UTILITY PERMIT

PERMIT NO: 2019-H-294-00051

STATE ROAD INFORMATION

12202000 1.000 1.000 1.000	County: Duval	Section: 72292000	State Road No: SR 202	Beginning Mile Post: 4.006	Ending Mile Post: 4.006
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APPLICANT INFORMATION

Builder make a joint p	vner (UAO) shall be identified in this Applicant Information applicant, as prescribed in Section 2.1(4) of the identificant Information Box. A Utility Builder alone cannot be applied to the control of	e 2017 Utility Accommodati	on Manual (UAM), the Utility Builder shall also be		
Ţ	Itility Agency/Owner (UAO)	Utility Builder (only	y applicable when the UAO is a City or County)		
Name: JEA (Elizabeth DiMeo)					
Contact Person:	JEA (Elizabeth DiMeo)	Contact Person:			
Address: 2	21 W. Church Street T-4	Address:			
City:	Jacksonville	City:			
State: F	Florida	State:			
Zip: 3	32202_	Zip:			
Telephone:	9046658139	Telephone:			
Email: <u>C</u>	dimeea@jea.com	Email:			
below and as depicted The project main connect electric tra 202) and con corridor nor boring insta	For FDEP certification, the FDOT agency	a 24-inch wastech force main so south of J. Turn ch force main so 1 (near Town Cel or the J. Turne e)	ewater transmission force tub-out in the JEA ner Butler Boulevard (SR tub-out in the JEA T-Line nter Parkway). An auger		
	TRAFFIC CO	UNIKOL (ICP)			
■ The TCP will comp	ly with the following 600 series index(es) 600				
	ached and incorporated into this permit application in	compliance with UAM Sec	tion 2.4.2.		
MOT Technician's con	ntact information (may be supplied at the two (2) busing	ness day notification to FDC	T): Email:		
	COMMENCE	MENT OF WORK			
the beginning date is n Approving Engineer lis	y Builder shall commence actual construction in good nore than sixty (60) calendar days from the date of a sted to make sure no changes have occurred to the tra shall make good faith efforts to expedite the work and	pproval, the UAO and/or Ut insportation facility that wou	ald affect the permit's continued approval. The UAO		
Anticipated Start Date:	5/1/2019				
Calendar days needed t	0.40		Approved		
			2010 H 201 000		

Florida Department of Transportation

UTILITY PERMIT

PERMIT NO: 2019-H-294-00051

APPLICANT SIGNATURE

	APPLIC	LANI SIGNATURE			
shown in plans and incorpora instructions incorporated into aerial and underground, are a declares that a letter of notific	ated documents, in compliance with the U. this permit. The UAO and/or Utility Buil accurately shown on the plans of the work	construct, operate, and maintain the work as noted in the above Work Description, AM, all instructions noted in the FDOT Special Instructions Box, and special Ider declares, the location of all existing utilities that it owns or has an interest in, both areas. In accordance with UAM Section 2.8, the UAO and/or Utility Builder further or facilities within the work areas and that those listed below are the only facility work.			
Date Notified:	Name of other facility owners (attach a	additional sheets if necessary).			
1/25/2019	<i>y</i> (<i>y</i>)				
1/25/2019 AT&T					
1/20/2010	711011				
Ut	tility Agency/Owner	Utility Builder (when applicable)			
	, , ,				
g:ELIZABETH DIMEO	(digital signature) Date: 1/25/2019	Signature. Date:			
		Signature: Date:			
Name (printed): ELIZAB	ETH DIMEO	Name (printed):			
Title:		Title:			
		-			
	FDOT PRO	JECT INFORMATION			
December HAM Continue 2		ojects listed below and must have a Utility Work Schedule for each project approved			
There are NO FD This work is NO	OT constructións (propo T related to an approv	osed or underway). ed Utility Work Schedule.			
		CIAL INSTRUCTIONS			
Contact Richard of two (2) busi schedule a pre-	Harvey, Maintenance Maness days prior to sta construction meeting.	nd attached special instructions into this permit. anager Permits at (904) 360-5376, a minimum rting work within FDOT Right of Way to Be advised that a pre-construction meeting rior to any work commencing within FDOT			
	Additional EDOT	Γ Special Instructions are attached and incorporated into this permit. Yes ☐ No ☑			
	Additional FDO	a special instructions are attached and incorporated into this permit.			
	PERM	MIT APPROVAL			
in compliance with the UAN		y Builder to construct, operate, and maintain the utilities indicated in this Utility Permit al instructions. Any changes to the approved work must be approved by the FDOT's accordance with UAM Section 2.11.			
Approving Engineer: Julia	ın Mckinley (digital signatur	e) _{Date:} 3/4/2019			
11 0 0	n Mckinley				
	TENANCE PROGRAM ENGIN	EER			
Notification of Utility Work		(904) 360-5376 ext or Email: richard.harvey@dot.state.fl.us			
Nonneation of Others Work					
Dichard	I lamias i	quired to be present on the worksite prior to commencement of work. Yes No			
Rep. Name: Richard	Harvey Telephone	9043605376 Email: richard.harvey@dot.state.fl.us			

Florida Department of Transportation

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CERTIFICATION

documents, and special instructions. Pursuant to UAI	M Section 2.11, all changes have been	structed and inspected in compliance with the UAM all incorporated en approved by the FDOT's Approving Engineer and incorporated plans changes, as-built plans or other required documentation.
I also CERTIFY that work began on than when the work began.	and was completed on	and that the area was left in as good or better condition
Utility Agency/Owner		Utility Builder (when applicable)
Signature: Date		rre:Date
Name (printed):	Name (p	rinted):
Title:	Title: _	
☐ The work was inspected and found to be in nor		
	l inspection does not release the UAC	or FDOT has no outstanding issues that need to be addressed by the D and/or Utility Builder of their continuing responsibilities pursuant
FDOT Inspector:	Date:	
Name:		
Title:		

The complete Work Description could not fit in the space allotted on Page 1 of the Utility	y Permit so it is displayed below.
Work Description	
The project includes the installation of a 24-inch wastewater transmission force force main stub-out in the JEA electric transmission corridor (T-Line) south of J. connecting to an existing 36-inch force main stub-out in the JEA T-Line corridor Town Center Parkway). An auger boring installation method is proposed for the The purpose of the force main is to provide additional capacity in the St. Johns	. Turner Butler Boulevard (SR 202) and r north of JEA Pump Station #S1151 (near e J. Turner Butler Boulevard (SR 202) crossing
	Approved

All construction shall be performed in accordance with the approved plans and comply with all standard city policies and practices. City approval is contingent upon any required state or federal permit approvals such as those from the Department of Environmental Protection or the St. Johns River Water Management District (SJRWMD).

UTILITY WORK

Plan approval through Development Services does not include utilities. Proposed water, sewer or electric construction must be approved separately through the respective utility company. In most cases, this will be:

JEA JEA Tower - 4th Floor 21 W. Church Street Jacksonville, FL 32202

WORK WITHIN THE RIGHT-OF-WAY

CITY: Except for new subdivision infrastructure construction, all work performed within a City of Jacksonville right-of-way or easement requires a Right-of-way Permit. The contractor performing the proposed work must have a current Right-of-way Bond on file with Development Services. Right-of-way Permit applications are processed at:

Edward Ball Building, 2nd Floor Jacksonville, FL 32202

STATE: All work performed within a state right-of-way requires a permit from the Florida Department of Transportation (FDOT). It is the developer's responsibility to obtain required FDOT permits or maintenance-of-traffic approvals for work within FDOT right-of-ways. The FDOT regional office can be contacted at (904) 360-5200 Any changes to the approved plans needed for FDOT approval must be submitted to Development Services as revisions.

(904) 255-8572

http://row.jaxdev.info

RAILROAD: Railroad companies may require special approvals or permits to work within their right-of-ways. It is the developer's responsibility to obtain permission from any railroad right-of-way owner before performing any work within their right-of-way.

STORMWATER

Annual reports in compliance with the SJRWMD stormwater permits are required from the maintenance entity of all stormwater management facilities. Send copies of the reports to: Edward Ball Building, 10th Floor 214 N. Hogan St.

The owner of any project one (1) acre or larger is required to provide a Notice of Intent (NOI) in accordance with criteria set forth in the city's NPDES permit within 48 hours of beginning construction. Send NOI and NOI fee to:

NPDES Stormwater Notices Center, Mail Station #2510 2600 Blair Stone Road Tallahassee, Florida 32399-2400

The contractor shall contact the Environmental Quality Division, Erosion and Sedimentation Control Section (ESC) to provide verification that applicable stormwater permits have been obtained and to schedule a pre-construction ESC site inspection:

Environmental Quality Division 407 North Laura Street, Third Floor

(904) 255-7222

FIRE MARSHALL

Plan review and approval does not relieve the contractor of complying with all applicable State Fire Codes

Underground mains and hydrants shall be installed, completed, and in service prior to construction work.

