

CDN: 4859.51  
 RCV: 5/27/2020 10:39

CITY OF JACKSONVILLE NOTES

**GENERAL**  
 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  
<http://www.jea.com/business/services/devandbuild/developers.asp>

**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:

Development Services Customer Service Counter  
 Edward Ball Building, 2nd Floor  
 214 N. Hogan St.  
 Jacksonville, FL 32202  
 (904) 255-8572  
<http://row.jaxdev.info/>

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.

Adjacent State Roads: \_\_\_\_\_

**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:

Engineering and Construction Management  
 Edward Ball Building, 10th Floor  
 214 N. Hogan St.  
 Jacksonville, FL 32202  
<http://www.coj.net/Departments/Public+Works/Engineering+and+Construction+Management/>

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:

Florida Department of Environmental Protection  
 NPDES Stormwater Notices Center, Mail Station #2510  
 2600 Blair Stone Road  
 Tallahassee, Florida 32399-2400  
 (866) 336-6312  
<http://www.dep.state.fl.us/water/stormwater/npdes/>

The contractor shall contact 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  
 Jacksonville, FL 32202  
 (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 project.

Tree Fund payment is due: \_\_\_\_\_ inches at \$ \_\_\_\_\_ = \$ \_\_\_\_\_

Article 25 funds are due: \_\_\_\_\_ inches at \$ \_\_\_\_\_ = \$ \_\_\_\_\_

**TRAFFIC ENGINEERING**  
**TRAFFIC SIGNS**

Metro Name (each) \_\_\_\_\_

Standard (each) \_\_\_\_\_

Stop/Yield (each) \_\_\_\_\_

Design (per plat) 1 per plat

Installation (per hour) 1 per 2 signs (rounded up)

\_\_\_\_ Streetlights Required

NOTE: Traffic sign costs change from time to time. Consult Attachment 8 of the Land Development Procedures Manual (<http://ldpm.jaxdev.com/>) for the current rates before paying for any sign installations.

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

**JEA FLOW TEST**

FLOW TEST DATE: 02/27/2020 @ 10:42 AM.

FLOW HYDRANT LOCATION:  
 ARYLE FOREST BLVD 775' E OF OLD MIDDLEBURG RD S (428275)

STATIC RESIDUAL HYDRANT LOCATION:  
 310' E OF OLD MIDDLEBURG RD S & 880' N OF ARYLE FOREST BLVD (539635)

NUMBER OF PORTS: 3  
 DIAMETER OF PORTS (IN): 2.5  
 PITOT PRESSURE (PSI): 15  
 STATIC PRESSURE (PSI): 62  
 RESIDUAL PRESSURE (PSI): 52

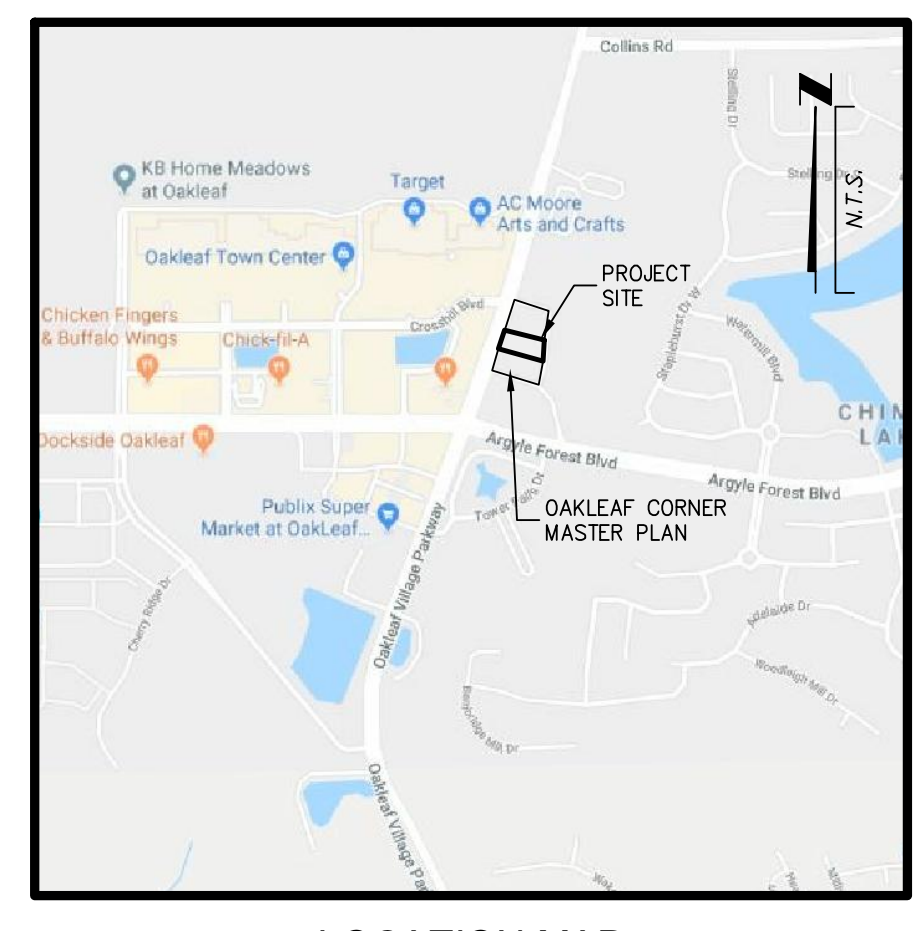
FLOW AT TEST (GPM): 1,961  
 FLOW AT 20 PSI (GPM): 4,256

NOTE:  
 IF 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 LAW.

# OAKLEAF CORNER OUTPARCEL 3 DUVAL COUNTY, FLORIDA

PLAN REVIEW AND ISSUING OF PERMIT DOES NOT RELIEVE CONTRACTOR OF COMPLYING WITH ALL CODES

Approved By: Nathan Sellers  
 Approved On: June 1, 2022  
 LANDSCAPE



LOCATION MAP  
 N.T.S.

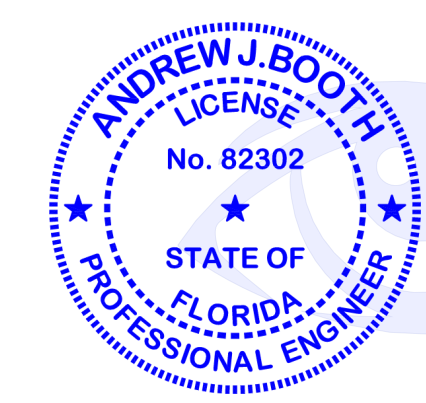
## PREPARED FOR OAKLEAF 31 DEVELOPMENT CORP.

12276 SAN JOSE BLVD.  
 JACKSONVILLE, FL 32223

PROJECT ADDRESS:  
 8227 OLD MIDDLEBURG ROAD  
 SOUTH



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



Digitally signed by Andrew J Booth  
 DN: cn=Andrew J Booth, o=US, ou=ENGLAND THIMS AND MILLER INC., ou=AD1411000001166925223400008088, email=bootha@etminc.com  
 Date: 2020.05.27 10:22:58 -0400'



Digitally signed by Gerald K White  
 DN: cn=Gerald K White, ou=US, ou=ENGLAND THIMS AND MILLER INC., ou=AD1411000001166925223400008088, email=whitek@etminc.com  
 Date: 2020.05.27 09:46:26 -0400'

DRAWING INDEX		
DRAWING NUMBER	DRAWING TITLE	REVISION
1	COVER	
2	GENERAL NOTES & LEGEND	
3	OAKLEAF CORNER MASTER PLAN	
4	MASTER SITE PLAN	
5	SITE GEOMETRY PLAN	
6	PAVING & DRAINAGE PLAN	
7	UTILITY PLAN	
8B - 8A	PAVING & DRAINAGE DETAILS	
9A - 9K	JEA UTILITY NOTES & DETAILS	
10	SEDIMENT & EROSION CONTROL PLAN	
11	SEDIMENT & EROSION CONTROL DETAILS	
12	STORM WATER POLLUTION PREVENTION PLAN	
13	CONTRACTOR'S CERTIFICATION	

JEA AVAILABILITY #: 2019-3525  
 PLANS DESIGNED UNDER 2019 JEA STANDARDS

PLAN APPROVAL

Approved By: Elynn Cavin  
 Stamp By: Kevin Robinson  
 Date: \_\_\_\_\_ Review: \_\_\_\_\_  
 Approved On: June 10, 2020  
 Date: \_\_\_\_\_ Review Group (Reviewer): \_\_\_\_\_

Plan approval valid for five years after the initial approved date. Revisions made after the initial approved date do not extend this five year time frame.

PLAN APPROVAL IS SUBJECT TO THE FOLLOWING NOTES AND CONDITIONS:

\_\_\_\_\_  
 \_\_\_\_\_  
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GENERAL PROJECT INFO.

<b>GENERAL</b>	
City Development Number	4859.051
Concurrency Application Number	
Property Appraiser Number (RE #)	016416 1450
Zoning Designation	PUD
ZONING Application(s) (if any)	
PUD Ordinance Number	1999-0804
FIRM - Community - Panel	12031C0505H
Flood Zones (Show in Plans)	ZONE X
Base Flood Elev. (Show in Plans)	N/A
Vertical Datum Used for Project	NAVD 1988
JEA Availability Number	2019-3525
<b>SUBDIVISION</b>	
PSD Number	N/A
City or Private Inspection	PRIVATE
Public or Private Roads	N/A
Subdivision ('911') Disk Provided?	N/A
<b>NON-SUBDIVISION</b>	
North American Industry Classification System (NAICS)	722513
Impervious Area (Sq. Ft.)	27,800

B-22-511575.000

RCV: 4/15/2022 10:32 AM

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 82302  
 PLOTTED: May 27, 2020 - 8:47 AM, BY: CAD Test

REVISIONS:

ETM No. 19-227	DRAWN BY: AUB
	DESIGNED BY: AUB
	CHECKED BY: AHT
	DATE: NOVEMBER 2019

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

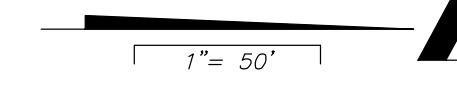
VISION • EXPERIENCE • RESULTS

COVER  
 OAKLEAF CORNER OUTPARCEL 3  
 FOR  
 OAKLEAF 31 DEVELOPMENT CORP.

VERTICAL DATUM USED FOR THIS PROJECT: NAVD 1988

DRAWING NUMBER  
 1





VICINITY MAP

N.T.S.

PLANS PREPARED UNDER THE DIRECTION OF:  
A.J. BOOTH, P.E.  
P.E. NUMBER: 85302  
PLOTTED: May 27, 2020 - 8:49 AM, BY: CAD Test

REVISIONS:  
ETM NO. 19-227  
DRAWN BY:  
DESIGNED BY:  
CHECKED BY:  
DATE: OCT.18, 2019

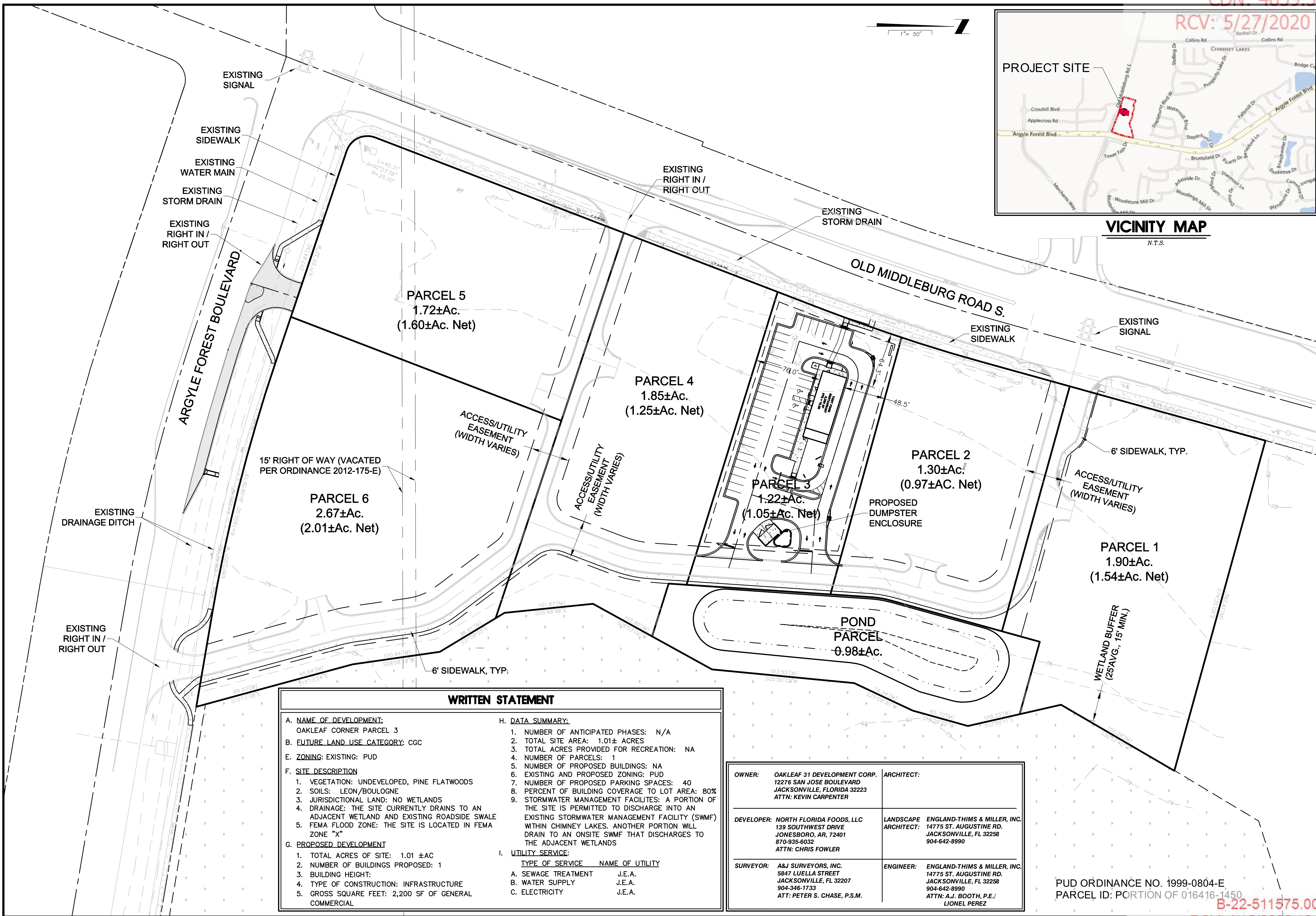
**England-Thims & Miller, Inc.**  
14775 Old St. Augustine Road  
Jacksonville, FL 32258  
TEL: (904) 642-8990  
FAX: (904) 646-9485  
CA - 0002884 LC - 0000316

**ETM**  
VISION • EXPERIENCE • RESULTS

**OAKLEAF CORNER MASTER PLAN**

**OAKLEAF CORNER PARCEL 3**  
JACKSONVILLE, FLORIDA  
NORTH FLORIDA FOODS, LLC

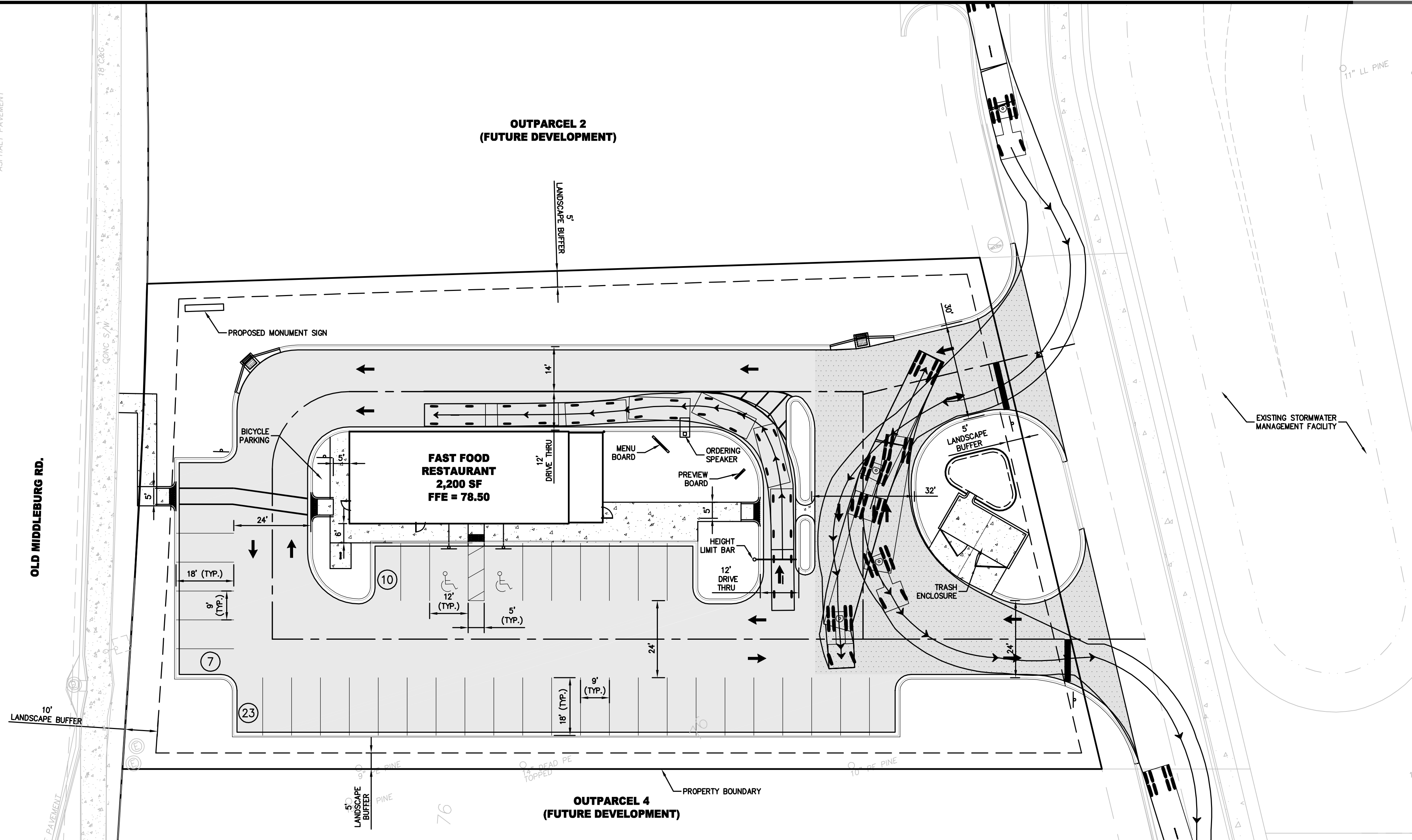
DRAWING NUMBER  
**3**



WRITTEN STATEMENT	
<b>A. NAME OF DEVELOPMENT:</b> OAKLEAF CORNER PARCEL 3	<b>H. DATA SUMMARY:</b>
<b>B. FUTURE LAND USE CATEGORY:</b> CGC	1. NUMBER OF ANTICIPATED PHASES: N/A
<b>E. ZONING:</b> EXISTING: PUD	2. TOTAL SITE AREA: 1.01± ACRES
<b>F. SITE DESCRIPTION</b>	3. TOTAL ACRES PROVIDED FOR RECREATION: NA
1. VEGETATION: UNDEVELOPED, PINE FLATWOODS	4. NUMBER OF PARCELS: 1
2. SOILS: LEON/BOULOGNE	5. NUMBER OF PROPOSED BUILDINGS: NA
3. JURISDICTIONAL LAND: NO WETLANDS	6. EXISTING AND PROPOSED ZONING: PUD
4. DRAINAGE: THE SITE CURRENTLY DRAINS TO AN ADJACENT WETLAND AND EXISTING ROADSIDE SWALE	7. NUMBER OF PROPOSED PARKING SPACES: 40
5. FEMA FLOOD ZONE: THE SITE IS LOCATED IN FEMA ZONE "X"	8. PERCENT OF BUILDING COVERAGE TO LOT AREA: 80%
<b>G. PROPOSED DEVELOPMENT</b>	9. STORMWATER MANAGEMENT FACILITIES: A PORTION OF THE SITE IS PERMITTED TO DISCHARGE INTO AN EXISTING STORMWATER MANAGEMENT FACILITY (SWMF) WITHIN CHIMNEY LAKES. ANOTHER PORTION WILL DRAIN TO AN ONSITE SWMF THAT DISCHARGES TO THE ADJACENT WETLANDS
1. TOTAL ACRES OF SITE: 1.01 ±AC	<b>I. UTILITY SERVICE:</b>
2. NUMBER OF BUILDINGS PROPOSED: 1	TYPE OF SERVICE NAME OF UTILITY
3. BUILDING HEIGHT:	A. SEWAGE TREATMENT J.E.A.
4. TYPE OF CONSTRUCTION: INFRASTRUCTURE	B. WATER SUPPLY J.E.A.
5. GROSS SQUARE FEET: 2,200 SF OF GENERAL COMMERCIAL	C. ELECTRICITY J.E.A.

<b>OWNER:</b> OAKLEAF 31 DEVELOPMENT CORP. 12276 SAN JOSE BOULEVARD JACKSONVILLE, FLORIDA 32223 ATTN: KEVIN CARPENTER	<b>ARCHITECT:</b>
<b>DEVELOPER:</b> NORTH FLORIDA FOODS, LLC 139 SOUTHWEST DRIVE JONESBORO, AR, 72401 870-935-6032 ATTN: CHRIS FOWLER	<b>LANDSCAPE ARCHITECT:</b> ENGLAND-THIMS & MILLER, INC. 14775 ST. AUGUSTINE RD. JACKSONVILLE, FL 32258 904-642-8990
<b>SURVEYOR:</b> A&J SURVEYORS, INC. 5847 LUELLA STREET JACKSONVILLE, FL 32207 904-346-1733 ATTN: PETER S. CHASE, P.S.M.	<b>ENGINEER:</b> ENGLAND-THIMS & MILLER, INC. 14775 ST. AUGUSTINE RD. JACKSONVILLE, FL 32258 904-642-8990 ATTN: A.J. BOOTH, P.E./ LIONEL PEREZ

PUD ORDINANCE NO. 1999-0804-E  
PARCEL ID: PORTION OF 016416-1450  
B-22-511575.000  
RCV: 4/15/2022 10:32 AM



**LEGAL DESCRIPTION (PER COMMITMENT):**

**OUTPARCEL 3**  
 A portion of Tract 10, Block 1, Section 32, Township 3 South, Range 25 East, as depicted on the plat of Jacksonville Heights, Duval County, Florida, recorded in Plat Book 5, page 93, of the current Public Records of said county, being a portion of those lands described and recorded in Official Records Book 17185, page 1944, of said current Public Records, being more particularly described as follows:

For a Point of Reference, commence at the intersection of the centerline of Branan Field / Chaffee Road, a variable width limited access right of way as presently established, with the centerline of Argyle Forest Boulevard, a 200 foot right of way as presently established; thence South 89°27'34" East, along said centerline of Argyle Forest Boulevard, 4271.53 feet to its intersection with the centerline of Old Middleburg Road, a variable width right of way as presently established; thence North 20°59'55" East, departing said centerline of Argyle Forest Boulevard and along said centerline of Old Middleburg Road, 128.69 feet; thence South 69°00'05" East, departing said centerline of Old Middleburg Road, 50.00 feet to a point lying on the Easterly right of way line of said Old Middleburg Road; thence North 20°59'48" East, along said Easterly right of way line, 493.69 feet to the Point of Beginning.

From said Point of Beginning, thence continue North 20°59'48" East, along said Easterly right of way line of Old Middleburg Road, 59.70 feet to the point of curvature of a curve concave Westerly having a radius of 1960.08 feet; thence Northerly, continuing along said Easterly right of way line and along the arc of said curve, through a central angle of 02°40'49", an arc length of 91.69 feet to the Southwesterly corner of those lands described and recorded in Official Records Book 18274, page 180, of said current Public Records, said arc being subtended by a chord bearing and distance of North 19°39'23" East, 91.68 feet; thence South 74°31'04" East, departing said Easterly right of way line and along the Southerly line of said Official Records Book 18274, page 180, a distance of 259.48 feet to the Southeastery corner thereof, said corner lying on the Westerly line of that certain Drainage and Utility Easement as described and recorded in Official Records Book 18274, page 94, of said current Public Records; thence South 03°50'44" West, along said Westerly line, 163.78 feet; thence North 72°43'20" West, departing said Westerly line, 305.08 feet to the Point of Beginning.

Containing 1.01 acres, more or less.

**PARKING REQUIREMENTS**

**OFF STREET PARKING REQUIREMENTS**

1 SPACE PER 4 SEATS IN RESTAURANT (30 SEATS) + 1 SPACE PER 2 EMPLOYEES  
 (\*NO MAXIMUM PER PUD ORD. 1999-0804 APPENDIX A)  
 ((1\*30 SEATS/4) = 7.5 SPACES + (1\*10 EMPLOYEES/2) = 5 SPACES

REQUIRED = 12.5 SPACES  
 OFF-STREET PARKING = 13 SPACES MIN.  
 PROVIDED = 40 SPACES (INCLUDES 2 HC SPACES)

**ACCESSIBLE PARKING REQUIREMENTS**

\*\* PER FLORIDA STATUTE 316.1955 & 316.1956  
 \*\* PER ADAAG 208.2

TOTAL PARKING IN LOT	REQUIRED ACCESSIBLE SPACES
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 PERCENT OF TOTAL (EACH LOT)
1001-OVER	20 PLUS 1 PER 100 OVER 1000

REQUIRED = 2 SPACES  
 PROVIDED = 2 SPACES

**BICYCLE PARKING REQUIREMENTS**

\*\* 2% OF THE REQUIRED OFF STREET PARKING (PER CO.)  
 2% x 13 = 0.26  
 PARKING REQUIRED = 1 SPACE  
 PARKING PROVIDED = 2 SPACES

**DEVELOPMENT SUMMARY**

A. PROJECT NAME: OAKLEAF CORNER OUTPARCEL 3  
 B. ZONING DESIGNATION: PUD  
 C. PUD ORDINANCE NUMBER: 1999-0804  
 D. CITY DEVELOPMENT NUMBER: 4859.051  
 E. OWNER/DEVELOPER NAME, ADDRESS, PHONE NUMBER  
 OAKLEAF 31 DEVELOPMENT CORP.  
 12276 SAN JOSE BLVD.  
 JACKSONVILLE, FL 32223  
 F. ENGINEER NAME, ADDRESS, PHONE NUMBER  
 ANDREW J. BOOTH, P.E.  
 ENGLAND-THIMS & MILLER, INC.  
 14775 OLD ST. AUGUSTINE ROAD  
 JACKSONVILLE, FLORIDA 32258  
 PHONE: (904) 642-8990  
 G. DATA SUMMARY  
 1. TOTAL PROJECT AREA: 1.01 Ac.  
 2. SQUARE FOOTAGE OF BUILDING: 2,200 SF  
 3. TOTAL IMPERVIOUS AREA: 0.64 Ac. (65% IMPERVIOUS)  
 4. REAL ESTATE NUMBER: 016416 1450  
 H. SITE DESCRIPTION  
 1. VEGETATION: THE SITE IS CURRENTLY UNDEVELOPED AND PRIMARILY CONSISTS OF PINE TREES AND SCRUB BRUSH.  
 2. DRAINAGE: THE SITE DRAINAGE SYSTEM WILL BE CONNECTED TO AN EXISTING 18" PIPE STUB-OUT. THIS IS PART OF THE PREVIOUSLY PERMITTED MASTER STORMWATER MANAGEMENT SYSTEM.  
 3. WETLANDS: NONE PRESENT ON-SITE  
 4. FEMA FLOOD ZONE: ZONE X  
 I. UTILITY SERVICES  
 1. SEWAGE TREATMENT JEA  
 2. WATER SUPPLY JEA  
 3. ELECTRICITY JEA

**LEGEND**

[Symbol]	ASPHALT PAVEMENT
[Symbol]	HEAVY DUTY ASPHALT PAVEMENT
[Symbol]	CONCRETE PAVEMENT
[Symbol]	JURISDICTIONAL WETLANDS

**MASTER SITE PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**4**

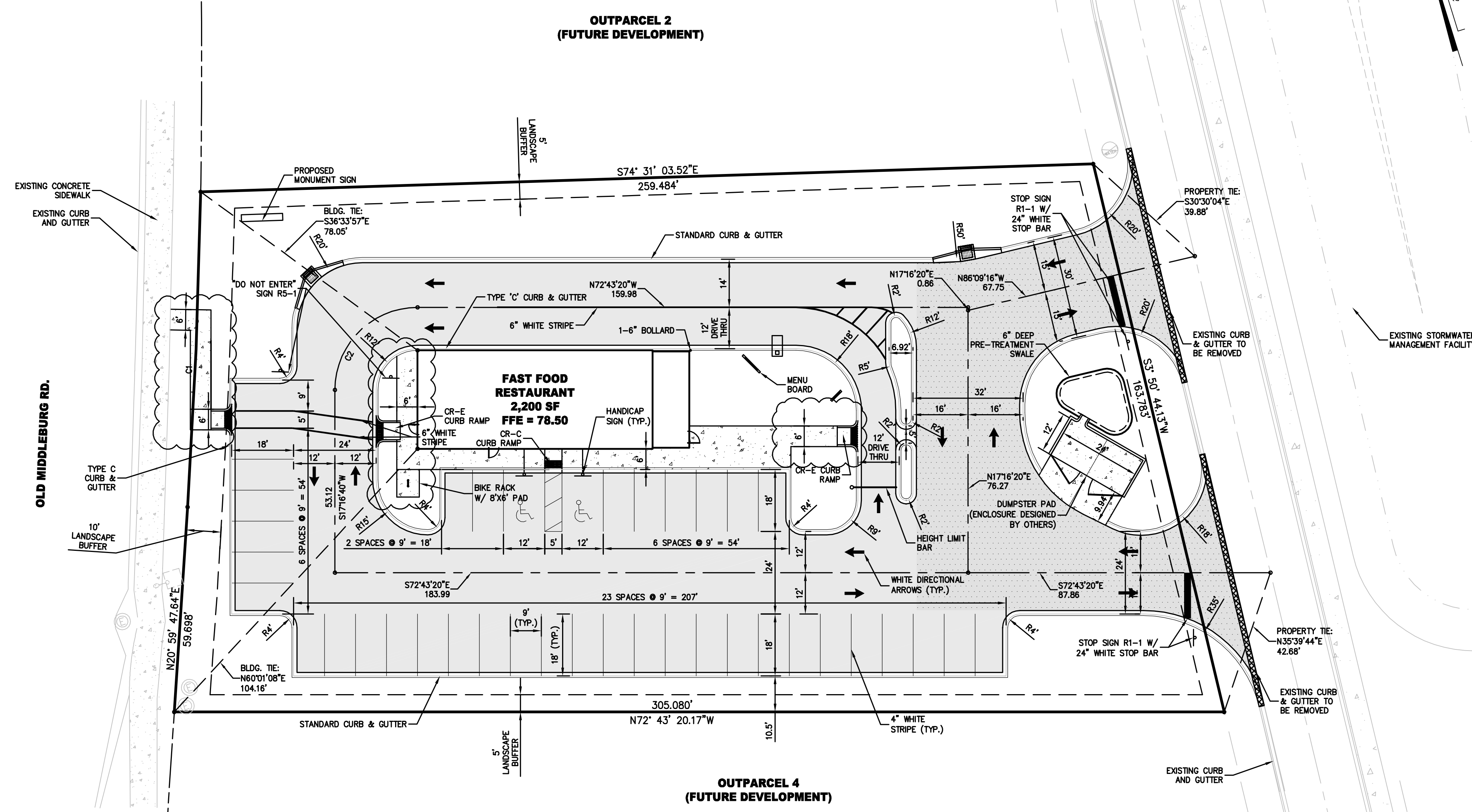
**ETM**  
 VISION • EXPERIENCE • RESULTS

England, Thims & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32258  
 TEL: (904) 642-8990  
 FAX: (904) 646-9485  
 CA - 00002884 LC - 0000316

REVISIONS:

ETM NO. 19-227	AJB
DRAWN BY:	AJB
DESIGNED BY:	AJB
CHECKED BY:	AJB
DATE:	NOVEMBER 2019

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 85302  
 PLOTTED: May 27, 2020 - 8:50 AM, BY: CAD Test



**OUTPARCEL 2  
 (FUTURE DEVELOPMENT)**

**OUTPARCEL 4  
 (FUTURE DEVELOPMENT)**

**OLD MIDDLEBURG RD.**

**FAST FOOD RESTAURANT  
 2,200 SF  
 FFE = 78.50**

**CURVE TABLE**

CURVE	RADIUS	LENGTH	TANGENT	BEARING	CHORD	DELTA
C1	1960.08'	91.69'	45.85'	N19°39'23"E	91.68'	2°40'49"
C2	24.00'	37.70'	24.00'	S62°16'40"W	33.94'	90°00'00"

- GENERAL NOTES:**
- SEE DRAWING NO. 2 FOR GENERAL NOTES AND LEGEND.
  - ALL DIMENSIONS ARE TO BE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL PROVIDE CURB RAMPS AT ALL PLACES WHERE SIDEWALK TERMINATES INTO PAVEMENT. CURB RAMPS SHALL COMPLY WITH LATEST ADA CODE PER FDOT INDEX NO. 522-002.
  - ALL STRIPING, PAVEMENT MARKINGS AND RPM'S SHALL BE IN ACCORDANCE WITH FDOT INDEX 711-001.
  - STOP BARS SHALL BE LOCATED 4' MINIMUM FROM CROSSWALKS AND/OR CURB RAMPS.
  - CONTRACTOR SHALL NOT SCALE PLAN, BUT SHALL REFER TO COUNTY APPROVED SITE PLAN FOR ALL LINE DIMENSIONS. ELECTRONIC FILES PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
  - BUILDING FOOTPRINT SHOWN REPRESENTS THE EXTERIOR ENVELOPE OF THE BUILDING AS RECEIVED FROM THE ARCHITECT. CONTRACTOR TO NOTIFY CIVIL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

**LEGEND**

	ASPHALT PAVEMENT
	HEAVY DUTY ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	JURISDICTIONAL WETLANDS
	DEMO HATCH

REVISIONS:

ETM NO. 19-227	AJB
DRAWN BY:	AJB
DESIGNED BY:	AJB
CHECKED BY:	AJB
DATE:	NOVEMBER 2019

**ETM**  
 England, Thims & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32288  
 TEL: (904) 642-8990  
 FAX: (904) 646-9485  
 CA - 0002884 LC - 0000316  
**VISION • EXPERIENCE • RESULTS**

**SITE GEOMETRY PLAN  
 OAKLEAF CORNER OUTPARCEL 3  
 FOR  
 OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**51**

REVISIONS:

ETM NO. 19-227	DRAWN BY: AUB
DESIGNED BY: AUB	CHECKED BY: AHT
DATE: NOVEMBER 2019	

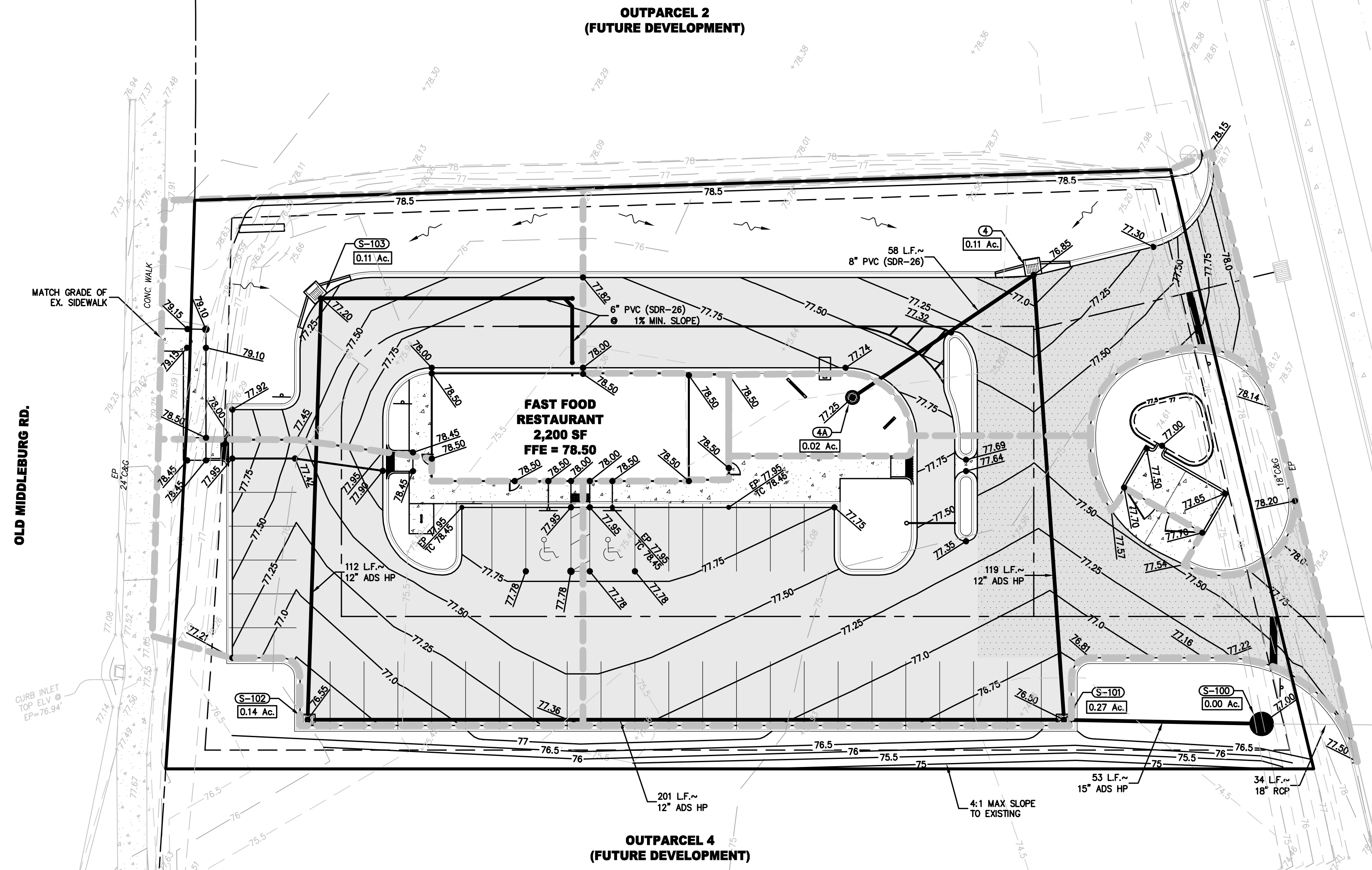
England, Thims & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 TEL: (904) 642-8990  
 FAX: (904) 646-9485  
 CA - 0002884 LC - 0000316



**PAVING & DRAINAGE PLAN  
 OAKLEAF CORNER OUTPARCEL 3  
 FOR  
 OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**6**

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 82302  
 PLOTTED: May 27, 2020 - 8:51 AM, BY: CAD Test



**IMPERVIOUS AREA CALCULATIONS**

PARCEL IS 1.01 AC± PERMITTED TO 85% IMPERVIOUS PER S.R.MMD PERMIT NO. 17232-47

PERMITTED IMPERVIOUS (85%) = 0.86 AC  
 PROPOSED IMPERVIOUS (65%) = 0.64 AC

**DRAINAGE STRUCTURE TABLE**

STR. NO.	STRUCTURE TYPE	TOP/GRATE EL.	INVERT EL.
4	CURB INLET - SINGLE	76.85	12" ADS HP - 73.25 (S) 8" PVC (SDR-26) - 73.80 (W)
4A	YARD DRAIN	77.25	8" PVC (SDR-26) - 73.50 (E)
100	CONSTRUCT 'DOGHOUSE' STRUCTURE ON EX. 18" RCP	77.00	18" RCP - 72.20 (E) 15" ADS HP - 72.65 (W)
101	TYPE "C" INLET	76.50	15" ADS HP - 72.45 (E) 12" ADS HP - 72.90 (N) 12" ADS HP - 73.60 (W)
102	TYPE "C" INLET	76.50	12" ADS HP - 73.90 (E) 12" ADS HP - 73.95 (N)
103	CURB INLET - SINGLE	77.20	12" ADS HP - 73.60 (S) 8" PVC (SDR-26) - 73.60 (E)

**LEGEND**

	DRAINAGE DIVIDE LINE
	DRAINAGE SUB-DIVIDE LINE
	ASPHALT PAVEMENT
	HEAVY DUTY ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	JURISDICTIONAL WETLANDS

- GENERAL NOTES:**
- SEE DRAWING NO. 2 FOR GENERAL NOTES & LEGEND.
  - 2'-6" 20' UNDERDRAIN STUBOUTS AT EACH PAVEMENT DRAINAGE INLET.
  - ALL PIPE LENGTHS SHOWN HEREON ARE APPROXIMATE AND ARE TAKEN FROM THE APPROXIMATE CENTER OF GRATE / RING AND COVER TO THE BACK OF THE MITERED END SECTIONS.
  - SIDEWALK CONSTRUCTION TO MEET ADA REQUIREMENTS.
    - A. RAMPS MAXIMUM SLOPE: 1:12 (8.33%)
    - B. SIDEWALK/CROSSWALK MAXIMUM CROSS SLOPE 1:48 (2%)
    - C. SIDEWALK/CROSSWALK MAXIMUM RUNNING SLOPE 1:20 (5%)
  - CONTRACTOR RESPONSIBLE FOR NOTIFYING CITY FOR ALL/ANY REQUIRED INSPECTIONS FOR WORK WITHIN A PUBLIC RIGHT OF WAY.
  - CONTRACTOR SHALL NOT SCALE PLAN, BUT SHALL REFER TO PLAT FOR ALL HORIZONTAL LINE DIMENSIONS.
  - ALL DRAINAGE MANHOLE TOPS ARE APPROXIMATE. REFER TO DRAWINGS 8B & 8A FOR PAVING AND DRAINAGE DETAILS.
  - UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED AS PER RECOMMENDATIONS IN THE GEOTECH REPORT
  - SEED AND MULCH ALL DESIRED AREAS.

REVISIONS:

ETM NO. 19-227	DRAWN BY: AUB
DESIGNED BY: AUB	CHECKED BY: AAM
DATE: NOVEMBER 2019	

**England, Thins & Miller, Inc.**  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32258  
 TEL: (904) 642-8890  
 FAX: (904) 646-9485  
 CA - 0002884 LC - 0000316



**UTILITY PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER

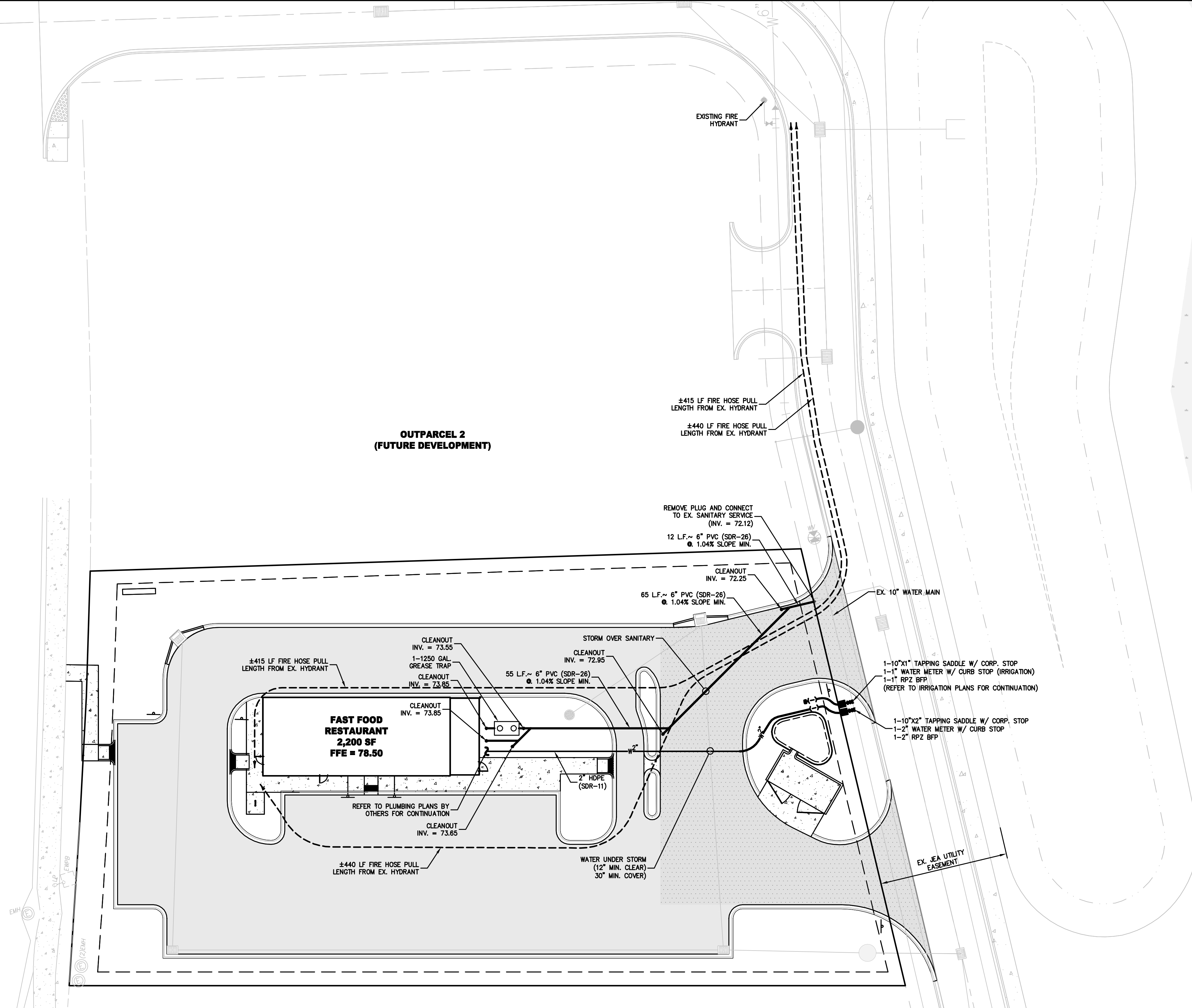
**7**

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 85302  
 PLOTTED: May 27, 2020 - 8:53 AM, BY: CAD Test

OLD MIDDLEBURG RD.

**OUTPARCEL 2  
 (FUTURE DEVELOPMENT)**

**OUTPARCEL 4  
 (FUTURE DEVELOPMENT)**

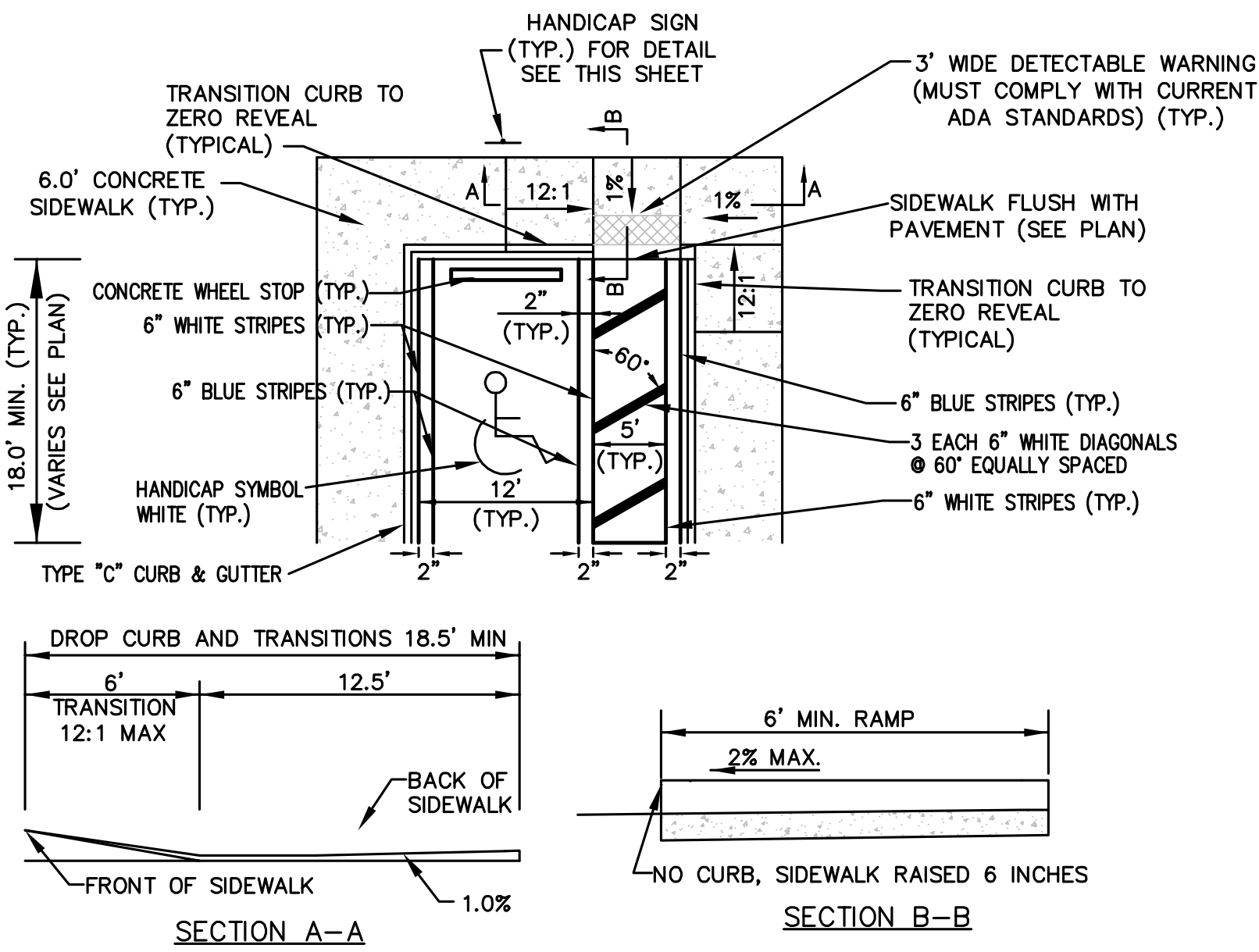


**GENERAL NOTES:**

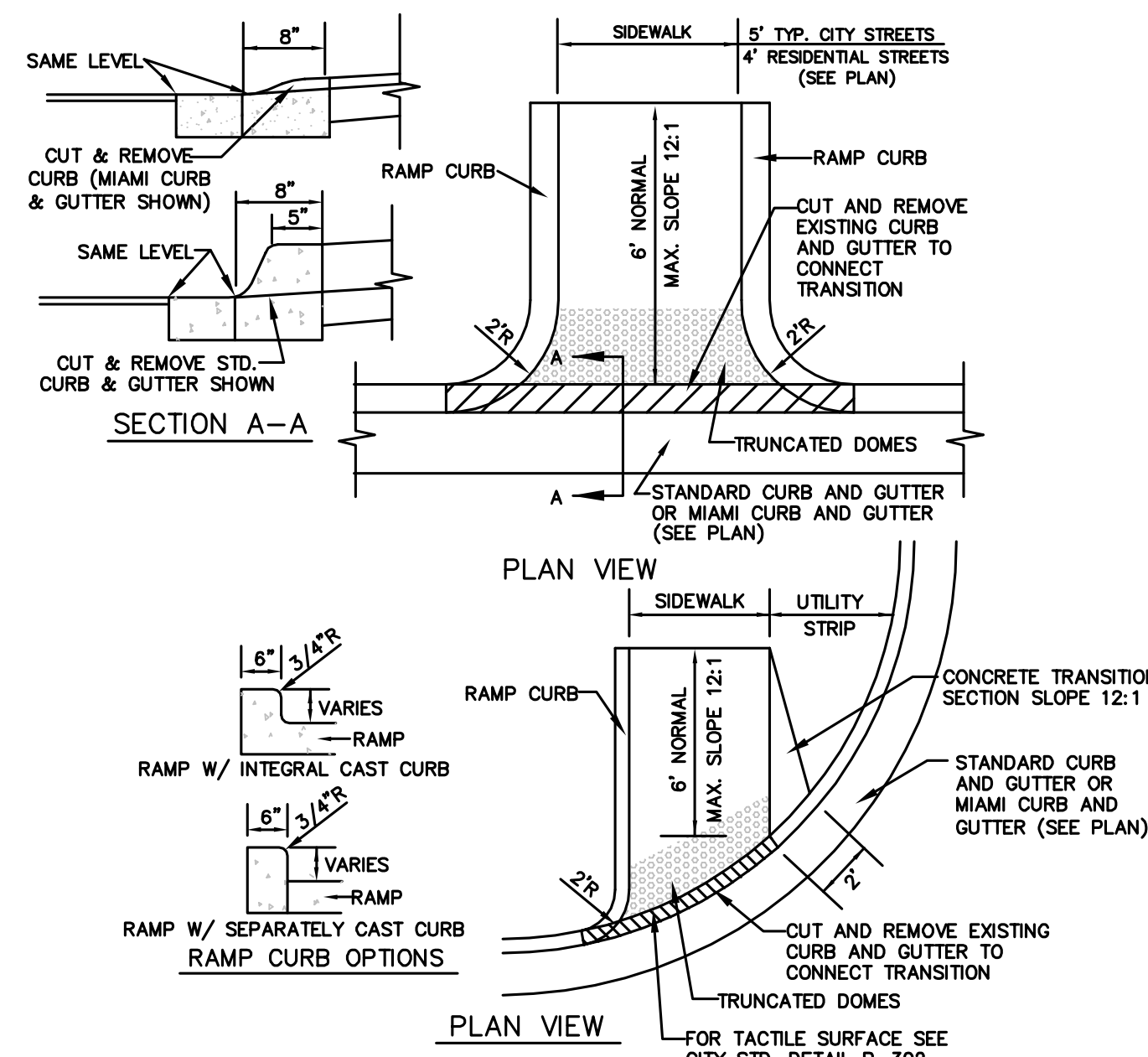
- REFER TO DRAWING NO. 2 FOR GENERAL NOTES AND LEGEND.
- CONTRACTOR SHALL REFER TO SITE PLAN FOR ALL DIMENSIONS AND SHALL NOT SCALE PLAN.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES (LOCATION AND INVERTS) AND SHALL EXERCISE CAUTION WHEN WORKING NEAR ALL EXISTING UTILITIES AND SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY IF THERE ARE DISCREPANCIES OR CONFLICTS.
- CONTRACTOR SHALL VERIFY ALL UTILITY CROSSINGS ON RECORD DRAWINGS (INVERTS, LOCATIONS, SEPARATION, TOP OF PIPE AND GROUND ELEVATION).
- PER FDEP REQUIREMENTS, CONTRACTOR SHALL MAINTAIN 12" MINIMUM VERTICAL SEPARATION BETWEEN WATER MAIN CROSSINGS WITH REUSE MAINS, FORCE MAINS, SANITARY OR STORM SEWER EXCEPT WHERE DESIGN CONSTRAINTS EXIST AND THE MINIMUM OF 6" SEPARATION FOR WATER MAINS OVER STORM MAY BE ALLOWED. CONTRACTOR SHALL VERIFY CROSSINGS ON RECORD DRAWINGS (INVERTS, LOCATIONS AND SEPARATIONS). CONTRACTOR SHALL MAINTAIN 3" MINIMUM SEPARATION BETWEEN DRAINAGE AND REUSE FROM WATER MAINS. ALL DISTANCES MEASURES FROM OUTSIDE OF PIPE.
- REFER TO FIRE PROTECTION PLANS (BY OTHERS) FOR ALL DETAILS/DESIGN ASSOCIATED WITH BUILDING FIRE PROTECTION SYSTEM.
- FIRE HYDRANTS SHALL BE LOCATED FROM 3' TO 10' OFF OF BACK OF CURB. LARGE DIAMETER OUTLET TO FACE ROADWAY.
- FIRE HYDRANTS SHALL HAVE A MINIMUM CLEARANCE OF 7.5' IN FRONT AND 4' ON SIDES AND REAR.
- ALL FIRE HYDRANTS ARE PRIVATELY OWNED AND SHALL BE PAINTED RED.
- ALL STORMWATER/POTABLE WATER CROSSINGS SHALL BE CASE A OR CASE B (SEE DETAILS SHEET) UTILIZING MECHANICAL RESTRAINTS.
- ALL GATE VALVES SHALL HAVE A CAST IRON BOX AND SHALL BE LOCATED OUT OF PAVED AREAS, CURBS & SIDEWALKS UNLESS ACTUAL FIELD CONDITIONS PREVENT. ADDITIONAL FITTINGS SHALL BE INSTALLED ON WATER SYSTEM AS REQUIRED TO MEET MINIMUM SEPARATION REQUIREMENTS.
- CONSTRUCTION MATERIALS SHALL BE IN CONFORMANCE WITH **IEA STANDARDS AND SPECIFICATIONS, LATEST EDITION**.
- SANITARY CLEANOUTS IN PAVED AREAS SHALL BE TRAFFIC BEARING RATED AND FLUSH WITH PAVEMENT.
- CONTRACTOR TO COORDINATE WITH BUILDING PLUMBER PRIOR TO MAKING ALL UTILITY CONNECTIONS.
- REFER TO ARCHITECTURAL/MEP PLANS FOR ALL BUILDING AND PLUMBING DETAILS.
- CONTRACTOR TO COORDINATE WITH J.E.A. FOR ALL/ANY UTILITY SHUTDOWNS DURING CONSTRUCTION.
- WATERMAIN TAP AND JEA. TO PAID FOR BY CONTRACTOR AND INSTALLED BY JEA.
- UNDERGROUND DRY UTILITIES (ELECTRICAL, TELEPHONE, ETC.) ARE SHOWN FOR REFERENCE ONLY. SEE ELECTRICAL PLANS FOR DESIGN INFORMATION.

