



NOT APPLICABLE  
APPLICABLE

### SURVEY AND LOCATE DATA:

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

### PERMIT REQUIREMENTS (NOT ALL INCLUSIVE):

- 1. CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS.
- 2. CONTRACTOR SHALL NOT OPEN CUT STREETS IN THE PROJECT AREA UNLESS SPECIFICALLY SHOWN ON PLANS
- 3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CONSUMPTIVE USE PERMIT (C.U.P.) THROUGH THE ST. JOHNS WATER MANAGEMENT DISTRICT SHOULD DEWATERING ACTIVITIES BE REQUIRED.
- 4. THE DEPARTMENT OF TRANSPORTATION, RAILROAD COMPANIES AND C.O.J. ARE TO BE NOTIFIED IN ADVANCE OF CONSTRUCTION PER THEIR RESPECTIVE PERMIT CONDITIONS.
- 5. ALL WORK SHALL BE IN ACCORDANCE WITH BID DOCUMENTS, JEA WATER AND SEWER STANDARDS, DETAILS AND MATERIALS MANUAL, REV. 2019, AND CITY OF JACKSONVILLE STANDARD SPECIFICATIONS AND DETAILS AND ALL APPLICABLE STATE AND LOCAL REGULATIONS.
- 6. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED.
- 7. THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY CONTACT PERSONNEL NOT LESS THAN ONE WEEK PRIOR TO CONSTRUCTION OF FACILITIES IN THEIR RESPECTIVE AREAS.
- 8. 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.
- 9. 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.
- 10. CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.

### EXISTING UTILITY PROTECTION:

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

### ABBREVIATIONS:

AC	ASBESTOS CEMENT	INT.	INTERSECTION
A.G.	ALLEY GRATE	INV.	INVERT
B	BASE LINE	I.P.	IRON PIPE
B.M.	BENCH MARK	J.W.W.	JACKSONVILLE WATER WORKS
BC	BOTTOM OF CURVE		
C.B.	CATCH BASIN	L.T.	LEFT
C.I.	CAST IRON	MB	MAIL BOX
C	CENTER LINE	M.H.	MANHOLE
C.E.P.	CITY ELECTRIC POLE	N.T.S.	NOT TO SCALE
CONC.	CONCRETE	O.E.	OVERHEAD ELECTRIC
CONST.	CONSTRUCTION	O.T.	OVERHEAD TELEPHONE
C.M.P.	CORRUGATED METAL PIPE	P.R.M.	PERMANENT REFERENCE MONUMENT
C.M.P.A.	CORRUGATED METAL PIPE ARCH		
CULV.	CULVERT	P.V.C.	POLYVINYL CHLORIDE
C&G	CURB & GUTTER	r	RADIUS
C	CUT	R	RATE
D.B.I.	DITCH BOTTOM INVERT	R.C.P.	RIGHT
D.W. OR DR	DRIVEWAY	RT	RIGHT
D.I.	DUCTILE IRON	R/W	RIGHT OF WAY
E.O.P.	EDGE OF PAVEMENT	R.D.	RIGHT OF WAY
ELEV.	ELEVATION	R/D	RIGHT OF WAY
ERCP	ELLIPTICAL REINFORCED CONC. PIPE	SW	SIDE WALK
		S.B.T.	SOUTHERN BELL TELEPHONE STATION
EXP. JT.	EXPANSION JOINT	STA	STATION
F	FILL	TC	TOP OF CURVE
F.H.	FIRE HYDRANT	U.G.E.	UNDERGROUND ELECTRIC
F	FLOW LINE	U.G.T.	UNDERGROUND TELEPHONE
FM	FORCE MAIN	U.S.C. & G.S.	UNITED STATES COASTAL & GEODETIC SURVEY
GALV./GLV	GALVANIZED	V.C.	VITRIFIED CLAY
G	GAS LINE	WM	WATER METER
G.V.	GAS VALVE	W.V.	WATER VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE	WLP	WOOD LIGHT POLE
H.W.	HEAD WALL	WPP	WOOD POWER POLE
H.C.	HIGH CURB	WTP	WOOD TELEPHONE POLE

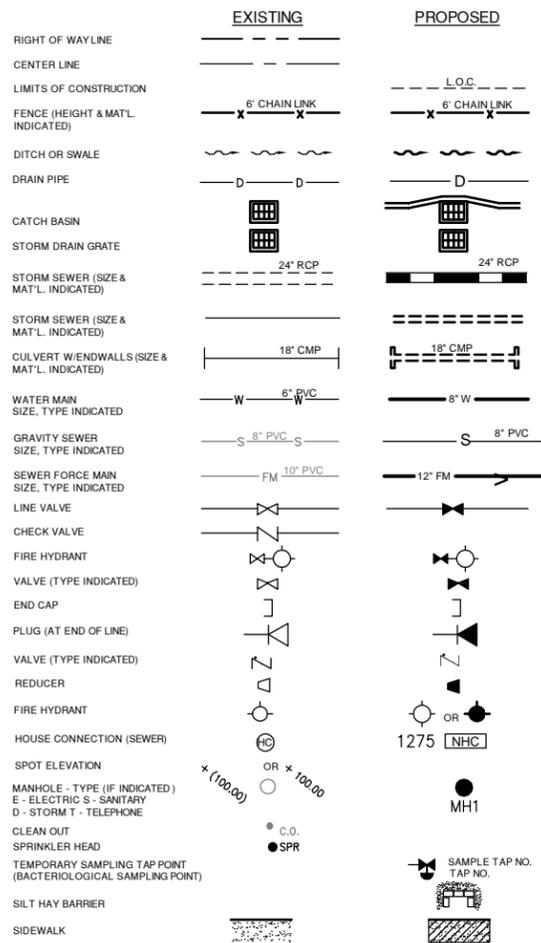
### RESTORATION NOTES:

- 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	-----	904-699-4976
B. CITY OF JACKSONVILLE - PUBLIC WORKS DEPT.	-----	904-255-8786
C. CITY OF JACKSONVILLE - TRAFFIC OPERATIONS	-----	904-255-7533
D. FLORIDA DEPT. OF TRANSPORTATION	-----	904-360-5200
E. JEA - GENERAL INFORMATION	-----	904-665-6000
F. JEA - PROJECT OUTREACH	-----	904-665-7500
G. JEA - POWER OUTAGES	-----	904-665-6000
H. JEA - SEWER PROBLEMS	-----	904-665-4802
I. JEA - WATER PROBLEMS	-----	904-665-4801
J. COMCAST - EMERGENCY HOTLINE	-----	904-380-6341
K. TECO/PEOPLES GAS	-----	904-443-7316
L. SUNSHINE ONE CALL	-----	811

### GENERAL LEGEND



### UTILITY SYMBOLS



NOT APPLICABLE  
APPLICABLE

### INSTALLATION NOTES:

- 1. CONTRACTOR TO REHABILITATE ALL MANHOLES ON PIPE BURST SEWERS VIA COATING/LINING PER JEA SPECIFICATION 446-2. UNLESS OTHERWISE NOTED ON THE PLANS.
- 2. CONTRACTOR TO RENEW, REHABILITATE, REPLACE OR REINSTALL AS APPLICABLE ALL SERVICE LATERALS TO R.O.W. LINE.
- 3. CONTRACTOR TO INSTALL SEWER SERVICE PIPING A MINIMUM OF 60 INCHES BELOW GRADE. WHERE NEW SANITARY SEWER MAIN IS LESS THAN 5 FEET DEEP, THE SEWER SERVICE PIPE SHALL BE INSTALLED AS DEEP AS POSSIBLE.
- 4. WHEN THE DISTANCE BETWEEN A POWER POLE AND THE TRENCH IS LESS THAN THE TRENCH DEPTH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH JEA ELECTRICAL PERSONNEL TO SECURE POWER POLES. THE CONTACTS FOR JEA ARE AS FOLLOWS:  
  
RICHARD HEALD, EMAIL: healds@jea.com  
  
A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED FOR AN OUTSIDE MEETING WITH JEA ELECTRICAL TO DISCUSS THE REQUIRED WORK. ADDITIONAL TIME WILL BE REQUIRED BY JEA ELECTRICAL FOR ANY REQUIRED WORK TO BE ACCOMPLISHED.
- 5. ALL NEW STORM DRAIN PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
- 6. THE DESIGN FOR THE PROJECT IS BASED UPON THE "OPEN-CUT" METHOD OF CONSTRUCTION. IF USING ALTERNATIVE MEANS OR METHODS, THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE STANDARDS FOR THAT MEANS OR METHOD.
- 7. THE CONTRACTOR SHALL MINIMIZE SERVICE INTERRUPTIONS AT SERVICE CONNECTIONS. THE MEANS AND METHODS SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. NO EXISTING ACTIVE SERVICE SHALL BE LEFT INTERRUPTED AT THE END OF THE WORK DAY.
- 8. CONTRACTOR SHALL PROVIDE ADDITIONAL CORPORATION STOPS FOR FILLING AND DRAINING PURPOSES DURING CONSTRUCTION AS NEEDED. CORPORATION STOPS ARE TO BE PLUGGED AND LEFT IN PLACE. INDICATE CORPORATION STOP LOCATIONS ON RECORD DRAWINGS (AS-BUILTS).
- 9. WATER AND SEWER SERVICES SHALL BE TRANSFERRED TO THE NEW MAIN UPON COMPLETION AND F.D.E.P./J.E.A. CERTIFICATION, AND PRIOR TO THE EXISTING MAINS BEING ABANDONED.
- 10. IF EXISTING VALVES ARE IN UNPAVED AREAS AND ARE TO BE TAKEN OUT OF SERVICE, THEY SHALL BE CLOSED AND THE VALVE BOX AND COVER SHALL BE REMOVED. IF THE VALVES ARE UNDER PAVED AREAS, THEY SHALL BE CLOSED, THE VALVE BOX GROUT FILLED AND THE COVER REMOVED.
- 11. CONTRACTOR SHALL REPLACE EXISTING WATER METER BOXES WHEN DEEMED NECESSARY BY THE JEA INSPECTOR.
- 12. CONTRACTOR TO PROVIDE ADDITIONAL DEPTH OF BURY VIA PIPE JOINT DEFLECTION TO ACCOMMODATE VALVE SELECTION PER JEA STANDARDS.
- 13. WATER METERS MAY REQUIRE RELOCATION FOR CONSTRUCTION. CONTRACTOR SHALL CONTACT JEA METER DEPARTMENT AND RELOCATE WATER METERS AS NECESSARY.
- 14. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL OBTAIN ALL GEOTECHNICAL AND TOPOGRAPHIC SURVEY DATA AND LOCATIONS OF ABOVE GROUND AND UNDERGROUND UTILITIES. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED.
- 15. SHEET PILING WILL BE REQUIRED ON ALL EXCAVATIONS DEEPER THAN 16 FEET.
- 16. ALL WATER, RECLAIMED WATER, AND WASTEWATER CONSTRUCTION SHALL BE PROVIDED BY A CONTRACTOR QUALIFIED, AS REQUIRED UNDER THE CURRENT FLORIDA STATUTE, OR BY AN UNDERGROUND UTILITY CONTRACTOR, LICENSED UNDER THE PROVISIONS OF CHAPTER 489 FS.
- 17. THE CONTRACTOR SHALL CONTACT THE JEA, AND SCHEDULE A PRE-CONSTRUCTION MEETING, TO BE HELD PRIOR TO INITIATING THE JEA WATER AND WASTEWATER UTILITY WORK, INCLUDING ALL UTILITY MAIN TAPS BY THE CONTRACTOR.
- 18. JEA WATER AND WASTEWATER TAP FEES, JEA WATER AND SEWER CAPACITY FEES, AND JEA METER FEES SHALL BE PAID PRIOR TO THE WATER METER INSTALLATION. WATER METERS WILL NOT BE INSTALLED PRIOR TO THE ISSUANCE OF REQUIRED ACCEPTANCE (TRANSFER OF OWNERSHIP) DOCUMENTS, WHICH MAY INCLUDE THE ISSUANCE OF A REGULATORY CLEARANCE LETTER (COC) FOR THE WATER AND WASTEWATER IMPROVEMENTS, COMPLETION, AND APPROVAL OF FINAL INSPECTION AND APPROVED AS-BUILT DRAWINGS.
- 19. FINAL CONNECTION TO THE JEA SYSTEM MAY BE CONTINGENT UPON THE CONSTRUCTION, DEDICATION, AND FINAL ACCEPTANCE (TRANSFER OF OWNERSHIP/MAINTENANCE) OF THE JEA OFF-SITE UTILITIES.
- 20. THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS FOR THE WATER, RECLAIMED WATER, AND WASTEWATER IMPROVEMENTS SHALL CONFORM TO THE LATEST JEA AND FDEP RULES. THE MINIMUM HORIZONTAL SEPARATION REQUIREMENTS BETWEEN THE PROPOSED WATER AND WASTEWATER UTILITIES AND PONDS OR STRUCTURES SHALL CONFORM TO THE LATEST JEA WATER AND WASTEWATER STANDARDS MANUAL.
- 21. WATER AND WASTEWATER PIPES LESS THAN 24-INCHES IN DIAMETER SHALL BE CONSTRUCTED WITH A MINIMUM 30-INCHES COVER IN UNPAVED OR SIDEWALK AREAS AND A MINIMUM OF 36-INCHES COVER IN PAVED AREAS. THE MAXIMUM COVER FOR UTILITIES, BOTH OPEN CUT AND UTILIZING HORIZONTAL DIRECTIONAL DRILL METHODS, SHALL COMPLY WITH THE LATEST JEA WATER AND WASTEWATER STANDARDS MANUAL.
- 22. WATER AND WASTEWATER PRESSURE MAINS AND SERVICES SHALL PASS A JEA PRESSURE AND LEAKAGE TEST AT 150-PSI MINIMUM, OR TWO TIMES OPERATING PRESSURE, FOR TWO HOURS. IN ADDITION, WATER MAINS SHALL BE DISINFECTED AND PASS A BACTERIOLOGICAL ANALYSIS. ALL TESTS SHALL CONFORM TO JEA AND FDEP RULES, REGULATIONS, AND AWWA C605.1. THE JEA INSPECTOR SHALL BE NOTIFIED 72-HOURS (MIN) PRIOR TO PERFORMING THESE TESTS. NO FINAL CONNECTION(S) TO EXISTING POTABLE WATER MAINS SHALL BE MADE UNTIL THE NEW MAIN IS PRESSURE TESTED, DISINFECTED, AND CLEARED FOR SERVICE.
- 23. RESIDENTIAL SERVICES USING RECLAIMED WATER FOR IRRIGATION MUST HAVE A JEA APPROVED BACKFLOW PREVENTER INSTALLED ON EACH POTABLE WATER SERVICE PRIOR TO THE INSTALLATION OF A JEA RECLAIMED WATER METER. THE INSTALLATION OF A BACKFLOW PREVENTER SHALL BE IN ACCORDANCE WITH THE JEA RULES AND REGULATIONS FOR WATER, SEWER AND RECLAIMED WATER SERVICES, APPENDIX B, CROSS CONNECTION CONTROL POLICY.
- 24. FOR DEVELOPMENT'S UTILIZING RECLAIMED WATER, A JEA APPROVED RECLAIMED WATER SIGNAGE PLAN SHALL BE IMPLEMENTED PRIOR TO THE INSTALLATION OF THE RECLAIMED WATER METERS.
- 25. ALL BACKFLOW PREVENTERS SHALL BE IN ACCORDANCE WITH JEA CROSS CONNECTION PROGRAM. BACKFLOW PREVENTERS MUST BE TESTED AFTER INSTALLATION BY A CERTIFIED TESTER AND ANNUALLY THEREAFTER. JEA CONTACT: PERMITTING (904) 665-7988.
- 26. BACKFLOW PREVENTERS ON FIRE LINES OR COMBINATION FIRE/POTABLE MAINS SHALL HAVE FREEZE PROTECTION.