Underground contractor shall submit to the Fire Marshall for approval complete specs for all underground pipe and fittings relating to fire protection PRIOR to installation and inspection. Contractor shall include manufacturer's name and pipe ID along with contractor's state license number.

LANDSCAPE

A Site Work Permit is required for this proje	ect.		
Tree Fund payment is due:	inches at \$	= \$	
Article 25 funds are due:	inches at \$	= \$	

TRAFFIC ENGINEERING

TRAFFIC	SIGNS			
Metro Name		\$55.00	ea.	
Standard		\$55.00	ea.	
Stop/Yield		\$55.00	ea.	
Design		\$55.00		
Installation		\$55.00	/hr.	
		TOTAL		
Streetligh	ts Required			

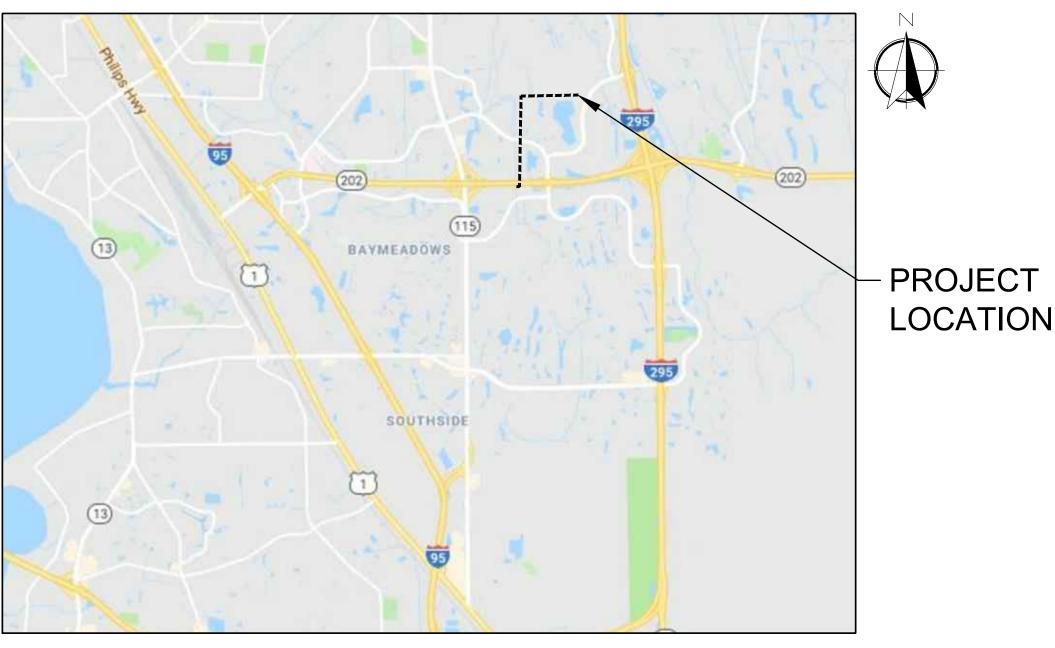
installation, the developer must pay the for the signs at the current costs. The above total assumes the subdivision will be platted as one phase. If the development is platted as separate phases, design and installation will be calculated separately for each phase.

No lane closures allowed from 7 a.m. till 9 a.m. and from 4 p.m. till 6 p.m.

CONSTRUCTION DRAWINGS FOR

T-LINE - JTB TO TOWN CENTER PARKWAY- TRANSMISSION FORCE MAIN

JEA PROJECT NO.: 8004196



VICINITY MAP

PREPARED BY:

JACOBS[®] JACOBS PROJECT No. EEXJ0300 200 W FORSYTH STREET, SUITE 1520 JACKSONVILLE, FL 32202 TEL.: (904) 636-5432 FAX: (904) 636-5433

COA # 2822

IFB BID NO.: BID DUE DATE: TIME OF RECEIPT: TIME OF OPENING: BID PLACE:

PREPARED FOR:

Building Community_{sm}

M D, 2019 (Tuesday)

12:00 PM 2:00 PM

21 W. CHURCH ST. TOWER LOBBY, SUITE 103 JACKSONVILLE, FL 32202

JANUARY 2019

PLAN APPROVAL

Development Services Division (Chief) Review Group (Reviewer) Plan approval is valid for five years after the initial approval date. Revisions made after the initial approval date do not

extend this five-year time frame.

PLAN APPROVAL IS SUBJECT TO THE

FOLLOWING NOTES AND CONDITIONS:

GENERAL PROJECT INFORMATION

<u>GENERAL</u>	
City Development Number	4161.271
Concurrency Application Number	N/A
Property Appraiser Number (RE #)	N/A
Zoning Designation	PUD, RMD-D, RLD-60
PUD Ordinance Number	1994-1121-1352; 1998-0769-E
FIRM – Community – Panel	12031 C0393 H
Flood Zones (Show in Plans)	X, AE
Base Flood Elev. (Show in Plans)	33 FT
Vertical Datum Used for Project	NAVD 88
JEA Availability Number	N/A
SUBDIVISION	
PSD Number	N/A
City or Private Inspection	N/A
Public or Private Roads	N/A
Subdivision ("911") Disk Provided?	N/A
NON-SUBDIVISION	
North American Industry	
Classification System (NAICS)	2371
Impervious Area (Sq. Ft.)	0

TRANSMISSION FORCE MAIN

STANDARD DRAWINGS ARE APPLICABLE

IN ORDER TO REDUCE THE DISRUPTION AND COST OF UTILITY DAMAGES OCCURRING IN THE DUVAL COUNTY

DRILLING, VERIFICATION SHALL TAKE PLACE PRIOR TO MOBILIZATION OF THE DRILLING EQUIPMENT.

RIGHT-OF-WAY AND EASEMENTS, THE CONTRACTOR SHALL PREVENT DAMAGES TO EXISTING UTILITIES CAUSED BY

EXCAVATION, VERIFICATION MAY BE PERFORMED DURING THE CONTRACTORS WORK. IN THE CASE OF DIRECTIONAL

HIS WORK THROUGH FIELD VERIFICATION OF THE LOCATION OF THE EXISTING UTILITIES. IN THE CASE OF OPEN

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

CITY OF JACKSONVILLE PUBLIC WORKS DEPARTMENT TRAFFIC ENGINEERING DIVISION PAVEMENT MARKINGS STANDARDS:

PAVEMENT MARKINGS SHOULD BE PLACED AS SHOWN ON THE PLANS AND DETAIL SHEETS.

SURVEY AND LOCATE DATA:

2. ELEVATIONS ARE BASED ON N.A.V.D. 1988.

SERVICES SHALL BE VERIFIED IN THE FIELD

BENCHMARK DATA:

LOCAL REGULATIONS.

ANY SOLVENT NOTED.

1. ALL ELEVATIONS ARE BASED ON U.S.C.&G.S. DATUM AND SHOWN IN FEET.

ALONG THE CENTER LINE OF FORCE MAINS AND WATER MAINS.

1. CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS

CONSTRUCTION PER THEIR RESPECTIVE PERMIT CONDITIONS.

CONSTRUCTION OF FACILITIES IN THEIR RESPECTIVE AREAS.

□ 🕱 10. CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.

EXISTING UTILITY PROTECTION:

USE SMALLER EQUIPMENT IF NECESSARY.

POLLUTION PREVENTION PLAN.

□ 🗶 8. TREE PROTECTION SHALL BE IN ACCORDANCE WITH JACKSONVILLE ORDINANCE CODE 656 AND/OR AS

□ 🛣 9. THE CONTRACTOR SHALL LOCATE THE DRAINAGE INLET STRUCTURES IN THE PROJECT AREA AND ERECT

MANAGEMENT DISTRICT SHOULD DEWATERING ACTIVITIES BE REQUIRED.

3. LOCATION OF EXISTING UTILITIES OBTAINED BY SOFT DIG LOCATES WHERE SHOWN ON PLANS, OR INCLUDED WITH BID SPECS.

5. UNDERGROUND UTILITIES WERE LOCATED UTILIZING GROUND PENETRATING RADAR (GPR) AND A DIGITAL LOCATOR. CONTRACTOR

6. ALL PIPE LENGTHS SHOWN ON PLAN AND PROFILES ARE FROM CENTER TO CENTER OF MANHOLES, CATCH BASINS, INLETS ETC. OR

8. THE LOCATION OF ALL EXISTING SEWER AND WATER SERVICE LINES MAY NOT BE INDICATED ON THESE PLANS. THE LOCATION OF NEW

7. INVERT ELEVATIONS SHOWN ON DRAWINGS REFER TO THE CENTERLINE OF MANHOLES, UNLESS OTHERWISE INDICATED.

SHALL BE AWARE THAT IN SOME CASES UTILITIES HAVE BEEN LOCATED, AND SURVEY HAS BEEN COMPLETED ONLY ON ONE SIDE OF

4. EXISTING WATER AND SEWER LINES ARE SHOWN AS PER FIELD LOCATES AND SUBDIVISION AS-BUILT PLANS.

PERMIT REQUIREMENTS (NOT ALL INCLUSIVE):

2. CONTRACTOR SHALL NOT OPEN CUT STREETS IN THE PROJECT AREA UNLESS SPECIFICALLY SHOWN ON PLANS

4. THE DEPARTMENT OF TRANSPORTATION, RAILROAD COMPANIES AND C.O.J. ARE TO BE NOTIFIED IN ADVANCE OF

□ 🛣 6. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES

7. THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY CONTACT PERSONNEL NOT LESS THAN ONE WEEK PRIOR TO

DETAILED ON SPECIFIC PLAN SHEETS. NO TRIMMING OF OVERHANGING TREE LIMBS WILL BE ALLOWED.

