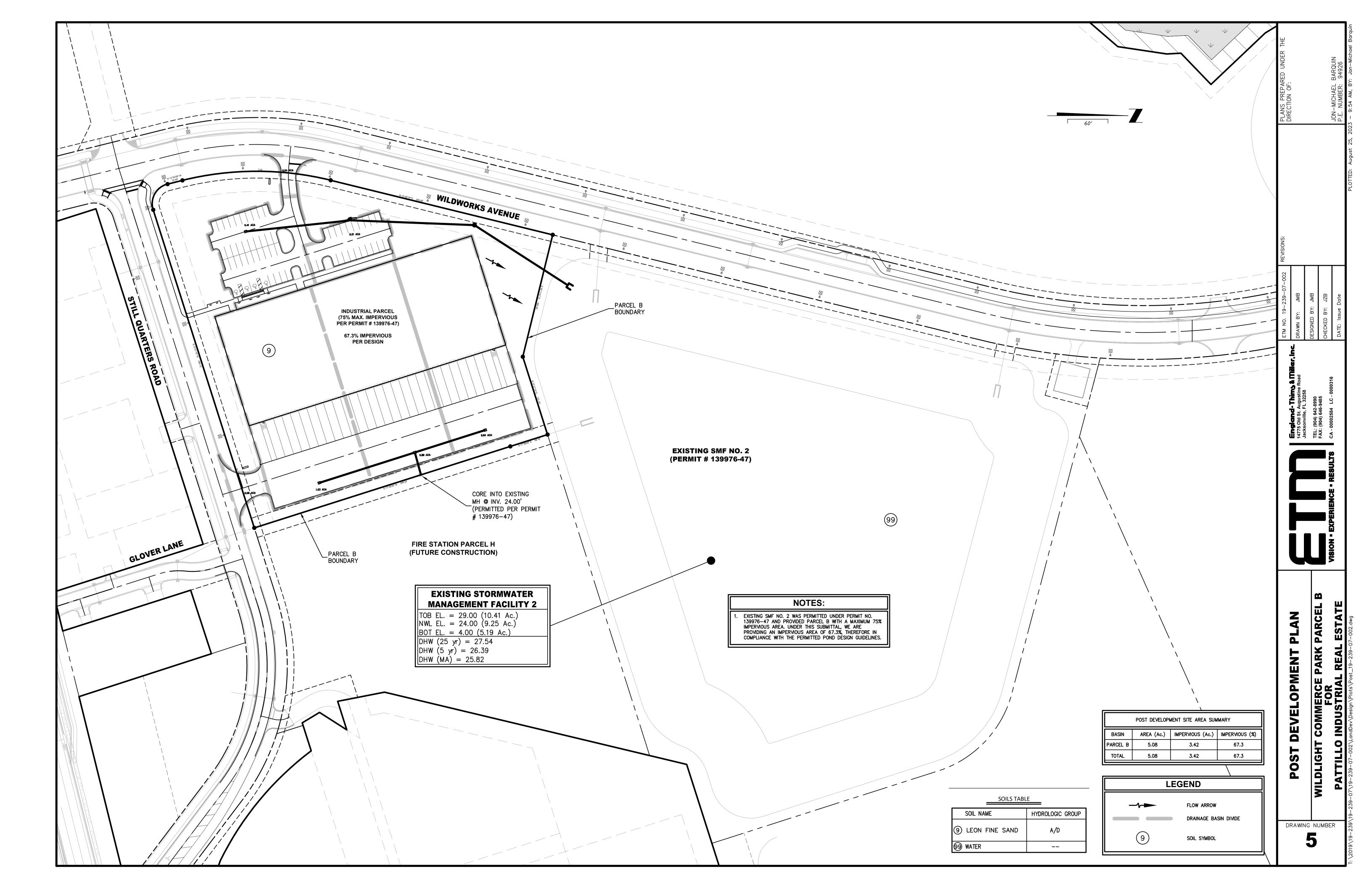
### WATER AND SEWER LEGEND

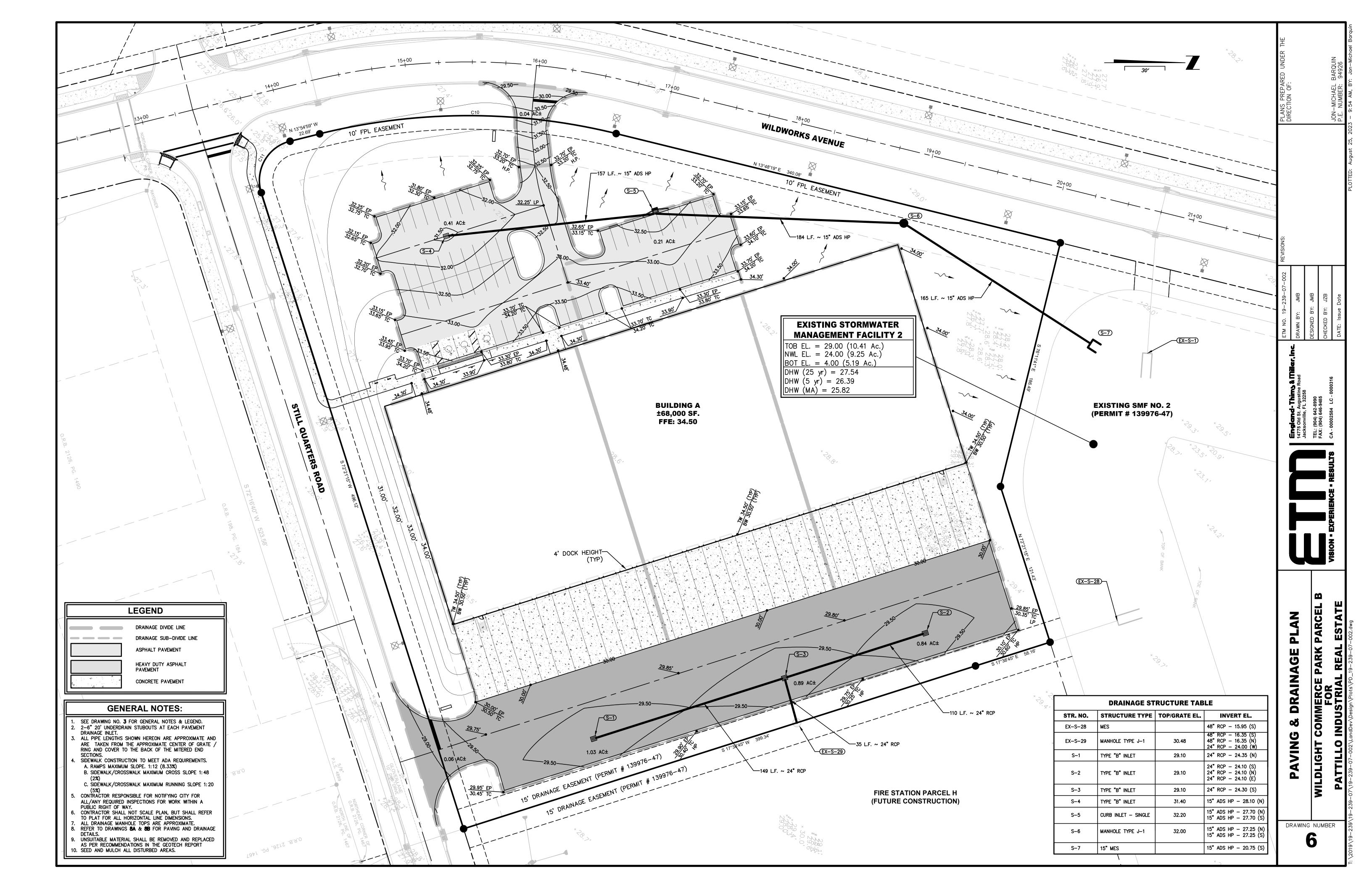


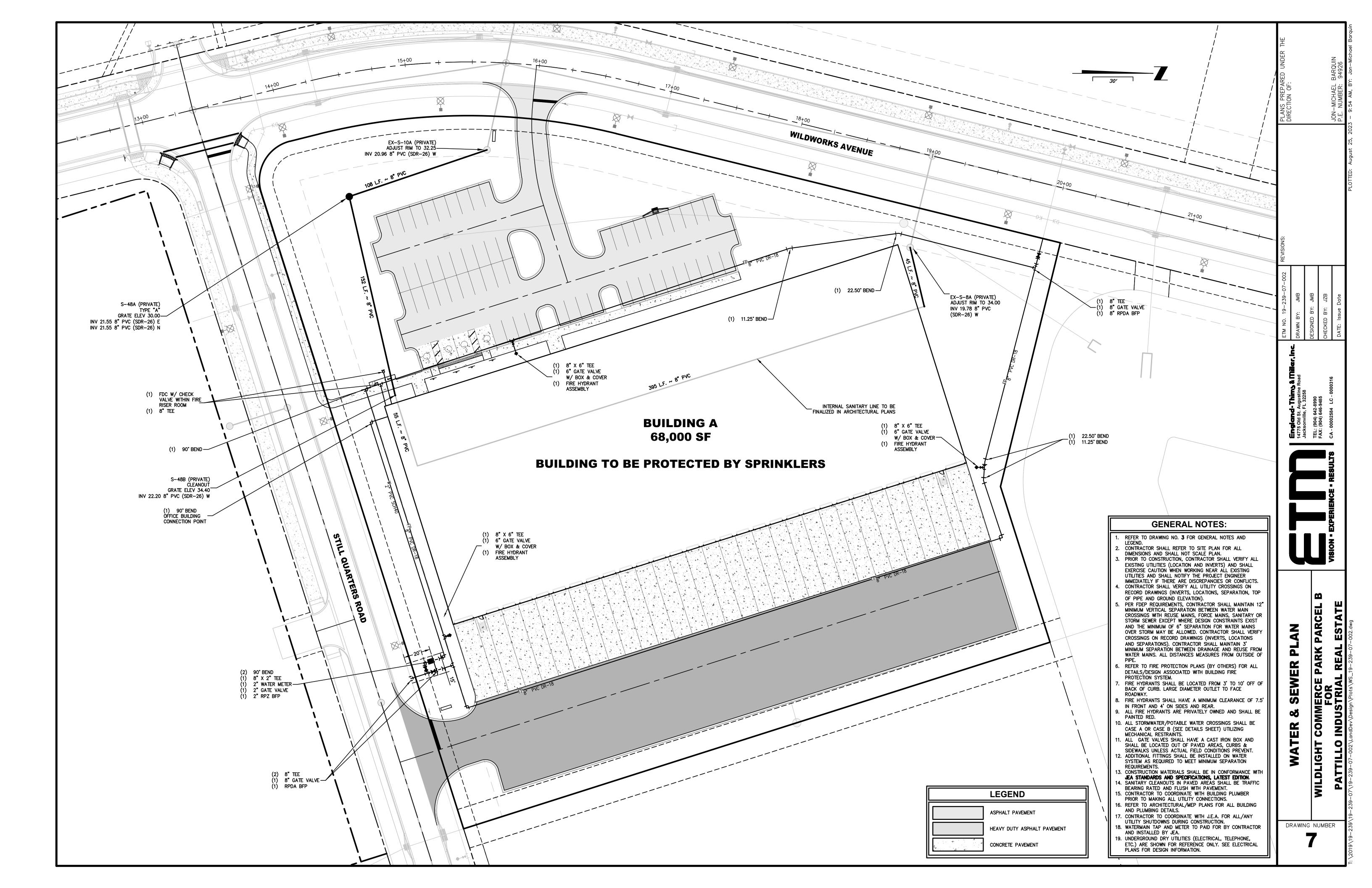
**EXISTING** PROPOSED **EXISTING** PROPOSED FIRE HYDRANT SANITARY SEWER LINE SANITARY SEWER SERVICE FLUSHING HYDRANT GATE VALVE SANITARY SEWER MANHOLE CLEANOUT REUSE WATER MAIN WATER METER BACKFLOW PREVENTER FIRE PROTECTION MAIN

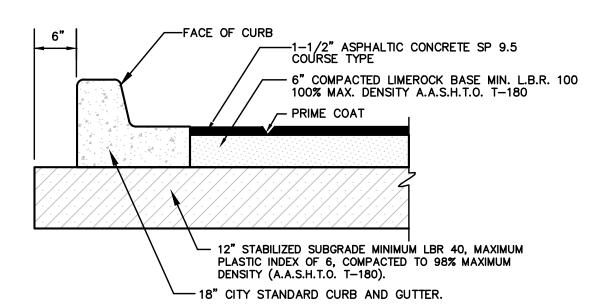
(904) (904)





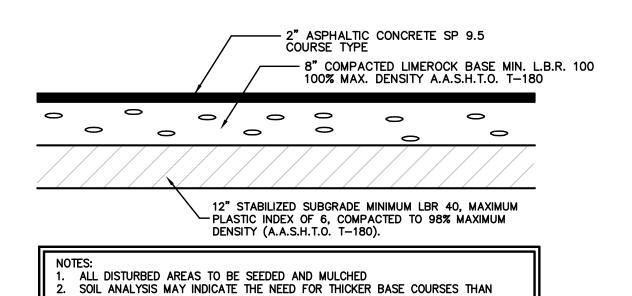






. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED . SOIL ANALYSIS MAY INDICATE THE NEED FOR THICKER BASE COURSES THAN THOSE HEREIN. THE PAVEMENT THICKNESS SHOWN HEREIN ARE NOT INTENDED TO BE ABSOLUTE, BUT ARE PRELIMINARY CRITERIA AND MAY BE MODIFIED TO ACCOMMODATE THE BEARING CAPACITY OF VARIOUS SUBGRADES. ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331 AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

### TYPICAL PAVEMENT SECTION



### **HEAVY DUTY ASPHALT PAVEMENT SECTION**

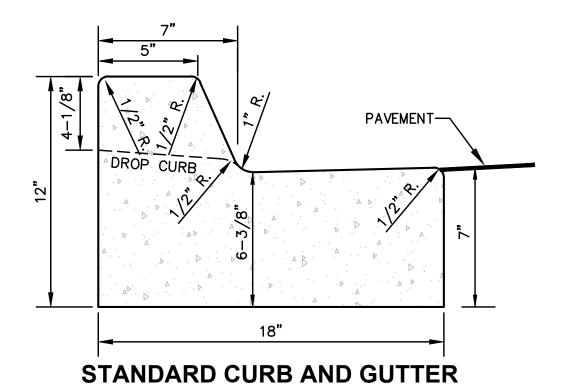
BE ABSOLUTE, BUT ARE PRELIMINARY CRITERIA AND MAY BE MODIFIED TO

. ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331

ACCOMMODATE THE BEARING CAPACITY OF VARIOUS SUBGRADES.

AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

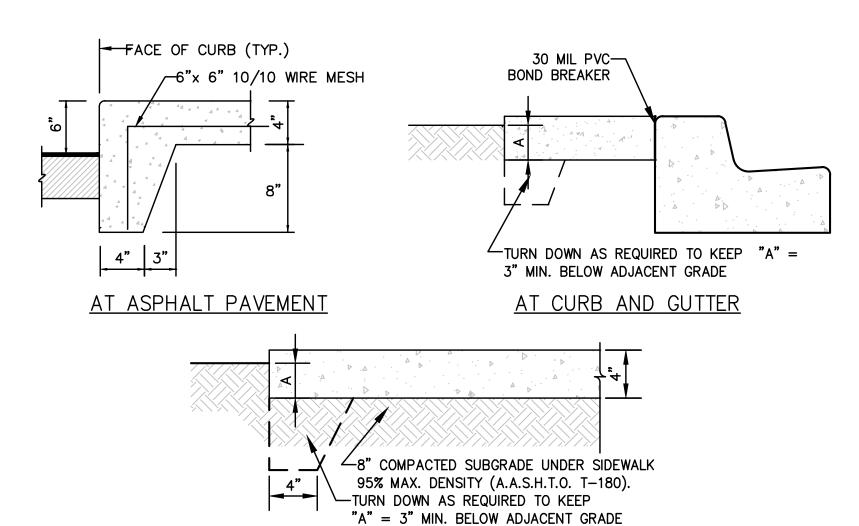
THOSE HEREIN. THE PAVEMENT THICKNESS SHOWN HEREIN ARE NOT INTENDED TO



- I. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- CONCRETE SHALL BE CLASS 1 CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.

N.T.S.

WHEN USED ON THE HIGH SIDE OF ROADWAY SECTIONS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. WHERE THIS CONDITION IS ENCOUNTERED, THE FRONT FACE VERTICAL DIMENSION SHALL REMAIN AS SHOWN FOR NORMAL SECTIONS SHOWN HEREON.



### AT GRADE

- NOTES:
  1. CONSTRUCT STRAIGHT JOINTS WITH FACE PERPENDICULAR TO SURFACE OF CONCRETE. TRAVERSE JOINTS SHALL BE AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED ON PLANS.
- PROVIDE EXPANSION JOINTS AT 100' INTERVAL MAXIMUM SPACING ON CENTER.
- PROVIDE EXPANSION JOINTS FILLER FOR JOINTS ABUTTING CURBS, CATCH BASINS, MANHOLES, INLETS STRUCTURES, WALKS AND OTHER FIXED OBJECTS UNLESS OTHERWISE INDICATED ON PLANS.
- EXTEND JOINTS FILLER FULL WIDTH AND DEPTH OF JOINT, AND 1/2" BELOW FINISHED SURFACE. PLACE SEALANT OVER JOINT FILLER PER MANUFACTURERS RECOMMENDATIONS. USE PREMOLDED ASPHALT-IMPREGNATED FIBERBOARD, 1/2" THICK CONFORMING TO ASTM D1751.
- CONTRACTION JOINT SHALL BE SAW CUT (1/4" WIDE BY 1" DEEP).
- FINISHED SURFACE FOR CONCRETE SIDEWALK SHALL BE GRAY CONCRETE WITH LIGHT BROOM FINISH PERPENDICULAR TO LINE OF TRAFFIC (UNLESS OTHERWISE INDICATED ON PLANS).
- PROVIDE CRACK CONTROL JOINTS @ (SAME AS WIDTH) O.C.

-5" (LIGHT DUTY) OR 6" (HEAVY DUTY) PORTLAND CEMENT PAVEMENT WITH COMPRESSION STRENGTH 4000 P.S.I. @ 28 DAYS

12" SUBGRADE COMPACTED TO DENSITY

MAXIMUM DRY DENSITY (ASTM D 1557).

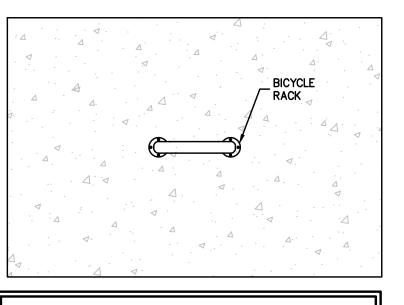
TYPICAL CONCRETE PAVEMENT SECTION

N.T.S.

EQUIVALENT TO 98% OF THE MODIFIED PROCTOR

- PROVIDE 16" STRIP SOD ADJACENT TO ALL EDGES OF SIDEWALK, CURB AND PAVEMENT AREAS. CONCRETE COMPRESSION STRENGTH 3000 P.S.I. @ 28 DAYS UNLESS OTHERWISE APPROVED BY
- ENGINEER OF RECORD. 10. SIDEWALK TO BE CONSTRUCTED WITH SLOPES COMPLYING TO WITH LATEST ADA CODE AND FDOT INDEX 522-001. SIDEWALK MAX. VERTICAL SLOPE OF 5.0% AND MAX CROSS SLOPE OF 2.0%.

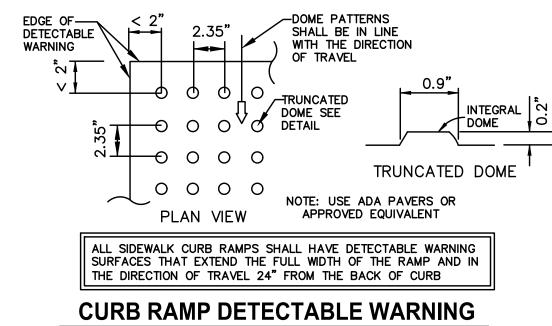
### **CONCRETE WALK**



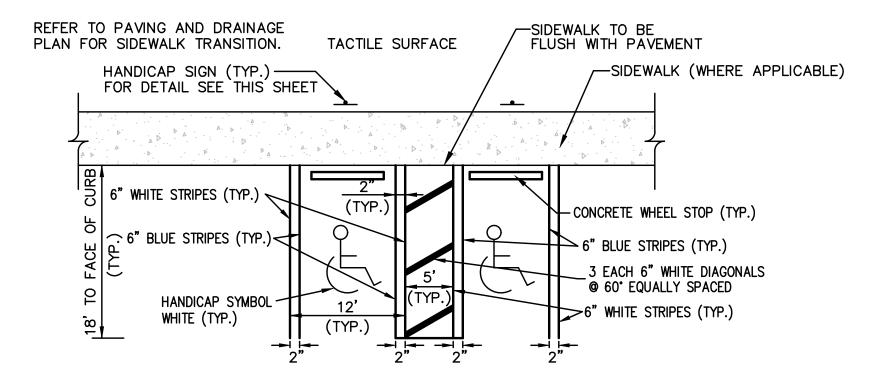
INVERTED "U" SHAPED BICYCLE RACK (OR APPROVED EQUIVALENT) HOT DIPPED GALVANIZED WITH SURFACE MOUNT RACK MUST SUPPORT BICYCLE IN TWO PLACES BICYCLE RACKS SHALL BE A MINIMUM OF 3' FROM ANY

# **BICYCLE RACK DETAIL**

N.T.S.



N.T.S.

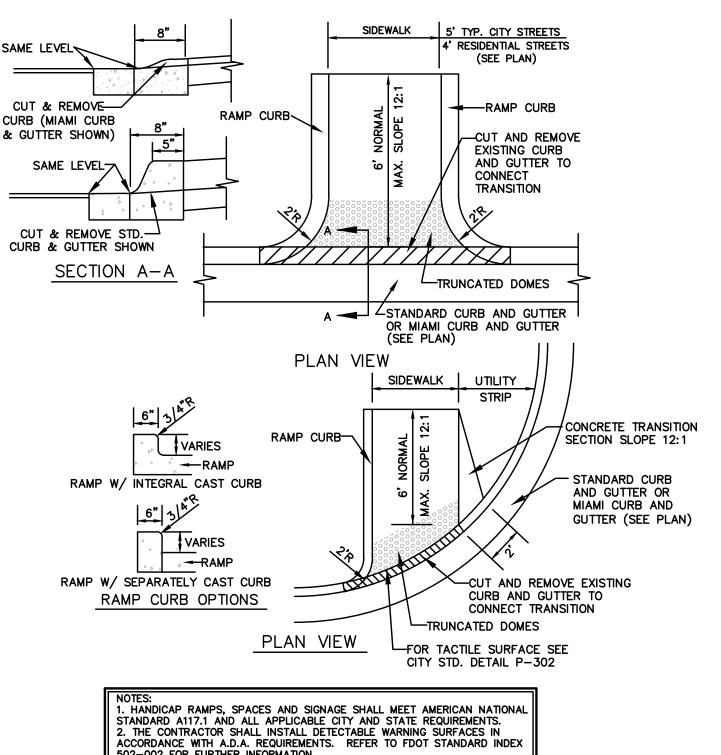


1. HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS.

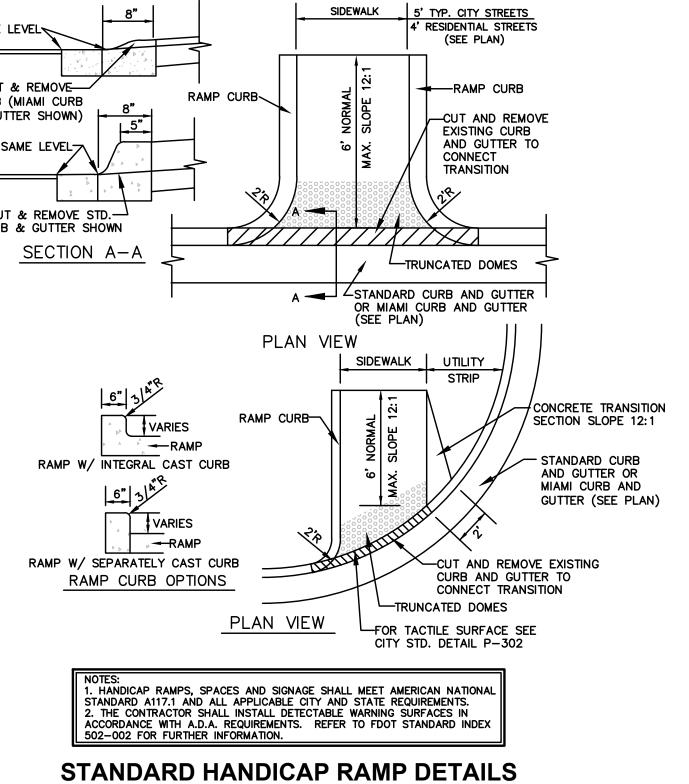
2. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING SURFACES IN ACCORDANCE WITH A.D.A. REQUIREMENTS. REFER TO FDOT STANDARD INDEX 522-002 FOR DETECTABLE WARNING PLACEMENT.

### UNIVERSAL HANDICAP PARKING DETAIL

N.T.S.



N.T.S.