**LEGEND**

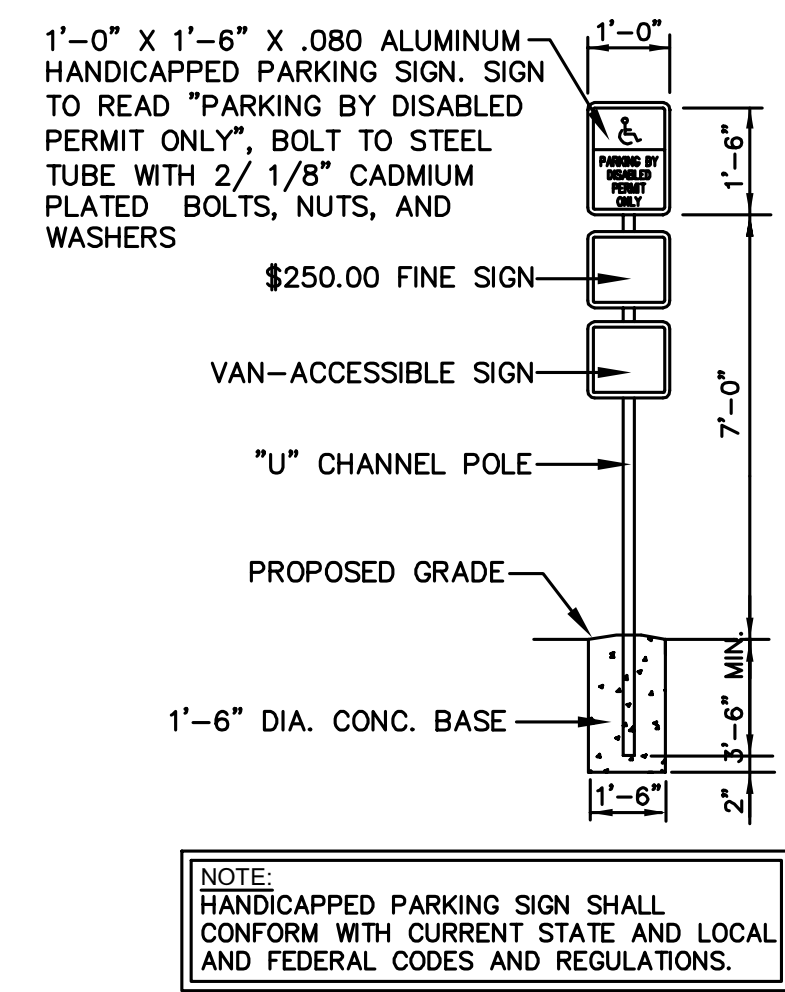
	ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	JURISDICTIONAL WETLANDS
	BACTERIOLOGICAL SAMPLING POINT



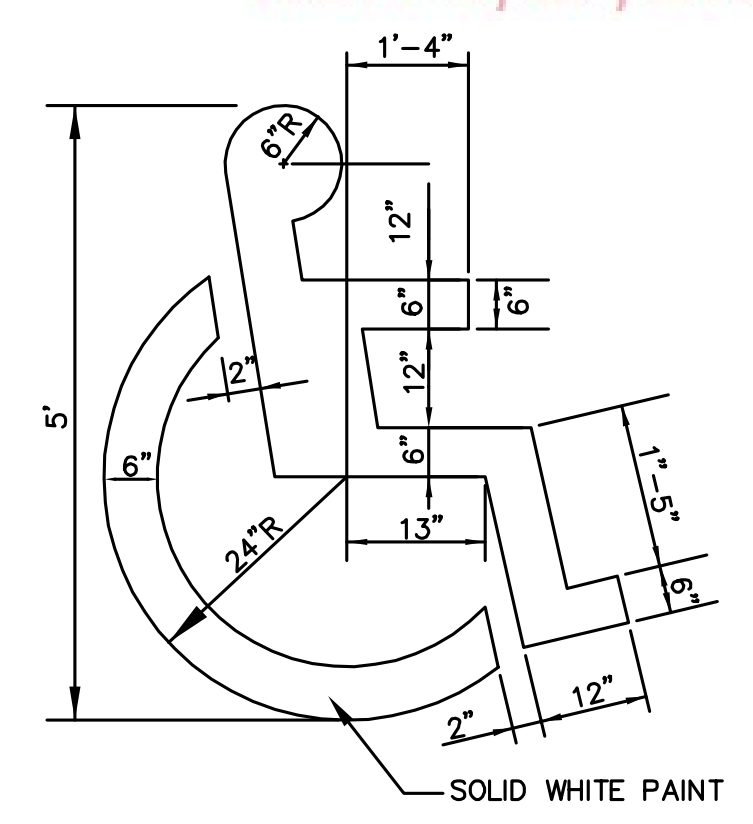
**NOTES:**  
1. HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET REQUIREMENTS OF FLORIDA ADMINISTRATIVE CODE CHAPTER 9B-7 AND AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS.  
2. CONTRACTOR SHALL INSTALL A DETECTABLE WARNING SURFACE IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND FLORIDA BUILDING CODE SECTION 11.  
3. REFER TO PAVING AND DRAINAGE PLAN FOR SIDEWALK TRANSITION AND DIMENSIONS.  
4. SEE SHEET NUMBER 2 FOR GENERAL NOTE REGARDING DETECTABLE WARNING AREAS.



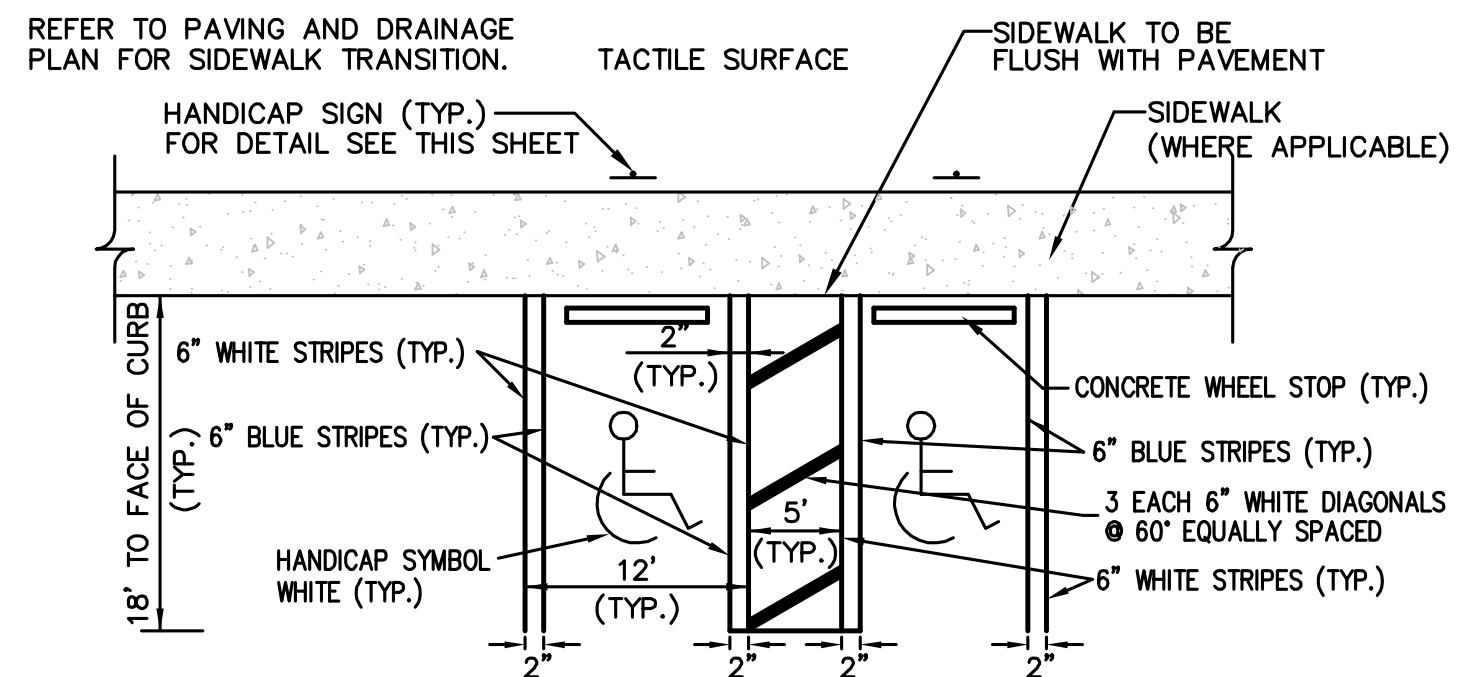
**NOTES:**  
1. HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS.  
2. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING SURFACES IN ACCORDANCE WITH A.D.A. REQUIREMENTS. REFER TO FDOT STANDARD INDEX 502-002 FOR FURTHER INFORMATION.



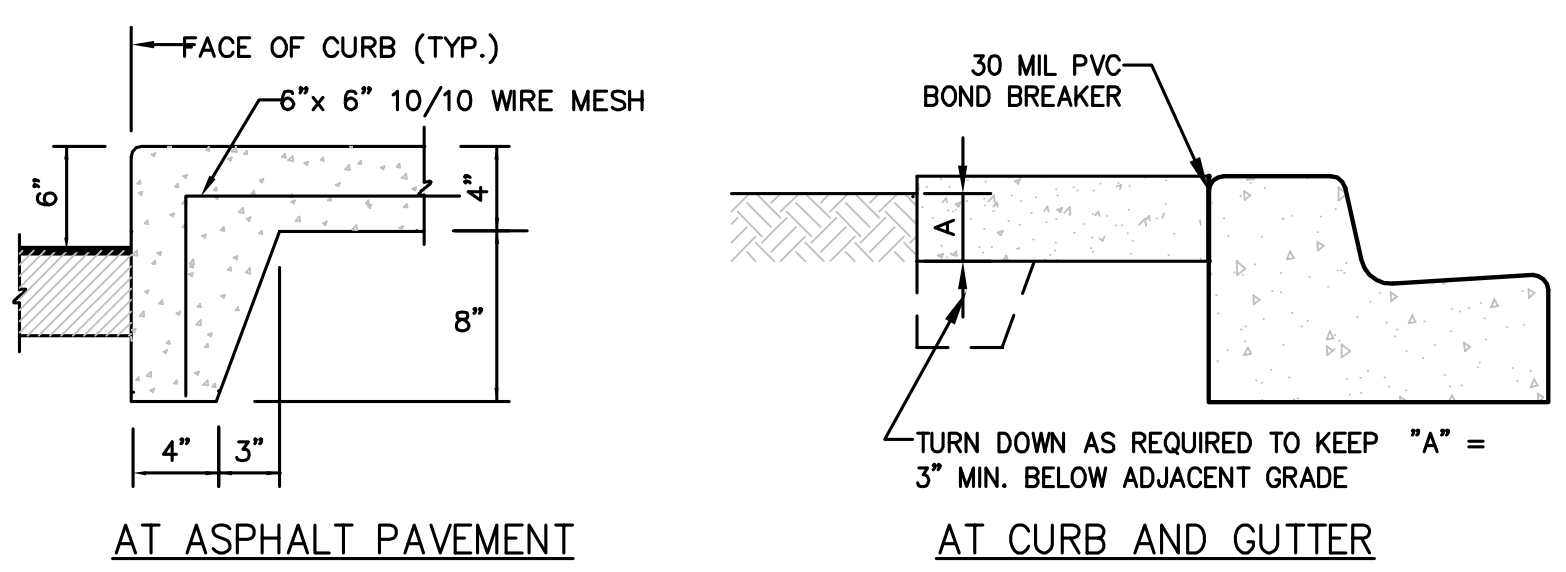
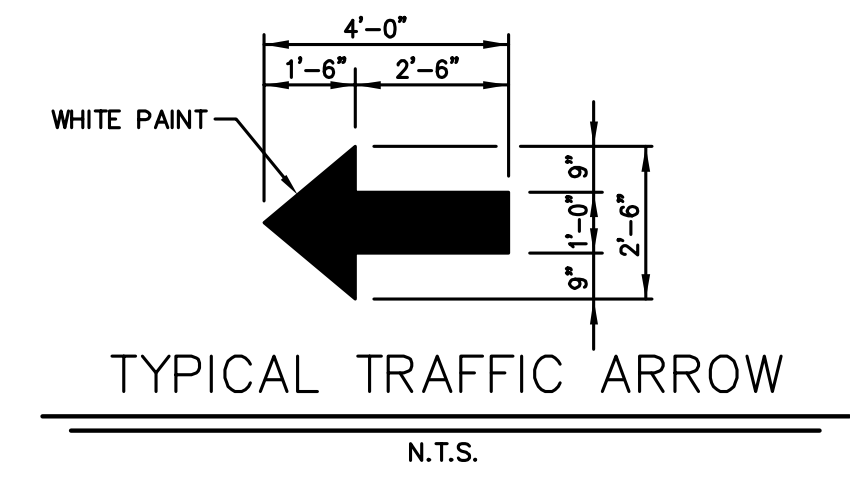
**NOTE:**  
HANDICAP PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL AND FEDERAL CODES AND REGULATIONS.



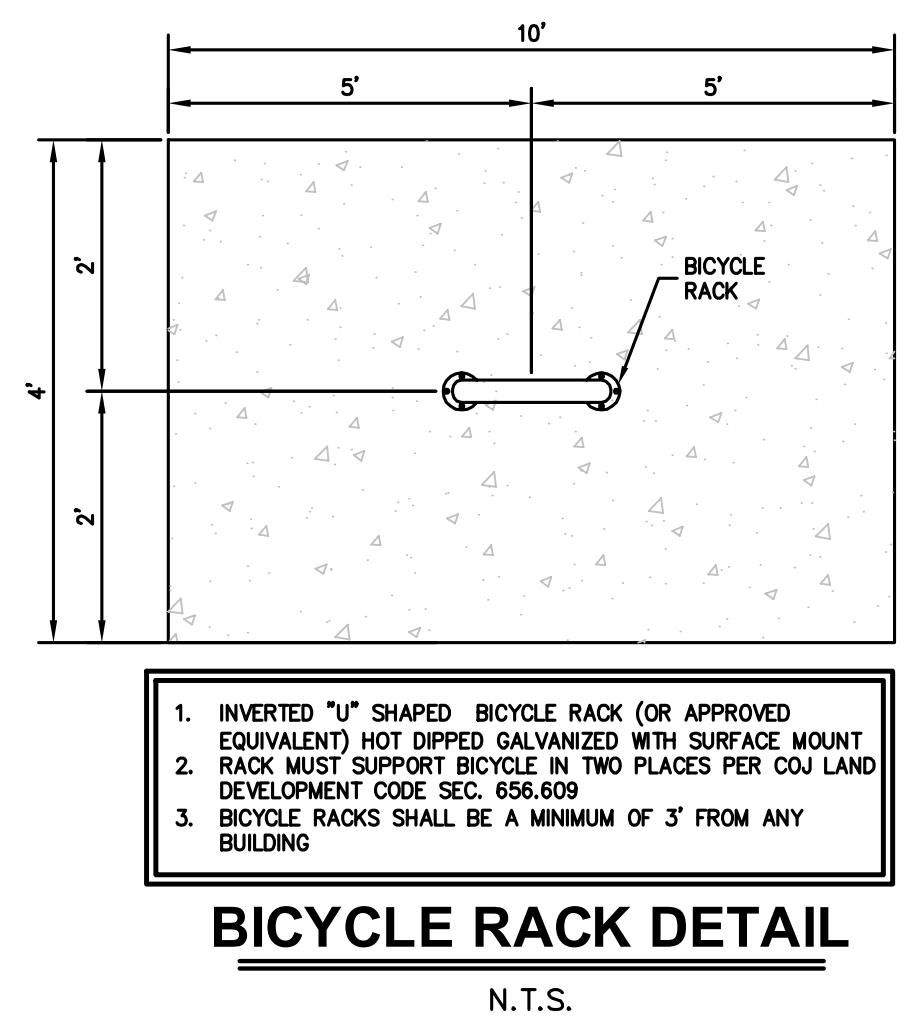
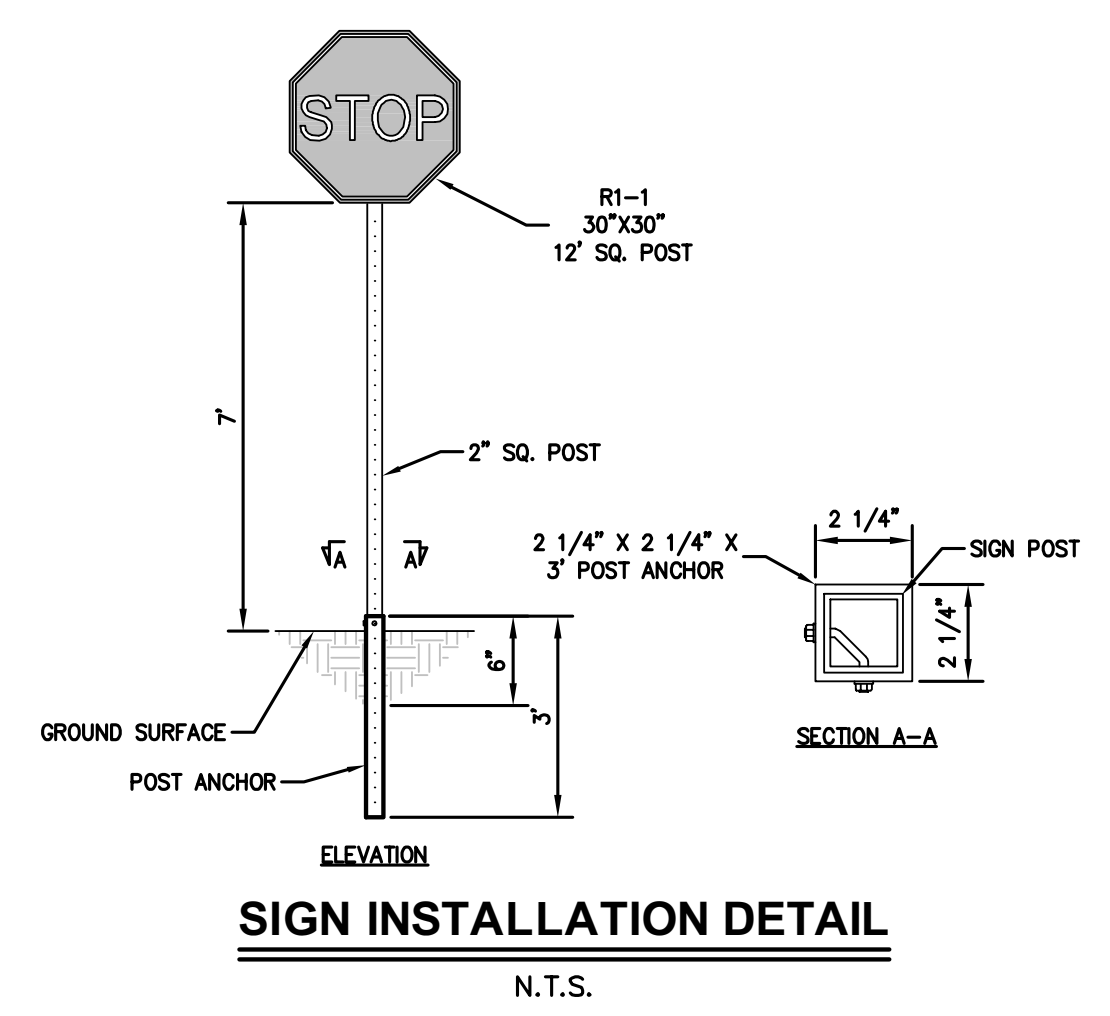
**NOTE:**  
ALL PAINT AND STRIPING SHALL BE IN ACCORDANCE WITH FDOT INDEX 711-001



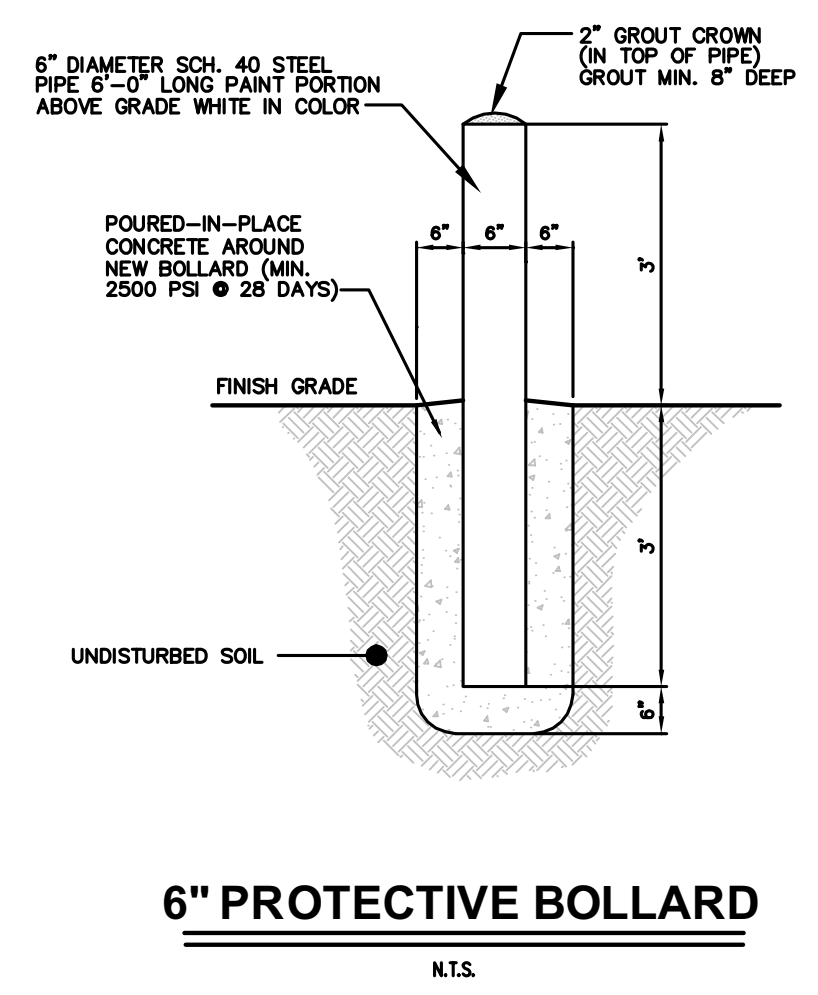
**NOTES:**  
1. HANDICAP RAMPS, SPACES AND SIGNAGE SHALL MEET AMERICAN NATIONAL STANDARD A117.1 AND ALL APPLICABLE CITY AND STATE REQUIREMENTS.  
2. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING SURFACES IN ACCORDANCE WITH A.D.A. REQUIREMENTS. REFER TO FDOT STANDARD INDEX 522-002 FOR DETECTABLE WARNING PLACEMENT.



**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.  
2. PROVIDE EXPANSION JOINTS AT 100' INTERVAL MAXIMUM SPACING ON CENTER.  
3. PROVIDE EXPANSION JOINT FILLER FOR JOINTS ABUTTING CURBS, CATCH BASINS, MANHOLES, INLETS STRUCTURES, WALKS AND OTHER FIXED OBJECTS UNLESS OTHERWISE INDICATED ON PLANS.  
4. EXTEND JOINTS FULL WIDTH AND DEPTH OF JOINT, AND 1/2" BELOW FINISHED SURFACE. PLACE SEALANT OVER JOINT FILLER PER MANUFACTURERS RECOMMENDATIONS.  
5. USE PREMOULDED ASPHALT-IMPREGNATED FIBERBOARD, 1/2" THICK CONFORMING TO ASTM D1751.  
6. CONTRACTION JOINT SHALL BE SAW CUT (1/4" WIDE BY 1" DEEP).  
7. FINISHED SURFACE FOR CONCRETE SIDEWALK SHALL BE GRAY CONCRETE WITH LIGHT BROOM FINISH PERPENDICULAR TO LINE OF TRAFFIC (UNLESS OTHERWISE INDICATED ON PLANS).  
8. PROVIDE CRACK CONTROL JOINTS @ (SAME AS WIDTH) O.C.  
9. PROVIDE 16" STRIP SOD ADJACENT TO ALL EDGES OF SIDEWALK, CURB AND PAVEMENT AREAS.  
10. CONCRETE COMPRESSION STRENGTH 3000 P.S.I. @ 28 DAYS UNLESS OTHERWISE APPROVED BY ENGINEER OF RECORD.  
11. SIDEWALK TO BE CONSTRUCTED WITH SLOPES COMPLYING WITH LATEST ADA CODE AND FDOT INDEX 522-001. SIDEWALK MAX. VERTICAL SLOPE OF 5.0% AND MAX CROSS SLOPE OF 2.0%.



1. INVERTED "U" SHAPED BICYCLE RACK (OR APPROVED EQUIVALENT) HOT DIPPED GALVANIZED WITH SURFACE MOUNT RACK MUST SUPPORT BICYCLE IN TWO PLACES PER COJ LAND DEVELOPMENT CODE SEC. 656.609  
2. BICYCLE RACKS SHALL BE A MINIMUM OF 3' FROM ANY BUILDING



PLANS PREPARED UNDER THE DIRECTION OF:  
ANDREW J. BOOTH  
P.E. NUMBER: 85302  
PLOTTED: May 27, 2020 - 8:53 AM, BY: CAD Test

REVISIONS:

ETM NO. 19-227	DRAWN BY: AUB	DESIGNED BY: AUB	CHECKED BY: AAH	DATE: NOVEMBER 2019
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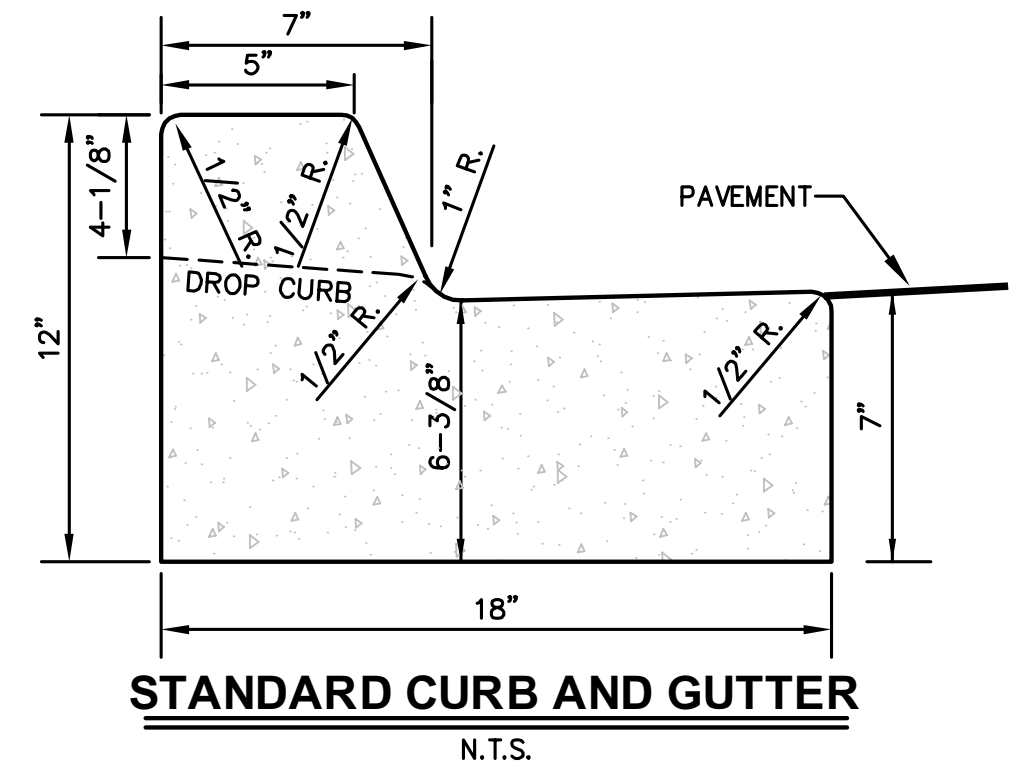
**England, Thims & Miller, Inc.**  
14775 Old St. Augustine Road  
Jacksonville, FL 32288  
TEL: (904) 642-8890  
FAX: (904) 646-9485  
CA - 0002884 LC - 0000316

**ETM**  
VISION - EXPERIENCE - RESULTS

**PAVING & DRAINAGE DETAILS**  
**OAKLEAF CORNER OUTPARCEL 3**  
**OAKLEAF 31 DEVELOPMENT CORP.**

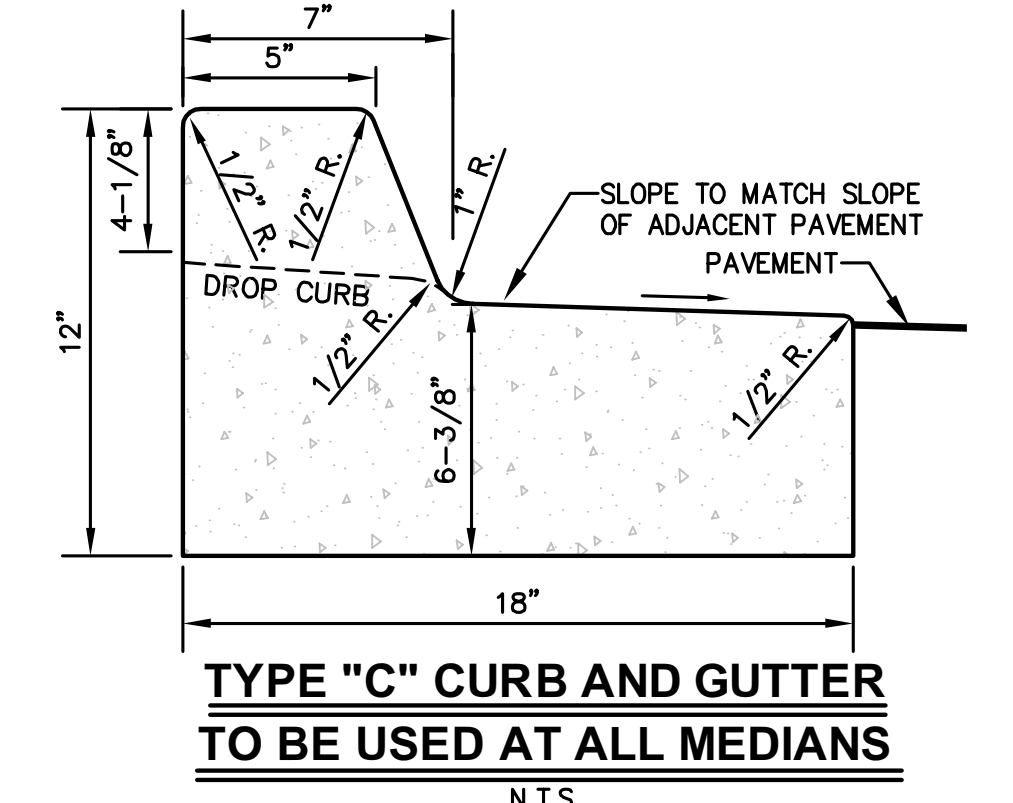
DRAWING NUMBER  
**8A**





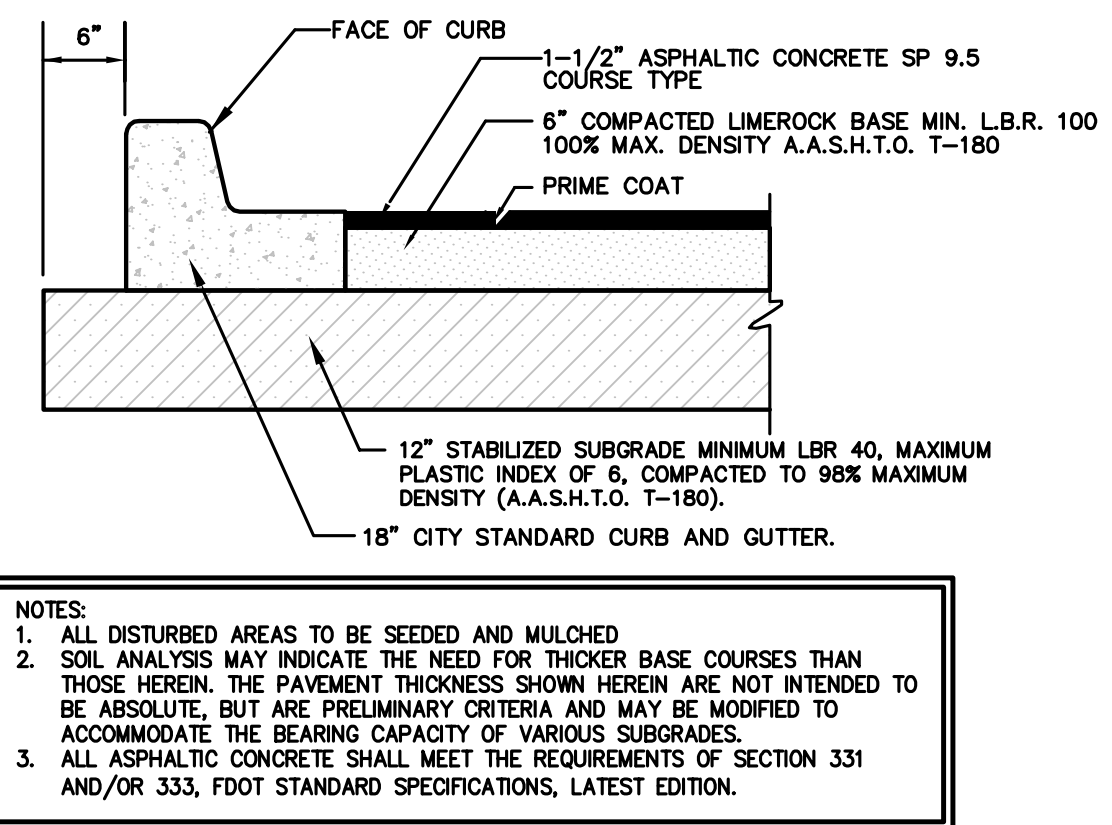
**STANDARD CURB AND GUTTER**  
N.T.S.

**CURB AND CURB & GUTTER NOTES:**  
 1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.  
 2. 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.  
 3. 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.



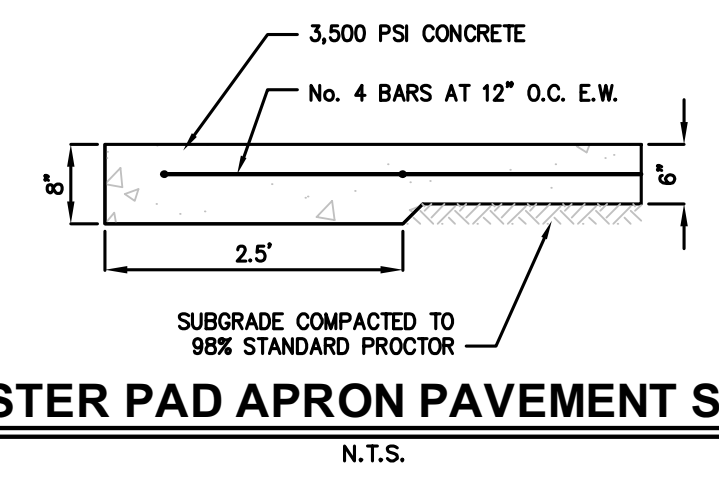
**TYPE "C" CURB AND GUTTER TO BE USED AT ALL MEDIANS**  
N.T.S.

**CURB AND CURB & GUTTER NOTES:**  
 1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.  
 2. 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.  
 3. 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.

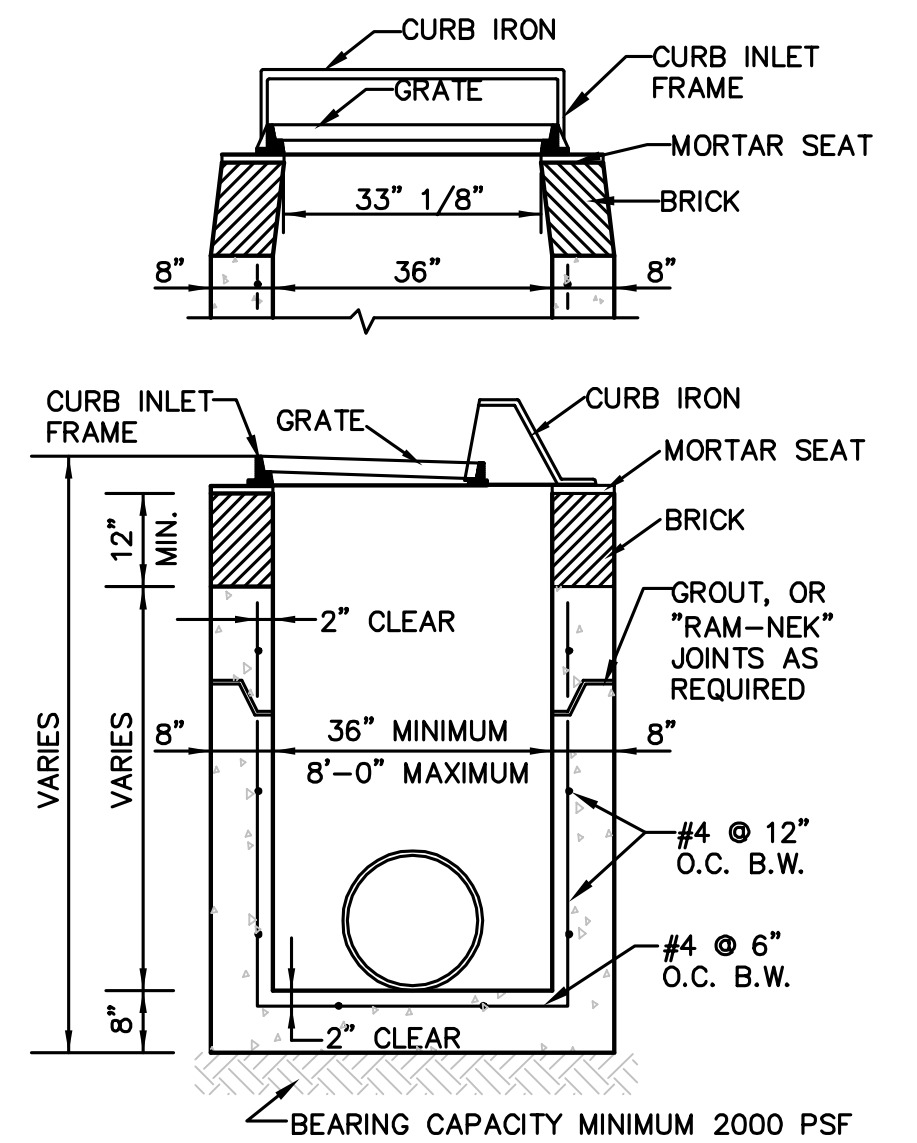


**TYPICAL PAVEMENT SECTION**  
N.T.S.

**NOTES:**  
 1. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED  
 2. 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.  
 3. ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331 AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

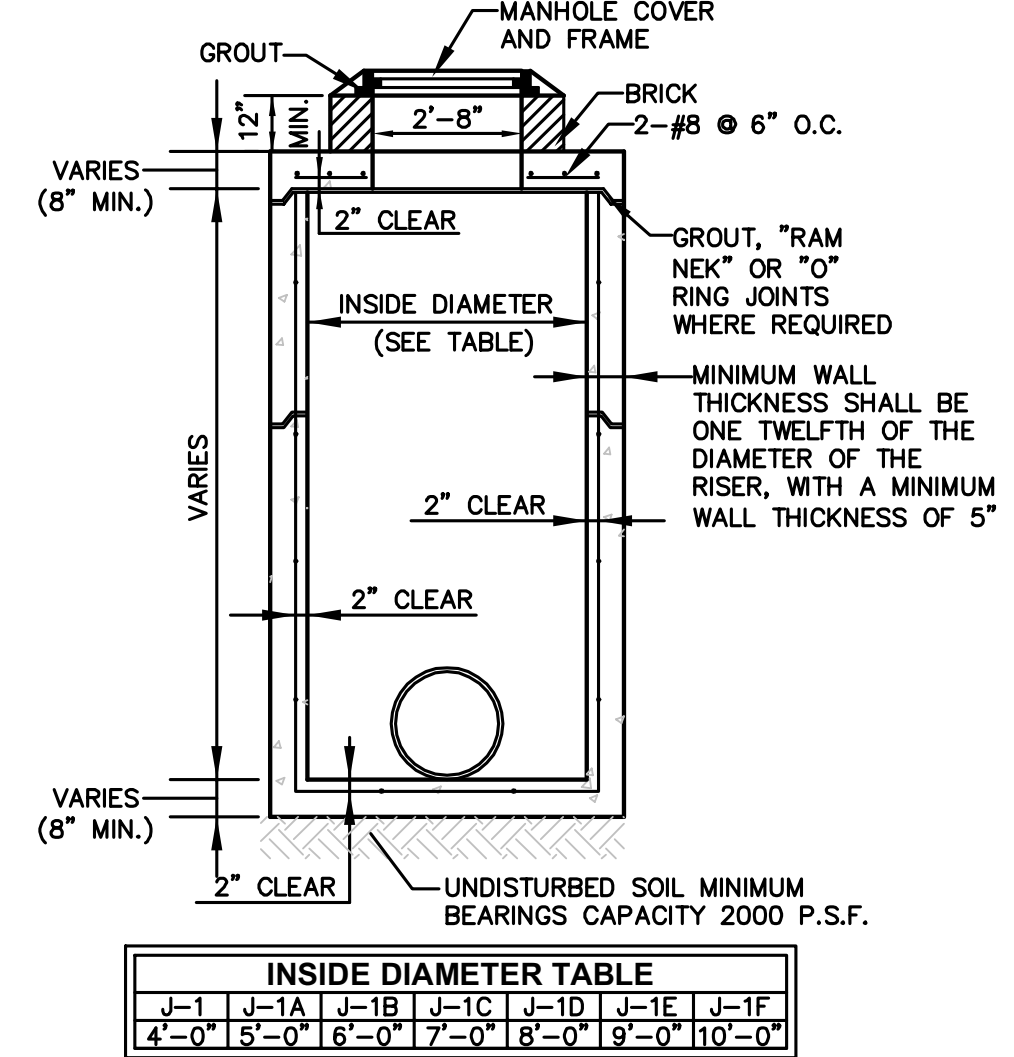


**DUMPSTER PAD APRON PAVEMENT SECTION**  
N.T.S.



**TYPE "A" SINGLE CURB INLET**  
N.T.S.

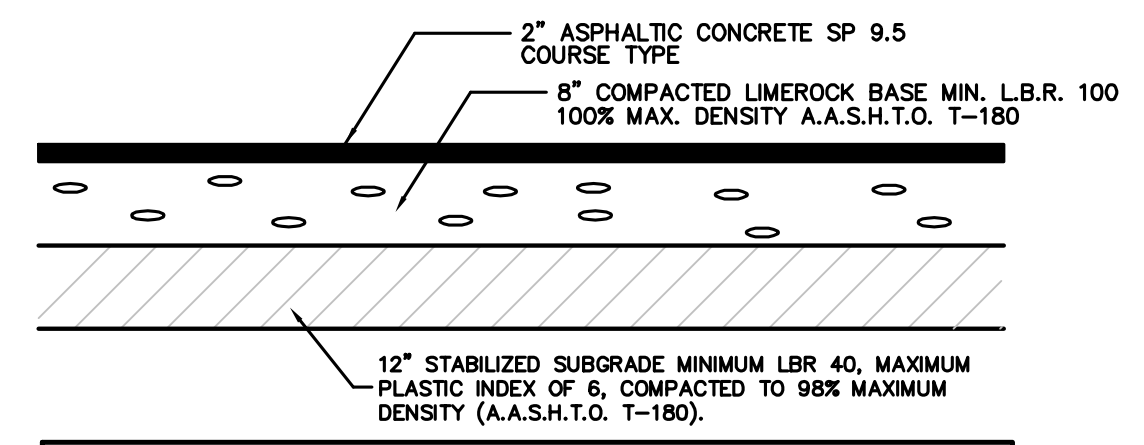
**NOTES:**  
 1. PROVISION SHALL BE MADE AT THE TIME OF DRAINAGE STRUCTURE PRE-CASTING TO PROVIDE OPENINGS FOR UNDERDRAIN STUBOUTS ON EACH SIDE OF INLET.  
 2. CONCRETE DESIGN STRENGTH 4,000 PSI.  
 3. PIPE SHALL NOT BE IN CONSTRUCTION JOINT.



**STORM SEWER J-1 MANHOLE**  
N.T.S.

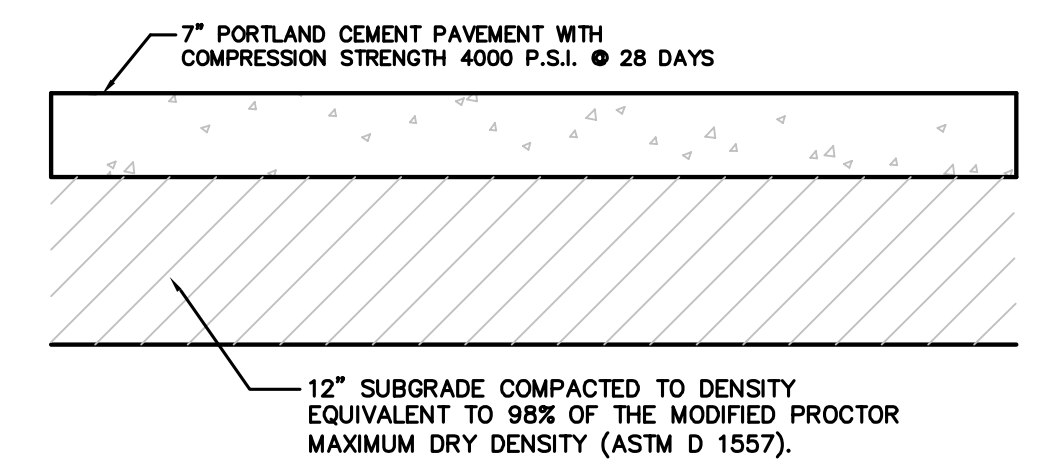
**NOTES:**  
 1. CONCRETE DESIGN STRENGTH 4,000 PSI.  
 2. PRECAST IN ACCORDANCE WITH LATEST EDITIONS OF ASTM C 478.  
 3. PIPES SHALL BE FLUSH WITH INSIDE WALL.  
 4. IN PAVED AREAS FRAME AND GRATE MUST MATCH FINAL ASPHALT AND CROSS-SLOPE.  
 5. RING AND COVER SHALL BE TRAFFIC BEARING

J-1	J-1A	J-1B	J-1C	J-1D	J-1E	J-1F
4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"

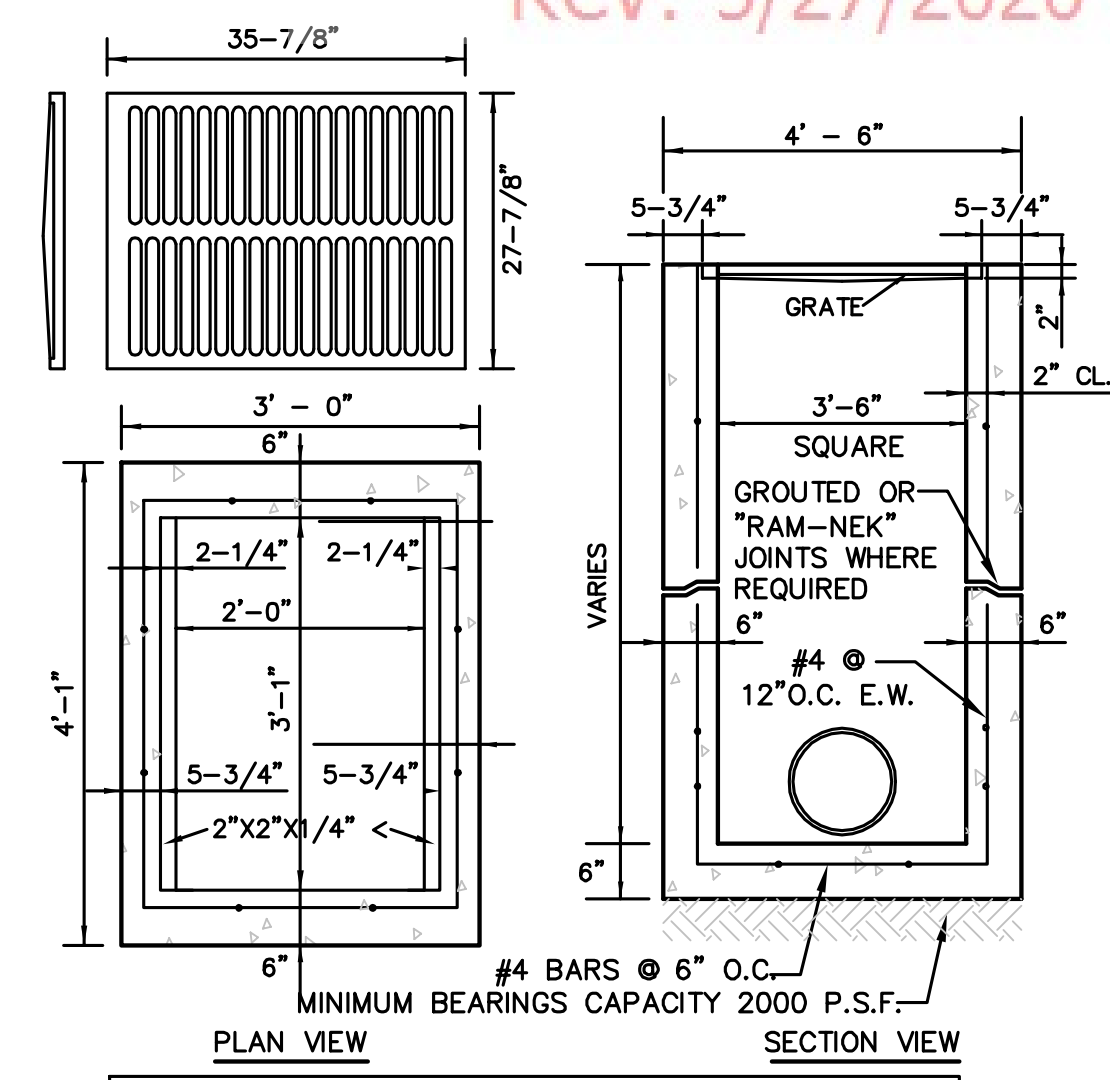


**HEAVY DUTY ASPHALT PAVEMENT SECTION**  
N.T.S.

**NOTES:**  
 1. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED  
 2. 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.  
 3. ALL ASPHALTIC CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 331 AND/OR 333, FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

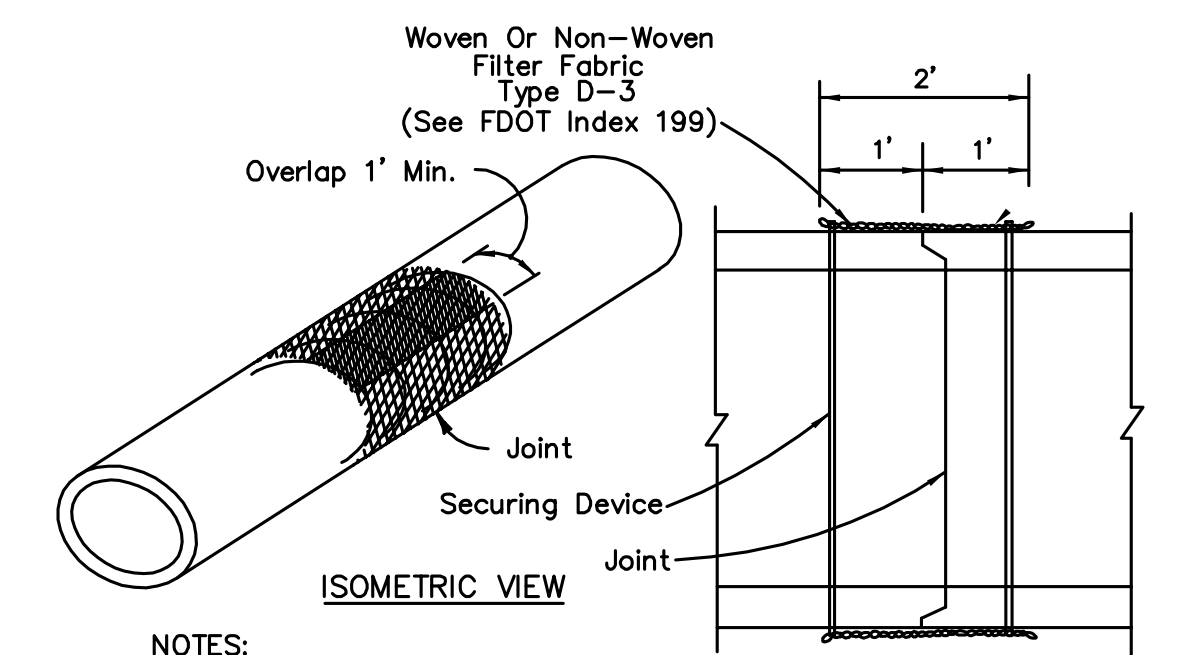


**TYPICAL CONCRETE PAVEMENT SECTION**  
N.T.S.



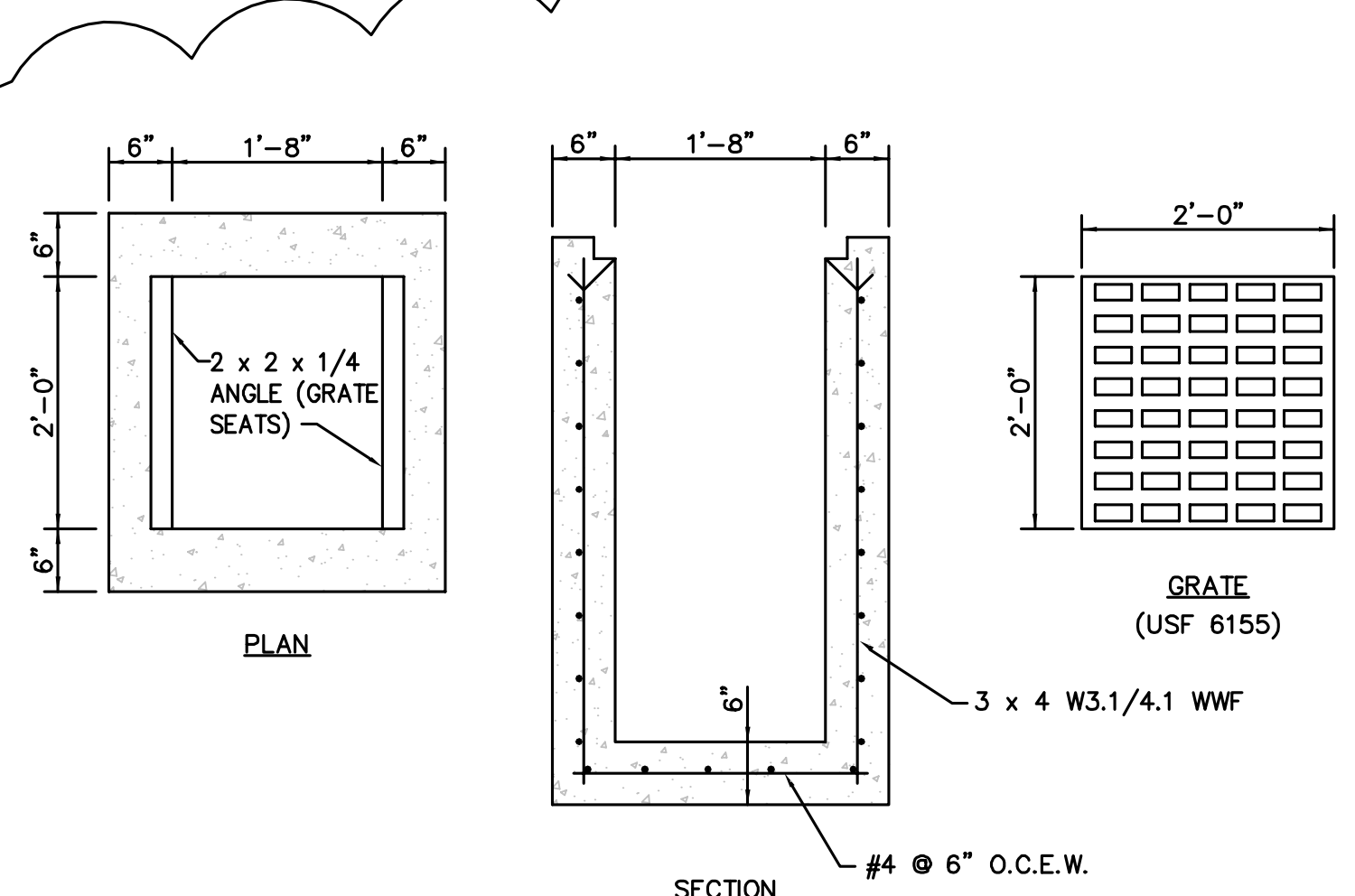
**STORM SEWER TYPE "C" INLET**  
N.T.S.

**NOTES:**  
 1. CONCRETE DESIGN STRENGTH 4,000 PSI.  
 2. ALL GRATES TO BE TRAFFIC BEARING GRATE.  
 3. CONTRACTOR SHALL PLACE A 10' WIDE SOD COLLAR AROUND ALL INLETS (NOT IN PAVEMENT)

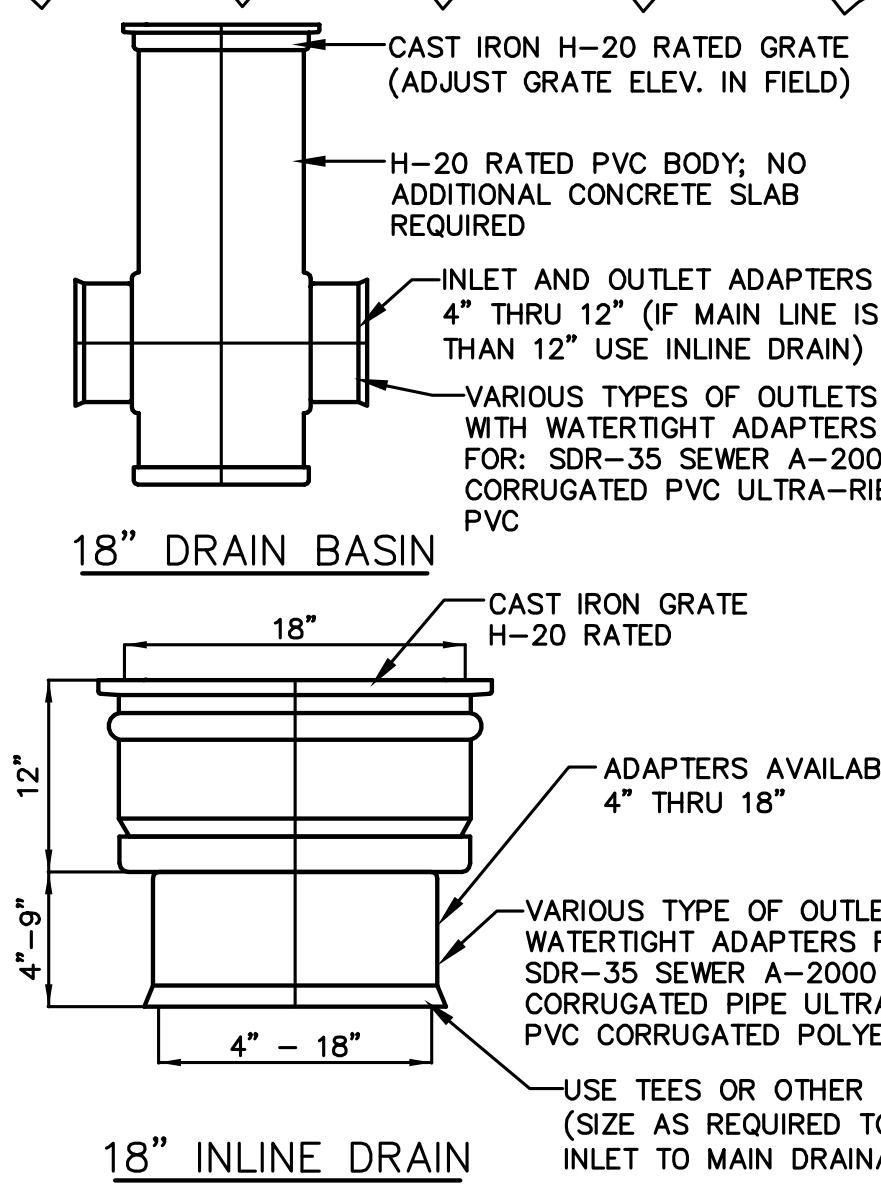


**FILTER FABRIC JACKET**  
N.T.S.

**NOTES:**  
 1. ALL DRAINAGE PIPE TO BE WRAPPED AT JOINTS.  
 2. COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS.