SEDIMENTATION CONTROL DEVICES AS NECESSARY PER THE CITY OF JACKSONVILLE STORMWATER

3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CONSUMPTIVE USE PERMIT (C.U.P.) THROUGH THE ST. JOHNS WATER

5. ALL WORK SHALL BE IN ACCORDANCE WITH BID DOCUMENTS, JEA WATER AND SEWER STANDARDS, DETAILS AND MATERIALS

MANUAL, REV. 01/17. AND CITY OF JACKSONVILLE STANDARD SPECIFICATIONS AND DETAILS AND ALL APPLICABLE STATE AND

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

- 2. ANY REQUIRED TEMPORARY MARKINGS MUST BE IN PLACE BEFORE OPENING LANES OF TRAFFIC, PAY ITEMS FOR TEMPORARY PAVEMENT MARKINGS ARE TO BE INCLUDED IN THE TABULATION OF QUANTITIES.
- 3. THE REMOVAL OF EXISTING PAVEMENT MARKINGS WILL BE CONSIDERED AN INCIDENTAL ITEM WITH NO ADDITIONAL COMPENSATION PROVIDED.
- 4. ALL PERMANENT PAVEMENT MARKINGS SHALL BE EXTRUDED THERMOPLASTIC AND MEET CURRENT CITY OF JACKSONVILLE SPECIFICATIONS AND/OR FDOT STANDARD SPECIFICATIONS, LATEST EDITION.
- THERMOPLASTIC PAVEMENT MARKINGS ARE TO BE PLACE NO SOONER THAN 30 CALENDAR DAYS AFTER THE COMPLETION OF THE FINAL PAVEMENT LAYER.
- 6. A BITUMINOUS REFLECTIVE PAVEMENT MARKER (RPM) ADHESIVE MEETING CURRENT CITY OF JACKSONVILLE AND/OR FDOT
- THE CONTRACTOR SHALL USE CLASS-B REFLECTIVE PAVEMENT MARKERS (RPMS) INSTALLED TO MEET CURRENT CITY OF
- JACKSONVILLE SPECIFICATIONS ANO/OR FDOT STANDARD SPECIFICATIONS.
- 8. REFLECTIVE PAVEMENT MARKERS THAT DO NOT CONFLICT WITH PERMANENT (THERMOPLASTIC) MARKINGS SHALL BE PL.ACED ON ALL FINAL ASPHALTIC CONCRETE SURFACES IMMEDIATELY AFTER THE TEMPORARY PERMANENT STRIPING IS IN PLACE.
- PAVEMENT MARKINGS REMOVAL.
- A. PAINT BLACKOUT METHOD OF PAVEMENT MARKINGS REMOVAL IS NOT ACCEPTABLE

SPECIFICATIONS SHALL BE USED ON ASPHALT ROADWAYS.

- B. GRINDING OR HYDRO BLAST METHODS SHALL BE USED ON WEATHERED ASPHALT SURFACES. REMOVAL ON NEW ASPHALT SURFACES SHALL BE BY HYDRO BLAST METHOD ONLY.
- 10. THE CONTRACTOR SHALL CONTACT THE PAVEMENT MARKING INSPECTOR (904) 255.7550 48 HOURS PRIOR TO INSTALLING ANY PAVEMENT MARKINGS ON ANY CITY OF JACKSONVILLE ROADWAY OR STREET.
- 11. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS OF THE CITY OF JACKSONVILLE AND THE SPECIFICATIONS OF THE FDOT. THE CITY OF JACKSONVILLE WILL PREVAIL

SIDEWALK

TREE REMOVAL

RESTORATION NOTES:

BY THE CONSTRUCTION OPERATION.

- 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
- 3. TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH CITY OF JACKSONVILLE/FDOT STANDARD SPECIFICATIONS.
- 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
- CONTRACTOR MUST MAINTAIN AND PRESERVE NEWLY GRADED AREAS AND REPAIR AREAS WHERE SETTLING AND EROSION HAVE
- 9. ALL WORK PERFORMED WITHIN AN EASEMENT OR A PUBLIC RIGHT OF WAY REQUIRES A SEPARATE PERMIT ISSUED BY THE CITY ENGINEER. ORDINANCE 69-941-688.
- 10. REPLACE CURB & GUTTER TO THE NEAREST CONSTRUCTION JOINT PAST PROJECT EXTENTS.
- 11. REPLACE SIDEWALK TO NEAREST CONSTRUCTION JOINT PAST PROJECT EXTENTS.
- 12. CONTRACTOR SHALL MILL MINIMUM 1" OF EXISTING PAVEMENT IN CONSTRUCTION AREAS AS INDICATED ON PLANS AND RESURFACE WITH 1" MINIMUM OF EITHER TYPE II OR TYPE S-I ASPHALTIC CONCRETE.

UTILITY CONTACTS:

GENERAL LEGEND

A. AT&T ~ GENERAL NUMBER————————————————————————————————————	- — — — 904-781-0741 — — — 904-303-8754 — — — 904-255-8762 — — — 904-387-8861 — — — 904-665-7907 — — — 904-665-6000 — — — 904-665-7500 — — — 904-665-6000 — — — 904-665-4802 — — — 904-665-4801 — — — 904-665-8410 — — — 904-209-0134 — — — 904-209-0173 — — — 904-380-6274 — — 904-545-8958
S. TECO/PEOPLES GAS ~ BEN MOBLEY — — — — — — — — — — — — — — — — — — —	

UTILITY SYMBOLS

	<u>EXISTING</u>	PROPOSED		
RIGHT OF WAY LINE			ELECTRIC POLE OR S.B.T. POLE (WOOD)	O OR Q (WITH LIGHT)
CENTER LINE			WOOD POWER POLE	O WPP
LIMITS OF CONSTRUCTION		<u>L.O.C.</u>	ELECTRIC POLE OR S.B.T. POLE (CONC.)	PP OR H (WITH LIGHT)
FENCE (HEIGHT & MAT'L. INDICATED)	x 6' CHAIN LINK	x 6' CHAIN X LINK	CONCRETE POWER POLE GUY WIRE	CPP
DITCH OR SWALE	~~ ~~ ~~	~~~ ~~~	TRAFFIC SIGNAL POLE	TS.
DRAIN PIPE	—— D——— D——	—— D——	IRON PIPE	O I.P.
			OVERHEAD ELECTRIC	— — — OHE— — —
CATCH BASIN			UNDERGROUND ELECTRIC	—— — UGE— — —
STORM DRAIN GRATE			OVERHEAD TELEPHONE	———oT———
STORM SEWER (SIZE &	24" RCP	24"_RCP	UNDERGROUND TELEPHONE	— — — UGT— — —
MAT'L. INDICATED)			GAS MAIN (SIZE & MAT'L. INDICATED)	——————————————————————————————————————
STORM SEWER, REPLACEMENT (IN CASE 10			CABLE TELEVISION	——————————————————————————————————————
TRENCH) SIZE, MAT'L. INDICATED			FIBER OPTIC LINE	FO
STORM SEWER (SIZE &	=======		UNDERGROUND CABLE (TYPE UNDETERMINED)	— — — OHE— — —
MAT'L. INDICATED)	л <u>18" СМР</u> л	18" CMP	TREE PROTECTION	-
CULVERT W/ENDWALLS (SIZE & MAT'L. INDICATED)			SILT FENCE	SF
WATER MAIN	W6"_WPVC	WW_6" PVC	WATER METER	WM
SIZE, TYPE INDICATED			WATER METER WITH TOUCHREAD	☐ WM(TR)
GRAVITY SEWER SIZE, TYPE INDICATED	S8"SPVC	S_8" PVC_	TELEPHONE BOX	П
SEWER FORCE MAIN	FM_10" PVC_	——— FM ———	CATV BOX	□CATV
SIZE, TYPE INDICATED	.		CONCRETE MONUMENT	□СМ
LINE VALVE			GAS VALVE	\oplus
CHECK VALVE			SOIL BORING (NUMBER INDICATED)	•
FIRE HYDRANT	\bowtie	M O	SOFT DIG (NUMBER INDICATED)	B1 ♠
VALVE (TYPE INDICATED)		M	SOL I DIG (NOMBERT INDICATED)	♀ TH1
END CAP			TREE, SIZE & TYPE INDICATED	• 12" 0
PLUG (AT END OF LINE)			MAIL BOX	∎ ^{MB}
VALVE (TYPE INDICATED)		N	SIGN - TYPE INDICATED	OR •SIGN
REDUCER FIRE HYDRANT	\bigcup		BUSH, SHRUB OR HEDGE	(SHRUB)
		OR +	ASPHALT PAVEMENT OVERLAY	
HOUSE CONNECTION (SEWER)	HO	1275 NHC		
SPOT ELEVATION	×(100.00) OR × 100.00		INDICATES DRIVEWAY/SIDEWALK TO BE AND REPLACED	
MANHOLE - TYPE (IF INDICATED) E - ELECTRIC S - SANITARY D - STORM T - TELEPHONE	~, ₀₀ , \(\) \(\	MH1	STABILIZED ACCESS ROAD	
CLEAN OUT	• C.O.		EXISTING BOX CULVERT	
SPRINKLER HEAD	● SPR		MONITORING POINT	◆ MP #1
SILT HAY BARRIER	The latest of th		AIR VALVE ASSEMBLY	—
CIDEMALK		ログフ グソ ノソ ブロ		