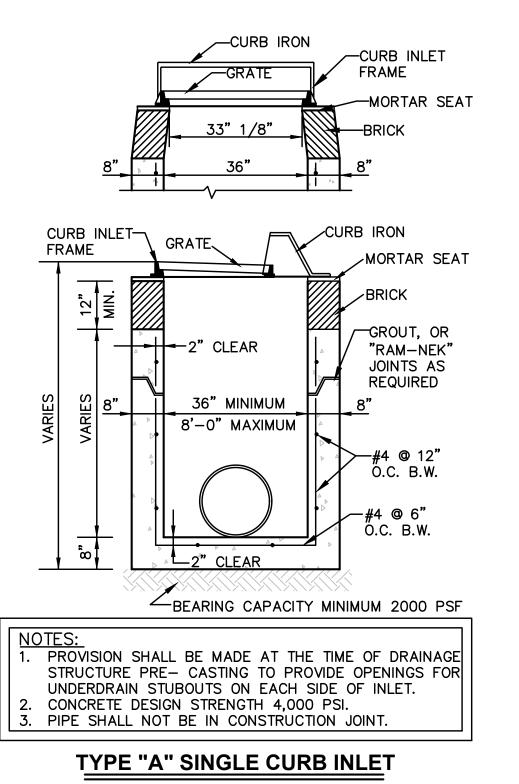
DETAIL

AIN

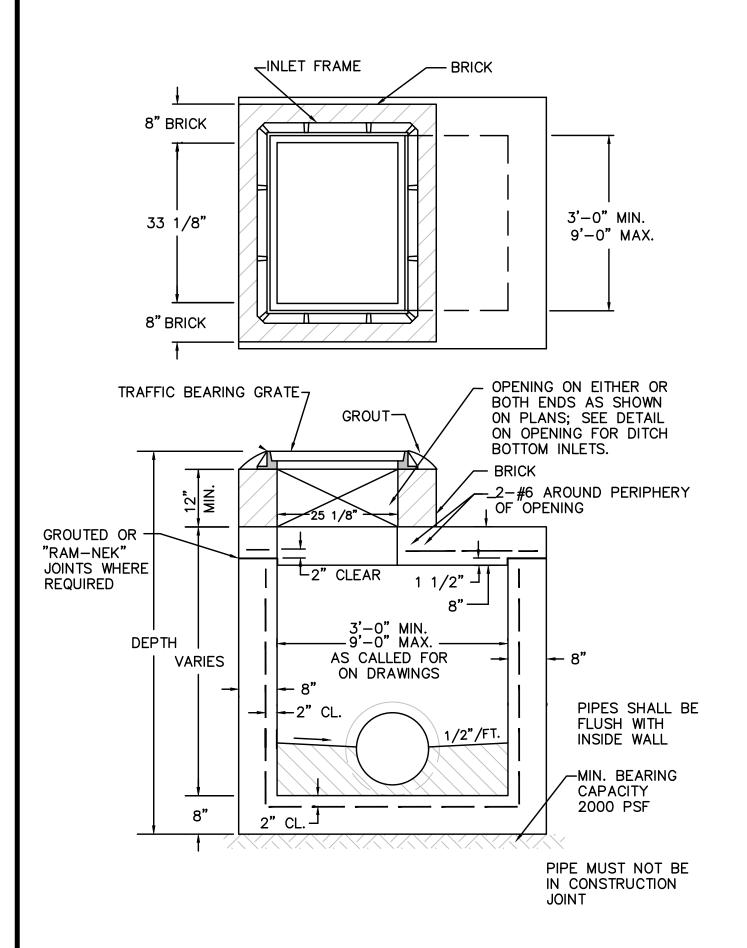
DR

DRAWING NUMBER **8A** 

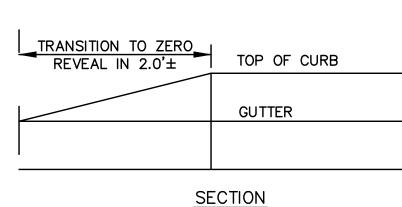
COMMERCE P FOR INDUSTRIAL



# N.T.S.

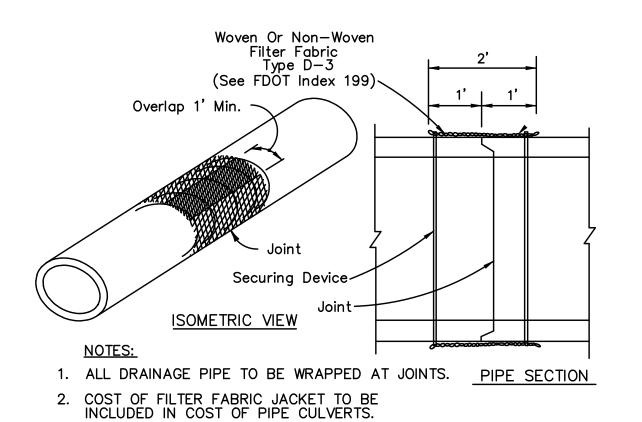


STORM SEWER TYPE "B" INLET



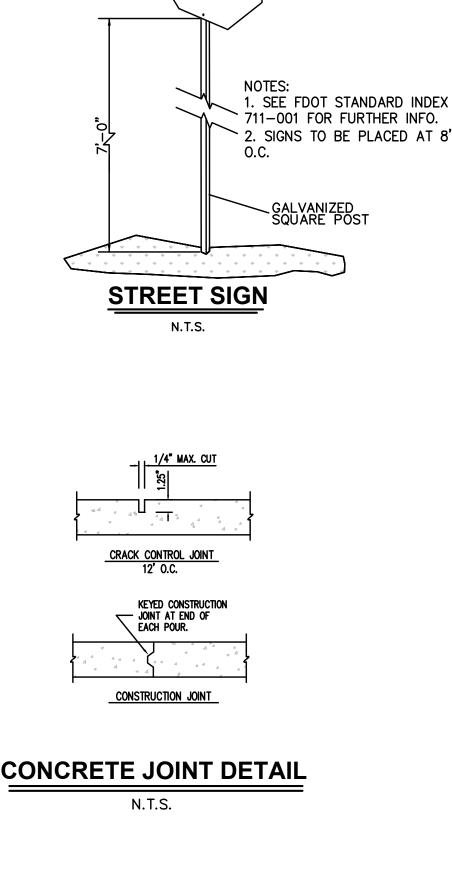
# **CURB TRANSITION DETAIL**

N.T.S.



# FILTER FABRIC JACKET

N.T.S.

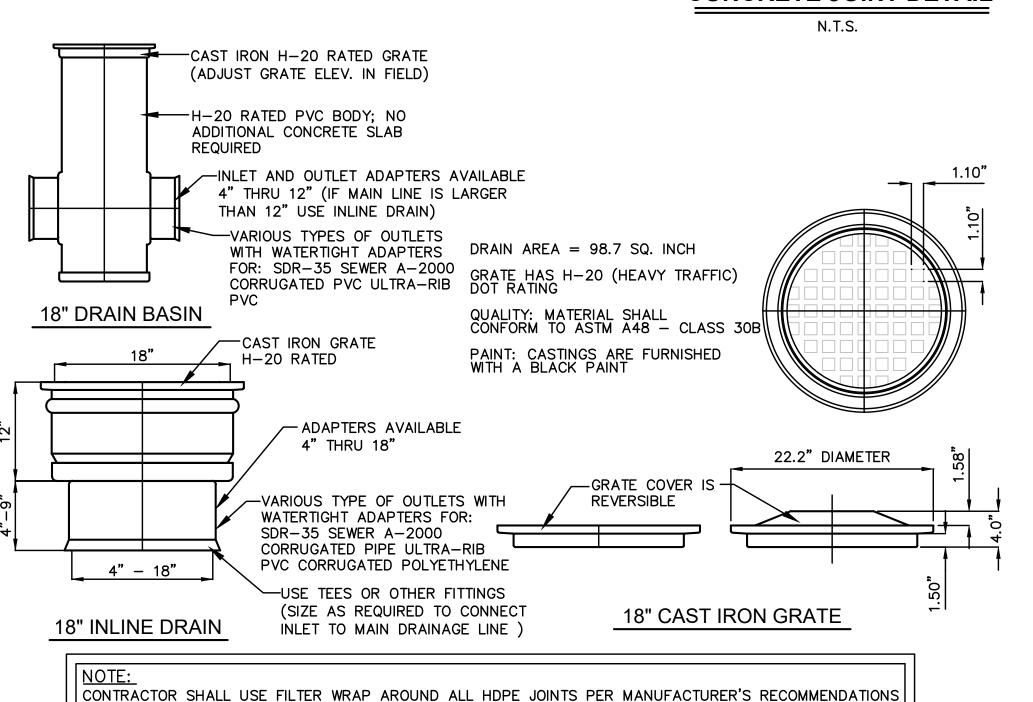


I STREET NAME 1

ATTACH SIGN FACES
TOGETHER AT EACH END

`(2) SINGLE FACE SIGN PANELS

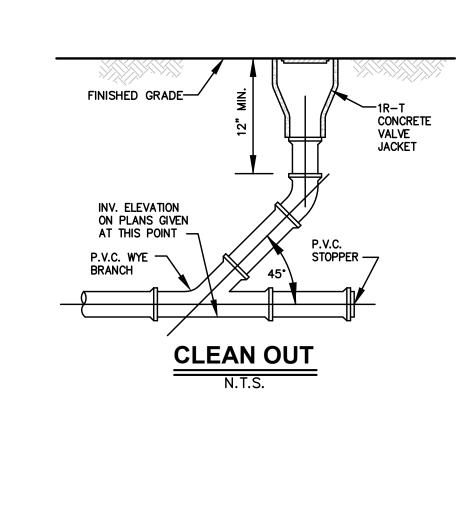
# **CONCRETE JOINT DETAIL**

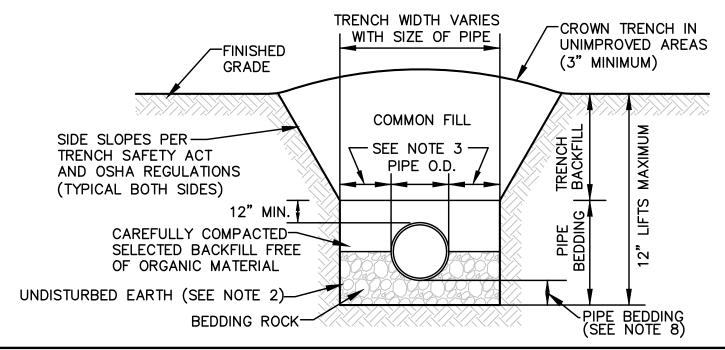


YARD DRAIN - HDPE STORM SEWER INLETS

NYLOPLAST OR APPROVED EQUIVALENT N.T.S.

TYPE B BEDDING AND TRENCH DETAIL





TRENCH AND PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% MAX. DENSITY (AASHTO T-180). USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY.

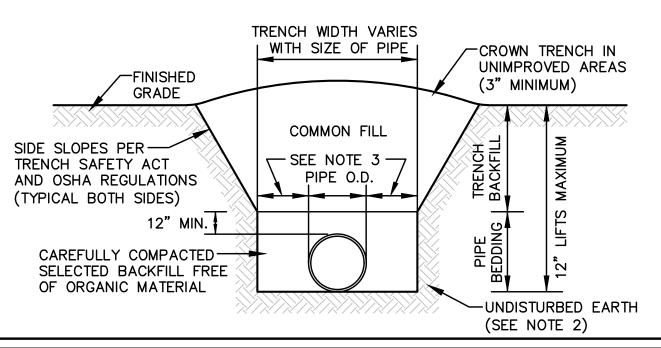
15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER. . WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.

ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW. REFER TO MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.

FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES SURFACE RESTORATION WITHIN COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. THE COUNTY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

### TYPE A BEDDING AND TRENCH DETAIL

N.T.S.



### **NOTES:**

- TRENCH AND PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% MAX. DENSITY (AASHTO T-180). 2. USE TYPE B BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY. 3. 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
- 4. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION. 5. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
- 5. REFER TO MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES SURFACE RESTORATION WITHIN COUNTY RIGHT-OF-WAY SHALL COMPLY WITH

REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS

DRAWING NUMBER **8B** 

COMMERCE P FOR INDUSTRIAL

DE.

DRAIN

# SURVEY AND LOCATE DATA: 1. ALL ELEVATIONS ARE BASED ON U.S.C.&G.S. DATUM AND SHOWN IN FEET. 2. ELEVATIONS ARE BASED ON NAVD 1988. LOCATION OF EXISTING UTILITIES OBTAINED BY SOFT DIG LOCATES WHERE SHOWN ON PLANS, OR INCLUDED WITH BID SPECS. EXISTING WATER AND SEWER LINES ARE SHOWN AS PER FIELD LOCATES AND SUBDIVISION AS-BUILT PLANS UNDERGROUND UTILITIES WERE LOCATED UTILIZING GROUND PENETRATING RADAR (GPR) AND A DIGITAL LOCATOR. CONTRACTOR SHALL BE AWARE THAT IN SOME CASES UTILITIES HAVE BEEN LOCATED, AND SURVEY HAS BEEN COMPLETED ONLY ON ONE SIDE OF THE ROAD. 6. ALL PIPE LENGTHS SHOWN ON PLAN AND PROFILES ARE FROM CENTER TO CENTER OF MANHOLES, CATCH BASINS, INLETS ETC. OR ALONG THE CENTER LINE OF FORCE MAINS AND WATER MAINS. INVERT ELEVATIONS SHOWN ON DRAWINGS REFER TO THE CENTERLINE OF MANHOLES, UNLESS OTHERWISE INDICATED. THE LOCATION OF ALL EXISTING SEWER AND WATER SERVICE LINES MAY NOT BE INDICATED ON THESE PLANS. THE LOCATION OF NEW SERVICES SHALL BE VERIFIED IN THE FIELD. 9. BENCHMARK DATA: NAVD 88. 1. CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS.

# PERMIT REQUIREMENTS (NOT ALL INCLUSIVE):

- CONTRACTOR SHALL NOT OPEN CUT STREETS IN THE PROJECT AREA UNLESS SPECIFICALLY SHOWN ON PLANS
- 3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CONSUMPTIVE USE PERMIT (C.U.P.) THROUGH THE ST. JOHNS WATER MANAGEMENT DISTRICT SHOULD DEWATERING ACTIVITIES BE REQUIRED.
- 4. THE DEPARTMENT OF TRANSPORTATION, RAILROAD COMPANIES AND S.J.C. ARE TO BE NOTIFIED IN ADVANCE OF CONSTRUCTION PER THEIR RESPECTIVE PERMIT CONDITIONS.
- ALL WORK SHALL BE IN ACCORDANCE WITH BID DOCUMENTS, JEA WATER AND SEWER STANDARDS, DETAILS AND MATERIALS MANUAL, REV. 2018. AND ST. JOHNS COUNTY STANDARD SPECIFICATIONS AND DETAILS AND ALL APPLICABLE STATE AND
- LOCAL REGULATIONS. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND
- ANY SOLVENT NOTED.
- 7. THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY CONTACT PERSONNEL NOT LESS THAN ONE WEEK PRIOR TO CONSTRUCTION OF FACILITIES IN THEIR RESPECTIVE AREAS.
  - TREE PROTECTION SHALL BE IN ACCORDANCE WITH ST. JOHNS COUNTY LDC AND/OR AS DETAILED ON SPECIFIC PLAN SHEETS. NO TRIMMING OF OVERHANGING TREE LIMBS WILL BE ALLOWED. USE SMALLER EQUIPMENT IF NECESSARY.
- 9. THE CONTRACTOR SHALL LOCATE THE DRAINAGE INLET STRUCTURES IN THE PROJECT AREA AND ERECT SEDIMENTATION CONTROL DEVICES AS NECESSARY PER THE ST. JOHNS COUNTY STORMWATER POLLUTION PREVENTION PLAN.
- 10. CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.

## **EXISTING UTILITY PROTECTION:**

- 1. IN ORDER TO REDUCE THE DISRUPTION AND COST OF UTILITY DAMAGES OCCURRING IN THE DUVAL COUNTY RIGHT-OF-WAY AND EASEMENTS, THE CONTRACTOR SHALL PREVENT DAMAGES TO EXISTING UTILITIES CAUSED BY HIS WORK THROUGH FIELD  $\,$  VERIFICATION OF THE LOCATION OF THE EXISTING UTILITIES. IN THE CASE OF OPEN EXCAVATION, VERIFICATION MAY BE PERFORMED DURING THE CONTRACTORS WORK. IN THE CASE OF DIRECTIONAL DRILLING, VERIFICATION SHALL TAKE PLACE PRIOR TO MOBILIZATION OF THE DRILLING
- 2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AS NEEDED TO AVOID CONTACT. EXISTING UTILITIES SHALL BE EXPOSED USING DETECTION EQUIPMENT OR OTHER ACCEPTABLE MEANS. SUCH METHODS MAY INCLUDE BUT SHALL NOT BE LIMITED TO "SOFT DIG" EQUIPMENT AND GROUND PENETRATING RADAR (GPR). THE EXCAVATOR SHALL BE HELD LIABLE FOR DAMAGES CAUSED TO THE CITY'S/JEA'S INFRASTRUCTURE AND THE EXISTING FACILITIES OF OTHER UTILITY COMPANIES.
- 3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND SURFACE. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

### **RESTORATION NOTES:**

- 1. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, TO REFERENCE AND RESTORE PROPERTY CORNERS AND LANDMARKS WHICH MAY BE DISTURBED BY CONSTRUCTION, KNOWN CORNER LOCATIONS ARE AVAILABLE FROM THE CITY OF JACKSONVILLE ENGINEERING DIVISION.
- 2. THE CONTRACTOR SHALL RESTORE/REPLACE ALL CULVERTS, HEADWALLS AND STORM DRAIN INLETS REMOVED OR DISTURBED BY THE CONSTRUCTION OPERATION.
- 3. TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH CITY OF JACKSONVILLE/FDOT STANDARD SPECIFICATIONS.
- 4. SIDEWALKS, DRIVEWAYS AND CURBING DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN ACCORDANCE WITH JACKSONVILLE STANDARD SPECIFICATIONS. SIDEWALKS REMOVED AND REPLACED IN CURB AND GUTTER AREAS AT INTERSECTIONS SHALL HAVE HANDICAP RAMPS INSTALLED. DRIVEWAYS AND SIDEWALKS SHALL BE SAWCUT ALONG THE RIGHT-OF-WAY LINE OR NEAREST JOINT AND REMOVED AND REPLACED TO THE EDGE OF STREET.
- 5. GRASS SOD SHALL BE FURNISHED AND PLACED IN THE AREAS DISTURBED OR DAMAGED BY THE CONSTRUCTION OPERATION.
- ALL PAVEMENT REPAIR SHALL BE IN ACCORDANCE WITH THE CITY OF JACKSONVILLE/FDOT STANDARD DETAILS AND SPECIFICATIONS LATEST EDITION.
- 7. UNLESS OTHERWISE NOTED, REMOVE AND REPLACE EXISTING PAVEMENT AS PER C.O.J. CASE X (10) PAVEMENT REPLACEMENT DETAIL.
- 8. CONTRACTOR MUST MAINTAIN AND PRESERVE NEWLY GRADED AREAS AND REPAIR AREAS WHERE SETTLING AND EROSION

### **UTILITY CONTACTS:**

<u> </u>	
A. AT&T ~ GENERAL NUMBER— — — — — — — — — — — — — — — — — — —	<b></b>
B. AT&T ~ ADAM DUGAN ~ NORTH DISTRICT— — — — — — — — — — — — — — — — — — —	
C. AT&T ~ BILL LAKE ~ SOUTH DISTRICT— — — — — — — — — — — — — — — — — — —	<b>— — — — — — 9</b> 04-303-8754
D. CITY OF JACKSONVILLE ~ PUBLIC WORKS DEPT.— — — — — — — — — — — — — — — — — — —	<b>— — — — — — —</b> 904-255-8762
E. CITY OF JACKSONVILLE ~ TRAFFIC OPERATIONS— — — — — — — — — — — — — — — — — — —	<b>—————</b> —904-387-8861
F. FLORIDA DEPT. OF TRANSPORTATION – — — — — — — — — — — — — — — — — — —	
G. JEA $^{\sim}$ WATER COLLECTION & DISTRIBUTION $^{\sim}$ BOB ALLSBROOK $         -$	
H. JEA ~ SEWER COLLECTION & DISTRIBUTION ~ BOB ALLSBROOK $$	
I. JEA ~ GENERAL INFORMATION— — — — — — — — — — — — — — — — — — —	
J. JEA ~ PROJECT OUTREACH— — — — — — — — — — — — — — — — — — —	
K. JEA ~ POWER OUTAGES— — — — — — — — — — — — — — — — — — —	
L. JEA ~ SEWER PROBLEMS————————————————————————————————————	
M. JEA ~ WATER PROBLEMS— — — — — — — — — — — — — — — — — — —	
N. JEA ~ WATER & SEWER LOCATES— — — — — — — — — — — — — — — — — — —	
O. NASSAU COUNTY ~ PUBLIC WORKS ~ CHARLES HOUSTON— — — — — — — — — — — — — — — —	
P. ST. JOHNS COUNTY $^{\sim}$ RIGHT-OF-WAY PERMITTING $^{\sim}$ RICK MAULDIN $         -$	<b>— — — — — — — — — — — — — — — — — — — </b>
Q. ST. JOHNS COUNTY ~ TRAFFIC SIGNALS ~ HANK MEIN— — — — — — — — — — — — — — — —	<b>— — — — — — 9</b> 04-209-0173
R. COMCAST ~ EMERGENCY HOTLINE— — — — — — — — — — — — — — — — — — —	
S. TECO/PEOPLES GAS ~ BEN MOBLEY — — — — — — — — — — — — — — — — — — —	
T. SUNSHINE ONE CALL – — — — — — — — — — — — — — — — — — —	- <b>— — — — — — — — — — — — — — — — — — —</b>

## **INSTALLATION NOTES:**

- 1. CONTRACTOR TO REHABILITATE ALL MANHOLES ON PIPE BURST SEWERS VIA COATING/LINING PER JEA SPECIFICATION 446-2, UNLESS OTHERWISE NOTED ON THE PLANS.
- 2. CONTRACTOR TO RENEW, REHABILITATE, REPLACE OR REINSTALL AS APPLICABLE ALL SERVICE LATERALS TO R.O.W. LINE.
- CONTRACTOR TO INSTALL SEWER SERVICE PIPING A MINIMUM OF 60 INCHES BELOW GRADE. WHERE NEW SANITARY SEWER MAIN IS LESS THAN 5 FEET DEEP, THE SEWER SERVICE PIPE SHALL BE INSTALLED AS DEEP AS POSSIBLE.
- 4. WHEN THE DISTANCE BETWEEN A POWER POLE AND THE TRENCH IS LESS THAN THE TRENCH DEPTH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH JEA ELECTRICAL PERSONNEL TO SECURE POWER POLES. THE CONTACTS FOR JEA ARE AS
  - NORTHSIDE~EAST of US-1 MIKE CORBITT @ 665-7991 (mobile 662-0635)
  - NORTHSIDE~WEST of US-1 ANDY YEAGER @ 665-7998 (mobile 662-0622)
  - NORTHSIDE~BACKUP ALAN AINSLEY @ 665-7303 (mobile 662-6557)
  - SOUTHSIDE~SOUTH of BEACH BLVD. TOM KERNS @ 665-6847 (mobile 860-1687)
  - SOUTHSIDE~NORTH of BEACH BLVD. DERYL BASFORD @ 665-6855 (mobile 662-0616) SOUTHSIDE~BACKUP EDDIE GALES @ 665-6855 (mobile 662-0616)
  - A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED FOR AN OUTSIDE MEETING WITH JEA ELECTRICAL TO DISCUSS THE REQUIRED WORK. ADDITIONAL TIME WILL BE REQUIRED BY JEA ELECTRICAL FOR ANY REQUIRED WORK TO BE ACCOMPLISHED.
- 5. ALL NEW STORM DRAIN PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC
- 6. THE DESIGN FOR THE PROJECT IS BASED UPON THE "OPEN-CUT" METHOD OF CONSTRUCTION. IF USING ALTERNATIVE MEANS OR METHODS, THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE STANDARDS FOR THAT MEANS OR METHOD.
- 7. THE CONTRACTOR SHALL MINIMIZE SERVICE INTERRUPTIONS AT SERVICE CONNECTIONS. THE MEANS AND METHODS SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. NO EXISTING ACTIVE SERVICE SHALL BE LEFT INTERRUPTED AT THE END OF THE WORK DAY.
- 8. CONTRACTOR SHALL PROVIDE ADDITIONAL CORPORATION STOPS FOR FILLING AND DRAINING PURPOSES DURING CONSTRUCTION AS NEEDED. CORPORATION STOPS ARE TO BE PLUGGED AND LEFT IN PLACE. INDICATE CORPORATION STOP LOCATIONS ON RECORD DRAWINGS (AS-BUILTS).
- 9. WATER AND SEWER SERVICES SHALL BE TRANSFERRED TO THE NEW MAIN UPON COMPLETION AND F.D.E.P./J.E.A. CERTIFICATION, AND PRIOR TO THE EXISTING MAINS BEING ABANDONED.
- 10. IF EXISTING VALVES ARE IN UNPAVED AREAS AND ARE TO BE TAKEN OUT OF SERVICE, THEY SHALL BE CLOSED AND THE VALVE BOX AND COVER SHALL BE REMOVED. IF THE VALVES ARE UNDER PAVED AREAS, THEY SHALL BE CLOSED, THE VALVE BOX GROUT FILLED AND THE COVER REMOVED.
  - 11. CONTRACTOR SHALL REPLACE EXISTING WATER METER BOXES WHEN DEEMED NECESSARY BY THE JEA INSPECTOR.
- 12. CONTRACTOR TO PROVIDE ADDITIONAL DEPTH OF BURY VIA PIPE JOINT DEFLECTION TO ACCOMMODATE VALVE SELECTION PER JEA
- 13. WATER METERS MAY REQUIRE RELOCATION FOR CONSTRUCTION, CONTRACTOR SHALL CONTACT JEA METER DEPARTMENT AND RELOCATE WATER METERS AS NECESSARY.
- 14. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL OBTAIN ALL GEOTECHNICAL AND TOPOGRAPHIC SURVEY DATA AND LOCATIONS OF ABOVE GROUND AND UNDERGROUND UTILITIES. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED.
- 15. SHEET PILING WILL BE REQUIRED ON ALL EXCAVATIONS DEEPER THAN 16 FEET.

### HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS

	PROPOSED UTILITY											
	PO <sup>-</sup>	ΓABLE WA	TER		STEWATE AND FOF		RECLAIMED WATER			VACUUM SEWERS		
CONFLICTING UTILITY	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*
POTABLE WATER	3' NOTE 1	12"	3' NOTE 2	6' to 10'	12" NOTE 5	6' NOTE 2	3'	12"	6' NOTE 2	3' to 10'	12"	3' NOTE 2
RECLAIMED WATER	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2
WASTEWATER (GRAVITY AND FORCE MAIN)	6' to 10'	12"	6' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
VACUUM SEWERS	3' to 10'	12"	3' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
RIGHT OF WAYS	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A
PERMANENT STRUCTURES (SIGNS, POLES, ETC.)	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A
STORM SEWERS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
GAS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
TREES	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A
ALL OTHER UTILITIES	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2

- THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTH, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
- 🛾 THE MINIMUM JOINT SPACING REQUIRED FROM CROSSING FROM OTHER UTILITIES WHILE STILL MAINTAINING MINIMUM VERTICAL SEPARATION.
- DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE
- 4. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURES.
- · WATER MAIN SHOULD CROSS ABOVE OTHER PIPES WHENEVER POSSIBLE. WHEN WATER MAIN MUST BE BELOW OTHER UTILITY PIPING, THE MINIMUN SEPARATION SHALL BE 12 INCHES.
- REFER TO POTABLE WATER PIPING- SECTION 350, III.4.11.

# SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS

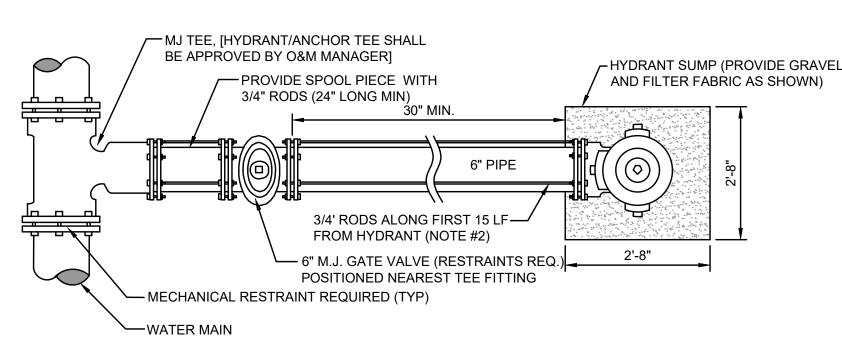
PLATE W-10 JANUARY 2022

### WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

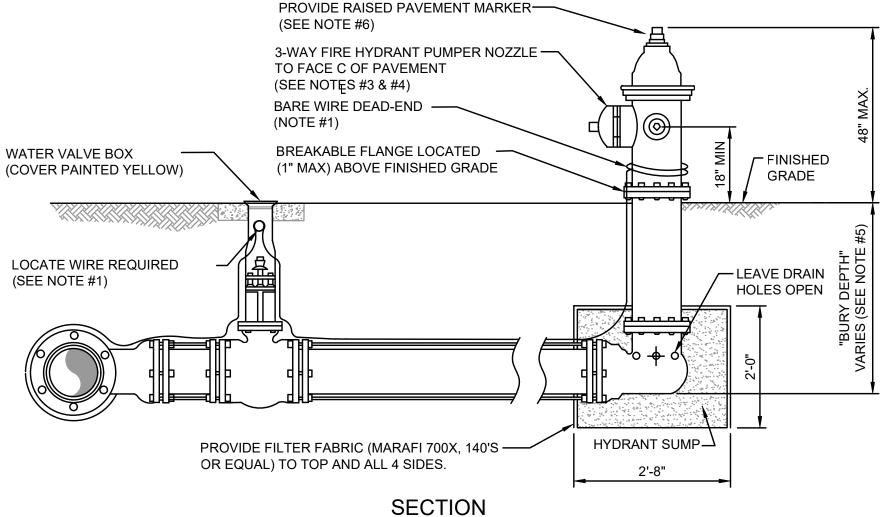
- IT IS REQUIRED THAT "WATER MAINS" BE INSTALLED, CLEANED, DISINFECTED AND HAVE A SATISFACTORY BACTERIOLOGICAL SURVEY PERFORMED IN ACCORDANCE WITH THE LATEST APPLICABLE AWWA STANDARDS, CHAPTER 62-555, F.A.C. AND LATEST JEA WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER. IN ADDITION, THE PHRASE "RECLAIMED WATER" REFERS TO THE WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER (SPECIAL CASE).
- NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLE TWELVE (12) INCHES, ABOVE OR AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS A LEAST TWELVE (12) INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 4 AND 5 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINE CONVEYING RECLAIMED WATER.
- NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.
- WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS,

## NOTES ON UTILITY SEPARATION REQUIREMENTS

PLATE W-11 JANUARY 2022



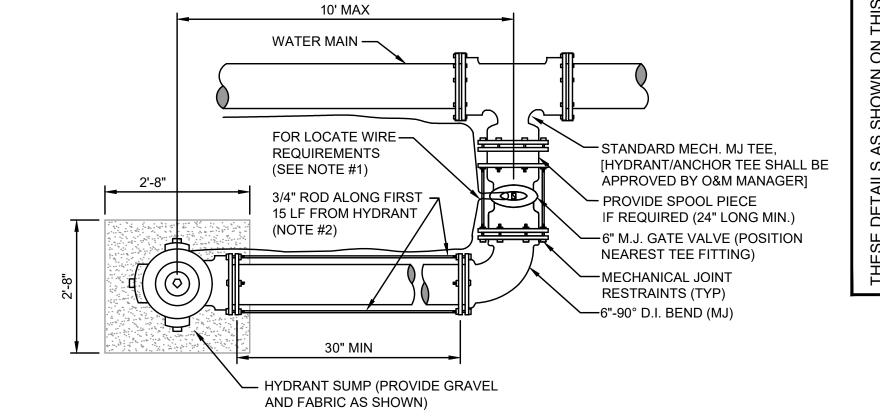
### PLAN

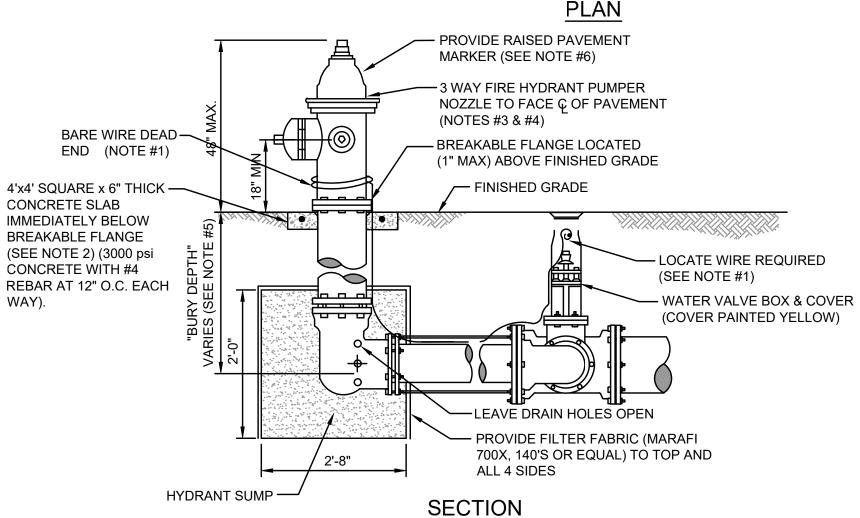


- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
- FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
- OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
- PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS
- FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY JEA, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
- BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

# FIRE HYDRANT INSTALLATION USING MECHANICAL JOINT TEE

JANUARY 2022 PLATE W-13



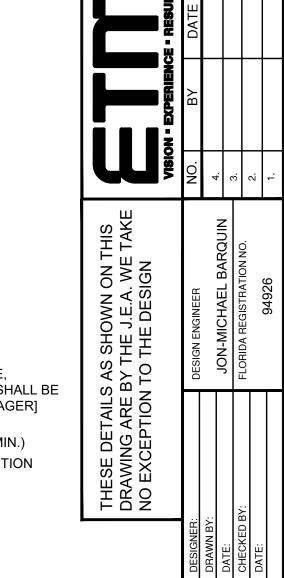


CONCRETE SLAB

- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION
- FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK. ALL HYDRANTS SHALL BE LOCATED NO LESS THAN THREE (3) FEET FROM THE EDGE OF PAVEMENT OR BACK OF CURB OF THE ADJACENT ROADWAY AND NO LESS THAN THREE (3) FEET FROM ANY PHYSICAL FEATURE WHICH MAY OBSTRUCT ACCESS OR VIEW OF ANY HYDRANT UNLESS OTHERWISE APPROVED BY THE JEA. THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT
- OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
- 4. PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE
- 5. FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY JEA, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
- BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

# FIRE HYDRANT INSTALLATION LIMITED SPACE

JANUARY 2022 PLATE W-14



### CASE "A" CROSSING

### NOTE

- 1. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.
- 2. FOR MINIMUM VERTICAL SEPARATION REQUIREMENTS SEE DETAIL (W-10 AND W-11).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- 5. IF UTILITY CONFLICT IS LOCATED IN A NON-TRAFFIC AREA (NO TRAFFIC LOADS) AND THE NEW PIPE IS D.I.P., THEN THE MINIMUM COVER MAY BE REDUCED TO 24 INCHES (ONLY IN THE AREA OF THE CONFLICT).

# ADJUSTMENT OVER EXISTING UTILITIES MECHANICAL RESTRAINTS

PLATE W-32 JANUARY 2022 MAXIMUM 80% OF MANUFACTURER'S RECOMMENDATION FOR JOINT OCATE WIRE (SEE NOTE #3) -DEPTH VARIES (SEE NOTE #4) DEFLECTION (SEE NOTE #5) PROPOSED FORCE MAIN EXISTING CONFLICT PIPE FULL LENGTH OF PIPE SIZE & TYPE VARIES **CENTERED AT CROSSING** SEPARATION VARIES (SEE NOTE #1) 9' MIN MINIMUM HORIZONTAL LENGTH REQUIRED MINIMUM HORIZONTAL LENGTH REQUIRED AS PER MANUFACTURER TO DEFLECT PIPE AS PER MANUFACTURER TO DEFLECT PIPE VERTICALLY TO AVOID OBSTRUCTION. VERTICALLY TO AVOID OBSTRUCTION.

### CASE "B" CROSSING

### NOTE

- 1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (W-10 & W-11).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.

JANUARY 2022

- 4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY JEA. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE BY JEA. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
- 5. JEA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

### MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

PVC PIPE			
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT
4	10	2.4°	480 FT
6	10	2.4°	480 FT
8	10	2.4°	480 FT
10	10	2.4°	480 FT
12	8.5	2°	564 FT
14 - 24	5	1.2°	960 FT
30 - 48	3.25	0.8°	1477 FT
	I		·

DUCTILE IRON PIPE (Mechanical Joint)							
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS				
-	ı	-	-				
4	27	6.5°	177 FT				
6	24	5.7°	200 FT				
8 - 12	17.5	4.2°	273 FT				
14 - 16	12	2.9°	400 FT				
18 - 20	10	2.4°	477 FT				
24 - 30	8	1.9°	600 FT				

1.6°

# ADJUSTMENT UNDER EXISTING UTILITIES PIPE JOINT DEFLECTION

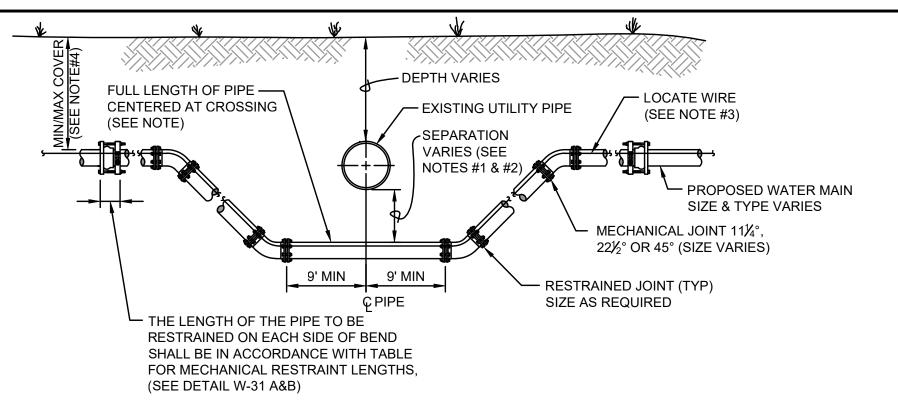
42 - 48

6.7

PLATE W-40

687 FT

716 FT

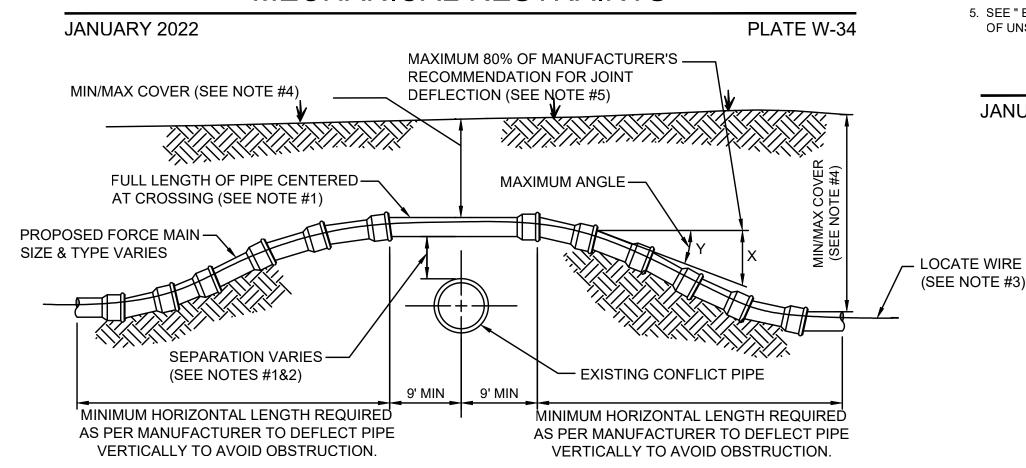


### CASE "B" CROSSING

### OTES:

- THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557
- 2. FOR MINIMUM VERTICAL SEPARATION REQUIREMENTS SEE DETAILS (W-10 AND W-11)
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREA, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- 5. IN LOCATIONS WHERE WATER/RECLAIM MAINS CROSS UNDER A BOX-CULVERT, OR 36-INCH DIAMETER AND LARGER STORM WATER MAIN, JEA WILL REQUIRE DIP TO BE UTILIZED FOR THE MAIN.

# ADJUSTMENT UNDER EXISTING UTILITIES MECHANICAL RESTRAINTS



### **CASE "A" CROSSING**

### IOTES:

- 1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (W-10 & W-11).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
- 4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY JEA. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE BY JEA. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
- 5. JEA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

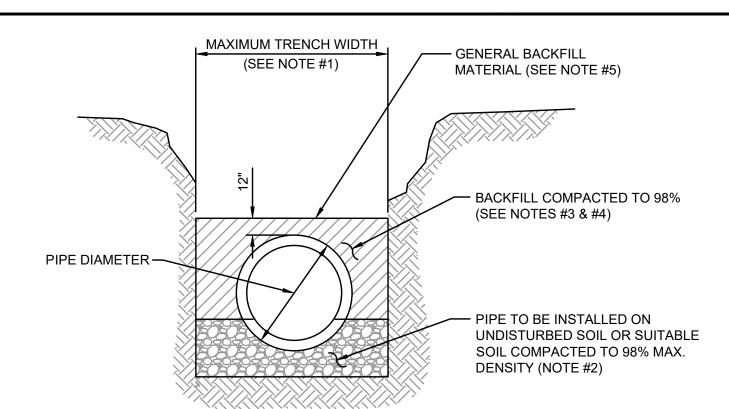
### MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

PVC PIPE			
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT
4	10	2.4°	480 FT
6	10	2.4°	480 FT
8	10	2.4°	480 FT
10	10	2.4°	480 FT
12	8.5	2°	564 FT
14 - 24	5	1.2°	960 FT
30 - 48	3.25	0.8°	1477 FT

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
-	-	-	-
4	27	6.5°	177 FT
6	24	5.7°	200 FT
8 - 12	17.5	4.2°	273 FT
14 - 16	12	2.9°	400 FT
18 - 20	10	2.4°	477 FT
24 - 30	8	1.9°	600 FT
36	7	1.7°	687 FT
42 - 48	6.7	1.6°	716 FT

# ADJUSTMENT OVER EXISTING UTILITIES PIPE JOINT DEFLECTION

JANUARY 2022 PLATE W-41

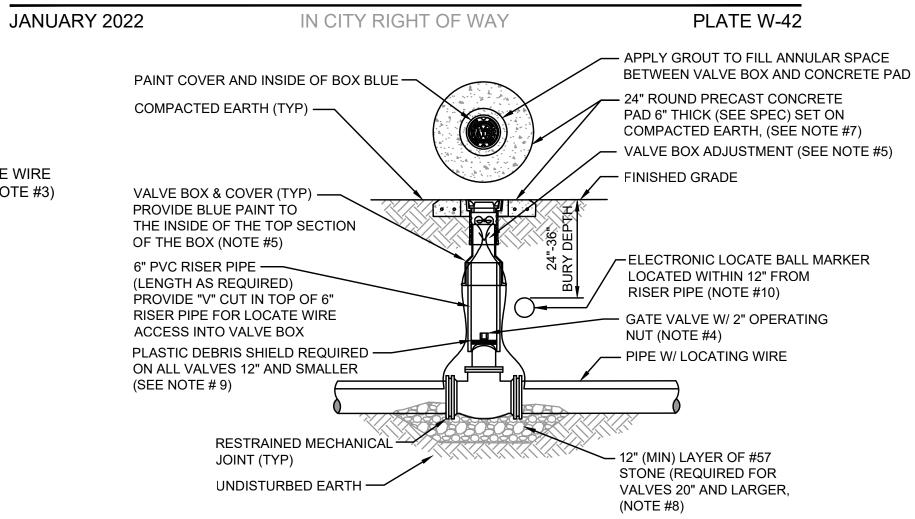


### **TYPICAL TRENCH**

### NOTES:

- 1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
- 2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE
- 3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
- 4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
- 5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

# OPEN CUT TRENCH FOR PRESSURE PIPE



### NOTES:

- 1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
- 2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44).
- 3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT/( ASPHALT IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE RECLAIMED.
- 4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
- 5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
- 6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ∄" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
- 7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 #4 REBAR AROUND PERIMETER MAY BE USED
- 8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO  $\frac{1}{3}$  THE OVERALL HEIGHT OF THE VALVE.
- 9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
- 10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED WATER).

# WATER VALVE INSTALLATION DETAIL

JANUARY 2022 PLATE W-18

O7-002

NATER AND RECLAIMED DETAILS

WILDLIGHT COMMERCE PARK PARCEL B

Building Com

- 1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGT INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- 2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- 4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEE COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- 5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- 6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
- 7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

JANUARY 2022

	SIZE (IN.)	90° BENI L (F
	4	21
THS	6	30
1110	8	38
L=GM OR	10	45
PE SIZE	12	53
	14	61
	16	66
ET	18	73

PVC PIPE RESTRAINT JOINT SCHEDULE

NOMINAL

LENGTH (L) TO BE RESTRAINED

	HORIZON	TAL BENDS	3	VERTICAL OFFSETS 45° BENDS		VALVES OR		REDUCERS	
90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)		OTE 4) LOWER L (FT.)	DEAD ENDS L (FT.)		SIZE (IN.)	L (FT
21	9	5	3	17	3	47		6x4	34
30	13	6	3	23	4	66		8x6	36
38	16	8	4	30	6	86		8x4	62
45	19	9	5	36	7	103		10x8 10x6	35 63
53	22	11	6	43	8	121		12x10	36
61	26	13	6	50	9	140		12x8	64
66	28	14	7	55	10	154		16x12	66
								16x10	92
73	30	15	8	60	11	170		20x18	35
79	33	16	8	66	12	186		20x16	66
79	33	16	8	77	15	185		20x12	117
93	39	19	10	97	17	222		24x20	56
106	39	21	11	107	20			24x18	80
						257		24x16	101
117	49	24	12	120	24	289		30x24	78
144	53	26	13	133	26	321		30x20	121
								36x30	78
								36x24	141
								42x36	75
								42x30	140
								40 40	

PLATE W-31A

SIZE	\	SIZE	SIZE	
(IN.)	L (FT.)	(IN.)	(IN.)	L (FT.
6x4	34	4	4	F.O.
8x6	36	4	6	10
8x4	62		4 < LESS	F.O.
10x8	35	8	8 6 < LESS	29 F.O.
10x6	63	10	10	45
12x10	36		8	13
12x8	64		6 < LESS	F.O.
16x12	66	12	12 10	62 32
16x10	92		8 < LESS	F.O.
20x18	35	16	16	94
20x16	66		12 10	39 5
20x12	117		10 < LESS	F.O.
24x20	56	20	20	125
24x18	80		16 12	76 14
24x16	101		10 < LESS	F.O.
30x24	78	24	24	124
30x20	121		20	84
36x30	78		16 12 < LESS	36 F.O.
36x24	141	30	30	159
42x36	75		24	104
42x30	140		20 16	60 5
48x42	75		16 < LESS	F.O.
48x36	139	36	36 30 24 20 16 < LESS	192 142 83 33 F.O.
		42	42 36 30 24 20 16 < LESS	223 178 124 59 5 F.O.
		48	48 42 36	253 209 162

F.O. = FITTING ONLY

(SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

SEE NOTE 5

RUN BRANCH

### DUCTILE IRON PIPE RESTRAINT NOTES

- THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. FOR D.I.P. W/POLY WRAP. USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVE ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP LEVEL. LI IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- 6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN)

LENGTH (L)	TO BE F	RESTRAI	NED				(SE	EE P	LATE No	s. 38C &	38D	FOR AD	DITIONAL D	ETAILS
NOMINAL		HORIZONT	AL BENDS		45° B	OFFSETS SENDS IOTE 4)	VALVES OR		REDU	CERS			TEE SEE NOTE 5	
PIPE SIZE	90° BENDS	45° BENDS	22.5° BENDS	11.25° BENDS	`	LOWER	DEAD ENDS		SIZE			RUN SIZE	BRANCH SIZE	
(IN.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)		(IN.)	L (FT.)		(IN.)	(IN.)	L (FT.
4	17	7	4	2	11	3	30		6x4	22		4	4	F.O.
6	24	15	5	3	15	4	42		8x6	23		4	6 4 < LESS	6 F.O.
8	31	13	6	3	20	5	55		8x4 10x8	39 22		8	8	19
10	36	15	8	4	23	6	65		10x6	40			6 < LESS	F.O.
12	42	18	9	5	27	7	77		12x10	23		10	10 8	29 9
14	48	20	10	5	31	7	87		12x8	41			6 < LESS	F.O.
16	53	22	11	6	35	8	97		16x12	42		12	12 10	40 21
									16x10	58			8 < LESS	F.O.
18	58	24	12	6	39	9	107		20x18	22		16	16	60
20	63	27	13	6	42	10	118		20x16	42			12 10	25 3
24	63	27	13	7	49	12	118		20x12	74			8 < LESS	F.O.
30	75	31	15	8	59	14	141		24x20	36		20	20 16	79 48
36	86	36	17	9	68	17	163		24x18 24x16	51 64			12	9
42	95	40	19	10	76	19	183		30x24	50		24	10 < LESS 24	F.O. 79
48	117	43	21	11	84	21	203		30x20	77		4 <del>4</del>	20	54
40	'''	43	41	<u> </u>	04	۷۱	203		36x30	50			16 12 < LESS	23 F.O.
									36x24	89		30	30	101

∕ES R		REDU	CERS		TEE SEE NOTE 5	
AD DS T.)		SIZE	1 (FT.)	RUN SIZE	BRANCH SIZE	I /FT
1.)		(IN.)	L (FT.)	(IN.)	(IN.)	L (FT.
)		6x4	22	4	4	F.O.
)		8x6	23	4	6	6 F.O.
		8x4	39	0	4 < LESS	
)		10x8	22	8	8 6 < LESS	19 F.O.
5		10x6	40	10	10	29
,		12x10	23	.0	8	9
,		12x8	41		6 < LESS	F.O.
_		16x12	42	12	12 10	40 21
		16x10	58		8 < LESS	F.O.
7		20x18	22	16	16	60
8		20x16	42		12 10	25 3
8		20x12	74		8 < LESS	F.O.
		24x20	36	20	20	79
1		24x18	51		16 12	48
3		24x16	64		10 < LESS	9 F.O.
3		30x24	50	24	24	79
3		30x20	77		20	54
0	J	36x30	50		16 12 < LESS	23 F.O.
		36x24	89	30	30	101
		42x36	48	00	24	66
		42x30	89		20 16	38 4
		48x42	48		12 < LESS	F.O.
		48x36	88	36	36	122

24

24

42 36

F.O. = FITTING ONLY

12 < LESS | F.O.

12 < LESS | F.O.

20 < LESS | F.O.

HESE DETAILS AS SHOWN ON THIS RAWING ARE BY THE J.E.A. WE TAKE O EXCEPTION TO THE DESIGN DESIGN ENGINEER JON-MICHAEL BARQUIN FLORIDA REGISTRATION NO.
---

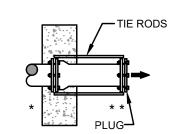
产占艺

# DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE JANUARY 2022

##

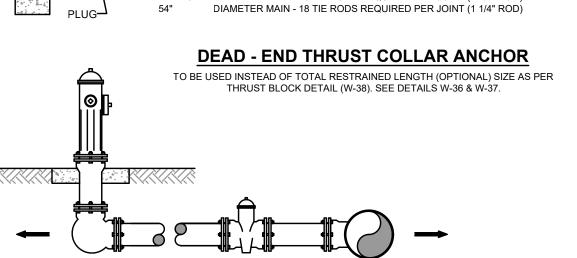
RESTRAINED BELL JOINT RESTRAINED MECHANICAL JOINT TYPICAL PROFILE **TYPICAL PROFILE** MECHANICAL JOINT TO PLAIN END W/MECHANICAL RESTRAINERS W/MECHANICAL RESTRAINERS

**MECHANICAL JOINT SLEEVES** 



NO. OF TIE RODS REQUIRED DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)

DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD) 42" - 48" DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD) DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)



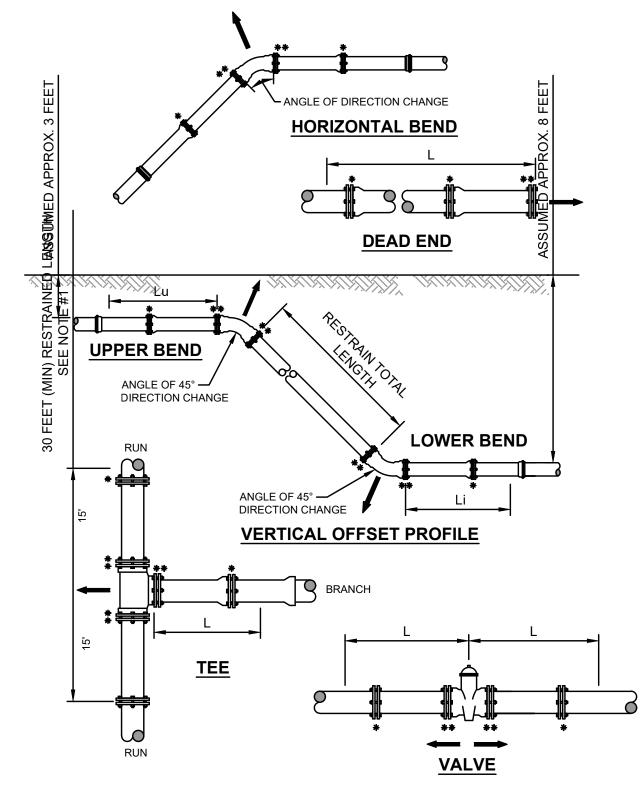
1. PAY ITEM " \* " DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS

- 2. PAY ITEM " \*\* " DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
- INDICATES DIRECTION OF THRUST FORCE.