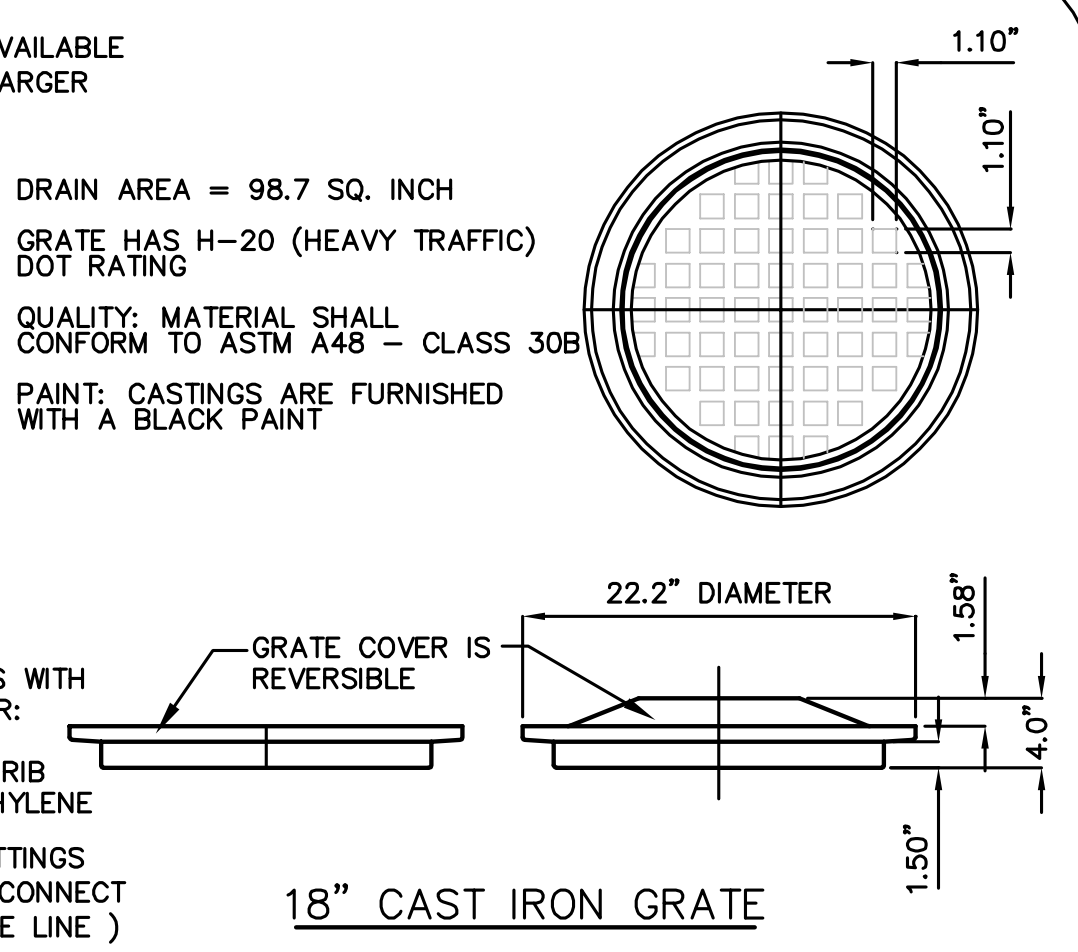


**YARD DRAIN DETAIL**  
N.T.S.



**18" DRAIN BASIN**

**18" INLINE DRAIN**



**18" CAST IRON GRATE**

**NOTE:**  
 CONTRACTOR SHALL USE FILTER WRAP AROUND ALL HDPE JOINTS PER MANUFACTURER'S RECOMMENDATIONS

**YARD DRAIN - HDPE STORM SEWER INLETS**  
NYLOPLAST OR APPROVED EQUIVALENT N.T.S.

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 82302  
 PLOTTED: May 27, 2020 - 8:53 AM, BY: CAD Test

REVISIONS:  
 E.T.M. NO. 19-227  
 DRAWN BY: AUB  
 DESIGNED BY: AUB  
 CHECKED BY: AHT  
 DATE: NOVEMBER 2019

**E.T.M.**  
 VISION • EXPERIENCE • RESULTS

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 14775 Old St. Augustine Road  
 Jacksonville, FL 32258  
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**PAVING & DRAINAGE DETAILS**  
**OAKLEAF CORNER OUTPARCEL 3**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**88**

**Englund - Thims & Miller, Inc.**  
 14776 Old St. Augustine Road  
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**ETM**  
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THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

DESIGNER: ANDREW J. BOOTH  
 DRAWN BY: ANDREW J. BOOTH  
 DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DESIGN ENGINEER: ANDREW J. BOOTH  
 FLORIDA REGISTRATION NO.: 82302

PROJ. NO.: 19-227  
 DATE: JANUARY 2017  
 SCALE: AS NOTED

NO. SHEETS: 5  
 SHEET NO.: 5  
 DRAWING NO.: 9A

JEA STANDARD  
 GENERAL NOTES LEGEND, AND SHEET INDEX  
 OAKLEAF CORNER OUTPARCEL 3

JEA  
 Building Community<sup>sm</sup>

T:\2019\19-227\LandDev\Design\Plots\19-227\_JEA\_Notes.dwg PLOTTED: May, 27, 20 - 8:54 AM, BY: CAD Test

**SURVEY AND LOCATE DATA:**

- NOT APPLICABLE  APPLICABLE
- ALL ELEVATIONS ARE BASED ON U.S.C.&G.S. DATUM AND SHOWN IN FEET.
  - 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.
  - 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.
  - BENCHMARK DATA: \_\_\_\_\_

**PERMIT REQUIREMENTS (NOT ALL INCLUSIVE):**

- CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS.
- CONTRACTOR SHALL NOT OPEN CUT STREETS IN THE PROJECT AREA UNLESS SPECIFICALLY SHOWN ON PLANS
- 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.
- THE DEPARTMENT OF TRANSPORTATION, RAILROAD COMPANIES AND C.O.J. 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 CITY OF JACKSONVILLE 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.
- 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 JACKSONVILLE ORDINANCE CODE 656 AND/OR AS DETAILED ON SPECIFIC PLAN SHEETS. NO TRIMMING OF OVERHANGING TREE LIMBS WILL BE ALLOWED, USE SMALLER EQUIPMENT IF NECESSARY.
- THE CONTRACTOR SHALL LOCATE THE DRAINAGE INLET STRUCTURES IN THE PROJECT AREA AND ERECT SEDIMENTATION CONTROL DEVICES AS NECESSARY PER THE CITY OF JACKSONVILLE STORMWATER POLLUTION PREVENTION PLAN.
- CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.

**EXISTING UTILITY PROTECTION:**

- 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 EQUIPMENT.
- 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.
- 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:**

- 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.
- THE CONTRACTOR SHALL RESTORE/REPLACE ALL CULVERTS, HEADWALLS AND STORM DRAIN INLETS REMOVED OR DISTURBED BY THE CONSTRUCTION OPERATION.
- 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.
- 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.
- UNLESS OTHERWISE NOTED, REMOVE AND REPLACE EXISTING PAVEMENT AS PER C.O.J. CASE X (10) PAVEMENT REPLACEMENT DETAIL.
- CONTRACTOR MUST MAINTAIN AND PRESERVE NEWLY GRADED AREAS AND REPAIR AREAS WHERE SETTLING AND EROSION HAVE OCCURRED.

**UTILITY CONTACTS:**

A. AT&T - GENERAL NUMBER	904-519-2529
B. AT&T - ADAM DUGAN - NORTH DISTRICT	904-781-0741
C. AT&T - BILL LAKE - SOUTH DISTRICT	904-303-8754
D. CITY OF JACKSONVILLE - PUBLIC WORKS DEPT	904-255-8762
E. CITY OF JACKSONVILLE - TRAFFIC OPERATIONS	904-387-8861
F. FLORIDA DEPT. OF TRANSPORTATION	904-360-5200
G. JEA - WATER COLLECTION & DISTRIBUTION - BOB ALLSBROOK	904-665-7299
H. JEA - SEWER COLLECTION & DISTRIBUTION - BOB ALLSBROOK	904-665-7299
I. JEA - GENERAL INFORMATION	904-665-6000
J. JEA - PROJECT OUTREACH	904-665-7500
K. JEA - POWER OUTAGES	904-665-6000
L. JEA - SEWER PROBLEMS	904-665-4802
M. JEA - WATER PROBLEMS	904-665-4801
N. JEA - WATER & SEWER LOCATES	904-665-8410
O. NASSAU COUNTY - PUBLIC WORKS - CHARLES HOUSTON	904-491-7334
P. ST. JOHNS COUNTY - RIGHT-OF-WAY PERMITTING - RICK MAULDIN	904-209-0134
Q. ST. JOHNS COUNTY - TRAFFIC SIGNALS - HANK MEIN	904-209-0173
R. COMCAST - EMERGENCY HOTLINE	904-380-6274
S. TECO/PEOPLES GAS - BEN MOBLEY	904-545-8958
T. SUNSHINE ONE CALL	811

**INSTALLATION NOTES:**

- NOT APPLICABLE  APPLICABLE
- CONTRACTOR TO REHABILITATE ALL MANHOLES ON PIPE BURST SEWERS VIA COATING/LINING PER JEA SPECIFICATION 446-2, UNLESS OTHERWISE NOTED ON THE PLANS.
  - 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.
  - 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 FOLLOWS:  
 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.
  - ALL NEW STORM DRAIN PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
  - 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.
  - 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.
  - 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).
  - 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.
  - 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.
  - CONTRACTOR SHALL REPLACE EXISTING WATER METER BOXES WHEN DEEMED NECESSARY BY THE JEA INSPECTOR.
  - CONTRACTOR TO PROVIDE ADDITIONAL DEPTH OF BURY VIA PIPE JOINT DEFLECTION TO ACCOMMODATE VALVE SELECTION PER JEA STANDARDS.
  - WATER METERS MAY REQUIRE RELOCATION FOR CONSTRUCTION, CONTRACTOR SHALL CONTACT JEA METER DEPARTMENT AND RELOCATE WATER METERS AS NECESSARY.
  - 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.
  - SHEET PILING WILL BE REQUIRED ON ALL EXCAVATIONS DEEPER THAN 16 FEET.

**HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS**

CONFLICTING UTILITY	PROPOSED UTILITY											
	POTABLE WATER			WASTEWATER GRAVITY AND FORCE MAIN			RECLAIMED WATER			VACUUM SEWERS		
	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"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3'	12"	3' NOTE 2	3' to 10'	12"	3' NOTE 2
WASTEWATER (GRAVITY AND FORCE MAIN)	6' to 10'	12"	6' NOTE 2	3' NOTE 1	12"	6' NOTE 1	12"	3' NOTE 2	3' NOTE 2	3' to 10'	12"	3' NOTE 2
VACUUM SEWERS	3' to 10'	12"	3' NOTE 2	3' NOTE 1	12"	6' NOTE 1	12"	3' NOTE 2	3' NOTE 2	3' to 10'	12"	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

- NOTES:**
- 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.
  - 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 MINIMUM SEPARATION SHALL BE 12 INCHES.
  - REFER TO POTABLE WATER PIPING- SECTION 350, III.4.11.

**SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS**

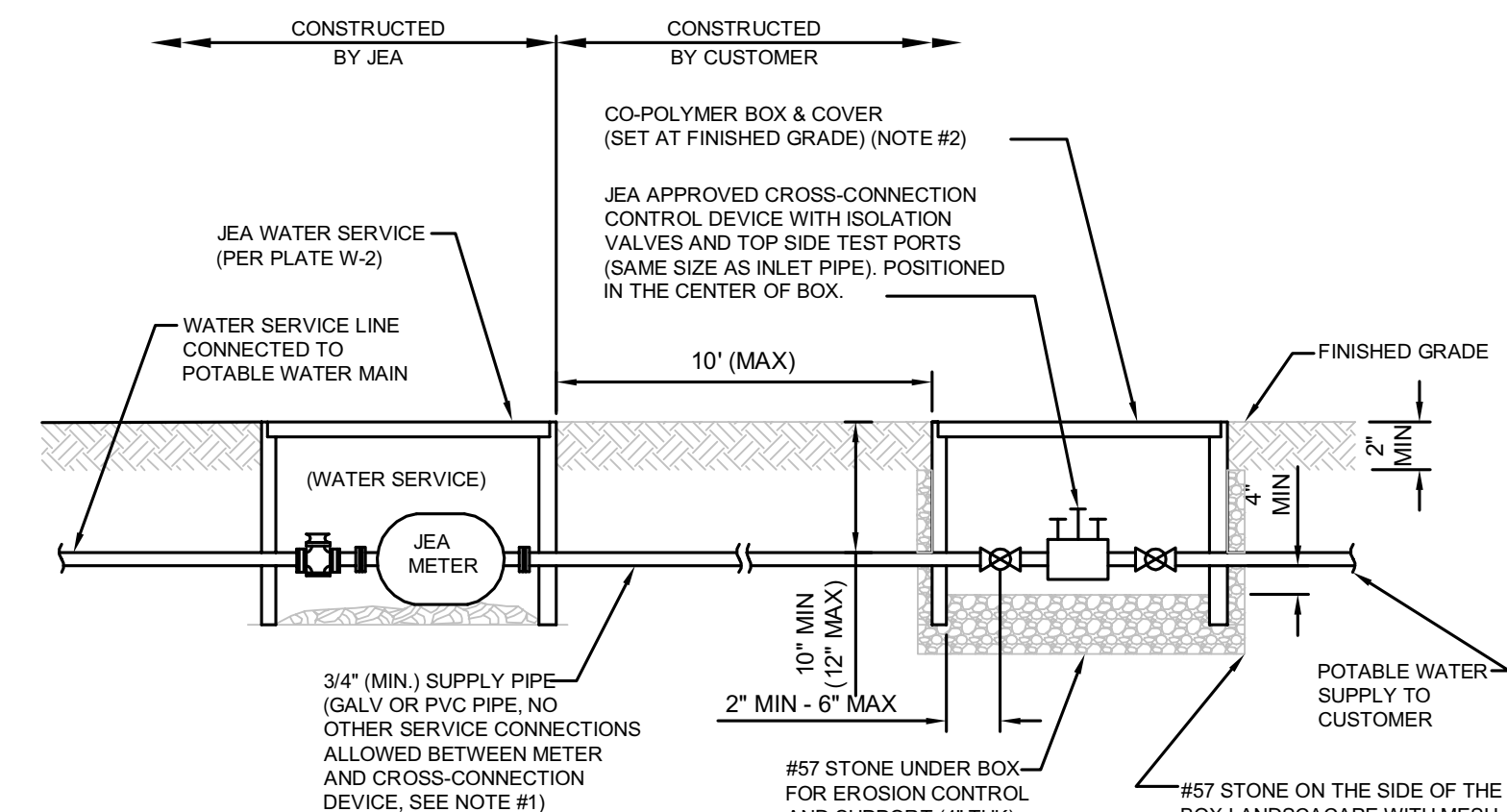
JANUARY 2019 PLATE W-10

**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 82-555, 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 TO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLY 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 TO THE OUTSIDE OF THE WATER MAIN IS AT 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, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER.
- 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.

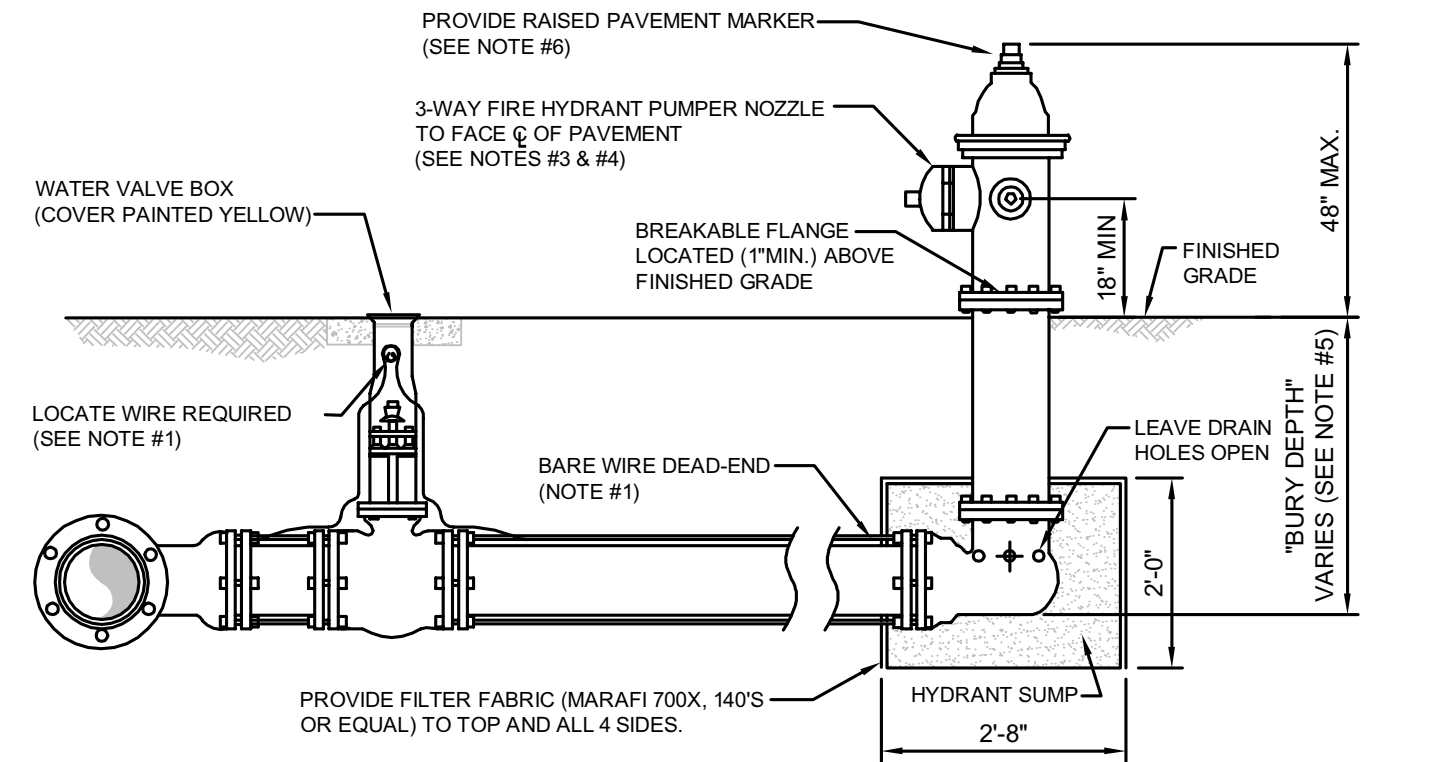
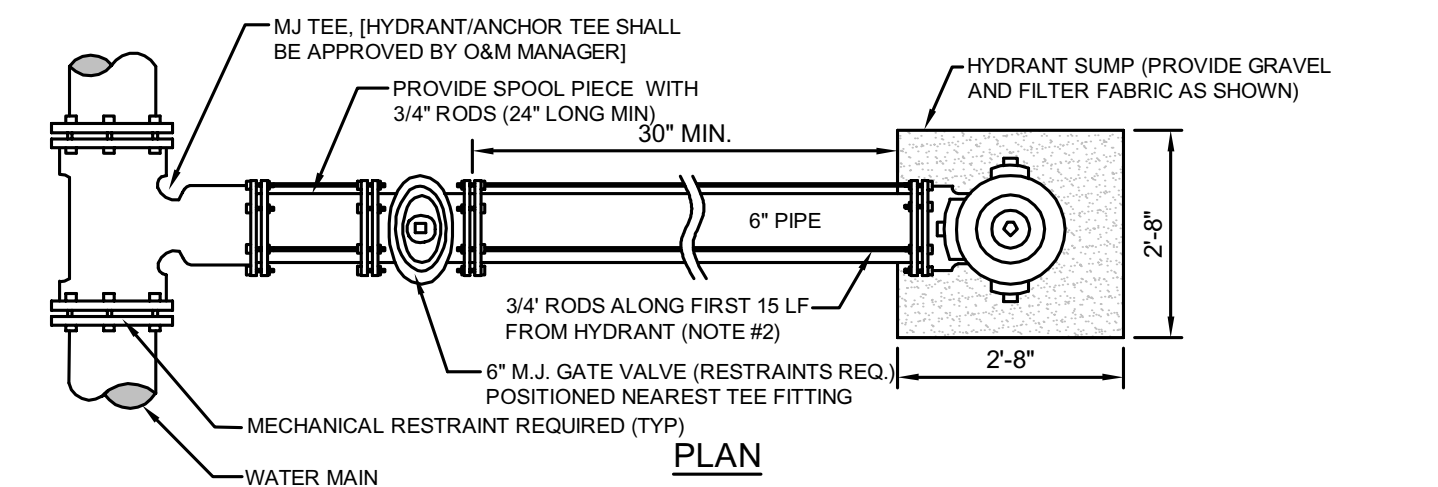
**NOTES ON UTILITY SEPARATION REQUIREMENTS**

JANUARY 2019 PLATE W-11



- NOTES:**
- THE POTABLE WATER CUSTOMER IS REQUIRED TO INSTALL AND MAINTAIN A JEA APPROVED CROSS-CONNECTION CONTROL 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 0007MOT, WILKINS 80XLTU OR JEA APPROVED EQUAL.
  - BACKFLOW PREVENTION DEVICES REQUIRED WHEN:  
IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE WATER 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 ON, WATER SERVICE EVEN IF NO RECLAIMED
  - JEA IRRIGATION SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE PLATE W-15A)

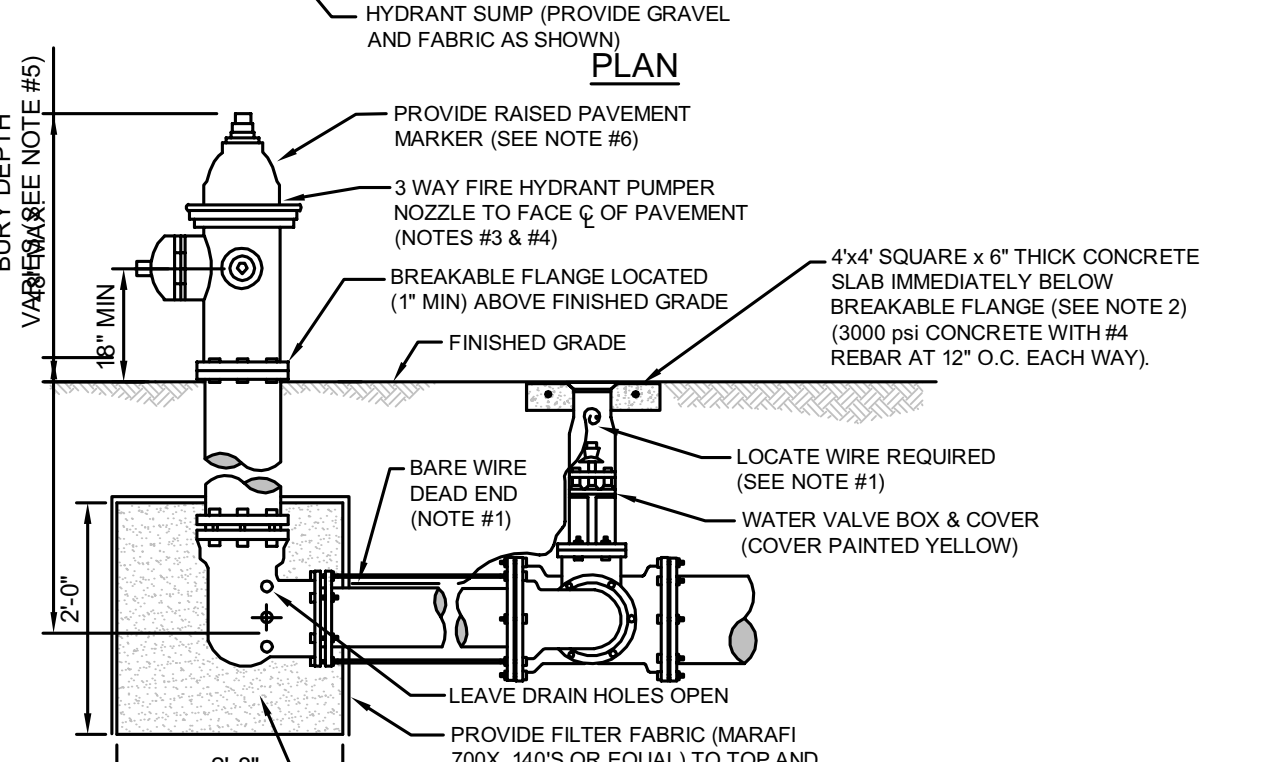
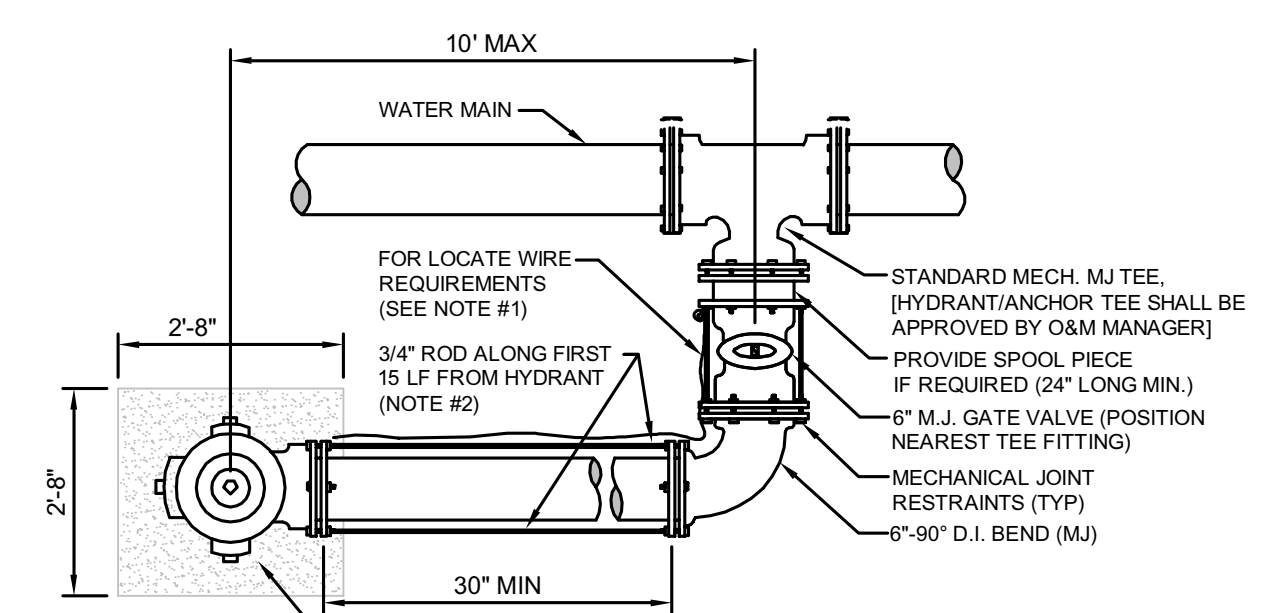
**RECLAIM CROSS CONNECTION CONTROL DEVICE**  
JANUARY 2019 PLATE W-15



- NOTES:**
- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. 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 (E88A 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 SHALL BE PAINTED RED.
  - 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**

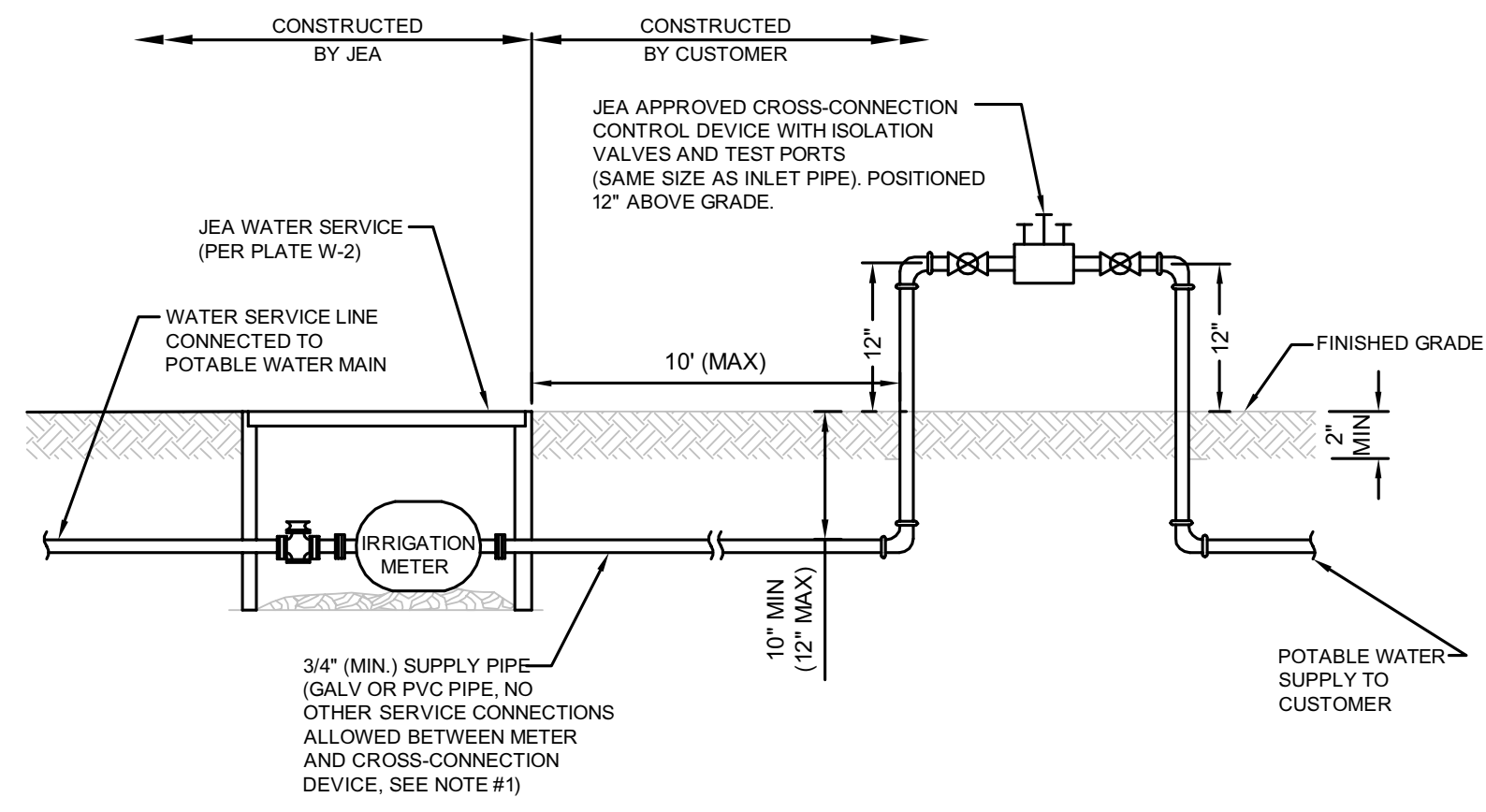
JANUARY 2019 PLATE W-13



- NOTES:**
- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. 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. 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 (E88A 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 SHALL BE PAINTED RED.
  - 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 2019 PLATE W-14



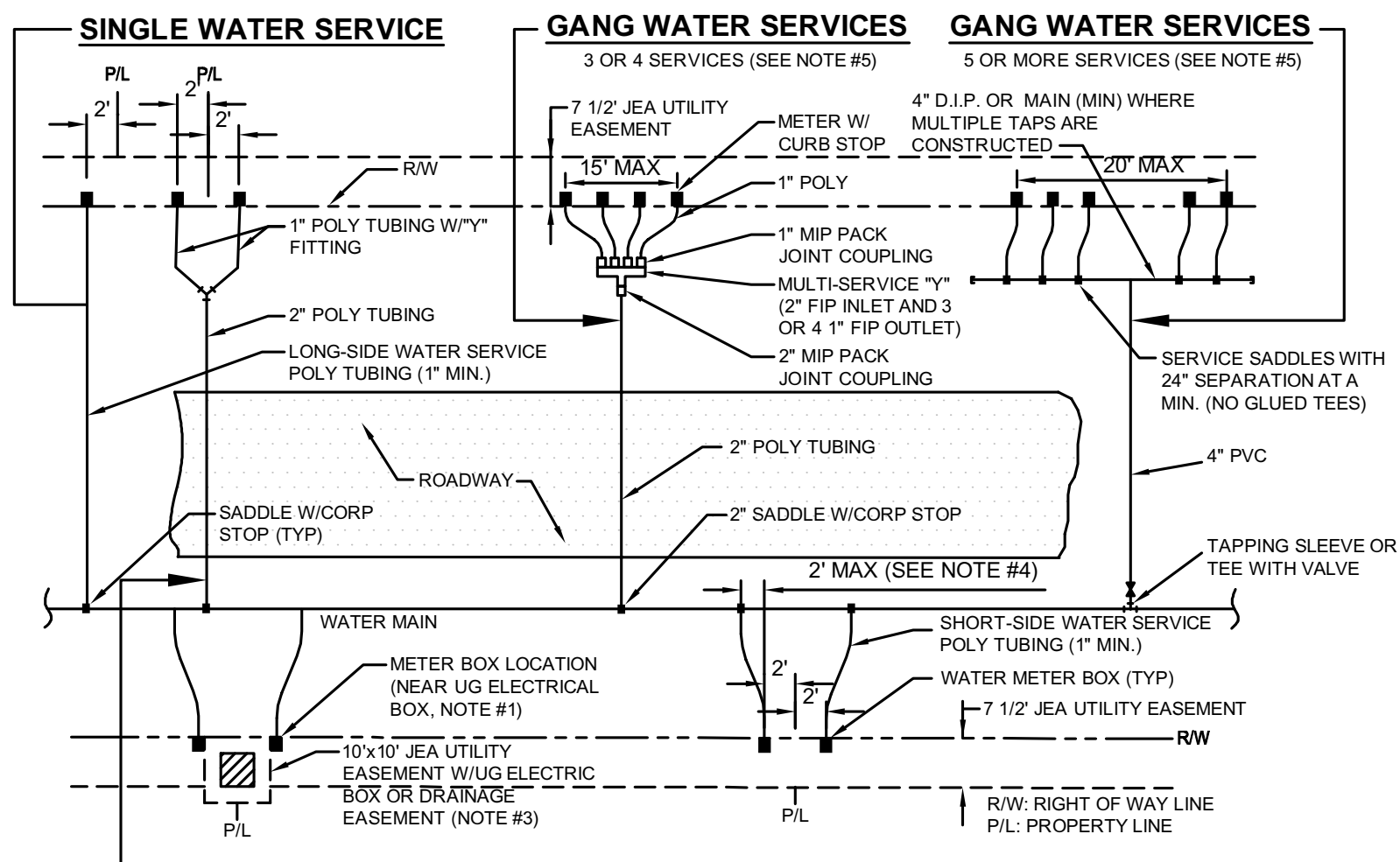
**NOTES:**

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

**CROSS CONNECTION CONTROL DEVICE**

JANUARY 2019 JEA IRRIGATION SERVICE CONNECTIONS PLATE W-15A

A LOCATE WIRE SHALL BE PLACED ON SERVICES 10' OR GREATER.



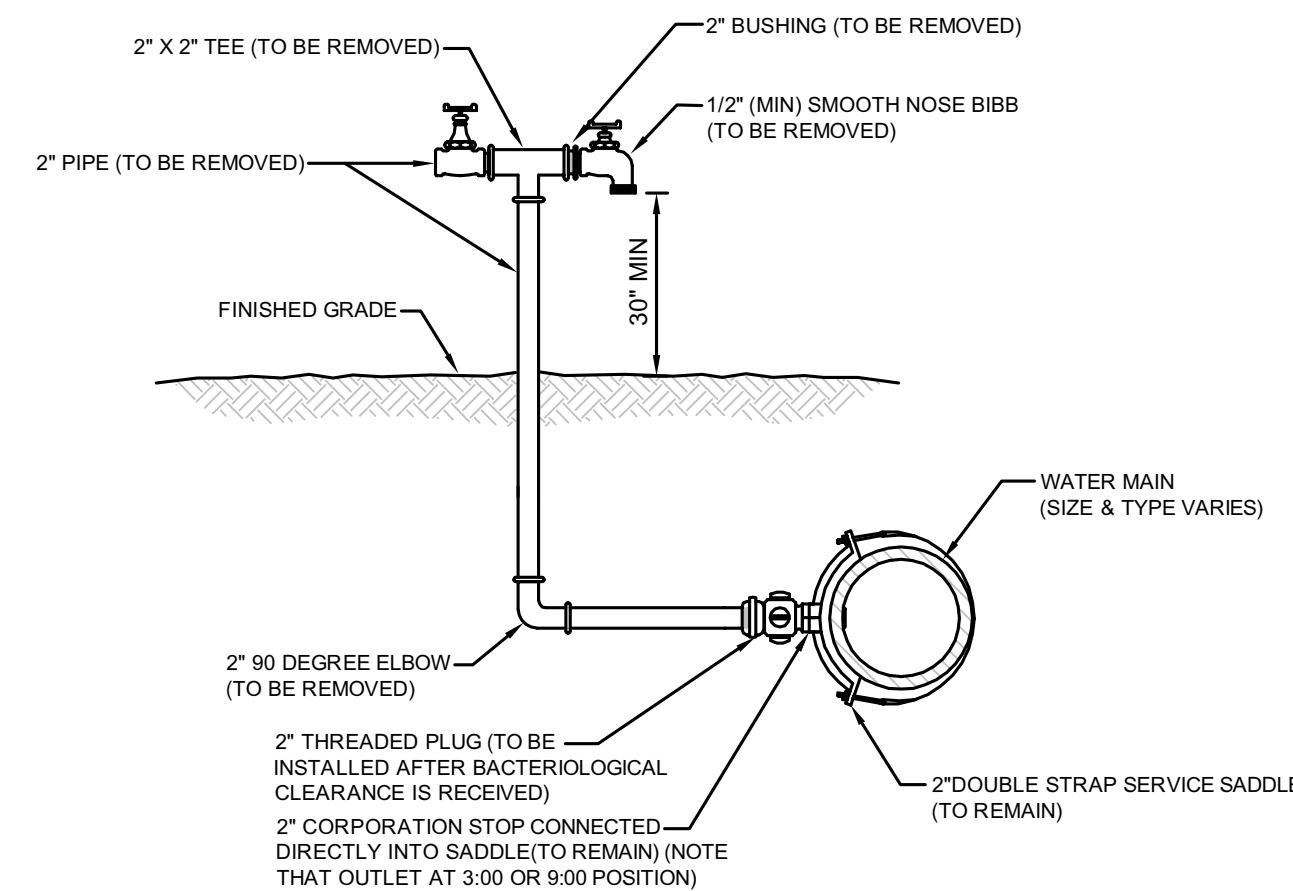
**NOTES:**

1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. TYPICALLY, THE METER BOX SHALL BE LOCATED AT THE RW LINE BUT INSIDE THE 7 1/2' ELECTRIC EASEMENT.
2. UNLESS SPECIFIED OTHERWISE BY THE APPLICABLE COUNTY (NASSAU, CLAY OR ST. JOHNS COUNTY), THE METER BOX SHALL BE LOCATED IN THE JEA 7 1/2' UTILITY EASEMENT AND TWO FEET INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LEU OF TWO FEET). UNLESS APPROVED OTHERWISE BY JEA, THE WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF THE METER BOX IS APPROVED BY JEA TO BE LOCATED IN A DRIVEWAY OR SIDEWALK, THEN THE CONSTRUCTION SHALL MEET STANDARD DETAIL NUMBERS W-384, AT A MINIMUM (SEE W-3 AND W-4 FOR THE REQUIREMENTS OF SPECIAL ORDER POLYMER BOX AND TOP). SET TOP OF BOX AT FINISHED GRADE. IF AN UNAPPROVED METER BOX IS IDENTIFIED BY JEA, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. JEA SHALL APPROVE ALL DEVIATIONS TO THE ABOVE PRIOR TO CONSTRUCTION.
3. IF DRAINAGE OR OTHER EASEMENT LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT AREA.
4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN) BETWEEN THE SERVICES SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM FOR DOUBLE SERVICES. THE 2\"/>

**WATER OR RECLAIM SERVICE INSTALLATIONS  
2\"/>**

January 2019

PLATE W-1



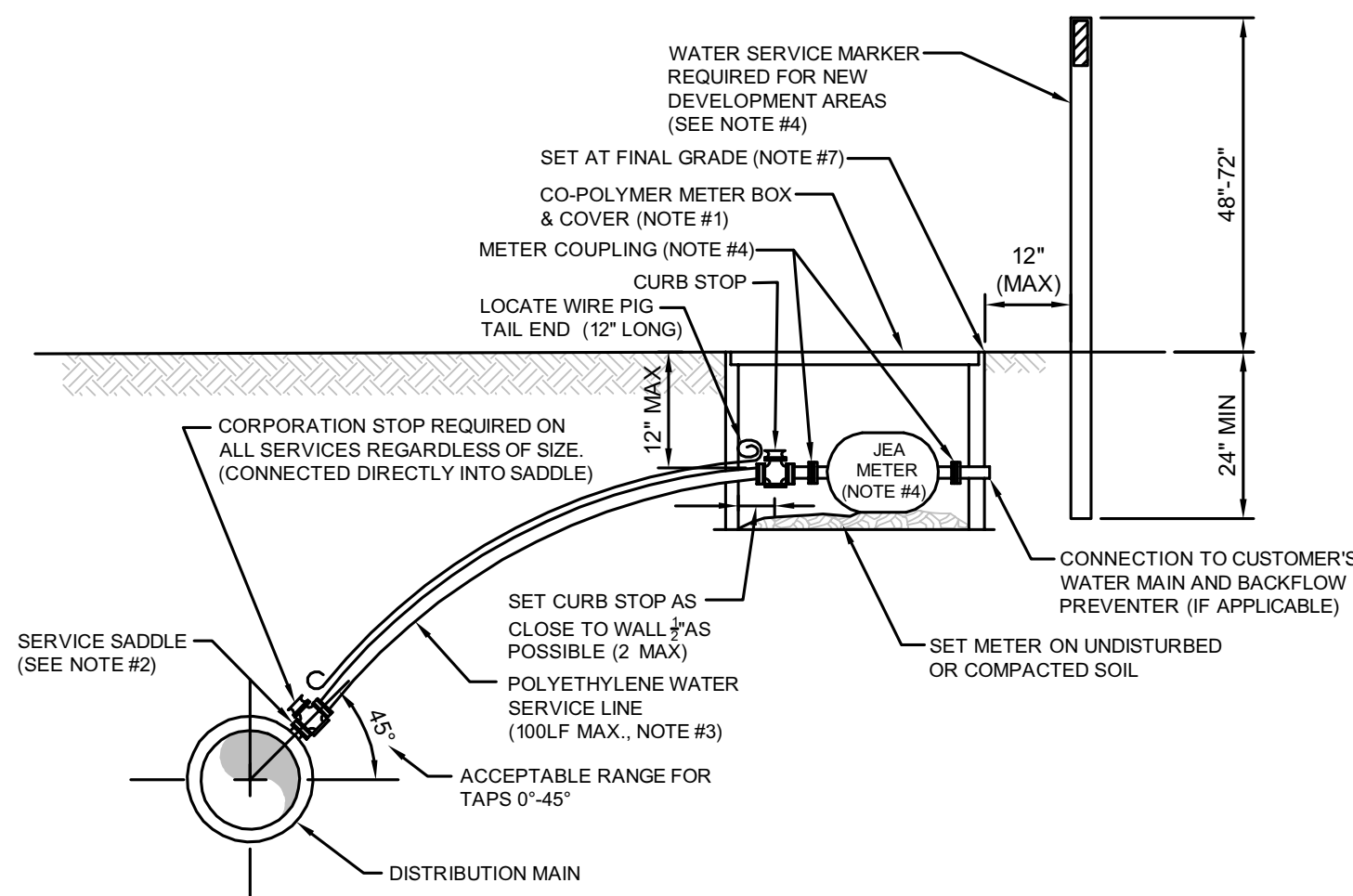
**NOTES:**

1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS (NON-TRAFFIC AREAS).
2. ALL PIPE & FITTING SHALL BE GALVANIZED MATERIAL OR PVC (S-40).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTING (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
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.

**2\"/>**

JANUARY 2019

PLATE W-26



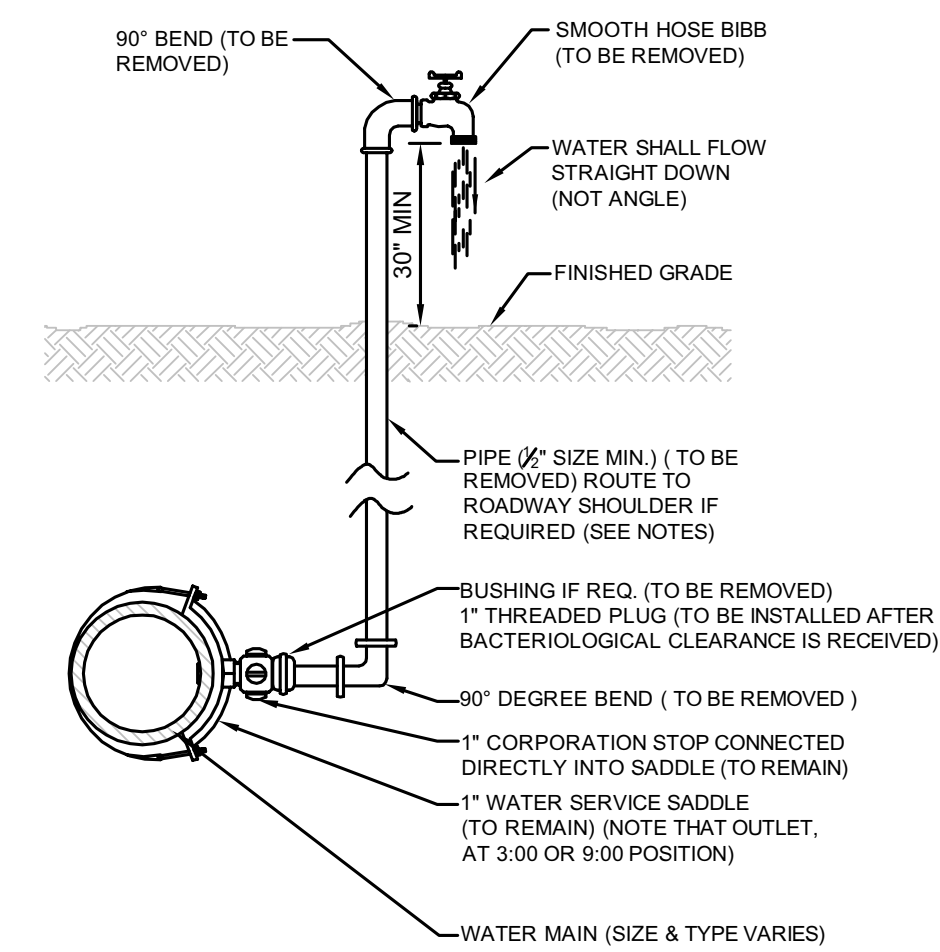
**NOTES:**

1. SEE PLATE W-1 FOR METER LOCATION REQUIREMENTS.
2. SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1\"/>

**WATER SERVICE DETAIL- 2\"/>**

JANUARY 2019

PLATE W-2



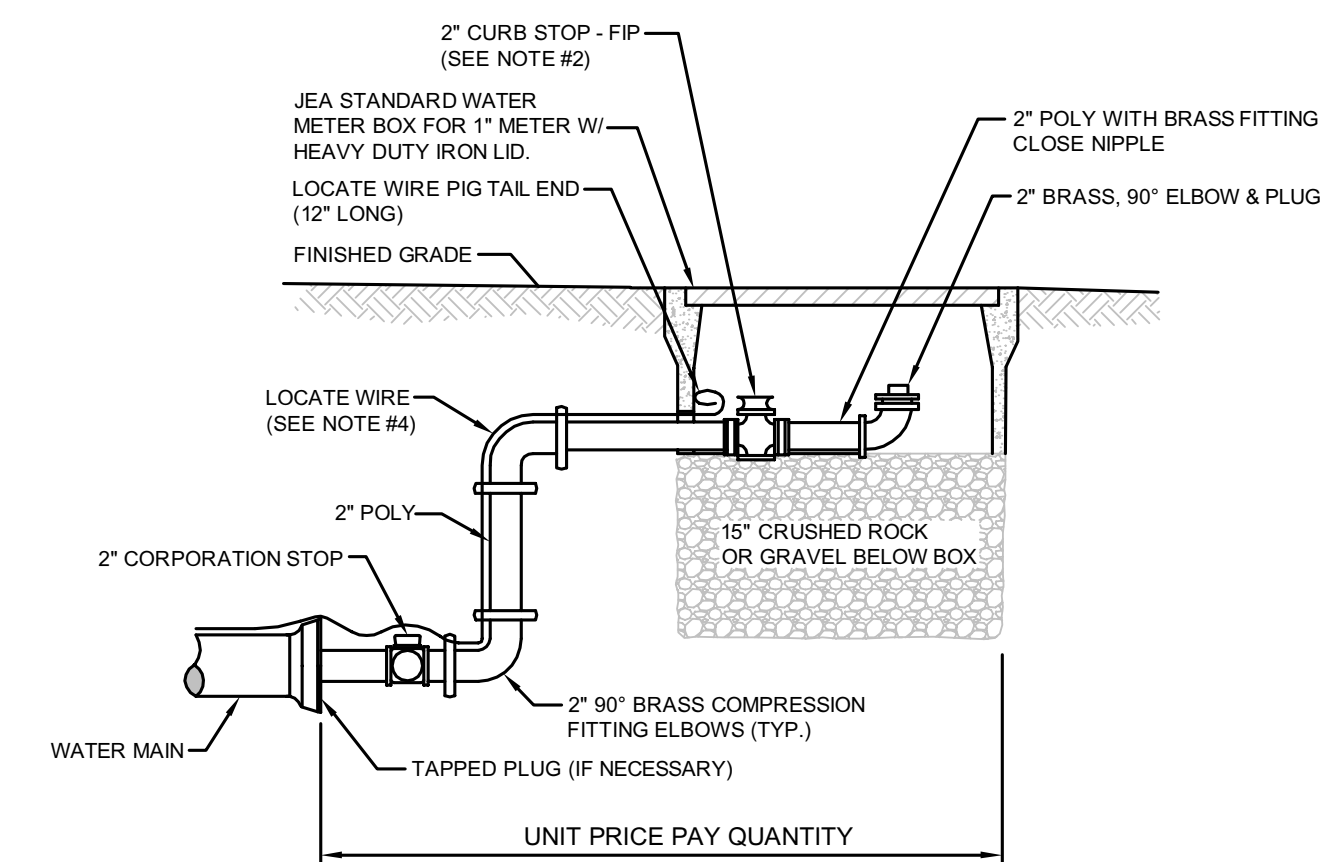
**NOTES:**

1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS (NON-TRAFFIC AREAS).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED), AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
3. PIPE AND FITTINGS SHALL BE PVC (SCH. 40) OR GALV. MATERIAL.
4. THE USE OF THE ABOVE CONSTRUCTION FOR A TEMPORARY SAMPLE POINT SHALL BE LIMITED TO AREAS WHERE A SAMPLE TAP BY ALTERNATIVE METHODS (SEE W-24) IS NOT FEASIBLE OR IF DIRECTED OTHERWISE BY JEA.
5. THE CONTRACTOR SHALL COMPLY WITH ALL JEA RULES AND POLICIES AS OUTLINED BY JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

**TEMPORARY SAMPLE TAP**

JANUARY 2019

PLATE W-25



**NOTES:**

1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
2. THE 2\"/>

**FLUSHING VALVE BELOW GRADE**

JANUARY 2019

PLATE W-28

**England-Thims & Miller, Inc.**  
14776 Old St. Augustine Road  
Aurora, FL 32003  
TEL: (904) 642-9900  
FAX: (904) 646-9488  
CA - 0002584 LC - 000016

**ETM**  
VISION • EXPERIENCE • RESULTS

NO.	BY	DATE	REVISIONS
4			
3			
2			
1			

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE JEA. WE TAKE NO EXCEPTION TO THE DESIGN



JEA STANDARD  
WATER MAIN DETAILS  
OAKLEAF CORNER OUTPARCEL 3

PROJ. NO.	19-227
DATE:	JANUARY 2019
SHEET NO.	2
DRAWING NO.	IC
SCALE:	AS NOTED

**England-Thoms & Miller, Inc.**  
14775 Old St. Augustine Road  
Jensen Beach, FL 34957  
TEL: (888) 642-8980  
FAX: (888) 642-8988  
CA: 0002584 LC: 000016

**ETM**  
VISION • EXPERIENCE • RESULTS

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

NO. BY DATE REVISIONS

1. 2. 3. 4.

THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

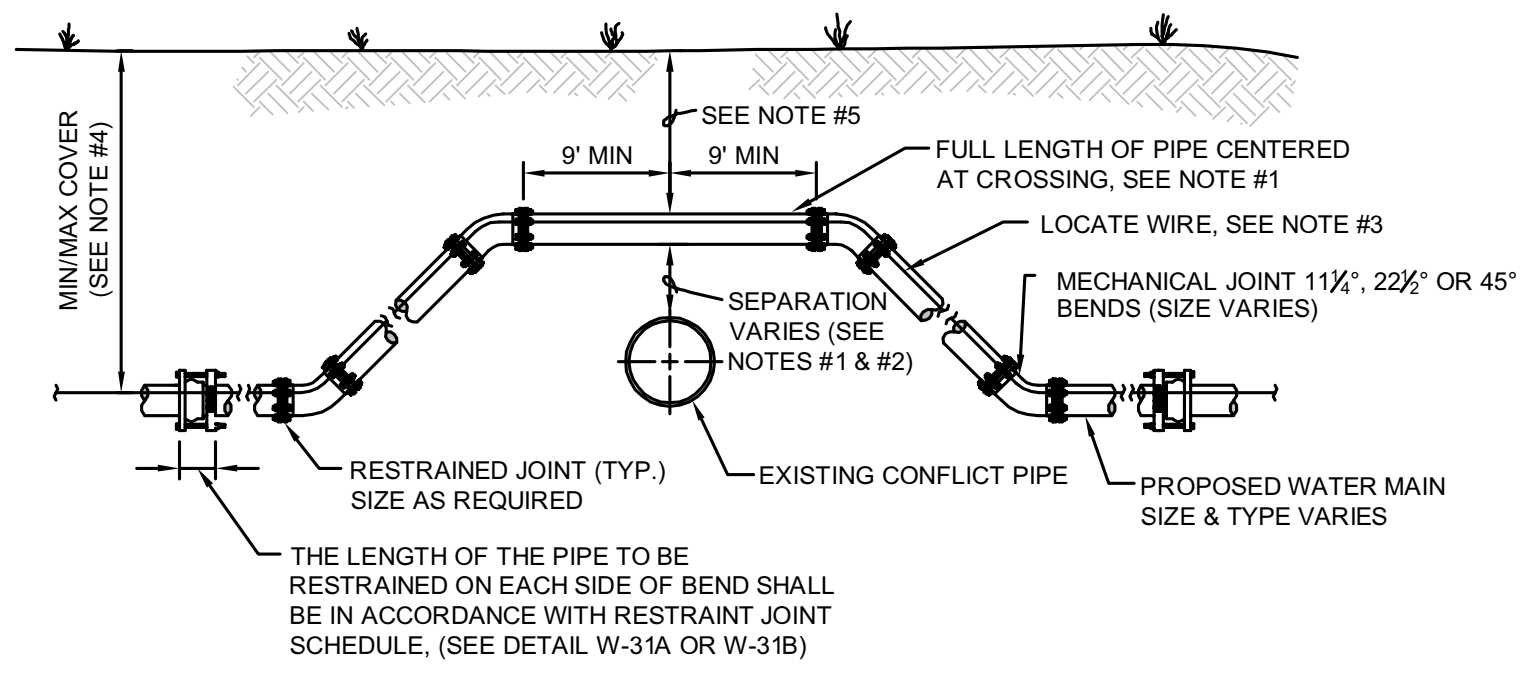
NO. BY DATE REVISIONS

1. 2. 3. 4.

**JEA** Building Community<sup>SM</sup>

JEA STANDARD  
WATER MAIN DETAILS  
OAKLEAF CORNER OUTPARCEL 3

PROJ. NO. 19-227  
DATE: JANUARY 2019  
SHEET NO. 3  
DRAWING NO. ID  
SCALE: AS NOTED



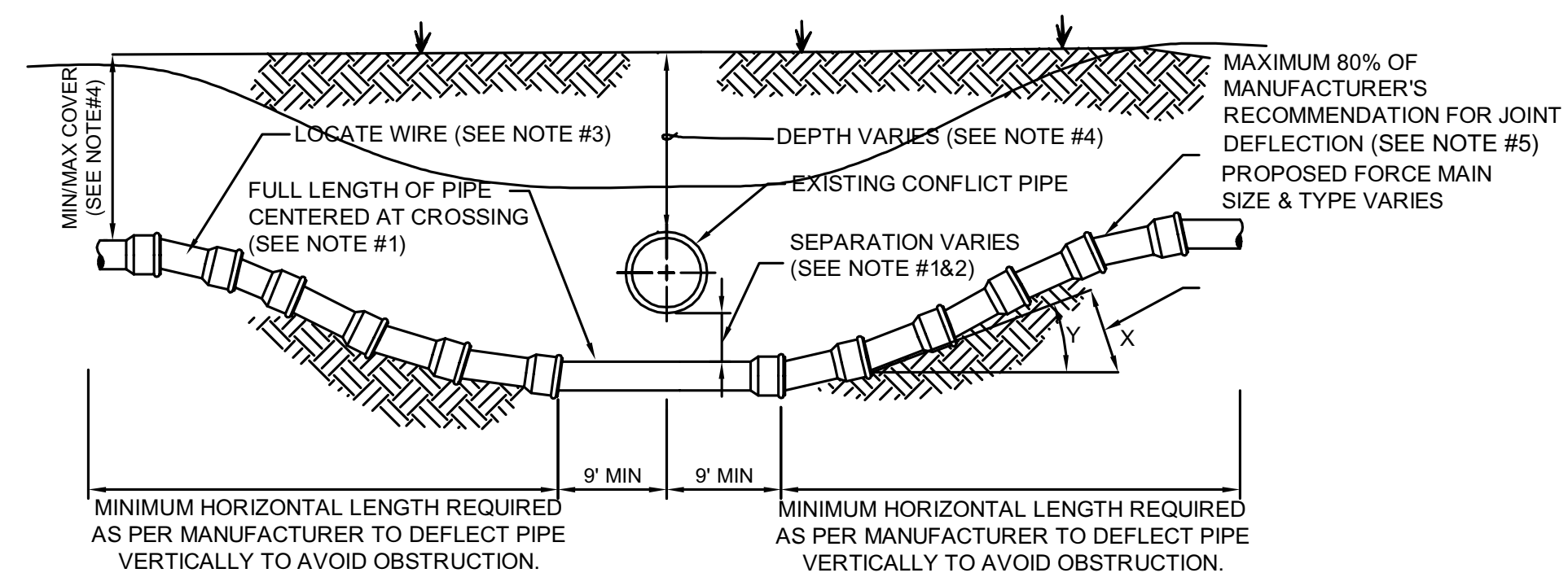
**CASE "A" CROSSING**

**NOTES:**

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**

JANUARY 2019 PLATE W-32



**CASE "B" CROSSING**

**NOTES:**

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.