GOPHER TORTOISE BURROW

WETLAND DELINEATION

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.
- 3. 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" AND AUGER BORE METHODS OF CONSTRUCTION. IF USING ALTERNATIVE MEANS OR METHODS, THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE STANDARDS FOR THAT MEANS OR METHOD.

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 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 STANDARDS. ALL GATE VALVES 20-INCH AND LARGER SHALL BE INSTALLED VERTICALLY.

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

ASBESTOS CEMENT

FIRE HYDRANT

A.G.

F.H.

16. ALL FORCE MAIN FITTINGS AND VALVES SHALL BE RESTRAINED PER THE PVC PIPE RESTRAINT DETAILS ON SHEET STD-02. NO JOINT DEFLECTION WILL BE ALLOWED AT FITTINGS OR VALVES ON 24-INCH AND LARGER PIPE.

17. FOR OPEN CUT PORTION: THE MAXIMUM JOINT DEFLECTION SHALL BE LIMITED TO 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION. BENDING OF THE PIPE BARREL IS NOT ALLOWED. NO JOINT DEFLECTION SHALL BE ALLOWED AT FITTINGS OR VALVES. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ALLOWED JOINT DEFLECTION SHALL BE AS LISTED IN THE TABLE IN JEA STANDARD DETAIL PLATES S-47 AND S-48. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20 LF PIPE LENGTH.

18. DEPTHS OF EXISTING UTILITIES SHOWN ON PROFILE ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

19. CONTRACTOR SHALL RESTORE COJ AND FDOT RIGHT-OF-WAY TO EXISTING GRADE AND CONDITION, SUBJECT TO COJ OR FDOT REVIEW AND APPROVAL AS APPLICABLE.

20. DISTURBANCE WITHIN THE JEA T-LINE SHALL BE LIMITED TO THE AREAS OUTLINED BY SILT FENCE ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL SUBMIT A STAGING, STORAGE, PIPE STRINGING, AND LIMITS OF DISTURBANCE PLAN WITHIN SHEETS C-1.01 TO C-1.10 AND SHEETS C-1.13 TO C-1.16 TO THE JEA ELECTRICAL UTILITY GROUP AND ENVIRONMENTAL GROUP VIA THE JEA PROJECT MANAGER FOR APPROVAL. NO STAGING OR STORAGE SHALL TAKE PLACE WITHIN 75' OF AN ELECTRICAL STRUCTURE AND GUY ANCHORS. ALL EQUIPMENT AND CONSTRUCTION ACTIVITIES SHALL BE KEPT OUTSIDE A MINIMUM TWENTY FOOT (20') RADIUS OF ALL TRANSMISSION LINES (VERTICALLY AND HORIZONTALLY). THE CONTRACTOR SHALL COORDINATE WITH THE JEA ELECTRICAL UTILITY GROUP FOR ENTRY/EXIT PROTOCOL FOR THE JEA T-LINE.

21. CONTRACTOR SHALL MAINTAIN ELECTRICAL SUBSTATION AND T-LINE ACCESS TO JEA AT ALL TIMES. IF ACCESS ROAD IS IMPACTED OR BLOCKED, THE CONTRACTOR SHALL COORDINATE WITH JEA ELECTRICAL UTILITY GROUP A MINIMUM OF 2 WEEKS IN ADVANCE. THE CONTRACTOR SHALL RESTORE ANY DISTURBED PORTIONS OF THE JEA T-LINE ACCESS DRIVE TO MATCH PRECONSTRUCTION CONDITIONS. THE MANNER IN WHICH THIS IS ACCOMPLISHED SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT AND PRIOR APPROVAL OF THE JEA PROJECT MANAGER. THE JEA PROJECT MANAGER APPROVAL IN NO WAY RELIEVES THE CONTRACTOR OF ANY LIABILITIES RESULTING FROM THE RESTORATION METHOD CHOSEN. STONE AGGREGATE SHALL BE USED TO PROVIDE A FINAL DRIVING SURFACE FOR THE RESTORED PORTIONS.

22. THE AIR/VACUUM VALVE PIPE CONNECTION MUST BE LOCATED AT A HIGH POINT. CONTRACTOR SHALL PROVIDE ADDITIONAL DEPTH OF BURY TO ACCOMMODATE THE AIR/VACUUM VALVE ASSEMBLY PER THE JEA STANDARD DETAILS. SEE TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

23. THE PROPOSED FORCE MAIN SHALL BE OFFSET FROM THE EXISTING JEA ELECTRICAL TRANSMISSION TOWERS AS INDICATED ON THE DRAWINGS.

ABBREVIATIONS:

FLOW LINE

A.G.	ALLEY GRATE	FM	FORCE MAIN	R	RATE	1
APPROX	APPROXIMATELY	GALV./GLV	GALVANIZED	R.C.P.	REINFORCED CONCRETE PIPE	ı
B	BASE LINE	G	GAS LINE	RT	RIGHT	ı
Б.М.	BENCH MARK	G.V.	GAS VALVE	R/W	RIGHT OF WAY	ı
BC	BOTTOM OF CURVE	HDPE	HIGH DENSITY POLYETHYLENE PIPE	R.D.	ROOF DRAIN	ı
C.B.	CATCH BASIN	H.W.	HEAD WALL	RJ	RESTRAINED JOINT	ı
C.I.	CAST IRON	H.C.	HIGH CURB	RWM	RECLAIMED WATER MAIN	ı
ω	CENTER LINE	HDD	HORIZONTAL DIRECTIONAL DRILL	S/W	SIDE WALK	ı
C.E.P.	CITY ELECTRIC POLE	HORZ	HORIZONTAL	S.B.T.	SOUTHERN BELL TELEPHONE	H
CONC.	CONCRETE	HPC	HORIZONTAL POINT OF CURVATURE	SS	STAINLESS STEEL	ı
CONST.	CONSTRUCTION	HPT	HORIZONTAL POINT OF TANGENCY	STA	STATION	ı
COJ	CITY OF JACKSONVILLE	INT.	INTERSECTION	TC	TOP OF CURVE	ı
C.M.P.	CORRUGATED METAL PIPE	INV.	INVERT	TEMP	TEMPORARY	ı
C.M.P.A.	CORRUGATED METAL PIPE ARCH	I.P.	IRON PIPE	TR	TREE REMOVAL	ı
CULV.	CULVERT	J.W.W.	JACKSONVILLE WATER WORKS	TYP	TYPICAL	ı
C&G	CURB & GUTTER	JTB	J. TURNER BUTLER BOULEVARD	U.G.E.	UNDERGROUND ELECTRIC	ı
С	CUT	L.L.	LONG LEAF	U.G.T.	UNDERGROUND TELEPHONE	ı
D.B.I.	DITCH BOTTOM INVERT	LT.	LEFT	U.S.C. & G.S.	UNITED STATES COASTAL &	ı
D.W. OR DR	DRIVEWAY	MB	MAIL BOX		GEODETIC SURVEY	ı
D.I.	DUCTILE IRON	M.H.	MANHOLE	V.C.	VITRIFIED CLAY	ı
DIPS	DUCTILE IRON PIPE SIZE	MJ	MECHANICAL JOINT	VERT	VERTICAL	ı
DR	DIMENSION RATIO	MOT	MAINTENANCE OF TRAFFIC	VPT	VERTICAL POINT OF TANGENCY	r
E.O.P.	EDGE OF PAVEMENT	MP	MONITORING POINT	VPC	VERTICAL POINT OF CURVATURE	I,
ELEV.	ELEVATION	N.T.S.	NOT TO SCALE	WM	WATER METER	lì
ERCP	ELLIPTICAL REINFORCED CONC. PIPE	O.E.	OVERHEAD ELECTRIC	W.V.	WATER VALVE	ľ
EXP. JT.	EXPANSION JOINT	O.T.	OVERHEAD TELEPHONE	WLP	WOOD LIGHT POLE	L
F	FILL	P.R.M.	PERMANENT REFERENCE MONUMENT	WPP	WOOD POWER POLE	Ľ
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	PROF	PROFILE	WTP	WOOD TELEPHONE POLE	Ľ