# MECHANICAL RESTRAINT DETAILS - I

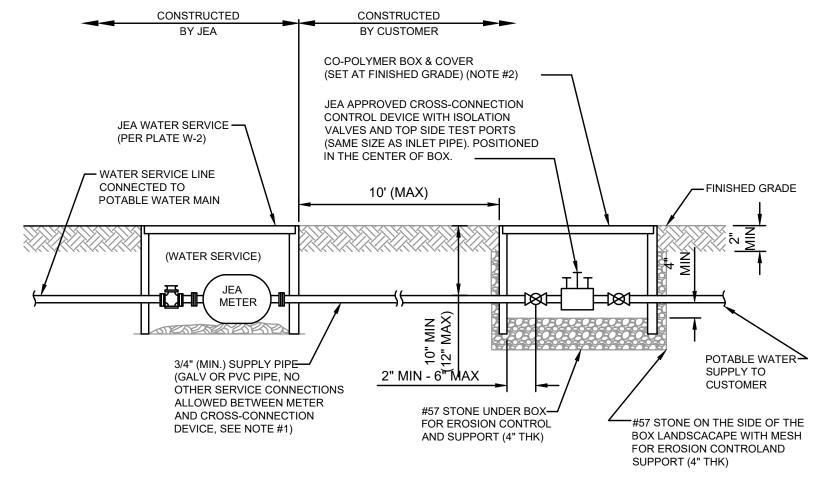
FIRE HYDRANT LATERAL

PLATE W-31C JANUARY 2022



- 1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN.).
- 2. PAY ITEM "\*" DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIC.
- 3. PAY ITEM "\*\*" DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

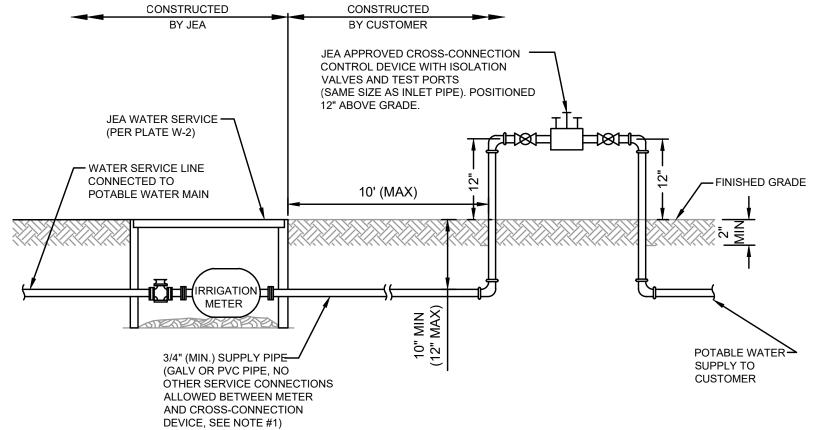
# MECHANICAL RESTRAINT DETAILS - II



- THE POTABLE WATER CUSTOMER IS REQUIRED TO INSTALL AND MAINTAIN A JEA APPROVED CROSS-CONNECTION DEVICE ON THEIR POTABLE WATER SERVICE LINE. OPERATION AND MAINTENANCE OF THIS CROSS-CONNECTION DEVICE SHALL COMPLY WITH JEA'S CROSS-CONNECTION CONTROL PROGRAM AND ASSOCIATED OPERATIONS POLICIES. ALL REDUCED PRESSURE ASSEMBLIES SHALL BE MOUNTED ABOVE GRADE.
- ONLY DOUBLE CHECK VALVE ASSEMBLIES MAY BE INSTALLED BELOW GROUND. THESE DEVICES MAY BE INSTALLED IN A TYPICAL 1" (CO-POLYMER) METER BOX WITH SOLID LID (GENERIC LID WITH NO "JEA" LOGO, SEE ALSO W-3). THE SIZE OF BOX SHALL BE 12"x20", AT A MINIMUM. IT SHALL BE NOTED THAT IF THE HIGH MEAN GROUND WATER LEVEL FALLS INSIDE THIS BOX, THEN THE CROSS-CONNECTION CONTROL DEVICE MUST BE INSTALLED ABOVE GROUND. ACCEPTABLE DOUBLE CHECK VALVE ASSEMBLIES (BRONZE BODY WITH TWO CHECK VALVES, TWO BALL VALVES AND UNION CONNECTIONS BETWEEN BALL VALVES AND THE DEVICE). INCLUDE: WATTS U007M2QT, WILKINS 950XLTU OR JEA APPROVED EQUAL
- 3. BACKFLOW PREVENTION DEVICES REQUIRED WHEN: IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYATEM RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES

INDUSTRIAL SITES - REQUIRED ON BOTH WATER AND RECLAIMED SERVICE ON, WATER SERVICE EVEN IF NO RECLAIMED 4. JEA IRRIGATION SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE

# RECLAIM CROSS CONNECTION CONTROL DEVICE



- 1. WATER SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE PLATE W-15)
- 2. BACKFLOW PREVENTION DEVICES REQUIRED WHEN: IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYSTEM RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES
- INDUSTRIAL SITES REQUIRED ON BOTH WATER AND RECLAIMED SERVICE CONNECTIONS
- 3. RESIDENTIAL IRRIGATION SERVICES MAY UTILIZE AN ALTERNATE BACKFLOW PREVENTER LOCATION IF THE FOLLOWING
- 3.a. CUSTOMER HAS SUBMITTED A COMPLETED "CUSTOMER AFFIDAVIT" FORM AND
- 3.b. THERE ARE NO ADDITIONAL CONNECTIONS BETWEEN THE METER AND THE BACKFLOW PREVENTER, AND 3.c. THE ALTERNATE BACKFLOW LOCATION IS EASILY ACCESSIBLE TO JEA AND BACKFLOW TESTERS.

CROSS CONNECTION CONTROL DEVICE

JANUARY 2022

JANUARY 2022

PLATE W-15 JANUARY 2022

JEA IRRIGATION SERVICE CONNECTIONS

PLATE W-15A

### **TEMPORARY SAMPLE TAP UTILIZING A NEW 1" WATER SERVICE**

### NOTES::

- 1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROAD SHOULDERS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
- 3. THE CONTRACTOR SHALL UTILIZE THE ABOVE ALTERNATIVE METHODS FOR CONSTRUCTION OF TEMPORARY SAMPLE POINTS IN ALL AREAS, WHERE POSSIBLE.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICIES AS OUTLINED BY THE JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

# WATER TO FLOW STRAIGHT DOWN (TO BE REMOVED) — 45° ELBOW & NIPPLES (1/2" MIN GALVANIZED) (TO BE REMOVED) - PLUG (TO BE REMOVED) - FINISHED GRADE - WATER MAIN W/ LOCATE WIRE MECHANICAL RESTRAINT (TYP) 45° BEND (TO BE REMOVED)

- SMOOTH NOSE BIBB (1/2" MIN),

### TEMPORARY SAMPLE TAP UTILIZING PLUG AT FLUSHING LOCATION

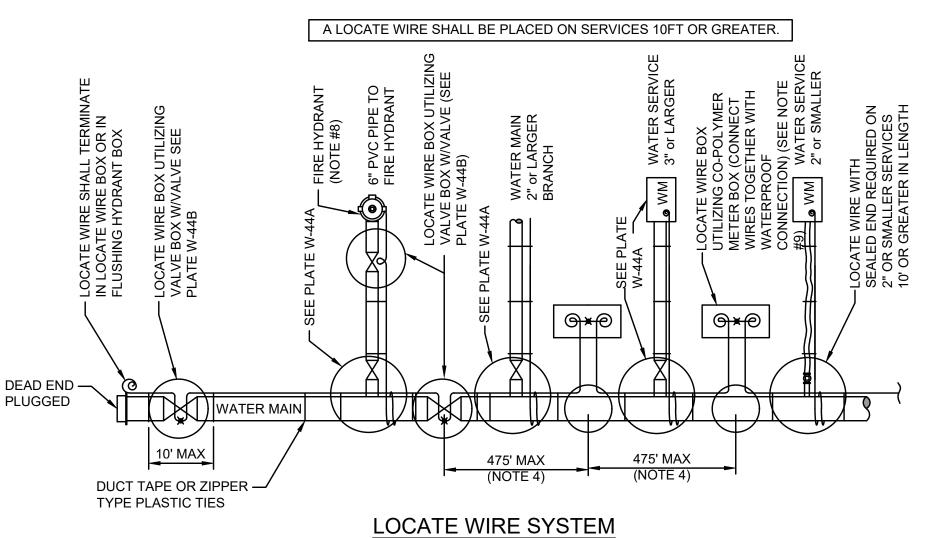
### NOTES::

- 1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROAD SHOULDERS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
- 3. THE CONTRACTOR SHALL UTILIZE THE ABOVE ALTERNATIVE METHODS FOR CONSTRUCTION OF TEMPORARY SAMPLE POINTS IN ALL AREAS, WHERE POSSIBLE.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICIES AS OUTLINED BY THE JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

# TEMPORARY SAMPLE TAP ALTERNATIVE METHOD A

JANUARY 2022

PLATE W-24



- 1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON 0R PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
- 2. SECURE LOCATING WIRE TO PVC & D.I.P. WATER MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
- 3. THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
- 4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX ( WITH A VALVE ) OR A METER BOX ( IF NO VALVE ) AT 475' INTERVALS. SEE DETAIL PLATE W-44B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
- 5. REFER TO SECTION 350 FOR LOCATE WIRE SPECIFICATIONS.
- 6. "x" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH A WATERPROOF CONNECTION. (SEE DETAIL W-44B)
- 7. "@" INDICATES A WIRE PIG-TAIL (4' LONG)
- 8. FOR FIRE HYDRANT LOCATE WIRE REQUIREMENTS AND EXCLUSIONS, SEE PLATES W-12,13 AND 14.
- 9. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES
- 10. FOUR LANES OF TRAFFIC (HAVING TWO LANES OF TRAFFIC IN EACH DIRECTION) OR GREATER THE LOCATE WIRE AND VALVE BOX SHALL BE OFF-SET TO THE RIGHT-OF-WAY.

# LOCATE WIRE CONSTRUCTION FOR WATER MAINS

PLATE W-44 JANUARY 2022

# TEMPORARY SAMPLE TAP ALTERNATIVE METHOD B

JANUARY 2022

TYPE PLASTIC TIE STRAPS

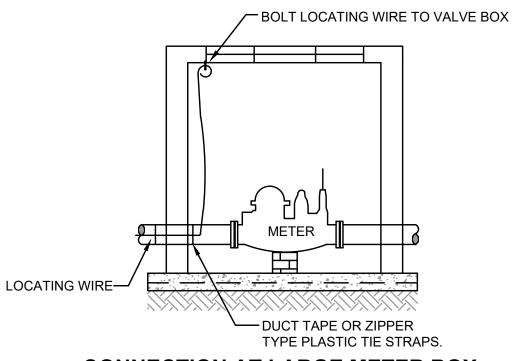
—BOX ACCESS (SEE NOTE #2) BRANCH VALVE BOX OR LOCATE — —"V" CUT IN 6" PVC PIPE RISER BOX REQUIRED (SEE NOTE #1) 6" PVC PIPE RISER —LOCATING WIRE PARALLEL TO MAIN LOCATING WIRE-←WATER MAIN 10' MAX SPACING SECURE WIRE TO PIPE WITH DUCT TAPE OR ZIPPER TEE OR SADDLE

└ 4" AND LARGER BRANCH MAIN

PLATE W-24A

### **BRANCH FORCE MAIN**

(2" AND LARGER WATER MAIN OR 3" AND LARGER WATER SERVICE PIPE)



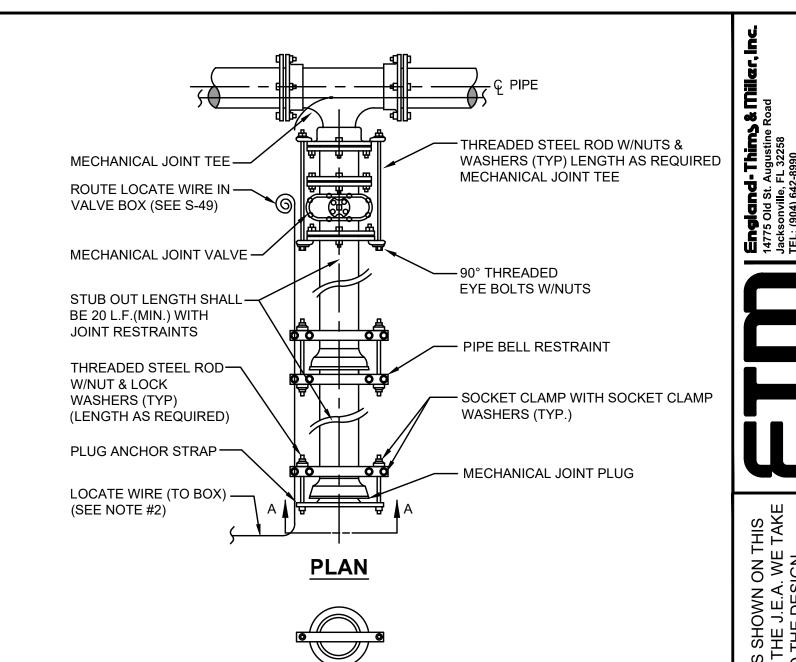
### **CONNECTION AT LARGE METER BOX**

(3" OR LARGER SERVICE)

- 1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
- 2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE W-18).
- 3. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE AND LOCATE POINTS.

## LOCATE WIRE FOR BRANCH MAIN

JANUARY 2022 PLATE W-44A



### **SECTION "A-A"**

### 1. IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.

2. LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.

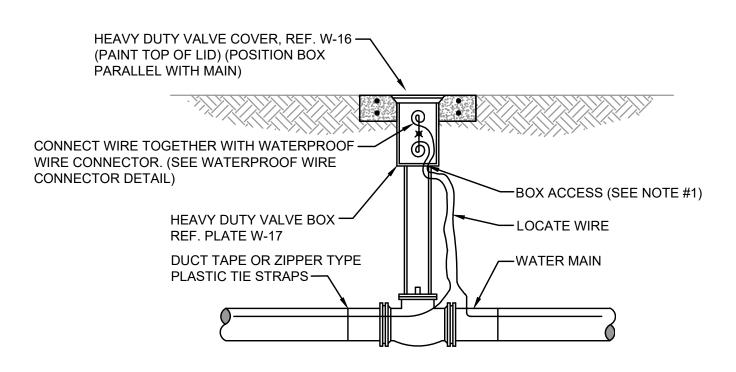
3. NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS: DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD) 3" - 8" DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD) 10" - 12" DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN -12 TIE RODS REQUIRED PER JOINT (3/4" ROD) DIAMETER MAIN -14 TIE RODS REQUIRED PER JOINT (1" ROD) 30" - 36" DIAMETER MAIN -16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

4. THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSING BY 10 FEET (MIN.) WHERE POSSIBLE.

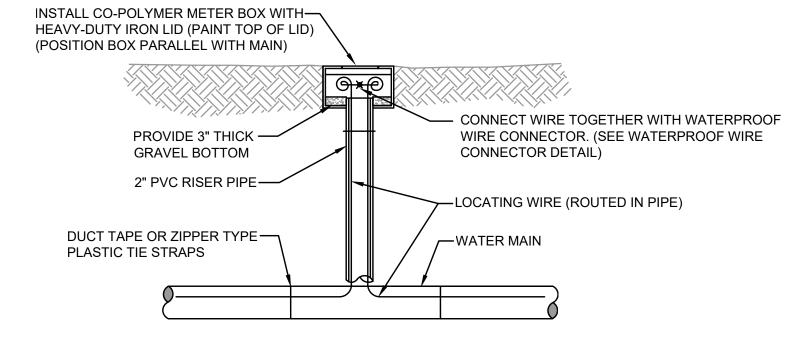
DIAMETER MAIN -18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

# PLUGGED DEAD END USING





### LOCATE WIRE BOX UTILIZING VALVE BOX



### LOCATE WIRE BOX UTILIZING METER BOX

LOCATE WIRE BOX

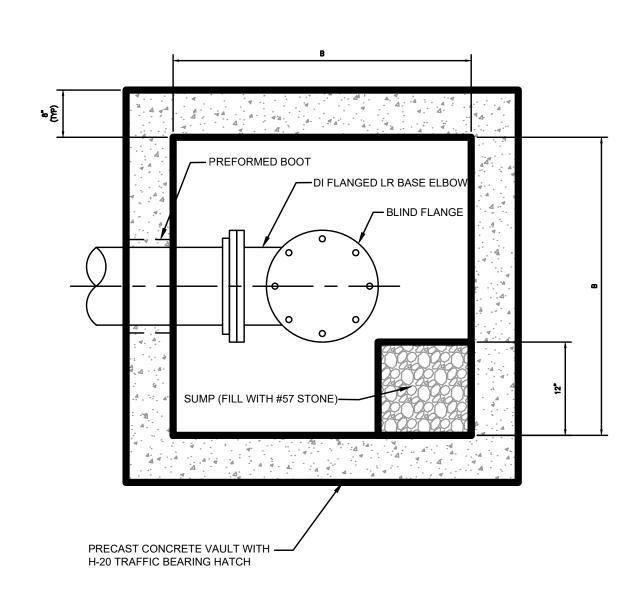
JANUARY 2022

PLATE W-37

PLATE W-44B

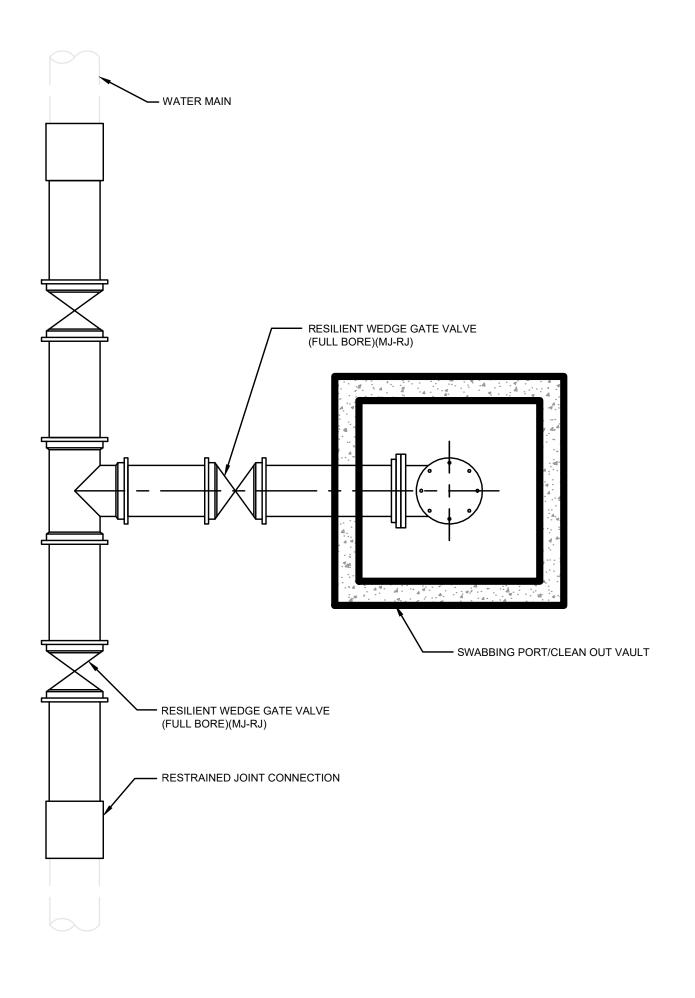
# SWABBING PORT AND CLEAN OUT VAULT DETAIL -SECTION

PLATE W-45 JANUARY 2022



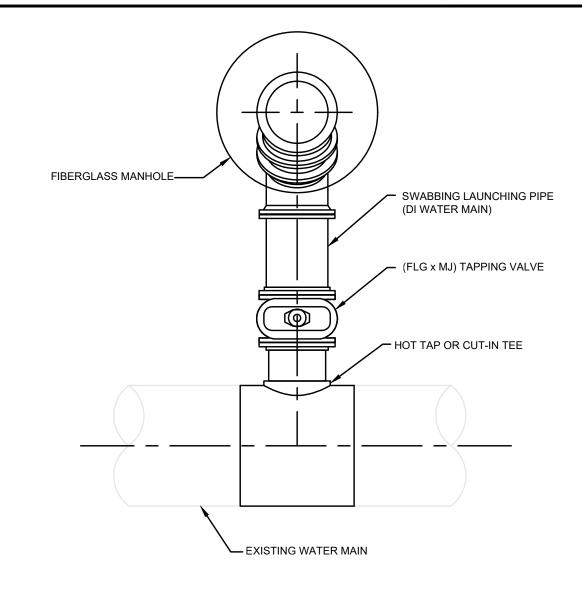
# SWABBING PORT AND CLEAN OUT VAULT DETAIL -- PLAN

PLATE W-45A JANUARY 2022



# SWABBING LAUNCHING STATION DETAIL FOR NEW WATER MAIN UP TO 24"

PLATE W-45B JANUARY 2022

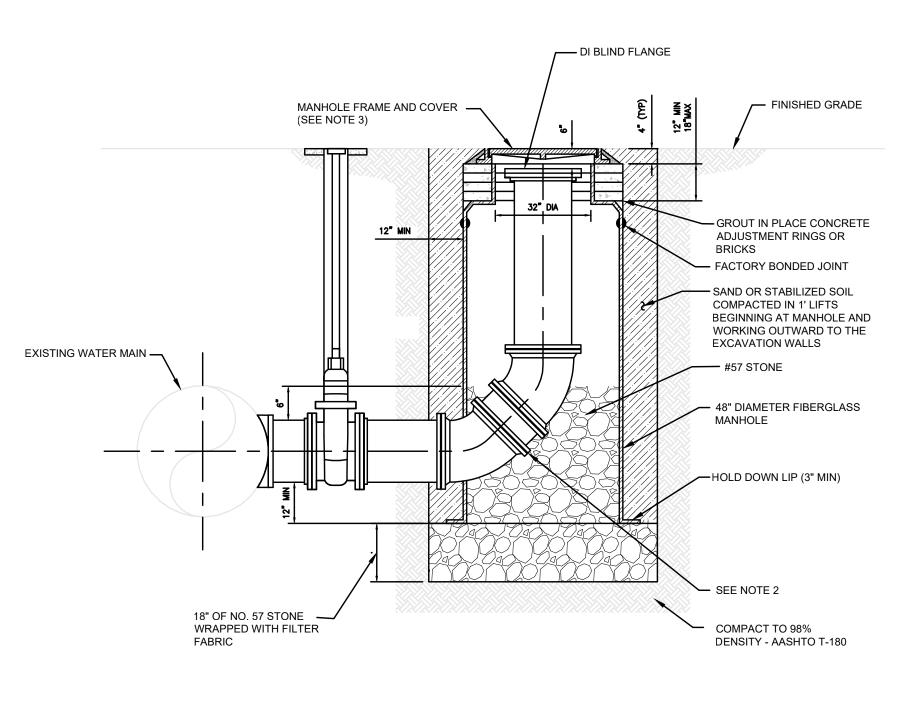


### NOTES:

FOR HOT TAP CONNECTIONS ON EXISTING WATER MAINS 10" DIAMETER AND GREATER, DIAMETER OF TAPPING VALVE AND PIG LAUNCHING PIPE SHALL BE ONE NOMINAL SIZE LESS THAN EXISTING WATER MAIN.

# SWABBING PIG LAUNCHING STATION DETAIL FOR WATER MAINS UP TO 24" - PLAN

JANUARY 2022 PLATE W-45C



- PROVIDE ALL MATERIALS IN ACCORDANCE TO JEA WATER AND WASTEWATER STANDARD
- 2. USE TWO VERTICAL 45 DEGREE MJ BENDS OR LONG RADIUS 90 DEGREE MJ BEND.
- 3. PROVIDE STANDARD JEA FRAME AND COVER.
- 4. RESTRAIN ALL JOINTS.

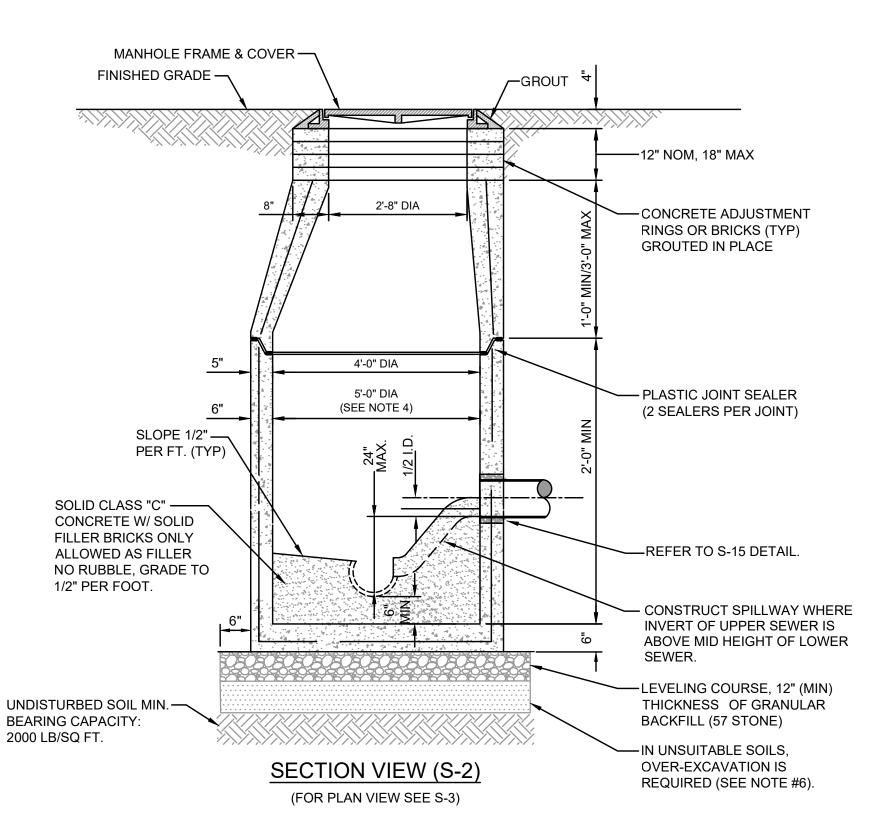
RETROFIT SWABBING LAUNCHING STATION DETAIL FOR WATER MAINS UP TO 24" - SECTION

JANUARY 2022

PLATE W-45D

1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE BETWEEN 90° - 180° UNLESS OTHERWISE APPROVED BY JEA.