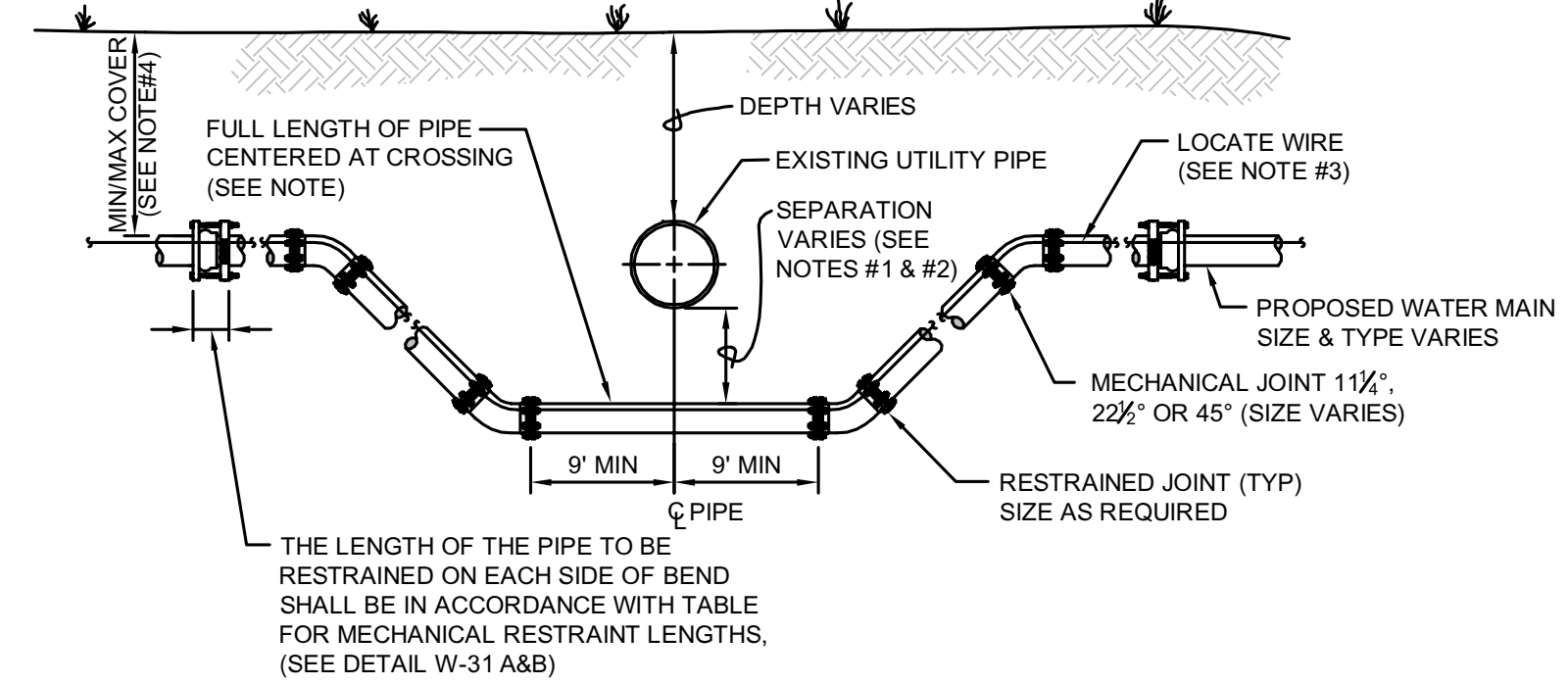
**MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION**

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

DUCTILE IRON PIPE (Mechanical Joint)			
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 UNDER EXISTING UTILITIES  
PIPE JOINT DEFLECTION**

JANUARY 2019 PLATE W-40



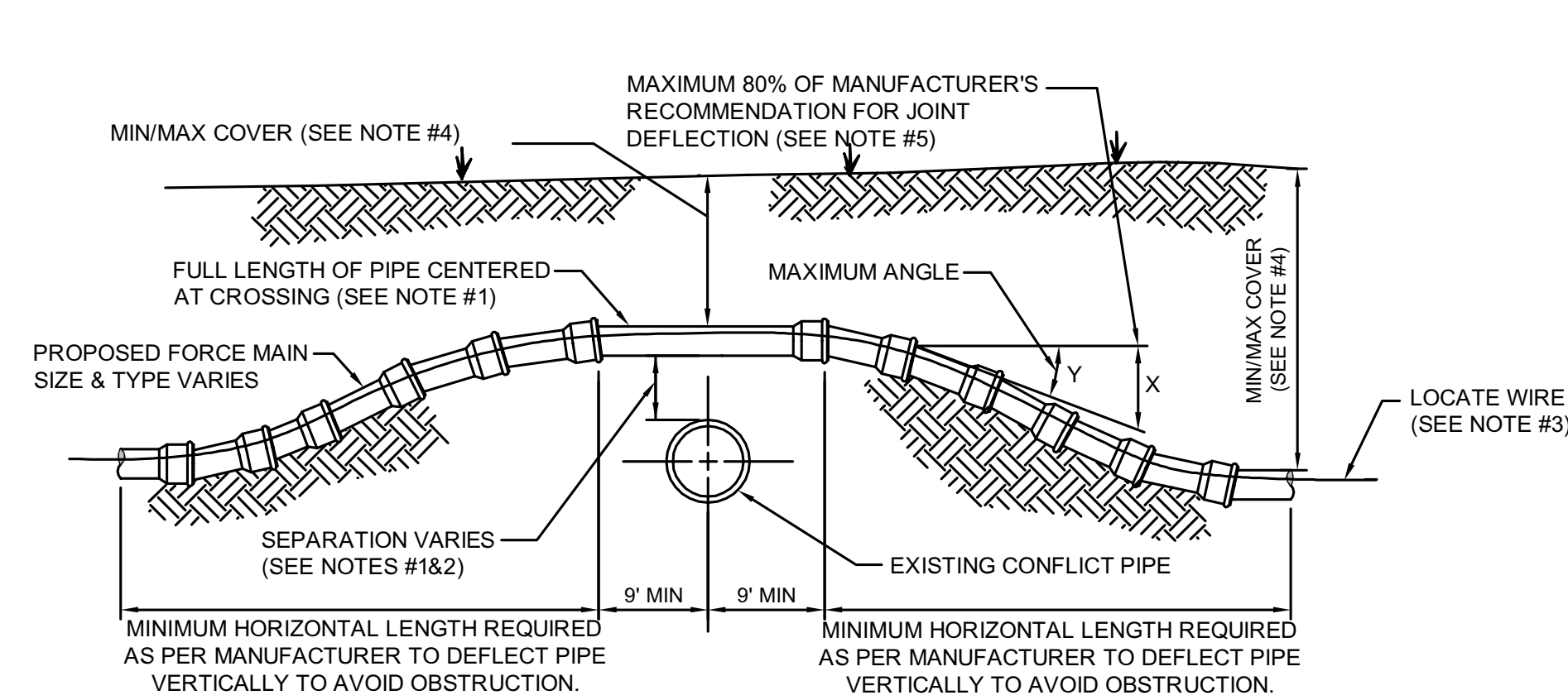
**CASE "B" CROSSING**

**NOTES:**

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 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.

**ADJUSTMENT UNDER EXISTING UTILITIES  
MECHANICAL RESTRAINTS**

JANUARY 2019 PLATE W-34



**CASE "A" CROSSING**

**NOTES:**

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 (S-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.

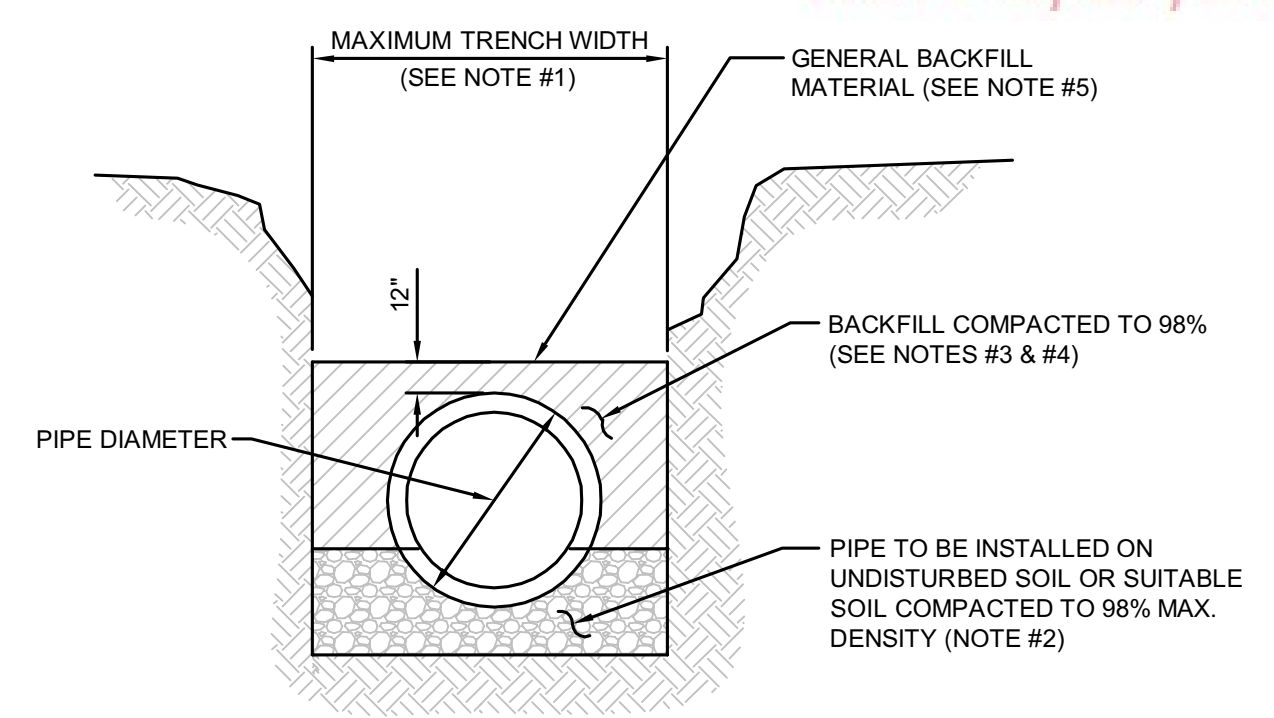
**MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION**

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

DUCTILE IRON PIPE (Mechanical Joint)			
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 2019 PLATE W-41



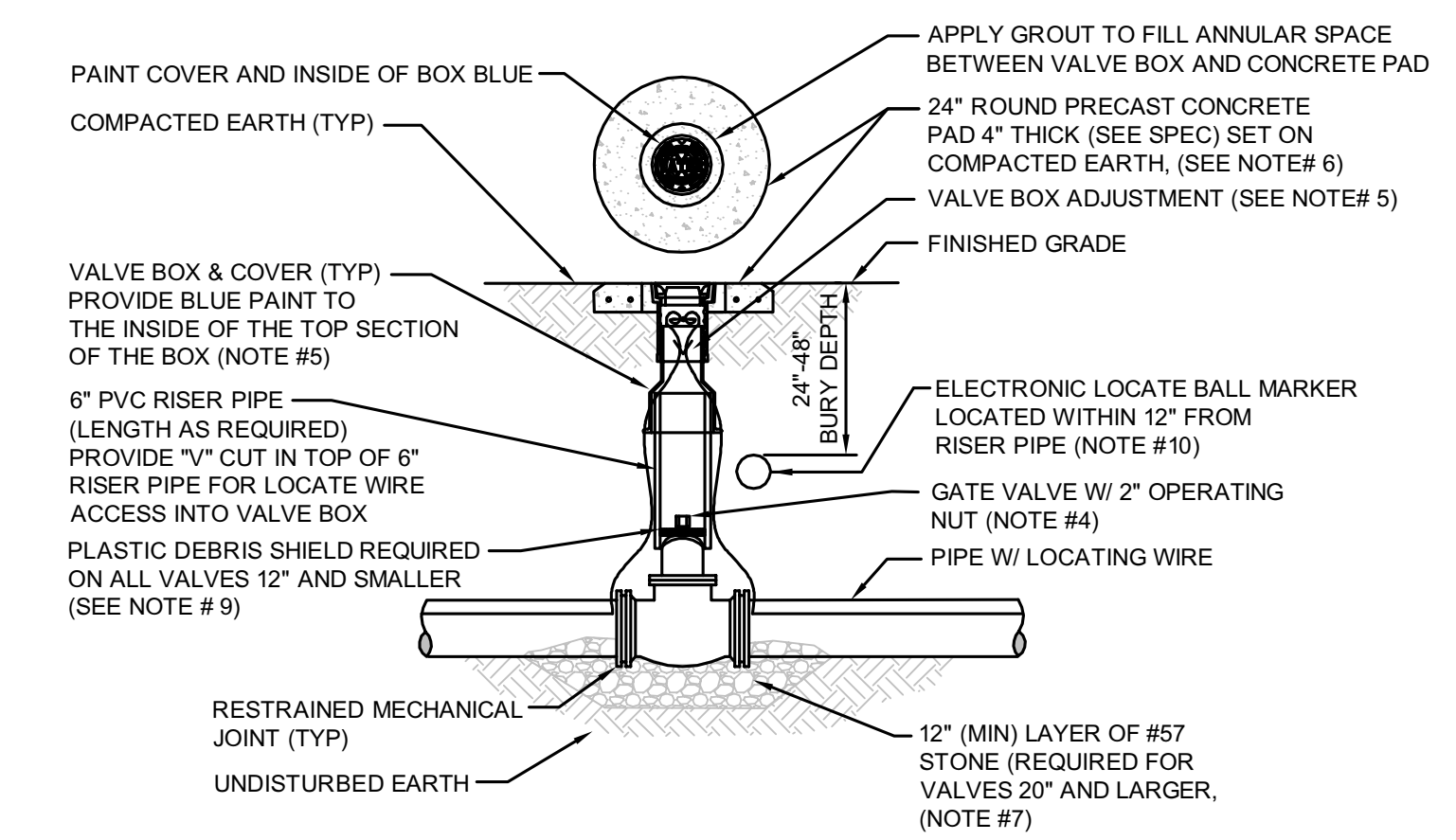
**TYPICAL TRENCH**

**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 ITS MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.
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**

JANUARY 2019 IN CITY RIGHT OF WAY PLATE W-42



**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 DETAIL W-44).
3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/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 MDRANGE 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 12" 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 1/2" 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/ #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 1/2" 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 2019 PLATE W-18

**PVC 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: 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.
- 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, L<sub>u</sub> IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. L<sub>i</sub> 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.
- 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.

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

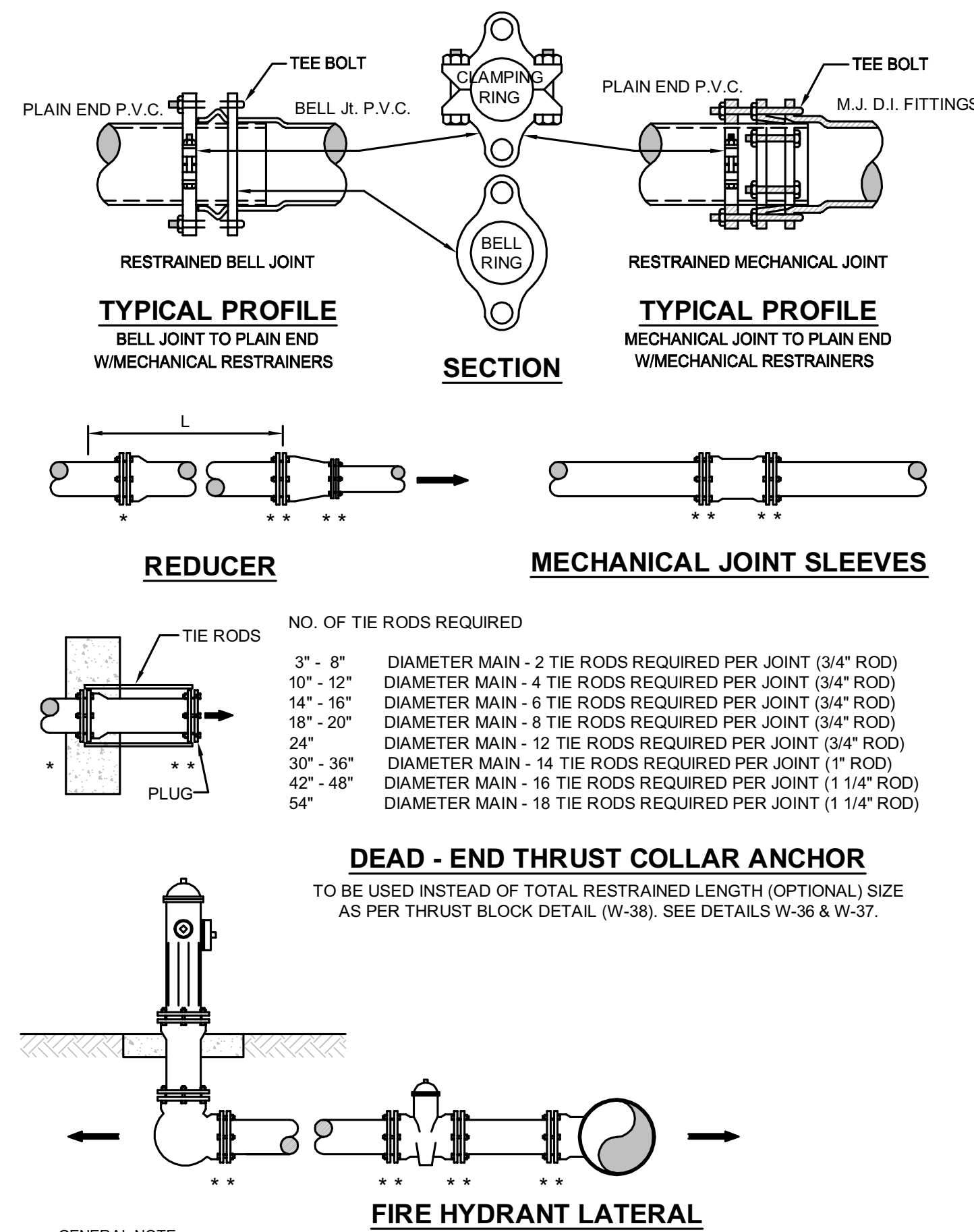
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS L (FT.)	REDUCERS		TEES SEE NOTE 5		
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)		SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	21	9	5	3	17	3	47	6x4	34	4	4	F.O.
6	30	13	6	3	23	4	66	8x6	36	4	6	10
8	38	16	8	4	30	6	86	8x4	62	4 < LESS	8	F.O.
10	45	19	9	5	36	7	103	10x8	35	8	8	29
12	53	22	11	6	43	8	121	10x6	63	6 < LESS	10	F.O.
14	61	26	13	6	50	9	140	12x10	36	10	10	45
16	66	28	14	7	55	10	154	12x8	64	6 < LESS	12	13
18	73	30	15	8	60	11	170	16x12	66	8 < LESS	12	62
20	79	33	16	8	66	12	186	16x10	92	10	10	32
24	79	33	16	8	66	12	186	20x18	35	12 < LESS	16	84
30	93	39	19	10	77	17	222	20x16	66	10 < LESS	12	39
36	106	39	21	11	107	20	257	20x12	117	10 < LESS	10	5
42	117	49	24	12	120	24	289	24x20	56	16 < LESS	20	125
48	144	53	26	13	133	26	321	24x18	80	16 < LESS	16	76
								24x16	101	12 < LESS	12	14
								30x24	78	16 < LESS	24	124
								30x20	121	16 < LESS	20	84
								36x30	78	12 < LESS	12	36
								36x24	141	16 < LESS	30	159
								42x36	75	16 < LESS	24	104
								42x30	140	16 < LESS	20	60
								48x42	75	16 < LESS	16	5
								48x36	139	16 < LESS	42	223
											36	192
											30	142
											24	83
											20	33
											16 < LESS	F.O.
											42	223
											36	178
											30	124
											24	59
											20	5
											16 < LESS	F.O.
											48	253
											42	209
											36	162
											30	104
											24	34
											20 < LESS	F.O.

F.O. = FITTING ONLY

**PVC PIPE RESTRAINT JOINT SCHEDULE**

JANUARY 2019

PLATE W-31A



**MECHANICAL RESTRAINT DETAILS - I**

JANUARY 2019

PLATE W-31C

**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.
- 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, L<sub>u</sub> IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. L<sub>i</sub> 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.
- HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

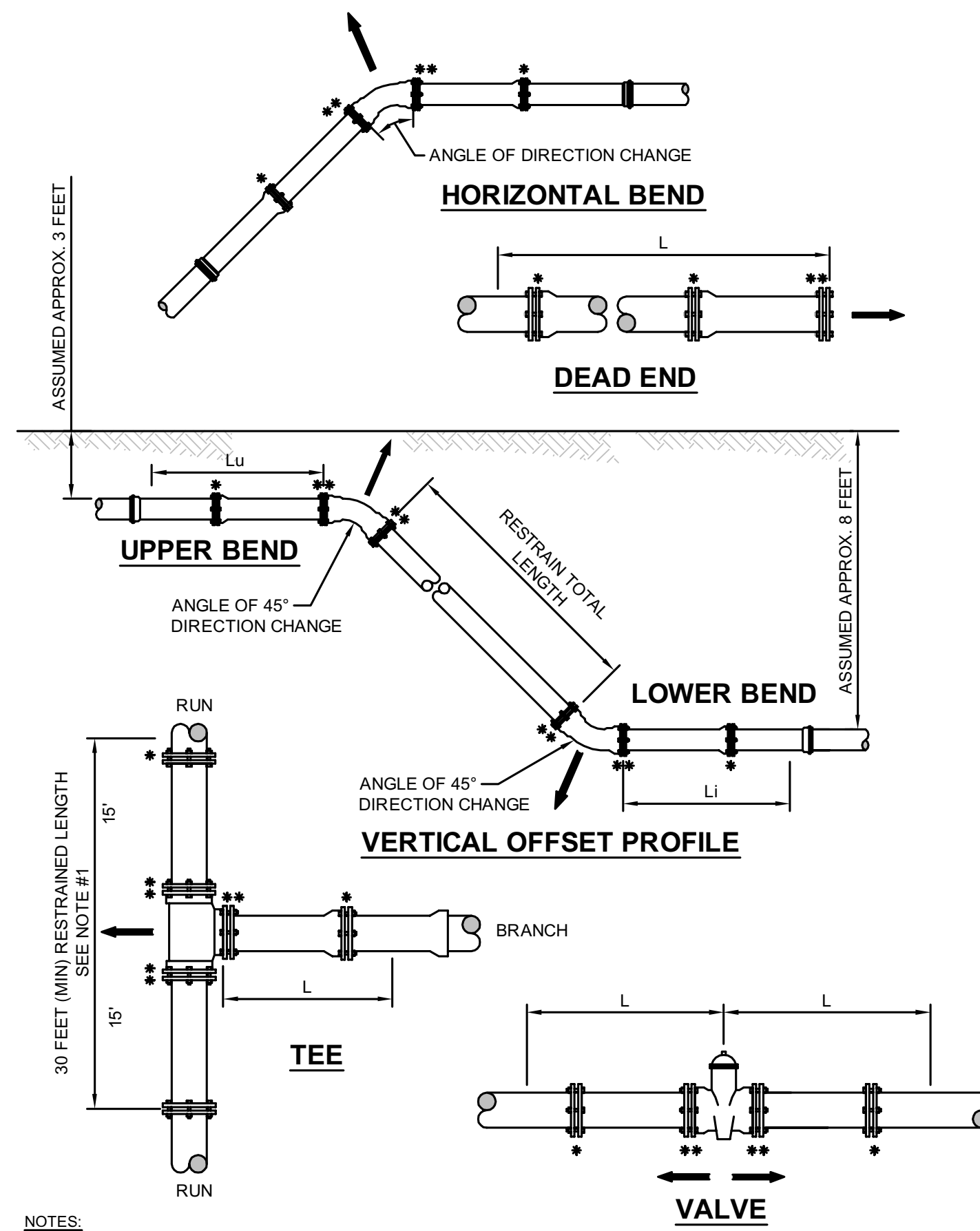
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS L (FT.)	REDUCERS		TEES SEE NOTE 5		
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)		SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	17	7	4	2	11	3	30	6x4	22	4	4	F.O.
6	24	10	5	3	15	4	42	8x6	23	4	6	6
8	31	13	6	3	20	5	55	8x4	39	4 < LESS	4	F.O.
10	36	15	8	4	23	6	65	10x8	22	8	8	19
12	42	18	9	5	27	7	77	10x6	40	6 < LESS	10	F.O.
14	48	20	10	5	31	7	87	12x10	23	8	10	29
16	53	22	11	6	35	8	97	12x8	41	6 < LESS	12	9
18	58	24	12	6	39	9	107	16x12	42	12	12	40
20	63	27	13	6	42	10	118	16x10	58	8 < LESS	10	21
24	63	27	13	7	49	12	118	20x18	22	16	16	60
30	75	31	15	8	59	14	141	20x16	42	12	12	25
36	86	36	17	9	68	17	163	20x12	74	10 < LESS	10	3
42	95	40	19	10	76	19	183	24x20	36	20	20	79
48	117	43	21	11	84	21	203	24x18	51	16	16	48
								30x20	77	12 < LESS	12	23
								36x30	50	12 < LESS	16	54
								36x24	89	12 < LESS	16	23
								42x36	48	12 < LESS	20	54
								42x30	89	12 < LESS	16	23
								48x42	48	12 < LESS	20	54
								48x36	88	12 < LESS	16	23

F.O. = FITTING ONLY

**DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE**

JANUARY 2019

PLATE W-31B



**NOTES:**

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

**MECHANICAL RESTRAINT DETAILS - II**

JANUARY 2019

PLATE W-31D

**Englund-Thoms & Miller, Inc.**  
14776 Old St. Augustine Road  
JEA Building  
TEL: (904) 642-9900  
FAX: (904) 646-9488  
CA - 0002584 LC - 000016

**ETM**  
VISION • EXPERIENCE • INTEGRITY

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

DATE: 10/16/2018

CHECKED TABLES

NO. SHEETS: 5  
SHEET NO.: 4  
DRAWING NO.: BE

PROJ. NO.: 19-227  
DATE: JANUARY 2019  
SCALE: AS NOTED

DESIGN ENGINEER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

DATE: 10/16/2018

CHECKED TABLES



JEA STANDARD  
WATER MAIN DETAILS  
OAKLEAF CORNER OUTPARCEL 3

**England - Thims & Miller, Inc.**  
14776 Old St. Augustine Road  
San Diego, CA 92128  
TEL: (619) 642-9900  
FAX: (619) 646-9488  
CA - 0002584 LC - 000016

**ETM**  
VISION • EXPERIENCE • RESULTS

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DATE: 8/23/02  
FLORIDA REGISTRATION NO.: 82302

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DATE: 8/23/02  
FLORIDA REGISTRATION NO.: 82302

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DATE: 8/23/02  
FLORIDA REGISTRATION NO.: 82302

THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

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FLORIDA REGISTRATION NO.: 82302

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DATE: 8/23/02  
FLORIDA REGISTRATION NO.: 82302

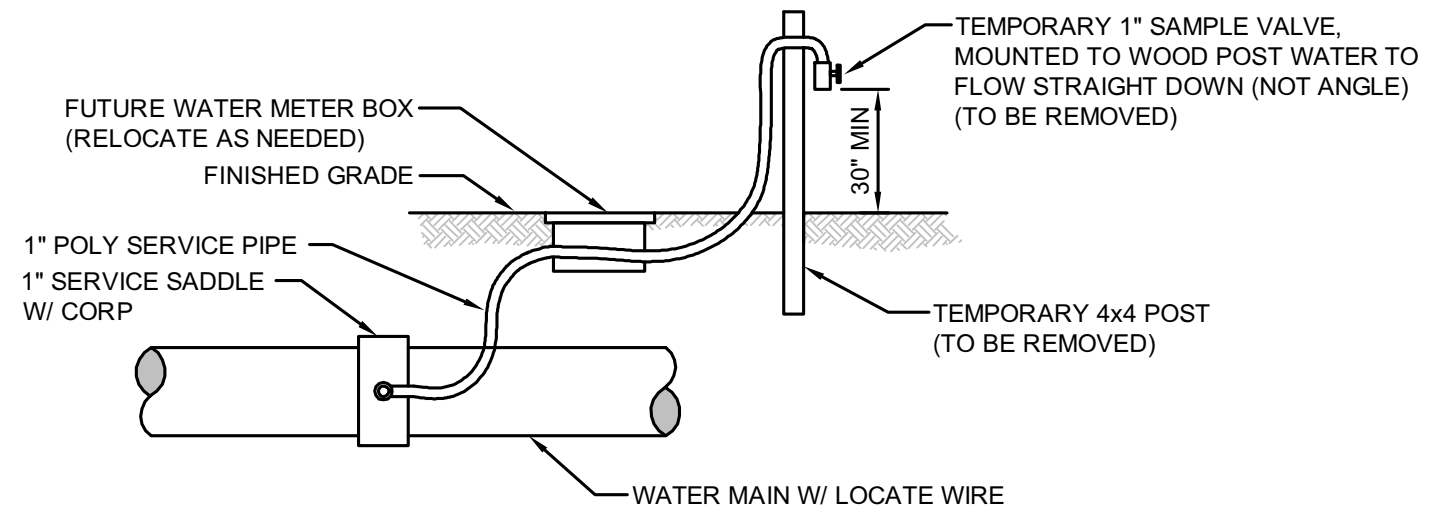
DESIGNER: ANDREW J. BOOTH  
DATE: 8/23/02  
FLORIDA REGISTRATION NO.: 82302

JEA STANDARD  
WATER MAIN DETAILS  
OAKLEAF CORNER OUTPARCEL 3

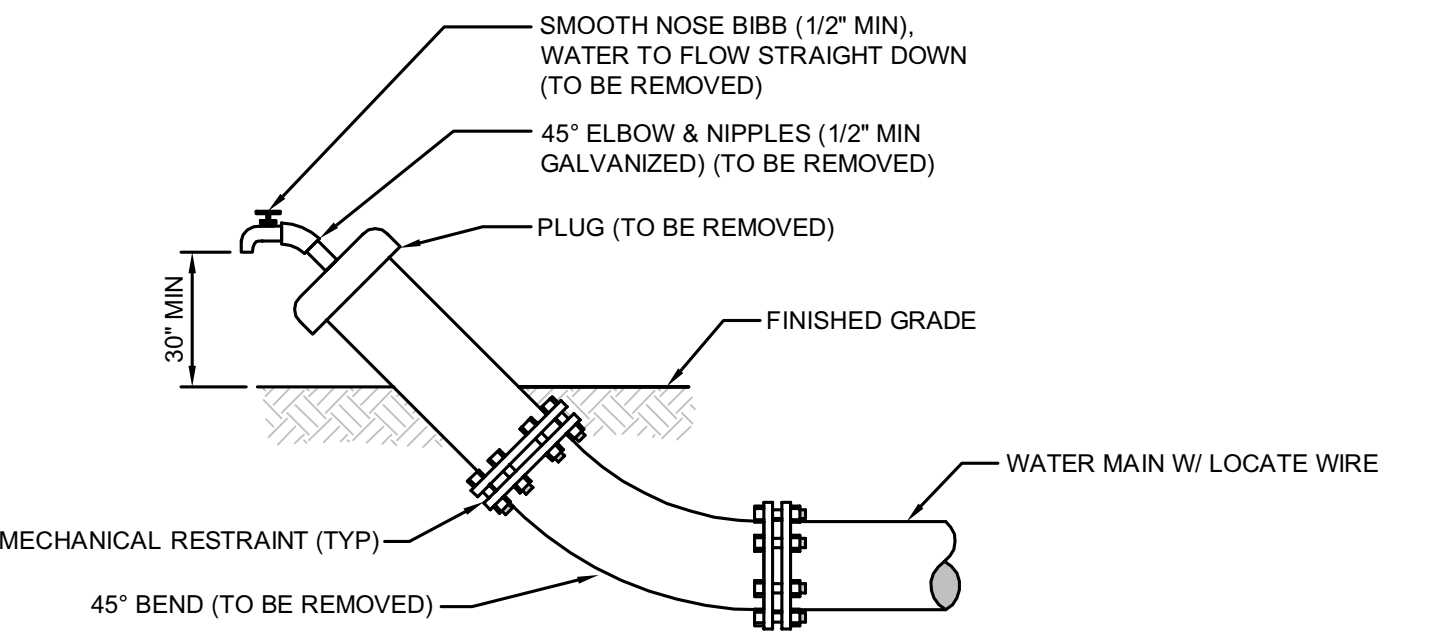
PROJ. NO. 19-227  
DATE: JANUARY 2019  
SCALE: AS NOTED

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SHEET NO. 5  
DRAWING NO. 9F

NO. SHEETS 5  
SHEET NO. 5  
DRAWING NO. 9F



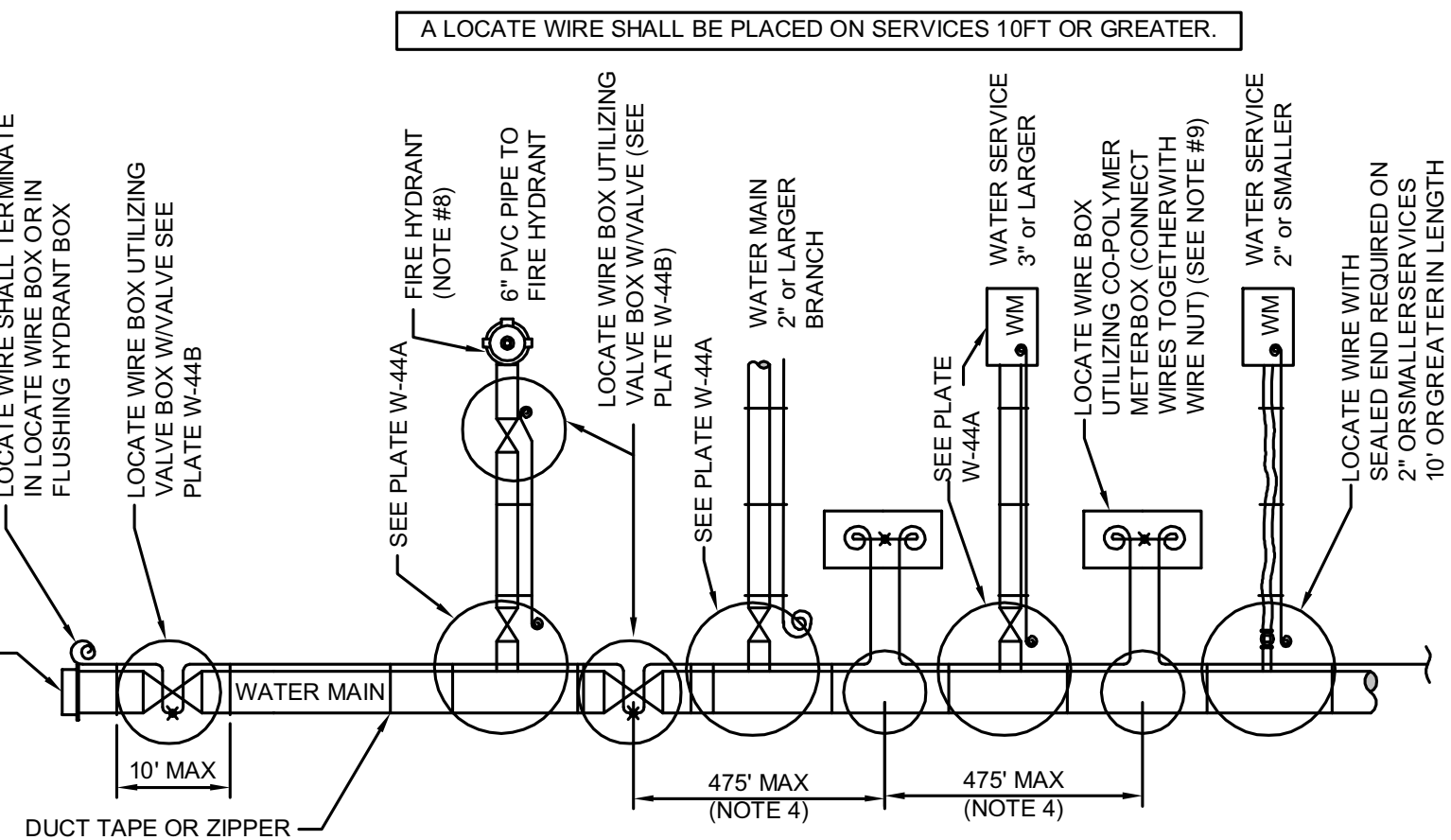
**TEMPORARY SAMPLE TAP UTILIZING A NEW 1" WATER SERVICE**



**TEMPORARY SAMPLE TAP UTILIZING PLUG AT FLUSHING LOCATION**

- NOTES:**
- LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROAD SHOULDERS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
  - THE CONTRACTOR SHALL UTILIZE THE ABOVE ALTERNATIVE METHODS FOR CONSTRUCTION OF TEMPORARY SAMPLE POINTS IN ALL AREAS, WHERE POSSIBLE.
  - 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.

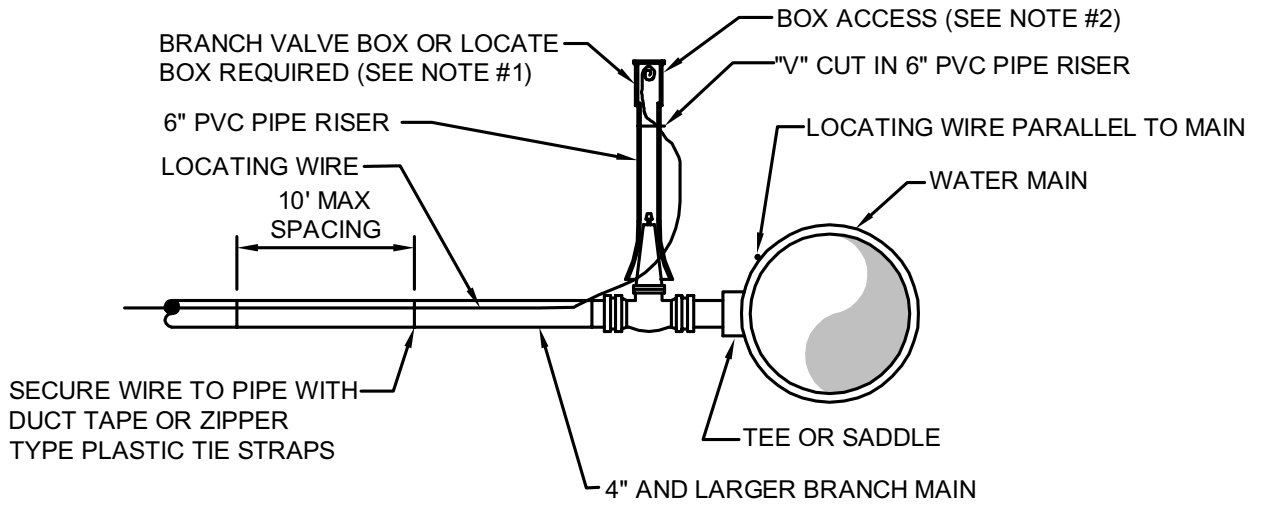
**TEMPORARY SAMPLE TAP ALTERNATIVE METHODS**  
JANUARY 2019 PLATE W-24



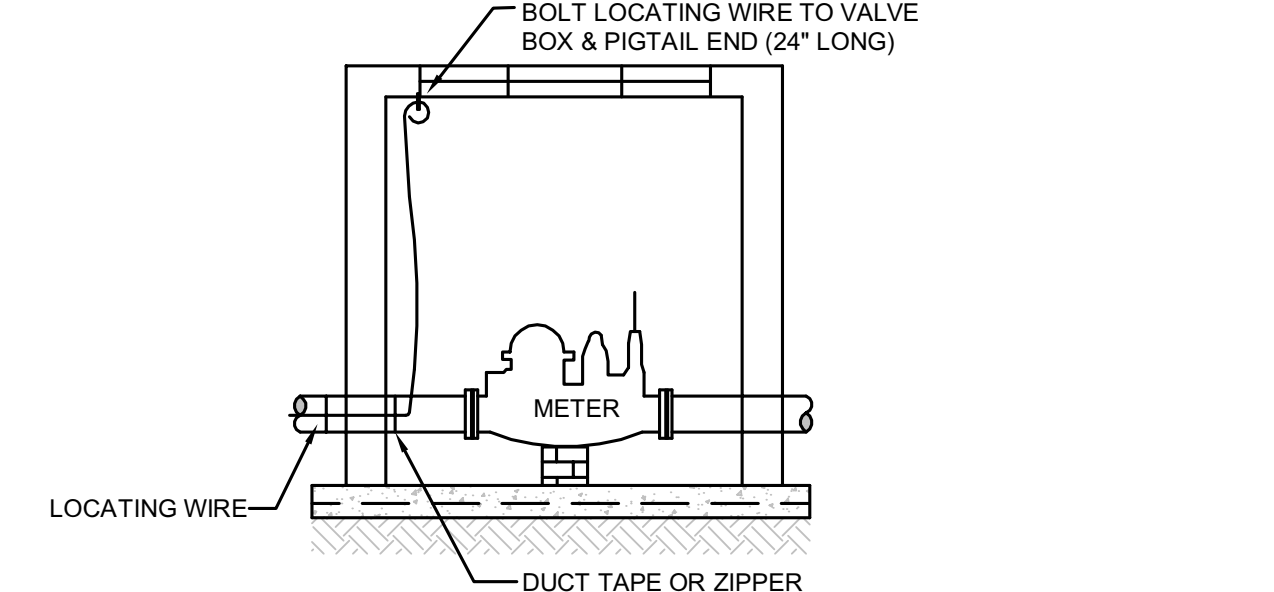
**LOCATE WIRE SYSTEM**

- NOTES:**
- 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).
  - 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.
  - THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECT 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.
  - 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.
  - REFER TO SECTION 350 FOR LOCATE WIRE SPECIFICATIONS.
  - \* INDICATES THAT THE WIRES ARE CONNECTED TOGETHER.
  - \* INDICATES A WIRE PIG-TAIL (24" LONG)
  - FOR FIRE HYDRANT LOCATE WIRE REQUIREMENTS AND EXCLUSIONS, SEE PLATES W-12,13 AND 14.
  - AN "L" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.

**LOCATE WIRE CONSTRUCTION FOR WATER MAINS**  
JANUARY 2019 PLATE W-44



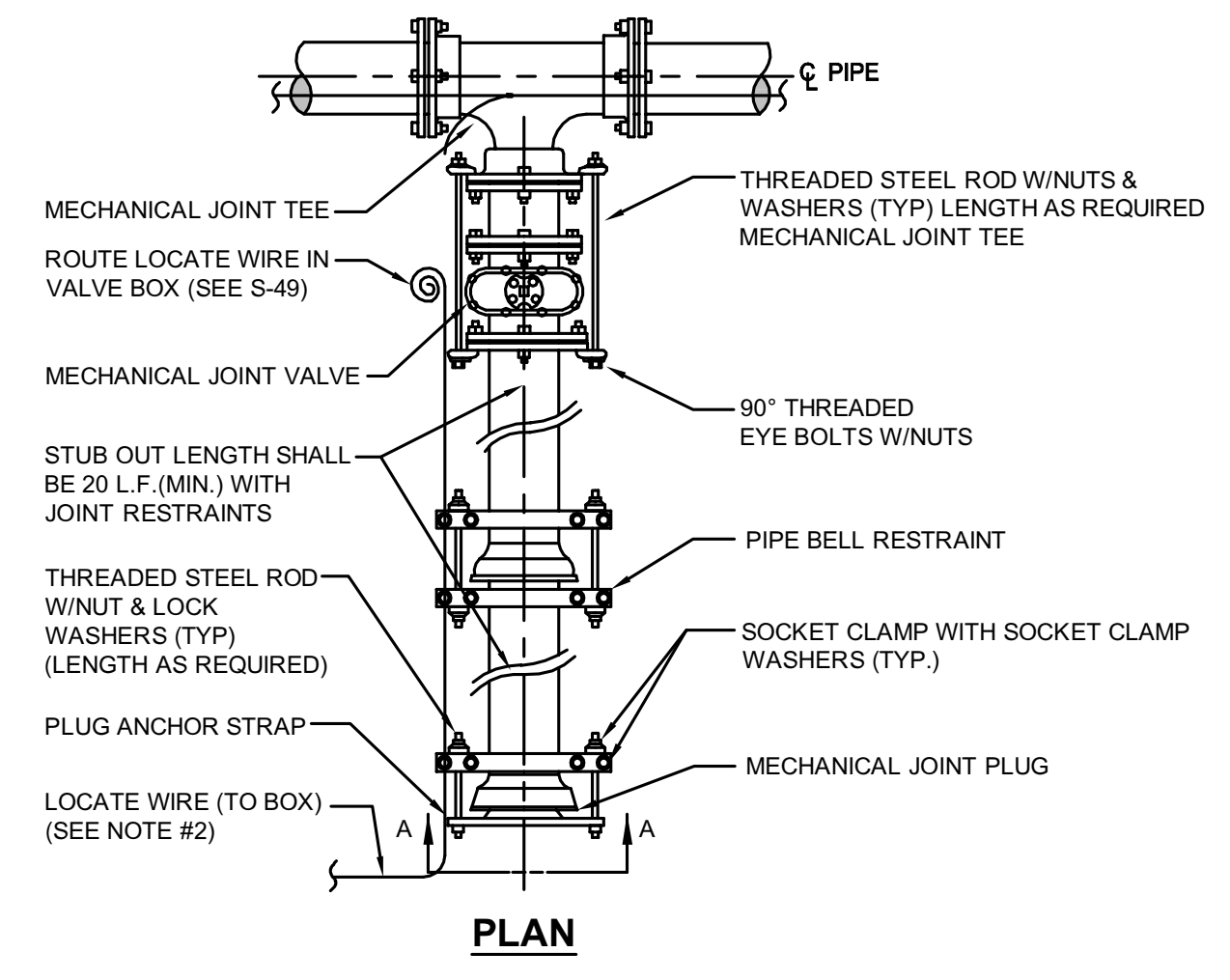
**BRANCH FORCE MAIN**  
(2" AND LARGER WATER MAIN OR 3" AND LARGER WATER SERVICE PIPE)



**CONNECTION AT LARGE METER BOX**  
(3" OR LARGER SERVICE)

- NOTES:**
- NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
  - LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE W-18).
  - LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

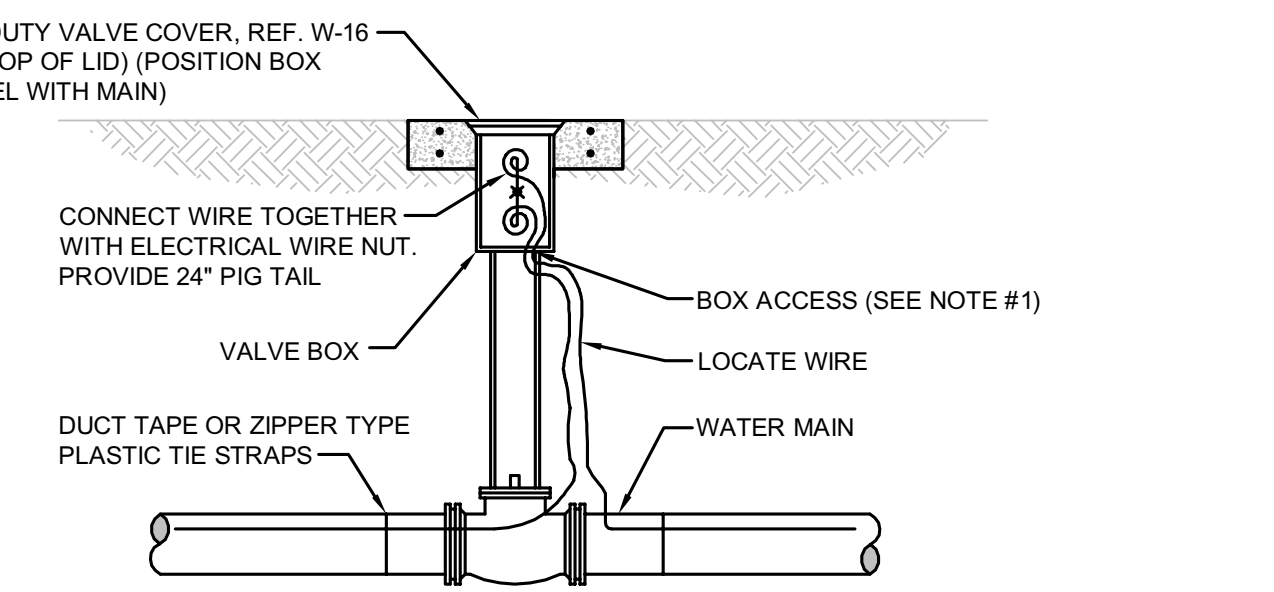
**LOCATE WIRE FOR BRANCH MAIN**  
JANUARY 2019 PLATE W-44A



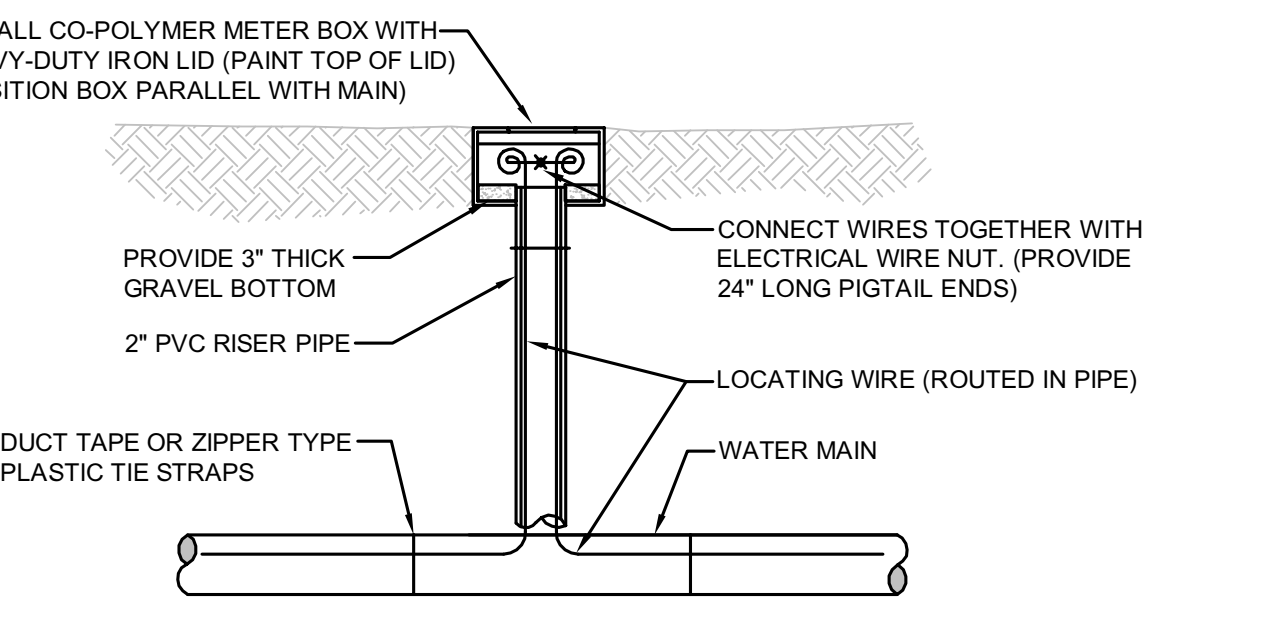
**SECTION "A-A"**

- NOTES:**
- IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.
  - LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
  - NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS:  
3" - 8" DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
10" - 12" DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
14" - 16" DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
18" - 20" DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
24" DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
30" - 36" DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)  
42" - 48" DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)  
54" DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
  - 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.

**PLUGGED DEAD END USING MECHANICAL RESTRAINTS**  
JANUARY 2019 PLATE W-37



**LOCATE WIRE BOX UTILIZING VALVE BOX**



**LOCATE WIRE BOX UTILIZING METER BOX**

- NOTES:**
- LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
  - LOCATE WIRE SHALL HAVE 2' OF SLACK INSIDES VALVE AND LOCATE POINTS.

**LOCATE WIRE BOX**  
JANUARY 2019 PLATE W-44B

**ETM**  
VISION • EXPERIENCE • RESULTS

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CA: 00002584 LC: 000016

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO.: 82302

NO. BY DATE REVISIONS

4. 3. 2. 1.

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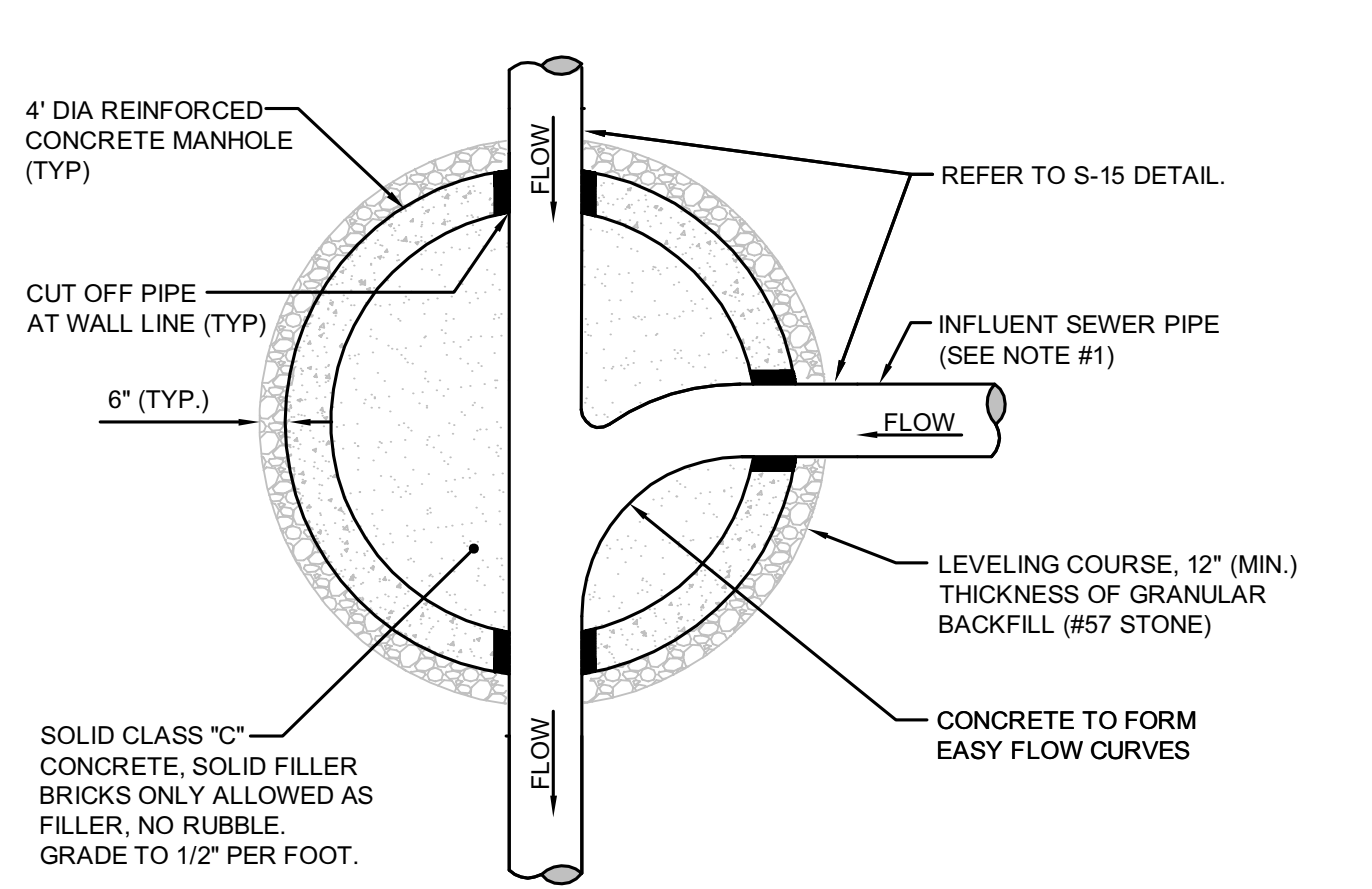
DESIGNER: ANDREW J. BOOTH  
DATE: 1/19/2019  
CHECKED BY: AS NOTED  
DATE: 1/19/2019

JEA Building Community<sup>SM</sup>

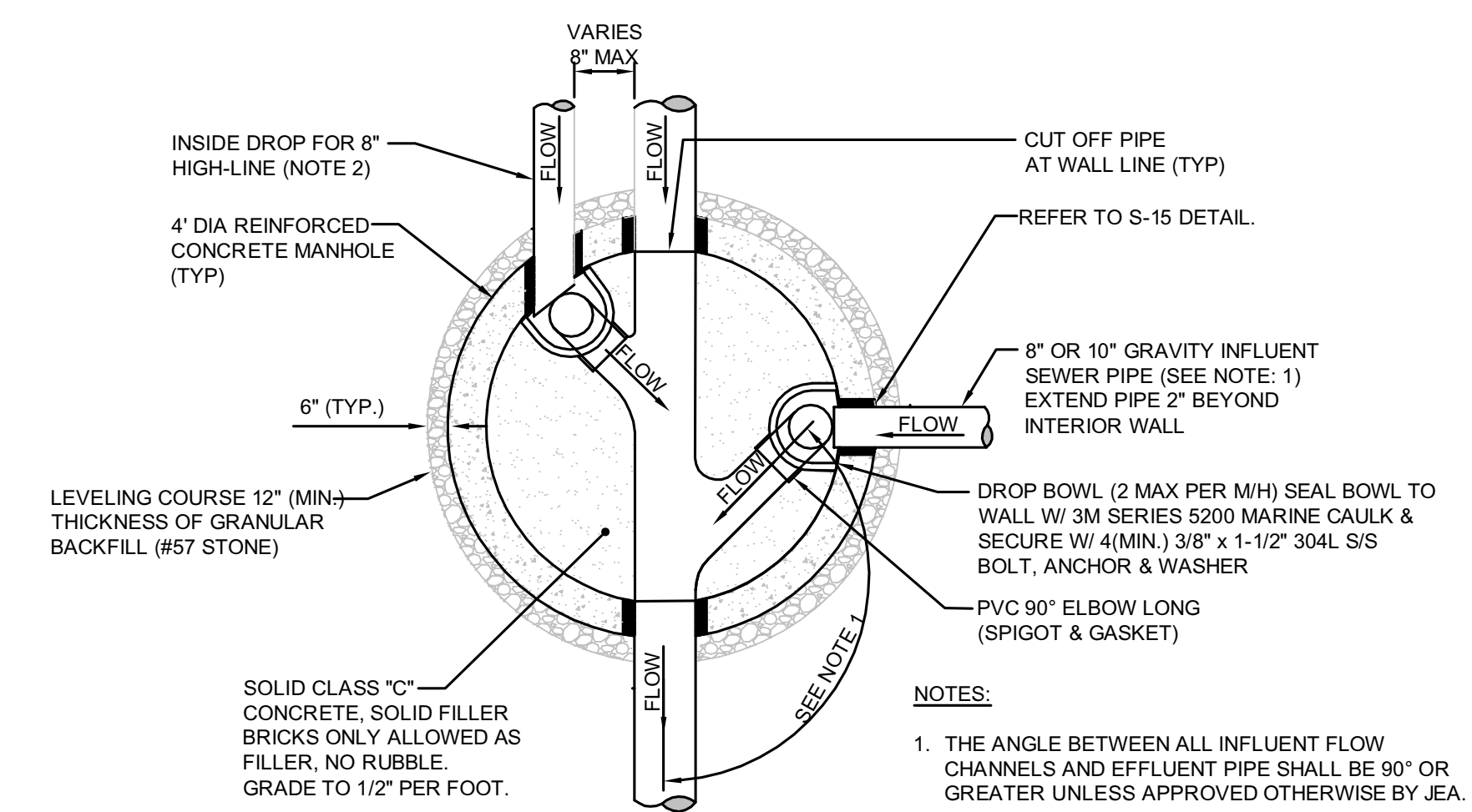
JEA STANDARD  
SANITARY SEWER DETAILS  
OAKLEAF CORNER OUTPARCEL 3