POLYVINYL CHLORIDE

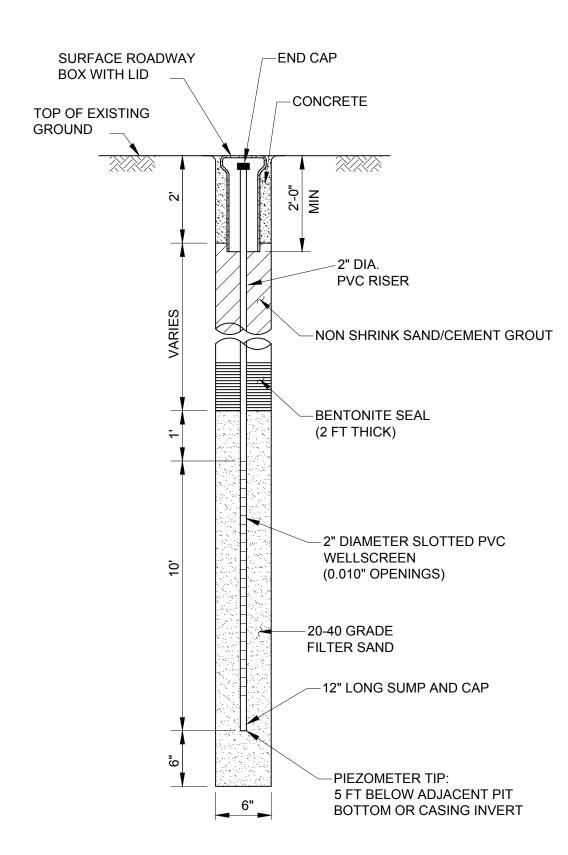
RADIUS

SETTLEMENT MONITORING POINT

NTS

OTES:

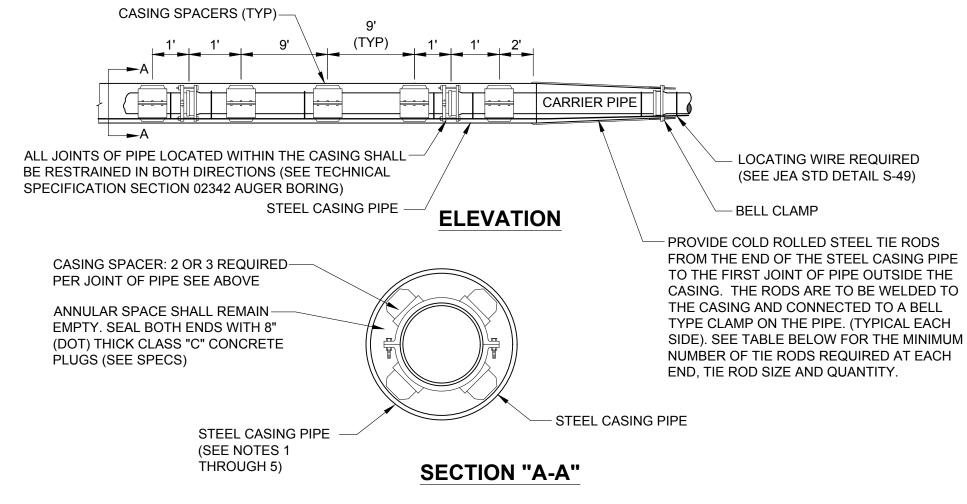
- 1. SEE SHEETS C-1.01 AND C-1.06 FOR SETTLEMENT MONITORING POINT LOCATIONS.
- 2. SEE PROJECT TECHNICAL SPECIFICATIONS.



<u>PIEZOMETER</u>

NOTES:

- 1. SEE SHEETS C-1.01 AND C-1.06 FOR PIEZOMETER LOCATIONS.
- 2. SEE PROJECT TECHNICAL SPECIFICATIONS.



NOTES:

- 1. COVER DEPTH SHALL BE AS SHOWN ON THE DRAWINGS.
- 2. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE CARRIER PIPE BELL OR COUPLING.
- 3. CASING PIPE SHALL BE FURNISHED IN NOMINAL 8 FOOT LENGTHS (MIN.) UNLESS OTHERWISE INDICATED ON THE DRAWING OR APPROVED BY JEA.
- 4. PIPE TO BE USED AS A CASING SHALL CONFORM TO EITHER ASTM STANDARD A139 FOR "ELECTRIC FUSION (ARC) WELDED STEEL PIPE". WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI OR "API SPECIFICATION API-5LX, GRADE X-42 WELDED STEEL PIPE".
- 5. REFER TO DRAWINGS FOR EACH CROSSING FOR THE MINIMUM CASING PIPE THICKNESS AND DIAMETER REQUIREMENTS APPLICABLE TO THIS PROJECT.

CASING DETAIL - SEWER
NTS

PARKWAY
MAIN
AILS

T-LINE - JTB TO TOWN CENTER PARKWAY - TRANSMISSION

FORCE

E - JTB TO TOWN CENTEI TRANSMISSION FORCE MISCELLANEOUS DE

SCALE: JANUARY 2019

SCALE: HORZ. 1" = 20'

VERT. 1" = 2'

SHEET NO. DATE: JAN 21 SCALE: HOR C-2.01 VER

2019-H-294-00051 Julian Mckinley 3/4/2019

1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS).

- 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.

JANUARY 2019

AIR VALVE ASSEMBLY INSIDE MANHOLE IN ROW

PLATE S-29B

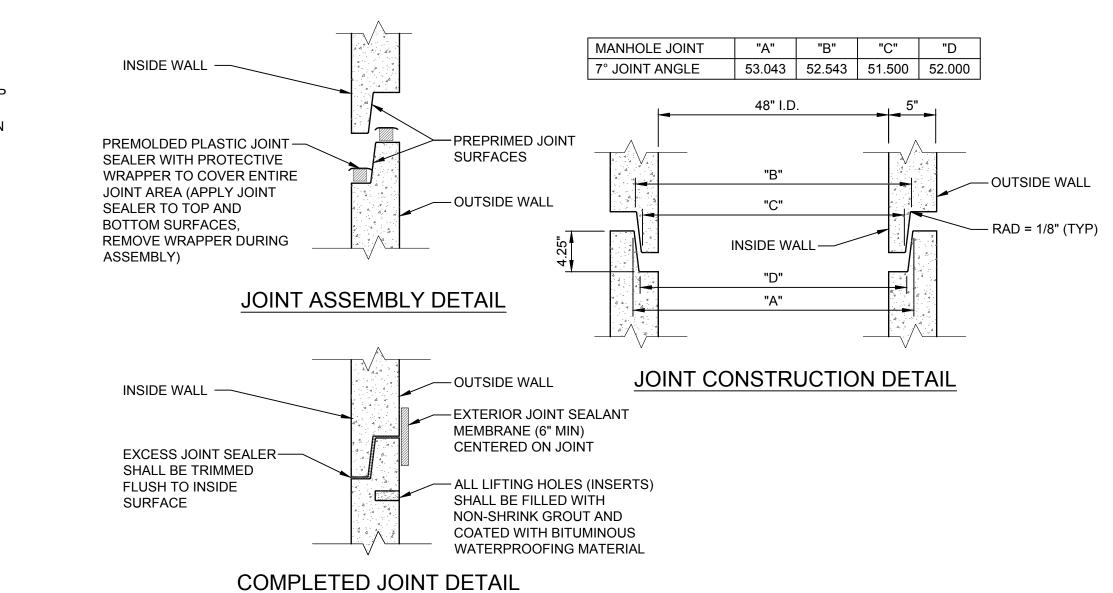
MANHOLE FRAME & COVER (SEE NOTE #3) RINGS (TYP) FLAT TOP SECTION (8" THK. MIN) 316 S.S. CABLE HOOK. LOCATE WIRE PIG TAIL END (SEE NOTE #6) - AIR VALVE ASSEMBLY 4' DIA OR 4 SQUARE MANHOLE (MIN) W/FLAT TOP SECTION, NO BOTTOM. PROVIDE SPECIALTY INTERIOR LINER. DOG HOUSE MANHOLE DESIGN WITH 12" SEPARATION (MANHOLE TO PIPE) MAY BE UTILIZED. (SEE NOTE #2) VALVE (SEE NOTE #5) - ADAPTER (IF REQ.) 6" MIN GRAVEL - SLOPE DOWN TO MAIN (1/8" PER 1' MIN) LOCATE WIRE -DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS OFF-SET PIPING "IF REQUIRED" AND FITTINGS (2" MIN, SEE NOTES #1 & #6) FOR OFF-SET PIPING LARGER THAN 2 INCH — SIZE, PROVIDE A GATE VALVE INSTALLED VERTICALLY (W/B&C) NEAR MAIN (SEE NOTE #6) 2" SS BALL VALVE (SEE NOTE #5)