**ETM**  
 Englehard, Thibault & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 TEL: (904) 446-4444 FAX: (904) 446-4445  
 REG - 00002584 LC - 000019  
 VISION • EXPERIENCE • INTEGRITY

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DESIGNER: N. BOLATETE	DESIGN ENGINEER: NICOLE D. BOLATETE
DRAWN BY: R. MCDANIEL	FLORIDA REGISTRATION NO.: 74821
CHECKED BY: N. BOLATETE	
DATE:	

**JEA**  
 Building Community™  
 6 \ 18-171 Gov Pipe Design \ College St \ C\_Package \ LandDev \ Design \ Plot18 \ 18-171 PACKAGE C GENERAL NOTES AND LEGEND.dwg PLOTTED: Apr. 12, 21 - 3:27 PM, BY: Alex. Anderson

**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 GENERAL NOTES & LEGEND**

NO. SHEETS: 32	PROJ. NO.: 18-171
SHEET NO.: 2	DATE: APRIL 12, 2021
DRAWING NO.: G-1	SCALE: AS NOTED

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## SURVEY LEGEND

### LEGEND:

BC	BACK OF CURVE
BFP	BACK FLOW PREVENTER
BGV	COMMUNICATIONS UNDERGROUND VAULT
BOL	BOLLARD
C&G	CONCRETE CURB AND GUTTER
CB	CHORD BEARING
CBS	CATCH BASIN
CH	CHORD DISTANCE
CI	CURB INLET
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CUP	CONCRETE UTILITY POLE
DLP	DELINEATOR POST
DMH	DRAINAGE MANHOLE
ECMP	ELLIPTICAL CORRUGATED METAL PIPE
ELV	ELEVATION
EP	EDGE OF PAVEMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EW	CONCRETE ENDWALL
EWB	ELECTRIC WIRE PULL BOX
FH	FIRE HYDRANT
FNC	FENCE
GLV	GALVANIZED

### LEGEND (CONTINUED):

GYA	GUY ANCHOR
INV	INVERT
IP	IRON PIPE
IRC	IRON ROD AND CAP
L	ARC LENGTH
LT	LEFT
M.B.	MAP BOOK
MES	CONCRETE MITERED END SECTION
MH	MANHOLE
MUP	METAL UTILITY POLE
N&D	NAIL AND DISK
O.R.B.	OFFICIAL RECORDS BOOK
O.R.V.	OFFICIAL RECORDS VOLUME
P.B.	PLAT BOOK
PG.	PAGE
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RP	REFLECTOR POST
RT	RIGHT
R/W	RIGHT OF WAY
SMH	SANITARY MANHOLE
SPWY	CONCRETE SPILLWAY
STA.	STATION
TER	COMMUNICATIONS RISER

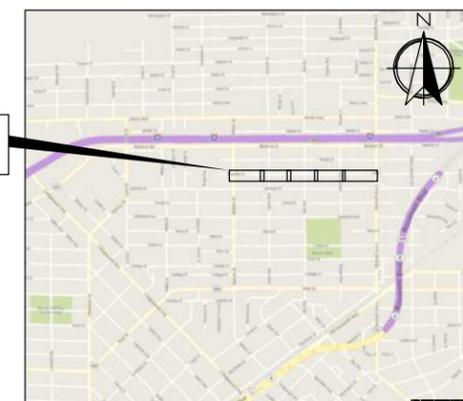
### LEGEND (CONTINUED):

TH	TEST HOLE
TMH	COMMUNICATIONS MANHOLE
TOB	TOP OF BANK
TPD	TELEPHONE PEDESTAL
TSC	COMMUNICATIONS SERVICE CABINET
UNK	UNKNOWN
WLP	WOOD LIGHT POLE
WM	WATER METER
WPF	WOOD PRIVACY FENCE
WUP	WOOD UTILITY POLE
WV	WATER VALVE
-UGT-	UNDERGROUND TELECOMMUNICATION LINE
-UGG-	UNDERGROUND GAS LINE
-UFO-	UNDERGROUND FIBER OPTIC LINE
-OH-	OVERHEAD UTILITIES
-UGW-	UNDERGROUND WATER LINE
-S-	UNDERGROUND SANITARY SEWER LINE (GRAVITY)
-FM-	UNDERGROUND SANITARY SEWER LINE (FORCE MAIN)
Δ	CENTRAL ANGLE
⊕	BENCHMARK
⊙	TEST HOLE LOCATION
⊗	BLOCK NUMBER
⊙	SIGN

### TREE LEGEND:

CAM	CAMPOR
CEC	CEDAR
HOL	HOLLY
MAG	MAGNOLIA
ORMTL	ORNAMENTAL CLUSTER
CPM	CRAPE MYRTLE CLUSTER

**PROJECT LOCATION**



**VICINITY MAP**  
NOT TO SCALE



**England, Thims & Miller, Inc.**  
14775 Old St. Augustine Road  
Jacksonville, FL 32218  
TEL: (904) 644-4444  
FAX: (904) 644-4445  
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DESIGNER: N. BOLATETE	DESIGN ENGINEER: NICOLE D. BOLATETE
DRAWN BY: R. MCDANIEL	FLORIDA REGISTRATION NO.: 74921
CHECKED BY: N. BOLATETE	
DATE:	



**GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
INDEX OF DRAWINGS**

NO. SHEETS 32	PROJ. NO. 18-171
SHEET NO. 3	DATE APRIL 12, 2021
DRAWING NO. G-2	SCALE AS NOTED

THE FLORIDA PROFESSIONAL ENGINEER NAMED HEREIN SHALL BE RESPONSIBLE FOR THE DRAWINGS LISTED IN THIS BOX IN ACCORDANCE WITH RULE 61G15-23-003, F.A.C. THESE SHEETS HAVE BEEN SIGNED AND SEALED USING A DIGITAL SIGNATURE BY: NICOLE D. BOLATETE P.E. NUMBER: 74921

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

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C-2	WATER MAIN PLAN
C-3	WATER MAIN PLAN
W-STD-1	WATER AND RECLAIM DETAILS
W-STD-2	WATER AND RECLAIM DETAILS
W-STD-3	WATER AND RECLAIM DETAILS
W-STD-4	WATER AND RECLAIM DETAILS
W-STD-5	WATER AND RECLAIM DETAILS
PD-STD-1	PAVING AND DRAINAGE DETAILS
PD-STD-2	PAVING AND DRAINAGE DETAILS
ESC-1	EROSION & SEDIMENT CONTROL PLAN
ESC-2	EROSION & SEDIMENT CONTROL PLAN
ESC-3	EROSION & SEDIMENT CONTROL PLAN
ESC-4	EROSION & SEDIMENT CONTROL DETAILS

THE FLORIDA PROFESSIONAL ENGINEER NAMED HEREIN SHALL BE RESPONSIBLE FOR THE DRAWINGS LISTED IN THIS BOX IN ACCORDANCE WITH RULE 61G15-23-003, F.A.C. THESE SHEETS HAVE BEEN SIGNED AND SEALED USING A DIGITAL SIGNATURE BY: MATT S. MAGGIORE P.E. NUMBER: 55371

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

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Drawing Index	
Drawing Number	Drawing Title
G-3	ENGINEER OF RECORD SIGNATURE PAGE
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TTCP-2	TTCP - PHASE C1
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TTCP-4	TTCP - PHASE C2
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TTCP-6	TTCP - PHASE C4
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TTCP-8	TTCP - PHASE C5
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TTCP-10	TTCP FDOT DETAILS
TTCP-11	TTCP FDOT DETAILS
TTCP-12	TTCP FDOT DETAILS
TTCP-13	TTCP FDOT DETAILS



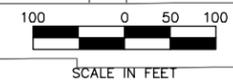
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6			

DESIGNER	DESIGN ENGINEER
N. BOLATETE	NICOLE D. BOLATETE
R. MCDANIEL	FLORIDA REGISTRATION NO. 74921
N. BOLATETE	



GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
ENGINEER OF RECORD SIGNATURE PAGE

NO. SHEETS	PROJ. NO.	18-171
32	DATE:	APRIL 12, 2021
SHEET NO.	SCALE:	AS NOTED
4		
DRAWING NO.		
G-3		



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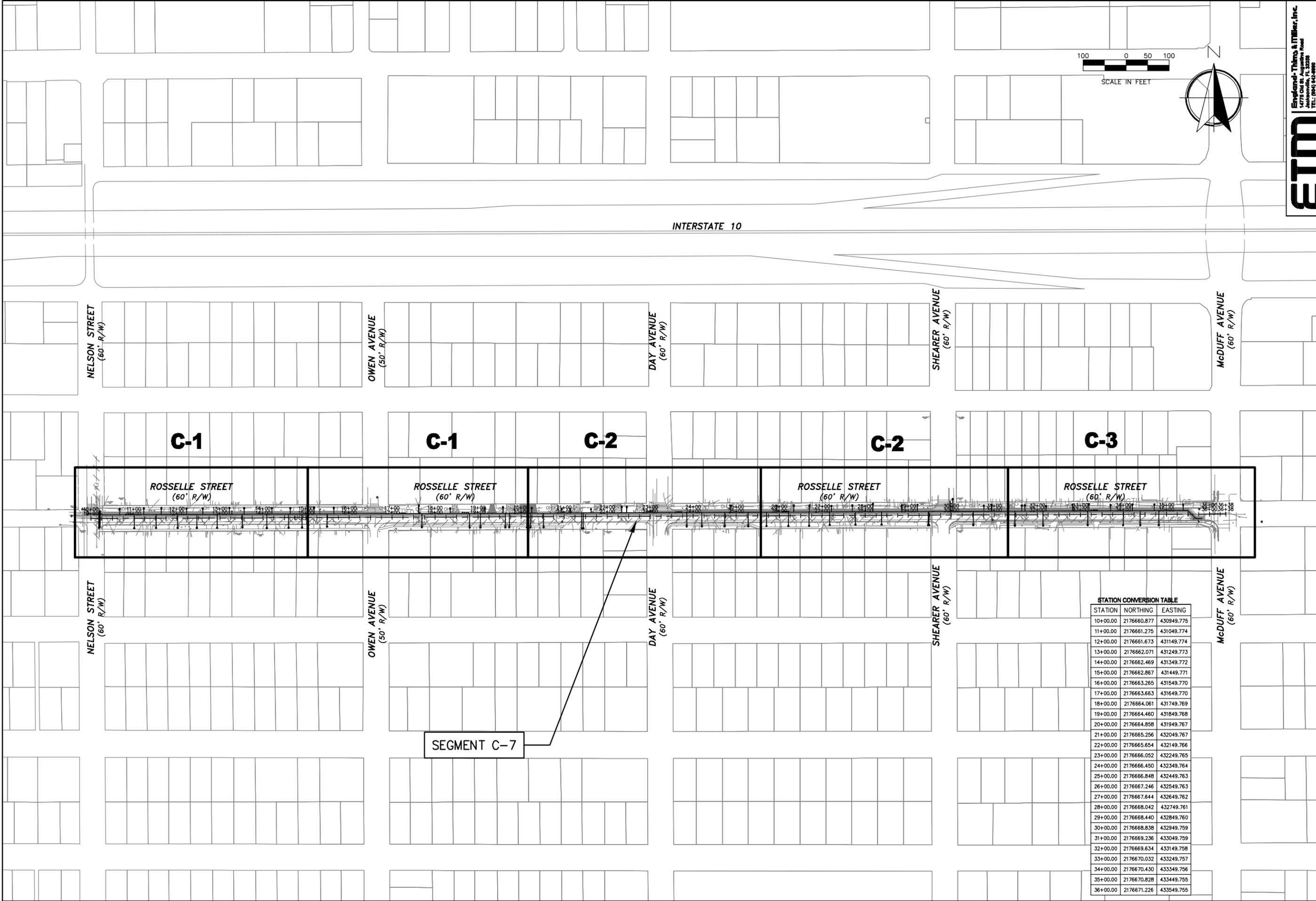
DESIGNER: N. BOLATETE  
 DRAWN BY: R. MCDANIEL  
 DATE: 12/12/2021  
 CHECKED BY: N. BOLATETE  
 DATE: 12/12/2021

DESIGN ENGINEER: NICOLE D. BOLATETE  
 FLORIDA REGISTRATION NO.: 74921

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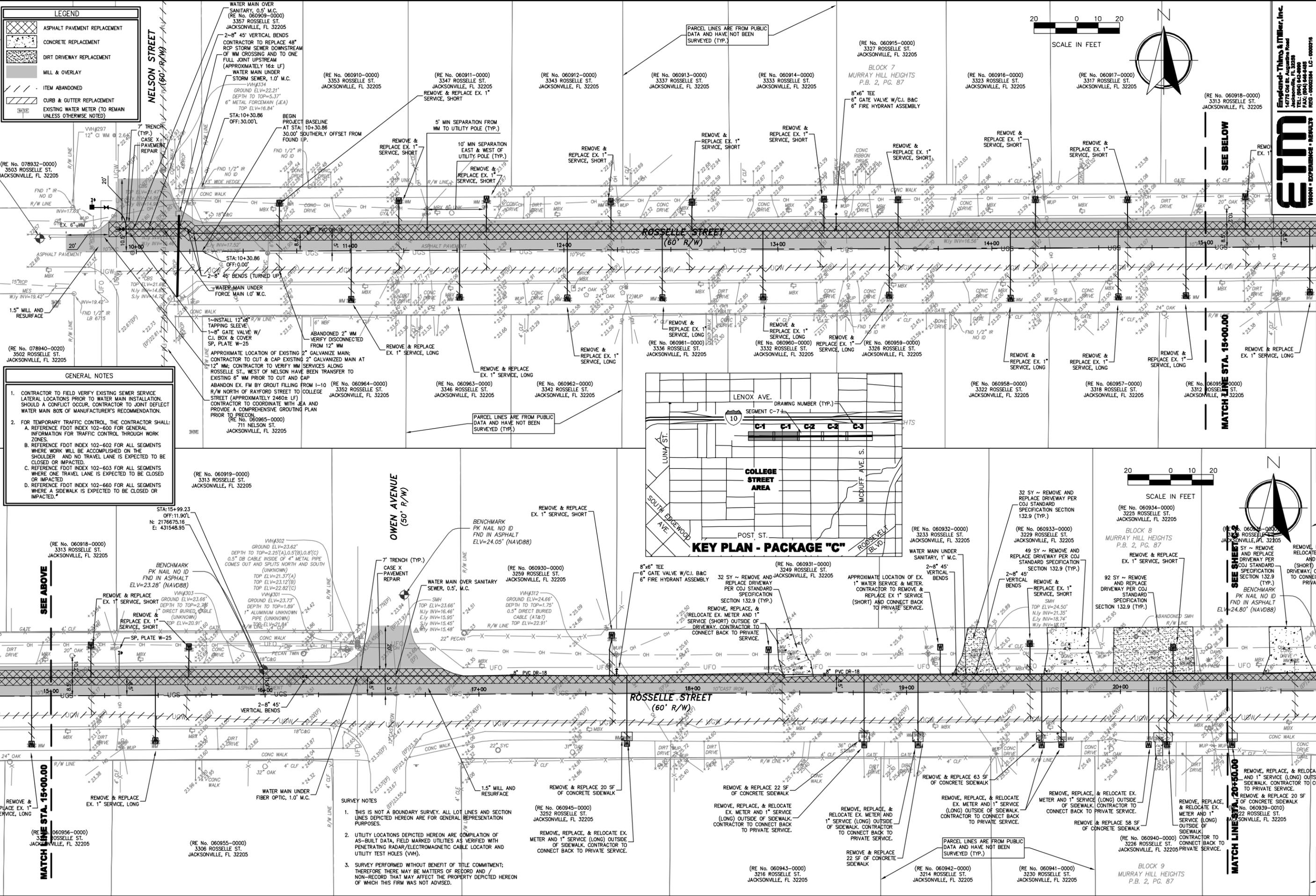
GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 MASTER SITE PLAN

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SHEET NO.: 5	DATE: APRIL 12, 2021
DRAWING NO.: G-4	SCALE: AS NOTED



STATION CONVERSION TABLE

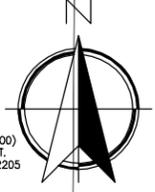
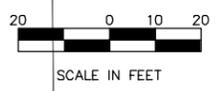
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15+00.00	2176662.867	431449.771
16+00.00	2176663.265	431549.770
17+00.00	2176663.663	431649.770
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19+00.00	2176664.460	431849.768
20+00.00	2176664.858	431949.767
21+00.00	2176665.256	432049.767
22+00.00	2176665.654	432149.766
23+00.00	2176666.052	432249.765
24+00.00	2176666.450	432349.764
25+00.00	2176666.848	432449.763
26+00.00	2176667.246	432549.763
27+00.00	2176667.644	432649.762
28+00.00	2176668.042	432749.761
29+00.00	2176668.440	432849.760
30+00.00	2176668.838	432949.759
31+00.00	2176669.236	433049.759
32+00.00	2176669.634	433149.758
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34+00.00	2176670.430	433349.756
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LEGEND	
	ASPHALT PAVEMENT REPLACEMENT
	CONCRETE REPLACEMENT
	DIRT DRIVEWAY REPLACEMENT
	MILL & OVERLAY
	ITEM ABANDONED
	CURB & GUTTER REPLACEMENT
	EXISTING WATER METER (TO REMAIN UNLESS OTHERWISE NOTED)

**GENERAL NOTES**

- CONTRACTOR TO FIELD VERIFY EXISTING SEWER SERVICE LATERAL LOCATIONS PRIOR TO WATER MAIN INSTALLATION. SHOULD A CONFLICT OCCUR, CONTRACTOR TO JOINT DEFLECT WATER MAIN BOX OF MANUFACTURER'S RECOMMENDATION.
- FOR TEMPORARY TRAFFIC CONTROL, THE CONTRACTOR SHALL:
  - REFERENCE FDOT INDEX 102-600 FOR GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES.
  - REFERENCE FDOT INDEX 102-602 FOR ALL SEGMENTS WHERE WORK WILL BE ACCOMPLISHED ON THE SHOULDER AND NO TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
  - REFERENCE FDOT INDEX 102-603 FOR ALL SEGMENTS WHERE ONE TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
  - REFERENCE FDOT INDEX 102-660 FOR ALL SEGMENTS WHERE A SIDEWALK IS EXPECTED TO BE CLOSED OR IMPACTED.