PROJ. NO. 19-227  
DATE: JANUARY 2019  
SHEET NO. 1  
DRAWING NO. 19-227-01

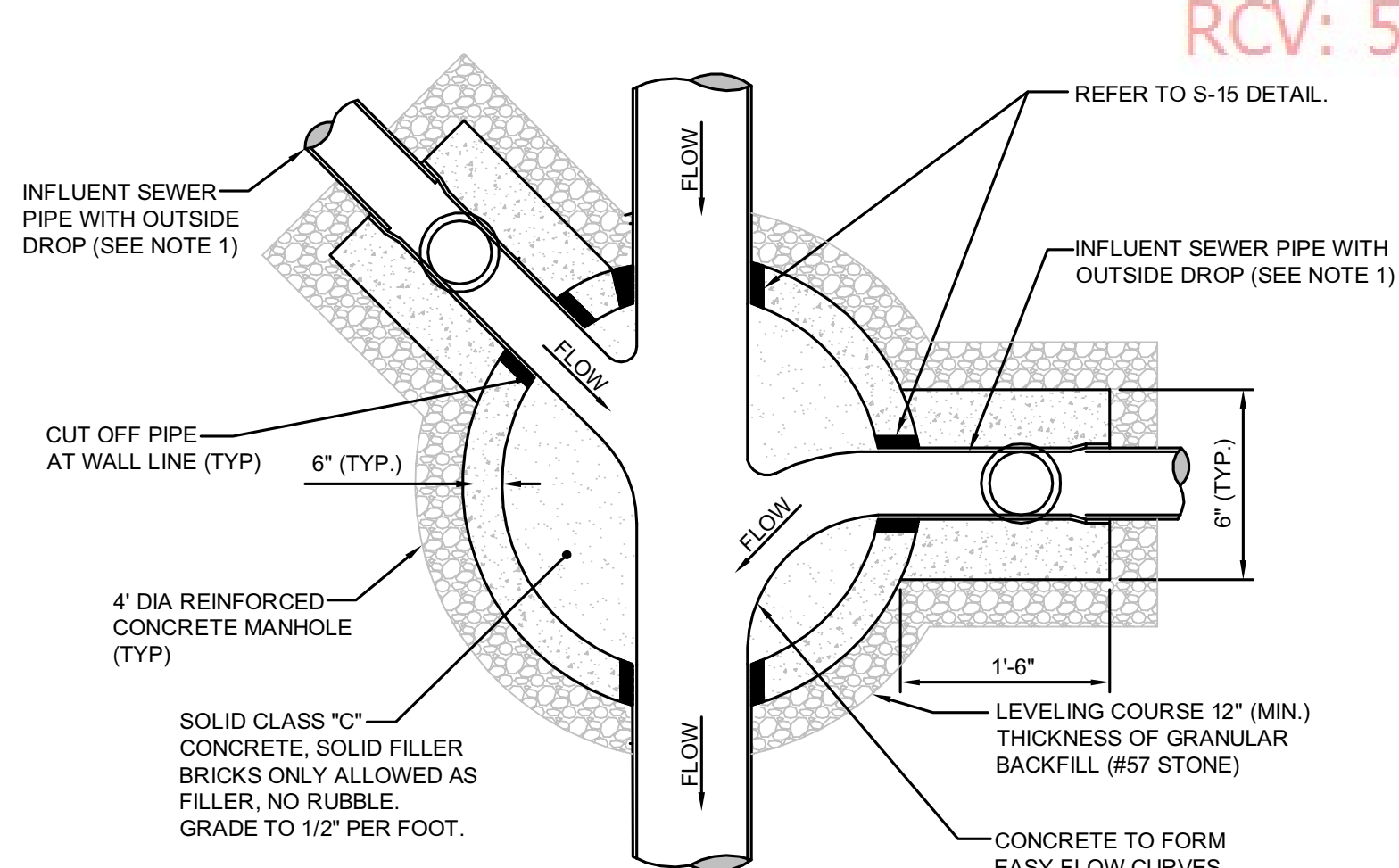
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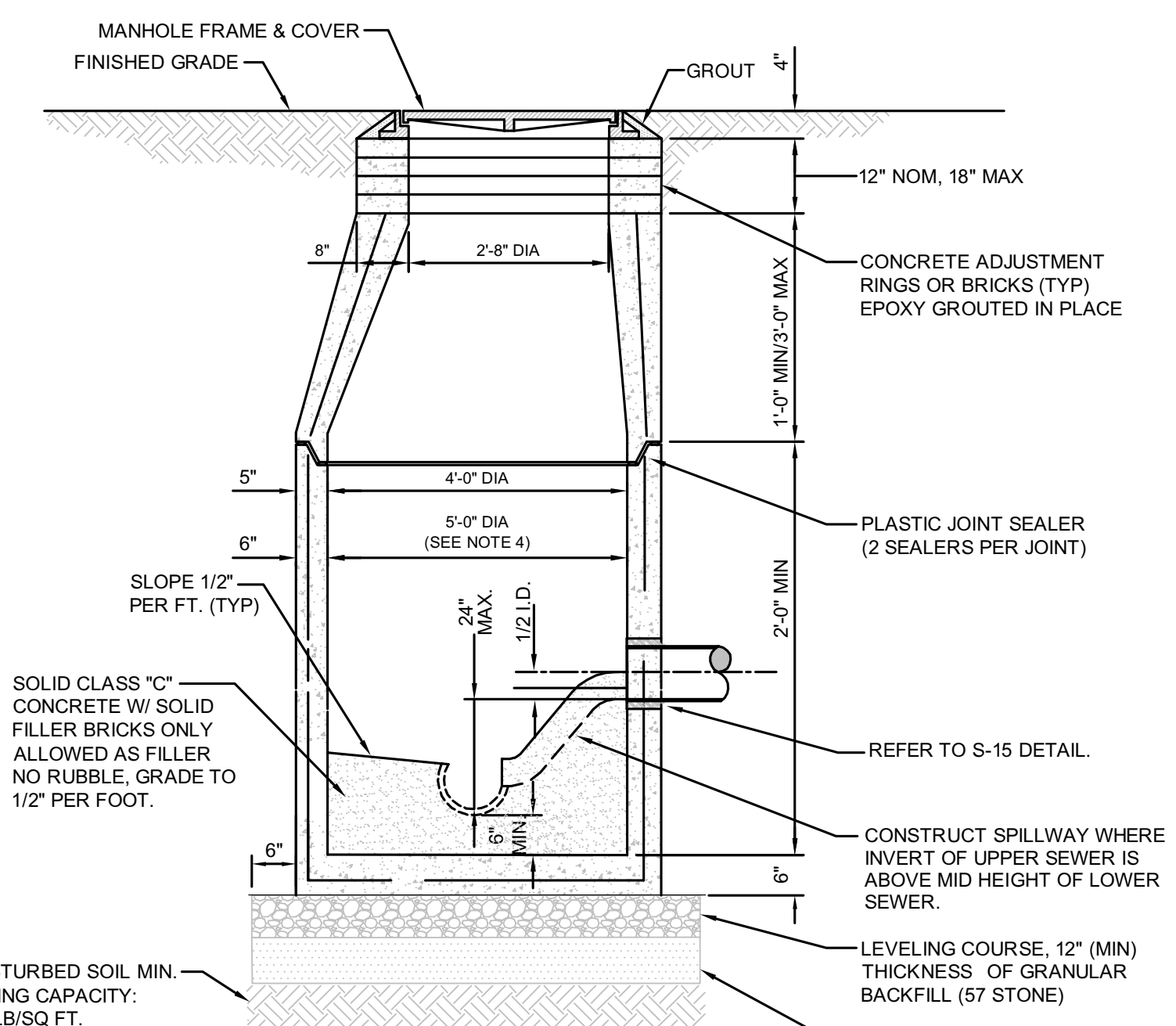
**PLAN VIEW (S-3)**  
(FOR SECTION VIEW SEE S-2)



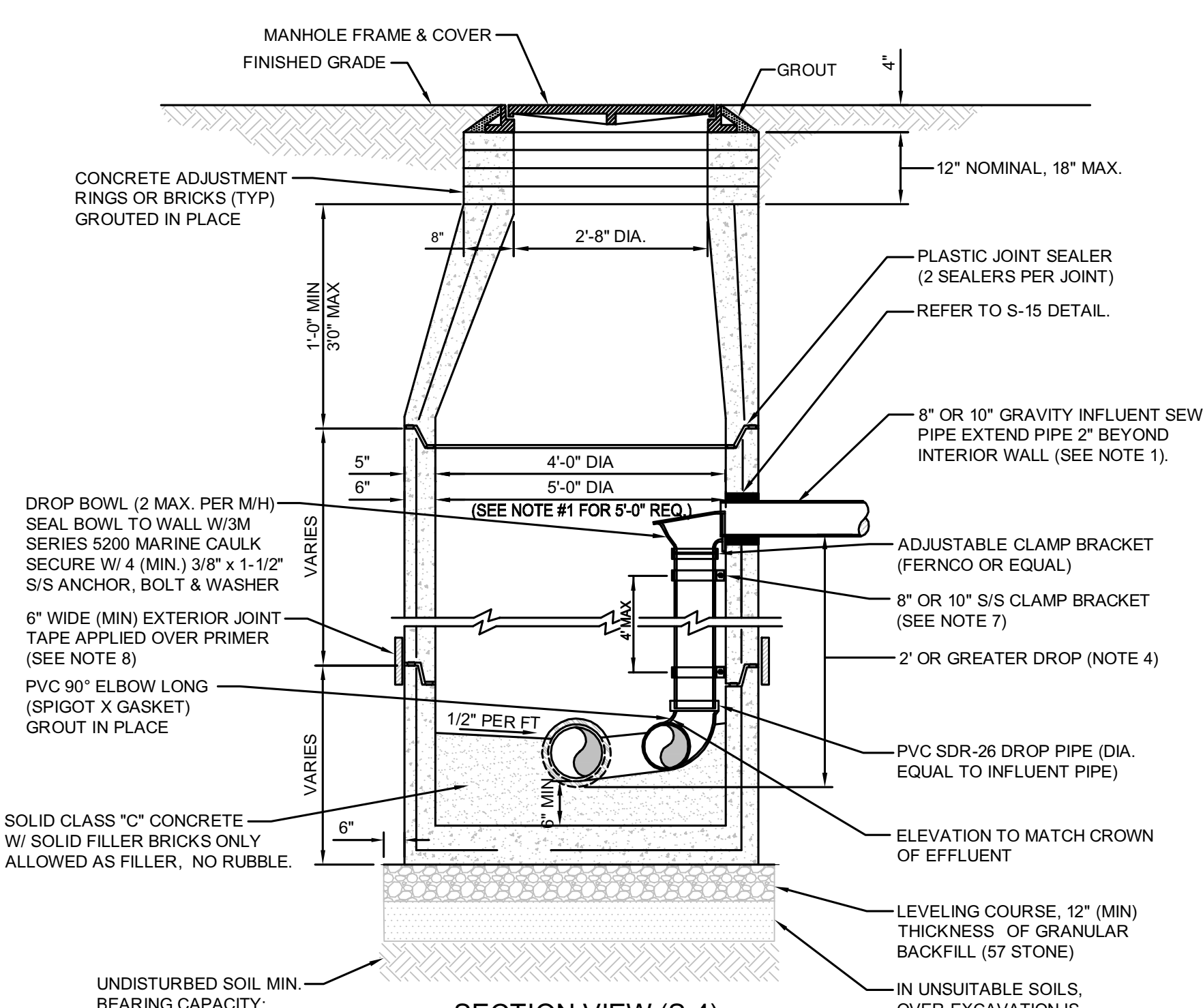
**PLAN VIEW (S-5)**  
(FOR SECTION VIEW SEE S-4)



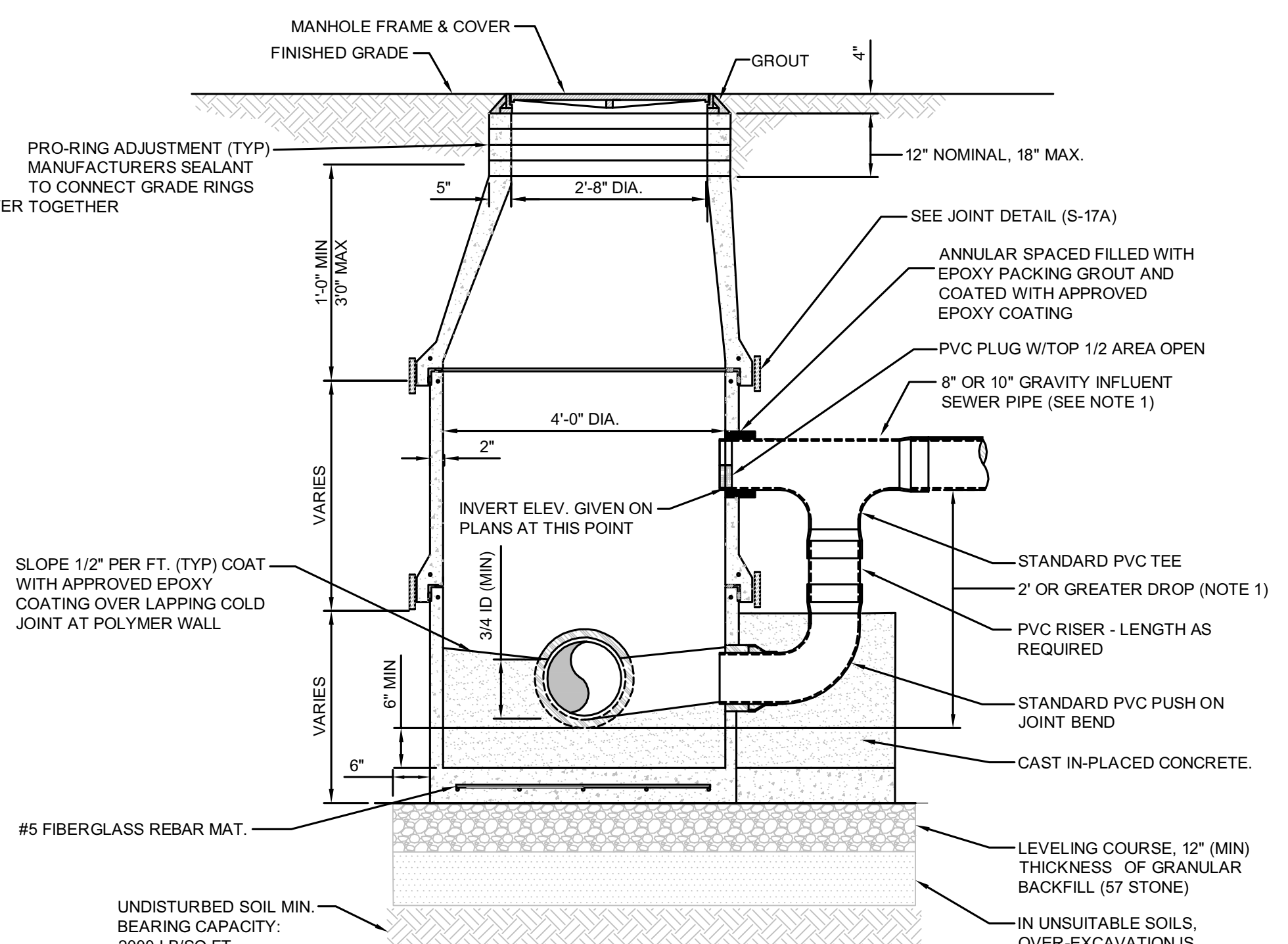
**PLAN VIEW (S-8)**  
(FOR SECTION VIEW SEE S-7)



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



**SECTION VIEW (S-4)**  
(FOR PLAN VIEW SEE S-5)



**SECTION VIEW (S-7A)**  
(FOR PLAN VIEW SEE S-8)

- NOTES:**
- 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 ADJUSTING 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 MATERIAL SHALL BE OMITTED ON THE INSIDE.
  - 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.
  - 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).

- NOTES:**
- THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NEW CONSTRUCTION ONLY NO FORCE MAINS LARGER THAN 6". 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 WATERPROOFING MATERIAL.
  - 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 LARGER THAN 10' IN SIZE.
  - 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 (WITH 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).

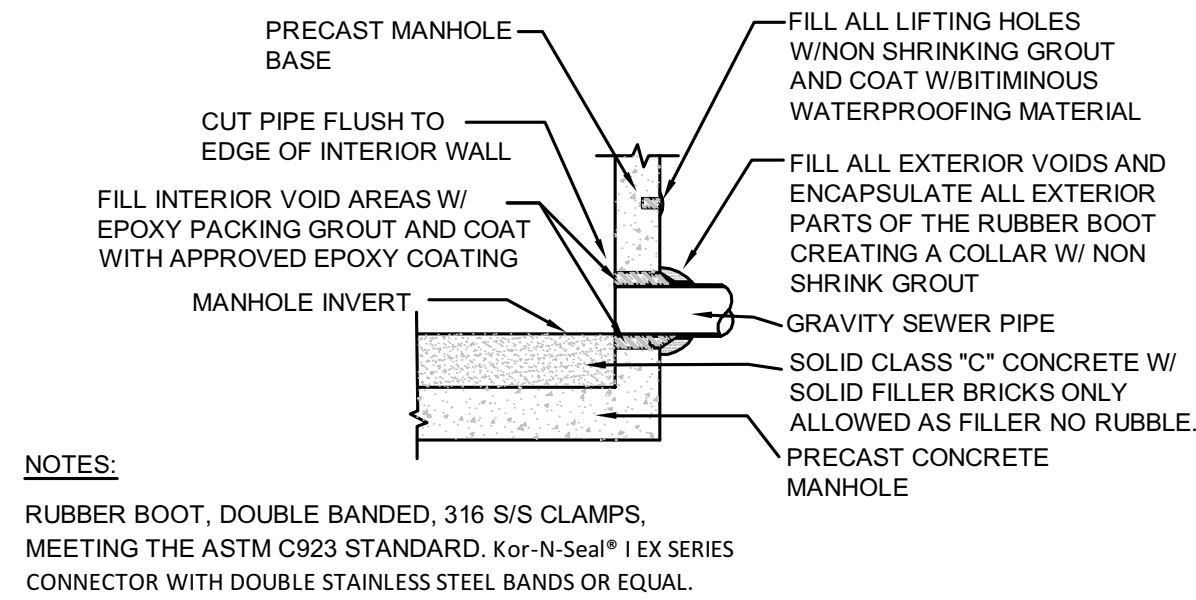
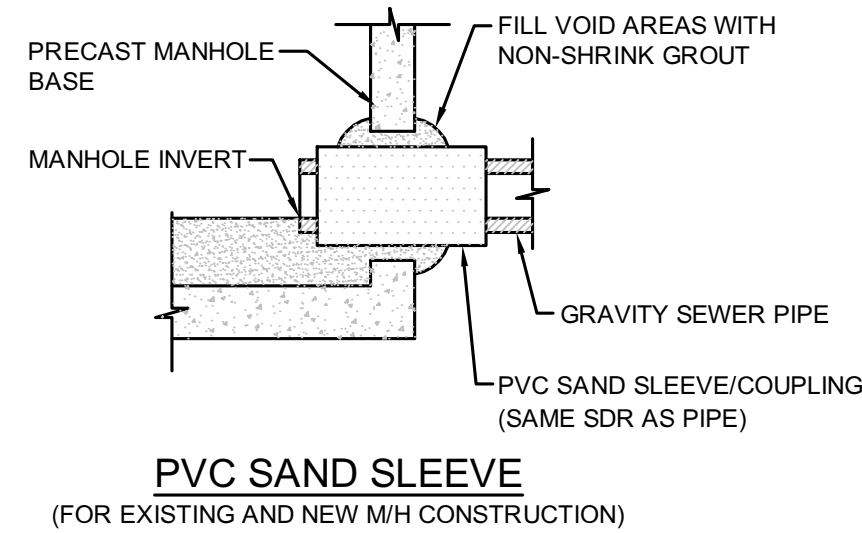
- NOTES:**
- TYPE "D" MANHOLE SHALL BE USED FOR 10" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP.
  - ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 18" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL.
  - IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (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 CONCRETE TYPE "A" MANHOLE**  
**8"-21" SEWERS**  
JANUARY 2019 PLATES S-2, S-3

**SANITARY SEWER CONCRETE TYPE "B" MANHOLE**  
**8"-10" SEWERS**  
JANUARY 2019 PLATES S-4, S-5

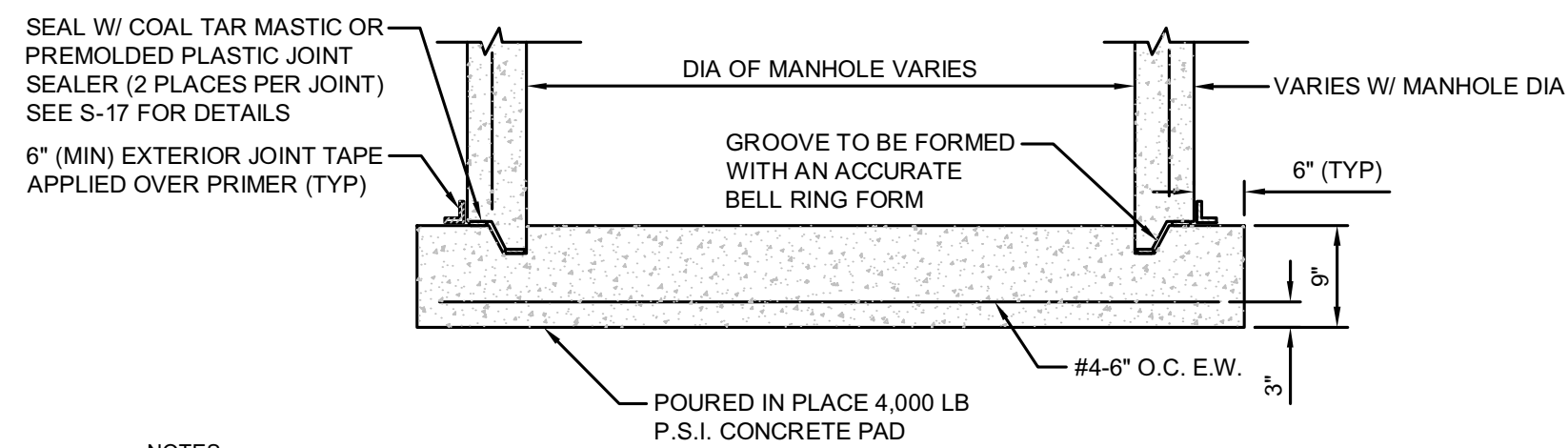
**SANITARY SEWER POLYMER TYPE "D" MANHOLE**  
**12"-21" SEWERS**  
JANUARY 2019 PLATES S-7A, S-8





**NOTES:**  
RUBBER BOOT, DOUBLE BANDED, 316 S/S CLAMPS, MEETING THE ASTM C923 STANDARD, Kor-N-Seal® I EX SERIES CONNECTOR WITH DOUBLE STAINLESS STEEL BANDS OR EQUAL.

**RUBBER BOOT**  
(FOR NEW M/H CONSTRUCTION ONLY, MAXIMUM DEPTH 15FT)

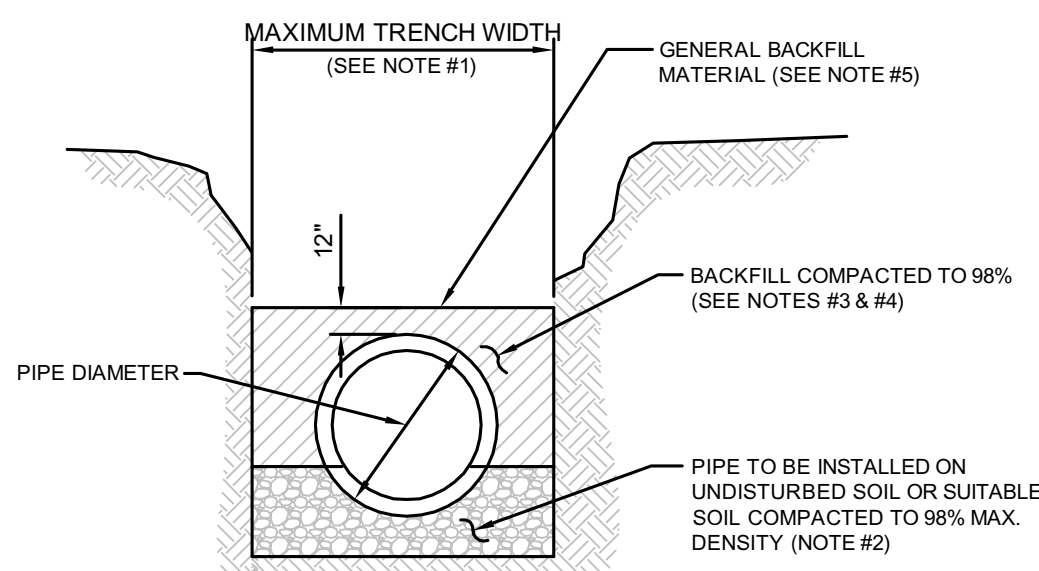


**NOTES:**  
THE USE OF THE POURED IN PLACE MANHOLE BOTTOM SHALL BE MINIMIZED AND SHALL BE SPECIFICALLY APPROVED BY JEA PRIOR TO CONSTRUCTION.

**MANHOLE BOTTOM**

**CONCRETE MANHOLE PIPE CONNECTION DETAIL**

JANUARY 2019 PLATE S-15

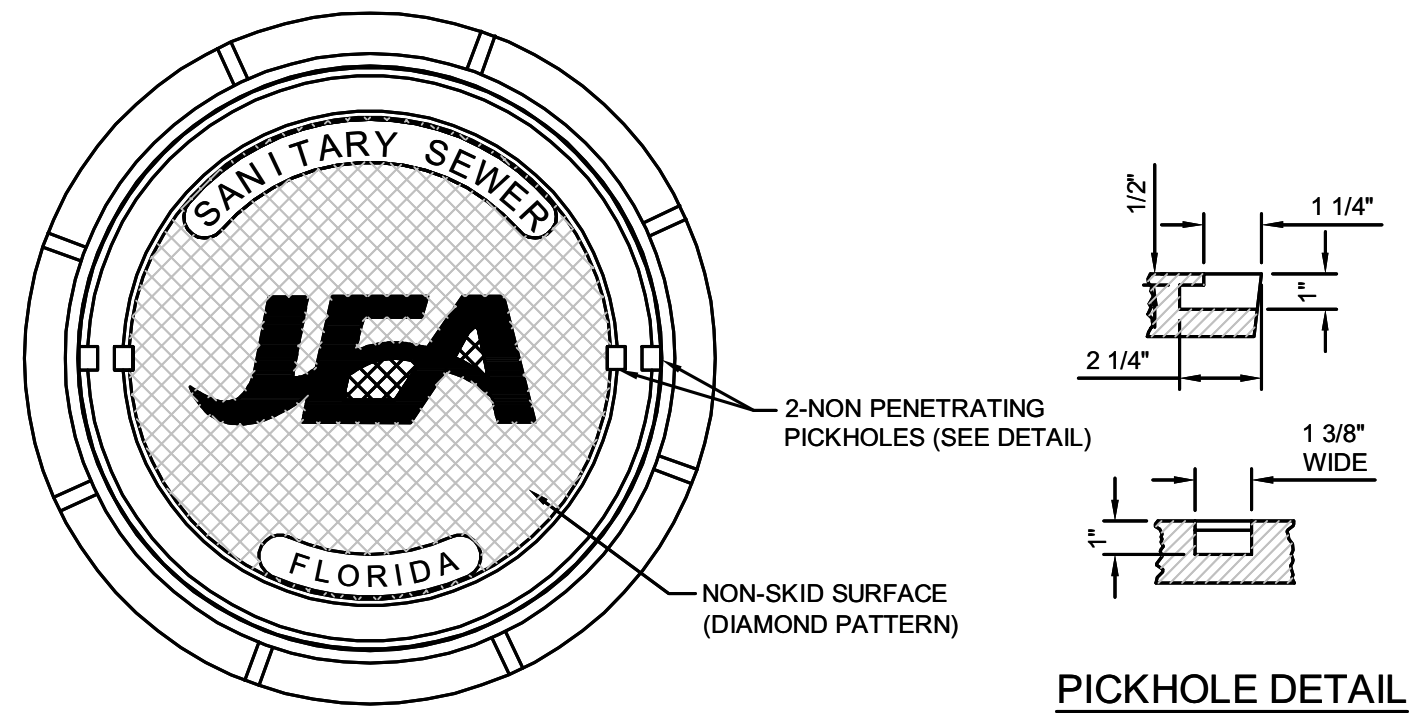


**TYPICAL TRENCH**

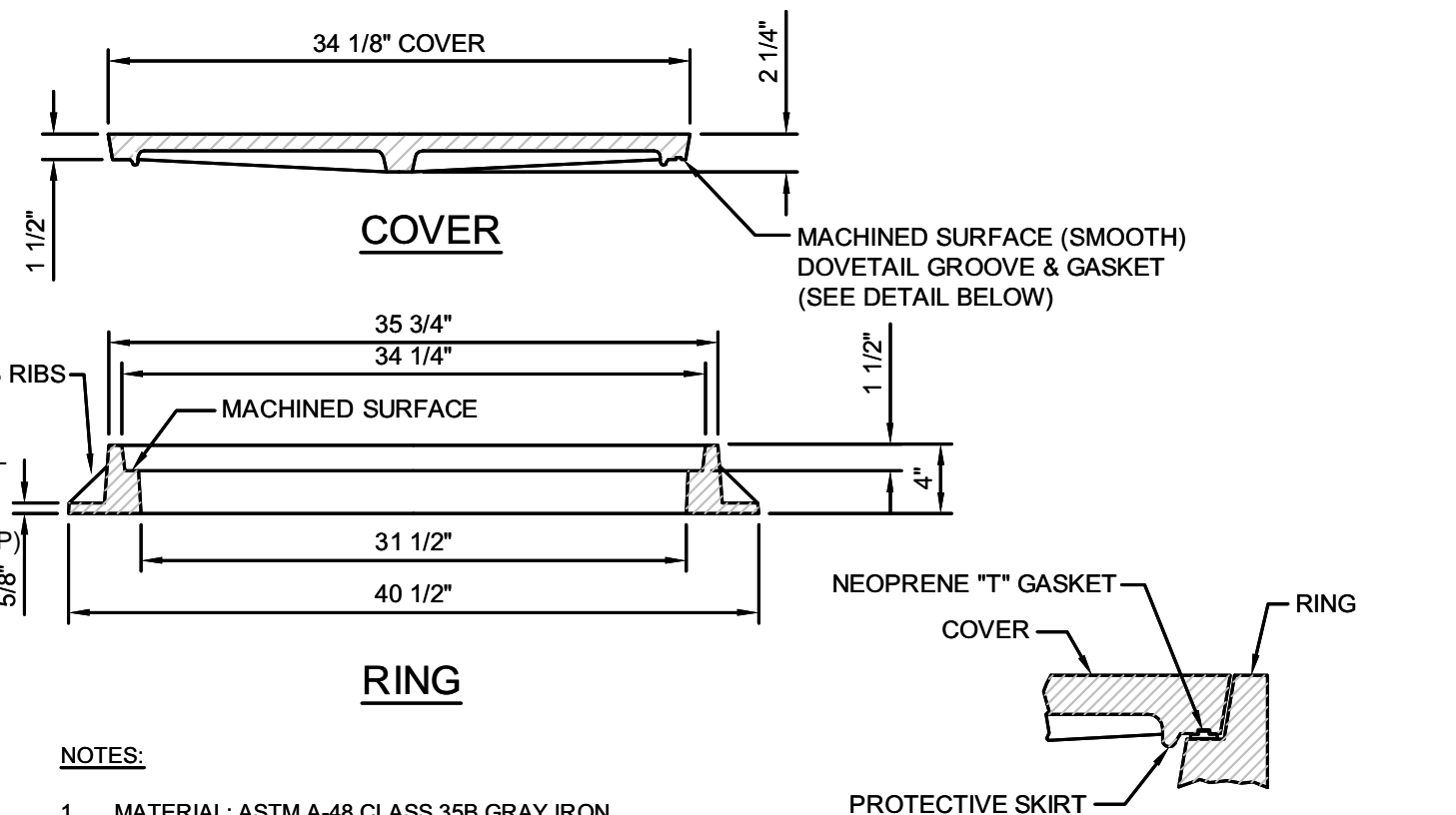
- NOTES:**
- TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE. OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
  - BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOLLERS 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.
  - 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.
  - 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 ITS MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
  - 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**

JANUARY 2019 IN CITY RIGHT -OF-WAY PLATE W-42



**PICKHOLE DETAIL**

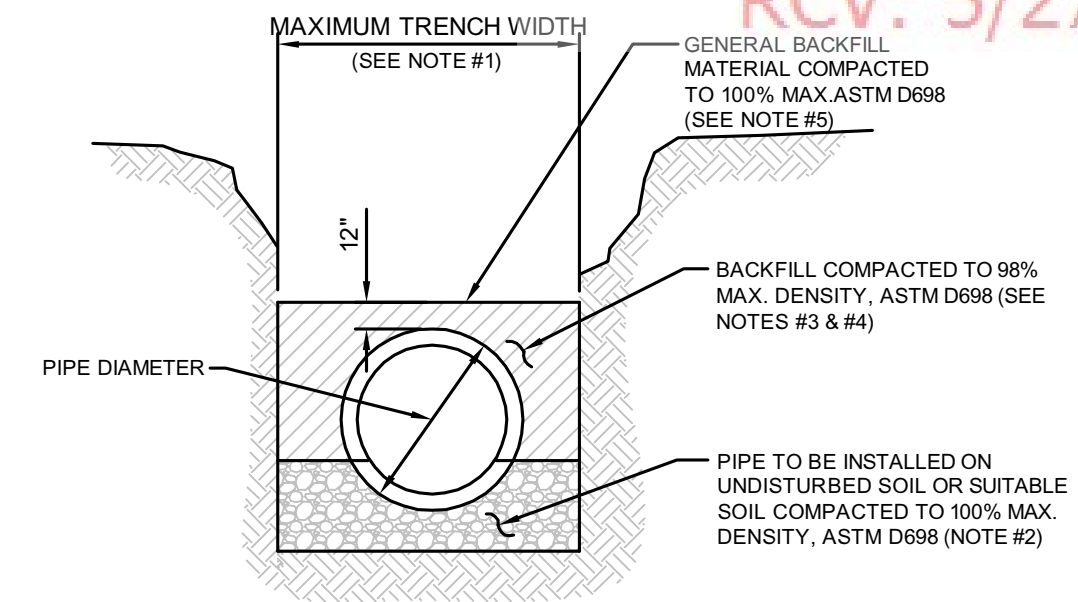


**GROOVE & GASKET DETAIL**

- NOTES:**
- MATERIAL: ASTM A-48 CLASS 35B GRAY IRON.
  - RING WEIGHT 230 LBS APPROX.
  - COVER WEIGHT 230 LBS. APPROX.
  - ALL DIMENSIONS ARE SHOWN IN INCHES.
  - FOR MANHOLES WHICH WILL BE MAINTAINED BY JEA (INCLUDING UTILITY DEDICATION PROJECTS), THE COVER SHALL INCLUDE THE "JEA" LOGO AND A NEOPRENE GASKET.
  - FOR MANHOLES WHICH WILL BE MAINTAINED BY PARTIES OTHER THAN JEA (SUCH AS PRIVATE SEWER COLLECTION SYSTEMS, PRIVATE (FORCE MAIN) PUMP OUT BOX AND SYSTEMS NOT MAINTAINED BY JEA), THE COVER SHALL INCLUDE "SANITARY SEWER" GENERIC LETTERING (NO "JEA" LOGO OR NEOPRENE GASKET).

**SANITARY SEWER MANHOLE FRAME AND COVER**

JANUARY 2019 PLATE S-1



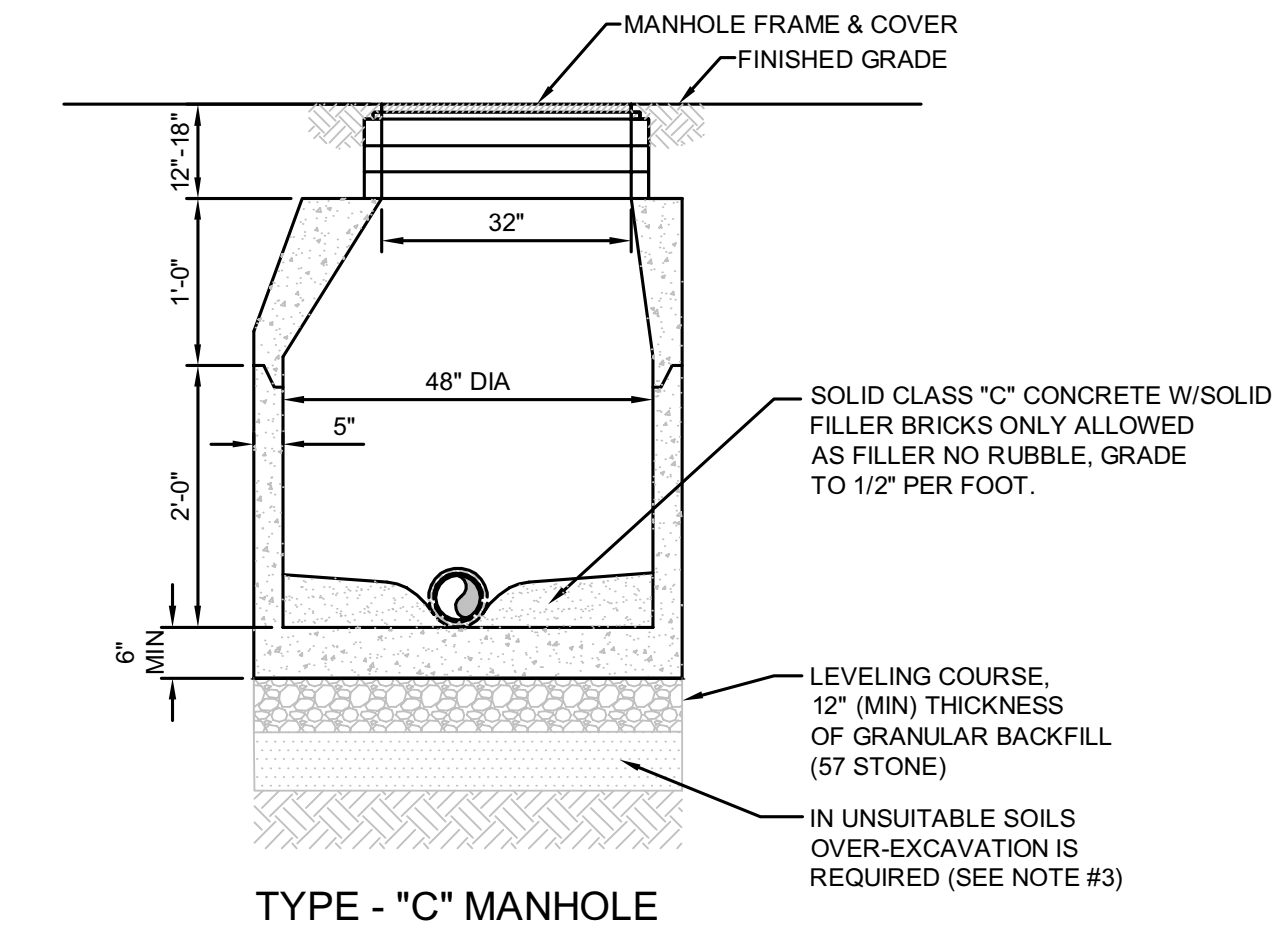
**TYPICAL TRENCH**

**NOTES:**

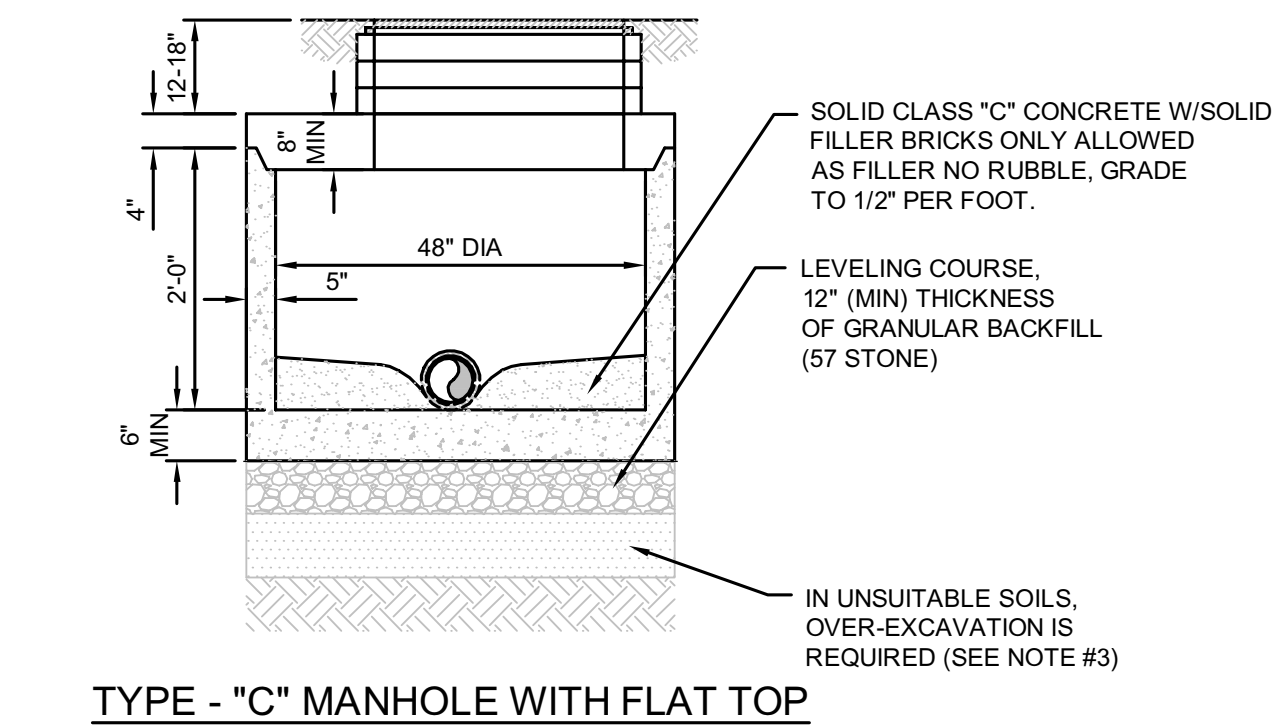
- TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE. OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
- BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOLLERS 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.
- 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.
- 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 100% OF ITS MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D098.
- SEE "EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS AND EXCEPTIONS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

**OPEN CUT TRENCH FOR PRESSURE PIPE**

JANUARY 2019 IN STATE ROAD RIGHT -OF-WAY PLATE W-42A



**TYPE - "C" MANHOLE**



**TYPE - "C" MANHOLE WITH FLAT TOP**

**SECTION VIEWS**

**NOTES:**

- 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 INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COAT OF BITUMINOUS WATERPROOFING MATERIAL.
- 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 CONCRETE TYPE "C" MANHOLE  
8"-21" SEWERS**

JANUARY 2019

**England-Thims & Miller, Inc.**  
14776 Old St. Augustine Road  
JEA Building  
TEL: (904) 642-9900  
FAX: (904) 646-9488  
CA - 0002584 LC - 000016

**JEA**  
Building Community

**JEA STANDARD  
SANITARY SEWER DETAILS  
OAKLEAF CORNER OUTPARCEL 3**

NO.	BY	DATE	REVISIONS
4			
3			
2			
1			

DESIGNER: ANDREW J. BOOTH  
CHECKED BY: [ ]  
DATE: [ ]  
FLORIDA REGISTRATION NO.: 82302

PROJ. NO.: 19-227  
DATE: JANUARY 2019  
SCALE: AS NOTED

NO. SHEETS: 5  
SHEET NO.: 2  
DRAWING NO.: 9H

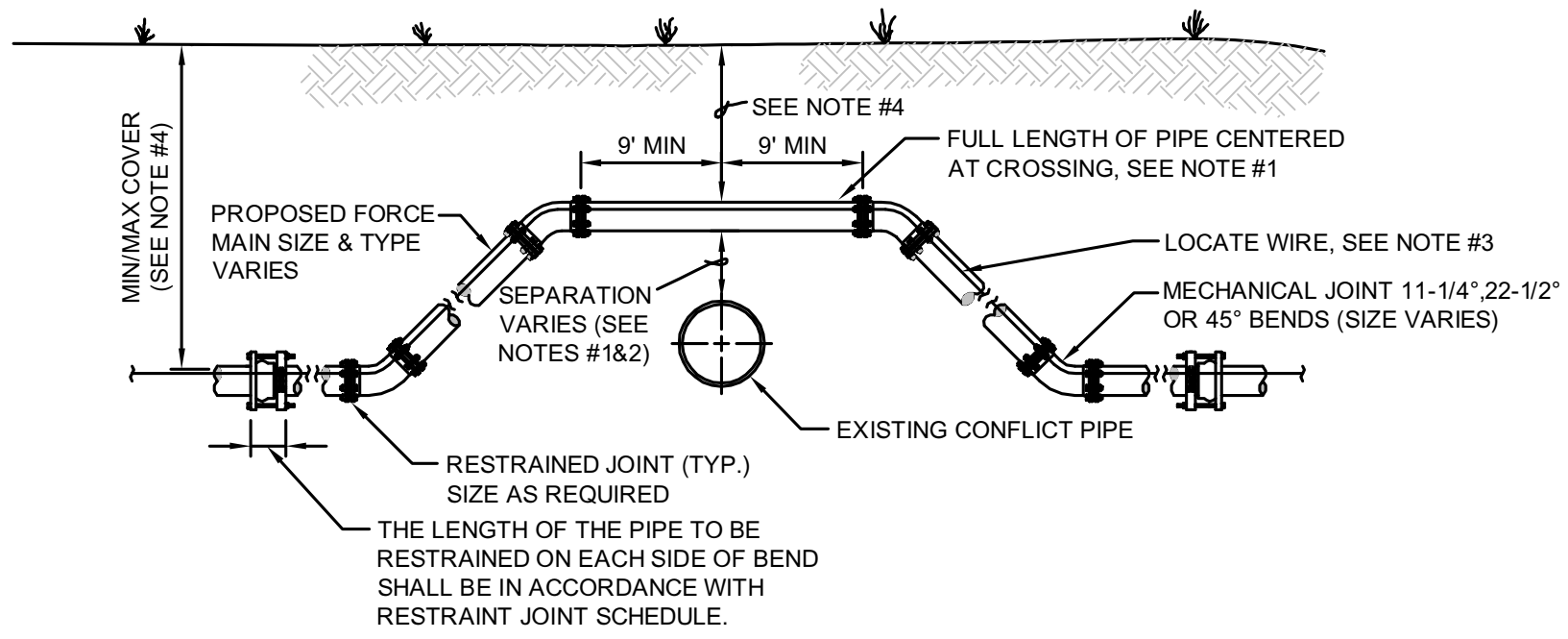
**England-Thims & Miller, Inc.**  
14776 Old St. Augustine Road  
Jensen Beach, FL 34957  
TEL: (888) 642-9890  
FAX: (888) 642-9898  
CA: 0002584 LC: 000016

**ETM**  
VISION • EXPERIENCE • RESULTS

THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

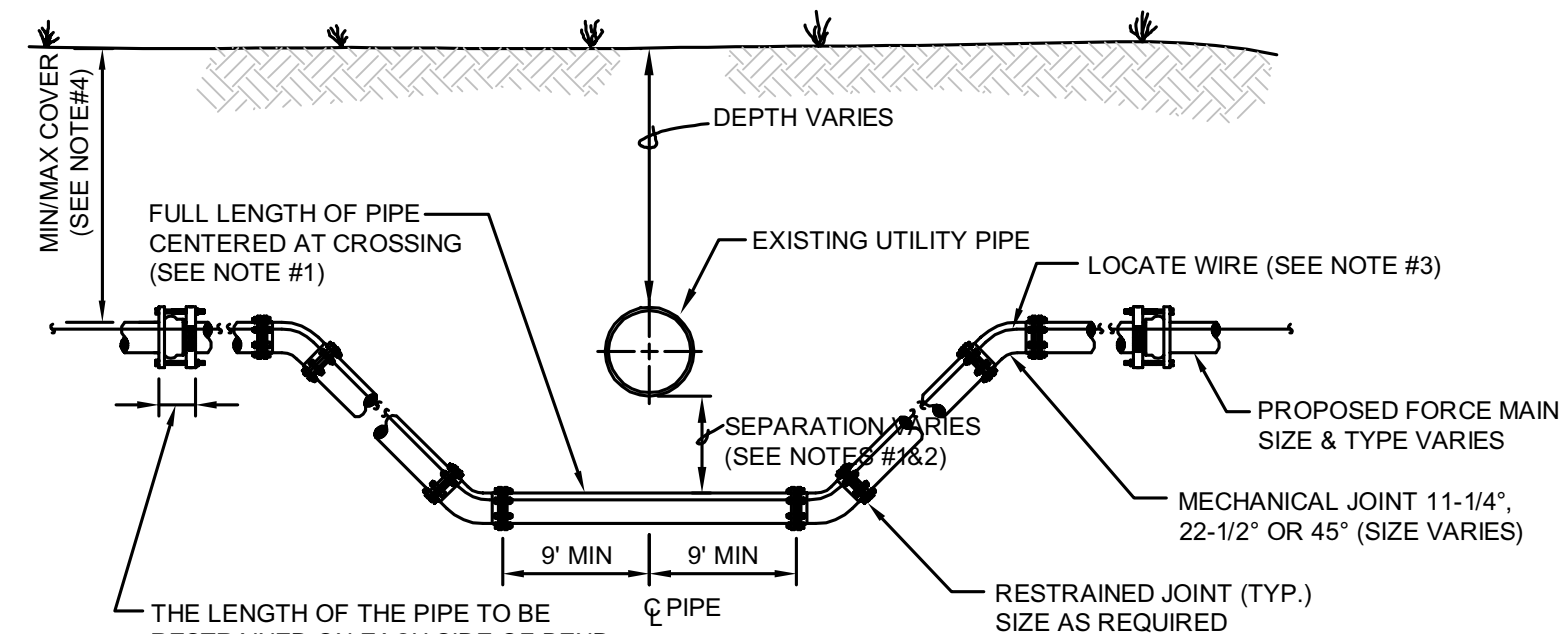
NO.	DATE	BY	REVISIONS
4		ANDREW J. BOOTH	
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2			
1			

DESIGNER: ANDREW J. BOOTH  
DRAWN BY: ANDREW J. BOOTH  
DATE: 1/20/2019  
CHECKED BY: ANDREW J. BOOTH  
DATE: 1/20/2019  
FLORIDA REGISTRATION NO.: 82302



**CASE "A" CROSSING**

- NOTES:**
- 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.
  - FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).
  - LOCATING WIRE REQUIRED: SEE DETAIL S-49.
  - 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.

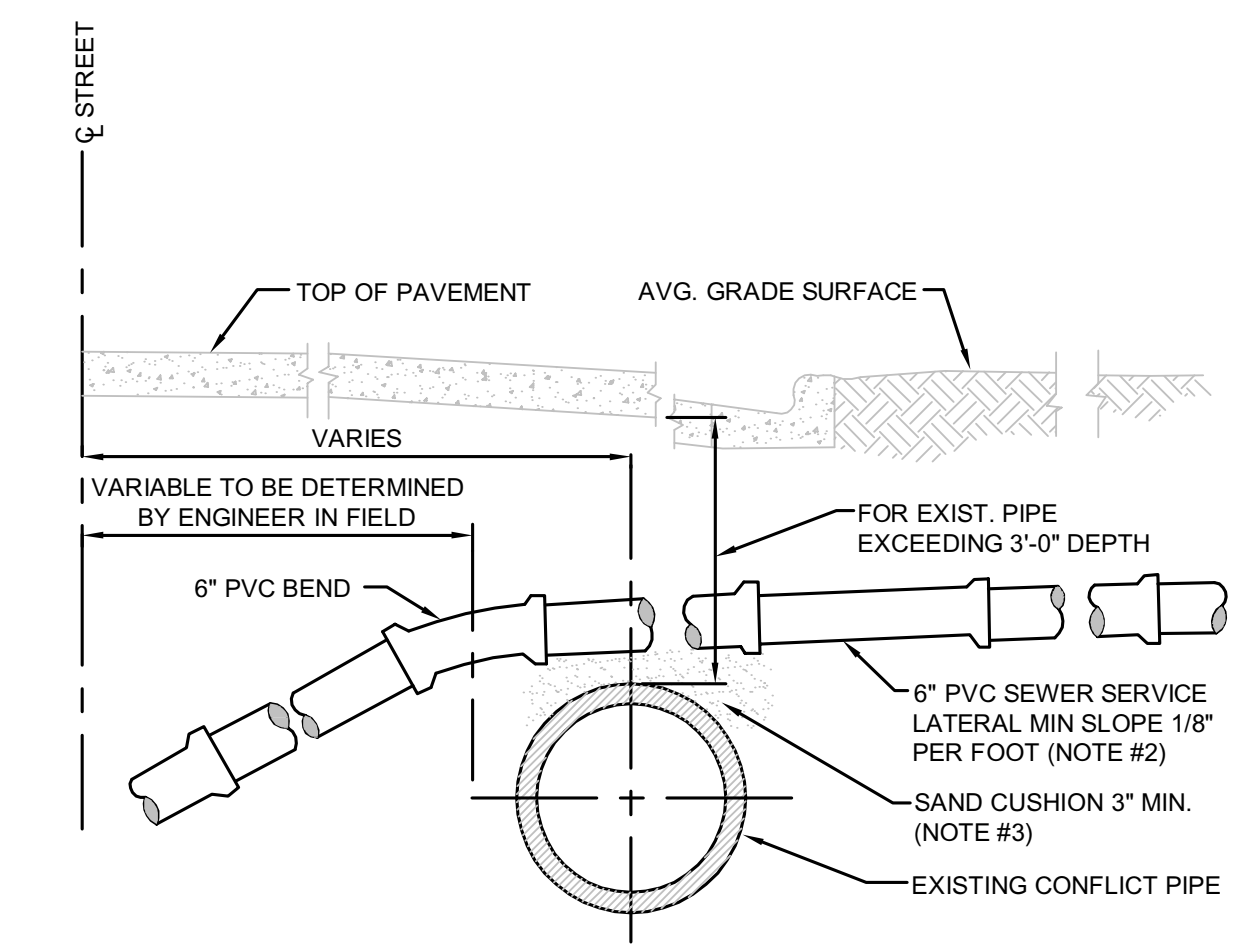


**CASE "B" CROSSING**

- NOTES:**
- 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.
  - FOR OTHER LOCATION LIMITATIONS SEE DETAIL (S-26 & S-27).
  - LOCATING WIRE REQUIRED: SEE DETAIL S-49.
  - 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



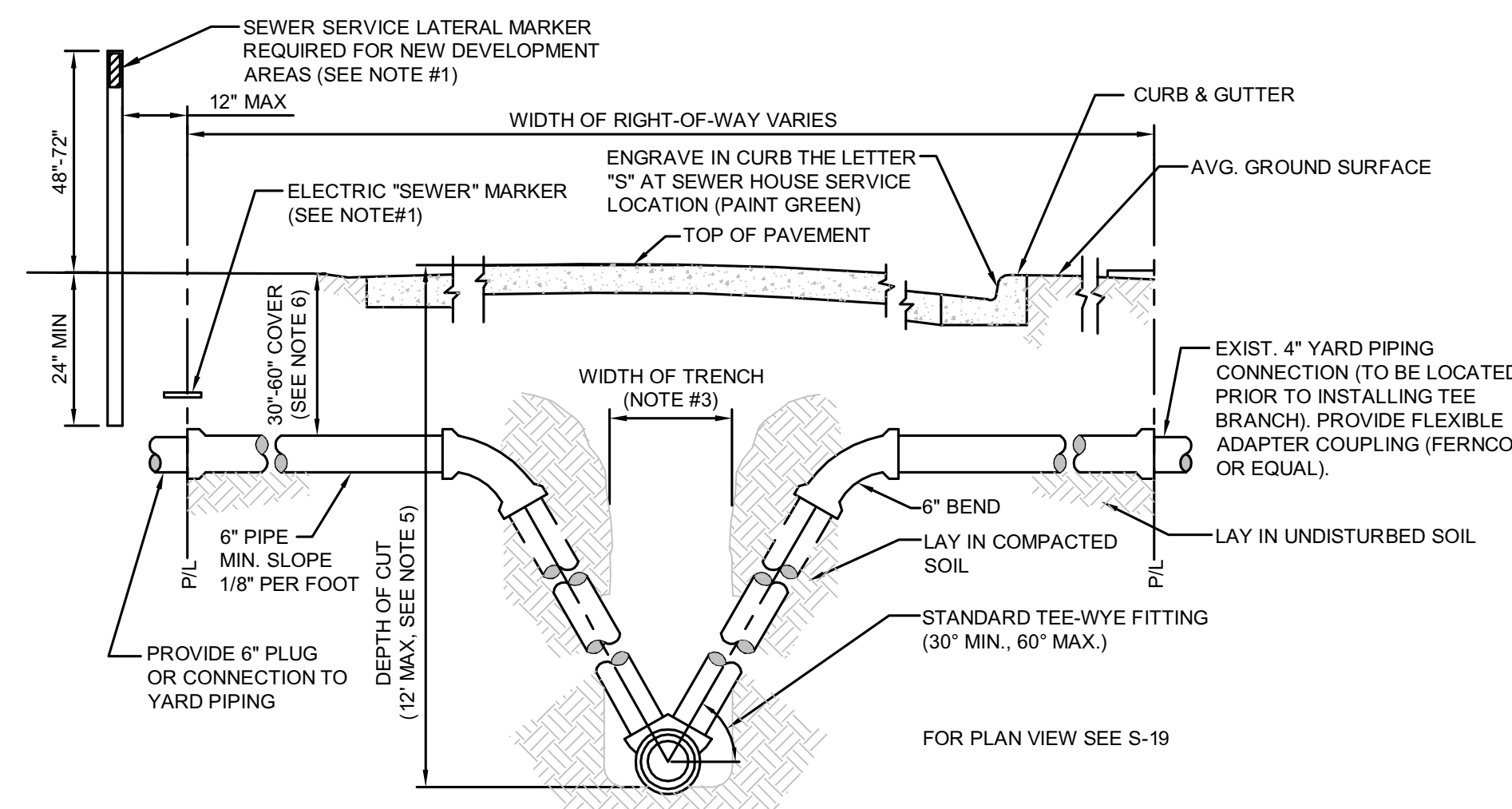
- NOTES:**
- ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
  - FLATTER SLOPES MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
  - THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

**HOUSE LATERAL OVER CONFLICT PIPE**

JANUARY 2019 PLATE S-23

**ADJUSTMENT OVER EXISTING UTILITIES  
MECHANICAL RESTRAINTS**

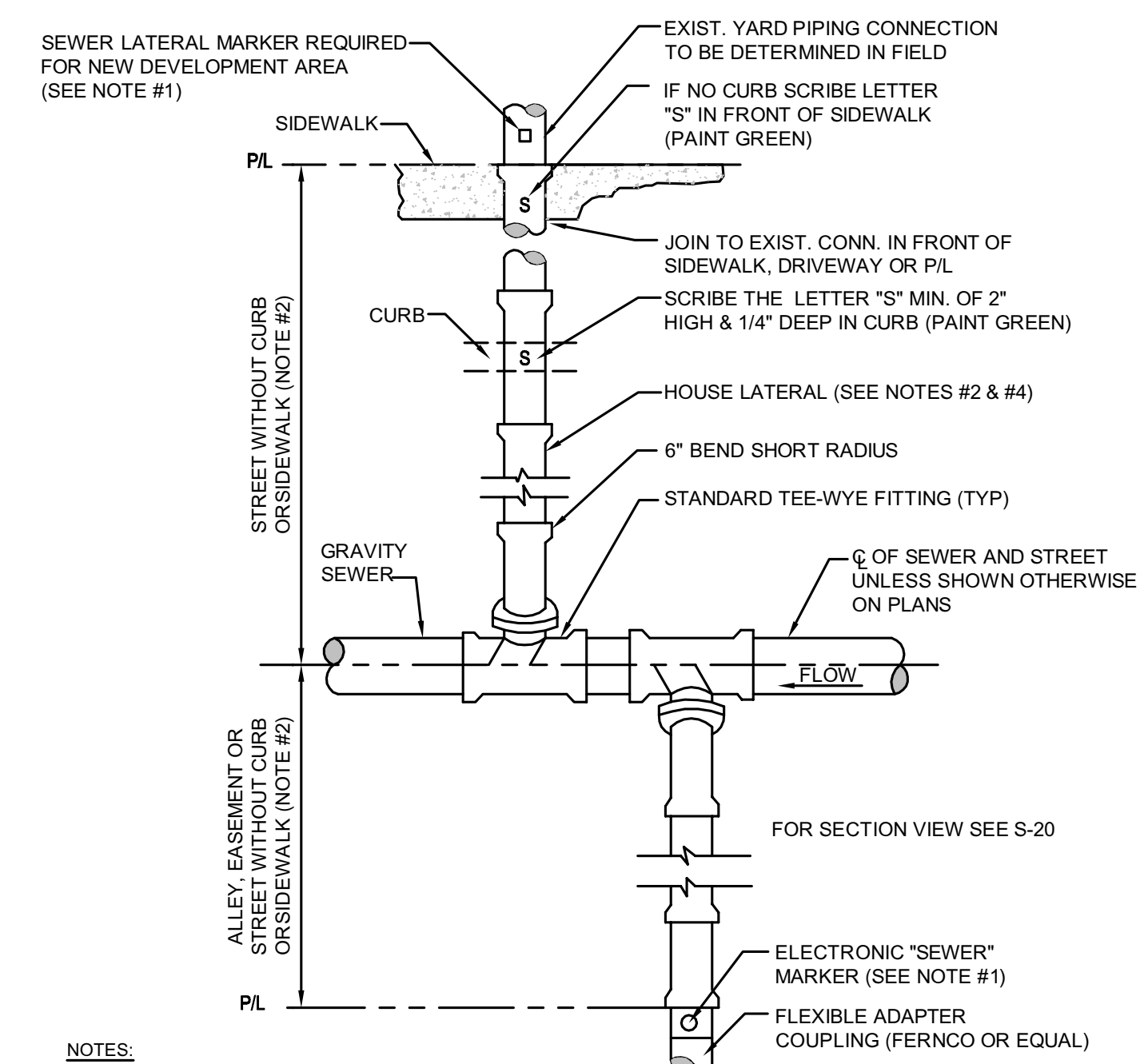
JANUARY 2019 PLATE S-39



- NOTES:**
- 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 BEING INSTALLED FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3/3 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.
  - 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).
  - SEE MEASUREMENT AND PAYMENT SECTION FOR MAXIMUM PAYMENT WIDTHS.
  - ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTINGS) SHALL BE PVC SDR-26.
  - 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.
  - 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.
  - 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**

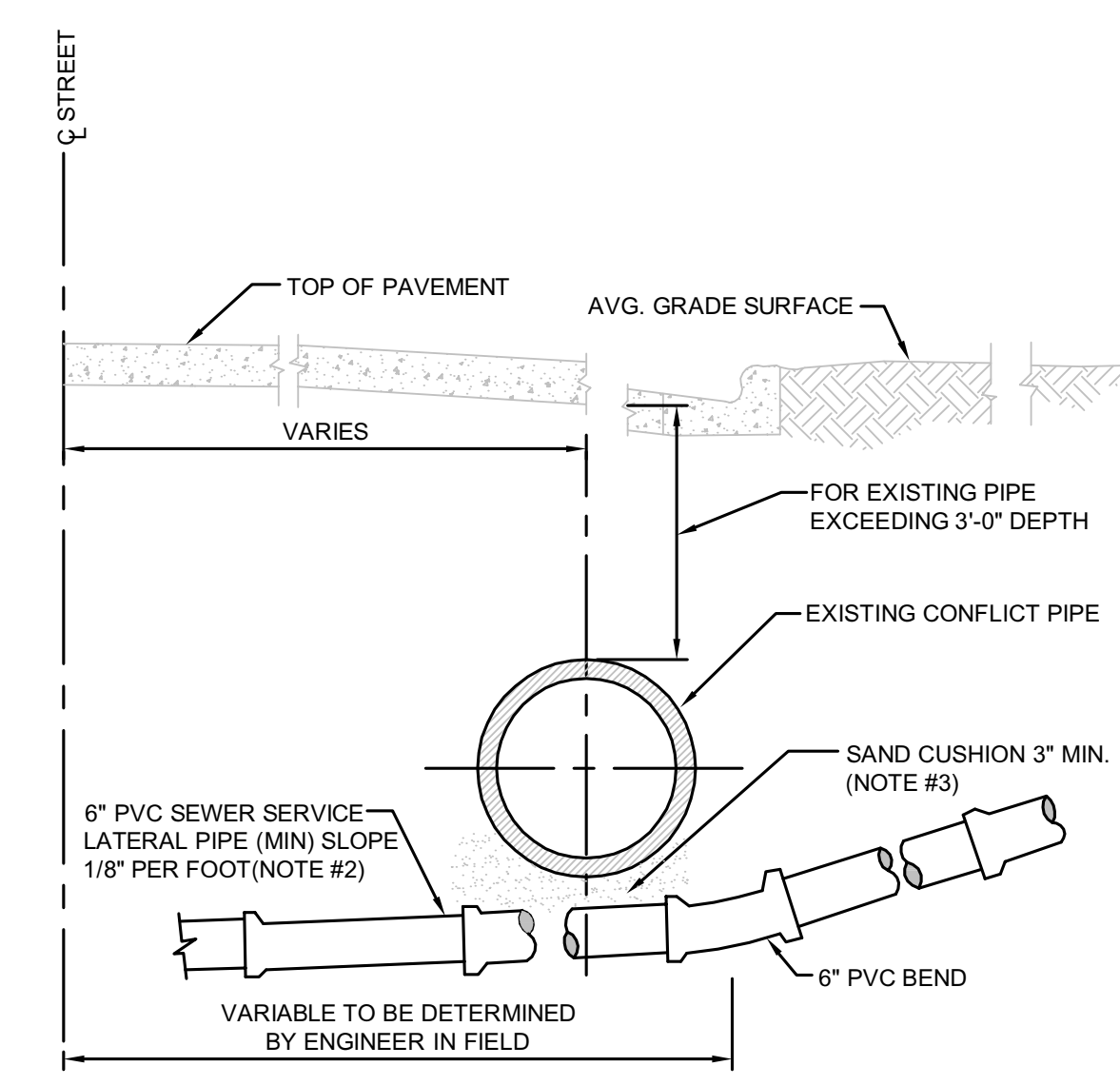
JANUARY 2019 PLATE S-20



- NOTES:**
- 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 BEING INSTALLED FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3/3 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.
  - 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.
  - ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26.