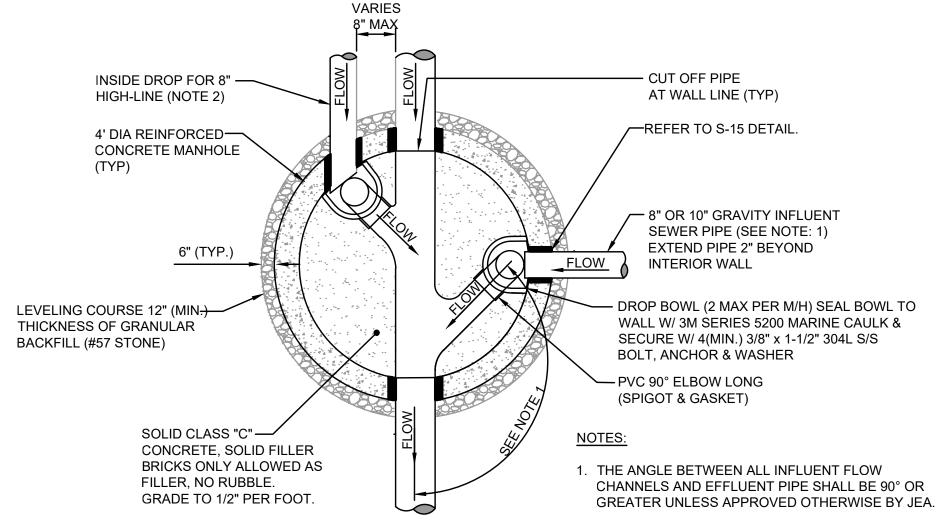
### PLAN VIEW (S-3) (FOR SECTION VIEW SEE S-2)



- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
- 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTING RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- 3. IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
- 4. JUNCTION MANHOLE (CLOSEST TO WETWELL) SHALL BE 5' DIA WITH SPECIALTY LINER.
- ALL MANHOLE JOINTS BELOW THE TOP COVER SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL. SEE PLATE S-17.
- 6. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE)

# SANITARY SEWER TYPE "A" MANHOLE 8"-21" SEWERS

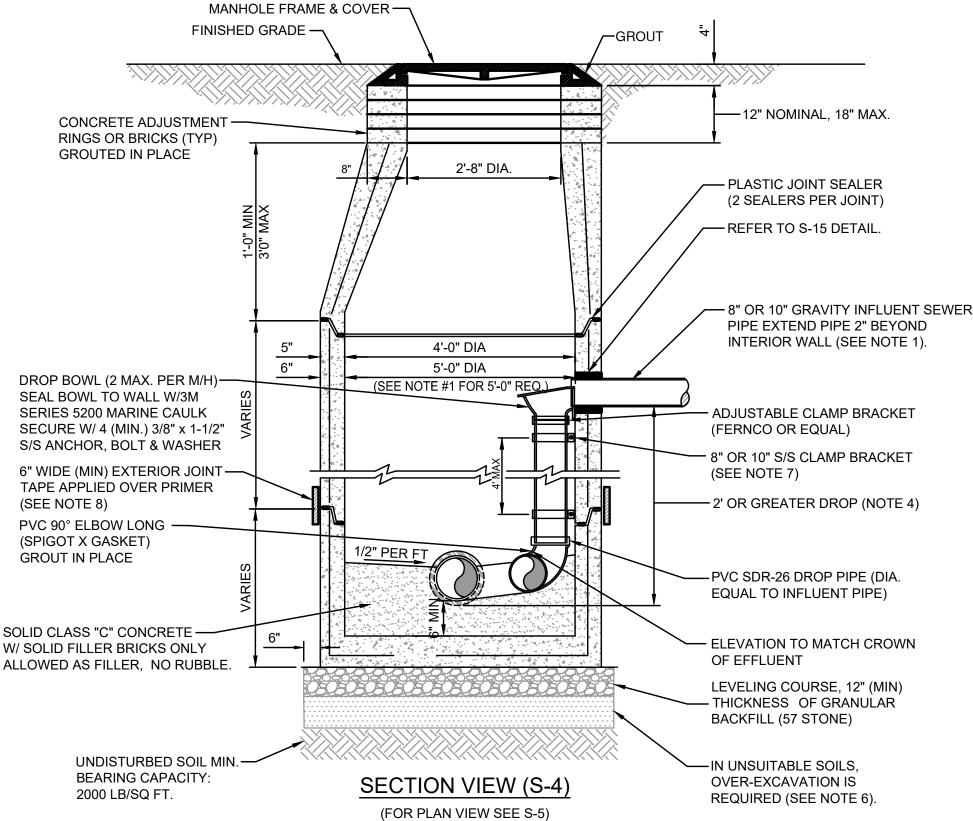
PLATES S-2, S-3 JANUARY 2022



# PLAN VIEW (S-5)

(FOR SECTION VIEW SEE S-4)

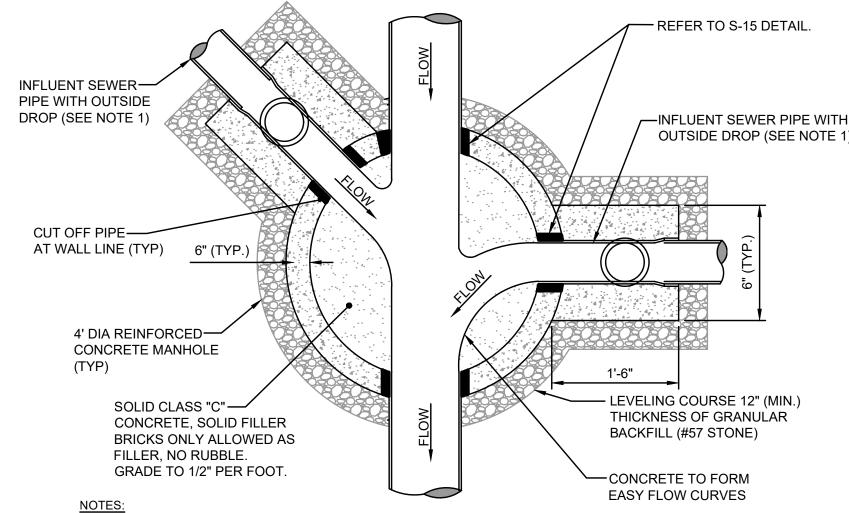
2. THE 8" HIGH-LINE, WHERE UTILIZED, SHALL ENTER THE MANHOLE ON-CENTER OR OFF-CENTER AS SHOWN ABOVE.



- THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NO DROPS ALLOWED FOR FORCE MAINS. MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A 5'-0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED IF TWO INSIDE DROPS ARE CONSTRUCTED WITH ONE OR BOTH BEING 10" SIZE. DROP BOWL BY RELINER OR APPROVED EQUAL REQUIRED. THE INSIDE DROP FOR AN 8" HIGH-LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE (SEE PLATE S-5).
- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
- THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS
- TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
- THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL
- A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN THREE OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES AREA
- ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY). 1-1/2" WIDE, 11 GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS. SECURE TO M/H WALL WITH (2) 3/8" X 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
- ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

# SANITARY SEWER TYPE "B" MANHOLE 8"-10" SEWERS

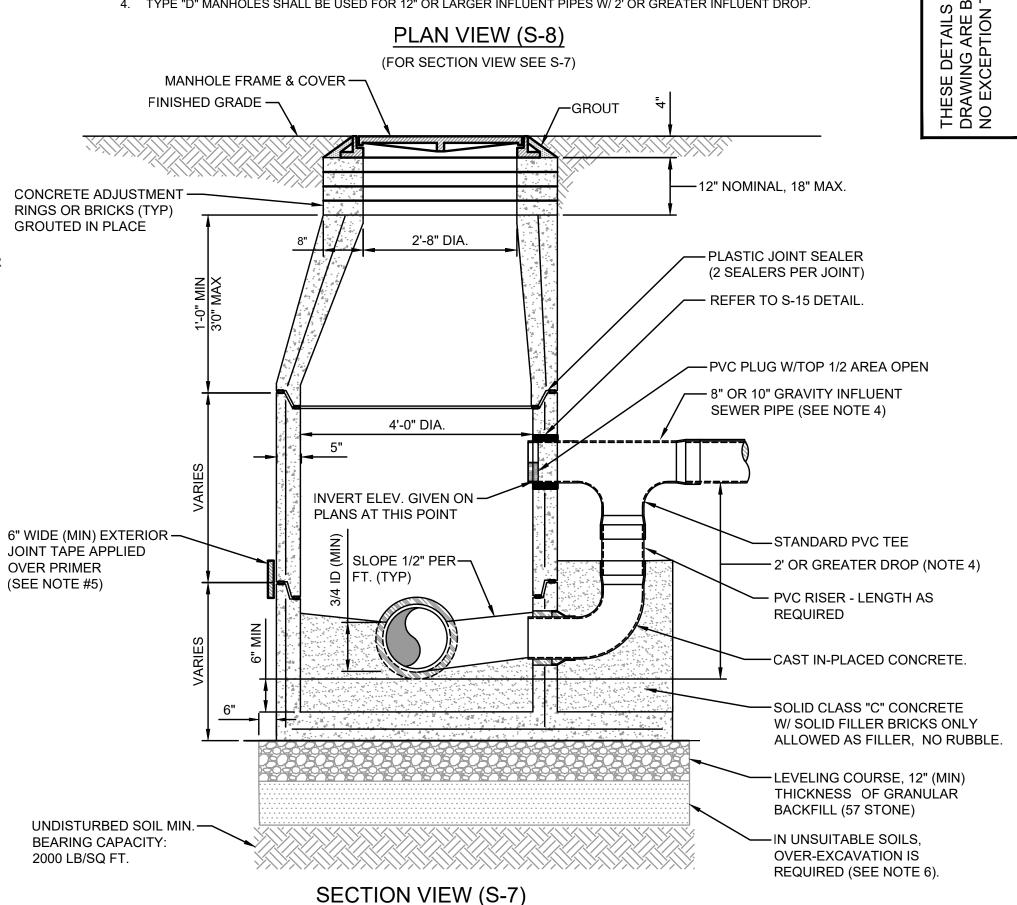
JANUARY 2022 PLATES S-4, S-5



1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER UNLESS

APPROVED OTHERWISE BY JEA.

- 2. THE INTERIOR AND EXTERIOR OF THE MANHOLE AND THE INTERIOR OF THE ADJUSTMENT RINGS SHALL BE GIVEN 2 COATS OF BITUMINOUS WATERPROOFING MATERIAL
- 3. IF SPECIALITY LINER IS TO BE INSTALLED ON INSIDE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
- 4. TYPE "D" MANHOLES SHALL BE USED FOR 12" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP.



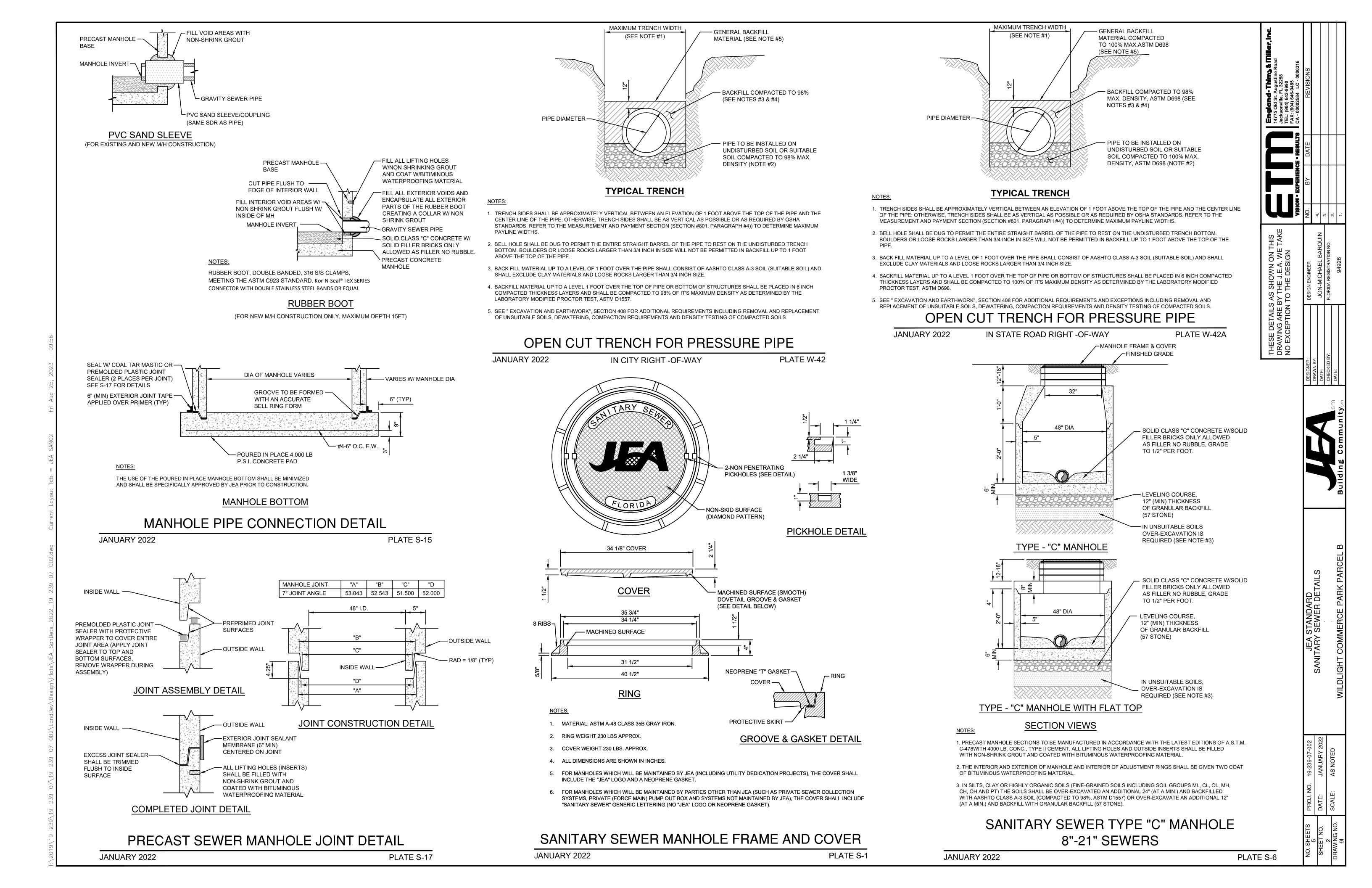
- PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL
- THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF THE ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL
- IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING SHALL BE, OMITTED ON
- 4. TYPE "D" MANHOLE SHALL BE USED FOR 12" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP

(FOR PLAN VIEW SEE S-8)

- ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL.
- IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

# SANITARY SEWER TYPE "D" MANHOLE 12"-21" SEWERS

JANUARY 2022 PLATES S-7, S-8

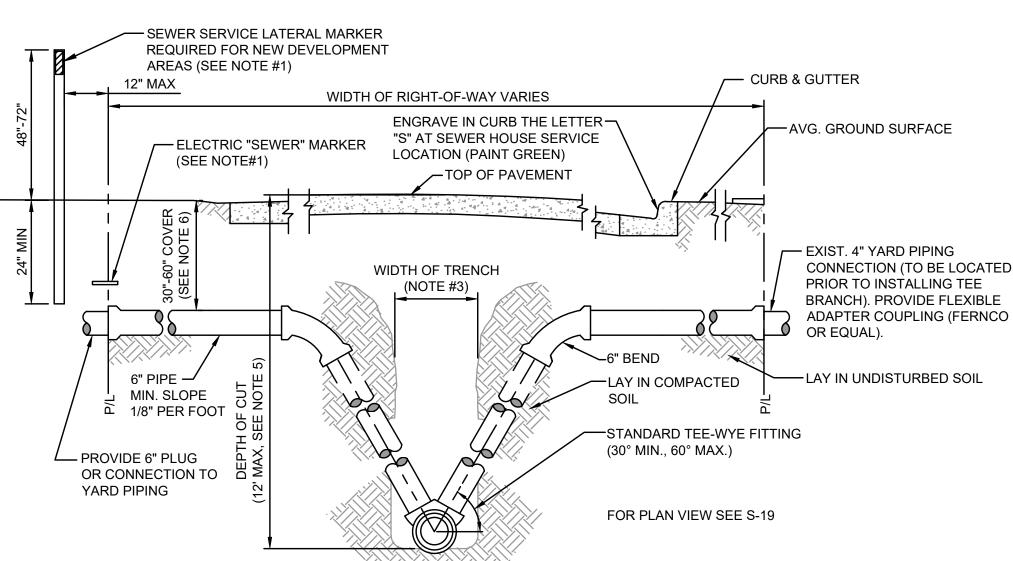


### **CASE "A" CROSSING**

- 1. IF EXISTING CONFLICT PIPE IS A WATER OR RECLAIMED WATER MAIN. 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSINGS
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27)
- 3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.
- 4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS PRE-APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.
- 5. THE SOILS BETWEEN THE MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

# ADJUSTMENT OVER EXISTING UTILITIES MECHANICAL RESTRAINTS

PLATE S-39 JANUARY 2022



- TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE"NOT" IN USE". FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO
- 3. SEE MEASUREMENT AND PAYMENT SECTION FOR MAXIMUM PAYMENT WIDTHS.
- 4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE
- SEWER SERVICE LATERALS ASSOCIATED WITH GRAVITY SEWER MAINS WHICH ARE DEEPER THAN 12 FEET, MUST BE ROUTED TO A GRAVITY SEWER HIGH-LINE, A MANHOLE OR OTHER JEA APPROVED METHOD.
- 7. THE SEWER SERVICE LATERAL SHALL BE CONSTRUCTED AT A DEPTH TO ALLOW A GRAVITY CONNECTION BY THE CUSTOMER, WHERE POSSIBLE (CONTINGENT UPON MEETING THE CUSTOMER'S ON-SITE CONDITIONS AND LOCAL CONSTRUCTION STANDARDS). A LATERAL REQUIRING MORE THAN 60" OF COVER MUST BE APPROVED, PRIOR TO CONSTRUCTION, BY JEA.

HOUSE LATERAL - SECTION VIEW

JANUARY 2022 PLATE S-20

DEPTH VARIES FULL LENGTH OF PIPE -— EXISTING UTILITY PIPE CENTERED AT CROSSING - LOCATE WIRE (SEE NOTE #3) (SEE NOTE #1) PROPOSED FORCE MAIN SIZE & TYPE VARIES (SEE NOTE #1 & 2) MECHANICAL JOINT 11-1/4° 22-1/2° OR 45° (SIZE VARIES) 9' MIN 9' MIN RESTRAINED JOINT (TYP.) THE LENGTH OF THE PIPE TO BE SIZE AS REQUIRED RESTRAINED ON EACH SIDE OF BEND SHALL BE IN ACCORDANCE WITH

- 1. IF EXISTING CONFLICT PIPE IS A WATER OR RECLAIMED WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED.A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSINGS.
- 2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).
- 3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.

RESTRAINT JOINT SCHEDULE.

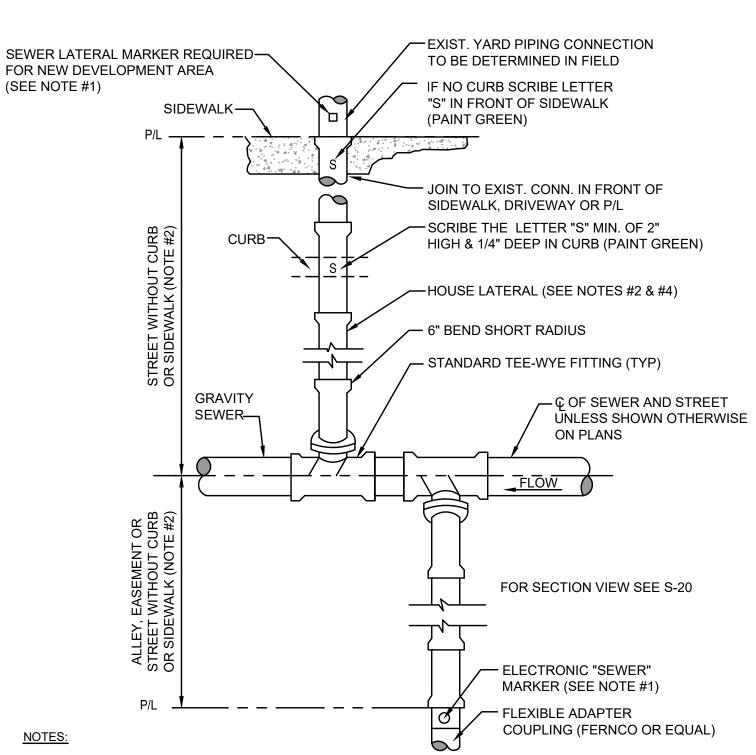
4. THE COVER FOR PIPING LESS THAN 24" SIZE SHALL BE 30" (MIN) IN UNPAVED AREAS, 36" (MIN) IN PAVED AREAS AND A MAXIMUM COVER OF 60", UNLESS PRE-APPROVED BY JEA. THE COVER FOR PIPING 24" SIZE AND LARGER SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY JEA.

CASE "B" CROSSING

5. THE SOILS BETWEEN THE MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

# ADJUSTMENT UNDER EXISTING UTILITIES MECHANICAL RESTRAINTS

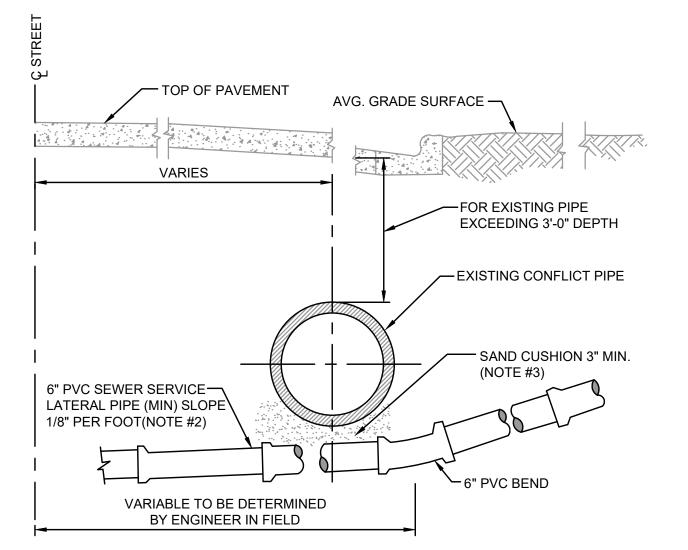
PLATE S-41 JANUARY 2022



- 1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE "NOT" IN USE". FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY JEA OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
- 2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
- NO SEWER SERVICE CONNECTIONS PERMITTED ON GRAVITY SEWER PIPE WHICH ARE 16" AND LARGER.
- 4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING)

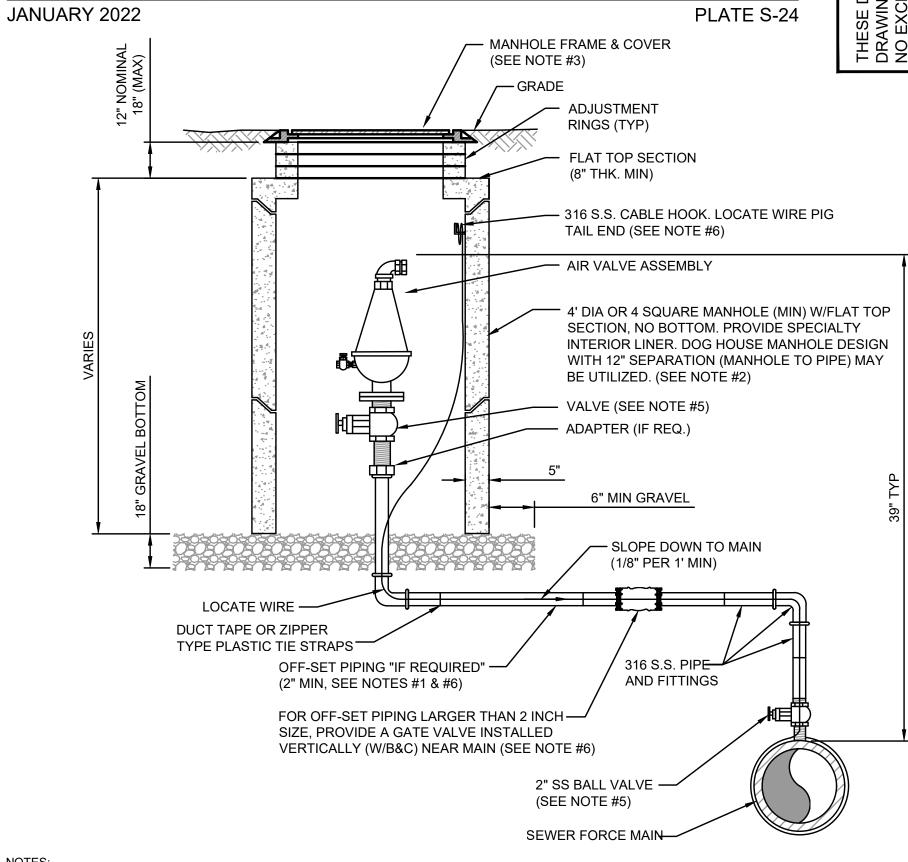
**HOUSE LATERAL - PLAN VIEW** 

JANUARY 2022



- 1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
- 2. FLATTER SLOPE MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION
- 3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS

### HOUSE LATERAL UNDER CONFLICT PIPE



- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER: PIPING SHALL BE 316 STAINLESS STEEL SCH.40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER: PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN), WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED.
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

### AIR VALVE ASSEMBLY INSIDE MANHOLE

JANUARY 2022 PLATE S-29

- 2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).

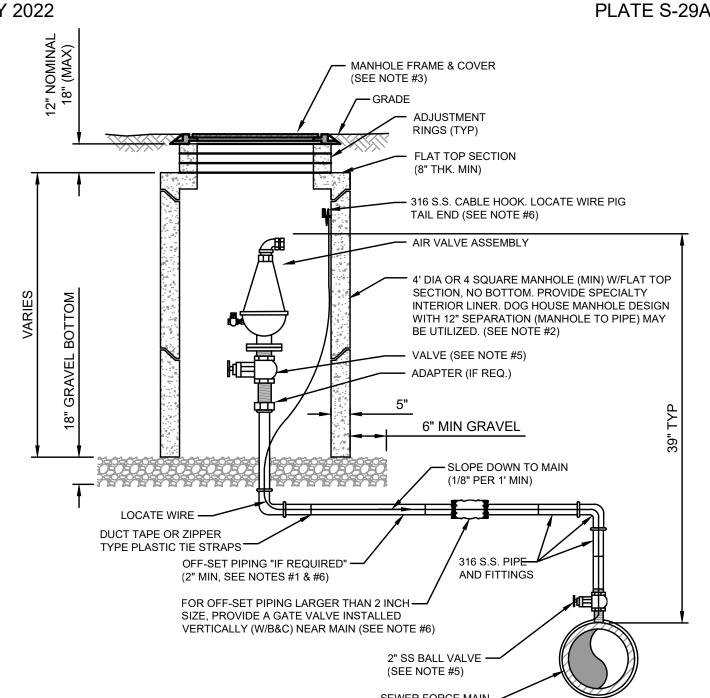
- 5. UNLESS APPROVED OTHERWISE BY A JEA O&M MANAGER, NO GRAVITY SEWER MAIN WITH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED WITH A "DEPTH OF CUT" GREATER THAN 12 FEET.