**Engineered-Thoms & Miller, Inc.**  
 14778 Old St. Augustine Road  
 Jacksonville, FL 32208  
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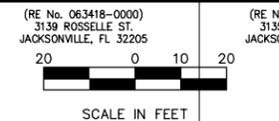
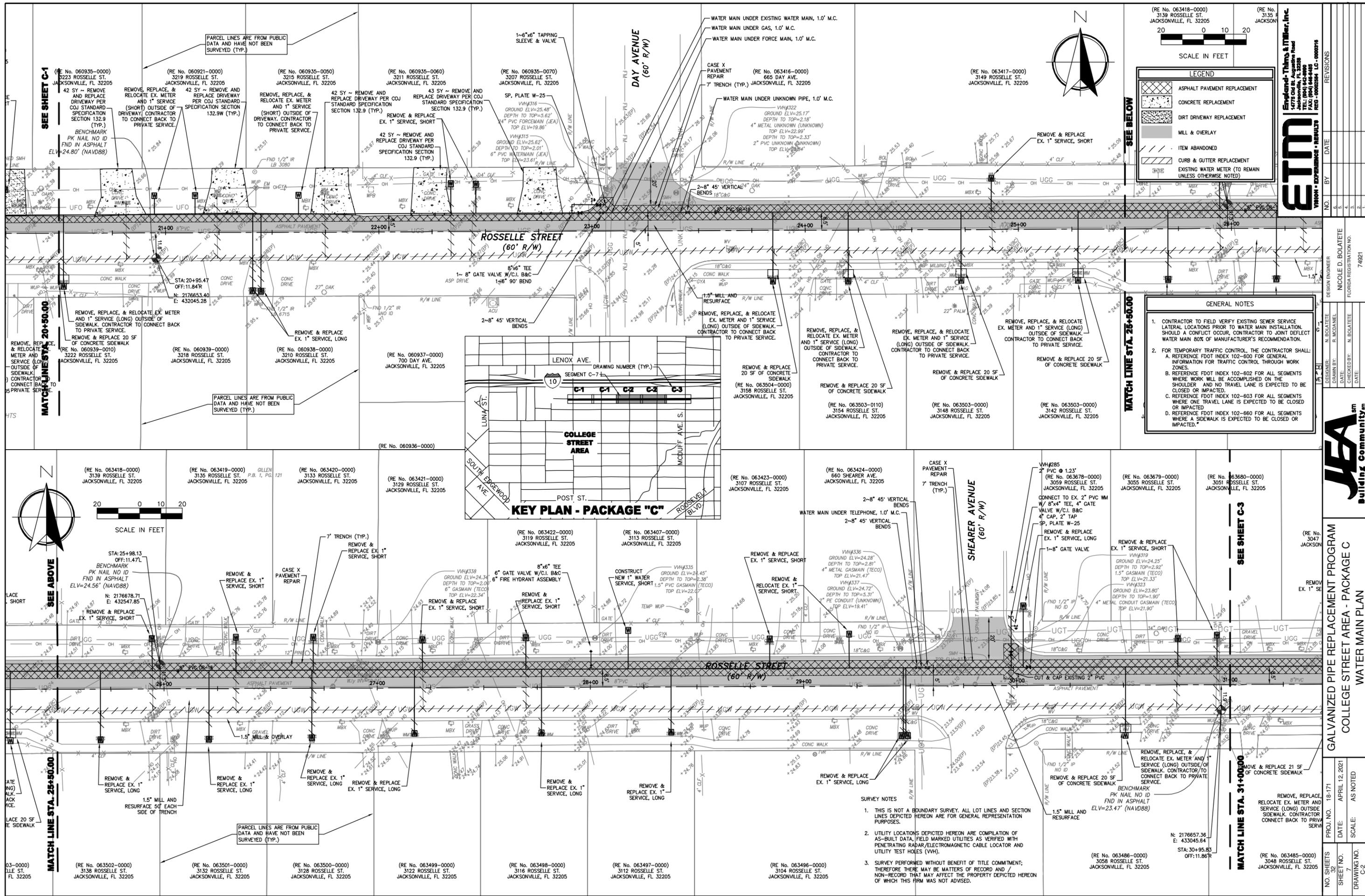
NO.	BY	DATE	REVISIONS
1	N. BOLATETE		DESIGN ENGINEER
2	R. MC DANIEL		DESIGNER
3	N. BOLATETE		CHECKED BY
4	N. BOLATETE		DATE

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**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 WATER MAIN PLAN**

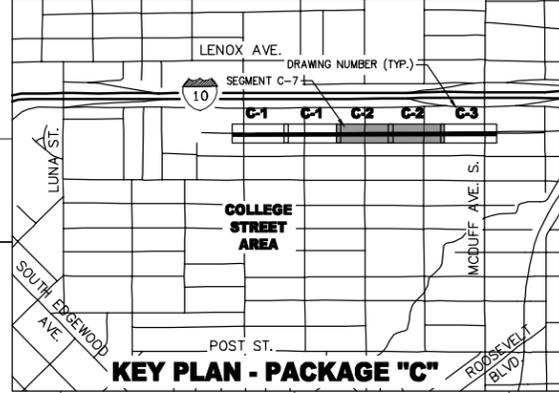
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SHEET NO.	6
DATE	APRIL 12, 2021
SCALE	AS NOTED
PROJ. NO.	18-171
DRAWING NO.	C-1

G:\18-171 Gev Pipe Design\College St\G\_Package C\Main\Draw\Design\Plan\18-171 PACKAGE C WATER MAIN PLAN.DWG PLOTTED: Apr. 12. 21 - 3:28 PM. BY: Alex Anderson



LEGEND	
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[Symbol]	CONCRETE REPLACEMENT
[Symbol]	DIRT DRIVEWAY REPLACEMENT
[Symbol]	MILL & OVERLAY
[Symbol]	ITEM ABANDONED
[Symbol]	CURB & GUTTER REPLACEMENT
[Symbol]	EXISTING WATER METER (TO REMAIN UNLESS OTHERWISE NOTED)

- GENERAL NOTES**
- CONTRACTOR TO FIELD VERIFY EXISTING SEWER SERVICE LATERAL LOCATIONS PRIOR TO WATER MAIN INSTALLATION. SHOULD A CONFLICT OCCUR, CONTRACTOR TO JOINT DEFLECT WATER MAIN 80% OF MANUFACTURER'S RECOMMENDATION.
  - FOR TEMPORARY TRAFFIC CONTROL, THE CONTRACTOR SHALL:
    - REFERENCE FDOT INDEX 102-600 FOR GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES.
    - REFERENCE FDOT INDEX 102-602 FOR ALL SEGMENTS WHERE WORK WILL BE ACCOMPLISHED ON THE SHOULDER AND NO TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
    - REFERENCE FDOT INDEX 102-603 FOR ALL SEGMENTS WHERE ONE TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
    - REFERENCE FDOT INDEX 102-660 FOR ALL SEGMENTS WHERE A SIDEWALK IS EXPECTED TO BE CLOSED OR IMPACTED.



- SURVEY NOTES**
- THIS IS NOT A BOUNDARY SURVEY. ALL LOT LINES AND SECTION LINES DEPICTED HEREON ARE FOR GENERAL REPRESENTATION PURPOSES.
  - UTILITY LOCATIONS MARKED HEREON ARE COMPILATION OF AS-BUILT DATA, FIELD MARKED UTILITIES AS VERIFIED WITH PENETRATING RADAR/ELECTROMAGNETIC CABLE LOCATOR AND UTILITY TEST HOLES (VH).
  - SURVEY PERFORMED WITHOUT BENEFIT OF TITLE COMMITMENT; THEREFORE THERE MAY BE MATTERS OF RECORD AND / OR NON-RECORD THAT MAY AFFECT THE PROPERTY DEPICTED HEREON OF WHICH THIS FIRM WAS NOT ADVISED.

(RE No. 063418-0000)  
3139 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063419-0000)  
3135 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063420-0000)  
3133 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063421-0000)  
3129 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063422-0000)  
3119 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063407-0000)  
3113 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063423-0000)  
3107 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063424-0000)  
660 SHEARER AVE.  
JACKSONVILLE, FL 32205

(RE No. 063679-0000)  
3059 ROSSELLE ST.  
JACKSONVILLE, FL 32205

(RE No. 063680-0000)  
3051 ROSSELLE ST.  
JACKSONVILLE, FL 32205

ENGINEER: **ETM** Engineering, Thims & Miller, Inc.  
14778 Old St. Augustine Road  
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PHONE: (904) 644-4445  
FAX: (904) 644-4445  
REG. - 0000254 LC - 000019

DESIGNER: N. BOLATETE  
DRAWN BY: R. MC DANIEL  
DATE: 12/12/2021  
CHECKED BY: N. BOLATETE  
DATE: 12/12/2021

PROJ. NO.: 18-171  
SHEET NO.: 7  
DRAWING NO.: C-2

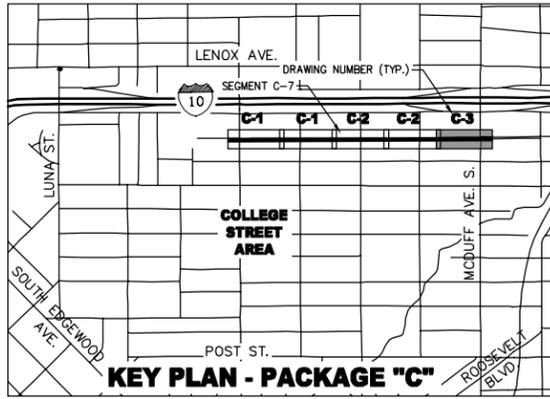
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SCALE: AS NOTED

REVISIONS

NO.	BY	DATE	DESCRIPTION
1	N. BOLATETE	12/12/2021	ISSUED FOR PERMIT
2	R. MC DANIEL	12/12/2021	REVISED PER COMMENTS
3	N. BOLATETE	12/12/2021	REVISED PER COMMENTS
4	N. BOLATETE	12/12/2021	REVISED PER COMMENTS

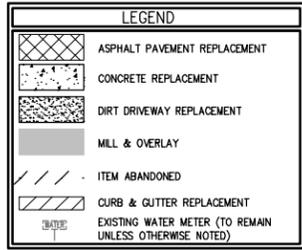
DESIGN ENGINEER: NICOLE D. BOLATETE  
FLORIDA REGISTRATION NO.: 74921

PROJECT: GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
WATER MAIN PLAN



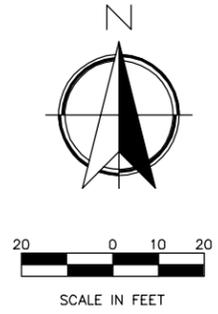
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**SURVEY NOTES**

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- UTILITY LOCATIONS DEPICTED HEREON ARE COMPILATION OF AS-BUILT DATA, FIELD MARKED UTILITIES AS VERIFIED WITH PENETRATING RADAR/ELECTROMAGNETIC CABLE LOCATOR AND UTILITY TEST HOLES (VVH).
- SURVEY PERFORMED WITHOUT BENEFIT OF TITLE COMMITMENT; THEREFORE THERE MAY BE MATTERS OF RECORD AND NON-RECORD THAT MAY AFFECT THE PROPERTY DEPICTED HEREON OF WHICH THIS FIRM WAS NOT ADVISED.



**ETM**  
 ENGINEERS, ARCHITECTS & SURVEYORS  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32208  
 PHONE: (904) 644-4444  
 FAX: (904) 644-4445  
 REG. - 00002564 LC - 00001918

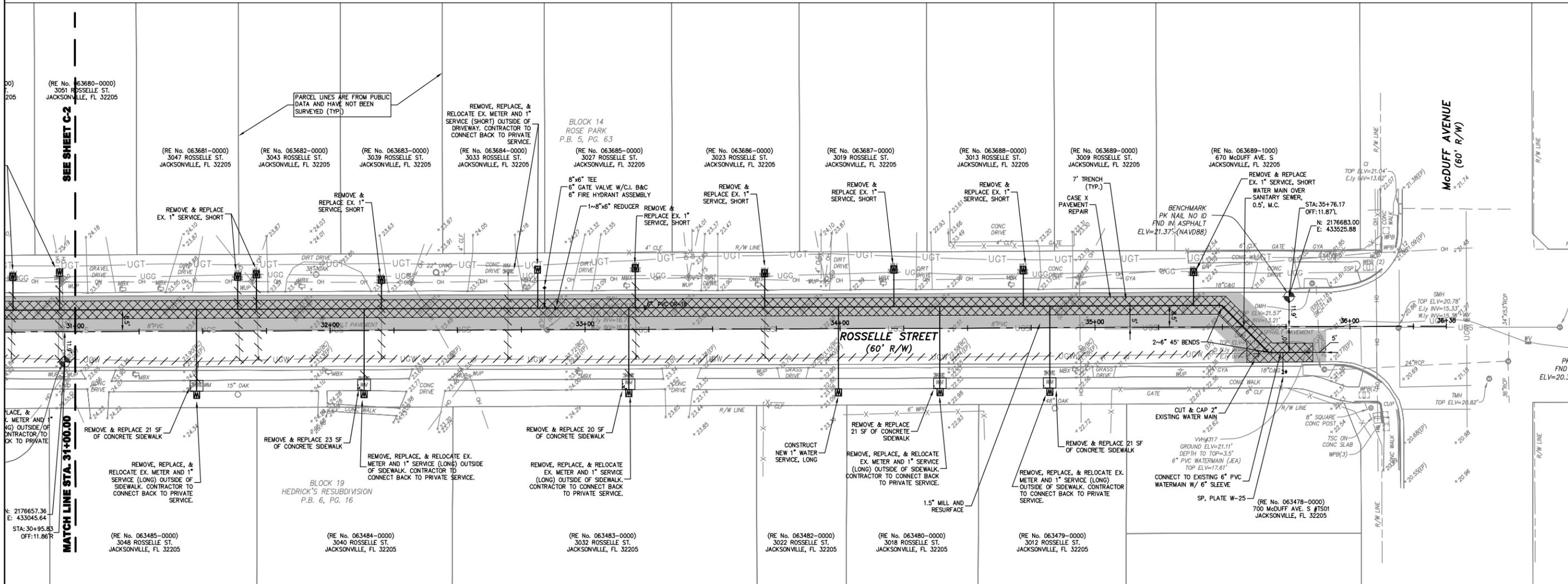
NO.	BY	DATE	REVISIONS
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2			
3			
4			

DESIGNER:	N. BOLATETE	DESIGN ENGINEER:	NICOLE D. BOLATETE
DRAWN BY:	R. MCDANIEL	FLORIDA REGISTRATION NO.:	74921
CHECKED BY:	N. BOLATETE		
DATE:			

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**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 WATER MAIN PLAN**

PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED
NO. SHEETS:	30
SHEET NO.:	8
DRAWING NO.:	C-3



## 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"	6' NOTE 2	3' NOTE 1	12" NOTE 2	3'	12"	6' NOTE 2	3'	12"	3' NOTE 1	3' NOTE 2
WASTEWATER (GRAVITY AND FORCE MAIN)	6' to 10'	12"	6' NOTE 2	3' NOTE 1	12"	6'	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
VACUUM SEWERS	3' to 10'	12"	3' NOTE 2	3' NOTE 1	12"	6'	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
RIGHT OF WAYS	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	N/A	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	N/A	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

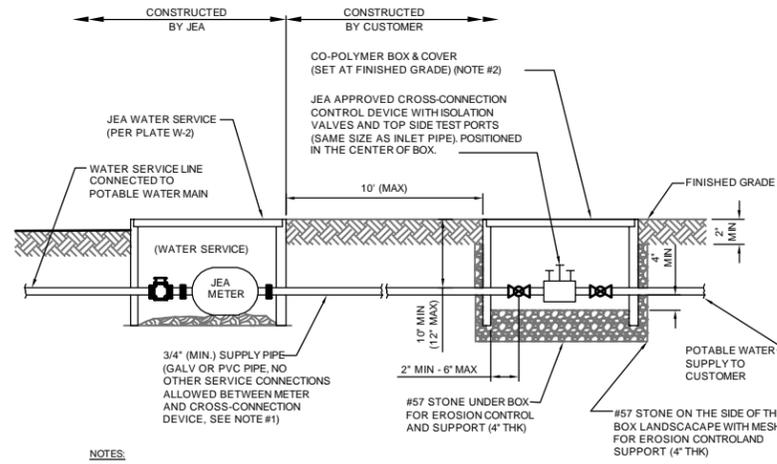
JANUARY 2020 PLATE W-10

**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 62-555, F.A.C. AND LATEST JEA WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS, AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER. IN ADDITION, THE PHRASE "RECLAIMED WATER" REFERS TO THE WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER (SPECIAL CASE).
- NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND 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 SO 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 OR WASTEWATER FORCE MAIN.
- WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS, PRIOR TO CONSTRUCTION.