**HOUSE LATERAL - PLAN VIEW**

JANUARY 2019 PLATE S-19



- NOTES:**
- ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
  - FLATTER SLOPE MUST BE PRE-APPROVED BY JEA O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
  - 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.

**HOUSE LATERAL UNDER CONFLICT PIPE**

JANUARY 2019 PLATE S-24

**JEA**  
Building Community<sup>SM</sup>

JEA STANDARD  
SANITARY SEWER DETAILS  
OAKLEAF CORNER OUTPARCEL 3

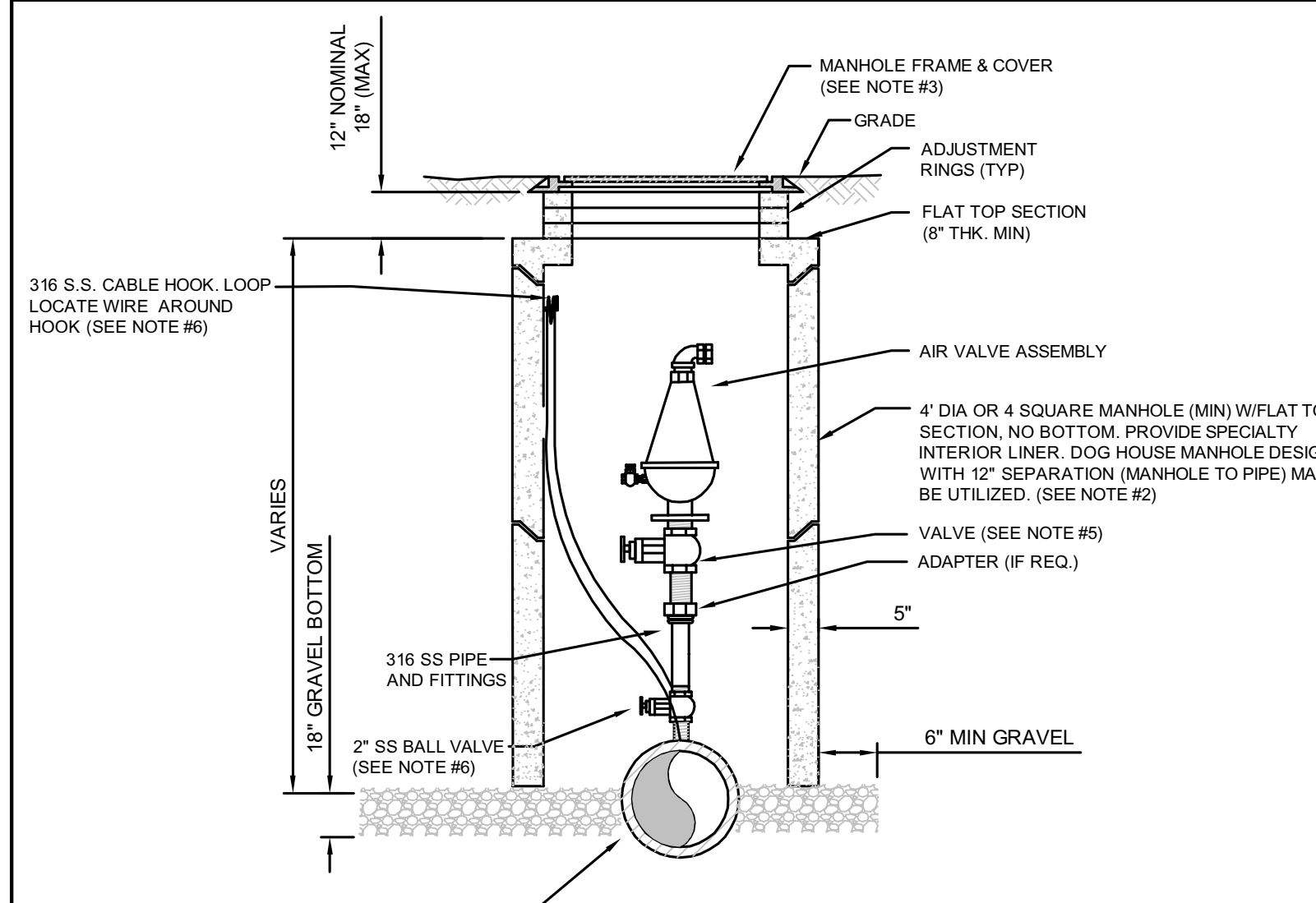
PROJ. NO.	19-227
DATE:	JANUARY 2019
SHEET NO.	3
DRAWING NO.	91
SCALE:	AS NOTED

**ETM**  
 England - Thims & Miller, Inc.  
 14776 Old St. Augustine Road  
 Jacksonville, FL 32218  
 TEL: (904) 642-8900  
 FAX: (904) 646-9488  
 CA - 0002584 LC - 000016

VISION • EXPERIENCE • RESULTS

DESIGNER: ANDREW J. BOOTH  
 CHECKED BY: 82302  
 DATE: 19-2019

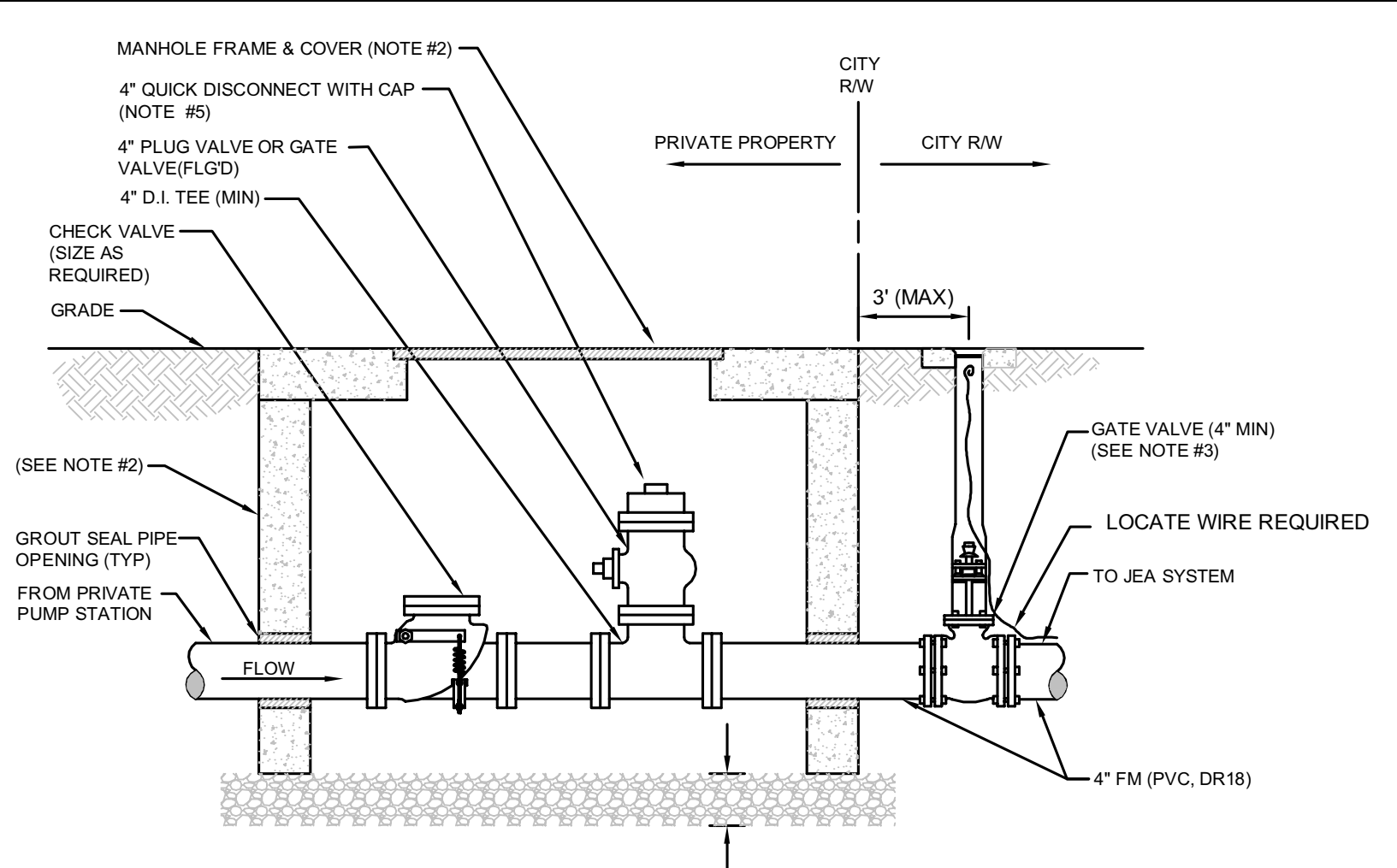
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**AIR VALVE ASSEMBLY INSIDE MANHOLE IN ROW**  
 JANUARY 2019 PLATE S-29B

**NOTES:**

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 ADJUSTING 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.



**PRIVATE PUMP OUT ASSEMBLY**  
 JANUARY 2019 PLATE S-46

**NOTES:**

1. SEWER PUMP-OUT BOX SHALL BE CONSTRUCTED ON PRIVATE PROPERTY AND LOCATED AT THE R/W LINE. THE PREFERRED CONSTRUCTION LAYOUT IS SHOWN ABOVE.
2. ASSEMBLY TO BE ENCLOSED WITHIN A 48"x48" (MIN) PRECAST CONCRETE BOX WITH OPEN BOTTOM. WITH 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.

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

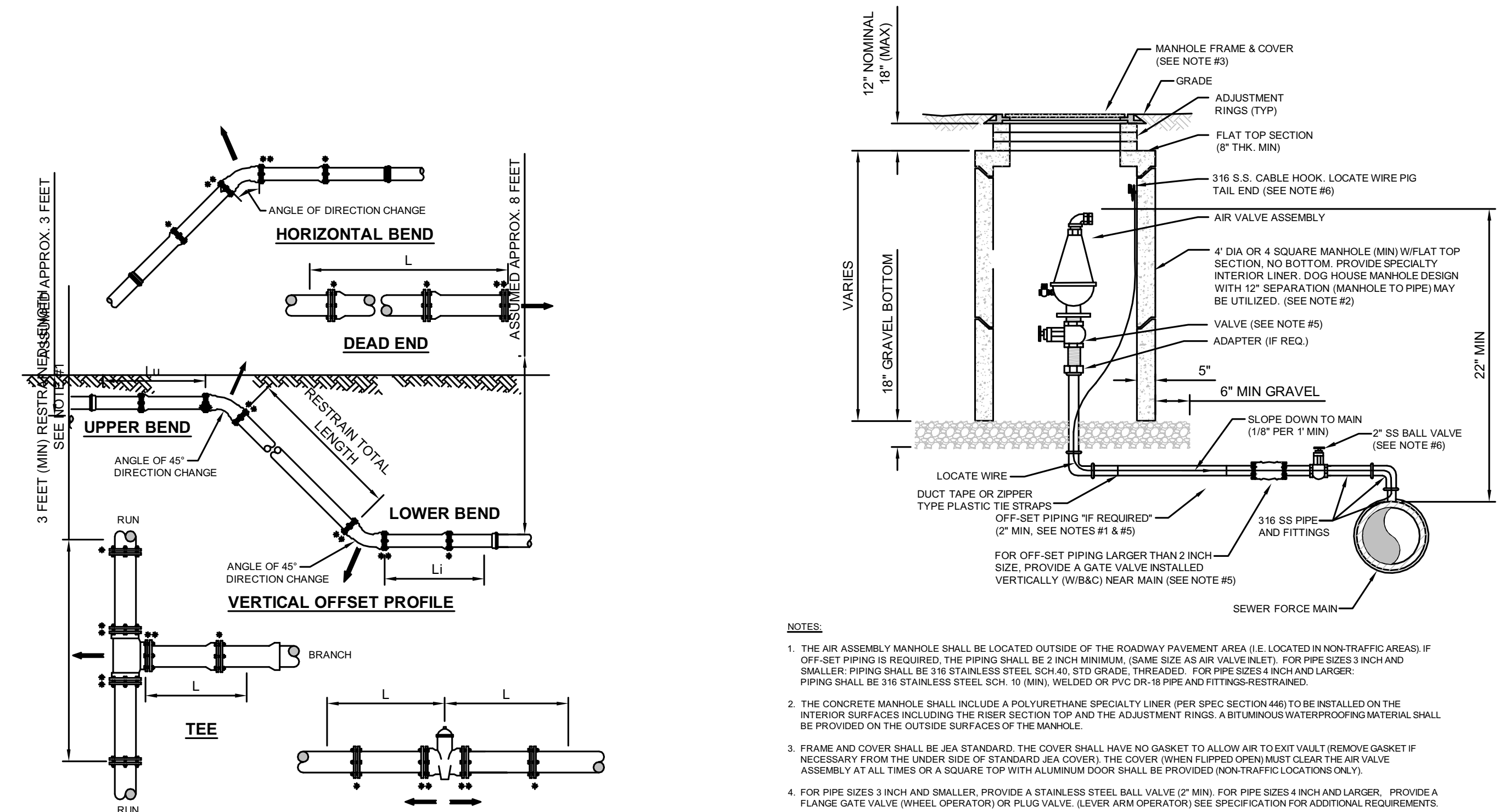
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS		VALVES OR DEAD ENDS		REDUCERS		TEES	
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	UPPER L (FT.)	LOWER L (FT.)	SIZE (IN.)	L (FT.)	RUN SIZE (IN.)	BRANCH SIZE (IN.)
4	21	9	5	3	17	3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

F.O. = FITTING ONLY

**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.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, L<sub>u</sub> IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL, L<sub>l</sub> 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 RESTRAINED 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. OVERTIGHTENING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

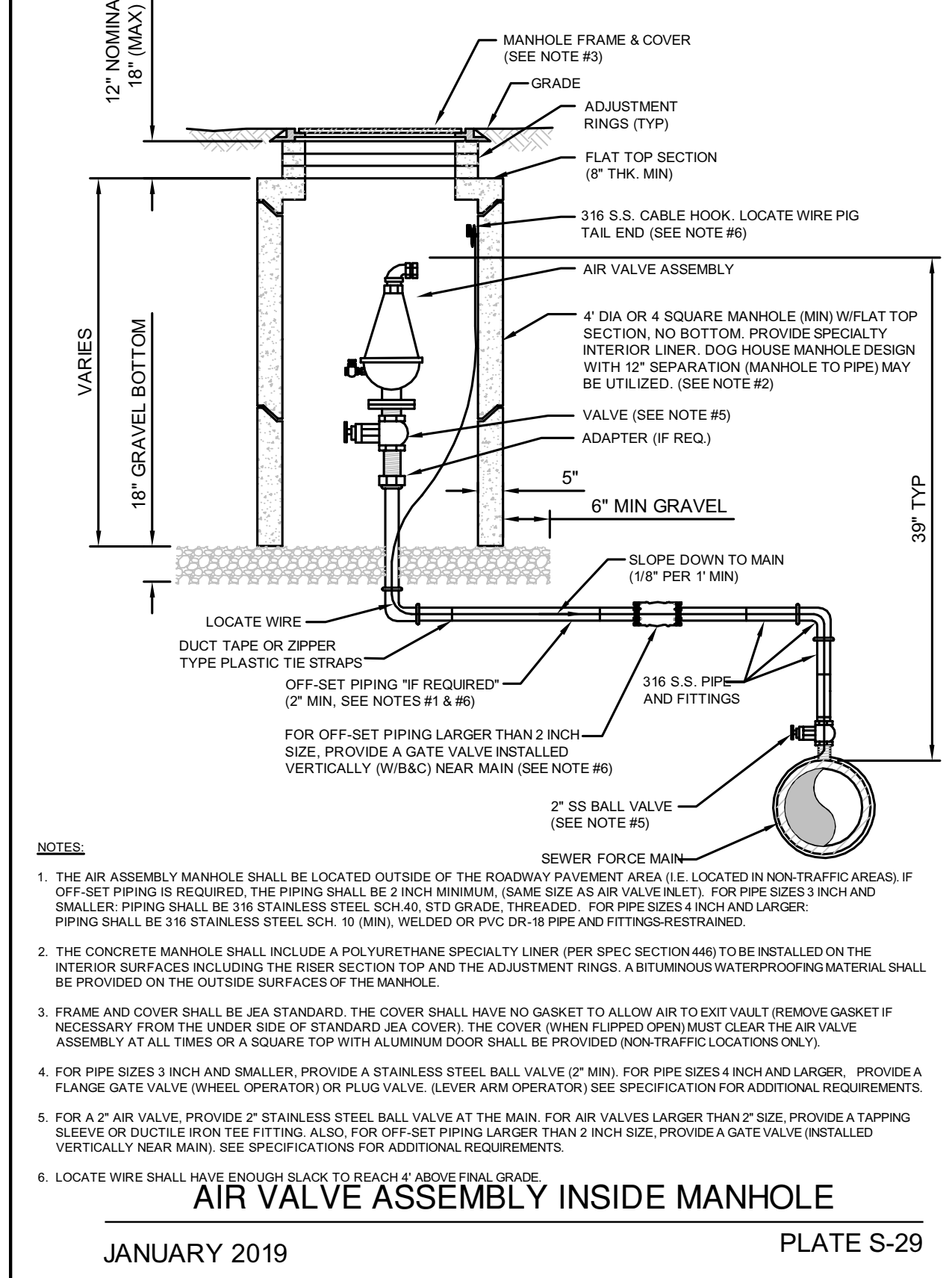
**PVC PIPE RESTRAINT JOINT SCHEDULE**  
 JANUARY 2019 PLATE S-38A



**MECHANICAL RESTRAINT DETAILS - II**  
 JANUARY 2019 PLATE S-38B

**NOTES:**

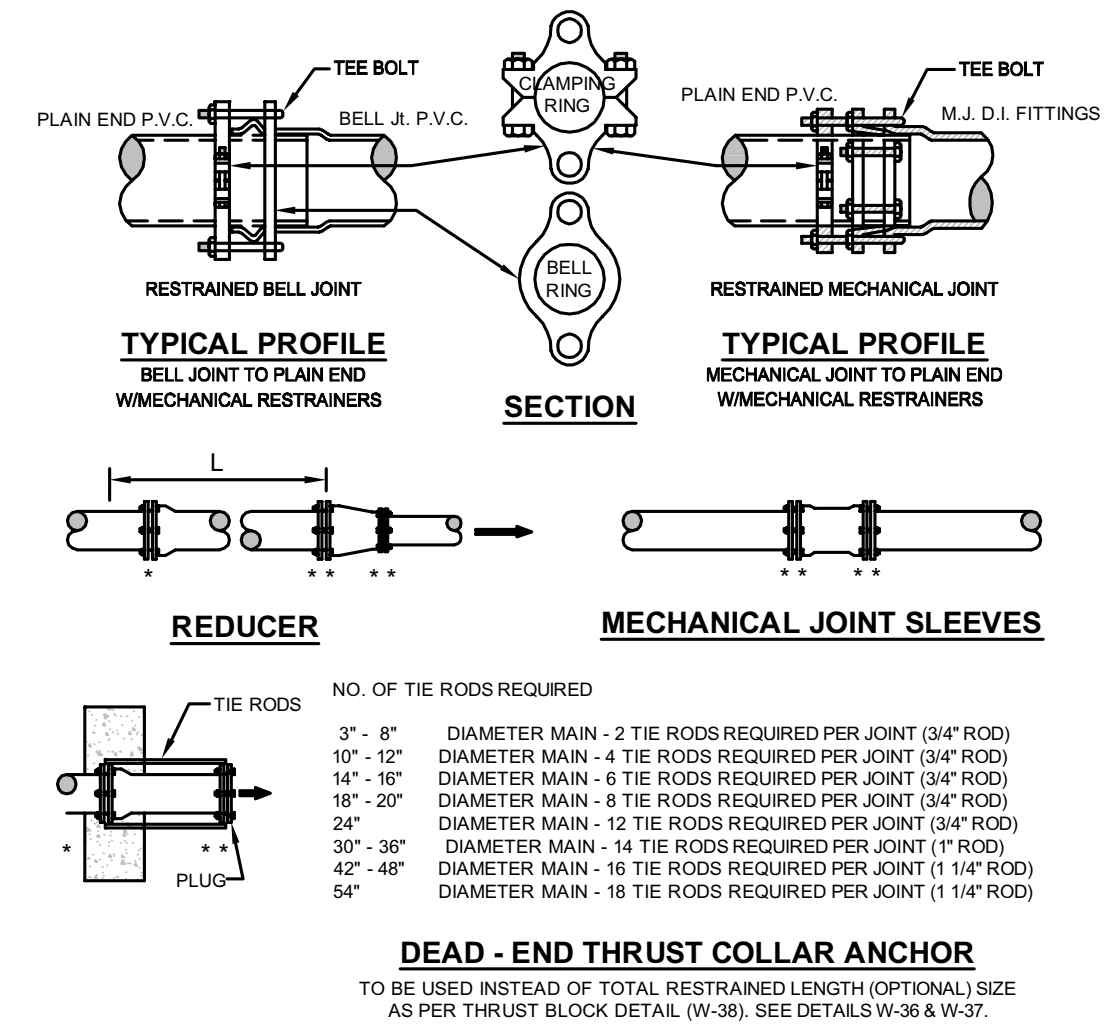
1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER, PIPING SHALL BE 3/16 STAINLESS STEEL SCH. 40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER, PIPING SHALL BE 3/16 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 ADJUSTING 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-29A

**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 3/16 STAINLESS STEEL SCH. 40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER, PIPING SHALL BE 3/16 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 ADJUSTING 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.



**MECHANICAL RESTRAINT DETAILS - I**  
 JANUARY 2019 PLATE S-38C

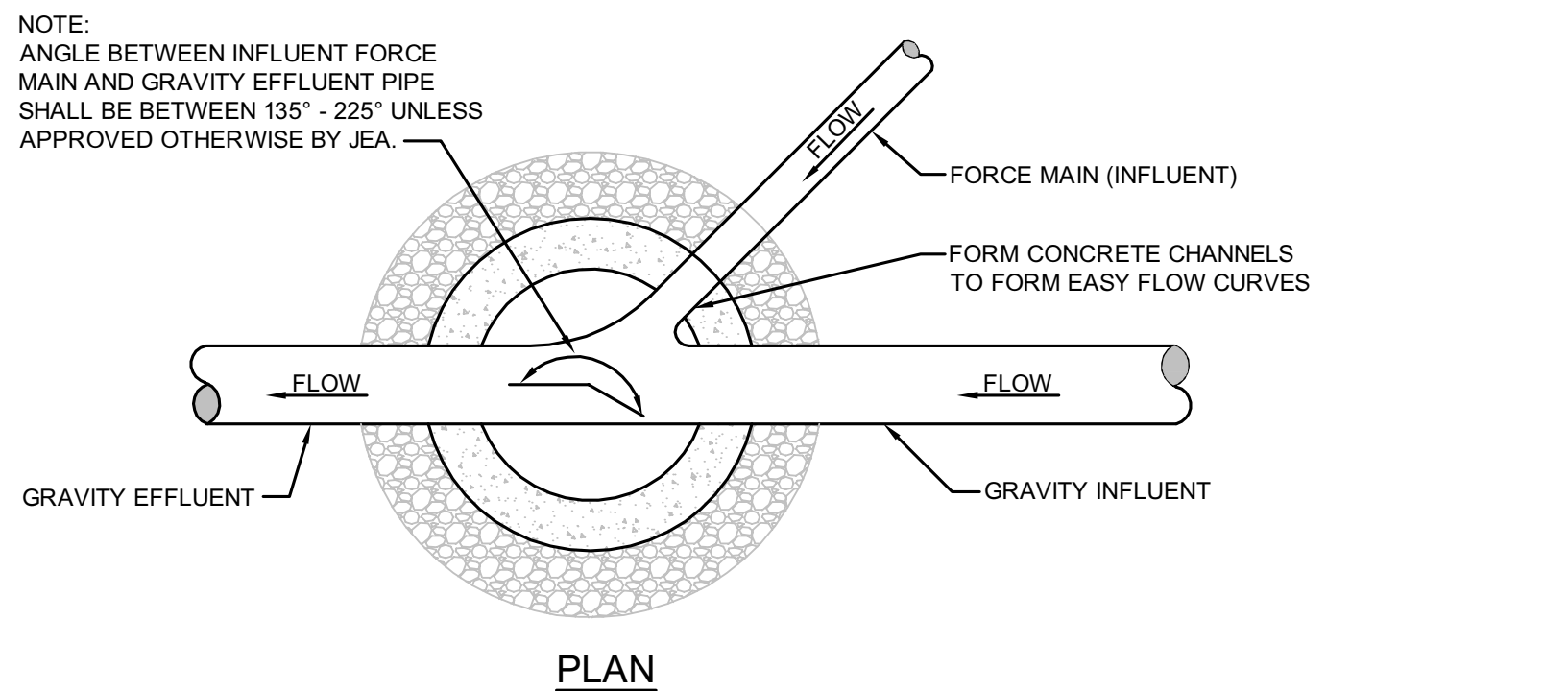
**GENERAL NOTE:**

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.
3. → INDICATES DIRECTION OF THRUST FORCE.

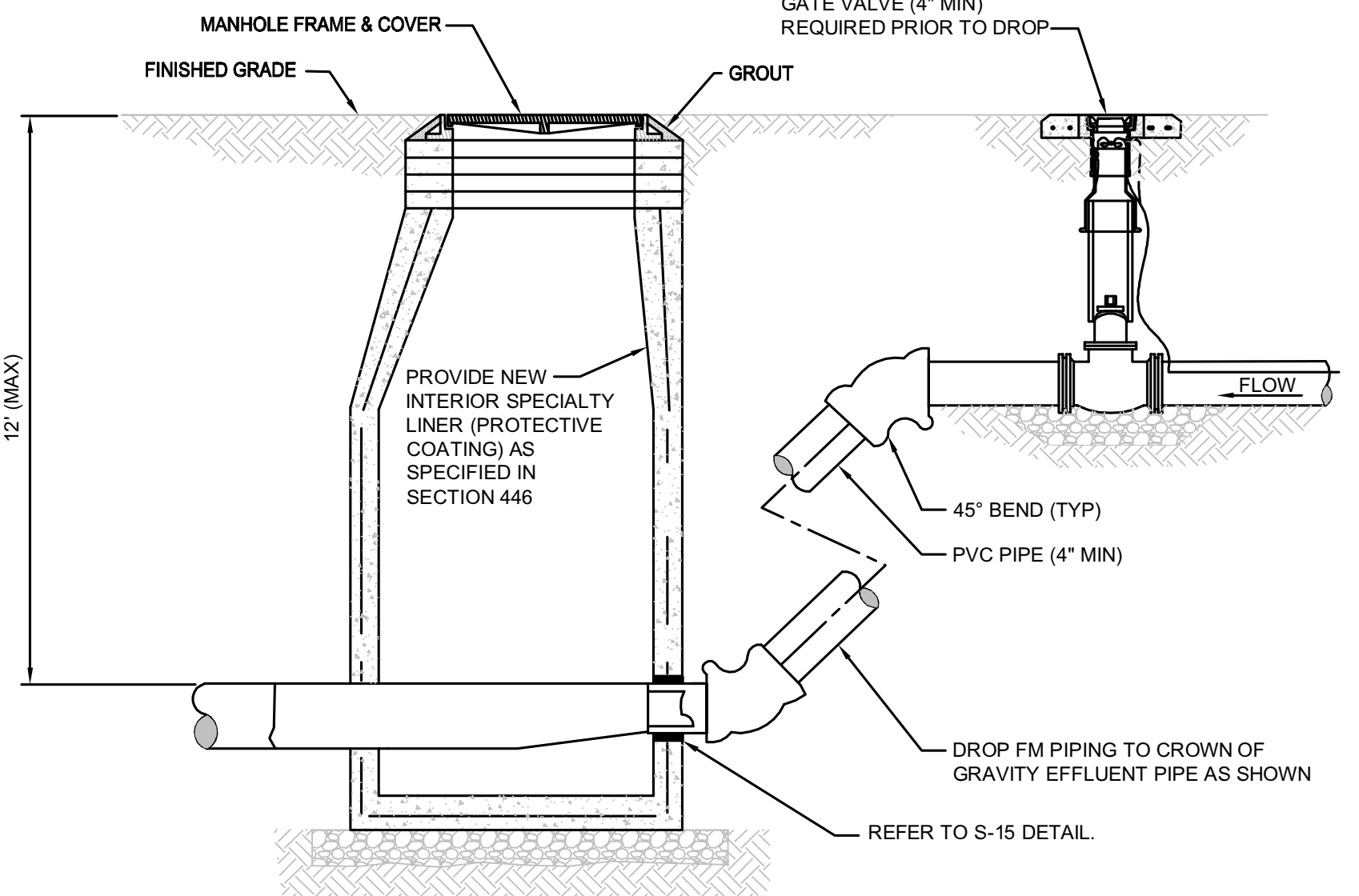
**NO. OF TIE RODS REQUIRED**

3" - 8"	DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)
10" - 12"	DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)
14" - 16"	DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)
18" - 20"	DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)
24"	DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)
30" - 36"	DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)
42" - 48"	DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
54"	DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)

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



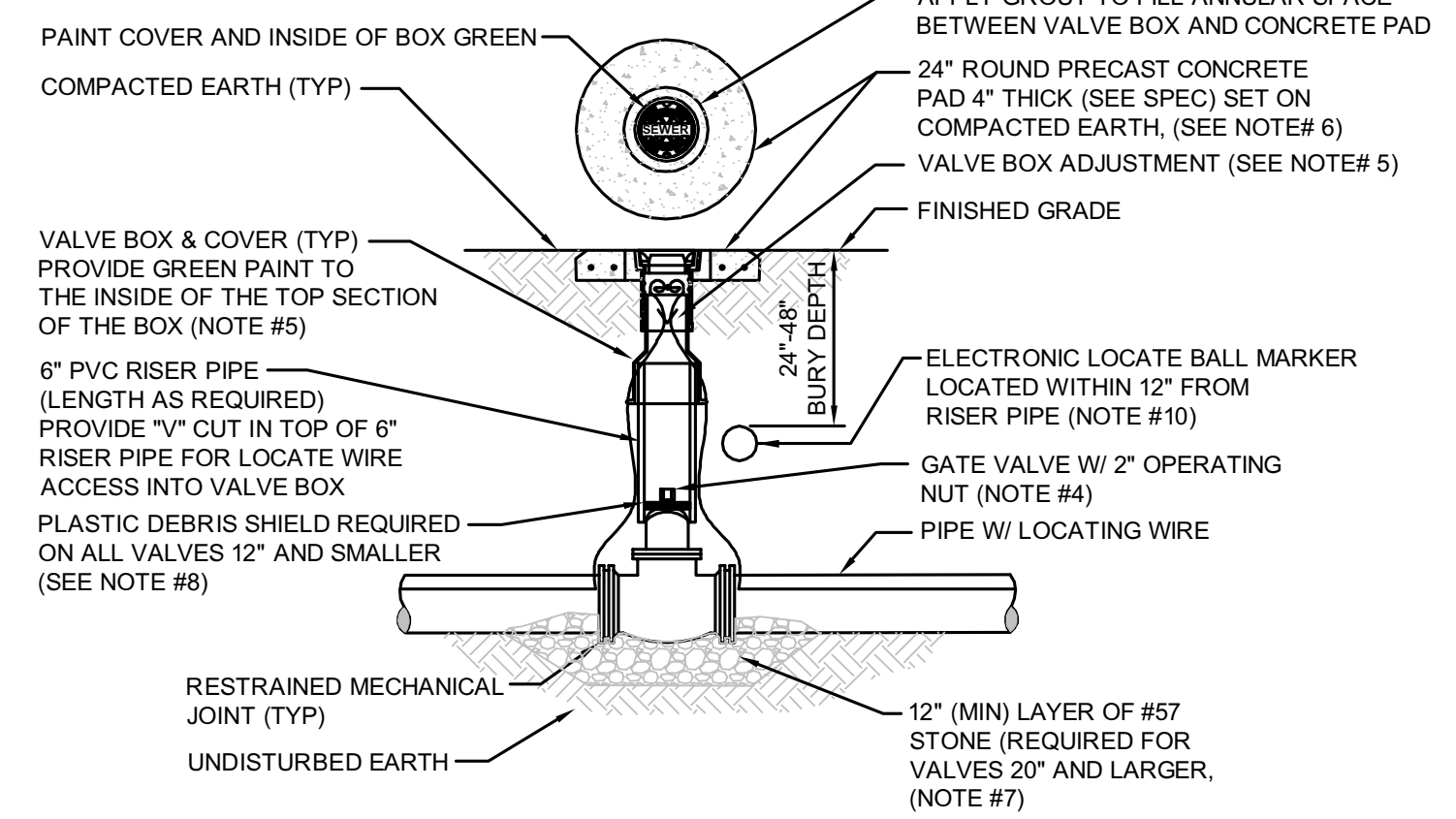
PLAN



SECTION

**TYPICAL FORCE MAIN CONNECTION TO MANHOLE**

JANUARY 2019 PLATE S-18



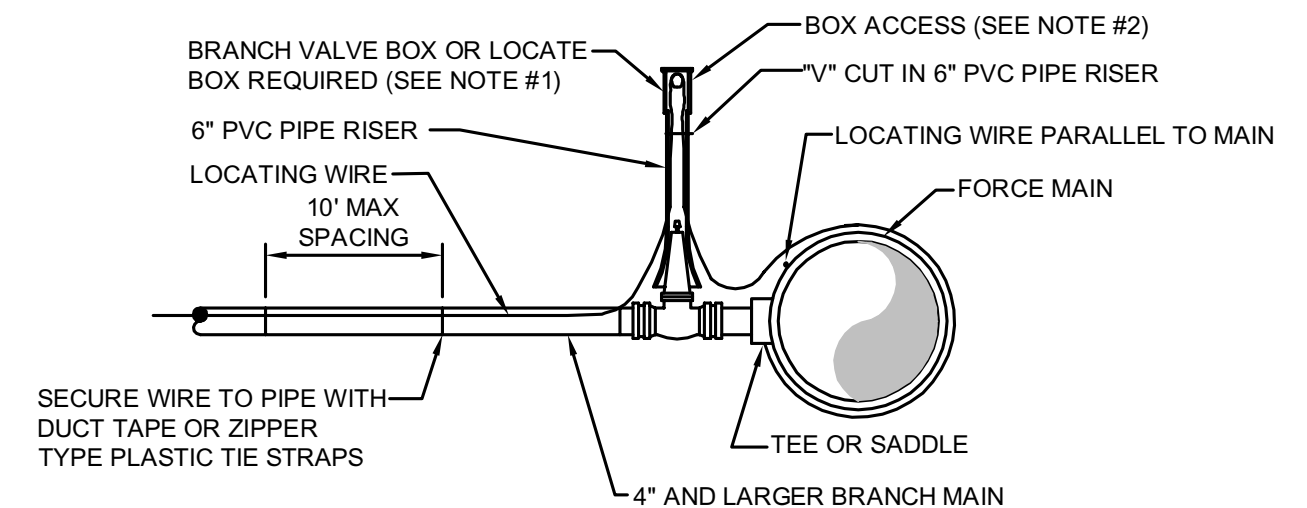
SEWER VALVE DETAIL

NOTES:

- 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.
- LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAIL S-49).
- 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.
- 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.
- 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.
- BRASS IDENTIFICATION TAG INDICATING "SEWER," VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A "X" 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.
- 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.
- GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/2 THE OVERALL HEIGHT OF THE VALVE.
- 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.
- 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 2019 PLATE S-30



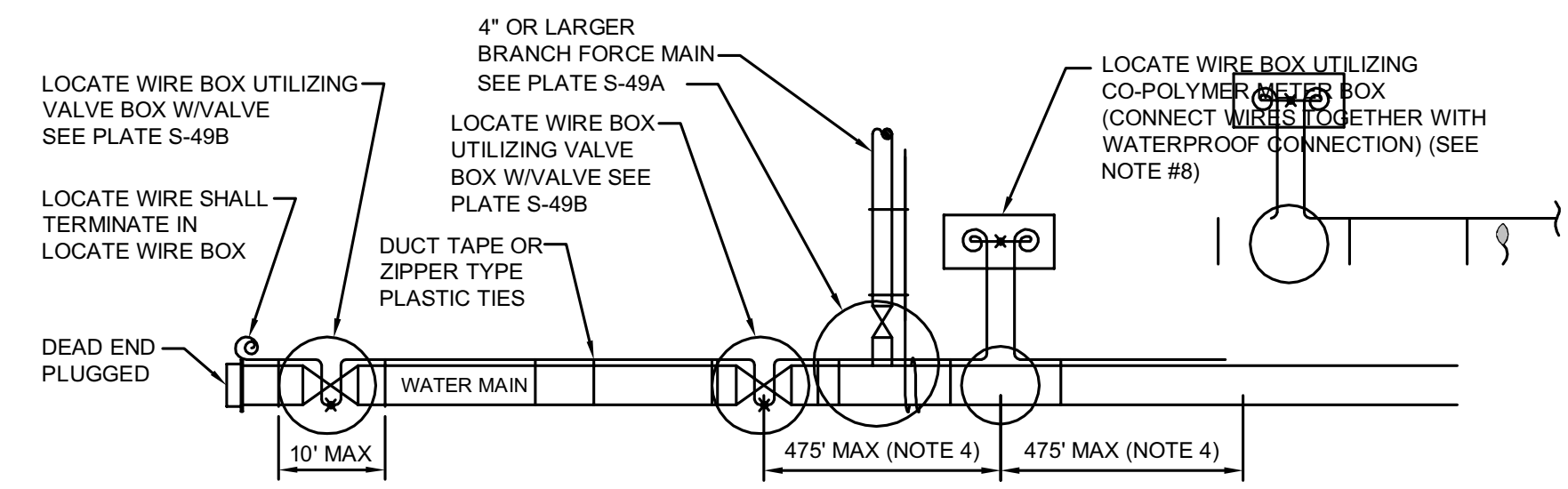
BRANCH FORCE MAIN

NOTE:

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

**LOCATE WIRE FOR BRANCH MAIN**

JANUARY 2019 PLATE S-49A



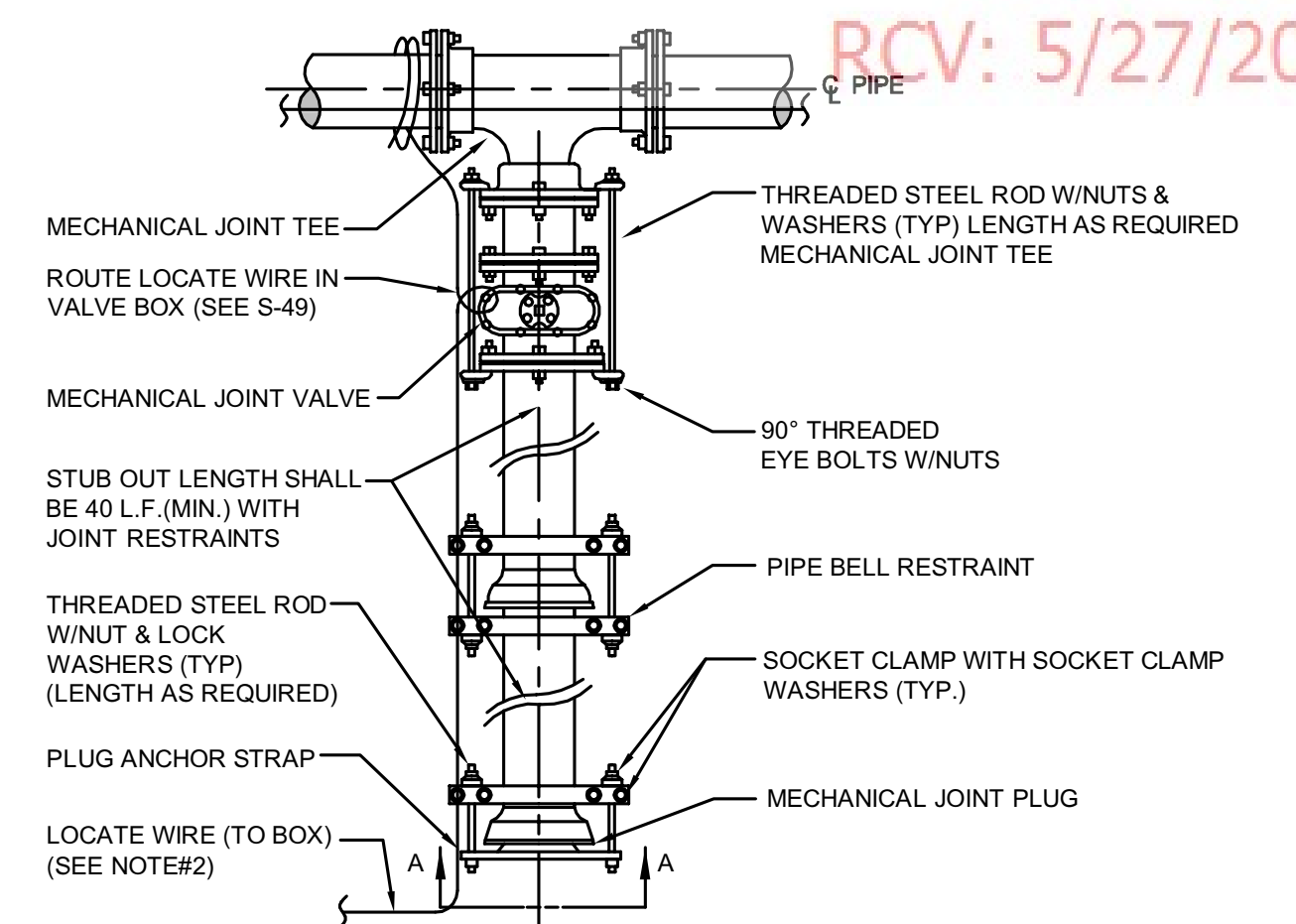
LOCATE WIRE SYSTEM

NOTES:

- 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).
- 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.
- 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.
- 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.
- LOCATING WIRE SHALL BE 12 GAUGE COPPER WIRE WITH .03 INCHES (MINIMUM) HDPE INSULATION THICKNESS, 0.141 INCHES (MINIMUM) 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.
- ⊗ INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH WATERPROOF CONNECTION. (SEE DETAIL W-49B)
- ⊗ INDICATES A WIRE PIG-TAIL (24" LONG)
- AN "LV" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.
- 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**

JANUARY 2019 PLATE S-49



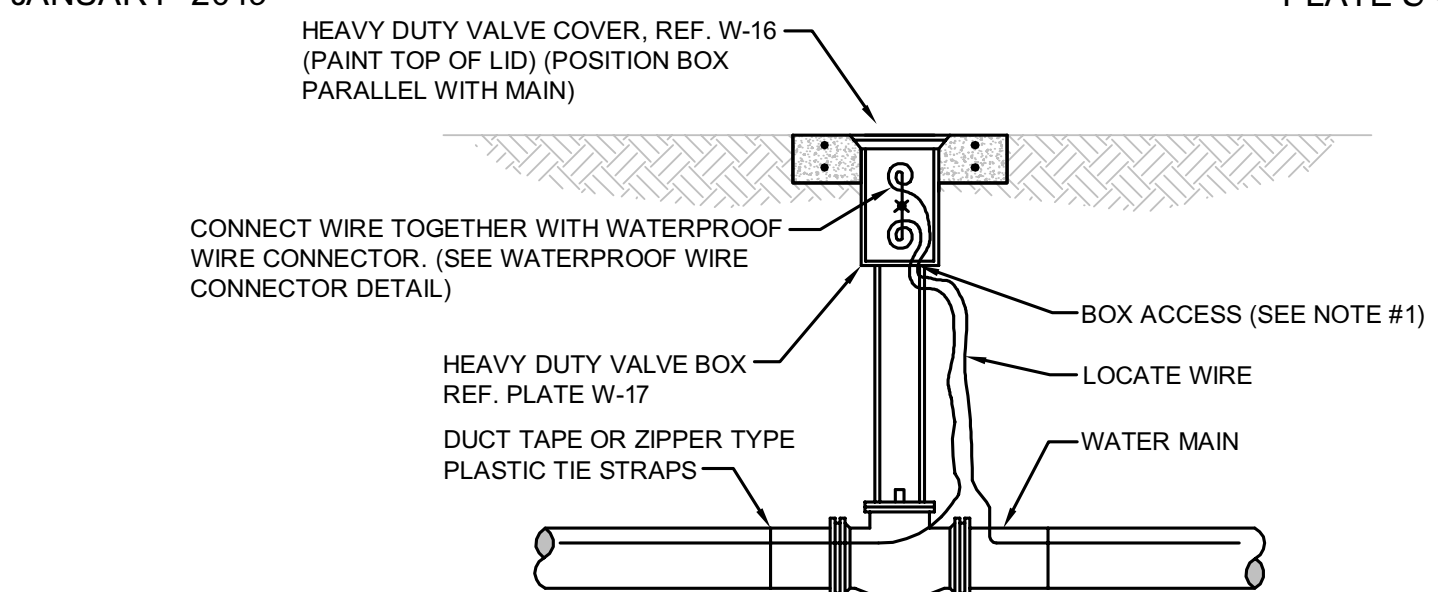
SECTION "A-A"

NOTES:

- IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.
- LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
- NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS:  
 3" - 8" DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 10" - 12" DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
 14" - 16" DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)  
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 42" - 48" DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)  
 54" DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
- 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.

**PLUGGED DEAD END USING MECHANICAL RESTRAINTS**

JANUARY 2019 PLATE S-44

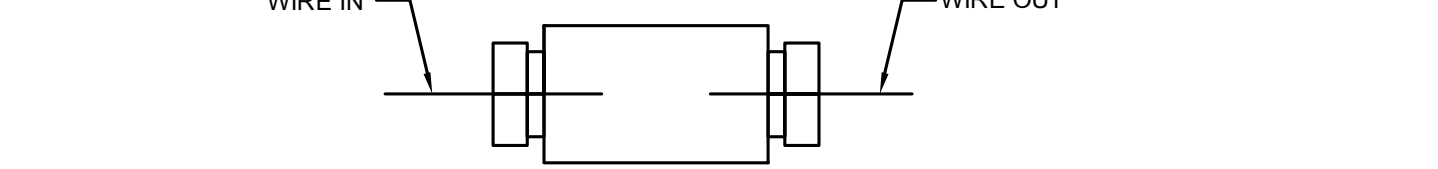


LOCATE WIRE BOX UTILIZING VALVE BOX

NOTES:

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

**LOCATE WIRE BOX UTILIZING METER BOX**



WATERPROOF WIRE CONNECTOR DETAIL

NOTES:

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

**LOCATE WIRE BOX**

JANUARY 2019 PLATE S-49B

**ETM**  
VISION • EXPERIENCE • INTEGRITY

**JEA STANDARD**  
SANITARY SEWER DETAILS  
OAKLEAF CORNER OUTPARCEL 3

DESIGNER: ANDREW J. BOOTH  
FLORIDA REGISTRATION NO. 82302

PROJ. NO. 19-227  
DATE: JANUARY 2019  
SCALE: AS NOTED

NO. SHEETS 5  
SHEET NO. 5  
DRAWING NO. 9K

REVISIONS  
NO. BY DATE

1. DATE

2. DATE

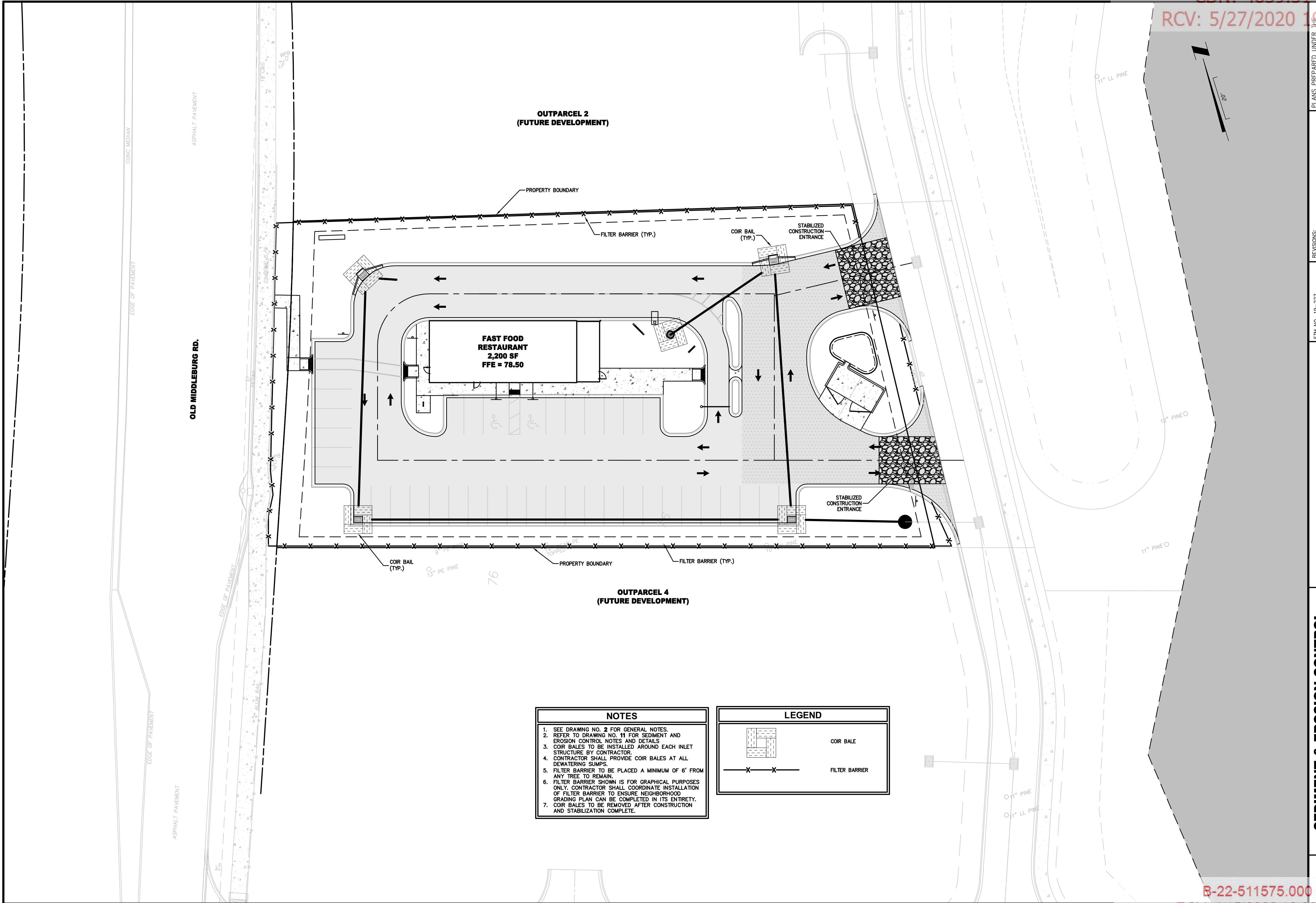
3. DATE

4. DATE

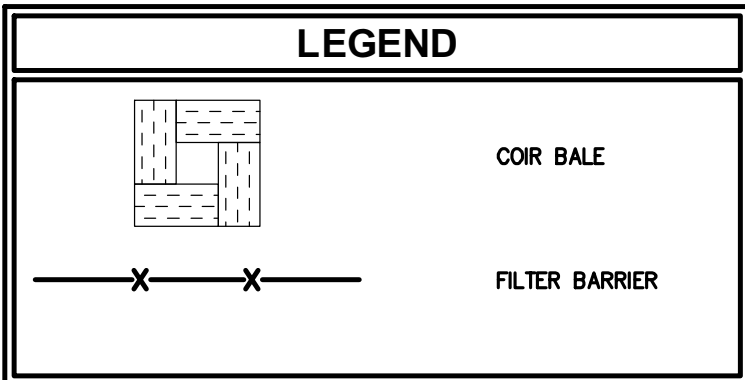
DESIGNED BY: ANDREW J. BOOTH  
CHECKED BY: DATE: DATE:

THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE JEA. WE TAKE NO EXCEPTION TO THE DESIGN

England-Thims & Miller, Inc.  
14776 Old St. Augustine Road  
Apopka, FL 32712  
TEL: (800) 642-9800  
FAX: (800) 646-9488  
CA: 00002584 LC: 000016



- NOTES**
1. SEE DRAWING NO. 2 FOR GENERAL NOTES.
  2. REFER TO DRAWING NO. 11 FOR SEDIMENT AND EROSION CONTROL NOTES AND DETAILS.
  3. COIR BALES TO BE INSTALLED AROUND EACH INLET STRUCTURE BY CONTRACTOR.
  4. CONTRACTOR SHALL PROVIDE COIR BALES AT ALL DEWATERING SUMPS.
  5. FILTER BARRIER TO BE PLACED A MINIMUM OF 6' FROM ANY TREE TO REMAIN.
  6. FILTER BARRIER SHOWN IS FOR GRAPHICAL PURPOSES ONLY; CONTRACTOR SHALL COORDINATE INSTALLATION OF FILTER BARRIER TO ENSURE NEIGHBORHOOD GRADING PLAN CAN BE COMPLETED IN ITS ENTIRETY.
  7. COIR BALES TO BE REMOVED AFTER CONSTRUCTION AND STABILIZATION COMPLETE.



**SEDIMENT & EROSION CONTROL PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR OAKLEAF 31 DEVELOPMENT CORP.**

**ETM**  
 VISION • EXPERIENCE • RESULTS

England, Thins & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32258  
 TEL: (904) 642-8990  
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REVISIONS:

ETM NO. 19-227	AJB
DRAWN BY:	AJB
DESIGNED BY:	AJB
CHECKED BY:	AHJ
DATE:	NOVEMBER 2019

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 85302  
 PLOTTED: May 27, 2020 - 8:57 AM, BY: CAD Test

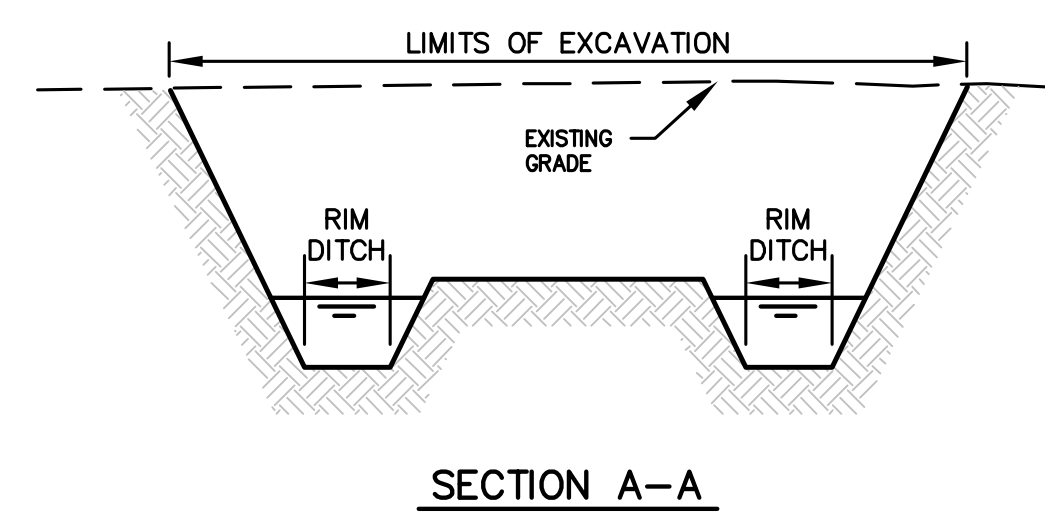
DRAWING NUMBER  
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**SEDIMENT AND EROSION CONTROL NOTES**

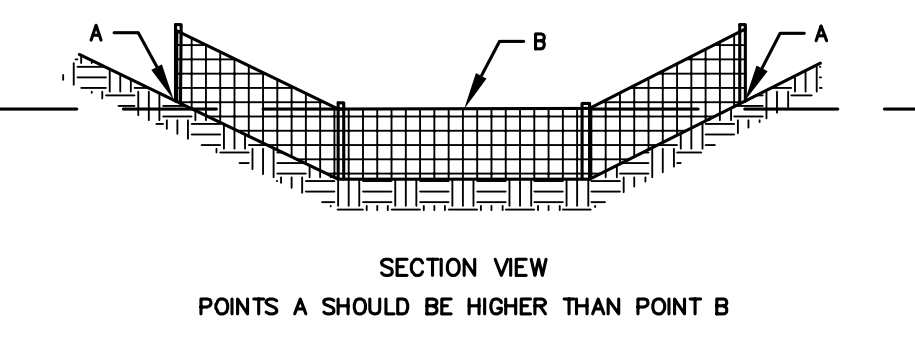
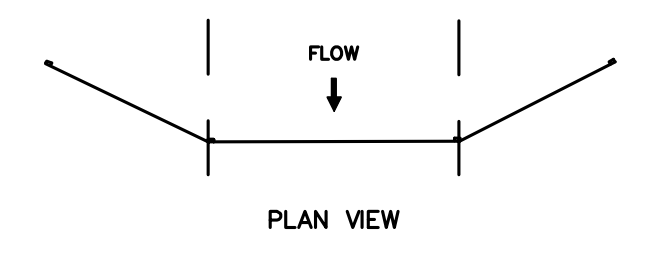
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
- THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 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.
- CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE 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.
- 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 ON ALL SIDES.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
- BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
- BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
- 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 AGAINST THE FILTER BARRIER.
- EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.
- LOOSE COIR SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
- COIR BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- CLOSE ATTENTION SHALL BE GIVEN TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
- NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
- 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.
- 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.
- 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.
- 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 IMMEDIATELY.
- STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS REQUIRED.
- 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.
- 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 REGULATIONS.
- 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.
- 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 CONSTRUCTION.
- SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.
- 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.
- DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
- 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.
- ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
- 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.
- THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO COMPLIANCE OF SURMWD FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
- 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.
- 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, XXXXXXXXX AND NPDES FINAL STABILIZATION REQUIREMENTS.
- 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.