DTES:

- 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 2019 PLATE S-29

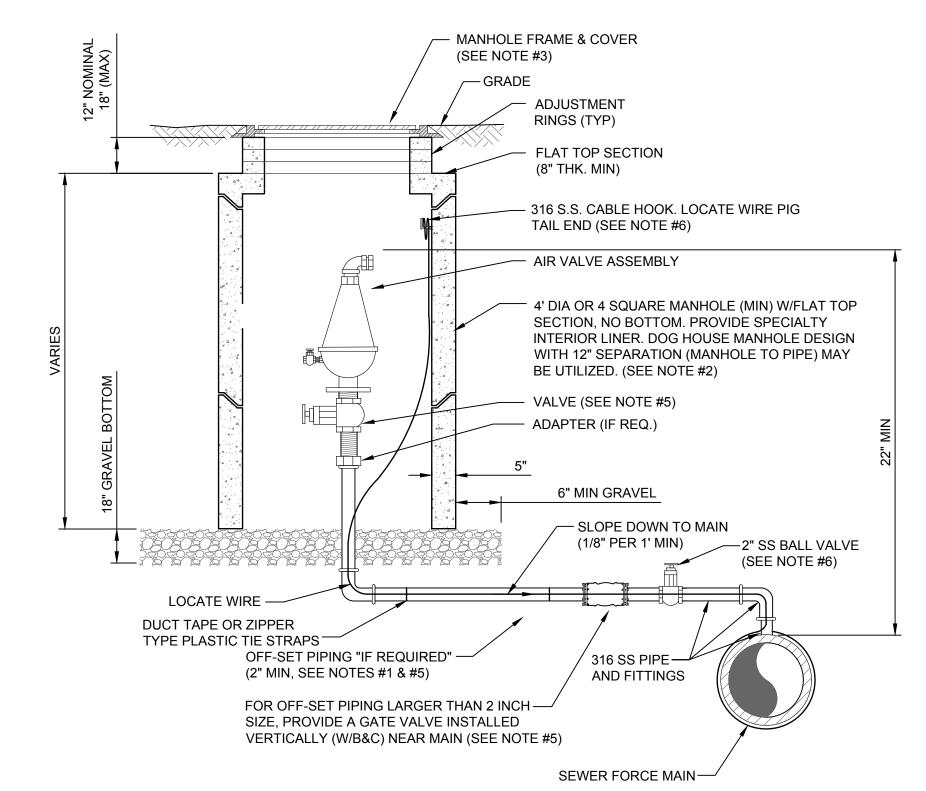


SEWER FORCE MAIN-

PRECAST CONCRETE SEWER MANHOLE JOINT DETAIL

JANUARY 2019

PLATE S-17



NOTES

- 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 2019 PLATE S-29A

Xrefs_Attached= Border [., dms29831\JEA_Border.dwg] JEA_Wastewater_Details [.,\dms29831\JEA_Wastewater_Details_Master_2019.dwg] 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. THE "V" CUT IS TO BE PAINTED GREEN.
- 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 "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

PLATE S-30 JANUARY 2019

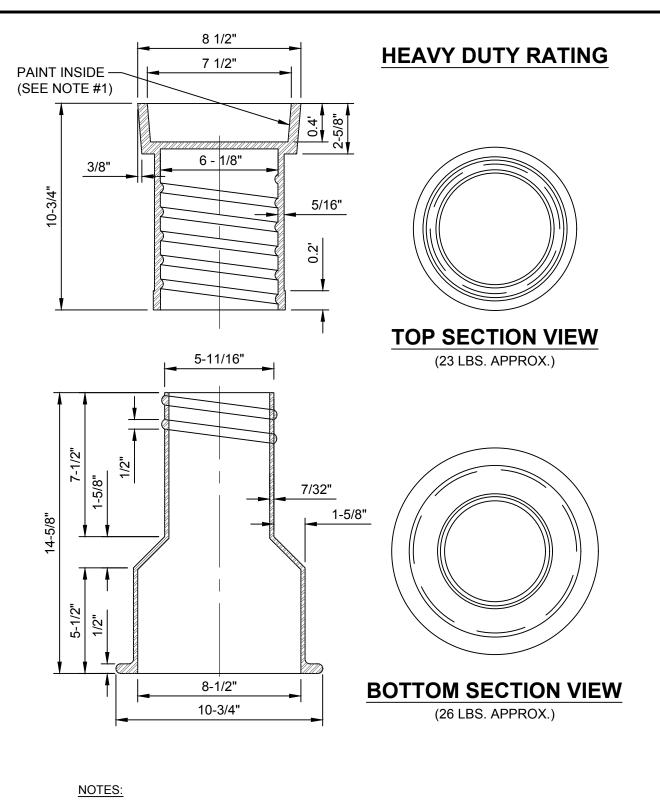
PVC PIPE RESTRAINT NOTES:

- 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.
- 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.
- 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.
- 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).
- 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

/181 \		HORIZON	TAL BENDS	3	VERTICAL OFFSETS 45° BENDS		VALVES OR		REDUCERS			TEES SEE NOTE 5		
	90° BENDS	45°	22.5°	11.25° BENDS	(SEE N	OTE 4)	DEAD ENDS		SIZE			RUN SIZE	BRANCH SIZE	
	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)	L (FT.)		(IN.)	L (FT.)		(IN.)	(IN.)	
4	21	9	5	3	17	3	47		6x4	34		4	4	
6	30	13	6	3	23	4	66		8x6	36		4	6 4 < LESS	
8	38	16	8	4	30	6	86		8x4	62	-	8	4 < LESS	
10	45	19	9	5	36	7	103		10x8 10x6	35 63			6 < LESS	
12	53	22	11	6	43	8	121		12x10	36		10	10 8	
14	61	26	13	6	50	9	140		12x8	64	-		6 < LESS	
16	66	28	14	7	55	10	154		16x12	66		12	12 10	
18	73	30	15	8	60	11	170		16x10 20x18	92 35	-		8 < LESS	
20	79	33	16	8	66	12	186		20x16	66		16	16 12	
24	79	33	16	8	77	15	185		20x12	117			10 10 < LESS	
30	93	39	19	10	97	17	222		24x20	56		20	20	
									24x18	80			16 12	
36	106	39	21	11	107	20	257		24x16	101			10 < LESS	
42	117	49	24	12	120	24	289		30x24	78		24	24 20	
48	144	53	26	13	133	26	321		30x20 36x30	121 78			16	
													12 < LESS	
									36x24	141		30	30	
									42x36 42x30	75 140			24 20	
									42x30 48x42	75			16	
									48x42 48x36	139	_	36	16 < LESS 36	1

PVC PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2019 PLATE S-38A



- 1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH GREEN COLOR.
- 2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 50 LBS.).
- REFERENCE SECTION 430, PARAGRAPH VI.2.

16 < LESS | F.O.

16 < LESS | F.O.

20 < LESS F.O.

30

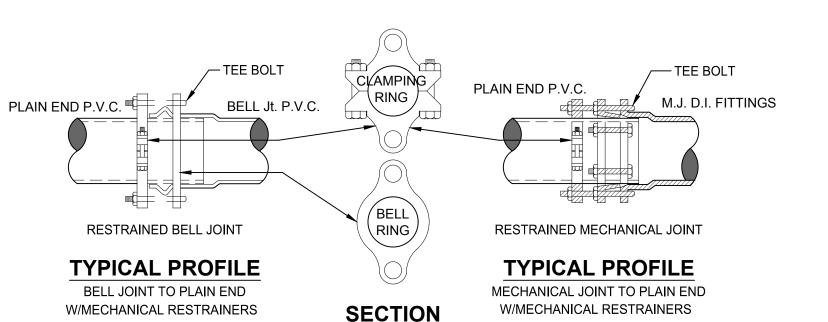
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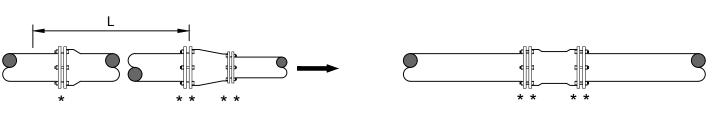
42

F.O. = FITTING ONLY

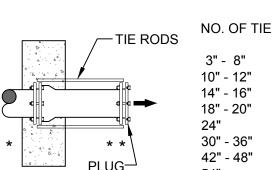
SEWER SYSTEM VALVE BOX

PLATE S-32 JANUARY 2019





MECHANICAL JOINT SLEEVES REDUCER



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

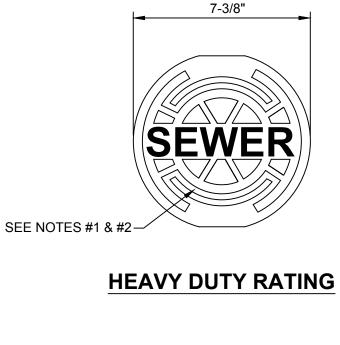
DEAD - END THRUST COLLAR ANCHOR

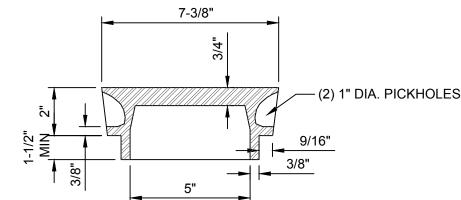
TO BE USED INSTEAD OF TOTAL RESTRAINED LENGTH (OPTIONAL) SIZE AS PER THRUST BLOCK DETAIL (W-38). SEE DETAILS W-36 & W-37.