### NOTES ON UTILITY SEPARATION REQUIREMENTS

JANUARY 2020 PLATE W-11

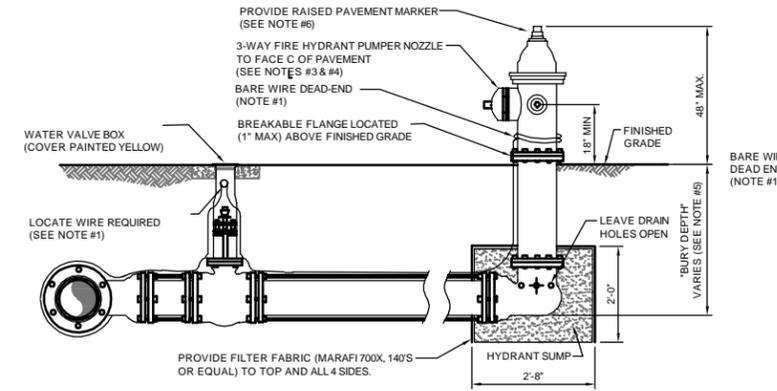
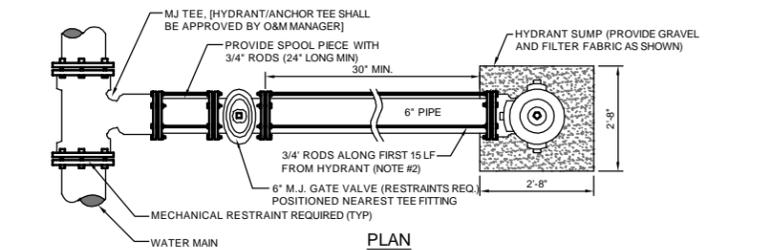


**NOTES:**

- 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 CONTROL 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 U007M20T, WILKINS 950XLTU OR JEA APPROVED EQUIV.
- BACKFLOW PREVENTION DEVICES REQUIRED WHEN: IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYSTEM; RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE; COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES; INDUSTRIAL SITES - REQUIRED ON BOTH WATER AND RECLAIMED SERVICE 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 2020 PLATE W-15

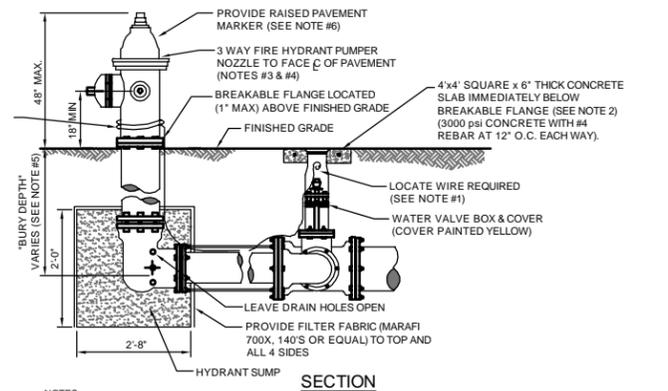
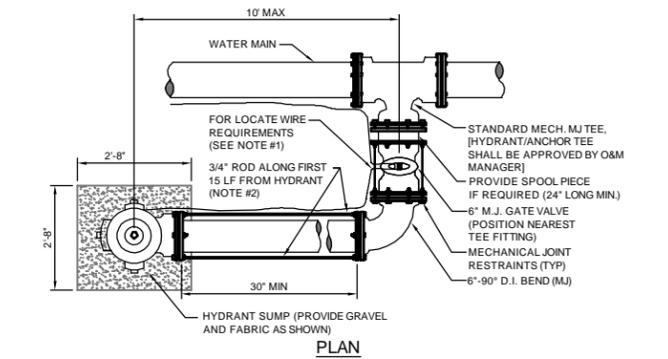


**NOTES:**

- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4" ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
- FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBA 15 PF06 OR EQUAL) MAY BE 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 2020 PLATE W-13



**NOTES:**

- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4" ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
- FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK. 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 (EBA 15 PF06 OR EQUAL) MAY BE 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 2020 PLATE W-14

Engelhard-Thibbs & Miller, Inc.  
14778 Old St. Augustine Road  
Jacksonville, FL 32218  
TEL: (904) 444-4445  
FAX: (904) 444-4445  
CA - 000284-LC - 000316

REVISIONS

NO.	BY	DATE
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: N. BOLATETE  
DRAWN BY: R. MC DANIEL  
DATE: 1/11/20  
CHECKED BY: N. BOLATETE  
DATE: 1/11/20

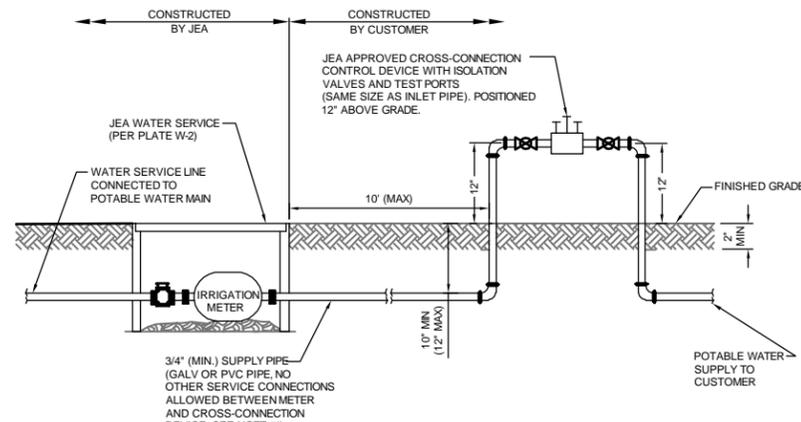
DESIGN ENGINEER: NICOLE D. BOLATETE  
FLORIDA REGISTRATION NO.: 74921

PROJ. NO.: 18-171  
DATE: JANUARY 2020  
SCALE: AS NOTED

NO. SHEETS: 32  
SHEET NO.: 9  
DRAWING NO.: W-STD-1

GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
WATER AND RECLAIM DETAILS

g:\18-171 Collr Pipe\Design\College ST-C\_Package\Unlabeled\Design\Plate W-18-171\_Package C\_JEA\_Water\_and\_Reclaimed\_Details\_Master\_01-2020.dwg PLOTTED: Apr. 12, 21 - 3:28 PM. BY: Alex. Anderson

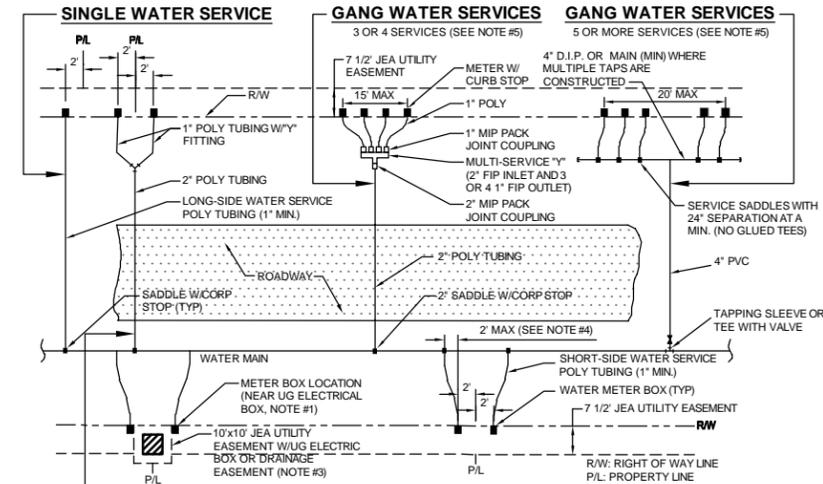


- NOTES:**
1. WATER SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE PLATE W-15)
  2. BACKFLOW PREVENTION DEVICES REQUIRED WHEN:
    - IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYSTEM
    - RESIDENTIAL SYSTEMS - REQUIRED ON WATER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

**CROSS CONNECTION CONTROL DEVICE**

JANUARY 2020 JEA IRRIGATION SERVICE CONNECTIONS PLATE W-15A

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

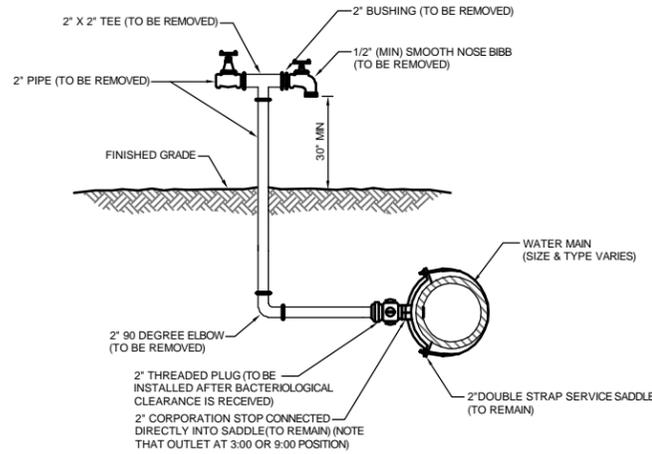


**DOUBLE 1" WATER SERVICE** (SEE NOTE #6)

- 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 LIEU 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 1" SERVICES, THE 2" POLY MAIN SHALL BE LOCATED CENTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. IF LOCATE WIRE IS REQUIRED, THE WIRE SHALL RUN FROM THE METER BOX (W/ PIG TAIL) TO THE MAIN (DEAD END SHALL BE TAPED WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPED OR INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY JEA. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE FUTURE.
  5. GANG WATER SERVICES: FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTILE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CORP STOP AT WATER MAIN FOR 5 OR MORE SERVICES IN ONE AREA, A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER). FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN PVC CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" DIP, 4" PIPE, 4"X1" SADDLES AND 1" CORP STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE P.E. ENGINEER.
  6. DOUBLE 1" WATER SERVICES IS ALLOWED FOR SHORT SIDE OR LONG SIDE SERVICES AND WHERE SHOWN ON THE DRAWINGS.
  7. A 1" IRRIGATION SERVICE MAYBE TAPPED INTO THE (1" MIN) DOMESTIC WATER SERVICE LINE (WHICH SERVES THE SAME CUSTOMER) UTILIZING A 1" BRONZE "Y" FITTING. (IN AREAS WHERE NO RECLAIMED WATER IS AVAILABLE).
  8. NO 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
  9. RECLAIMED WATER METER BOXES OR SERVICES SHALL BE CONSTRUCTED SIMILAR TO THE ABOVE AND SHALL BE LOCATED, AT A MIN. OF 10' FROM THE POTABLE WATER SERVICE, AND/OR BOX AND NOT ALLOWED IN CONCRETE OR ASPHALT UNLESS APPROVED OTHERWISE BY JEA.
  10. SERVICE SIZE SHALL BE SAME AS THE METER SIZE.

**WATER OR RECLAIM SERVICE INSTALLATIONS  
2" AND SMALLER METER**

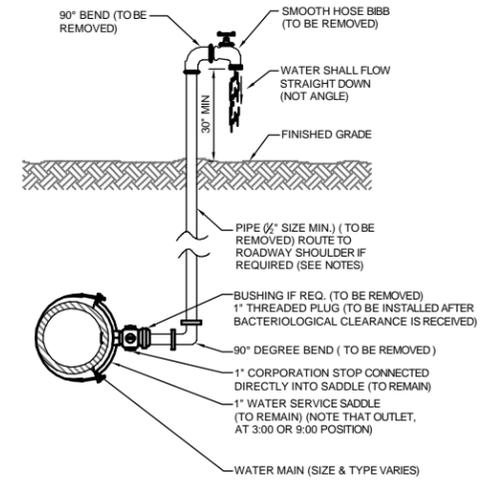
JANUARY 2020 PLATE W-1



- 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 POLICES AS OUTLINED BY THE JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

**2" TEMPORARY SAMPLE TAP FOR STUB OUT**

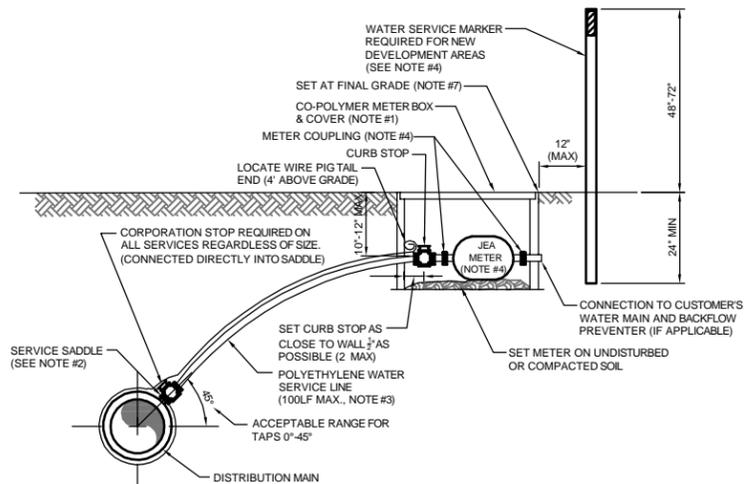
JANUARY 2020 PLATE W-26



- 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 POLICES AS AS OUTLINED BY JEA'S ENVIRONMENTAL RESPONSE COORDINATOR (ERC) AND OTHER ASSOCIATED JEA STANDARDS.

**TEMPORARY SAMPLE TAP**

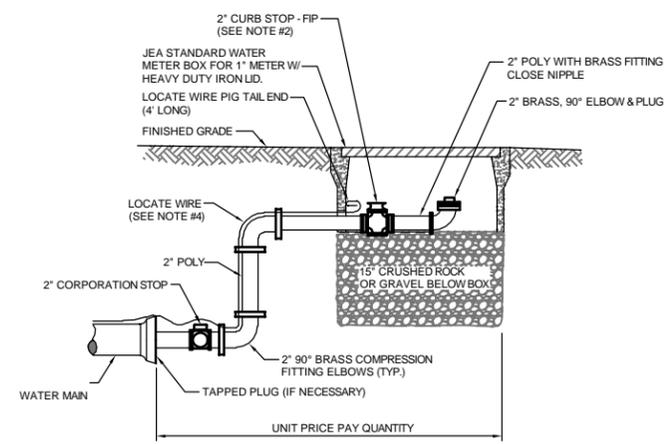
JANUARY 2020 PLATE W-25



- NOTES:**
1. SEE PLATE W-1 FOR METER LOCATION REQUIREMENTS.
  2. SINGLE BAND SADDLES SHALL BE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED. BRASS SADDLES MAY BE UTILIZED ON NEW 1 INCH AND SMALLER WATER SERVICES WHICH ARE INSTALLED ON A DRY 10 INCH OR SMALLER P.V.C WATER MAIN.
  3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY JEA. CONSTRUCT POLY LINE WITH 24" (MIN) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (1" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100' UNLESS APPROVED OTHERWISE BY JEA.
  4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E. IF NO METER IS INSTALLED). WATER SERVICES SERVING VACANT LOTS (SERVICE NOT IN USE), SHALL INCLUDE A "W" CUT INTO THE CURB (CLOSEST TO THE METER BOX), AND PAINTED BLUE (PAINTED PURPLE FOR RECLAIMED WATER). IN ADDITION, FOR NEW DEVELOPMENT AREAS WHERE THE WATER SERVICE IS "NOT IN USE", A LANDSCAPE TIMBER OR 3/32 MIN. P.T. POST (TOP PAINTED BLUE OR PURPLE FOR RECLAIMED WATER). THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).
  5. NO 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.
  7. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (I.E. NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).
  8. LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. SEE PLATE W-44.

**WATER SERVICE DETAIL- 2" AND SMALLER METER**

JANUARY 2020 PLATE W-2



- NOTES:**
1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
  2. THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
  3. ANY RECLAIMED WATER VALVE SHALL HAVE RECLAIMED EMBLEM.
  4. LOCATE WIRE FOR 10' OR GREATER IN LENGTH.
  5. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
  6. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

**FLUSHING VALVE BELOW GRADE**

JANUARY 2020 PLATE W-28

**ETM**  
 Englund-Thoms & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 FAX: (904) 644-8485  
 CA - 000284-LC - 000316

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

NO.	BY	DATE	REVISIONS
1	N. BOLATETE		
2	R. MCDANIEL		
3	N. BOLATETE		
4	N. BOLATETE		

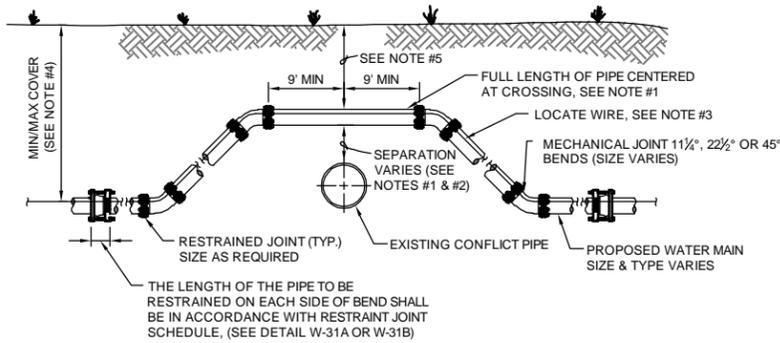
DESIGNER: N. BOLATETE  
 DRAWN BY: R. MCDANIEL  
 DATE: 1/10/20  
 CHECKED BY: N. BOLATETE  
 DATE: 1/10/20  
 FLORIDA REGISTRATION NO.: 74921

**JEA**  
 Building Community

**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 WATER AND RECLAIM DETAILS**

NO. SHEETS	32
SHEET NO.	10
DRAWING NO.	W-STD-2
PROJ. NO.	18-171
DATE	JANUARY 2020
SCALE	AS NOTED

18-171 Collr Pipe Replacement Program - Package C - JEA - Water and Reclaimed Details - Master\_01-2020.dwg PLOTTED: Apr. 12, 21 - 3:28 PM. BY: Alex. Anderson



**CASE "A" CROSSING**

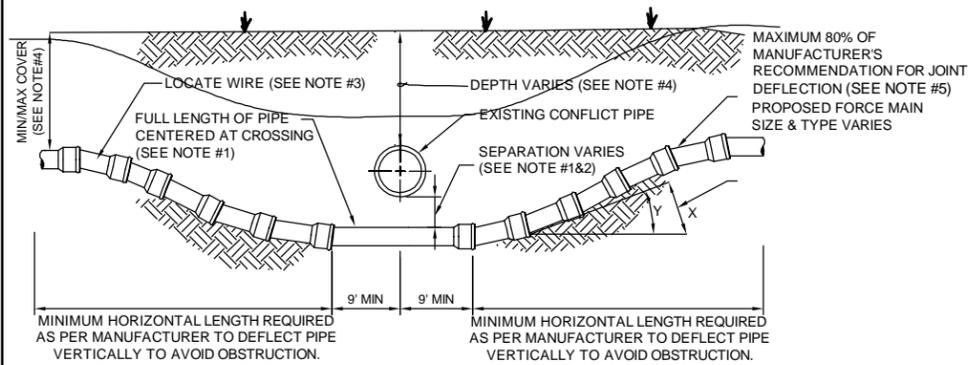
**NOTES:**

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 2020

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.