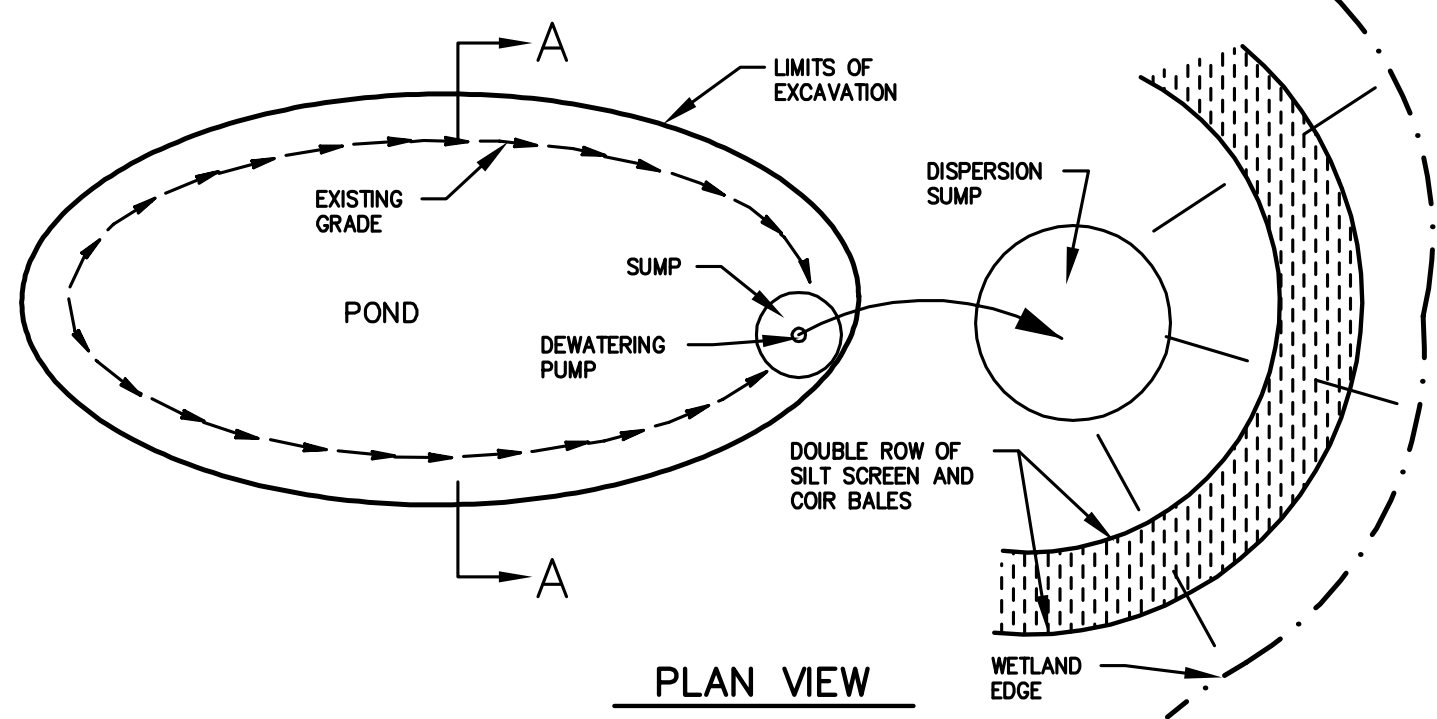
35. 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A "NOTICE OF INTENT" TO THE EPA IN ACCORDANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM RULES AND REGULATIONS. (FOR ANY CONSTRUCTION NOT COVERED BY THE OWNER'S "NOTICE OF INTENT" PERMIT)



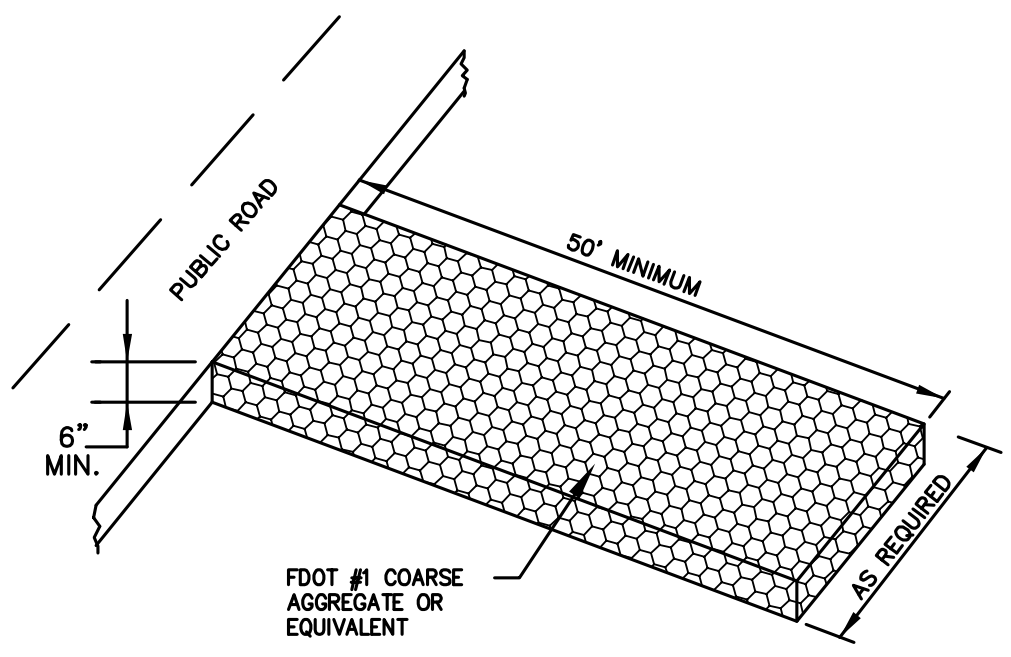
**PROPER PLACEMENT OF COIR BALE IN A DRAINAGE WAY**  
 N.T.S.



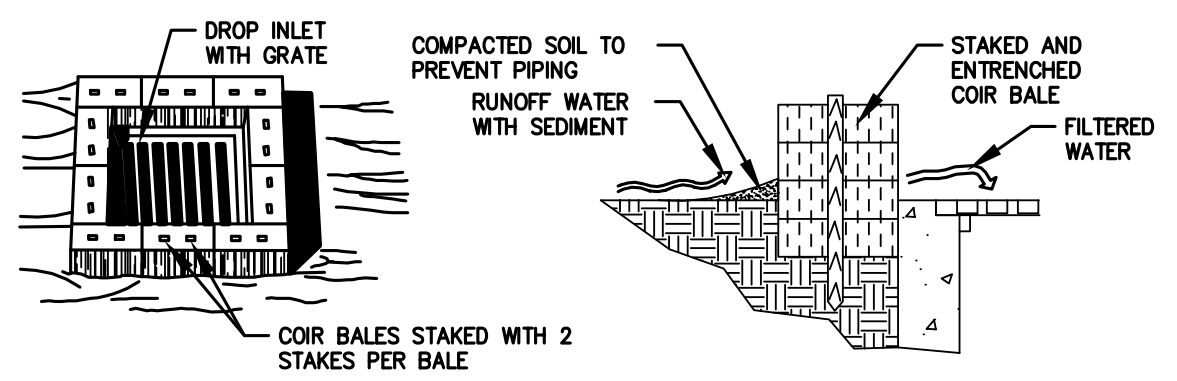
**PROPER PLACEMENT OF A FILTER BARRIER IN DRAINAGE WAY**  
 N.T.S.



**TEMPORARY DEWATERING DETAIL**  
 N.T.S.

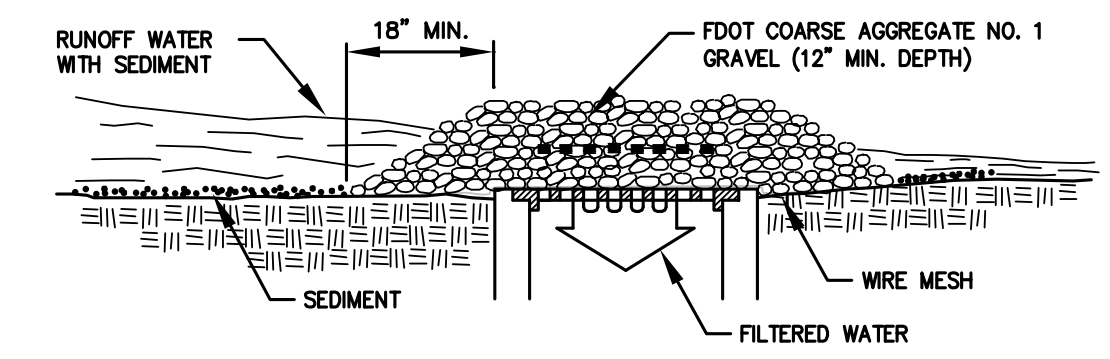


**STABILIZED CONSTRUCTION ENTRANCE**  
 N.T.S.



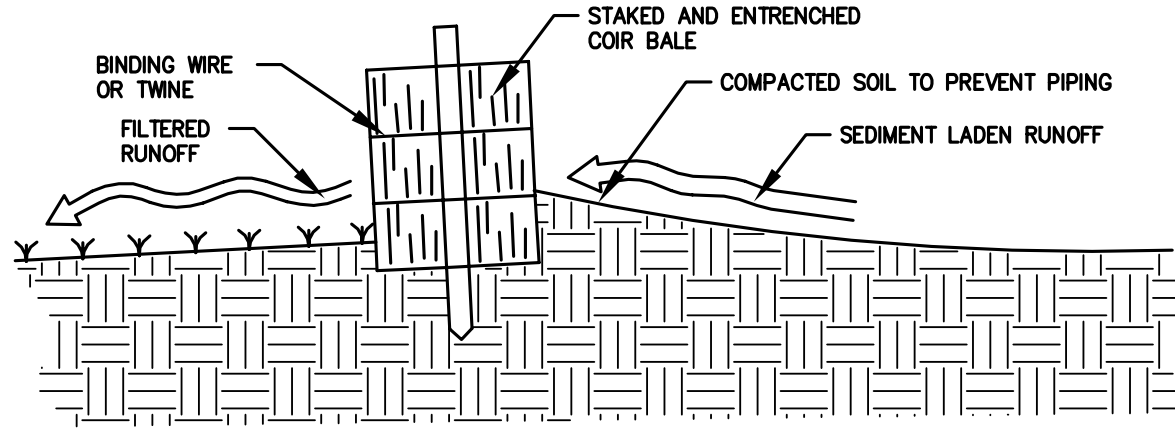
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 CFS) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

**COIR BALE DROP INLET SEDIMENT FILTER**  
 N.T.S.



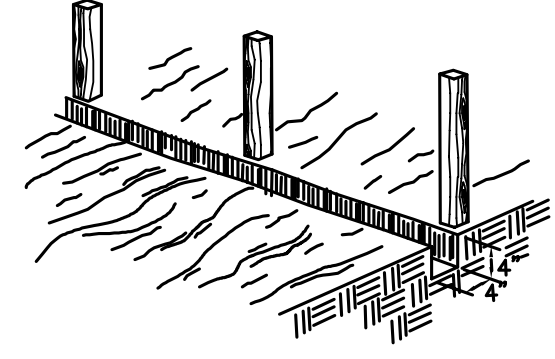
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

**GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER**  
 N.T.S.

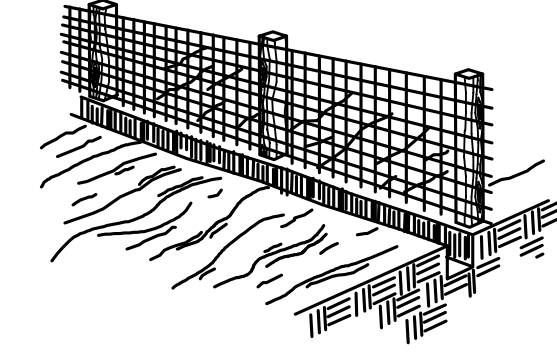


**CROSS-SECTION OF A PROPERLY INSTALLED COIR BALE**  
 N.T.S.

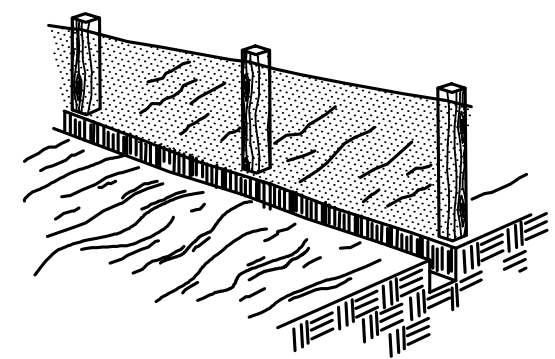
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



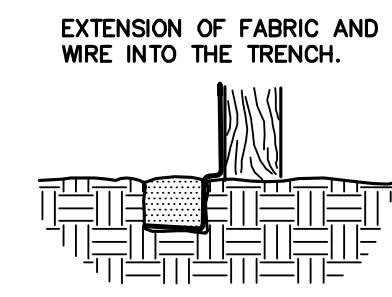
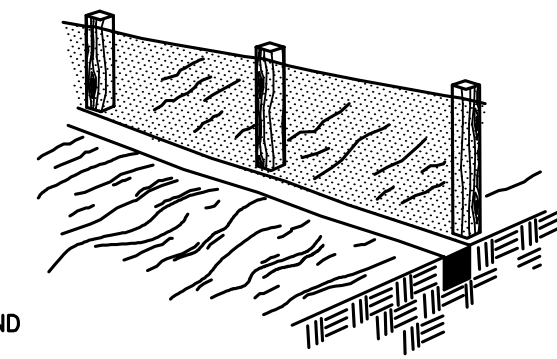
2. STAPLE WIRE FENCING TO THE POSTS.



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

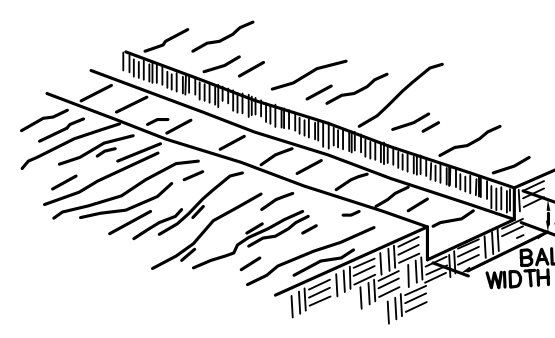


4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

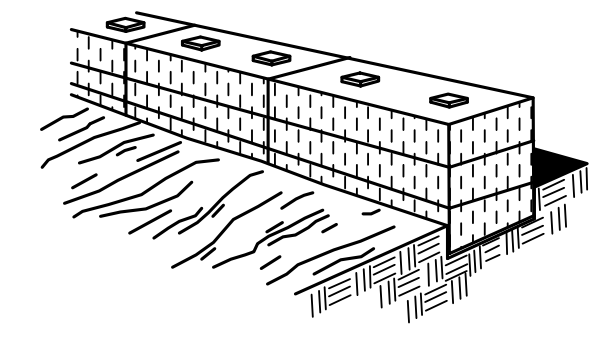


**CONSTRUCTION OF SILT FENCE**  
 N.T.S.

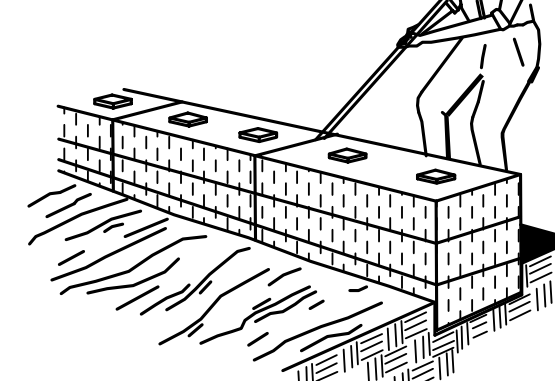
1. EXCAVATE THE TRENCH



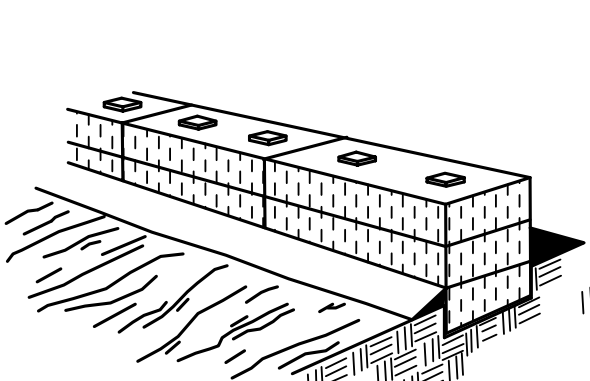
2. PLACE AND STAKE COIR BALES.



3. WEDGE LOOSE COIR BETWEEN BALES.

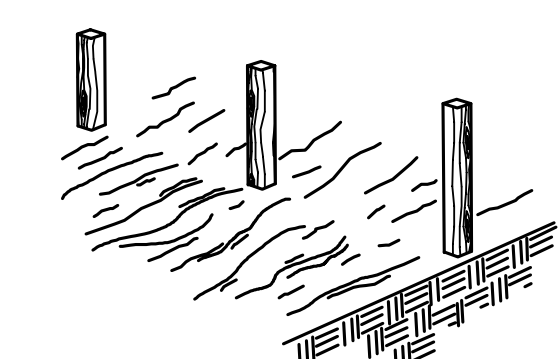


4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

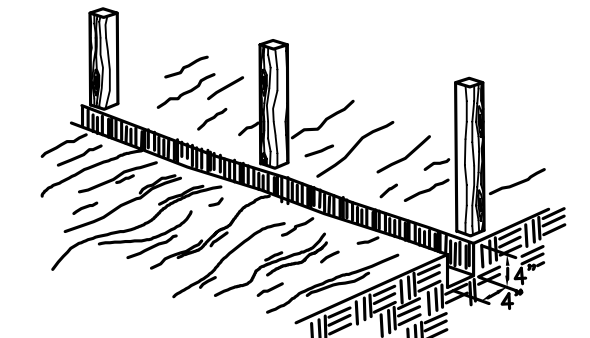


**CONSTRUCTION OF A COIR BALE BARRIER**  
 N.T.S.

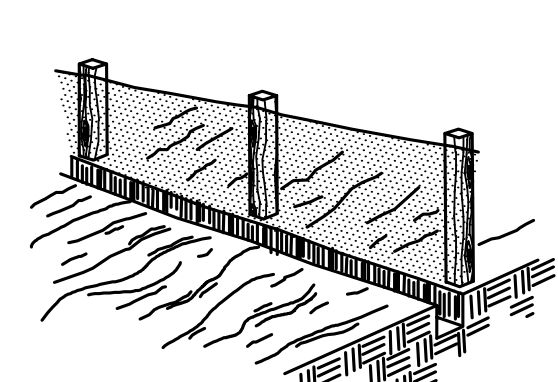
1. SET THE STAKES.



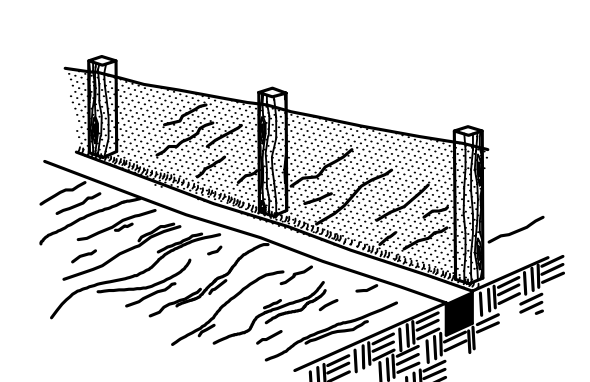
2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES



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



4. BACKFILL AND COMPACT THE EXCAVATED SOIL



**CONSTRUCTION OF A FILTER BARRIER**  
 N.T.S.

PLANS PREPARED UNDER THE DIRECTION OF:  
 ANDREW J. BOOTH  
 P.E. NUMBER: 68302  
 PLOTTED: May 27, 2020 - 8:57 AM, BY: CAD Test

REVISIONS:  
 ETM NO. 19-227  
 DRAWN BY: AUB  
 DESIGNED BY: AUB  
 CHECKED BY: AHT  
 DATE: NOVEMBER 2019

**England, Thims & Miller, Inc.**  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32288  
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 CA-00002884 LC-0000316

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**SEDIMENT & EROSION CONTROL DETAILS**  
**OAKLEAF CORNER OUTPARCEL 3 FOR OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**11**

OWNER'S REQUIREMENTS

CONTRACTOR'S REQUIREMENTS

Main table containing Owner's and Contractor's requirements, including sections for Site Description, General, Inventory for Pollution Prevention Plan, Maintenance/Inspection Procedures, Controls, Pollution Prevention Plan Certification, and Storm Water Pollution Prevention Plan.

Vertical sidebar containing revision information, drawing number (12), and project title: STORM WATER POLLUTION PREVENTION PLAN, OAKLEAF CORNER OUTPARCEL 3, OAKLEAF 31 DEVELOPMENT CORP.

Vertical text on the far right edge: PLOTTED: May 27, 2020 - 8:58 AM, BY: CAD Test

### OAKLEAF CORNER OUTPARCEL 3 STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

THIS IS THE CONTRACTOR'S CERTIFICATION REQUIRED BY THE EPA'S NATIONAL SWPPP REGULATION FOR THE CONSTRUCTION OF ANY PROJECT. THIS CERTIFICATION PREVENTION PLAN FOR CONSTRUCTION SITES OVER 5 ACRES. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OVER 0.25 INCHES.

INSPECTOR: \_\_\_\_\_

INSPECTOR'S QUALIFICATIONS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DAYS SINCE LAST RAINFALL: \_\_\_\_\_ AMOUNT OF LAST RAINFALL: \_\_\_\_\_ INCHES

STABILIZATION MEASURES

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

### OAKLEAF CORNER OUTPARCEL 3 STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

DATE: \_\_\_\_\_

STRUCTURAL CONTROLS

EARTH DIKES/SWALES

DIKE OR SWALE	FROM	TO	IS DIKE/SWALE STABILIZED ?	IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING

MAINTENANCE REQUIRED FOR EARTH DIKE/SWALE: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TO BE PERFORMED BY: \_\_\_\_\_ ON OR BEFORE \_\_\_\_\_

CATCH BASIN/CURB INLET/OUTFALL TURBIDITY CONTROLS

STRUCTURE/ 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

MAINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TO BE PERFORMED BY: \_\_\_\_\_ ON OR BEFORE \_\_\_\_\_

PAGE 2 OF 4

### OAKLEAF CORNER OUTPARCEL 3 STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

SEDIMENT BASIN

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 SEDIMENT BASIN: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TO BE PERFORMED BY: \_\_\_\_\_ ON OR BEFORE \_\_\_\_\_

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 STABILIZED CONSTRUCTION ENTRANCE: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TO BE PERFORMED BY: \_\_\_\_\_ ON OR BEFORE \_\_\_\_\_

PAGE 3 OF 4

### OAKLEAF CORNER OUTPARCEL 3 STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REASONS FOR CHANGES:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA. I HAVE PERSONALLY INSPECTED THE PROJECT AND I HAVE PERSONALLY SUPERVISED THE CONSTRUCTION OF THE PROJECT. I HAVE PERSONALLY MANAGED THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE IS A PENALTY FOR PROVIDING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_

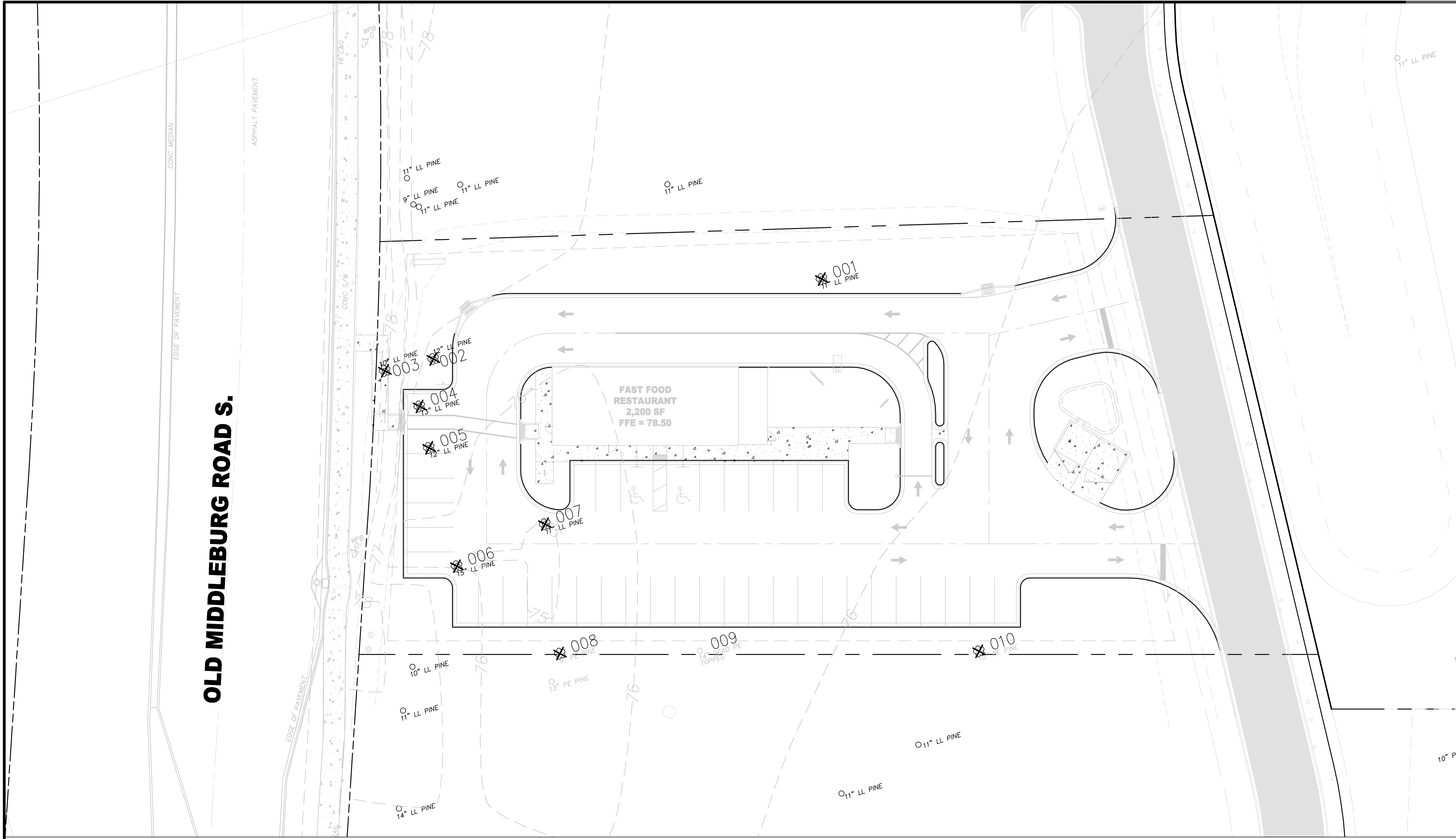
PAGE 4 OF 4

CDN: 4859.51  
RCV: 5/27/2020 10:39

B-22-511575.000  
RCV: 4/15/2022 10:32 AM

<b>CONTRACTOR'S CERTIFICATION</b> <b>OAKLEAF CORNER OUTPARCEL 3</b> <b>FOR</b> <b>OAKLEAF 31 DEVELOPMENT CORP.</b>	 <b>ETM</b> <b>VISION • EXPERIENCE • RESULTS</b>						
DRAWING NUMBER <div style="font-size: 2em; font-weight: bold; text-align: center;">13</div>	REVISIONS: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">ETM NO. 19-227</td><td style="width: 50%;">DRAWN BY: AUB</td></tr> <tr><td>DESIGNED BY: AUB</td><td>CHECKED BY: AAM</td></tr> <tr><td>DATE: NOVEMBER 2019</td><td></td></tr> </table>	ETM NO. 19-227	DRAWN BY: AUB	DESIGNED BY: AUB	CHECKED BY: AAM	DATE: NOVEMBER 2019	
ETM NO. 19-227	DRAWN BY: AUB						
DESIGNED BY: AUB	CHECKED BY: AAM						
DATE: NOVEMBER 2019							
PLANS PREPARED UNDER THE DIRECTION OF: <b>ANDREW J. BOOTH</b> P.E. NUMBER: 82302							



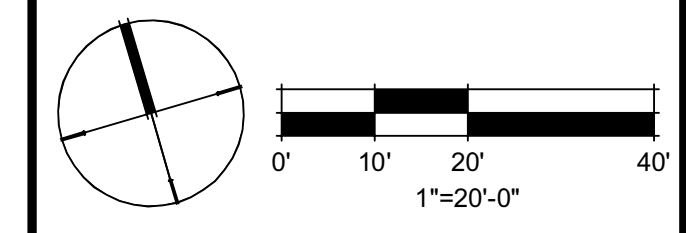


**OLD MIDDLEBURG ROAD S.**

TREES TO BE REMOVED DEVELOPMENT AREA			
Point Number	SPECIES COMMON NAME	D.B.H. PER TRUNK	MITIGATED INCHES
1	LONGLEAF PINE	11	11
2	LONGLEAF PINE	12	12
3	LONGLEAF PINE	10	10
4	LONGLEAF PINE	13	13
5	LONGLEAF PINE	12	12
6	LONGLEAF PINE	15	15
7	LONGLEAF PINE	11	11
8	SLASH PINE	9	9
9	SLASH PINE-DEAD	14	0
10	SLASH PINE	10	10
TOTAL			103

**TREE MITIGATION LEGEND**

⊗ PROTECTED TREE TO BE REMOVED



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**TM-1 TREE MITIGATION PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**TM-1**

REVISIONS:

ETM NO. 19-227
DRAWN BY:
DESIGNED BY:
CHECKED BY:
DATE: NOVEMBER 2019

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PLANS PREPARED UNDER THE  
 DIRECTION OF:  
 L.A. NUMBER:  
 PLOTTED: May 27, 2020 - 8:59 AM, BY: CAD Test

**LANDSCAPE CODE REQUIREMENT SUMMARY**

DESCRIPTION	REQUIRED	PROVIDED
STREET PERIMETER LANDSCAPE AREA WEST (146 L.F. X 5 S.F./L.F.) OLD MIDDLEBURG ROAD	730 S.F.	760 S.F.
STREET PERIMETER SCREEN WEST (146 L.F. X 0.75) EAST (103 L.F. X 0.75)	110 L.F. 78 L.F.	135 L.F. 91 L.F.
STREET PERIMETER TREES	TOTAL SHADE 3 TREES 2 TREES 3 TREES 1 TREES	TOTAL SHADE 3 TREES 2 TREES 3 TREES 1 TREES
WEST (146 L.F. /50)* EAST (103 L.F. /50)**		
OTHER PERIMETER LANDSCAPE AREA NORTH (260 L.F. x 5 S.F./ L.F.) SOUTH (305 L.F. x 5 S.F./ L.F.)	1,300 S.F. 1,525 S.F.	1522 S.F. 1867 S.F.
OTHER PERIMETER TREES	TOTAL SHADE 6 TREES 3 TREES 6 TREES 3 TREES	TOTAL SHADE 6 TREES 4 TREES 7 TREES 3 TREES
NORTH (260 L.F. /50)*** SOUTH (305 L.F. /50)****		
VEHICLE USE AREA PUBLIC VEHICLE USE AREA NON-PUBLIC VEHICLE USE AREA	23,230 S.F. N/A	
PUBLIC VUA LANDSCAPE AREA (VUA S.F. X 0.10)	2,323 S.F.	5713 S.F.
NON-PUBLIC VUA LANDSCAPE AREA (VUA S.F. X 0.05)	N/A	N/A
VUA SHRUBS (VUA LANDSCAPE S.F. X 0.25)	581 S.F.	704 S.F.
VUA TREES (VUA S.F./ 4000 S.F.)	TOTAL SHADE 6 TREES 3 TREES	TOTAL SHADE 6 TREES 3 TREES

- \* PROVIDED QUANTITY INCLUDES 4 PALM TREES COUNTED AS 1 SHADE TREE
- \*\* PROVIDED QUANTITY INCLUDES 2 NON-SHADE TREES COUNTED AS 1 SHADE TREE
- \*\*\* PROVIDED QUANTITY INCLUDES 6 PALM TREES COUNTED AS 3 NON-SHADE TREES
- \*\*\*\* PROVIDED QUANTITY INCLUDES 6 NON-SHADE TREES COUNTED AS 3 SHADE TREES

**NATIVE MATERIALS CALCULATIONS**

TYPE	QUANTITY	PERCENTAGE
Trees	30	83%
Shrubs	462	51%

**TREE MITIGATION TABLE**

PROTECTED TREES REMOVED	INCHES REMOVED (DBH)	MITIGATION RATE 1:	MITIGATION OBLIGATION (Inches)
LIVE OAKS 24" +	0	1	0
LIVE OAKS 11.5" - 23.5"	0	1	0
LIVE OAKS < 11.5"	0	1	0
SUBTOTAL			0
OTHER 24" +	0	1	0
OTHER 11.5" - 23.5"	52	3	17.3
OTHER < 11.5"	51	3	17
SUBTOTAL			34.3
TOTAL OTHER INCHES REMOVED			0
TOTAL OTHER INCHES REPLACED WITH PLANTINGS			62
TOTAL LIVE OAK INCHES REMOVED			0
TOTAL LIVE OAK INCHES REPLACED WITH PLANTINGS			12
MITIGATION BALANCE DUE			0
TREE FUND PAYMENT	0" @ \$138 PER INCH		\$0.00

**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
AR	3	ACER RUBRUM	RED MAPLE	30 GAL	2" CAL	12-14' HT X 6' SPD	
IO2	10	ILEX OPACA 'EAST PALATKA'	AMERICAN HOLLY	FG	2" CAL	10'-12' HT X 3'-4' SPD	
LI	6	LAGERSTROEMIA X 'NATCHEZ'	WHITE CRAPE MYRTLE MULTI-TRUNK	6" CAL. 8-10' HT, 4-5' SPRD. MIN.			MULTI-TRUNKED TOTAL OF 6"
QV	4	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	SIZE AS NEEDED	3" CAL.	10' HT. X 4.5' SPD.	
SP16	5	SABAL PALMETTO	CABBAGE PALM	FG		16' CT.	
SP18	8	SABAL PALMETTO	CABBAGE PALM	FG		18' CT.	
SHRUBS	QTY <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>CONT</th> <th>SPACING</th> <th>REMARKS</th>	BOTANICAL NAME	COMMON NAME	CONT	SPACING	REMARKS	
IP	93	ILICUM PARVIFLORUM	ANISE	3 GAL., 2' O.C., 18" HT. X 18" SPR.	36" o.c.		
IVS	63	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS DWARF	3 GAL., 2.5' O.C., 18" HT X 18" SPR	30" o.c.		
VOS	77	VIBURNUM OBOVATUM 'MS. SCHILLER'S DELIGHT'	MS. SCHILLERS DELIGHT WALTER'S VIBURNUM	3 GAL., 3' O.C., 18" HT. X 18" SPR.	36" o.c.		
VS	15	VIBURNUM SUSPENSUM	SANDANKWA VIBURNUM	3 GAL., 3.5 O.C., 24" HT X 18 SPR	42" o.c.		
SHRUB AREAS	QTY <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>CONT</th> <th>SPACING</th> <th>REMARKS</th>	BOTANICAL NAME	COMMON NAME	CONT	SPACING	REMARKS	
MC	193	MUHLENBERGIA CAPILLARIS	PINK MUHLY GRASS	3 GAL.	30" o.c.		
SB	36	SPARTINA BAKERI	SAND CORDGRASS	3 GAL. MIN.	36" o.c.	36" O.C., 18" HT. FULL	
GROUND COVERS	QTY <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>CONT</th> <th>SPACING</th> <th>REMARKS</th>	BOTANICAL NAME	COMMON NAME	CONT	SPACING	REMARKS	
JB	67	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC JUNIPER	1 GAL @ 2'OC, 18"HT X 18"SPD	30" o.c.	12" SPREAD MINIMUM	
TA	304	TRACHELOSPERMUM ASIATICUM 'ASIATIC'	ASIATIC JASMINE	1 GAL. @ 2' O.C.	24" o.c.		
TV	67	TULBAGHIA VIOLACEA	SOCIETY GARLIC	1 GAL. @ 2' O.C.	30" o.c.		
SOD	QTY <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>CONT</th> <th>SPACING</th> <th>REMARKS</th>	BOTANICAL NAME	COMMON NAME	CONT	SPACING	REMARKS	
SOD2	3,910 SF	CYNODON DACTYLON	BERMUDA GRASS	SOD			
SOD/SEED	QTY <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>CONT</th> <th>SPACING</th> <th>REMARKS</th>	BOTANICAL NAME	COMMON NAME	CONT	SPACING	REMARKS	
SOD	561 SF	PASPALUM NOTATUM 'ARGENTINE'	BAHIA GRASS	SOD			

REVISIONS:

ETM NO. 19-227	DRAWN BY:	DESIGNED BY:	CHECKED BY:	DATE: NOVEMBER 2019
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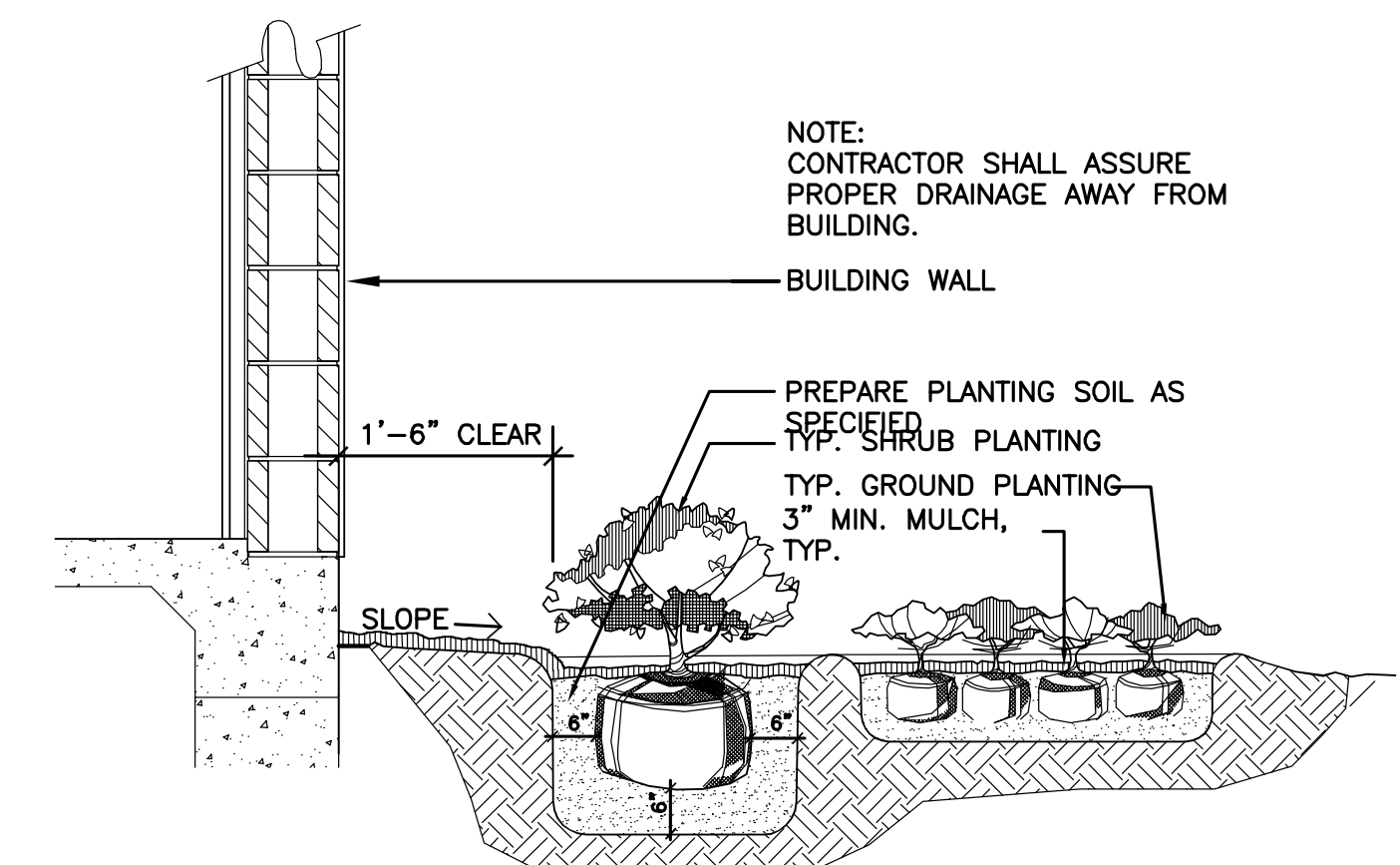
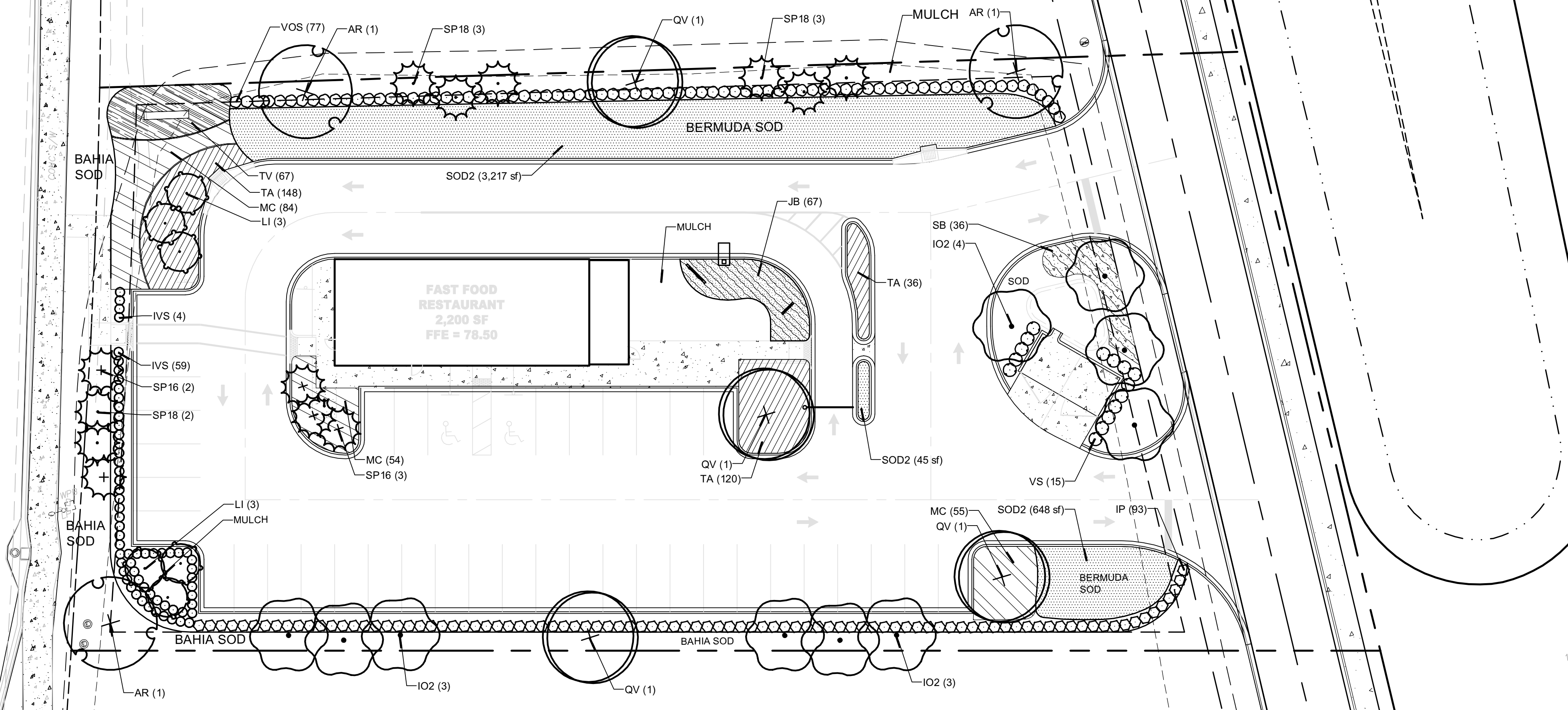


**LS-1 LANDSCAPE CODE CALCULATIONS AND NOTES**  
**OAKLEAF CORNER OUTPARCEL 3 FOR OAKLEAF 31 DEVELOPMENT CORP.**

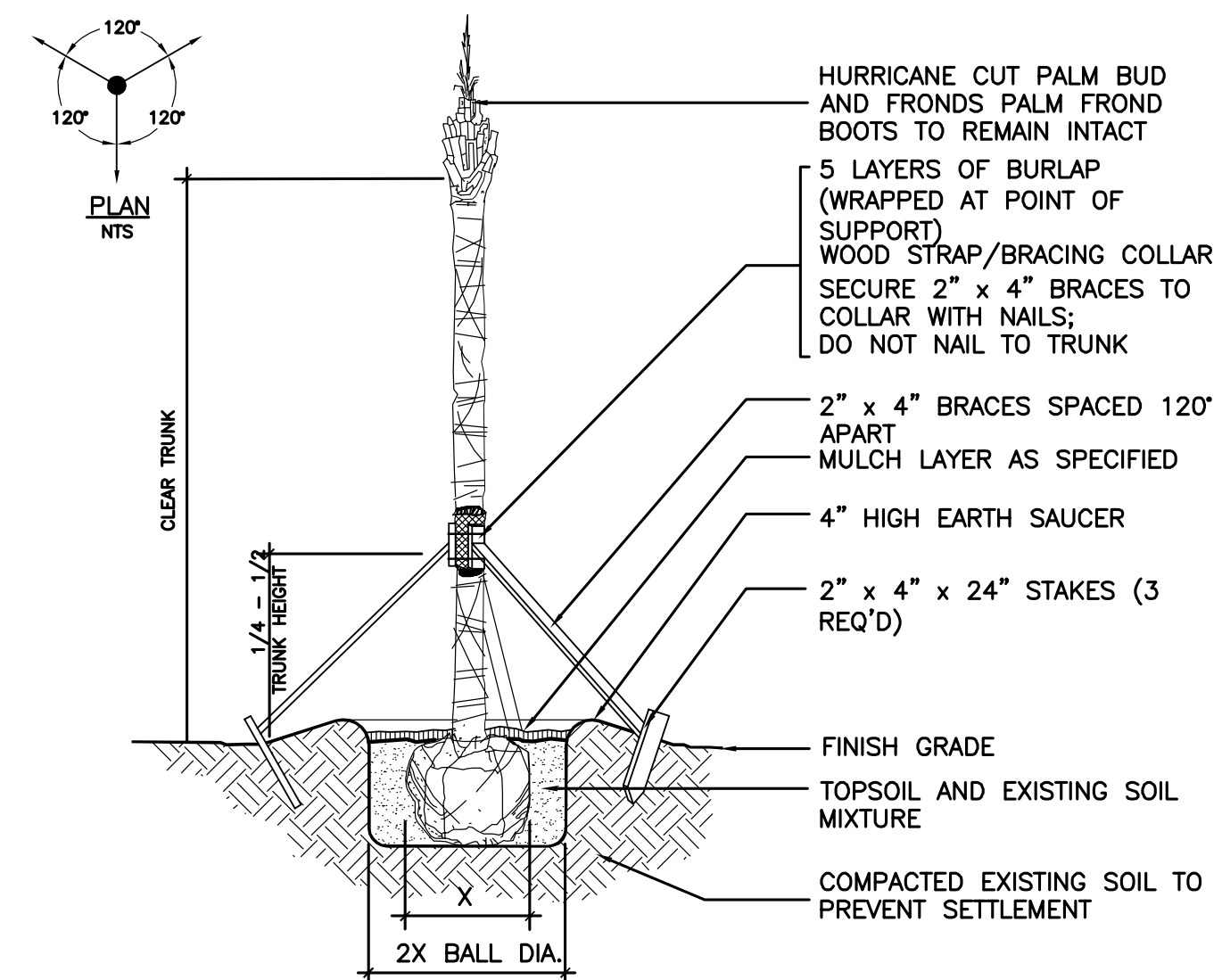
DRAWING NUMBER  
**LS-01**

PLANS PREPARED UNDER THE DIRECTION OF: L.A. NUMBER: PLOTTED: May 27, 2020 - 9:00 AM, BY: CAD Test

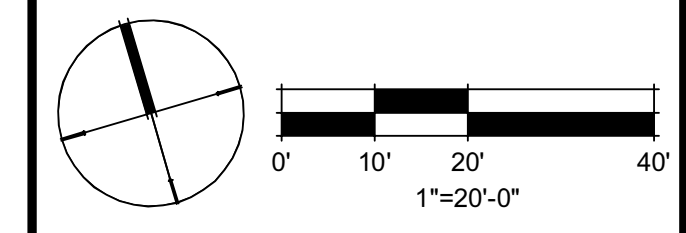
**OLD MIDDLEBURG ROAD S.**



TYPICAL SHRUB AND GROUND PLANTING DETAIL AT BUILDING FOUNDATION  
 SCALE: NTS



SABAL PALM PLANTING DETAIL  
 SCALE: NTS



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 ETM NO. 19-227  
 DRAWN BY:  
 DESIGNED BY:  
 CHECKED BY:  
 DATE: NOVEMBER 2019  
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**LS-2 LANDSCAPE PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**  
 DRAWING NUMBER  
**LS-02**  
 L.A. NUMBER:  
 PLOTTED: May 27, 2020 - 9:00 AM, BY: CAD Test

**LANDSCAPE SPECIFICATIONS:**

**PART 1 GENERAL NOTES**

- 1.1 Scope. This section includes all planting of shrubs, trees, ground covers, and other supplementary work shown on the drawings and specified herein, complete.
- 1.2 Applicable Documents. The following publications, specifications, and standards of the issues listed in this paragraph (including the amendments and addenda designated), but referred to hereinafter by basic designation only, form a part of this specification to the extent required by the references thereto.
- 1.3 Publication of Reference. Publications as herein listed shall be held in basic reference:
  - 1.3.1 Grades and Standards for Nursery Plants, Parts I and II, State Department of Agriculture and/or State Plant Board of Florida, Seagle Building, Gainesville, Florida.
  - 1.3.2 State of Florida Fertilizer Law, Office of the Secretary of State, Tallahassee, Florida.
  - 1.3.3 American Standard for Nursery Stock (ANSI Z60.1-), American Association of Nurserymen.
  - 1.3.4 Tree Care Operations (ANSI Z133.1-)
  - 1.3.5 Guideline Specifications to Sodding, America Sod Producers Association (ASPA).
- 1.4 Substitutions of Plant Material. If a plant is found to be unavailable, submit proof of non-availability and a proposal for use of equivalent material. When authorized, adjustment of contract amount will be made. No substitutions will otherwise be authorized. To prove non-availability, the Contractor must provide at least five (5) letters from growers or dealers from the States of Florida and Georgia explaining the non-availability of the plant material. Substitutions made without prior approval may be rejected after planting and any replacement of materials will be at the contractors expense.
- 1.5 On-Site Conditions and Adjustments. The locations of plants, as shown on the plans, are approximate. Planting shall be adjusted to fit actual as-built conditions on the site, including but not limited to separation from hardscapes and utilities as governed by municipal codes. Any changes in locations caused thereby shall be made without additional cost to the Owner, Owner's Representative, or Landscape Architect. The Contractor shall immediately notify the Owner's Representative when conditions detrimental to plant growth are encountered, such as rubble fill, lime rock, or obstructions; and when field conditions are different than portrayed on the plans prior to planting. The Owner or Owner's Representative may adjust the layout or location of specified plant materials to avoid these areas without additional costs.
- 1.6 Coordination of Plantings. Coordinate all landscape work with the Owner's Representative and other contractors. Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise directed by the Owners Representative.
- 1.7 Fine Grading. Provide fine grading necessary to establish finish grade in all landscape areas. Fine grading shall include only minor grading to correct random or infrequent grade irregularities of 12" or less; unless otherwise noted on plans.
- 1.8 Liability of Contractor. The contractor shall be liable for any and all damages to property that result from his performance, including damage to preserved trees. He shall, without extra cost, mitigate or restore to original condition any areas and/or construction damaged, defaced, disturbed, or destroyed by him or his workmen.
- 1.9 Tree Tagging. A tree tagging trip may be requested by Owner's Representative prior to approval of plant material. Landscape contractor shall be responsible for providing transportation and accommodations if necessary.
- 1.10 Inferior Materials. Contractor shall be responsible for rejecting inferior materials. Materials in a damaged or unhealthy state may be rejected by the Owners Representative if necessary.
- 1.11 Onsite Debris. Contractor shall be responsible for removing and disposing of offsite all stones over 1" in diameter, sticks, roots, and other extraneous matter in planted areas to a depth of 2". If debris is excessive and results from construction waste please contact owners representative for appropriate actions.

**PART 2 SUBMITTALS**

- 2.1 Soil Testing for Plant Material. The Contractor shall be responsible for testing soils in planted areas to confirm that soil is suitable for healthy plant growth.
- 2.2 Seed Certification. All seed must comply with regulatory agencies for fertilizer and herbicide composition.
- 2.3 Inspection Certificates, Manufacturer's Data. Upon request of Owners representative copies of inspection certificates or manufacturer's data shall be provided for any material used onsite; in addition to existing materials found onsite.

**PART 3 MATERIALS**

- 3.1 General Plant Materials Requirements. Provide state inspected, nursery grown plants, unless otherwise specified. Conform to the plant schedule, "Florida Department of Agriculture Grades and Standards for Nursery Plants", local landscape ordinance, and, where applicable, to ANSI Z60.1. All plant materials shall be nursery grown, Florida No.1 stock. Any material not consistent with Florida Number 1 standards may be rejected after planting and replacement of materials will be at the contractors expense. All materials shall be healthy, vigorous, free of diseases and insects, pruned for best shape without appearance of "de-horning", and without symptoms of nutritional deficiency. Furnish plants grown under climatic conditions similar to those in the locality of the project. All plants must be true of variety, cultivars, and/or species. Plants must measure according to sizing requirements detailed on the drawings. Plants must be naturally bushy, dense, in good foliage, well branched, and of good appearance. The nursery/nurseries from which they are derived shall be under regulatory inspection by the Florida State Department of Agriculture and/or the Florida State Plant Board or an equivalent agency, if derived from outside the State of Florida. Plants entering from outside the State of Florida must bear the entry certificate of the State Department of Agriculture of the State of Florida. All plant materials will be subject to approval of the Owner or Owner's Representative for quality, size and color.
- 3.2 Soil Additives. Contractor shall be responsible for adding peat, humus, fertilizer, manure, pH adjusters or any other commercially accepted soil additive to insure normal, healthy plant growth.
- 3.3 Balled and Burlapped Trees. Ensure that field grown material follows local industry standards for root pruning, digging, baling and burlapping, etc. All balled and burlapped materials must be hardened off before shipment. All materials are subject to approval by the Owners Representative prior to shipping to project site.
- 3.4 Spaded Trees. Trees shall have been spaded from a commercial nursery field that has been inspected by The Department of Agriculture and Consumer Services within the last 9 months. The Contractor shall provide a copy of the most recent Nursery, Stock dealer and Special Inspection Report for verification upon Owners Representative request. Ball size shall be at least one size greater than recommended by ANSI Z60.1, American Standard for Nursery Stock, unless otherwise specified. Spaded material is subject to approval and tagging by the Owner's Representative prior to shipping to project site.

- 3.5 Container Plants. Provide container grown plants with sufficient roots to hold the container soil together after removal from the container. Root bound plants and plants with inadequate root systems are not acceptable.
- 3.6 Surface Mulch. Plans shall specify mulch type. Mulch shall be in a non-decomposed state; not more than one (1) season old.
- 3.7 Herbicides, Insecticides. Chemical sprays, dusts, or gaseous compounds used on or around plant materials, including but not limited to trees, shall be approved for such uses by the environmental protection agency and the Florida department of agriculture and consumer services. Such materials as may be used shall not constitute a hazard to human health or interfere with site working conditions and habitation.
- 3.8 General Seed Requirements. Where seeding may be required on the plans, the seed required shall comply with all minimum provisions of the Florida seed certification and testing law. Noxious weed seeds shall be non-existent and foreign materials shall not exceed two percent. All disturbed areas not shown as sodded shall be seeded.
- 3.9 General Sod Requirements. See plan for specified sod. All sod shall be healthy, strongly rooted and not less than two (2) years old, free of weeds and undesirable native grasses in 16" x 24" pads, 1-1/2" thick. Sod shall conform to "nursery grown" grade as established by American Sod Producers Association (ASPA). Sod shall be considered free of weeds if less than 5 weeds are found per 100 square feet of area. Brown, dry, irregularly smooth, and/or un-fresh sod will be rejected.