PLATE S-19

- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER: PIPING SHALL BE 316 STAINLESS STEEL SCH 40, STD GRADE, THREADED, FOR PIPE SIZES 4 INCH AND LARGER. PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN), WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

# OPTIONAL LOW PROFILE AIR VALVE ASSEMBLY INSIDE MANHOLE

JANUARY 2022



- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER: PIPING SHALL BE 316 STAINLESS STEEL SCH.40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER: PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN), WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED.
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

## 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE

AIR VALVE ASSEMBLY INSIDE MANHOLE PLATE S-29 JANUARY 2022 PLATE S-38C JANUARY 2022

- MANHOLE FRAME & COVER (SEE NOTE #3) ADJUSTMENT RINGS (TYP) - FLAT TOP SECTION 316 S.S. CABLE HOOK. LOOF LOCATE WIRE AROUND HOOK (SEE NOTE #6) AIR VALVE ASSEMBLY - 4' DIA OR 4 SQUARE MANHOLE (MIN) W/FLAT TOP SECTION, NO BOTTOM. PROVIDE SPECIALTY INTERIOR LINER. DOG HOUSE MANHOLE DESIGN WITH 12" SEPARATION (MANHOLE TO PIPE) MAY BE UTILIZED. (SEE NOTE #2) — VALVE (SEE NOTE #5) ADAPTER (IF REQ.) 316 SS PIPE AND FITTINGS 6" MIN GRAVEL 2" SS BALL VALVE -(SEE NOTE #5) SEWER FORCE MAIN -

- 1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS)
- 2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
- 3. FRAME AND COVER SHALL BE JEA STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD JEA COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
- 4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL
- 6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

## AIR VALVE ASSEMBLY INSIDE MANHOLE IN ROW

JANUARY 2022 PLATE S-29B

/ERTICAL OFFSET: **VALVES** HORIZONTAL BENDS **NOMINA** 45° BENDS (SEE NOTE 4 DEAD SIZE **ENDS** BENDS BENDS BENDS UPPER LOWER (IN.) 103 121 170 24x20 289 120 133 26

### **PVC PIPE RESTRAINT NOTES:**

- 1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- 2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
- 3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING

LENGTH (L) TO BE RESTRAINED

- 4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- 5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- 6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
- 7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

# 24x18 80 10 < LESS F.O 30x24 78 30x20 121 12 < LESS F.C 141 42x30 140 16 < LESS F.O. 16 < LESS F.O. 16 < LESS

(SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

SEE NOTE 5

BRANCH

SIZE

(IN.)

6 < LESS

6 < LESS

8 < LESS

10 < LESS

REDUCERS

6x4 34

8x4 62

10x6 63

12x8 64

16x12 66

20x18 35

20x16 66

20x12

24x16

36x24

48x36

(IN.)

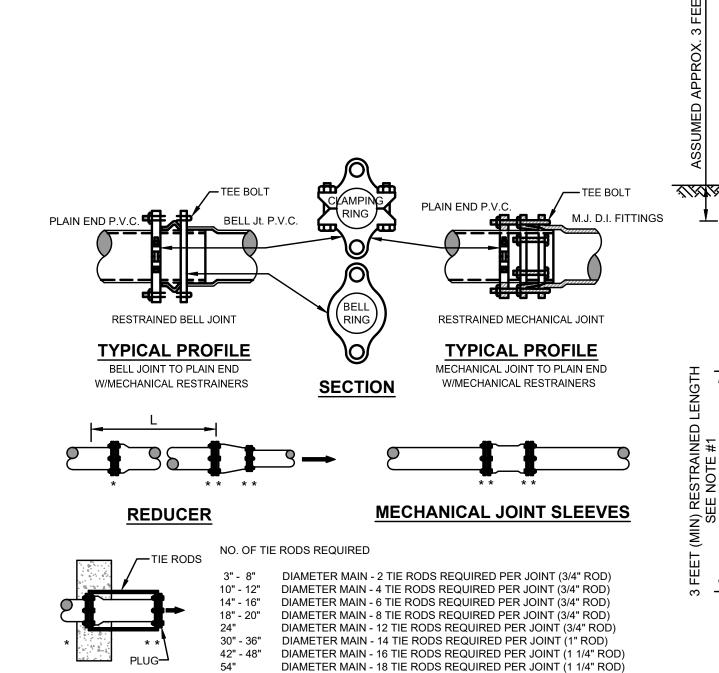
8x6

10x8

12x10

# PVC PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2022 PLATE S-38A



**DEAD - END THRUST COLLAR ANCHOR** TO BE USED INSTEAD OF TOTAL RESTRAINED LENGTH (OPTIONAL) SIZE AS PER THRUST BLOCK DETAIL (W-38). SEE DETAILS W-36 & W-37.

- 1. PAY ITEM " \* " DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
- 2. PAY ITEM " \*\* " DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
  - INDICATES DIRECTION OF THRUST FORCE.

# MECHANICAL RESTRAINT DETAILS - I MECHANICAL RESTRAINT DETAILS - II

**UPPER BEND** 

ANGLE OF 45° —

DIRECTION CHANGE

TEE

ANGLE OF 45° -

**VERTICAL OFFSET PROFILE** 

JANUARY 2022

PAY ITEM "\*\*" DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING

1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE

INCREASE THIS LENGTH TO REDUCE THE NUMBER OF RESTRAINS REQUIRED. ANY CHANGES

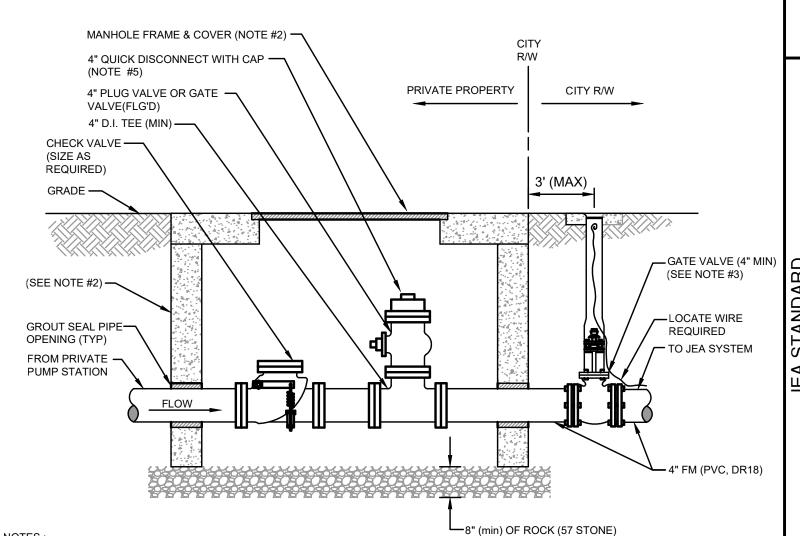
(RUN) SHALL BE A TOTAL DISTANCE OF 6 FEET (MIN.). THE PROJECT ENGINEER CAN

2. PAY ITEM "\*" DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIC.

TO THIS TABLE MUST BE SUMMITTED TO JEA FOR APPROVAL

ANGLE OF DIRECTION CHANGE

HORIZONTAL BEND



1. SEWER PUMP-OUT BOX SHALL BE CONSTRUCTED ON PRIVATE PROPERTY AND LOCATED AT THE R/W LINE. THE PREFERRED

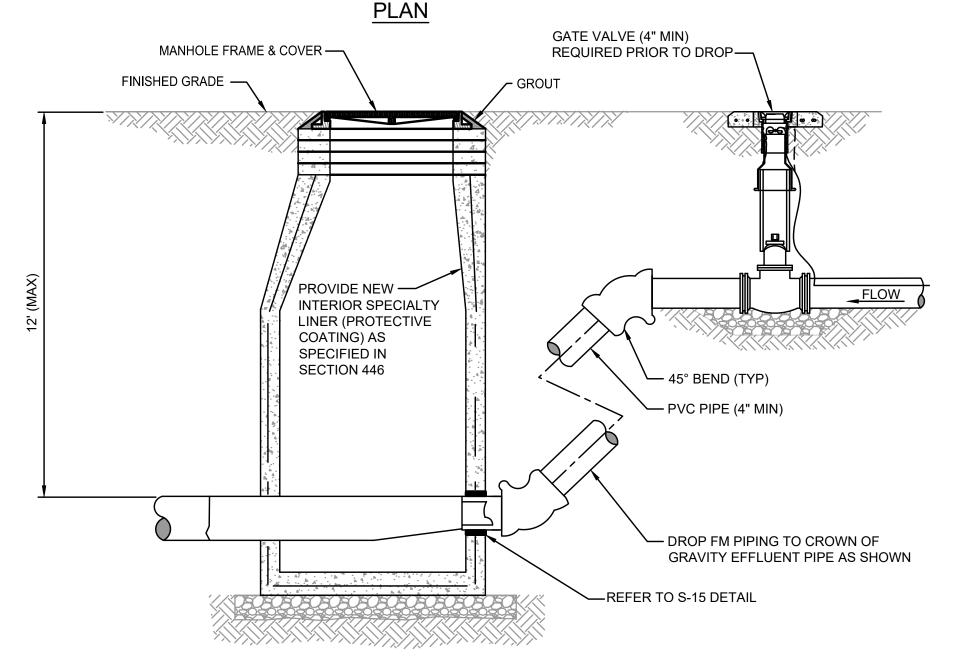
ASSEMBLY TO BE ENCLOSED WITHIN A 48"x48" (MIN) PRECAST CONCRETE BOX WITH OPEN BOTTOM W/H-20 TRAFFIC LOADING COVER OR TYPE "C" MANHOLE OPEN BOTTOM WITH FRAME AND COVER (NON-JEA LOGO TYPE COVER). 3. A JEA APPROVED GATE VALVE (4" MIN) SHALL BE PROVIDED AT THE R/W LINE FOR ALL FORCE MAIN PIPING WHICH EXCEEDS

15' LINEAR FEET WITHIN THE CITY R/W AREA. THE GATE VALVE AT THE R/W LINE IS NOT REQUIRED WHERE THE CONNECTION (CONNECTION AT JEA MAIN) IS LOCATED ON THE SAME SIDE OF THE STREET AS THE PUMP-OUT BOX (SHORT-SIDE SERVICE) AND CONSIST OF 15 LINEAR FEET OR LESS WITHIN THE CITY R/W AREA

- 4. NO CONNECTIONS PERMITTED INTO JEA FORCE MAINS WHICH ARE GREATER THAN 12" WITHOUT PRIOR JEA APPROVAL
- 5. QUICK DISCONNECT WITH CAP SHALL BE ALUMINUM AND BE POSITIONED DIRECTLY UNDER MANHOLE LID FOR ACCESS.

PLATE S-38D JANUARY 2022 PLATE S-46

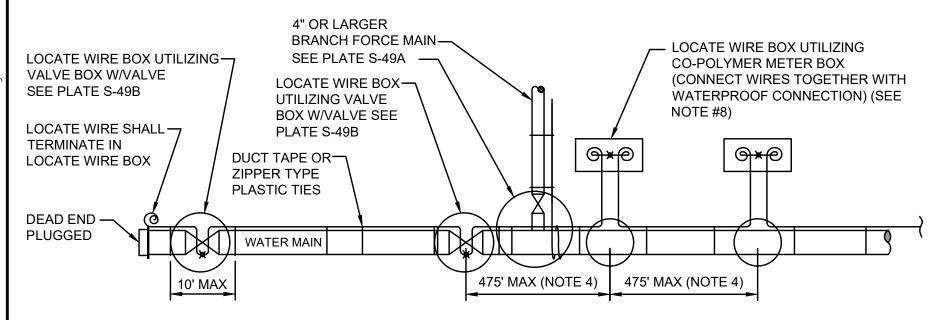
PRIVATE PUMP OUT ASSEMBLY



### SECTION

# TYPICAL FORCE MAIN CONNECTION TO MANHOLE

PLATE S-18 JANUARY 2022



### LOCATE WIRE SYSTEM

- 1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON OR PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
- 2. SECURE LOCATING WIRE TO PVC FORCE MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
- 3. THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
- 4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX ( WITH A VALVE ) OR A METER BOX ( IF NO VALVE ) AT 475' INTERVALS. SEE DETAIL PLATE S-49B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
- 5. LOCATING WIRE SHALL BE 12 GAUGE COPPER WIRE WITH .03 INCHES (MINUMUM) HDPE INSULATION THICKNESS, 0.141 INCHES (MINIMUN) O.D. RATED BREAK LOAD 250LBS., UF RATED (DIRECT BURIAL), GREEN COLOR. FOR HDD INSTALLATIONS, THE LOCATE WIRE SHALL BE COPPER CODED STEEL AS SPECIFIED IN SPEC. SECTION 750.
- 6. "w" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH WATERPROOF CONNECTION. (SEE DETAIL W-49B)
- 7. "O" INDICATES A WIRE PIG-TAIL (24" LONG)

JANUARY 2022

- 8. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.
- 9. FOUR LANES OF TRAFFIC (HAVING TWO LANES OF TRAFFIC IN EACH DIRECTION) OR GREATER THE LOCATE WIRE AND VALVE BOX SHALL BE OFF-SET TO THE RIGHT-OF-WAY.

LOCATE WIRE CONSTRUCTION FOR FORCE MAINS

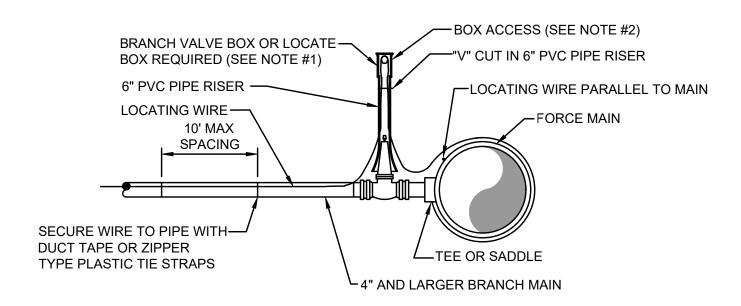
### - APPLY GROUT TO FILL ANNULAR SPACE BETWEEN VALVE BOX AND CONCRETE PAD PAINT COVER AND INSIDE OF BOX GREEN-· 24" ROUND PRECAST CONCRETE COMPACTED EARTH (TYP) — PAD 4" THICK (SEE SPEC) SET ON COMPACTED EARTH, (SEE NOTE# 6) VALVE BOX ADJUSTMENT (SEE NOTE# 5) VALVE BOX & COVER (TYP) -PROVIDE GREEN PAINT TO THE INSIDE OF THE TOP SECTION OF THE BOX (NOTE #5) ELECTRONIC LOCATE BALL MARKER 6" PVC RISER PIPE — LOCATED WITHIN 12" FROM (LENGTH AS REQUIRED) RISER PIPE (NOTE #10) PROVIDE "V" CUT IN TOP OF 6" RISER PIPE FOR LOCATE WIRE GATE VALVE W/ 2" OPERATING ACCESS INTO VALVE BOX NUT (NOTE #4) PLASTIC DEBRIS SHIELD REQUIRED -— PIPE W/ LOCATING WIRE ON ALL VALVES 12" AND SMALLER (SEE NOTE #8) RESTRAINED MECHANICAL 12" (MIN) LAYER OF #57 JOINT (TYP) STONE (REQUIRED FOR UNDISTURBED EARTH VALVES 20" AND LARGER, (NOTE #7)

### NOTES:

- 1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED
- 2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAIL S-49).
- 3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/(ASPHALT IF NO CURB) ADJACENT TO ALL BELOW GRADE VALVES.
- 4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE
- 5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER
- $6.\quad$  BRASS IDENTIFICATION TAG INDICATING "SEWER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/4" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
- 7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 #4 REBAR AROUND PERIMETER, MAY BE USED.
- 8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/3 THE OVERALL HEIGHT OF THE VALVE.
- 9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
- 10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1404XR FOR SEWER).

# SEWER VALVE DETAIL

JANUARY 2022 PLATE S-30



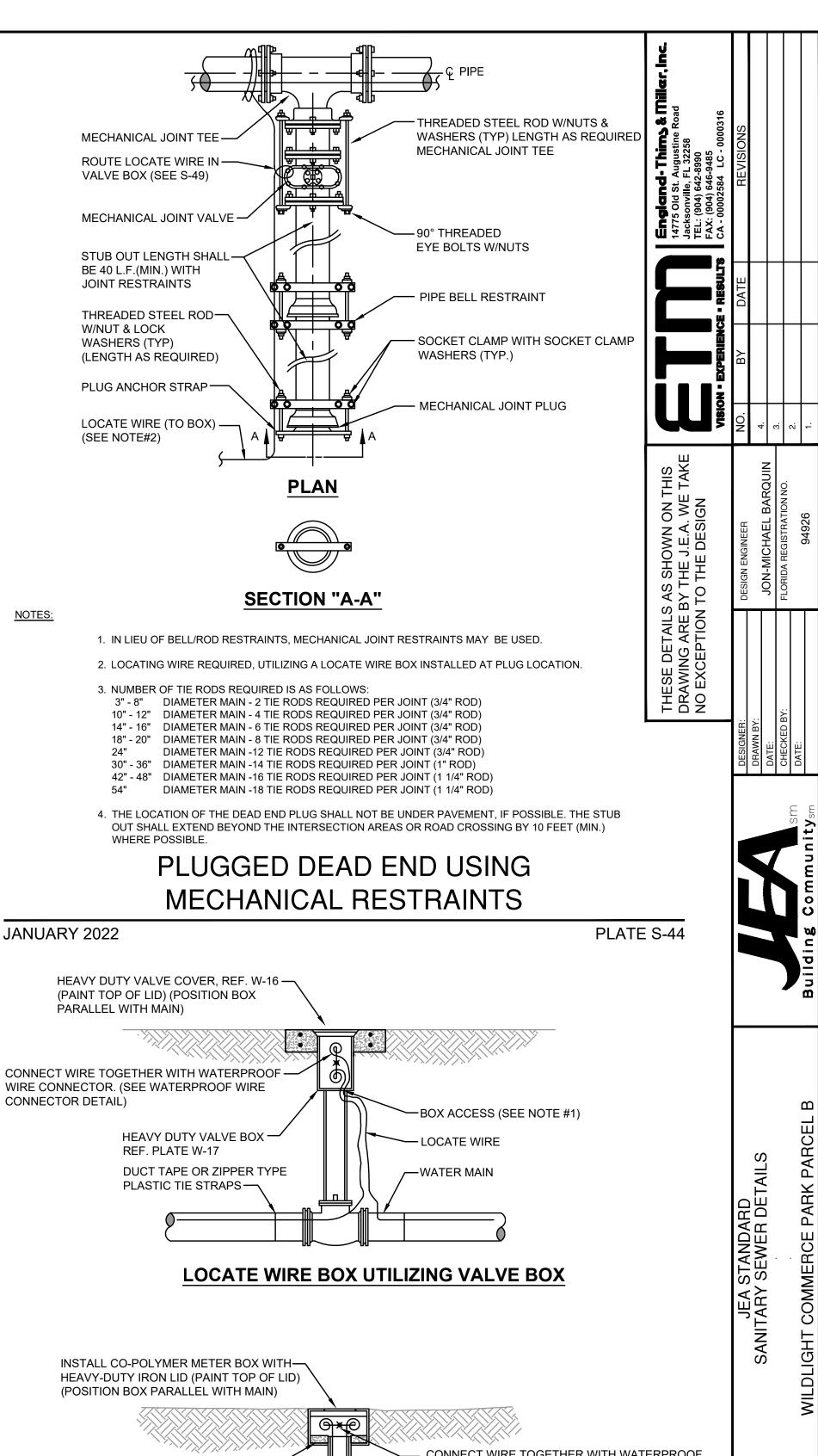
### **BRANCH FORCE MAIN** (4" AND LARGER SEWER MAIN)

### NOTE:

- 1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
- 2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE S-30).
- 3. LOCATE WIRE BOX SHALL BE INSTALLED OUTSIDE OF SIDEWALKS, DRIVEWAYS AND PAVEMENT.
- 4. "@" INDICATES A WIRE PIG-TAIL (4' LONG)

### LOCATE WIRE FOR BRANCH MAIN

**JANUARY 2022** 



CONNECT WIRE TOGETHER WITH WATERPROOF WIRE CONNECTOR. (SEE WATERPROOF WIRE PROVIDE 3" THICK — CONNECTOR DETAIL) **GRAVEL BOTTOM** 

2" PVC RISER PIPE--LOCATING WIRE (ROUTED IN PIPE) DUCT TAPE OR ZIPPER TYPE— -WATER MAIN PLASTIC TIE STRAPS

### LOCATE WIRE BOX UTILIZING METER BOX

# LOCATE WIRE BOX

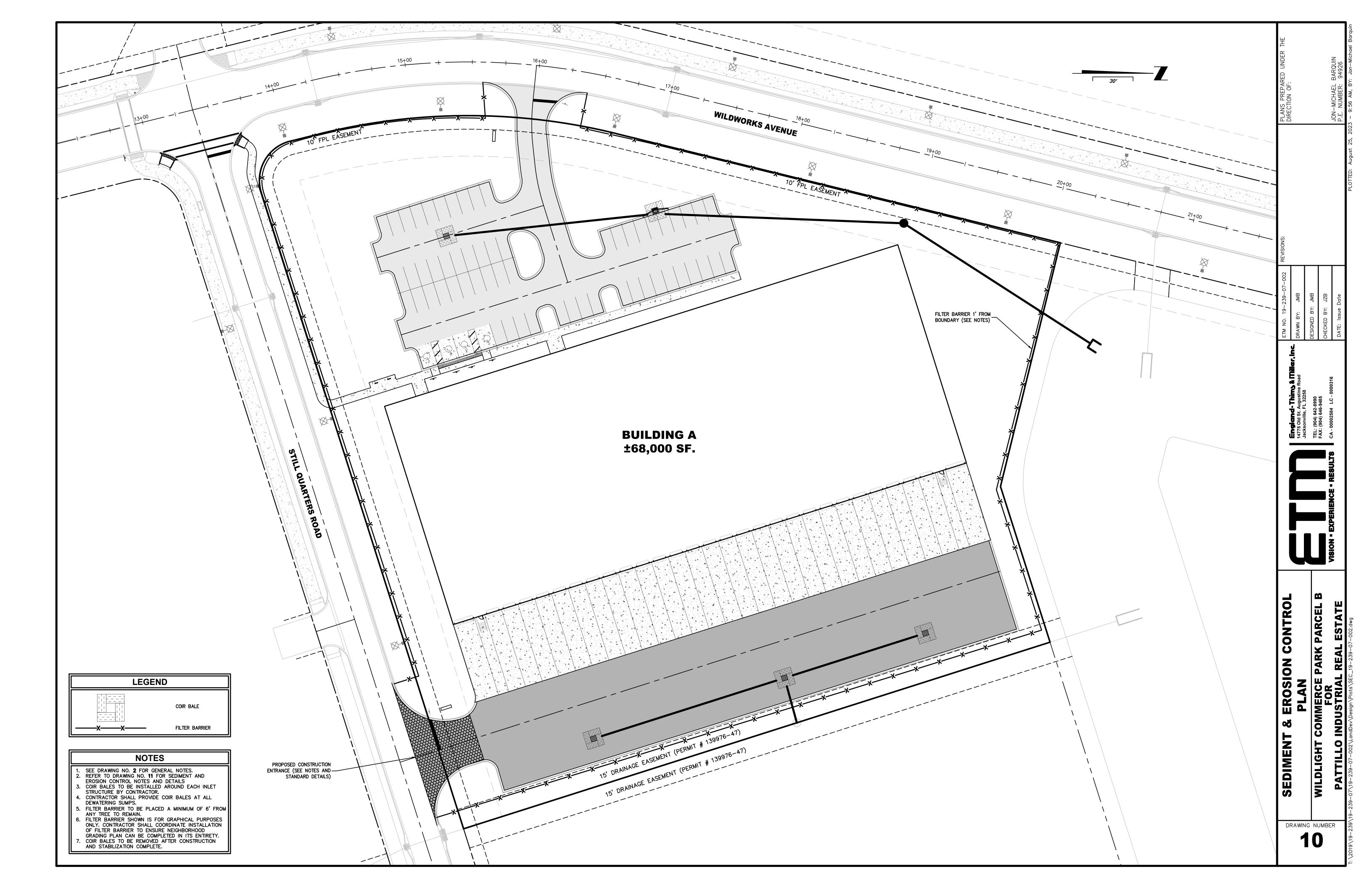
PLATE S-49

PLATE S-49A

**JANUARY 2022** 

NOTES:

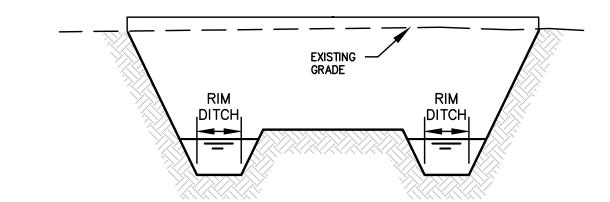
PLATE S-49B



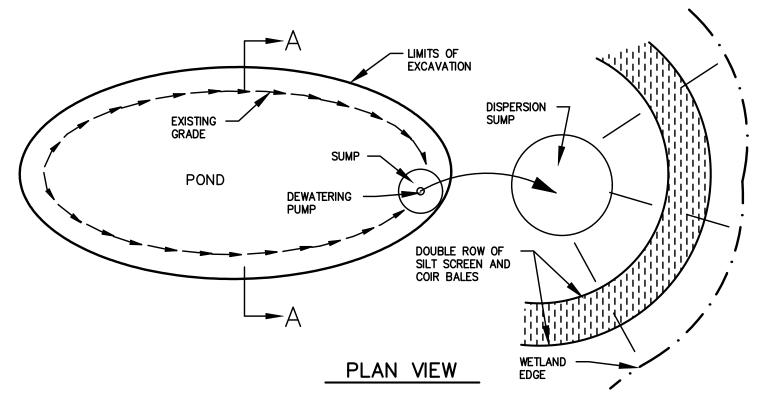
### SEDIMENT AND EROSION CONTROL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
- 2. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 3. ADDITIONAL PROTECTION ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEEN CONDITIONS OR ACCIDENTS.
- 4. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- 5. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIR EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS REQUIRED, THE STRIPS SHALL BE OVERLAPPED.
- 6. FDOT NO. 1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ON SEDIMENT FILTER DETAIL (SEE DETAIL THIS SHEET). THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES
- 7. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED
- 8. BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
- 9. BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
- 10. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED
- 11. EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.
- 12. LOOSE COIR SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
- 13. COIR BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- 14. CLOSE ATTENTION SHALL BE GIVEN TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
- 15. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
- 16. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. IT MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- 17. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE COIR BALE OR FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
- 18. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 19. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED
- 20. STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS
- 21. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- 22. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT RULES AND
- 23. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (F.D.E.P.) CHAPTER 6.
- 24. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL
- 25. SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.
- 26. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.
- 27. DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER WATER
- 28. ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED AND MULCHED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR SHALL USE ADDITIONAL MEASURES TO STABILIZE DISTURBED AREAS THROUGH COMPACTION, SILT SCREENS, COIR BALES, AND GRASSING. ALL FILL SLOPES 3:1 OR STEEPER TO RECEIVE STAKED SOLID SOD.
- 29. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 30. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
- 31. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO COMPLIANCE OF SJRWMD FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
- 32. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS AND PRESERVATION EASEMENTS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
- 33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER THE CONTRACT DOCUMENTS AND MEETING THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, XXXXXXX AND NPDES FINAL STABILIZATION REQUIREMENTS.
- 34. THESE PLANS INCLUDING THE POLLUTION PREVENTION PLAN INDICATE THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO

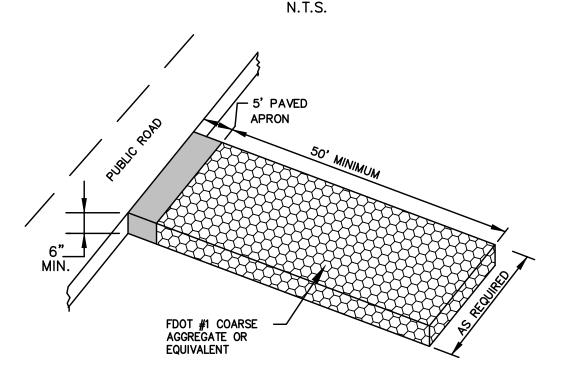
- SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) CHAPTER 6. CONTRACTOR SHALL PROVIDE EROSION PROTECTION AND TURBIDITY CONTROL AS REQUIRED TO INSURE CONFORMANCE TO STATE AND FEDERAL WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL CONTROLS TO CONFORM TO AGENCIES REQUIREMENTS. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSULTANT FEES, CONSTRUCTION COSTS, AND FINES.
- 35. 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A "NOTICE OF INTENT" TO THE EPA IN ACCORDANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM RULES AND REGULATIONS. (FOR ANY CONSTRUCTION NOT COVERED BY THE OWNER'S "NOTICE OF INTENT" PERMIT)



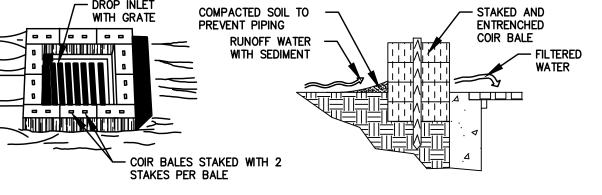
### SECTION A-A



# TEMPORARY DEWATERING DETAIL



# STABILIZED CONSTRUCTION ENTRANCE

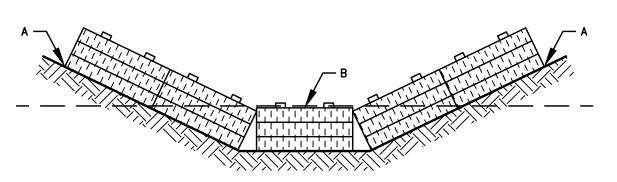


### SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 cfs) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

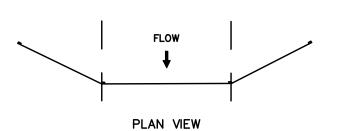
# COIR BALE DROP INLET SEDIMENT FILTER

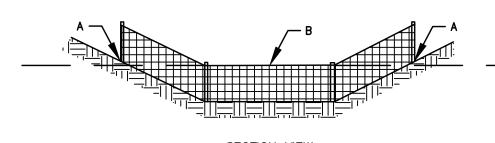
N.T.S.