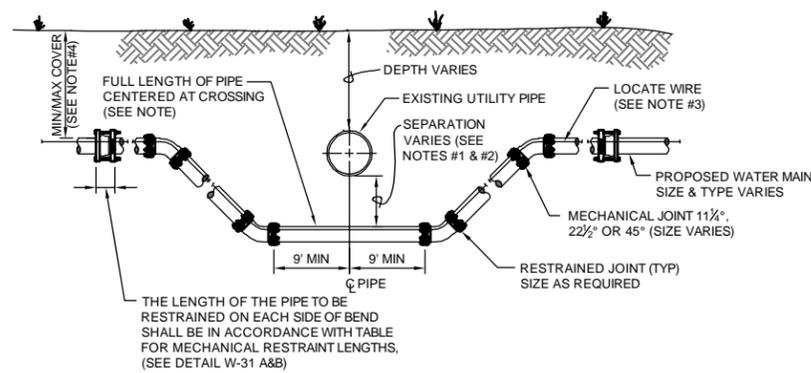
**MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION**

PVC PIPE				DUCTILE IRON PIPE (Mechanical Joint)			
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS	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	4	27	6.5"	177 FT
6	10	2.4"	480 FT	6	24	5.7"	200 FT
8	10	2.4"	480 FT	8 - 12	17.5	4.2"	273 FT
10	10	2.4"	480 FT	14 - 16	12	2.9"	400 FT
12	8.5	2"	564 FT	18 - 20	10	2.4"	477 FT
14 - 24	5	1.2"	960 FT	24 - 30	8	1.9"	600 FT
30 - 48	3.25	0.8"	1477 FT	36	7	1.7"	687 FT
				42 - 48	6.7	1.6"	716 FT

**ADJUSTMENT UNDER EXISTING UTILITIES  
PIPE JOINT DEFLECTION**

JANUARY 2020

PLATE W-40



**CASE "B" CROSSING**

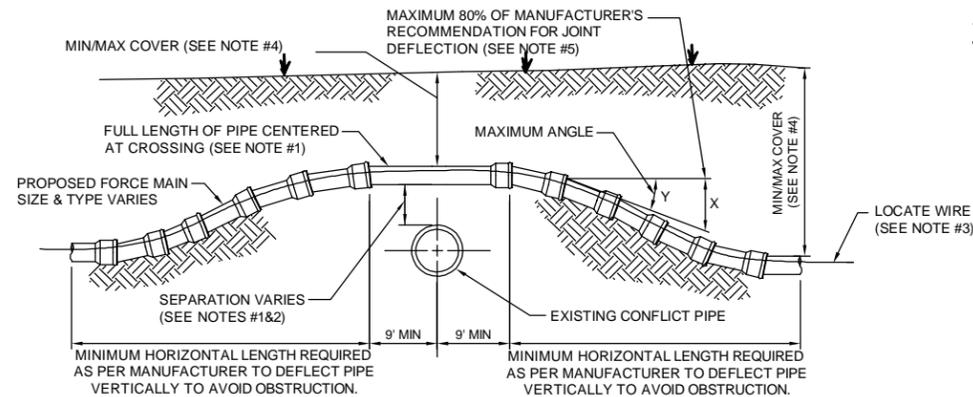
**NOTES:**

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 2020

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.

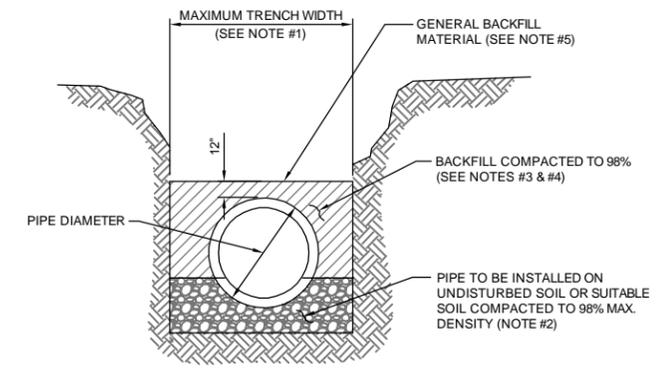
**MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION**

PVC PIPE				DUCTILE IRON PIPE (Mechanical Joint)			
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS	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	4	27	6.5"	177 FT
6	10	2.4"	480 FT	6	24	5.7"	200 FT
8	10	2.4"	480 FT	8 - 12	17.5	4.2"	273 FT
10	10	2.4"	480 FT	14 - 16	12	2.9"	400 FT
12	8.5	2"	564 FT	18 - 20	10	2.4"	477 FT
14 - 24	5	1.2"	960 FT	24 - 30	8	1.9"	600 FT
30 - 48	3.25	0.8"	1477 FT	36	7	1.7"	687 FT
				42 - 48	6.7	1.6"	716 FT

**ADJUSTMENT OVER EXISTING UTILITIES  
PIPE JOINT DEFLECTION**

JANUARY 2020

PLATE W-41



**TYPICAL TRENCH**

**NOTES:**

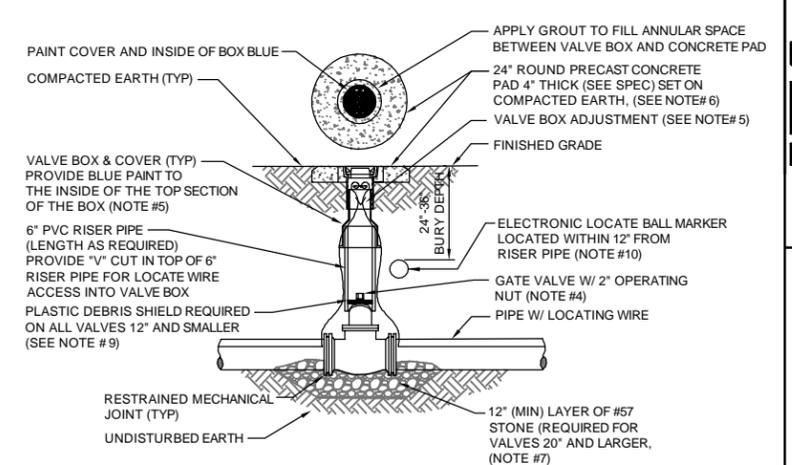
1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4) 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 D1557.
5. SEE "EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

**OPEN CUT TRENCH FOR PRESSURE PIPE**

JANUARY 2020

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/ (ASPHALT IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE RECLAIMED.
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO 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 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 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/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/2 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 2020

PLATE W-18

**ETM**  
 ENGINEERS, ARCHITECTS & DESIGNERS  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 FAX: (904) 644-4445  
 VISION • EXPERIENCE • INTEGRITY  
 CA - 0002284 - LC - 0003016

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

DESIGNER: N. BOLATETE  
 DRAWN BY: R. MCDANIEL  
 DATE: N/A  
 CHECKED BY: N. BOLATETE  
 DATE: N/A

DESIGN ENGINEER: NICOLE D. BOLATETE  
 FLORIDA REGISTRATION NO.: 74921

**JEA**  
 Building Community

PROJ. NO.: 18-171  
 DATE: JANUARY 2020  
 SCALE: AS NOTED

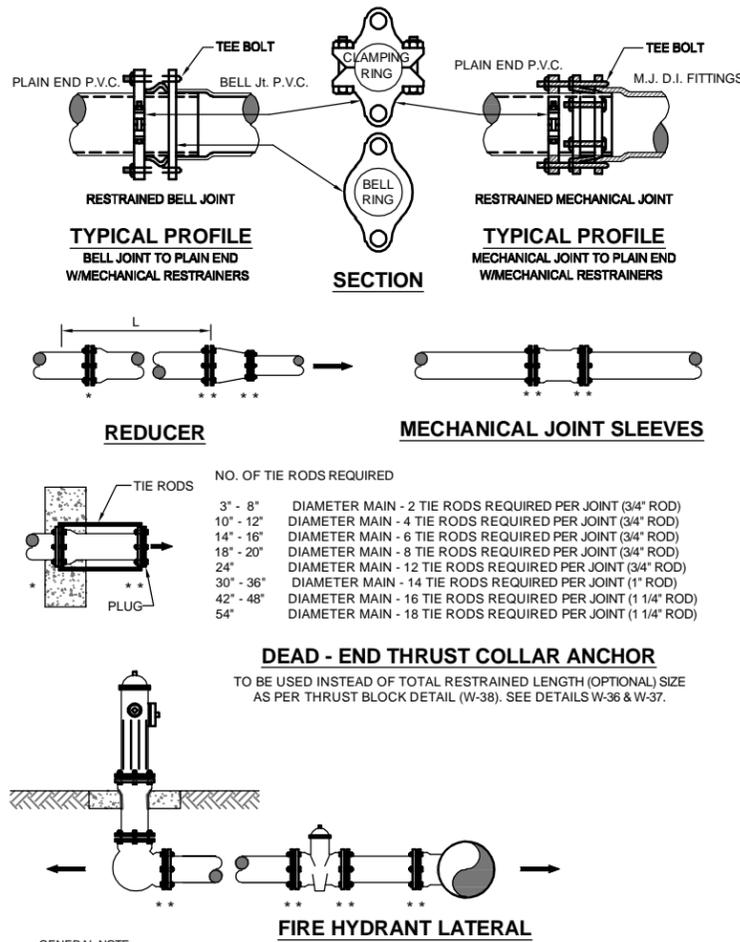
**PVC PIPE RESTRAINT NOTES:**

- 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>L</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. OVERTIGHTENING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

**PVC PIPE RESTRAINT JOINT SCHEDULE**

JANUARY 2020

PLATE W-31A



**GENERAL NOTE:**

- 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.
- INDICATES DIRECTION OF THRUST FORCE.

**MECHANICAL RESTRAINT DETAILS - I**

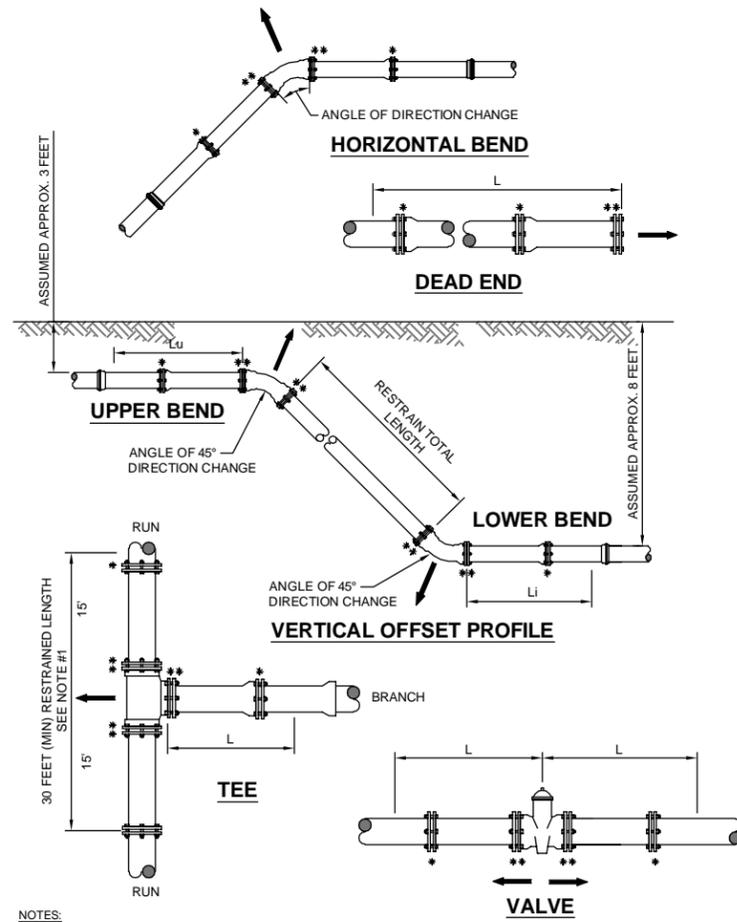
JANUARY 2020

PLATE W-31C

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	8	4 < LESS	F.O.
10	45	19	9	5	36	7	103	10x8	35	8	6 < LESS	F.O.
12	53	22	11	6	43	8	121	10x6	63	10	10	45
14	61	26	13	6	50	9	140	12x10	36	8	8	13
16	66	28	14	7	55	10	154	12x8	64	6 < LESS	29	F.O.
18	73	30	15	8	60	11	170	16x12	66	12	12	62
20	79	33	16	8	66	12	186	16x10	92	10	10	32
24	79	33	16	8	77	15	185	20x18	35	16	16	94
30	93	39	19	10	97	17	222	20x16	66	12	12	39
36	106	39	21	11	107	20	257	20x12	117	10 < LESS	5	F.O.
42	117	49	24	12	120	24	289	24x20	56	20	20	125
48	144	53	26	13	133	26	321	24x18	80	16	16	76
								24x16	101	12 < LESS	14	F.O.
								30x24	78	24	24	124
								30x20	121	20	20	84
								36x30	78	12 < LESS	16	36
								36x24	141	30	30	159
								42x36	75	24	24	104
								42x30	140	20	20	60
								48x42	75	16 < LESS	5	F.O.
								48x36	139	36	36	142
										24	24	83
										20	20	33
										16 < LESS	4	F.O.
										42	42	223
										36	36	178
										30	30	124
										24	24	59
										20	20	5
										16 < LESS	5	F.O.
										48	48	253
										42	42	209
										36	36	162
										30	30	104
										24	24	34
										20 < LESS	34	F.O.

F.O. = FITTING ONLY



**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 BASIC.
- PAY ITEM \*\*\*\*\* DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

**MECHANICAL RESTRAINT DETAILS - II**

JANUARY 2020

PLATE W-31D

**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>L</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).

**DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE**

JANUARY 2020

PLATE W -31B

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		TEE 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	15	5	3	15	4	42	8x6	23	4	6	6
8	31	13	6	3	20	5	55	8x4	39	4 < LESS	8	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	29
14	48	20	10	5	31	7	87	12x10	23	8	8	9
16	53	22	11	6	35	8	97	12x8	41	6 < LESS	12	F.O.
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	16	F.O.
24	63	27	13	7	49	12	118	20x18	22	10 < LESS	16	60
30	75	31	15	8	59	14	141	20x16	42	12	12	25
36	86	36	17	9	68	17	163	24x20	36	12 < LESS	16	F.O.
42	95	40	19	10	76	19	183	24x18	51	20	20	48
48	117	43	21	11	84	21	203	30x24	50	24	24	79
								30x20	77	20	20	54
								36x30	50	16	16	23
								36x24	89	12 < LESS	16	F.O.
								42x36	48	30	30	101
								42x30	89	24	24	66
								48x42	48	20	20	38
								48x36	88	16	16	4
										12 < LESS	4	F.O.
										36	36	122
										30	30	90
										24	24	53
										20	20	21
										16	16	1
										12 < LESS	1	F.O.
										42	42	141
										36	36	113
										30	30	79
										24	24	38
										20	20	3
										16	16	1
										12 < LESS	1	F.O.
										48	48	160
										42	42	133
										36	36	103
										30	30	66
										24	24	22
										20 < LESS	22	F.O.

F.O. = FITTING ONLY

**ETM**  
Engineering, Thermo & Miller, Inc.  
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DESIGNER: N. BOLATETE  
DRAWN BY: R. MCDANIEL  
DATE: JANUARY 2020  
CHECKED BY: N. BOLATETE  
DATE: AS NOTED

DESIGN ENGINEER: NICOLE D. BOLATETE  
FLORIDA REGISTRATION NO.: 74921

NO. BY DATE REVISIONS

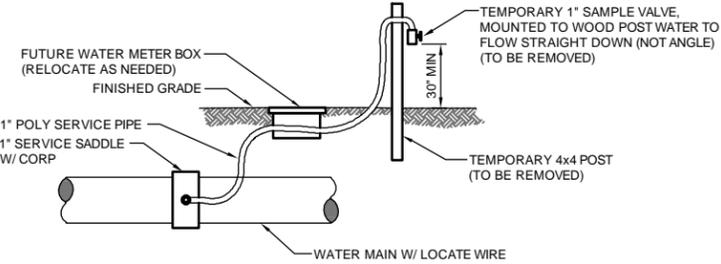
THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

**JEA**  
Building Community

GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
WATER AND RECLAIM DETAILS

PROJ. NO. 18-171  
DATE: JANUARY 2020  
SCALE: AS NOTED

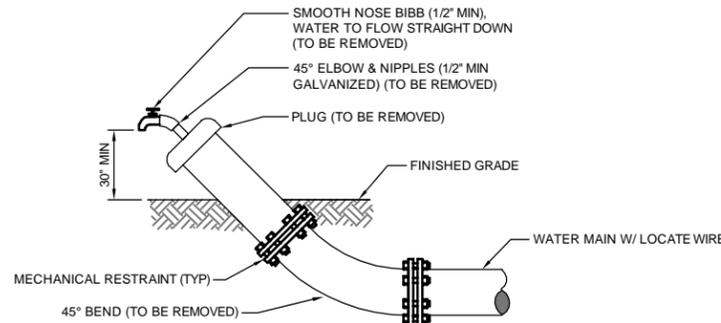
NO. SHEETS 32  
SHEET NO. 12  
DRAWING NO. W-STD-4



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

**NOTES:**

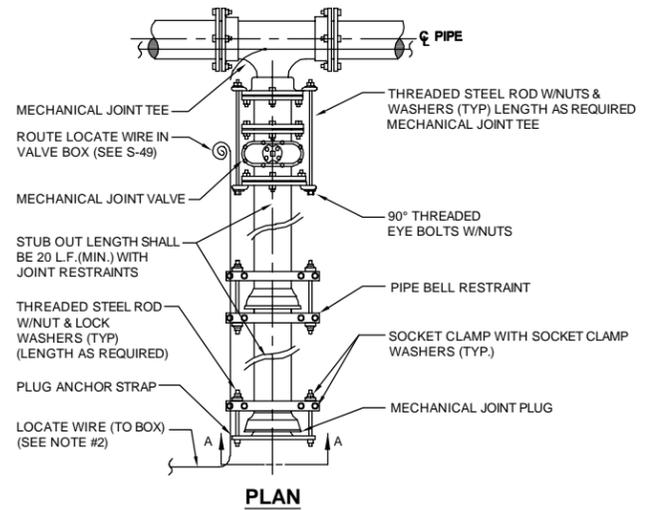
1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROAD SHOULDERS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.
3. THE CONTRACTOR SHALL UTILIZE THE ABOVE ALTERNATIVE METHODS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



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

**NOTES:**

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



**SECTION "A-A"**

**NOTES:**

1. IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.
2. LOCATING WIRE REQUIRED, UTILIZING A LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
3. NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS:  
 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)
4. THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSING BY 10 FEET (MIN.) WHERE POSSIBLE.