**PART 4 PLANTING PROCEDURES**

- 4.1 General. Prior to commencement of any work, the landscape contractor shall inspect the site, locate planting areas, placement of guying devices, locate electrical cables, conduits, and other underground and above utilities so that proper precautions and procedures may be followed during and throughout construction. The contractor shall become familiar with other job trade activity which has an impact upon his work or upon which his work has an impact and shall arrange to carefully coordinate his work with other trades through the owner's representative on-site. All planting practices listed herein shall insure healthy plant growth.
- 4.2 Layout. The location of plants and planting beds, as shown on these plans, are approximate. The locations and bed lines shall be staked on the project site by the contractor and approved by the owner's representative before any plant pits or beds are dug. The contractor is responsible for verifying that proper setbacks, as defined by local codes and rules, are provided between trees and their proximity to utilities and hardscapes. Unless otherwise noted, no tree shall be planted closer than four feet to a hardscape surface. The owner's representative may adjust plant material locations to meet field conditions. Contractor shall make minor adjustments without additional cost to the owner.
- 4.3 Finish Grades. The landscape contractor is responsible for all fine grading and preparation for planting. Finish grades (top of soil) for all sod areas after settlement shall be one-half inch below the top of abutting curbs, walks, walls and abutments. The finish grade of all plant beds prior to mulching shall be three inches below finish grade of sod, abutting curbs, walks and walls. Three inches of mulch shall be added after planting.
- 4.4 Planting Seasons/Times. The planting of plant materials and lawns may proceed at any time, period, or season agreed upon by the contractor and the owner or owner's representative.
- 4.5 Plant Pits. The contractor shall excavate plant pits, unless otherwise approved, according to the drawings.
- 4.6 Setting Plants. Each plant shall be established in a manner consistent with plant details. All plants shall be set plumb and straight. Plants shall be established to a depth that is not greater than that at which they grew when in the nursery container or field. All back fill shall be tamped and worked firmly under and around the root ball to fill all voids.
- 4.7 Soil Preparation for Trees, Shrubs and Groundcover. All areas to be planted shall be prepared in a manner to insure normal, vigorous and healthy growth of plant material.
- 4.8 Staking. All trees are to be staked unless otherwise instructed by owner or owner's representative. Refer general staking details on the drawings. Materials used shall insure healthy plant growth.
- 4.9 Mulching. All plant beds and plant saucers shall be uniformly covered with a four-inch (4") layer of mulch. Hedges shall be mulched the full width of the hedge bed. Contain mulch within landscape borders.
- 4.10 Sod. All areas to be either seeded, sprigged, or sodded shall be prepared in a manner to insure normal, vigorous and healthy growth.
  - 4.10.1 Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake and drag lawn areas, remove ridges and fill depressions with topsoil as required to meet finish grades. In areas to be sodded, allow for sod thickness.
  - 4.10.2 Sod Installation. Lay sod in straight, parallel rows to form a solid mass with tightly fitted joints, without overlap. Stagger strips to offset joints. Work topsoil into minor cracks. On 1:3 slopes or greater, lay sod with long dimension of pads parallel to contours and stake sod as necessary to stabilize. Drive sod stakes flush with top of sod.
  - 4.10.3 Sprigging and Seeding. Sprigging/seeding shall be done in a manner to insure a quick grow in period achieving a uniform green lawn prior to final acceptance.

**PART 5 MAINTENANCE**

- 5.1 Plant Material. Maintain all plant materials until final acceptance. Maintenance shall include all required watering, cultivation, weeding, mowing, pruning, wound dressing, immediate replacement of dead and unacceptable material, straightening plants which lean or sag, adjustments of plants which are planted too low, and any other procedure consistent with good horticultural practice necessary to insure normal, vigorous and healthy growth of all planting under this contract.
- 5.2 Lawn. Maintain lawns until final acceptance. Reset settled or eroded sod areas to proper grade. Fill open joints with topsoil. Keep sod free of insects and disease.

**PART 6 FINAL INSPECTION AND ACCEPTANCE**

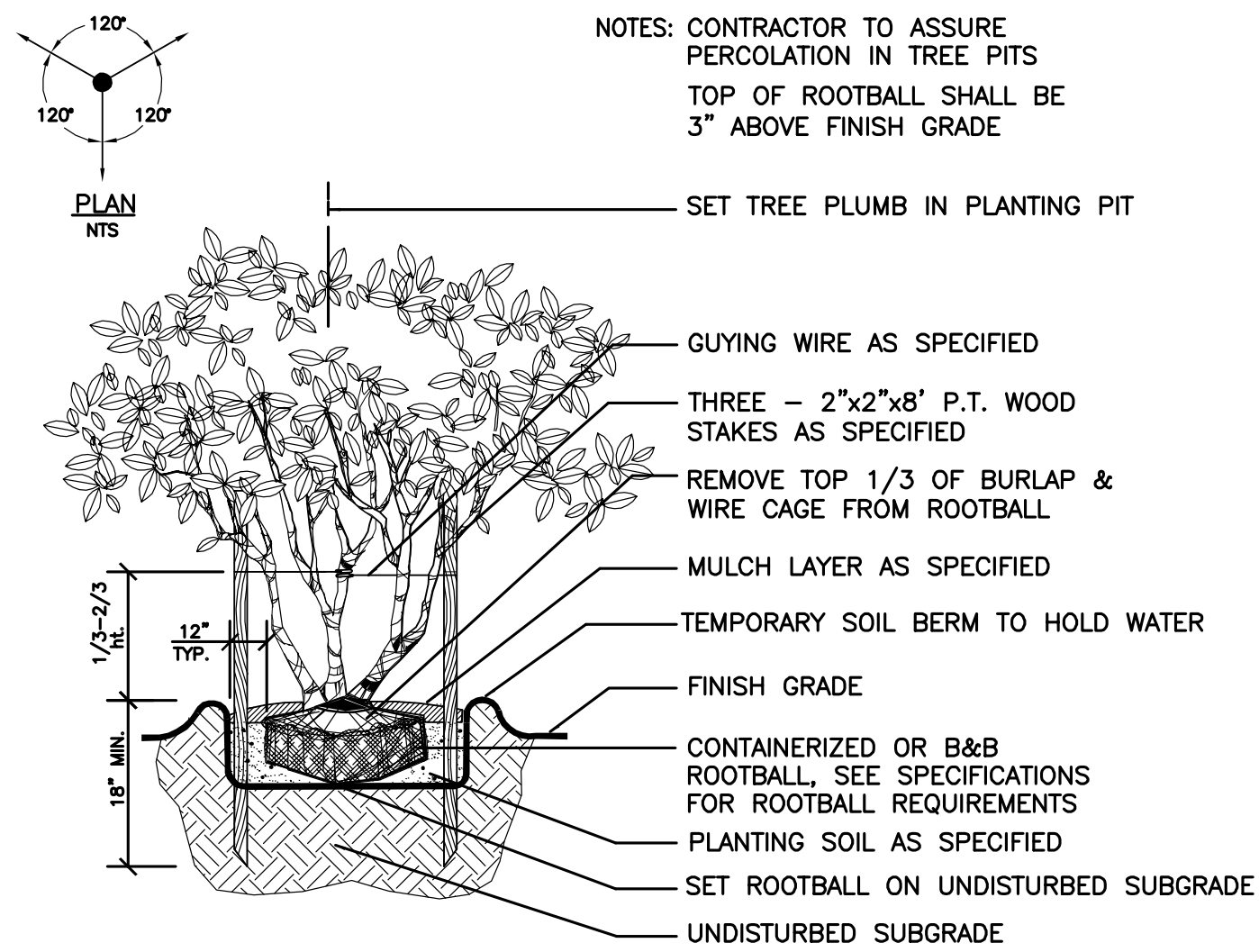
- 6.1 Final Cleanup. Upon final completion of work and before inspection and acceptance, all aspects of the project site shall be thoroughly and completely cleaned of debris, stains, materials, defacements, and temporary facilities. Likewise, any repairs, which are the obligation of this contractor, shall be completed.

- 6.2 Initial Inspection and Acceptance. Inspection shall be made by the owner or owner's representative within (10) ten days of written notification from the contractor that installation is complete. If all work and materials meet specifications project will be accepted as is. Materials and work not in compliance with specifications shall be rejected by owners representative and replaced by the contractor within (15) fifteen days of notification by owner's representative. Notification will graphically depict all rejected material on plans. Upon replacement of all rejected work and materials by the contractor the owner's representative shall conduct a final inspection within ten (10) days of written notification from the contractor that all rejected work has been replaced according to specifications. Approval will be granted upon the acceptance of all replaced material noted on plans. After final acceptance, the landscape contractor will not be responsible for damage to work resulting from neglect by owner, damage by others; abnormal weather conditions such as floods, excessive wind, severe freezing or abnormal rains; or other activities clearly beyond the landscape contractor's control.

**PART 7 GUARANTEE**

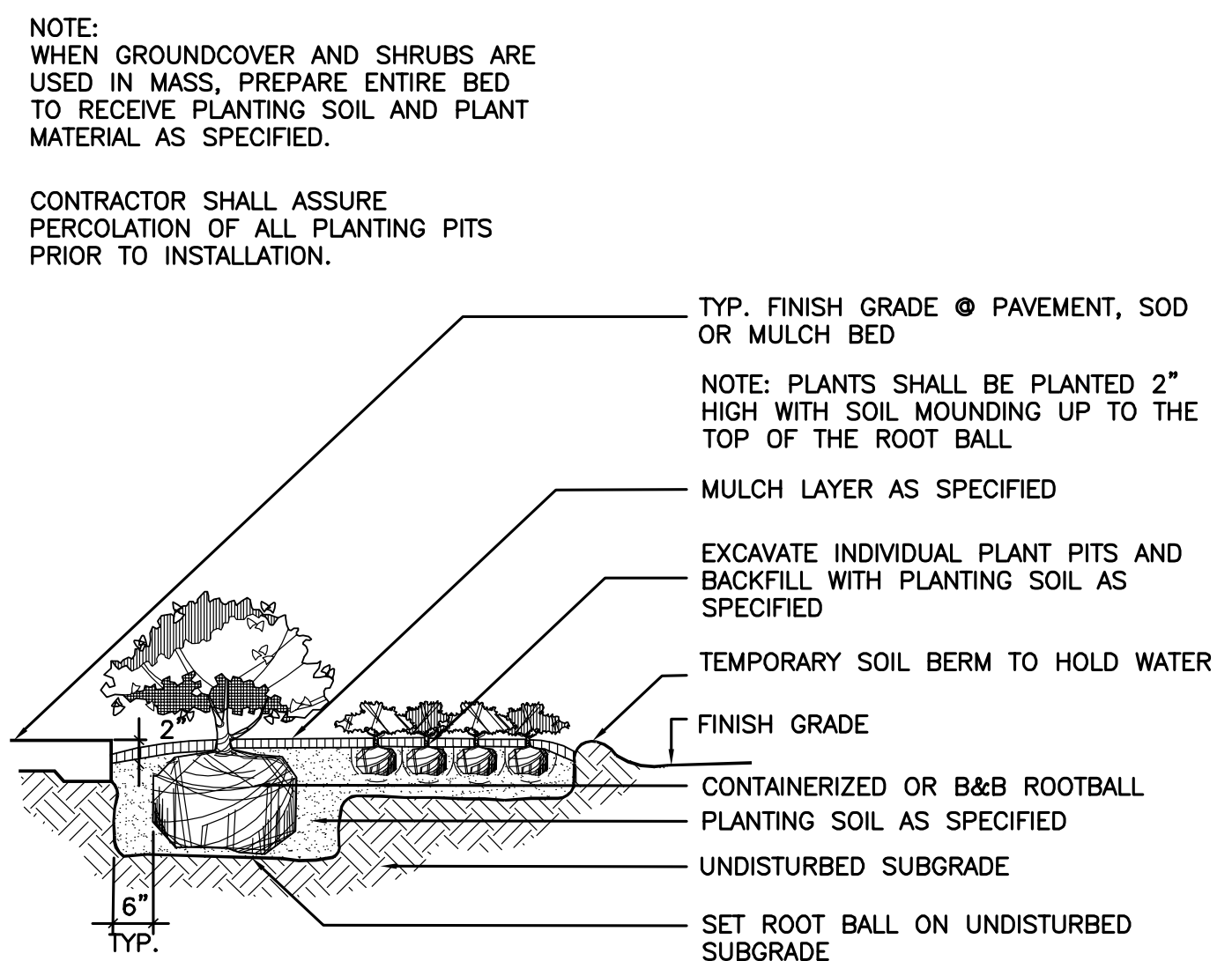
- 7.1 Guarantee. All plant materials and trees installed by the contractor shall be guaranteed for 365 days from the date of final inspection and acceptance. The contractor shall replace at no additional cost to the owner, all plant materials which die and/or which are not healthy and in a good growing condition during the guarantee period. Replacement of such material shall occur within ten (10) days from owner's written notification to the contractor. The 365 day guarantee period for replaced plant materials shall commence on the date of acceptance of the replaced item or items of plant material. The contractor shall not be required to replace, repair, or restore any portion of the work that is damaged, defaced, disturbed, and/or destroyed by others after final acceptance.

**NOTE:** IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH THE LANDSCAPE ARCHITECT THAT THEY ARE USING THE MOST CURRENT PLAN SET FOR BIDDING AND INSTALLATION. FAILURE TO VERIFY CURRENT PLAN SET COULD RESULT IN CORRECTIVE WORK, INCLUDING DESIGN REVISIONS AND PERMITTING FEES TO BE PERFORMED AT THE CONTRACTORS EXPENSE.



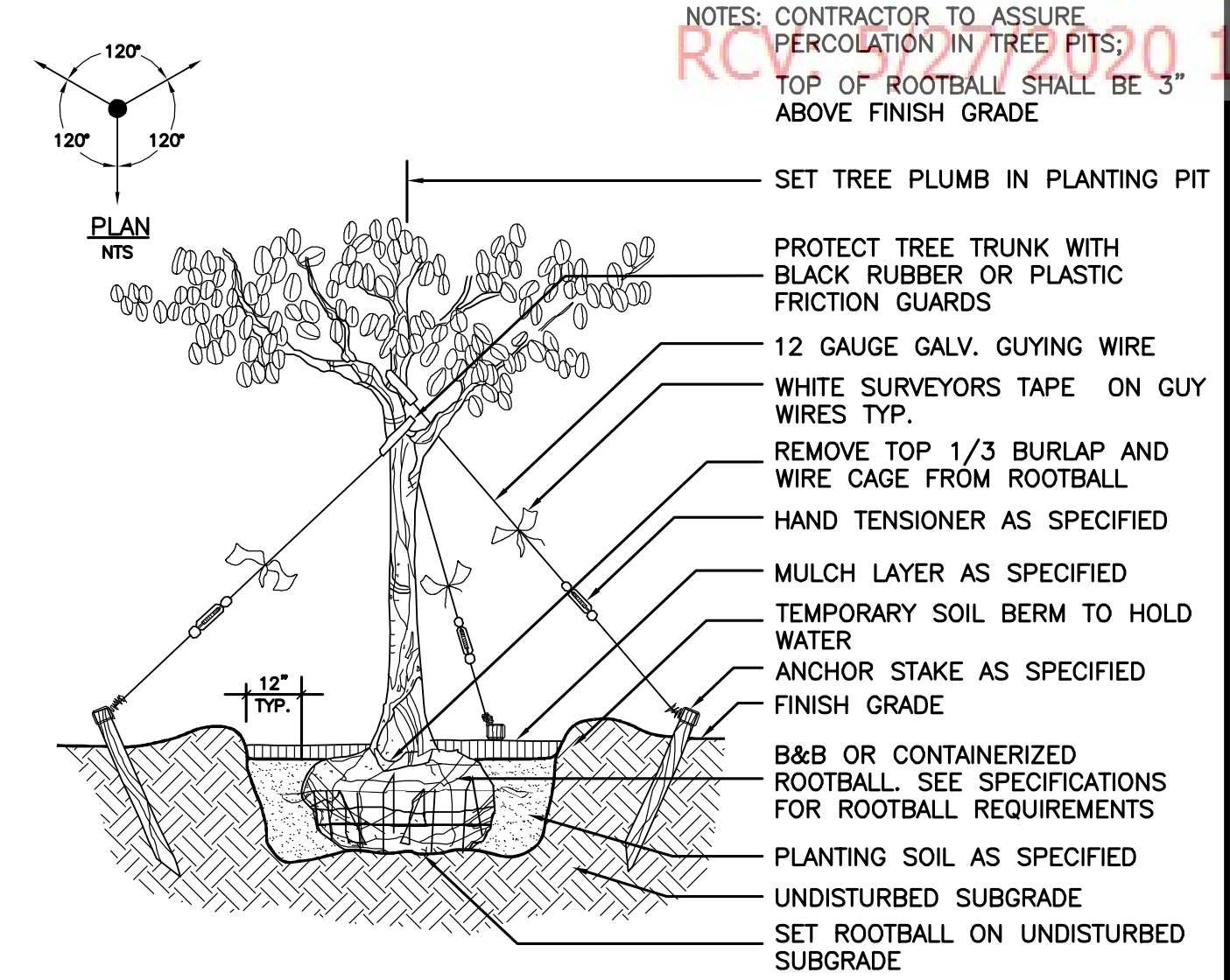
**MULTI-TRUNK TREE PLANTING DETAIL**

SCALE: NTS



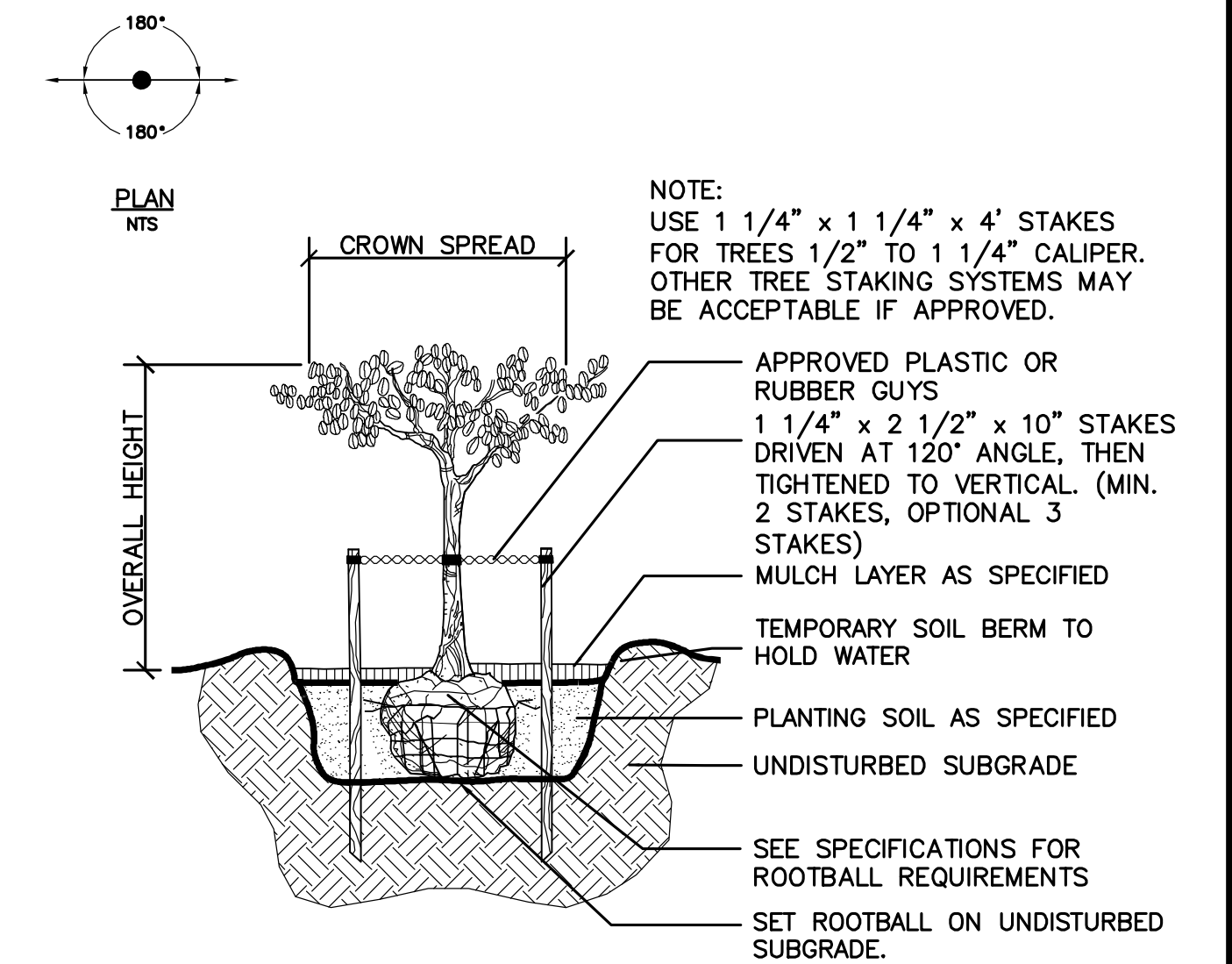
**SHRUB AND GROUNDCOVER PLANTING DETAIL**

SCALE: NTS



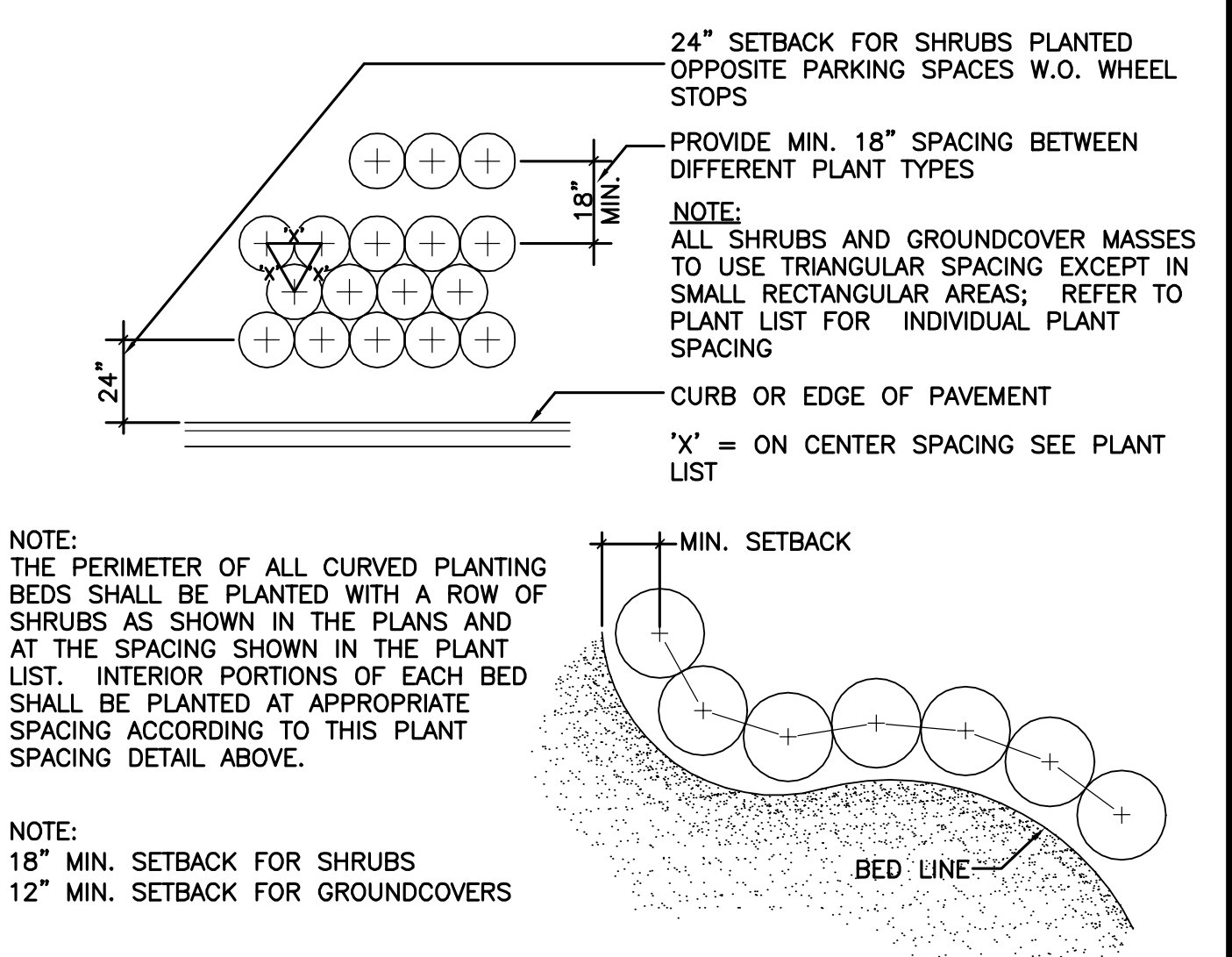
**LARGE TREE PLANTING DETAIL (4\"/>**

SCALE: NTS



**SMALL TREE PLANTING DETAIL (1\"/>**

SCALE: NTS



**SHRUB AND GROUNDCOVER SPACING DETAIL**

SCALE: NTS

CDN: 4859.51  
RCV: 5/27/2020 10:39

NOTES: CONTRACTOR TO ASSURE PERCOLATION IN TREE PITS; TOP OF ROOTBALL SHALL BE 3\"/>

REVISIONS:

ETM NO. 19-227	ETM: Things & Miller, Inc.
DRAWN BY:	14775 Old St. Augustine Road
DESIGNED BY:	Jacksonville, FL 32288
CHECKED BY:	TEL: (904) 642-8890
DATE: NOVEMBER 2019	FAX: (904) 646-9485
	CA - 000284 LC - 0000316

**ETM**  
VISION • EXPERIENCE • RESULTS

**LS-3 LANDSCAPE SPECIFICATIONS AND DETAILS**

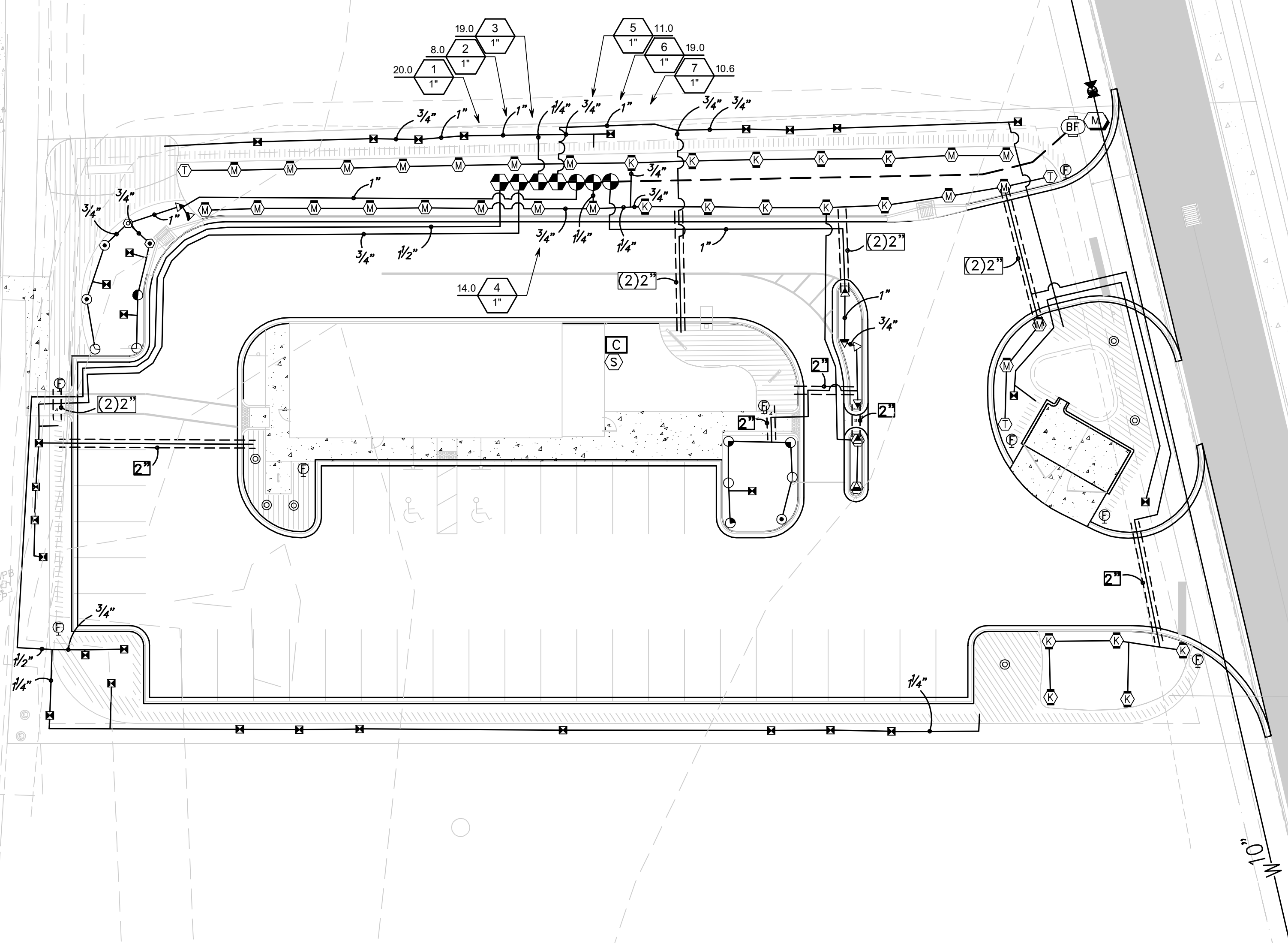
**OAKLEAF CORNER OUTPARCEL 3 FOR OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**LS-03**

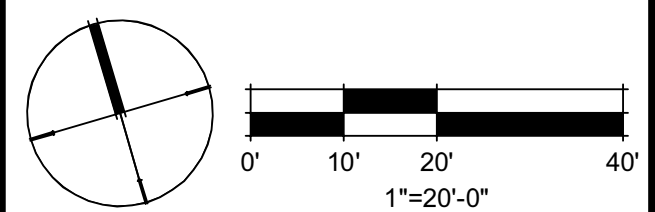
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**OLD MIDDLEBURG ROAD S.**



CDN: 4859.51  
RCV: 5/27/2020 10:39



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**IRRIGATION PLAN**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**IR-01**

**ETM**  
VISION • EXPERIENCE • RESULTS

**England, Thins & Miller, Inc.**  
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REVISIONS:

ETM NO. 19-227
DRAWN BY:
DESIGNED BY:
CHECKED BY:
DATE: NOVEMBER 2019

PLANS PREPARED UNDER THE  
DIRECTION OF:

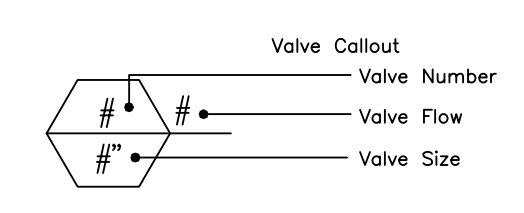
RCV: 4/15/2022 10:32 AM

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
◀	Hunter PROS-12-PRS30 5' strip spray	3	LCS	30	0.65	5x15'
◀	Hunter PROS-12-PRS30 5' strip spray	2	RCS	30	0.65	5x15'
◀	Hunter PROS-12-PRS30 5' strip spray	1	SST	30	1.30	5x30'
①	Hunter PROS-12-PRS30 12' radius	2	180	30	1.30	12'
③	Hunter PROS-12-PRS30 12' radius	1	90	30	0.67	12'
③	Hunter PROS-12-PRS30 12' radius	1	120	30	0.89	12'
●	Hunter PROS-12-PRS30 15' radius	1	180	30	1.86	15'
●	Hunter PROS-12-PRS30 15' radius	3	90	30	0.97	15'
⊙	Hunter PROS-12-PRS30 adjustable arc	1	Adj	30		8'
⊙	Hunter PROS-12-PRS30 adjustable arc	1	Adj	30		10'
⊙	Hunter PROS-12-PRS30 adjustable arc	3	Adj	30		15'
Ⓣ	Hunter PROS-06 with MP Corner	3	Adj	40		13'
Ⓣ	Hunter PROS-06 with MP Strip	1	LCS	40	0.22	5x15'
Ⓣ	Hunter PROS-06 with MP Strip	1	RCS	40	0.22	5x15'
Ⓣ	Hunter PROS-06 with MP1000	21	90-210	40		14'
Ⓣ	Hunter PROS-06 with MP2000	15	90-210	40		19'
Ⓣ	Two Hunter PCB-25	30 x 2	360	30	2x.25	3'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
Ⓣ	Hunter PROS-12 with GPH Irrigation Products GDFN	8
⊙	Two Hunter HE-10-B	6 x 2
▨	Area to Receive Dripline Hunter PLD-10-12 In-Line Pressure Compensating Landscape Dripline with Built-In Check Valve, 1.0GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0" apart, with emitters offset for triangular pattern. Install dripline on both sides of plant material.	3,400 s.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
Ⓣ	Hunter PGV-101G in a 12" Valve Box.	3
Ⓣ	Hunter PGV-101G in a 12" Valve Box. Install a 1" PVC ball valve and Hunter HFR-100-075-40 prior to group of drip valves in a Jumbo Valve Box.	4
Ⓣ	Wilkins 975XL 1" Backflow Preventer	1
Ⓣ	Hunter PC-700-PL 7 Station Controller	1
Ⓣ	Hunter Solar-Sync Weather Sensor	1
Ⓣ	Water Meter 3/4" (by others)	1
---	Irrigation Lateral Line: PVC Class 160	2,500 l.f.
---	Irrigation Mainline: PVC 1-1/2" Class 200	160 l.f.
---	Pipe Sleeve: PVC Schedule 40	



IRRIGATION NOTES:

- THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS - CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- COMPONENT SPACINGS ARE MAXIMUM. DO NOT EXCEED SPACINGS SHOWN OR NOTED ON THE PLANS. COMPONENT SPACINGS MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACINGS DO NOT EXCEED THE SPACINGS SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS. ALL INSTALLATIONS SHALL BE AS RECOMMENDED BY MANUFACTURERS. THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.
- ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN, DEBRIS-FREE MATERIALS. CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEIOUS DEBRIS. PULLING PIPE SHALL BE PROHIBITED.
- ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER.
- DURING INSTALLATION AND UPON COMPLETION OF THE IRRIGATION SYSTEM, DECODERS SHALL BE PROGRAMMED TO THE CONTROLLER STATION AS PER THE IRRIGATION ZONE NUMBER. CONTRACTOR TO LABEL ALL VALVE BOX COVERS WITH THE CORRESPONDING CONTROLLER ZONE NUMBER. NUMBERING SIZE 1". PROVIDE TAGS TO ALL VALVES AS SHOWN PER DETAILS.
- CONTRACTOR TO PLACE TREE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE.
- THE IRRIGATION CONTROL WIRE FROM CONTROLLER A SHALL BE 14 GAUGE SINGLE STRAND UL LISTED FOR DIRECT BURIAL. ALL WIRE CONNECTIONS SHALL BE MADE WITH 3M-DBV.
- OWNER WILL DETERMINE CONTROLLER LOCATION AND PROVIDE ELECTRIC SERVICE WITHIN 5' OF LOCATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTION FROM THE ELECTRICAL SERVICE TO THE IRRIGATION CONTROLLER.
- LOCATE ALL VALVES IN PLANTING BEDS OR MULCHED AREAS WITH A MINIMUM OFFSET OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT.
- ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN THE SPECIFIED VALVE BOXES.
- ALL IRRIGATION LINES UNDER PAVEMENT SHALL BE INSTALLED WITHIN SCH 40 PVC SLEEVES AS NOTED. IRRIGATION COMMUNICATION CABLE SHALL HAVE IT'S OWN SEPARATE SLEEVE UNLESS NOTED OTHERWISE.
- THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR ALL SLEEVING.
- ALL UNSIZED PIPE SHALL BE 3/4".
- IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 12" UNLESS NOTED OTHERWISE.
- IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 18" UNLESS NOTED OTHERWISE.
- ALL COMPONENTS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE EXACT LOCATION AND DEPTH BELOW FINISH GRADE OF CONTROL VALVE, ISOLATION VALVES AND SLEEVES SHALL BE NOTED WITH TWO REFERENCE POINTS ON THE "AS-BUILT" DRAWINGS. THE "AS-BUILT" SHALL BE PROVIDED IN ELECTRONIC PDF FORMAT WITH TWO HARD COPIES.
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE LANDSCAPE SUPERVISOR. WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY FLOW OF VEHICULAR TRAFFIC AND COMPLETION OF ALL WORK ON THE SITE.

WATERING SCHEDULE

ZONE	GPM	WATER USE	PRECIP. RATE	MAR (2ND SUNDAY) - NOV (1ST SUNDAY)		NOV (1ST SUNDAY) - MAR (2ND SUNDAY)	
				DAYS - MINUTES	DAYS - MINUTES	DAYS - MINUTES	DAYS - MINUTES
1	20.0	LOW	1.1"/hr	TUE / FRI - 40 MIN	TUE - 40 MIN	TUE - 40 MIN	TUE - 40 MIN
2	8.0	LOW	1.1"/hr	TUE / FRI - 40 MIN	TUE - 40 MIN	TUE - 40 MIN	TUE - 40 MIN
3	19.0	LOW	1.1"/hr	TUE / FRI - 40 MIN	TUE - 40 MIN	TUE - 40 MIN	TUE - 40 MIN
4	14.0	MEDIUM	1.58"/hr	TUE / FRI - 40 MIN	TUE - 40 MIN	TUE - 40 MIN	TUE - 40 MIN
5	11.0	MEDIUM	1.58"/hr	TUE / FRI - 28 MIN	TUE - 28 MIN	TUE - 28 MIN	TUE - 28 MIN
6	19.0	MEDIUM	1.58"/hr	TUE / FRI - 28 MIN	TUE - 28 MIN	TUE - 28 MIN	TUE - 28 MIN
7	10.6	MEDIUM	1.58"/hr	TUE / FRI - 28 MIN	TUE - 28 MIN	TUE - 28 MIN	TUE - 28 MIN
				3,400 LOW USE IRRIGATED SHRUBS			
				3,910 MEDIUM USE IRRIGATED TURF			
				2,330 UNIRRIGATED TURF AND MULCH			
NO WATERING TO TAKE PLACE BETWEEN THE HOURS OF 10:00AM - 4:00PM							

Adjusted run time for zone 4 to 28 minutes so it did not exceed maximum 3/4 inch irrigation/day

PLANS PREPARED UNDER THE DIRECTION OF:  
 L.A. NUMBER: PLOTTED: May 27, 2020 - 9:01 AM, BY: CAD Test

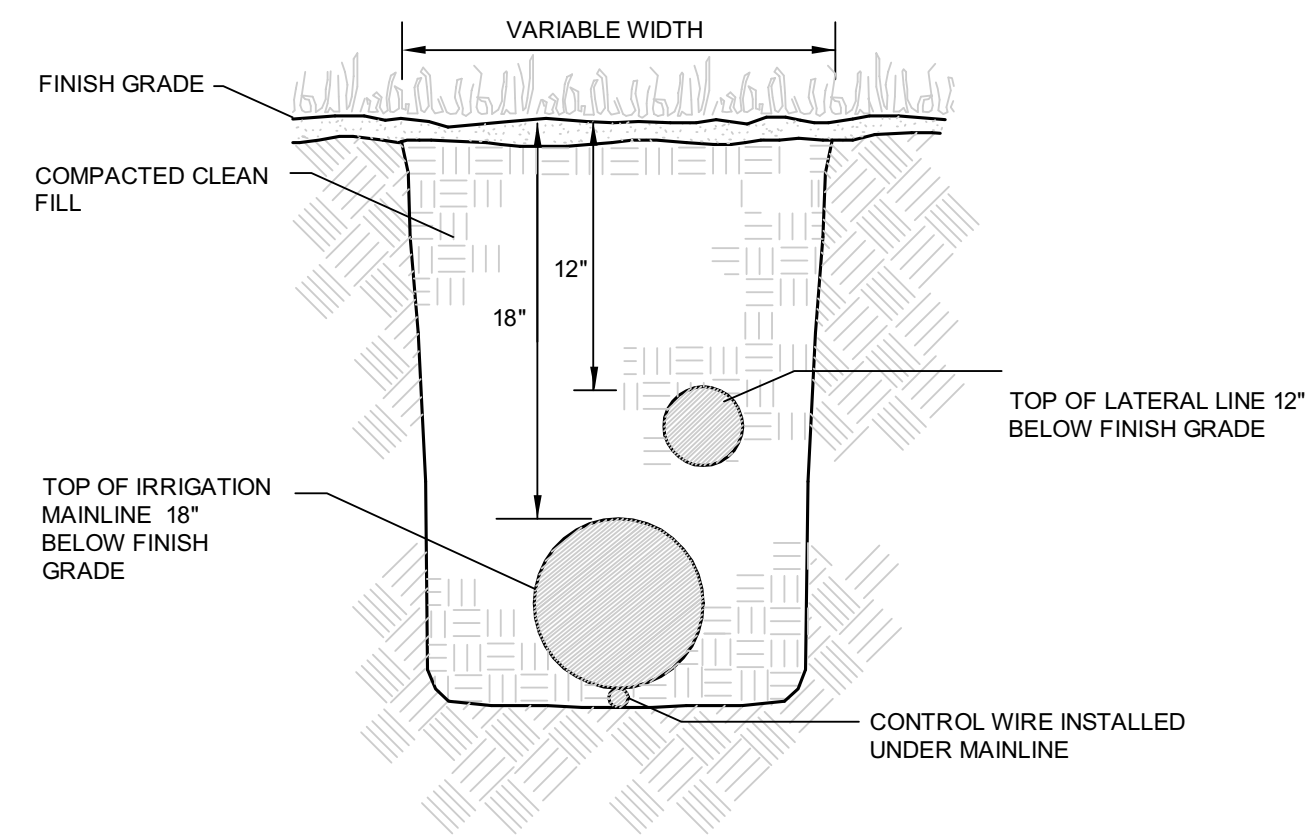
REVISIONS:

ETM NO. 19-227	DRAWN BY:	DESIGNED BY:	CHECKED BY:	DATE: NOVEMBER 2019
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**ETM**  
 England, Thins & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32258  
 TEL: (904) 642-8890  
 FAX: (904) 646-9485  
 CA - 0002884 LC - 0000316  
 VISION - EXPERIENCE - RESULTS

**IRRIGATION SCHEDULE**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

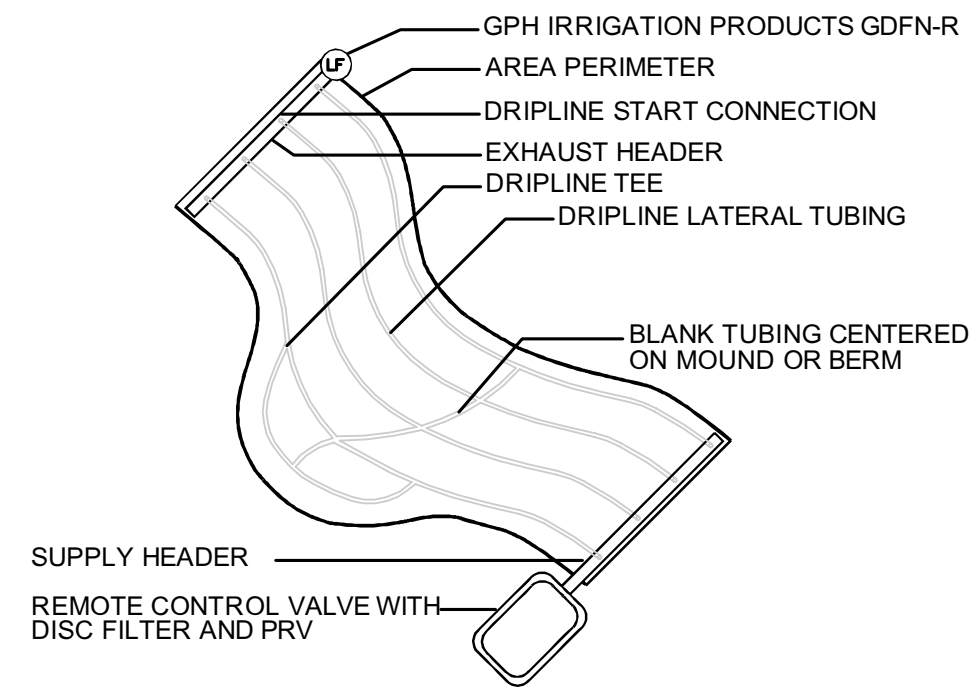
DRAWING NUMBER  
**IR-02**



- NOTES:**
1. DEPTH MEASUREMENTS ARE TO BE DONE FROM FINISH GRADE TO TOP OF PIPE.
  2. PROVIDE A 6" MINIMUM VERTICAL SEPARATION BETWEEN MAINLINES AND LATERAL LINES.
  3. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN SOIL FREE OF DEBRIS & NOXIOUS WEEDS.

**TRENCHING DETAIL**

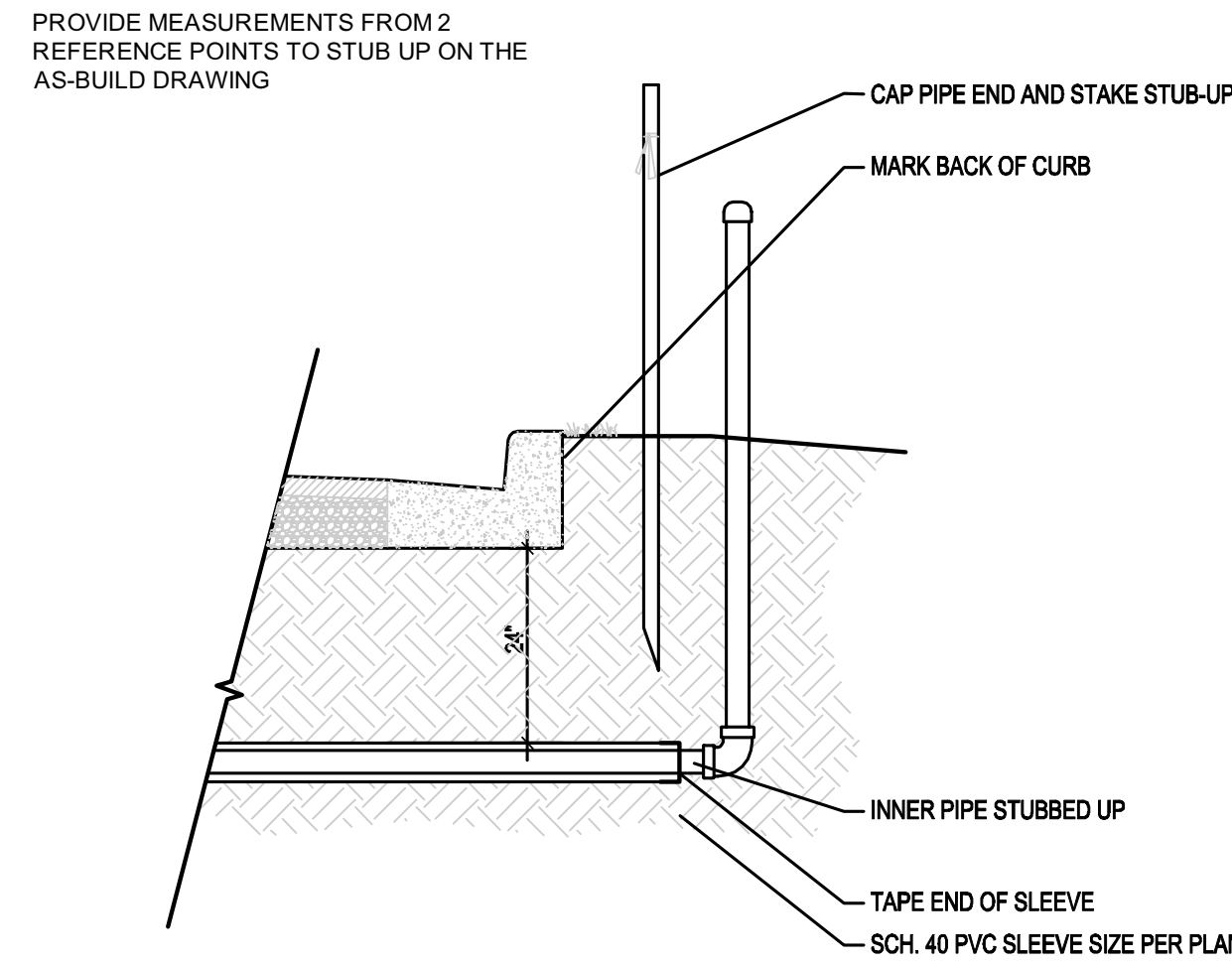
SCALE: NTS



**IRREGULAR AREA DRIPLINE LAYOUT**

SCALE: NTS

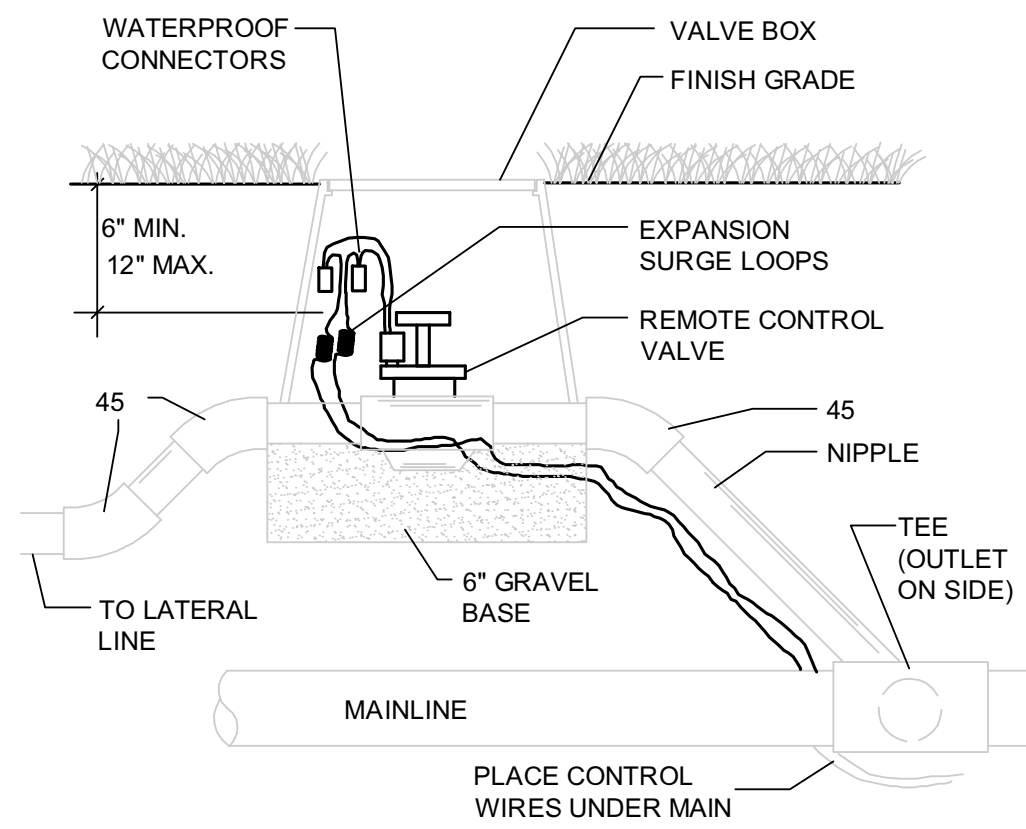
- NOTES:**
- VALVE GROUPINGS SHALL NOT HAVE MORE THAN 3 VALVE BOXES AND 1 GATE VALVE BOX.
- PLASTIC TAGS SHALL BE AFFIXED TO EACH VALVE WITH THE ZONE NUMBER AND ZONE TYPE (TURF, SHRUB, ETC.) PREPRINTED OR LABELED WITH INDELIBLE INK.



**SLEEVING ROUGH-IN DETAIL**

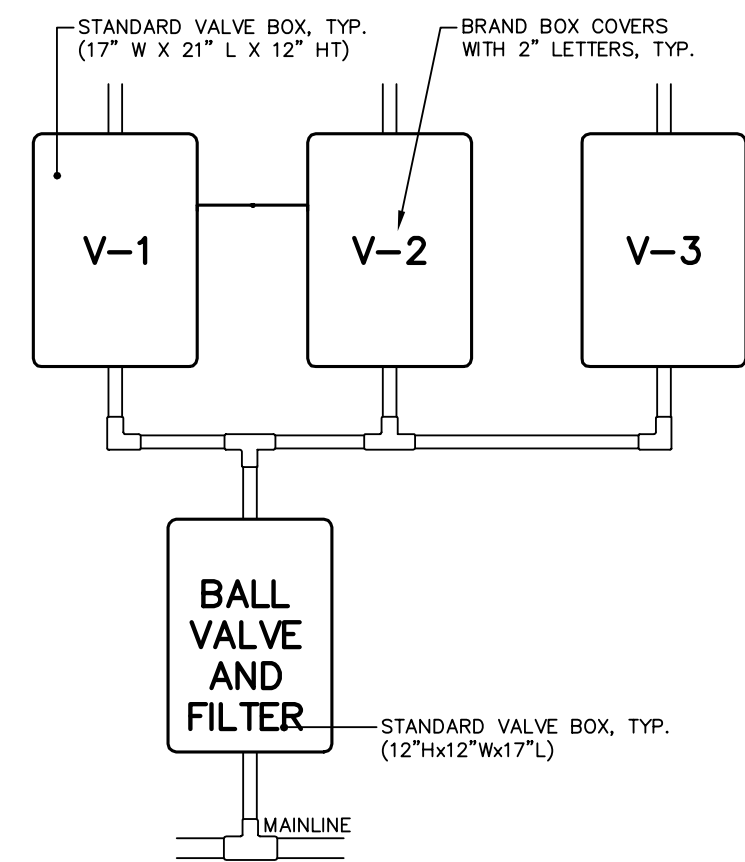
SCALE: NTS

MARK ALL VALVE BOXES WITH THE ZONE NUMBER AS DIRECTED BY THE LANDSCAPE ARCHITECT.



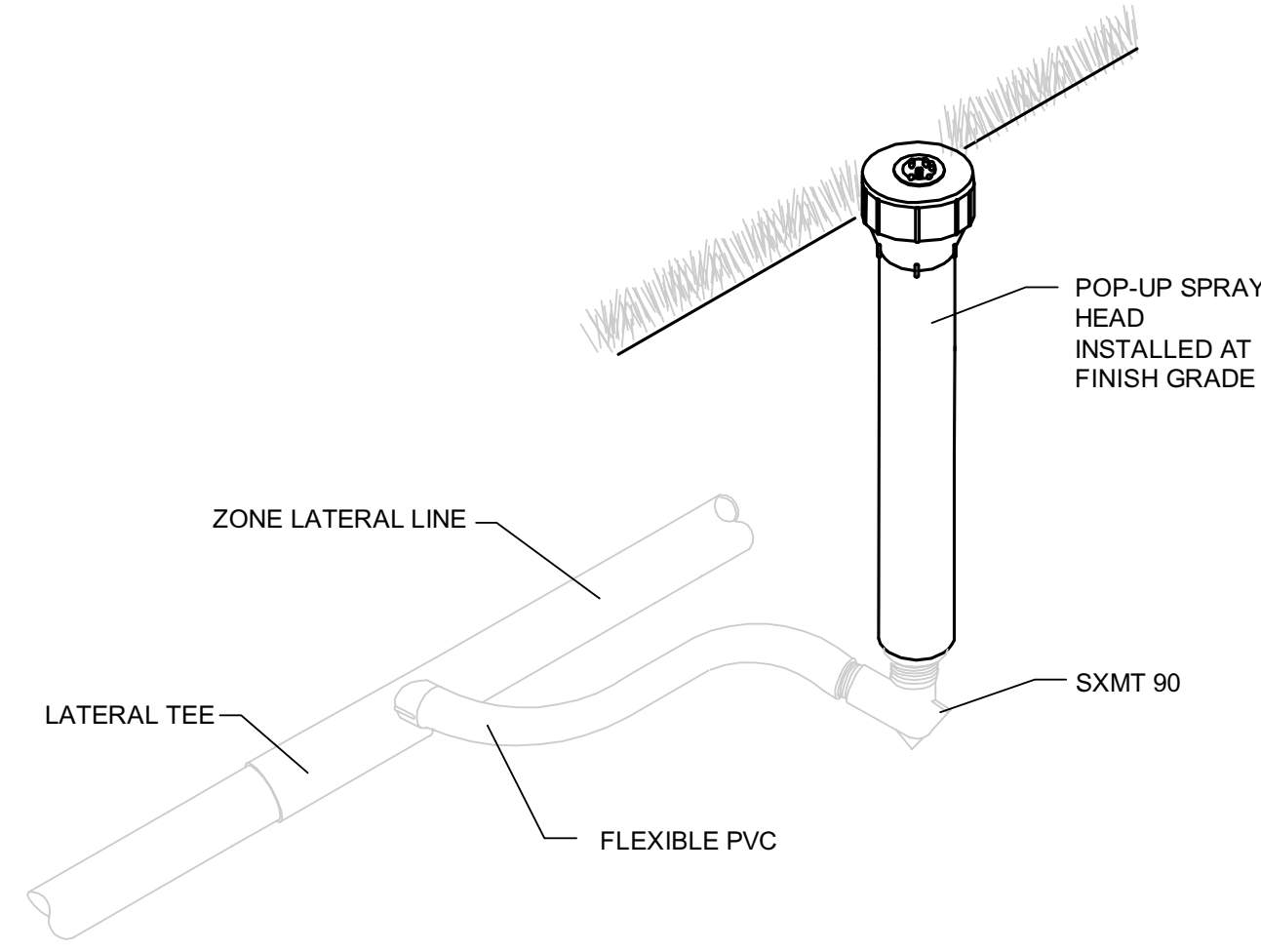
**ELECTRIC VALVE INSTALLATION DETAIL**

SCALE: NTS



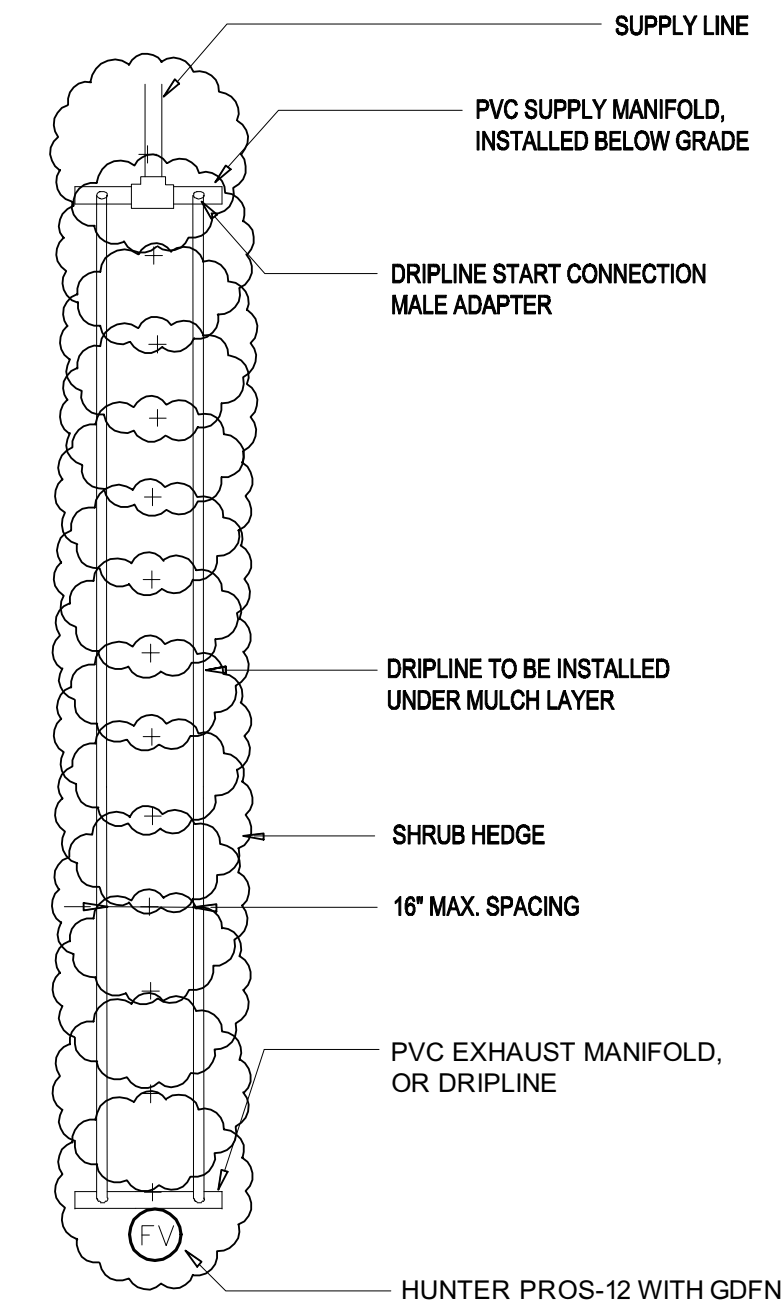
**VALVE BOX DETAIL**

SCALE: NTS



**SPRAY HEAD AND ROTOR DETAIL**

SCALE: NTS



**DRIPLINE LAYOUT**

SCALE: NTS

REVISIONS:

ETM NO. 19-227	
DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	
DATE: NOVEMBER 2019	

**ETM**  
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**IRRIGATION DETAILS**  
**OAKLEAF CORNER OUTPARCEL 3**  
**FOR**  
**OAKLEAF 31 DEVELOPMENT CORP.**

DRAWING NUMBER  
**IR-03**

PLANS PREPARED UNDER THE DIRECTION OF: L.A. NUMBER: PLOTTED: May 27, 2020 - 9:01 AM, BY: CAD Test