- 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

JANUARY 2019 PLATE S-38C

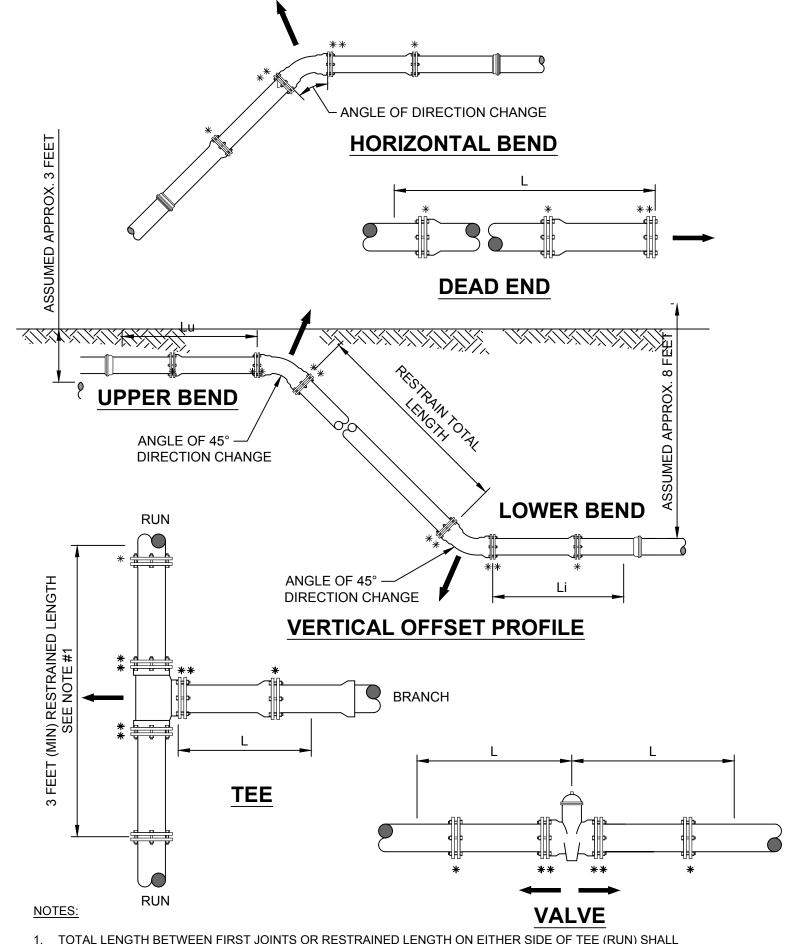




- 1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (GREEN COLOR)
- 2. LID WEIGHT: APPROX. 12 LBS.

SEWER SYSTEM VALVE BOX COVER

JANUARY 2019 PLATE S-31



- 1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 6 FEET (MIN.). THE PROJECT ENGINEER CAN INCREASE THIS LENGTH TO REDUCE THE NUMBER OF RESTRAINS REQUIRED. ANY CHANGES TO THIS TABLE MUST BE SUMMITTED
- 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

JANUARY 2019 PLATE S-38D

VERTICALLY TO AVOID OBSTRUCTION.

2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).

3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.

SIZE & TYPE VARIES

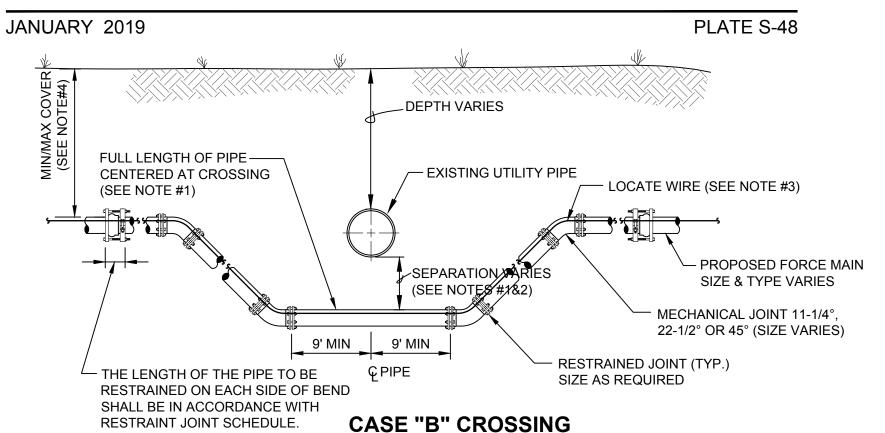
4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY JEA. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE 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.

. 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

ADJUSTMENT OVER EXISTING UTILITIES PIPE JOINT DEFLECTION



- 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.
- 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 JANUARY 2019 PLATE S-41

4" OR LARGER BRANCH FORCE MAIN-LOCATE WIRE BOX UTILIZING SEE PLATE S-49A LOCATE WIRE BOX UTILIZING-CO-POLYMER METER BOX VALVE BOX W/VALVE (CONNECT WIRES TOGETHER WITH LOCATE WIRE BOX-SEE PLATE S-49B WATERPROOF CONNECTION) (SEE UTILIZING VALVE NOTE #8) BOX W/VALVE SEE LOCATE WIRE SHALL-PLATE S-49B TERMINATE IN DUCT TAPE OR-LOCATE WIRE BOX ZIPPER TYPE PLASTIC TIES DEAD END — PLUGGED WATER MAIN 475' MAX (NOTE 4) 475' MAX (NOTE 4) 10' MAX

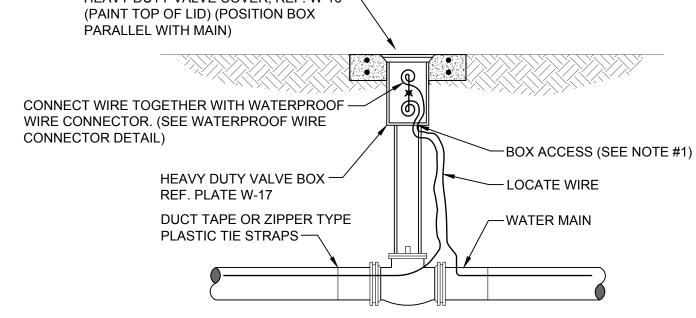
NOTES:

LOCATE WIRE SYSTEM

- 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 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. "* INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH WATERPROOF CONNECTION. (SEE DETAIL W-49B)
- 7. "O" INDICATES A WIRE PIG-TAIL (24" LONG)
- 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

PLATE S-49 JANUARY 2019 HEAVY DUTY VALVE COVER, REF. W-16 —



LOCATE WIRE BOX UTILIZING VALVE BOX

INSTALL CO-POLYMER METER BOX WITH-HEAVY-DUTY IRON LID (PAINT TOP OF LID) (POSITION BOX PARALLEL WITH MAIN) CONNECT WIRE TOGETHER WITH WATERPROOF PROVIDE 3" THICK -WIRE CONNECTOR. (SEE WATERPROOF WIRE **GRAVEL BOTTOM** CONNECTOR DETAIL) 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

WATERPROOF WIRE CONNECTOR DETAIL

NOTES:

- 1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
- 2. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE AND LOCATE POINTS.
- 3. LOCATE WIRE CONNECTION SHALL ONLY BE A 2 WAY CONNECTION.

LOCATE WIRE BOX

JANUARY 2019 PLATE S-49B

CASE "B" CROSSING 1. IF EXISTING CONFLICT PIPE IS A WATER MAIN OR RECLAIM 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 (S-26 & S-27). 3. LOCATING WIRE REQUIRED: SEE DETAIL S-49.