**TEMPORARY SAMPLE TAP ALTERNATIVE METHOD A**

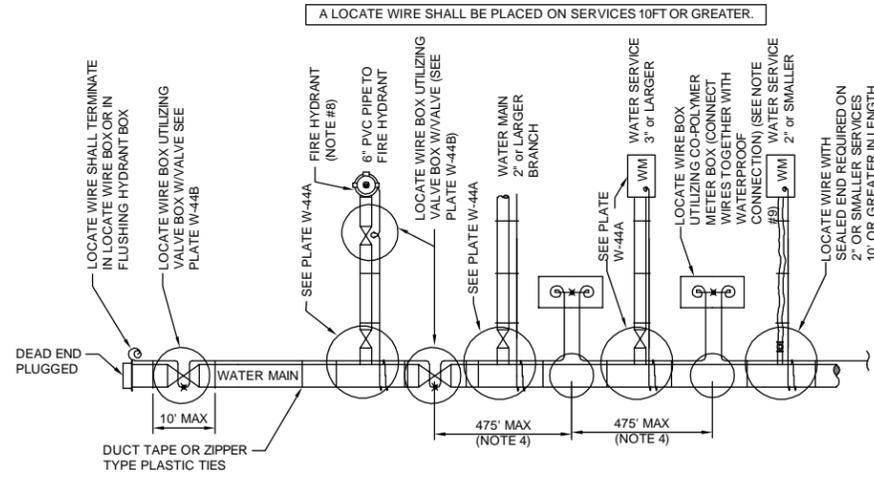
JANUARY 2020

PLATE W-24

**TEMPORARY SAMPLE TAP ALTERNATIVE METHOD B**

JANUARY 2020

PLATE W-24A



**LOCATE WIRE SYSTEM**

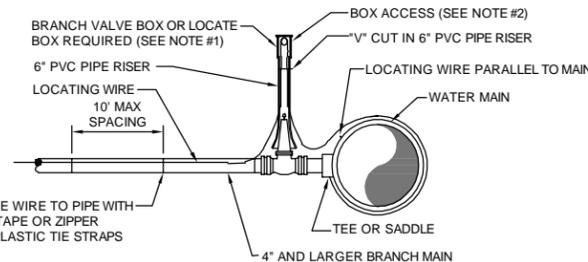
**NOTES:**

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

**LOCATE WIRE CONSTRUCTION FOR WATER MAINS**

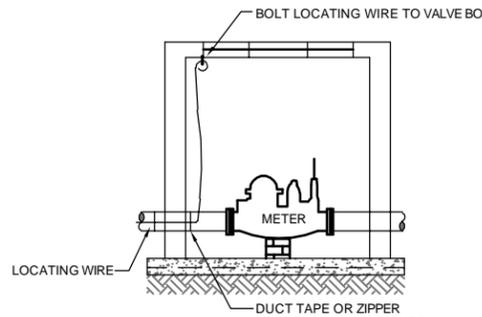
JANUARY 2020

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:**

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

**LOCATE WIRE FOR BRANCH MAIN**

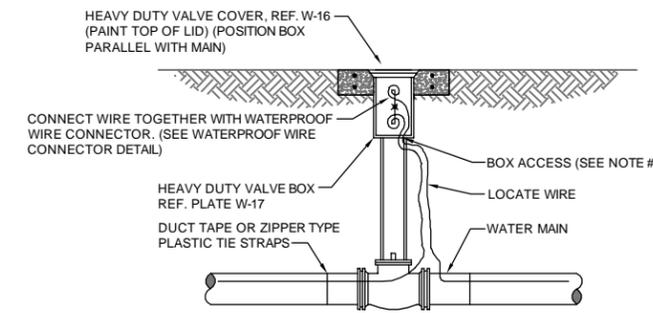
JANUARY 2020

PLATE W-44A

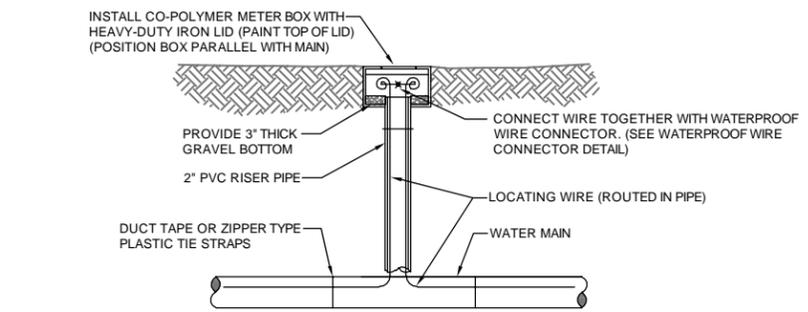
**PLUGGED DEAD END USING MECHANICAL RESTRAINTS**

JANUARY 2020

PLATE W-37



**LOCATE WIRE BOX UTILIZING VALVE BOX**



**LOCATE WIRE BOX UTILIZING METER BOX**

**LOCATE WIRE BOX**

JANUARY 2020

PLATE W-44B

**ETM**  
 Englund, Thoms & Miller, Inc.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32218  
 PHONE: (904) 446-4445  
 FAX: (904) 446-4445  
 VISION • EXPERIENCE • INTEGRITY  
 CA - 000284-LC - 000316

NO.	BY	DATE	REVISIONS
1			
2			
3			
4			
5			

DESIGNER: N. BOLATETE  
 DRAWN BY: R. MCDANIEL  
 DATE: 1/13/20  
 CHECKED BY: N. BOLATETE  
 DATE: 1/13/20  
 FLORIDA REGISTRATION NO.: 74921

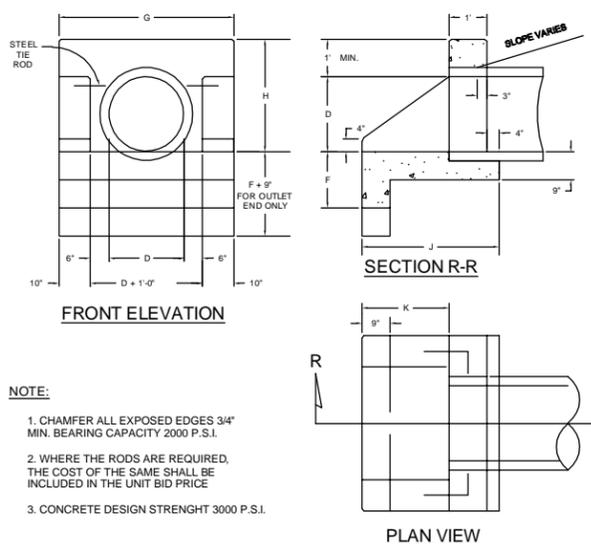
THESE DETAILS AS SHOWN ON THIS DRAWING ARE BY THE J.E.A. WE TAKE NO EXCEPTION TO THE DESIGN

**JEA**  
 Building Community

**GALVANIZED PIPE REPLACEMENT PROGRAM**  
 COLLEGE STREET AREA - PACKAGE C  
 WATER AND RECLAIM DETAILS

PROJ. NO. 18-171	DATE: JANUARY 2020	SCALE: AS NOTED
NO. SHEETS 32	SHEET NO. 13	DRAWING NO. W-STD-5

PLATE W-44B

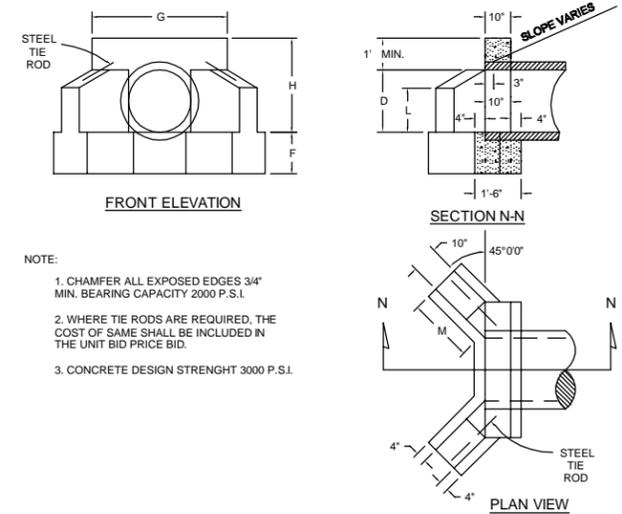


**NOTE:**  
 1. CHAMFER ALL EXPOSED EDGES 3/4" MIN. BEARING CAPACITY 2000 P.S.I.  
 2. WHERE THE RODS ARE REQUIRED, THE COST OF THE SAME SHALL BE INCLUDED IN THE UNIT BID PRICE  
 3. CONCRETE DESIGN STRENGTH 3000 P.S.I.

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES PIPE CULVERT ENDWALLS WITH U-TYPE WINGS

OPENING	DIMENSIONS						QUANTITIES IN ONE ENDWALL					
	D	G	H	K	F	J	TOTAL CU. YDS. CONCRETE, 3000 P.S.I.		C.I. PIPE		STEEL TIE RODS	
D	AREA SQ.FT.	G	H	K	F	J	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET
12"	0.8	3'-8"	2'-0"	1'-0"	1'-3"	2'-2"	0.50	0.51	0.59	0.51	0.59	NONE
15"	1.2	3'-11"	2'-3"	1'-5"	1'-3"	2'-7"	0.61	0.69	0.64	0.72	0.63	0.72
18"	1.8	4'-2"	2'-6"	1'-9"	1'-3"	2'-11"	0.72	0.81	0.76	0.84	0.76	0.84
24"	3.1	4'-8"	3'-0"	2'-6"	1'-6"	3'-8"	1.03	1.13	1.08	1.18	1.08	1.18
30"	4.9	5'-2"	3'-6"	3'-3"	1'-6"	4'-5"	1.35	1.46	1.43	1.53	1.42	1.53
36"	7.1	5'-8"	4'-0"	4'-0"	1'-9"	5'-2"	1.75	1.87	1.86	1.98	1.84	1.98
42"	9.6	6'-2"	4'-6"	4'-9"	2'-0"	5'-11"	2.21	2.34	2.34	2.47	2.34	2.47
48"	12.6	6'-8"	5'-0"	5'-6"	2'-0"	6'-8"	2.66	2.80	2.83	2.97		

CONCRETE ENDWALL WITH U-TYPE WINGS FOR PIPE CULVERTS  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE D-409  
 DATE DRAWN 7-14-79  
 REVISED DATE 5-12-94

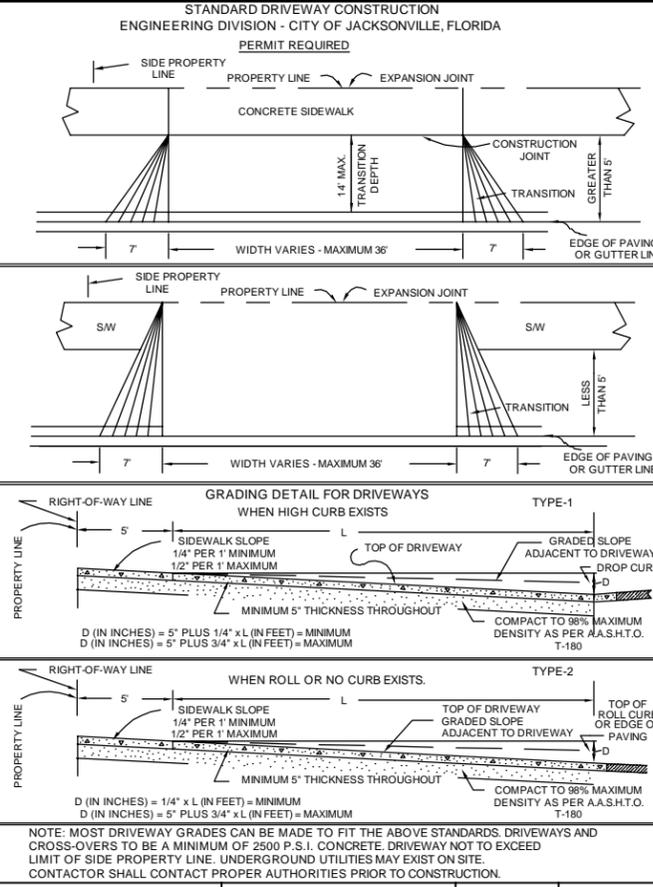


**NOTE:**  
 1. CHAMFER ALL EXPOSED EDGES 3/4" MIN. BEARING CAPACITY 2000 P.S.I.  
 2. WHERE THE TIE RODS ARE REQUIRED, THE COST OF THE SAME SHALL BE INCLUDED IN THE UNIT BID PRICE BID.  
 3. CONCRETE DESIGN STRENGTH 3000 P.S.I.

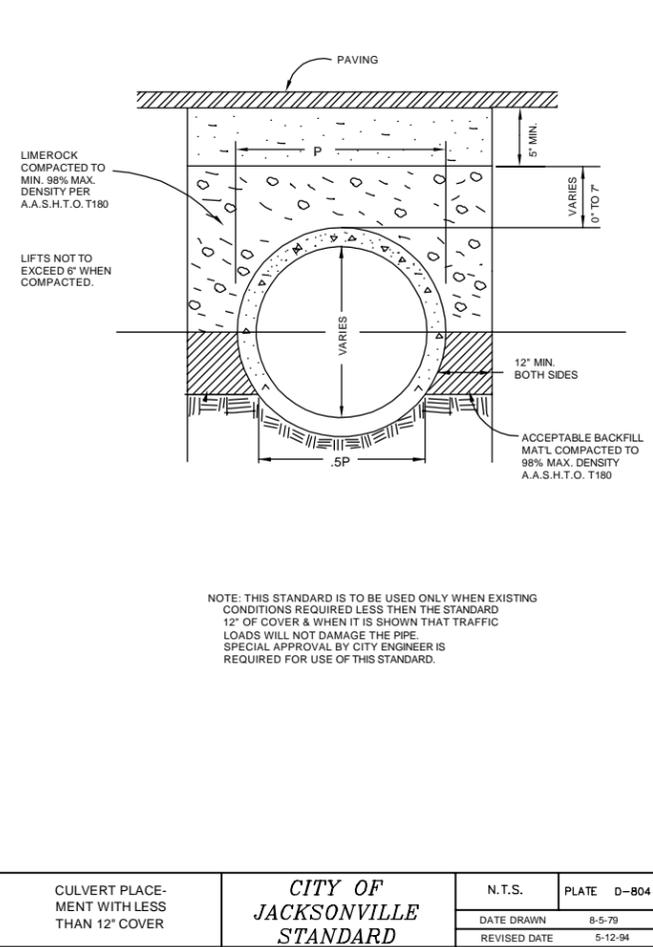
TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES PIPE CULVERT ENDWALLS WITH 45° WINGS

OPENING	DIMENSIONS						QUANTITIES IN ONE ENDWALL					
	D	AREA SQ.FT.	H	G	L	M	F	TOTAL CU. YARDS		C.I. PIPE		TIE RODS
D	AREA SQ.FT.	H	G	L	M	F	CONC. PIPE	C.M. PIPE	C.I. PIPE	TIE RODS		
15"	1.2	2'-3"	3'-7"	1'-0"	1'-3"	1'-3"	0.58	0.61	0.61	NONE		
18"	1.8	2'-6"	3'-10"	1'-2"	1'-7"	1'-3"	0.76	0.79	0.79	NONE		
24"	3.1	3'-0"	4'-4"	1'-5"	2'-1"	1'-4"	1.03	1.08	1.08	2-3/4" x 2'0"		
30"	4.9	3'-6"	4'-10"	1'-9"	2'-5"	1'-6"	1.34	1.42	1.41	2-3/4" x 2'0"		
36"	7.1	4'-0"	5'-4"	2'-0"	2'-11"	1'-8"	1.74	1.85	1.84	2-3/4" x 3'0"		
42"	9.6	4'-6"	5'-10"	2'-3"	3'-5"	2'-0"	2.36	2.49		2-3/4" x 3'0"		
48"	12.6	5'-0"	6'-4"	2'-6"	4'-0"	2'-0"	2.76	2.92		2-3/4" x 3'0"		

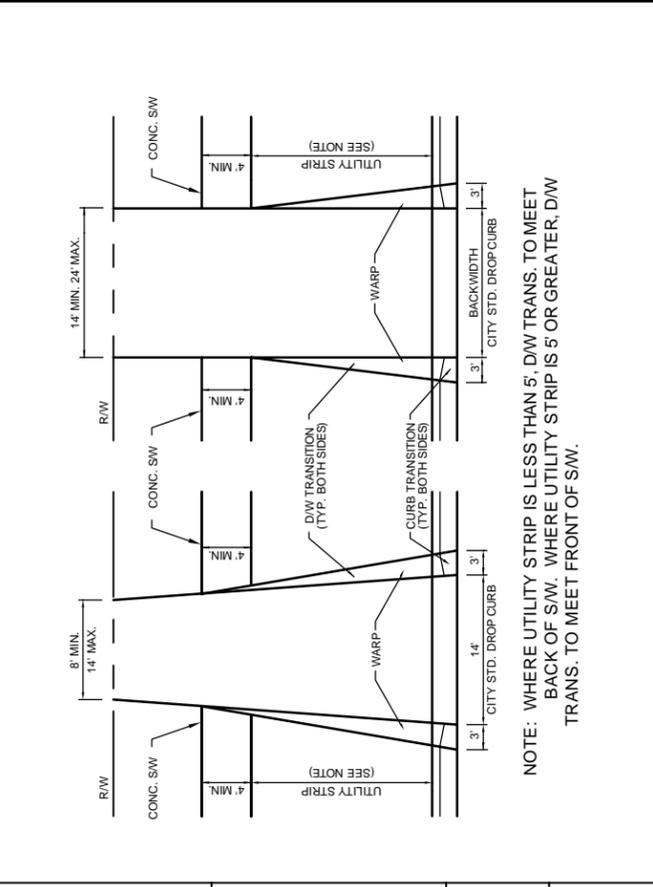
CONCRETE ENDWALL WITH 45° WINGS FOR PIPE CULVERTS  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE D-408  
 DATE DRAWN 7-12-79  
 REVISED DATE 5-12-94