POINTS A SHOULD BE HIGHER THAN POINT B

# PROPER PLACEMENT OF COIR BALE IN A DRAINAGE WAY

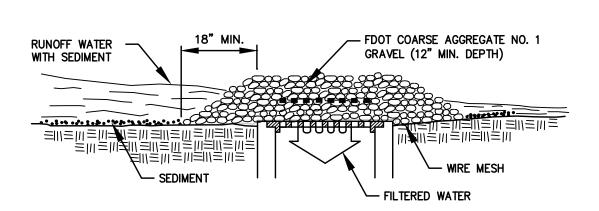




SECTION VIEW POINTS A SHOULD BE HIGHER THAN POINT

# PROPER PLACEMENT OF A FILTER BARRIER IN DRAINAGE WAY

N.T.S.

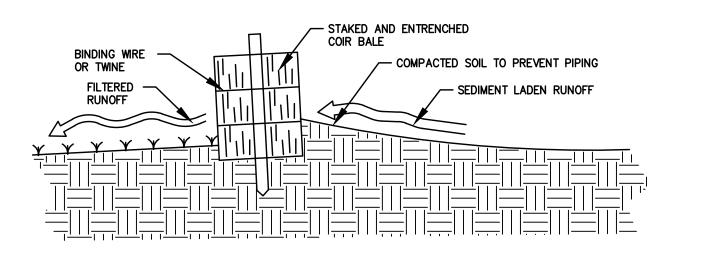


SPECIFIC APPLICATION

### THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED. BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

# **GRAVEL AND WIRE MESH DROP INLET** SEDIMENT FILTER

N.T.S.

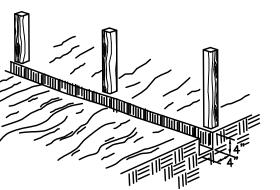


# **CROSS-SECTION OF A PROPERLY**

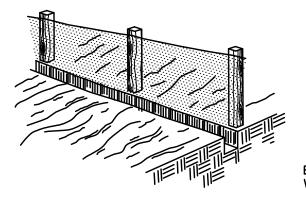
N.T.S.

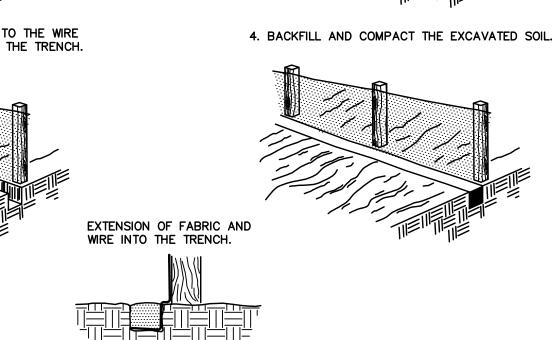
**INSTALLED COIR BALE** 

1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



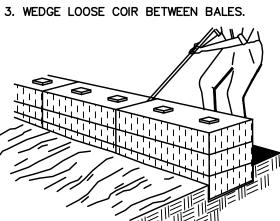
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.





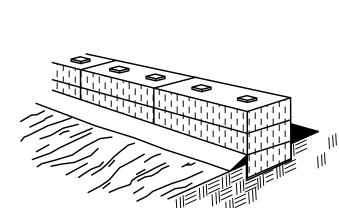
# CONSTRUCTION OF SILT FENCE

1. EXCAVATE THE TRENCH



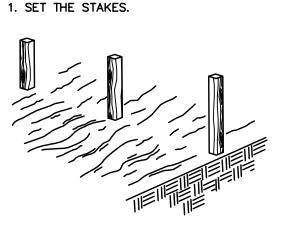
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

2. STAPLE WIRE FENCING TO THE POSTS.

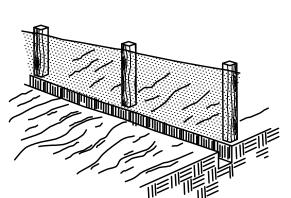


2. PLACE AND STAKE COIR BALES.

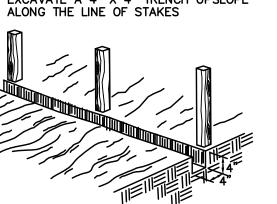
# CONSTRUCTION OF A COIR BALE BARRIER



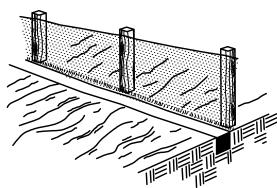
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES



4. BACKFILL AND COMPACT THE EXCAVATED SOIL



CONSTRUCTION OF A FILTER BARRIER N.T.S.

ONTROL C 

SION EROSI ETAIL

EDIMI S

### OWNER/DEVELOPER NAME AND ADDRESS:

PATTILLO INDUSTRIAL REAL ESTATE 5170 PEACHTREE ROAD, BLDG. 100, ATLANTA, GEORGIA

### **DESCRIPTION:**

678-926-5944

### THIS PROJECT WILL CONSIST OF:

CONSTRUCTION OF THE MASTER INFRASTRUCTURE FOR A FUTURE INDUSTRIAL COMMERCE PARK. CONSTRUCTION WILL CONSIST OF INSTALLATION OF UNDERGROUND UTILITIES, CLEARING, GRADING STORMWATER MANAGEMENT FACILITIES, ROADWAYS, AND ASSOCIATED

SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING; INSTALLING A STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS: GRADING: EXCAVATION FOR THE SEDIMENTATION POND, STORM SEWER, UTILITIES; CONSTRUCTION OF CURB AND GUTTER, AND ROAD; AND PREPARATION FOR FINAL PLANTING AND SEEDING.

GENERALIZED RUNOFF CURVE NUMBERS (REFER TO DRAINAGE CALCULATIONS FOR ACTUAL CURVE NUMBER FOR EACH BASIN)

 $PRE-CONSTRUCTION = 75\pm$ DURING CONSTRUCTION = 85±  $POST-CONSTRUCTION = 94\pm$ 

### \* SEE ATTACHED FOR SOILS DATA

SITE MAPS:

\* SEE ATTACHED DWG. No. 6 FOR POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS. WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.

CONTROLS

\* SEE ATTACHED DWG. No. 10 FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS

### SITE AREA:

BEEN OBTAINED.

SIGNED:

D.E.P. DREDGE/FILL PERMIT

S.J.R.W.M.D. M.S.S.W. PERMIT

C.O.E. DREDGE/FILL PERMIT

TOTAL AREA OF SITE = 5.08 AC±

2. TOTAL AREA TO BE DISTURBED =  $5.08 \text{ AC} \pm$ 

NAME OF RECEIVING WATERS: TRIBUTARY OF LOFTON CREEK

### CONTROLS

NOTE: VERTICAL CONSTRUCTION OF THE BUILDING WILL BE TAKING

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND

CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF

IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE

WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED

DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE

SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH

WITH THE EROSION AND SEDIMENT CONTROL DETAILS (DRAWING NO. 11).

HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE

THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL

IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY

OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY

PLACE DURING ALL THE SEQUENCE STEPS LISTED ABOVE

GENERAL

REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION

AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE

ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT

MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED

TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM

SEQUENCE OF MAJOR ACTIVITIES:

9. INSTALL UTILITIES, STORM SEWER.

10. APPLY BASE TO PARKING AREAS

SEEDING/SOD AND PLANTING

ACTIVITY IS COMPLETE AND THE

SITE IS STABILIZED, REMOVE ANY

SWALES/DIKES AND RESEED/SOD

SEDIMENT FROM BASINS

TEMPORARY DIVERSION

CURBS & GUTTER.

11. COMPLETE GRADING AND

12. COMPLETE FINAL PAVING

14. WHEN ALL CONSTRUCTION

AS REQUIRED

13. REMOVE ACCUMULATED

INSTALL PERMANENT

CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

CONSTRUCTION ENTRANCE

2. INSTALL SILT FENCES AND HAY

3. CLEAR AND GRUB FOR DIVERSION

SWALES/DIKES AND SEDIMENT

6. STOCK PILE TOP SOIL IF REQUIRED

7. PERFORM PRELIMINARY GRADING

8. STABILIZE DENUDED AREAS AND

STOCKPILES AS SOON AS

ON SITE AS REQUIRED

BALES AS REQUIRED

4. CONSTRUCT SEDIMENTATION

5. CONTINUE CLEARING AND

1. INSTALL STABILIZED

BASIN

GRUBBING

**PRACTICABLE** 

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN. EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF. DWG. No. XX AND XX IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE HAVE BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE SEDIMENT AND MAINTAIN THE CONTROLS AS PER PLAN AS WELL AS ENSURING THE AND EROSION CONTROL PLAN AND ADDITIONAL CONTROL MEASURES. AS PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, REQUIRED. TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION STATE AND LOCAL LAWS. REFER TO "CONTRACTORS REQUIREMENTS" FOR A AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED. EROSION AND SEDIMENT CONTROL PLAN AND AS REQUIRED TO MEET THE SEDIMENT AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE

### AREAS WHICH ARE NOT DEVELOPED BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE.

REFER TO " CONTRACTORS REQUIREMENTS" FOR THE TIMING OF CONTROL/MEASURES.

IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS

REGARDING EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE

CERTIFICATION OF COMPLIANCE WITH

FEDERAL, STATE AND LOCAL REGULATIONS

POLLUTION PREVENTION PLAN CERTIFICATION

ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN

MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR

INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF,

CORPORATE OFFICER, GENERAL PARTNER, PROPRIETOR,

EXECUTIVE OFFICER, OR RANKING ELECTED OFFICIAL

TRUE. ACCURATE, AND COMPLETE, I AM AWARE THAT THERE ARE SIGNIFICANT

ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL

PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON

THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE

PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL

FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

### STABILIZATION PRACTICES

EROSION AND SEDIMENT CONTROLS

AGAINST WASHOUT.

REGULATORY AGENCIES.

- STRAW BALE BARRIER: STRAW BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
  - A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
- C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS. D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT, IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE
- 2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE
  - FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
  - B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
- BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
- LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.
- 5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
- 6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.

### 7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT -LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.

- TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 7 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
- 9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
- 10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.
- 11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER. THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
- 12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
- 13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
- 14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

### STRUCTURAL PRACTICES

- TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY.
- TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP IS USUALLY INSTALLED IN AN DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA WITH THE FOLLOWING LIMITATIONS:
- A. THE SEDIMENT TRAP MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE.
- OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE VELOCITY OF FLOW AT DESIGN CAPACITY OF THE OUTLET WILL EXCEED THE PERMISSIBLE VELOCITY OF THE RECEIVING CHANNEL OR AREA.
- SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

### OTHER CONTROLS

### WASTE DISPOSAL WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL, NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE

### HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

### SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

### INVENTORY FOR POLLUTION PREVENTION PLAN

### THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

Concrete Fertilizers Petroleum Based Products Asphalt Cleaning Solvents

Masonry Blocks Roofing Materials Paints Metal Studs Detergents

### SPILL PREVENTION

### MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF. GOOD HOUSEKEEPING

### THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

\* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB. \* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER

- \* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- \* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

\* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE

DISPOSING OF THE CONTAINER. \* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL

WILL BE FOLLOWED. \* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS

ONSITE RECEIVE PROPER USE AND DISPOSAL.

### HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

\* PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE. \* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.

\* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

### PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE: PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED. FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

### CONCRETE TRUCKS

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

### SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL

INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

### MAINTENANCE/INSPECTION PROCEDURES

- EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.
- \* NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- \* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT. AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
- \* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF
- \* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- \* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.

\* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT,

- \* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- \* TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

\* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH

INSPECTION. A COPY OF THE REPORT FORM SHALL BE COMPLETED BY THE THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT

THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED.

\* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.

\* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

### NON-STORM WATER DISCHARGES

- \* IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:
- \* WATER FROM WATER LINE FLUSHING
- \* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- \* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

### CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

### DEWATERING

PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED CONSTRUCTION ACTIVITY AND THE TEST RESULTS TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DISTRICT OFFICE, WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.

# RESPONSIBLE FOR/DUTIES SIGNATURE BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS GENERAL CONTRACTOR SUB-CONTRACTOR SUB-CONTRACTOR SUB-CONTRACTOR

0 OLLU"

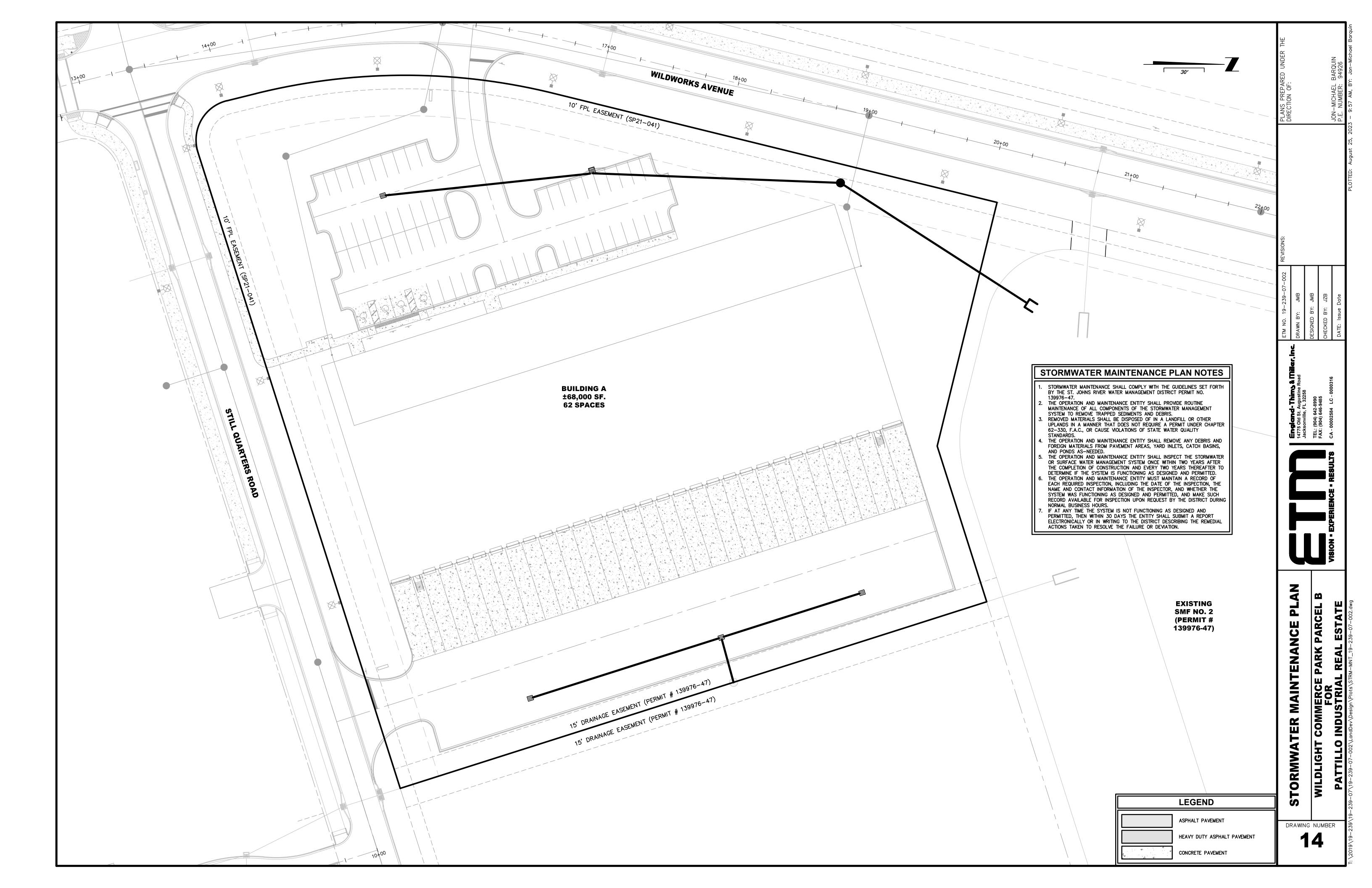
ER F TIOI **d m** RMW. PREV 0

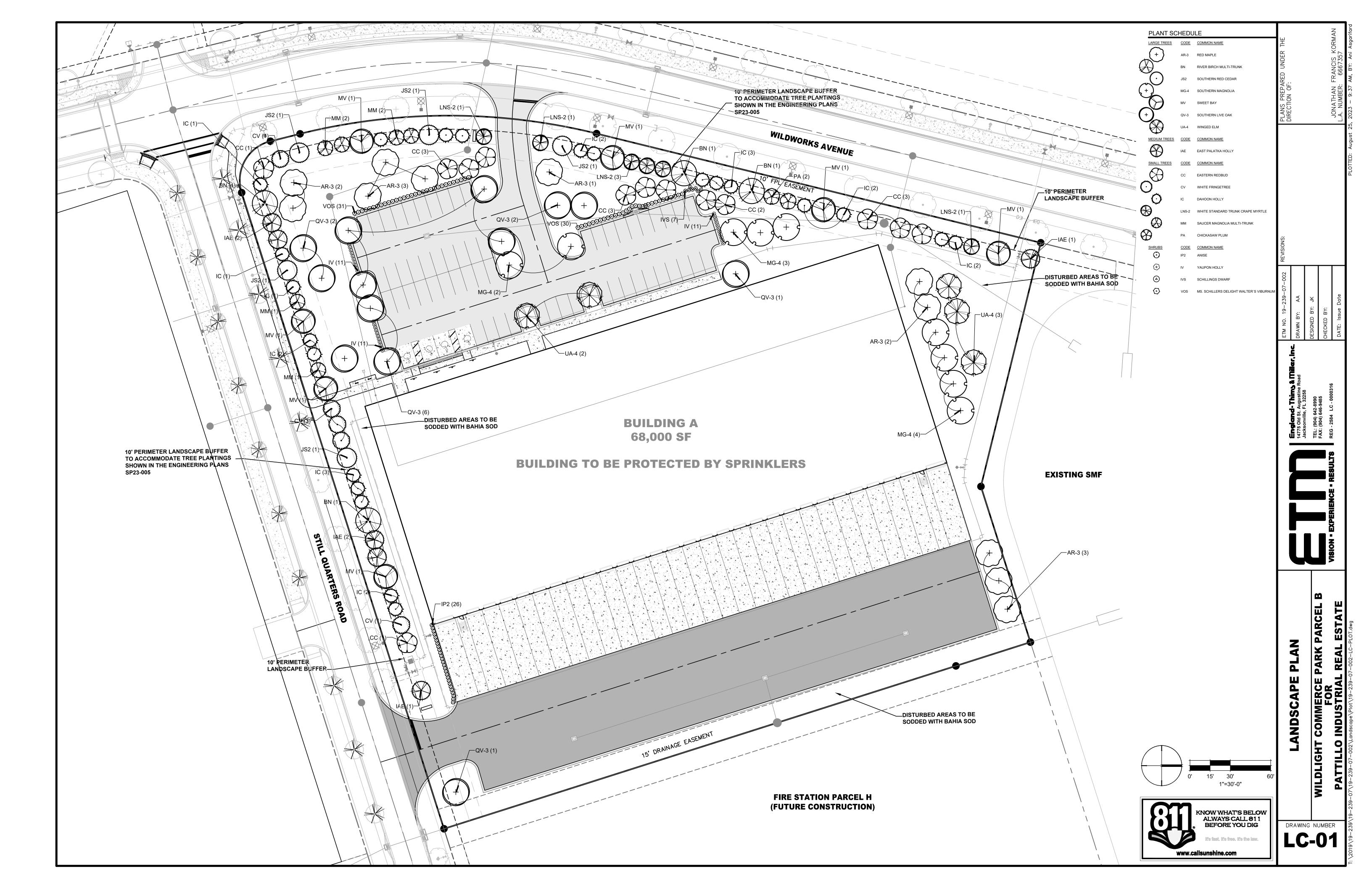
	LDLIGHT ( Storm Wate Inspection	LDLIGHT COMMERCE PARK PARCEL Storm Water Pollution Prevention Plan Inspection and Maintenance Report Form	E PARK N <i>Preven</i> Nance re	WILDLIGHT COMMERCE PARK PARCEL B Storm Water Pollution Prevention Plan Inspection and Maintenance Report form	
THIS IS POLLUTIC POLLUTIC PREVENT MUST BE	THE CONTRACTC ON DISCHARGE E FION PLAN FOR E COMPLETED W	DRS CERTIFICATION SYST CONSTRUCTION SEEKLY AND AFTEI	N REQUIRED E EM (NPDES), SITES OVER 5 R EVERY RAIN	THIS IS THE CONTRACTORS CERTIFICATION REQUIRED BY THE EPA'S NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), STORM WATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION SITES OVER 5 ACRES. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OVER 0.25 INCHES	IAL ITION CATION 25 INCHES
INSPECTOR:			1		
INSPECTOR'S QUALIFICATIONS: -	ZS:				
DAYS SINCE LAST RAINFALL:		AMO	AMOUNT OF LAST RAINFALL	RAINFALL	INCHES
		STABILIZATION MEASURES	EASURES		
INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED ? (YES/NO)	STABILIZED WITH	CONDITION
STABILIZATION REQUIRED:					
TO BE PERFORMED BY:				ON OR BEFORE	
		PAGE 1 OF 4			
		5			

MIL	DLIGHT COMM	WILDLIGHT COMMERCE PARK PARCEL B	EL B
37 T	Storm Water Poll Inspection and Mu	STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM SEDIMENT BASIN	AN ORM
DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT ?	CONDITION OF OUTFALL FROM SEDIMENT BASIN
MAINTENANCE REQUIRED FOR	FOR SEDIMENT BASIN:		
TO BE PERFORMED BY:		ON OR BEFORE	ORE
	OTHER STABILIZED CON	OTHER CONTROLS STABILIZED CONSTRUCTION ENTRANCE	
DOES MUCH SEDIMENT GET TRACKED ON TO ROAD ?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE ?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)
MAINTENANCE REQUIRED FOR	OR STABILIZED CONSTRUCTION ENTRANCE:	TION ENTRANCE:	
TO BE PERFORMED BY:		ON OR BEFORE	ORE
	PAGE 3	3 OF 4	

	WILDLIG Storm Inspe	WILDLIGHT COMMERCE PARK PARCEL B STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM	E PARK PARC N PREVENTION P ENANCE REPORT	IEL B IAN FORM
A TE:		EARTH DIKES/SWALES	SWALES	
DIKE OR SWALE	FROM	ТО	IS DIKE/SWALE STABILIZED ?	IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING
AINTENAN	AINTENANCE REQUIRED FOR EARTH DIKE/SWALE:	TH DIKE/SWALE:		
O BE PER	) BE PERFORMED BX:		ON OR BEFORE	EFORE
i !		CATCH BASIN/CURB INLET/OUTFALL	TURBIDITY	
RUCTURE OUTFALL	ARE TURBIDITY CONTROLS IN PLACE	ANY EVIDENCE OF CLOGGING/WASHOUT OR BYPASSING ?	ARE TURBIDITY CONTROLS IN NEED OF REPLACING	DOES SILT NEED TO BE REMOVED FROM AROUND CONTROL
AINTENAN	ICE REQUIRED FOR CATI	AINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS:	OUTFALLS TURBIDITY CO	NTROLS:
O BE PER	O BE PERFORMED BY:		ON OR BEFORE	EFORE
		PAGE 2 OF	F 4	

STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM
REQUIRED TO THE POLLUTION PREVENTION PLAN:
FOR CHANGES:
INDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTI- ISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY AND SYALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO





	PE CODE SUMMARY			NOTES ( SOUTH VIEW			NOTES / SSNEWNIE			NOTES / SSUELVES	<b> </b> #
REFERENCE	DESCRIPTION NOTES/ COMPLIANCE?	REFERENCE — ———	DESCRIPTION	NOTES/ COMPLIANCE?	REFERENCE	DESCRIPTION	NOTES/ COMPLIANCE?	REFERENCE	DESCRIPTION	NOTES/ COMPLIANCE?	_ Ā <del> </del>
Section 37.05. – 37.05.B	All installed trees, shrubs and groundcovers shall conform to the standards for Florida YES Grade #1 or better according to the current edition of "Grades and Standards for Nursery plants" published by the Florida	 37.05.D.1	A1A/S.R. 200, U.S. Highway 1 and U.S. 301. A strip parallel to the right—of—way line having an average width of twenty—five (25) feet and a minimum width of ten feet along the entire street frontage except for permitted driveways. This	N/A	37.05.E.1	At the intersection of two (2) streets, all landscaping within that area defined by the Florida Department of Transportation sight triangle, as outlined in the FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the	YES	37.05.H.3	Turf grass areas should be consolidated and limited to those areas on the site that receive pedestrian traffic, provide for recreational uses, provide soil erosion control such as berms, slopes and swales, where turf grass is used as a design unifier or other similar practical use.	YES	PREPARED UNDI
	Department of Agriculture and Consumer Services, Division of Plant Industry.  The minimum number of trees required by this section shall be either qualifying existing trees preserved on—site or more	_	perimeter landscaping strip shall contain a minimum of three (3) canopy trees per one hundred (100) linear feet of property frontage and three (3) understory trees	,		State Highway System shall be installed and maintained below three (3) feet in height or above eight (8) feet in height.  When a driveway intersects a right—of—way.	,	37.05.H.4	All planting areas shall be mulched with approximately three (3) inches of organic mulch, such as pine bark or shredded hardwood chips.	YES	PLANS DIRECT
37.05.B.1	than one species listed in Tables 37-1 or 37-2. new landscaping should not include more than fifty (50) percent of any one genus or twenty-five (25) percent of any one species. All trees shall be planted in a minimum dimension of ten (10) feet. This minimum planting area must be free of all		per one hundred (100) linear feet of property frontage. The canopy trees shall consist of more than one (1) species listed in Tables 37-1 or 37-2. Planted trees are not meant to be spaced evenly but rather randomly distributed by species.  Other arterial and collector roadways. All		37.05.E.2	clear unobstructed cross visibility shall be provided within the site triangle formed by such intersection. The sight triangle shall be measured from the point of intersection, fifteen (15) feet along the access way and then fifteen (15) feet along the right—of—way, with the third side	YES	Section 37.06	- BUFFERS BETWEEN CERTAIN USES  Medium and fast growing canopy trees shall be chosen from Table 37—1 having a dense, evergreen crown to provide maximum visual separation between	N/A	_
	pavement and vehicle overhang in order to prevent possible tree damage.  Shrubs shall have a minimum height of eighteen (18) inches when planted. When planted as a hedge, the maximum spacing is 30 inches on center. All shrubs used		other arterial and collector roadways, as identified by the comprehensive plan, shall provide a strip parallel to the right—of—way line having an average width of fifteen (15) feet and a minimum width of seven and one—half (7½) feet along the entire street frontage except for permitted	N/A		being a line connecting the two (2) points. Cross visibility within the sight triangle shall be unobstructed between the height of three (3) feet and eight (8) feet measured from the ground line. Trees and palms shall have their foliage trimmed in a manner that no limbs or foliage will		37.06.4.b	Shrubs shall be spaced to provide a natural appearance and inhibit free movement of pedestrian traffic except at a mutually agreed upon pedestrian connection. Where screening is proposed	N/A	_
37.05.B.2	for visual screening shall be of a plant species that is capable of reaching a height of four (4) feet within twenty—four (24) months under normal growing conditions. Shrubs used as accent ground cover and vines may vary in size depending on the type of plant material and the desired effect.		driveways. This perimeter landscaping strip shall contain a minimum of three (3) canopy trees per one hundred (100) linear feet of property frontage and three (3) understory trees per one hundred (100) linear feet of property frontage. The canopy trees shall consist of more than			extend in to the cross visibility area. To ensure proper visibility at the intersection of access ways with public rights—of—way, excluding properly trimmed trees as previously stated; only ground cover type plants shall be allowed within a sight triangle.		37.06.4.c	consisting of a fence or wall, shrubs are not required.  Where screening is required, it shall consist of one or more of the following materials: A five (5) foot masonry wall stuccoed on the side facing the abutting	N/A	-002 REVISIONS:
37.05.B.3	Groundcovers shall be planted in such manner as to present a finished appearance and complete coverage within one (1) year after planting.		one species listed in Tables 37-1 or 37-2. Planted trees are not meant to be spaced evenly but rather randomly distributed by species within the largest open spaces.		37.05.F.1	Except for one— and two—family dwellings, all off—street parking areas shall contain interior landscaping islands at a ratio of one (1) island for each ten (10) parking spaces. Rows of parking spaces abutting a	YES	-	property; A solid six (6) foot fence constructed of resistant materials such as vinyl, cypress or pressure treated wood; Existing dense vegetation; A berm three (3 feet in height located entirely within the buffer and having the requisite number of shrubs planted along the crown.		M NO. 19–239–07 WN BY: AA IGNED BY: JK
37.05.B	All tree planted shall be staked or guyed for a period of at least six (6) months in accordance with the adopted planting detail.	_	Local streets. A strip parallel to the street line having a minimum width of ten (10) feet along the entire street frontage except for permitted driveways. This perimeter landscaping strip shall contain a			sidewalk adjacent to a building are exempt from required landscape islands except for terminal islands at the end of each row.  Each separate interior landscaped island		_			ETA DRA DES
37.05.C.1	One and two-family dwellings. Each single-family and two-family lot must provide at least one (1) tree per three thousand (3,000) square feet of lot area for the first quarter acre of lot area. For	- 37.05.D.3	minimum of two (2) canopy trees per one hundred (100) linear feet of property frontage and three (3) understory trees per one hundred (100) linear feet of property frontage. The canopy trees shall consist of more than one species listed in	YES	37.05.F.2	shall contain a minimum of one hundred sixty—six (166) square feet and shall be at least ten (10) feet wide as measured from back of curb. A minimum of one (1) canopy tree shall be planted in each interior landscaping island.	YES	_			<b>4- Thims &amp; Millo</b> Augustine Road FL 32258 2-8990 6-9485
37.03.0.1	lots exceeding one—quarter (¼) acre, one (1) tree for every additional one—quarter (¼) acre, or major fraction thereof, must be preserved or planted. Existing canopy trees, sabal palms and pine trees may be used to satisfy this requirement, in whole or in part, provided that they have a	37.05.D.5	Tables 37-1 or 37-2.  Except for one— and two—family dwellings, all off—street parking areas, drive aisles, and paved storage areas lying within fifty (50) feet of, and visible from any street right—of—way, the perimeter landscaping	N/A	37.05.H.2	Fifty (50) percent of the plants used in all vehicular use area landscape designs should be drought tolerant and located in groupings according to zones designated by the water requirements.	YES	_			<b>England-1</b> 14775 Old St. Au, Jacksonville, FL TEL: (904) 642-89 FAX: (904) 646-9
	minimum caliper of four (4) inches DBH. When trees are planted to meet the minimum requirement they must be more than one species of tree listed in Tables 37-1 or 37-2 and meeting the material standards of this section. The foregoing represent the entire requirement applicable to individual one and two-family dwellings.		requirement of this section shall also include shrubs  Dumpsters and mechanical equipment shall be screened through the use of a wall, which is one hundred (100) percent opaque in conjunction with landscaping.  Minimum landscaping shall include one (1) shrub every two (2) feet. The shrub shall		37.05.K	The property owner is responsible for the maintenance of all landscape areas required by this section. Maintenance includes irrigating, mowing, trimming, fertilizing and carrying out those activities necessary to keep the plant material in a healthy and growing condition, maintain visual clearance and allow passage of vehicles and pedestrians on public roads	YES				
37.05.C.2	Multi-family, mobile home park and travel trailer parks. In addition to the use buffer and perimeter landscaping adjacent to a right-of-way requirements found in this section, each multi-family, mobile home park and travel trailer park must plant or preserve an additional one tree for every two (2) dwelling units. When trees are planted to meet the minimum requirement they must be more than one species of	 37.05.D.6	be maintained at a minimum of four (4) feet in height. One (1) canopy tree or understory tree per ten (10) linear feet of wall or fence unless said fence or wall is less than eight (8) feet in length. Where a transformer pad is located along a public right—of—way, it shall be screened using a hedge meeting the standards of section 37.05.B.2 of this Code along the sides visible from the right—of—way.	N/A	37.05.K.1	Upon determination by the county that a required tree or plant is dead or severely damaged or diseased, the tree or plant shall be replaced by the owner with plant material meeting the requirements of this section.	YES	_			U
	tree listed in Tables 37-1 or 37-2 and meeting the material standards of this section.  Non-residential developments. In addition to the buffer and perimeter landscaping		Use of understory trees (ref. Table 37-4 LDC) are permitted in lieu of native canopy trees listed in Table 37-1 and 37-2 as determined to be practical by the director of planning and economic		37.05.K.2	All buffer areas required as part of a development plan, whether in common or private ownership, shall be the responsibility of that development's property owners' association. Where there is no	YES	-			ARY RCEL B
37.05.C.3	adjacent to a right-of-way requirements found in this section, each commercial and/or industrial development must provide a minimum of ten (10) percent of the lot or parcel as pervious green space planted	37.05.D.7	opportunity or designee because of overhead utility lines or other overhead restrictions that cannot otherwise be mitigated through design modifications.  Understory trees may be permitted at a rate of one (1) tree for every fifteen (15)	YES		property owners' association, such landscaped areas shall be the responsibility of the property owner.  Trees on developed properties may be	,	-			SUMMA ARK PAR
	with one or more species of tree listed in Tables 37—1 or 37—2 for every five hundred (500) square feet of such green space.		feet of site/lot frontage along the right—of—way or street. At the time of planting, Crape Myrtles shall be a minimum of eight (8) feet in height and measure three (3) caliper inches if a single trunk		37.05.K.3	pruned to maintain shape and promote their shade—giving qualities. They should be pruned to remove diseased or dying portions in areas where falling limbs could be a hazard to people or property. Lower					ODE
37.05.D	The use of a wall or fence is permitted provided the wall or fence is located on the inner most boundary (behind the vegetation as viewed from outside the development) of the perimeter landscaping adjacent to rights—of—ways/streets, required uncomplimentary land use buffer or other landscaped area.	37.05.D.10	or an aggregate of six (6) inches if a multi—trunk.  Back flow preventer(s) and lift stations shall generally be to the side or rear of a building. Where they cannot be placed at the side or rear of a building, it shall be screened from public rights—of—way through the use of shrubs planted as a hedge meeting the standards of section 37.05.B.2 of the Code.	YES		limbs may be removed to provide clearance. In addition, trees located in association with vehicular use areas shall also be pruned to allow a seven—foot clearance from ground level to avoid potential for damage or injury to pedestrians and cleared to thirteen (13) above pavement level for vehicles. However, the excessive pruning or pollarding of trees into round balls of crown or branches resulting in an unnecessary reduction of shade is prohibited and may require supplemental plantings. All pruning shall be done following the American National standard for Tree Care Operations "Tree, Shrub and Other Woody Plant Maintenance — Standard Practices."					LANDSCAPE C
											DRAWING NUM

### **NASSAU COUNTY CODE REQUIREMENTS:**

PROTECTED TREE PRESERVATION/REPLACEMENT

Not required: the Development area is under an active silviculture permit

### PERIMETER LANDSCAPING BUFFER

Local streets. A strip of pervious land adjacent and parallel to the street line having a minimum width of ten (10) feet along the entire street frontage except for permitted driveways. This perimeter landscaping strip shall contain a minimum of two (2) canopy trees per one hundred (100) linear feet of property frontage and three (3) understory trees per one hundred (100) linear feet of property frontage. The canopy trees shall consist of more than one species listed in Tables 37-1 or 37-2 and meeting the material standards of this section.

10' perimeter landscape buffer provide along Wildworks Avenue and STILL QUARTERS ROAD.

Linear feet of property frontage: 1,025.42 Provided: 21 Trees Canopy Tree Required: 21 Trees Understory Tree Required: 31 trees Provided: 31 Trees

### **REQUIRED SCREENING**

Except for one— and two-family dwellings, all off-street parking areas, drive aisles, and paved storage areas lying within fifty (50) feet of, and visible from any street right-of-way, the perimeter landscaping requirement of this section shall also include shrubs planted as a hedge meeting the requirements of section 37.05.B.2 LDC.

### NON RESIDENTIAL DEVELOPMENT

In addition to the buffer and perimeter landscaping adjacent to a right-of-way requirements, each commercial and/or industrial development must provide a minimum of ten (10) percent of the lot or parcel as pervious green space planted with one (1) or more species of tree listed in Tables 37-1 or 37-2 for every five hundred (500) square feet of such green space.

Parcel Area less perimeter strips : 211,014 SF Pervious Green Area Required: 21.101 SF Number of Trees Required: 43 Trees

Provided: 63.682 SF Provided: 45 Trees

### **INTERIOR LANDSCAPING REGULATIONS:**

1.Except for one— and two—family dwellings, all off—street parking areas shall contain interior landscaping islands at a ratio of one (1) island for each ten (10) parking spaces. Rows of parking spaces abutting a sidewalk adjacent to a building are exempt from required landscape islands except for terminal islands at the end of each row. Such landscaped areas are creditable to the minimum landscape requirements for multi-family, mobile home park, travel trailer park and non-residential developments.

2.Each separate interior landscaped island shall contain a minimum of one hundred sixty—six (166) square feet and shall be at least ten (10) feet wide as measured from back of curb. A minimum of one (1) canopy tree shall be planted in each interior landscaping island with the remaining area adequately planted with shrubs, ground cover, or other approved landscaping materials.

3.All interior landscaping shall be protected from vehicle encroachment by curbing or wheel stops.

4.Interior landscaping shall be located in a manner, which will divide or interrupt the broad expanse of paving. Landscaped areas shall subdivide rows of parking spaces into a maximum of ten (10) consecutive spaces. Each group of ten (10) shall have terminal islands at each end. This maximum may be adjusted to provide for the preservation of existing canopy trees.

### SECTION 37.06. - BUFFERS BETWEEN CERTAIN USES

Compatibility buffer is not required between internal parcels within PDP2.

### **NASSAU COUNTY NOTES:**

- 1) ALL PLANTS WILL BE FULLY IRRIGATED AS PER 37.05(G)(1).
- 2) ALL TREES PLANTED WILL BE STAKED OR GUYED FOR A PERIOD OF AT LEAST 6 MONTHS AS PER 37.05(B)(2).
- 3) THE PROPERTY OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS, INCLUDING IRRIGATION, MOWING, TRIMMING, FERTILIZING, & CARRYING OUT THE ACTIVITIES TO KEEP THE PLANT MATERIAL IN A HEALTHY AND GROWING CONDITION, MAINTAIN VISUAL CLEARANCE, & ALLOW PASSAGE OF VEHICLES & PEDESTRIANS ON PUBLIC ROADS & NON-EXCLUSIVE EASEMENTS AS PER 37.05(J).

### QUERCUS VIRGINIANA SOUTHERN LIVE OAK SIZE AS NEEDED 3" CAL. 12-14` HT. X 5` SPD. SIZE AS NEEDED ULMUS ALATA WINGED ELM 4"CAL 14-16` HT X 6` SPD COMMON NAME FAST PALATKA HOLLY BOTANICAL NAME ILEX X ATTENUATA 'EAST PALATKA' CONT SIZE AS NEEDED COMMON NAME EASTERN REDBUD CONT SIZE AS NEEDED CHIONANTHUS VIRGINICUS WHITE FRINGETREE SIZE AS NEEDED 2" CAL. SIZE AS NEEDED 22 ILEX CASSINE DAHOON HOLLY 2" CAL. 10-12` HT. X 3-4` SPR LAGERSTROEMIA X 'NATCHEZ' WHITE STANDARD TRUNK CRAPE MYRTLE SIZE AS NEEDED 2" CAL. 10'-12' HT X 3'-4' SPD MAGNOLIA X SOULANGEANA SAUCER MAGNOLIA MULTI-TRUNK SIZE AS NEEDED 4" CAL., MT 8-10` HT X 4.5` SPD PRUNUS ANGUSTIFOLIA CHICKASAW PLUM SIZE AS NEEDED 1"CAL 5'-6' HT. X 3' SPD.

CONT SIZE AS NEEDED

3 GAL.

CONT 3 GAL., 24" HT. X 18" SPR., SPACING AS SHOWN

SCALE: NTS

24" SETBACK FOR SHRUBS PLANTED

COMMON NAME RED MAPI E

RIVER BIRCH MULTI-TRUNK

SOUTHERN RED CEDAR

SOUTHERN MAGNOLIA

SWEET BAY

COMMON NAME

YAUPON HOLLY

61 VIBURNUM OBOVATUM 'MS. SCHILLER'S DELIGHT' MS. SCHILLERS DELIGHT WALTER'S VIBURNUM 3 GAL., 18" MIN. HT

SCHILLINGS DWARF

	LANDSCAPING	G CALCULAT	IONS		
em			Square Feet	Acres	Percentage
		Gross Site Area	221,268	5.08	100%
	Total building Area		68,000		31%
Total Impervious	Total Paved Area	Asphalt Concrete	52,757 26,576		24% 12%
Surface Calculations	Total Surface Area of Stormwater Pond a	at Top of Bank	0		0%
	Jurisdictional Wetlands		0		0%
	TOTAL IMPERVIOUS SURFACE >>>		147,332	•	67%

PLANT SCHEDULE

QTY BOTANICAL NAME

22 ILEX VOMITORIA

ILEX VOMITORIA 'SCHILLINGS'

BETULA NIGRA

JUNIPERUS SILICICOLA

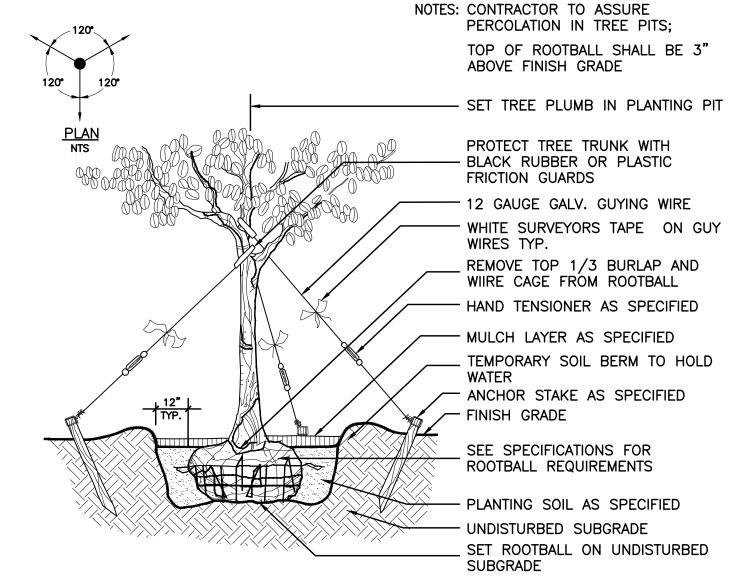
MAGNOLIA VIRGINIANA

9 MAGNOLIA GRANDIFLORA `D.D. BLANCHARD` TM

LARGE TREES

Area of Perimeter		Length	Avg. Width	Square Feet
Landscape Strip (s) -	A1A; US-1; US-301 - 25' Average Width	0	25	0
37.05.D	Arterial/Collector - 15' Average Width	0	15	0
37.03.D	Local Road - 10' Width	1025.42	10	10,254
	Total Perimeter Strip Area >>>			10,254

Open Space Calculations		Square Feet	Required Open space Trees	Provided Open Space Trees Requirements [including Uncomplimentary Land Use Buffer and Interior Landscaping (37.05.F LDC)]
37.05.C	Gross Site Area	221,268		
	Site Area Less Perimeter Strip(s)	211,014		
	Required Open Space	21,101	43	
	Provided Open Space	63,682	<b>4</b> 5	



LARGE TREE PLANTING DETAIL (4" CALIPER AND LARGER)

<u>DETAIL</u> <u>REMARKS</u>

DETAIL REMARKS

DETAIL REMARKS

MULTI-TRUNK 2" PER TRUNK NATIVE

NATIVE

NATIVE

NATIVE

NATIVE

NATIVE

NATIVE

NATIVE

NATIVE

<u>SIZE</u> 14` HT. X 6` SPD.

16' HT. X 6' SPD.

12-14` HT. X 5` SPD

8-10` HT., 4-5` SPRD MIN.

6" CAL., MT 12-14` HT X 6` SPD

4"CAL

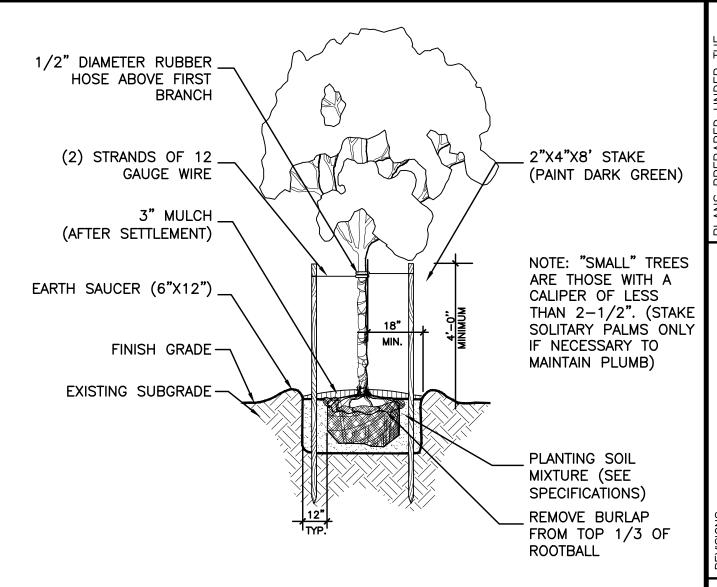
SPACING

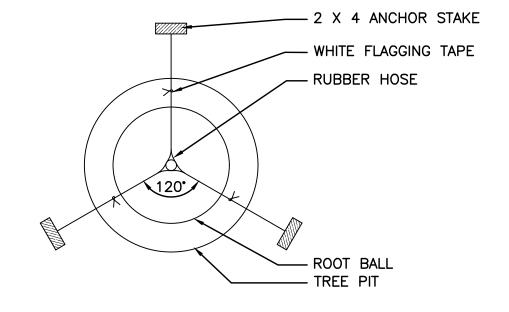
30" O.C.

30" O.C.

30" O.C. 18" MINIMUM HT

18" MINIMUM HT





# NASSAU COUNTY TREE PLANTING DETAIL

SCALE: NTS

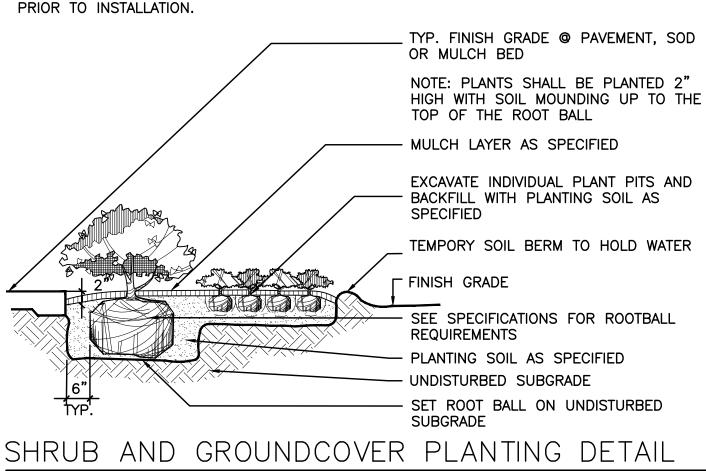
### **CANOPY TREES PLANTED**

25

QUANTITY	COMMON NAME	TYPF	NATIVE	PERCENT OF
QUANTITI	COMMON NAME	111 -	INATIVE	TREES
11	Red Maple	Canopy	Υ	12.4%
4	River Birch	Canopy	Υ	4.5%
5	Southern Red Cedar	Canopy	Υ	5.6%
9	Magnolia	Canopy	Y	10.1%
7	Sweet Bay Magnolia	Canopy	Y	7.9%
13	Live Oak	Canopy	Υ	14.6%
5	Winged Elm	Canopy	Y	5.6%
12	Red Bud	Canopy	Y	13.5%
23	Dahoon Holly	Canopy	Y	25.8%
	•			<u>.</u>
89				

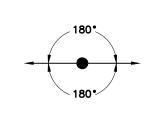
WHEN GROUNDCOVER AND SHRUBS ARE USED IN MASS, PREPARE ENTIRE BED TO RECEIVE PLANTING SOIL AND PLANT MATERIAL AS SPECIFIED.

CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS

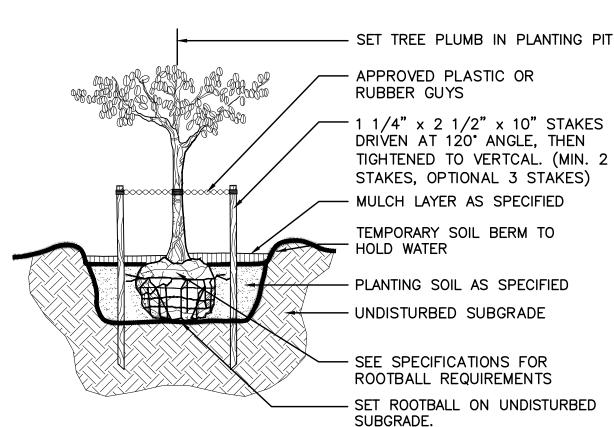


OPPOSITE PARKING SPACES W.O. WHEEL -PROVIDE MIN. 18" SPACING BETWEEN DIFFERENT PLANT TYPES ALL SHRUBS AND GROUNDCOVER MASSES TO USE TRIANGULAR SPACING EXCEPT IN SMALL RECTANGULAR AREAS; REFER TO PLANT LIST FOR INDIVIDUAL PLANT SPACING CURB OR EDGE OF PAVEMENT 'X' = ON CENTER SPACING SEE PLANT → MIN. SETBACK THE PERIMETER OF ALL CURVED PLANTING BEDS SHALL BE PLANTED WITH A ROW OF SHRUBS AS SHOWN IN THE PLANS AND AT THE SPACING SHOWN IN THE PLANT LIST. INTERIOR PORTIONS OF EACH BED SHALL BE PLANTED AT APPROPRIATE SPACING ACCORDING TO THIS PLANT SPACING DETAIL ABOVE. 18" MIN. SETBACK FOR SHRUBS BED LINE 12" MIN. SETBACK FOR GROUNDCOVERS

AND GROUNDCOVER SPACING DETAIL



USE 1 1/4" x 1 1/4" x 4' STAKES FOR TREES 1/2" TO 1 1/4" CALIPER OTHER TREE STAKING SYSTEMS MAY BE ACCEPTABLE IF APPROVED.



TREE PLANTING DETAIL (1" TO 3-1/2" CALIPER)

UNDERST	ORY TREES PLANTED			
QUANTITY	COMMON NAME	TYPE	NATIVE	PERCENT OF
QUANTITI	COMMON NAME	1117 L	IVATIVE	TREES
5	White Fringe Tree	Understory	Υ	20.0%
6	Crape Myrtle	Understory	N	24.0%
6	Saucer Magnolia	Understory	Ν	24.0%
6	East Palatka Holly	Understory	Υ	24.0%
2	Chickasaw Plum	Understory	Υ	8.0%

DE CALCULATIONS NOTES CODE ND NC

100.0%



KNOW WHAT'S BELOW ALWAYS CALL 81 I

ANDSC/ DRAWING NUMBER LC-03