9' MIN

— LOCATE WIRE (SEE NOTE #3)

FULL LENGTH OF PIPE —

CENTERED AT CROSSING

(SEE NOTE #1)

MINIMUM HORIZONTAL LENGTH REQUIRED

AS PER MANUFACTURER TO DEFLECT PIPE

VERTICALLY TO AVOID OBSTRUCTION.

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.

-DEPTH VARIES (SEE NOTE #4)

EXISTING CONFLICT PIPE

MINIMUM HORIZONTAL LENGTH REQUIRED

AS PER MANUFACTURER TO DEFLECT PIPE

VERTICALLY TO AVOID OBSTRUCTION.

SEPARATION VARIES

(SEE NOTE #1&2)

PROPOSED FORCE MAIN

RECOMMENDATION FOR JOINT

DEFLECTION (SEE NOTE #5)

SIZE & TYPE VARIES

MAXIMUM 80% OF

MANUFACTURER'S

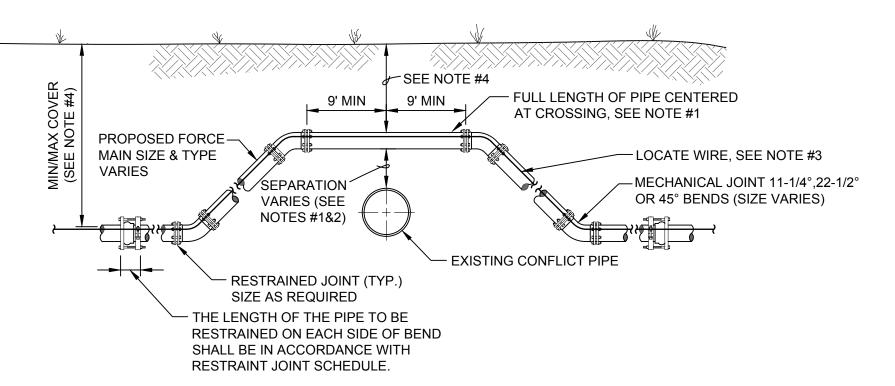
JEA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY JEA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF 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

ADJUSTMENT UNDER EXISTING UTILITIES PIPE JOINT DEFLECTION

PLATE S - 47 JANUARY 2019



CASE "A" CROSSING

NOTES:

- 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

JANUARY 2019 PLATE S-39

HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS

	PROPOSED UTILITY											
	POTABLE WATER			WASTEWATER GRAVITY AND FORCE MAIN			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 (BUILDINGS, SIGNS, POLES, ETC.)	SEE NOTE 7	N/A	N/A	SEE NOTE 7	N/A	N/A	SEE NOTE 7	N/A	N/A	SEE NOTE 7	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

NOTE

- 1. 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.
- 2. THE MINIMUM JOINT SPACING REQUIRED FROM CROSSING FROM OTHER UTILITIES WHILE STILL MAINTAINING MINIMUM VERTICAL SEPARATION.
- 3. 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.
- 5. WATER MAIN SHOULD CROSS ABOVE OTHER PIPES WHENEVER POSSIBLE. WHEN WATER MAIN MUST BE BELOW OTHER UTILITY PIPING, THE MINIMUM SEPARATION SHALL BE 12 INCHES.
- 6. REFER TO SECTION 429, III.4.3.
- 7. REFER TO SECTION 429, III.4.2 FOR MINIMUM SEPARATION REQUIREMENTS FROM PIPE TO STRUCTURES.

SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS

JANUARY 2019 PLATE S-26

WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

- 1. 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.
- 2. 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.
- 3. 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).
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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, PRIOR TO CONSTRUCTION.

NOTES ON UTILITY SEPARATION REQUIREMENTS - SEWER

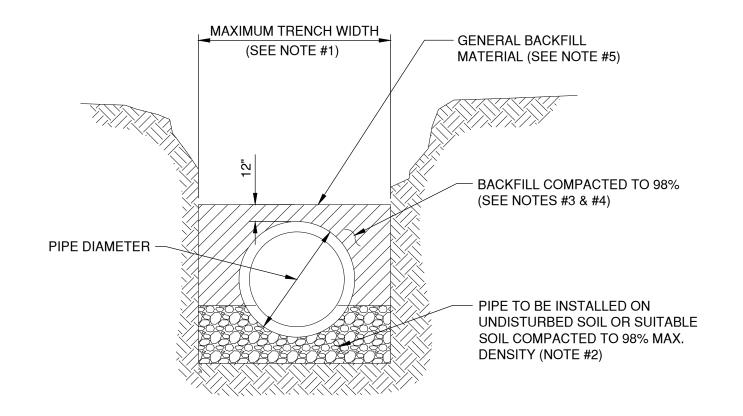
JANUARY 2019 PLATE S-27

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- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL UTILIZE THE FDEP BEST MANAGEMENT PRACTICES.
- 2. ALL EXISTING TREES TO BE REMOVED ARE SHOWN IN THE DRAWINGS AND THE TABLE BELOW. ALL OTHER EXISTING TREES ARE TO REMAIN AND SHALL BE PRESERVED AND PROTECTED.
- 3. BURNING OF TREES, BRUSH AND OTHER MATERIAL IS NOT ALLOWED.
- 4. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND MAINTAINED PROPERLY UNTIL PERMANENT VEGETATIVE COVER HAS BEEN ESTABLISHED.
- 5. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
- 6. AFTER RESTORATION IS COMPLETE, TEMPORARY CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF PROPERLY.

PRO	PROTECTED TREES - REMOVAL AND MITIGATION										
TREE NUMBER	TREE TYPE	DBH (INCHES)	MITIGATION RATIO	MITIGATION COST FOR REQUIRED MITIGATION PER (INCHES) INCH		MITIGATION FEE					
T1	6" OAK	6	3	2.00	\$ 155.00	\$ 310.00					
T2	13" OAK	13	3	4.33	\$ 155.00	\$ 671.67					
T3	10" OAK	10	3	3.33	\$ 155.00	\$ 516.67					
T4	9" PINE	9	3	3.00	\$ 155.00	\$ 465.00					
T5	14" PINE	14	3	4.67	\$ 155.00	\$ 723.33					
T6	19" PINE	19	3	6.33	\$ 155.00	\$ 981.67					
T7	9" PINE	9	3	3.00	\$ 155.00	\$ 465.00					
T8	7" MAPLE	7	3	2.33	\$ 155.00	\$ 361.67					
T9	7" OAK	7	3	2.33	\$ 155.00	\$ 361.67					
T10	6" OAK	6	3	2.00	\$ 155.00	\$ 310.00					
			TOTAL	33.33		\$ 5,166.67					

SUMMARY OF PROTECTED TREE REMOVAL AND MITIGATION											
TREE TYPE	INCHES TO BE REMOVED	MITIGATION RATIO	MITIGATION REQUIRED (INCHES)	COST FOR MITIGATION PER INCH		MITIGATION FEE					
OAK (6"-23")	42	3	14.00	\$ 155.00	\$	2,170.00					
PINE (6"-23")	51	3	17.00	\$ 155.00	\$	2,635.00					
BAY (6"-23")	7	3	2.33	\$ 155.00	\$	361.67					
		TOTAL	33.33		\$	5,166.67					



TYPICAL TRENCH

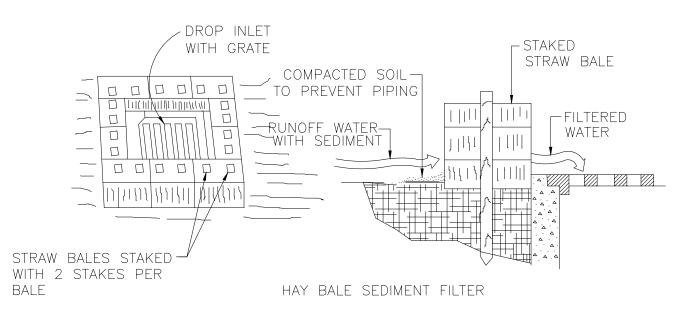
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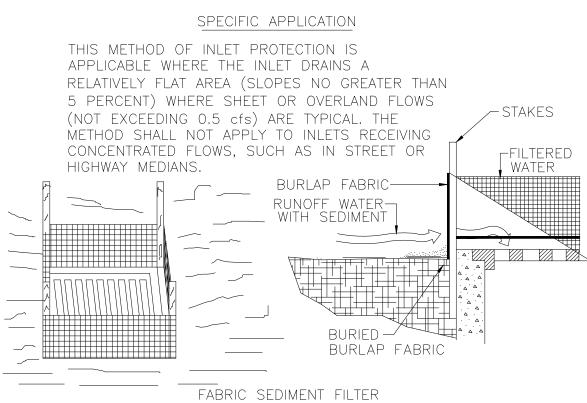
- 1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #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
- 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

PLATE W-42

JANUARY 2019 IN CITY RIGHT -OF-WAY





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.

DROP INLET SEDIMENT TRAP