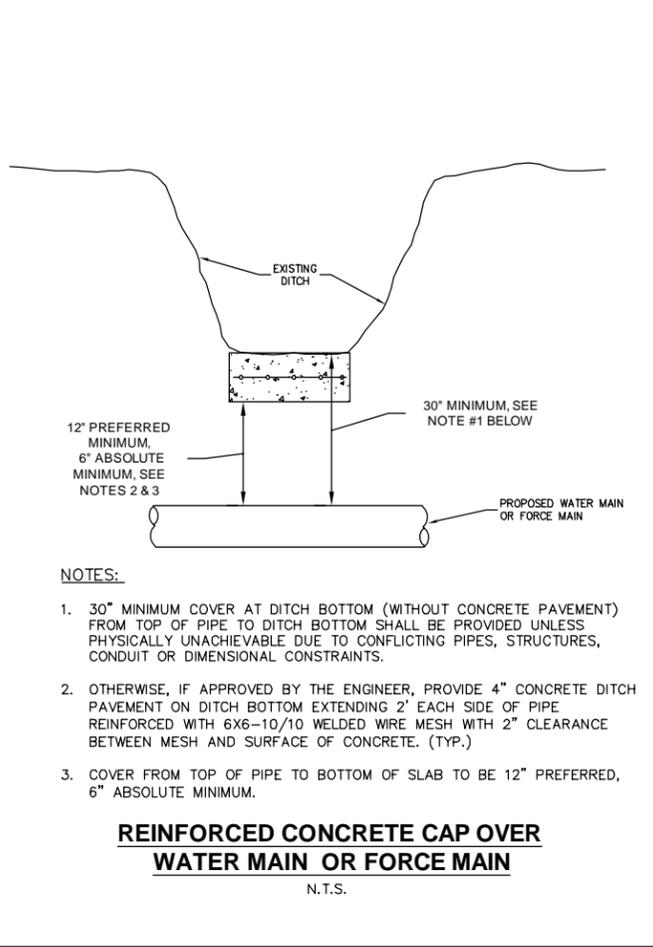
STANDARD DRIVEWAY CONSTRUCTION  
 ENGINEERING DIVISION - CITY OF JACKSONVILLE, FLORIDA  
 PERMIT REQUIRED  
 CLASS II COMMERCIAL CONCRETE DRIVEWAY DETAILS  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE P-206  
 DATE DRAWN JULY 1978  
 REVISED DATE 9-1-1990



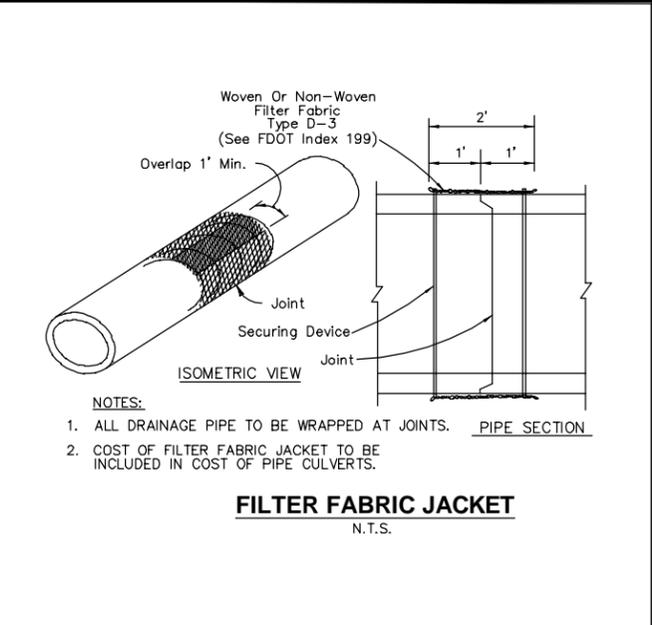
CULVERT PLACEMENT WITH LESS THAN 12" COVER  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE D-804  
 DATE DRAWN 8-5-79  
 REVISED DATE 5-12-94



STANDARD CLASS I CONCRETE DRIVEWAY DETAIL  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE P-205  
 DATE DRAWN 10-10-97  
 REVISED DATE 10-10-97

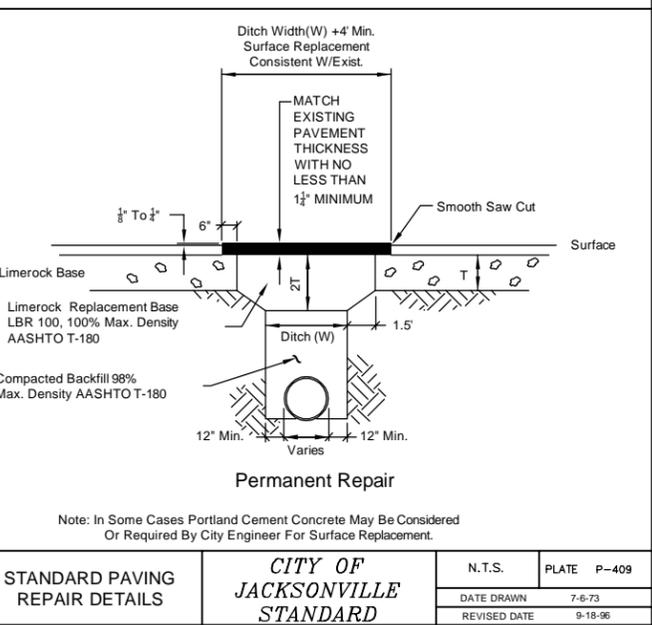
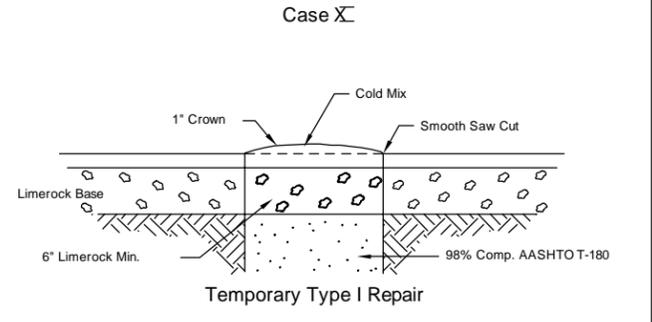


REINFORCED CONCRETE CAP OVER WATER MAIN OR FORCE MAIN  
 N.T.S. PLATE D-804  
 DATE DRAWN 8-5-79  
 REVISED DATE 5-12-94



NOTE: WHERE UTILITY STRIP IS LESS THAN 5' DW TRANS. TO MEET BACK OF S.W. WHERE UTILITY STRIP IS 5' OR GREATER, DW TRANS. TO MEET FRONT OF S.W.  
 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.

STANDARD PAVING REPAIR DETAILS  
 CITY OF JACKSONVILLE STANDARD  
 N.T.S. PLATE P-409  
 DATE DRAWN 7-6-73  
 REVISED DATE 9-18-96



REINFORCED CONCRETE CAP OVER WATER MAIN OR FORCE MAIN  
 N.T.S. PLATE D-804  
 DATE DRAWN 8-5-79  
 REVISED DATE 5-12-94

**ETM** Engineering, Thibault & Miller, Inc.  
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 PHONE: (904) 444-4444 FAX: (904) 444-4445  
 REG. - 0002584 LC - 000019

DESIGNER: N. BOLATETE  
 DRAWN BY: R. MC DANIEL  
 DATE: 12-1-2021  
 CHECKED BY: N. BOLATETE  
 DATE: 12-1-2021

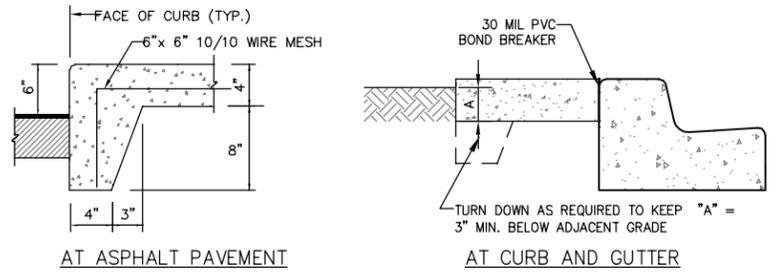
DESIGN ENGINEER: NICOLE D. BOLATETE  
 FLORIDA REGISTRATION NO.: 74921

PROJ. NO.: 18-171  
 DATE: APRIL 12, 2021  
 SCALE: AS NOTED

NO. SHEETS: 32  
 SHEET NO.: 14  
 DRAWING NO.: PD-STD-1

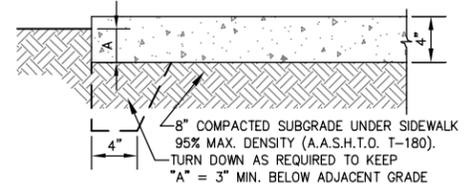
GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 PAVING AND DRAINAGE DETAILS

Building Community



AT ASPHALT PAVEMENT

AT CURB AND GUTTER

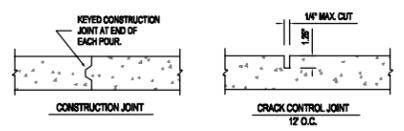


AT GRADE

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

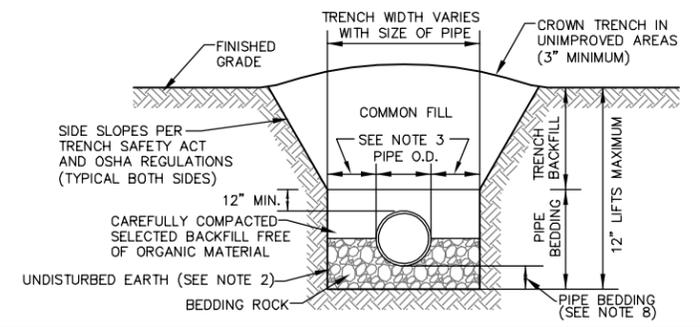
**CONCRETE WALK**

N.T.S.



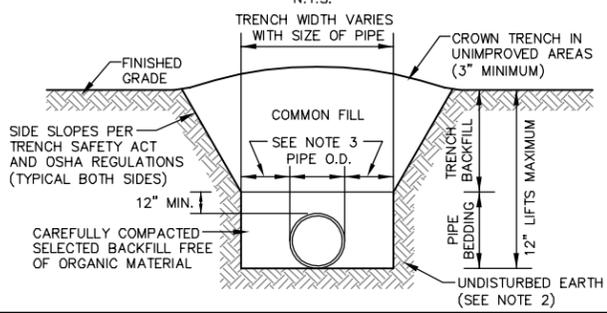
CONCRETE JOINT DETAIL

N.T.S.



**TYPE A BEDDING AND TRENCH DETAIL**

N.T.S.

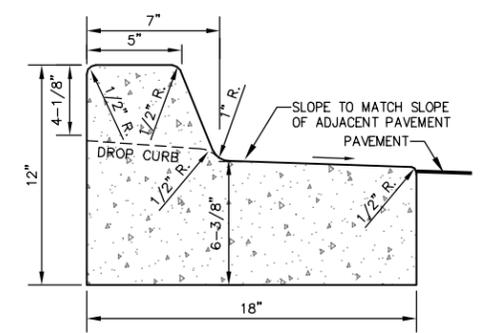


**TYPE B BEDDING AND TRENCH DETAIL**

N.T.S.

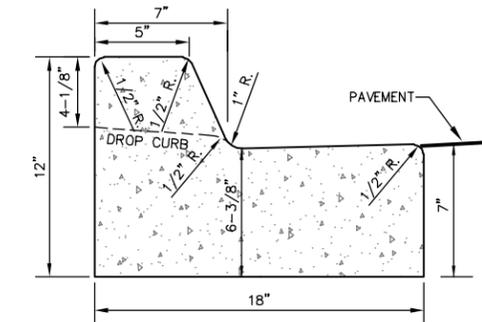
- NOTES:**
1. TRENCH AND PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% MAX. DENSITY (AASHTO T-180).
  2. USE TYPE B BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE JEA.
  3. 12" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 1/2 PIPE DIAMETER MAX. FOR PIPE DIAMETER 24" AND LARGER.
  4. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  5. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  6. REFER TO MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
  7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES SURFACE RESTORATION WITHIN CITY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS

- NOTES:**
1. TRENCH AND PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% MAX. DENSITY (AASHTO T-180).
  2. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY JEA.
  3. 12" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 1/2 PIPE DIAMETER MAX. FOR PIPE DIAMETER 24" AND LARGER.
  4. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  5. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  6. REFER TO MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
  7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES SURFACE RESTORATION WITHIN CITY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.
  8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. THE COUNTY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.



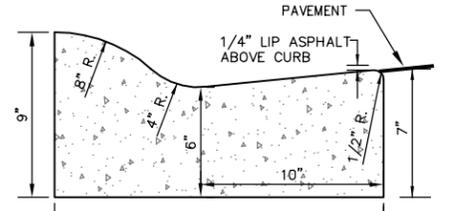
**TYPE "C" CURB AND GUTTER TO BE USED AT ALL MEDIANS**

N.T.S.



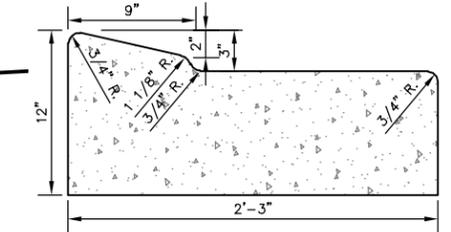
**STANDARD CURB AND GUTTER**

N.T.S.



**MIAMI TYPE CURB AND GUTTER**

N.T.S.



**FDOT R/A CURB AND GUTTER AT CENTER ISLAND ROUNDABOUTS**

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.

**ETM**  
 ENGINEERS, ARCHITECTS & PLANNERS, INC.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 PHONE: (904) 644-4445  
 FAX: (904) 644-4445  
 REG. - 00002364 LC - 00000118  
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NO.	BY	DATE	REVISIONS
1			
2			
3			
4			

DESIGNER:	N. BOLATETE	DESIGN ENGINEER	NICOLE D. BOLATETE
DRAWN BY:	R. MCDANIEL	FLORIDA REGISTRATION NO.:	74921
CHECKED BY:	N. BOLATETE	DATE:	

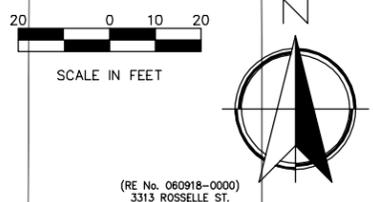
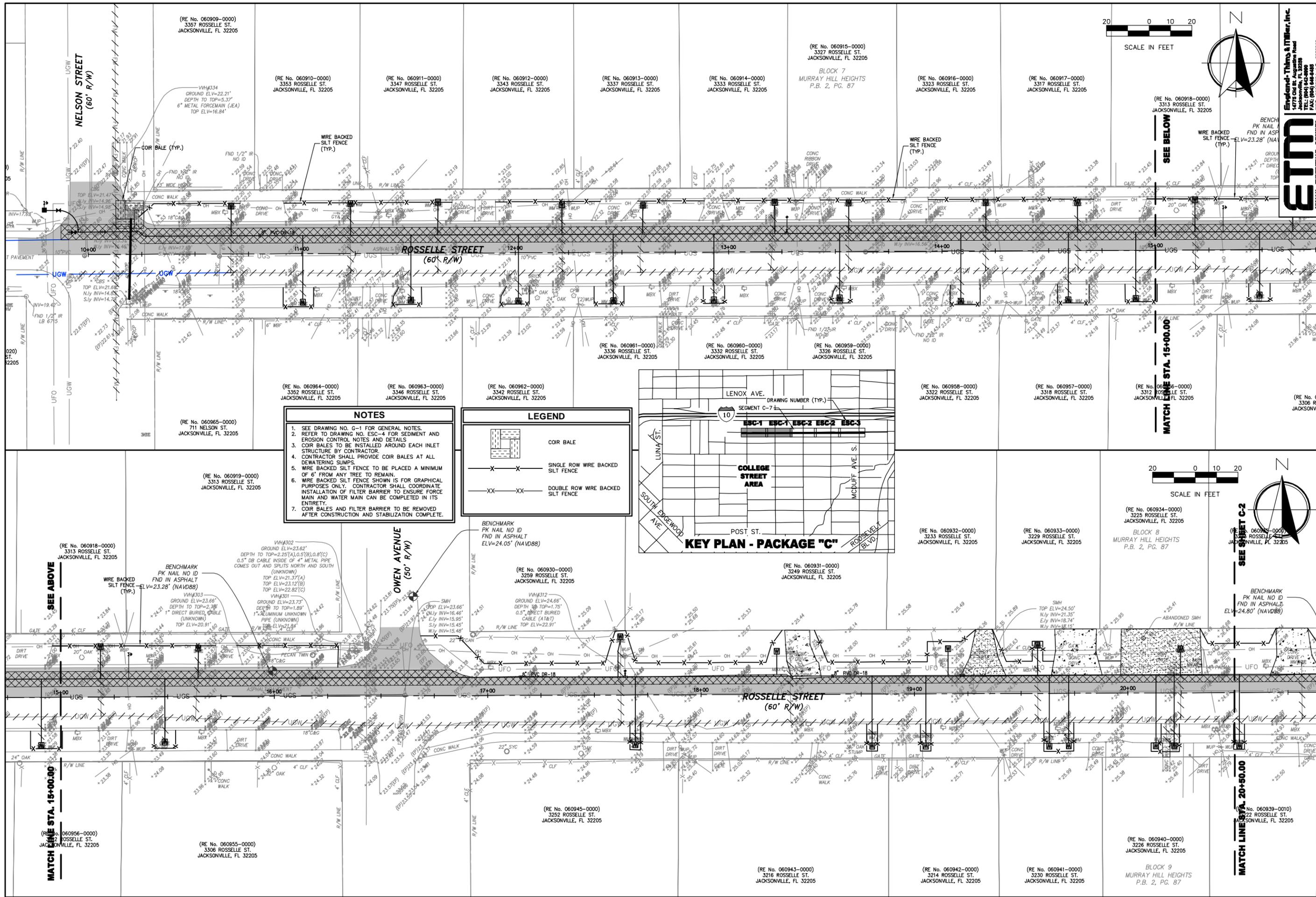
**JEA**  
 Building Community

**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 PAVING AND DRAINAGE DETAILS**

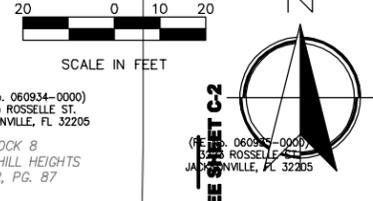
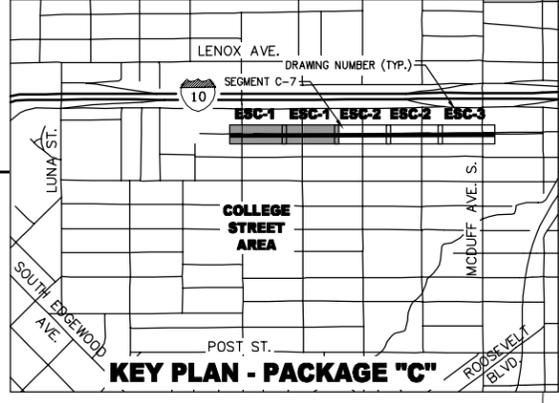
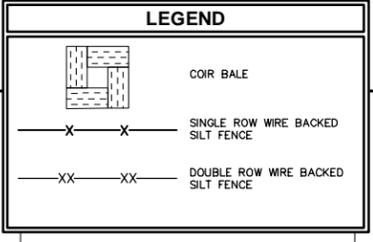
PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED

NO. SHEETS:	32
SHEET NO.:	15
DRAWING NO.:	PD-STD-2



- NOTES**
- SEE DRAWING NO. G-1 FOR GENERAL NOTES.
  - REFER TO DRAWING NO. ESC-4 FOR SEDIMENT AND EROSION CONTROL NOTES AND DETAILS.
  - COIR BALES TO BE INSTALLED AROUND EACH INLET STRUCTURE BY CONTRACTOR.
  - CONTRACTOR SHALL PROVIDE COIR BALES AT ALL DEWATERING SUMPS.
  - WIRE BACKED SILT FENCE TO BE PLACED A MINIMUM OF 6' FROM ANY TREE TO REMAIN.
  - WIRE BACKED SILT FENCE SHOWN IS FOR GRAPHICAL PURPOSES ONLY. CONTRACTOR SHALL COORDINATE INSTALLATION OF FILTER BARRIER TO ENSURE FORCE MAIN AND WATER MAIN CAN BE COMPLETED IN ITS ENTIRETY.
  - COIR BALES AND FILTER BARRIER TO BE REMOVED AFTER CONSTRUCTION AND STABILIZATION COMPLETE.



**ETM**  
 Erosion Technology Management  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32208  
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 FAX: (904) 446-4445  
 REG. # 0609254 LC - 000019  
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NO. SHEETS	32	PROJ. NO.	18-171
SHEET NO.	16	DATE	APRIL 12, 2021
DRAWING NO.	ESC-1	SCALE	AS NOTED
DESIGNER	N. BOLATETE	DESIGN ENGINEER	NICOLE D. BOLATETE
DRAWN BY	R. MC DANIEL	FLORIDA REGISTRATION NO.	74821
CHECKED BY	N. BOLATETE	DATE	
DATE			
REVISIONS			
NO.	BY	DATE	

**JEA**  
 Building Community

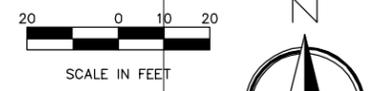
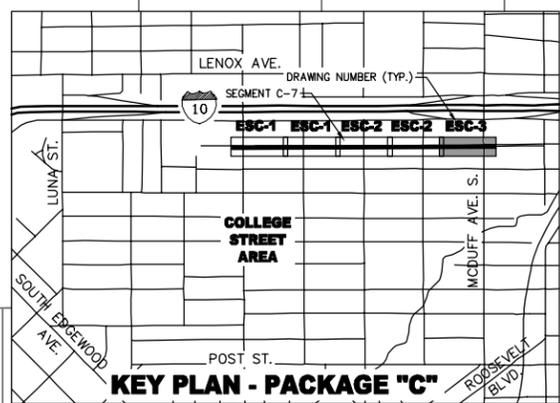
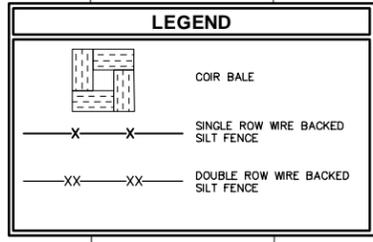
**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 EROSION & SEDIMENT CONTROL PLAN**

NO. SHEETS	32	PROJ. NO.	18-171
SHEET NO.	16	DATE	APRIL 12, 2021
DRAWING NO.	ESC-1	SCALE	AS NOTED



**NOTES**

- SEE DRAWING NO. G-1 FOR GENERAL NOTES.
- REFER TO DRAWING NO. ESC-4 FOR SEDIMENT AND EROSION CONTROL NOTES AND DETAILS.
- COIR BALES TO BE INSTALLED AROUND EACH INLET STRUCTURE BY CONTRACTOR.
- CONTRACTOR SHALL PROVIDE COIR BALES AT ALL DEWATERING SUMPS.
- WIRE BACKED SILT FENCE TO BE PLACED A MINIMUM OF 6' FROM ANY TREE TO REMAIN.
- WIRE BACKED SILT FENCE SHOWN IS FOR GRAPHICAL PURPOSES ONLY. CONTRACTOR SHALL COORDINATE INSTALLATION OF FILTER BARRIER TO ENSURE FORCE MAIN AND WATER MAIN CAN BE COMPLETED IN ITS ENTIRETY.
- COIR BALES AND FILTER BARRIER TO BE REMOVED AFTER CONSTRUCTION AND STABILIZATION COMPLETE.



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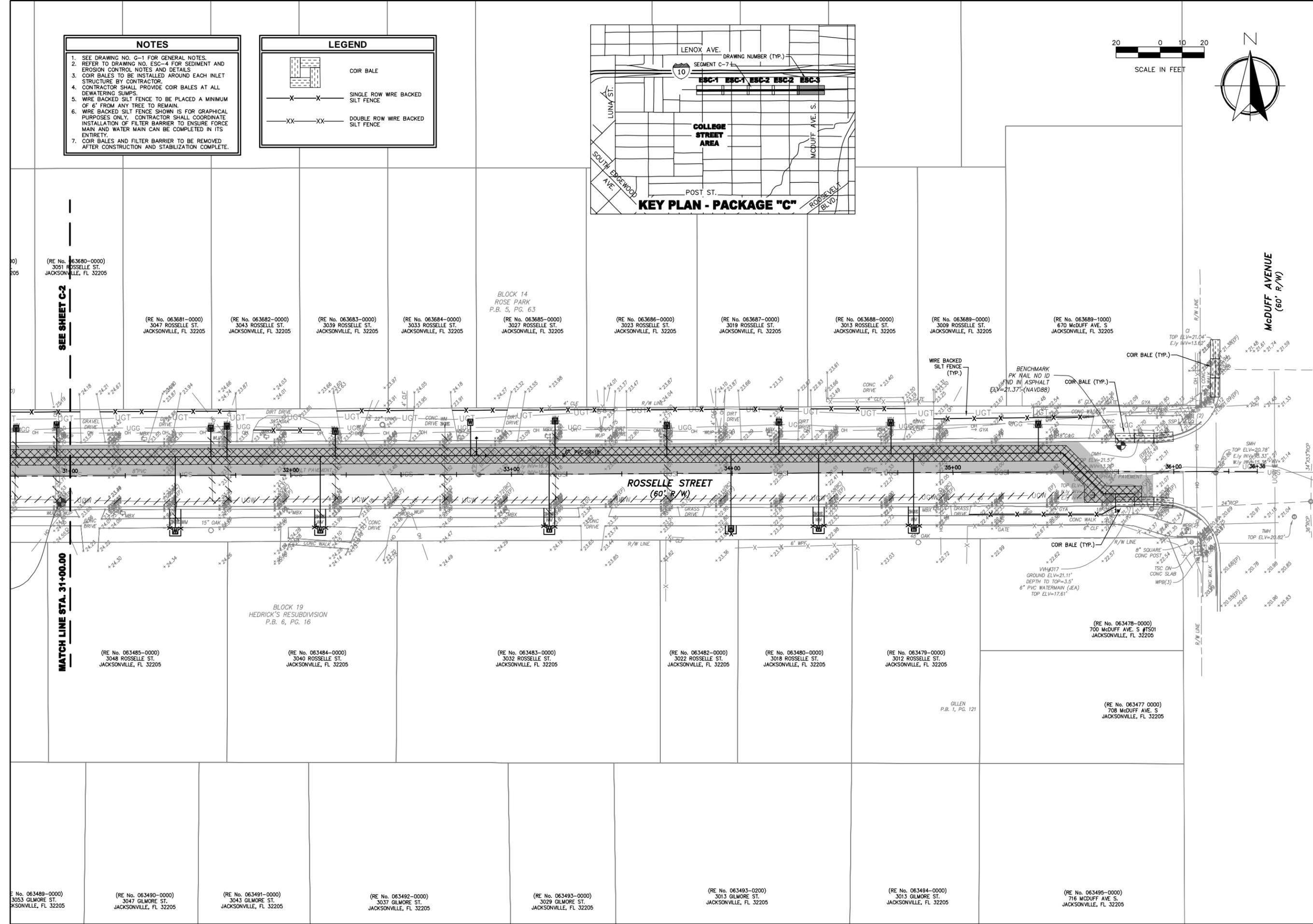
NO.	BY	DATE	REVISIONS
1			
2			
3			
4			

DESIGNER: N. BOLATETE  
 DRAWN BY: R. MC DANIEL  
 CHECKED BY: N. BOLATETE  
 DATE: 7/4/21  
 FLORIDA REGISTRATION NO.: 74921

**JEA**  
 Building Communities

NO. SHEETS	PROJ. NO.	DATE	SCALE
32	18-171	APRIL 12, 2021	AS NOTED
18			
ESC-3			

G:\18-171\_Cav Pipe\Design\College St\Package\LandDev\Design\Plots\18-171\_PACKAGE C ESC.dwg PLOTTED: Apr. 12, 21 - 3:29 PM, BY: Alex Anderson

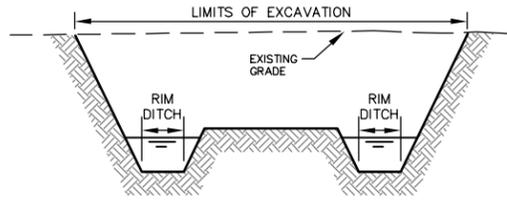


**SEDIMENT AND EROSION CONTROL NOTES**

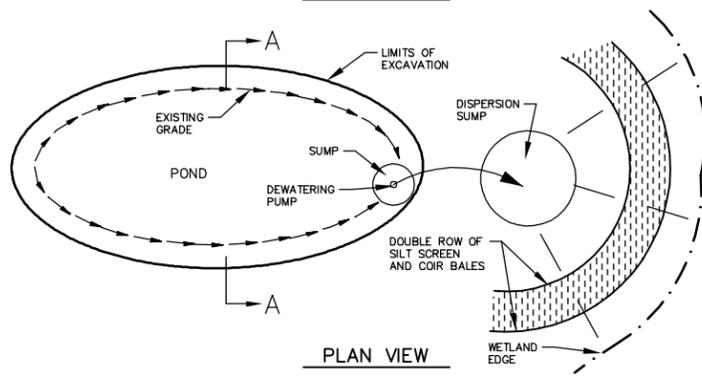
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
- THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION 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 CONFINED 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 SEED.
- 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 SJRWMD 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, CITY OF JACKSONVILLE 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)



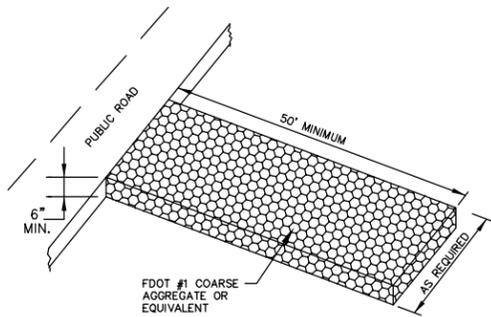
SECTION A-A



PLAN VIEW

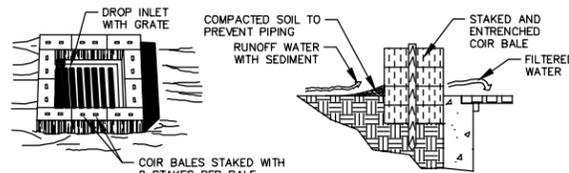
**TEMPORARY DEWATERING DETAIL**

N.T.S.



**STABILIZED CONSTRUCTION ENTRANCE**

N.T.S.

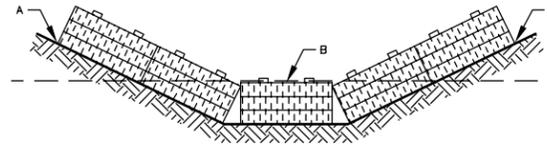


SPECIFIC APPLICATION

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

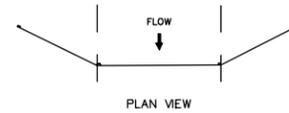
**COIR BALE DROP INLET SEDIMENT FILTER**

N.T.S.



**PROPER PLACEMENT OF COIR BALE IN A DRAINAGE WAY**

N.T.S.

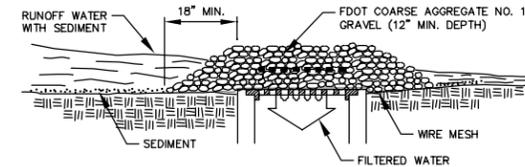


SECTION VIEW

POINTS A SHOULD BE HIGHER THAN POINT B

**PROPER PLACEMENT OF A FILTER BARRIER IN DRAINAGE WAY**

N.T.S.

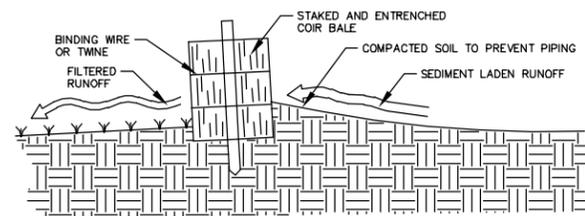


SPECIFIC APPLICATION

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

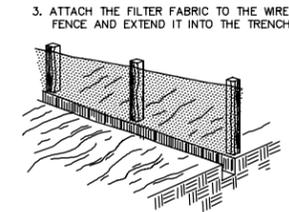
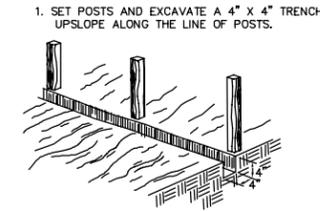
**GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER**

N.T.S.

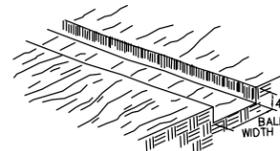


**CROSS-SECTION OF A PROPERLY INSTALLED COIR BALE**

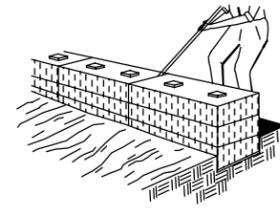
N.T.S.



1. EXCAVATE THE TRENCH



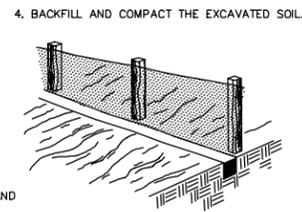
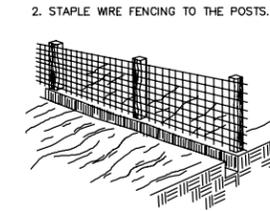
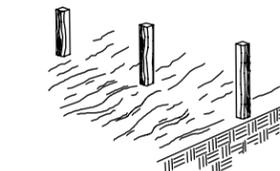
3. WEDGE LOOSE COIR BETWEEN BALES.



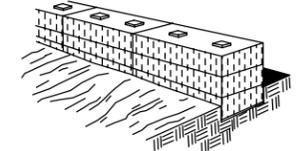
**CONSTRUCTION OF A COIR BALE BARRIER**

N.T.S.

1. SET THE STAKES.



2. PLACE AND STAKE COIR BALES.

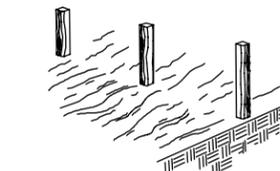


4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

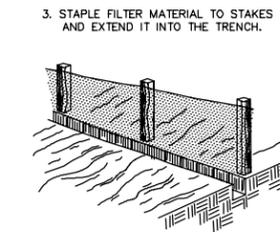
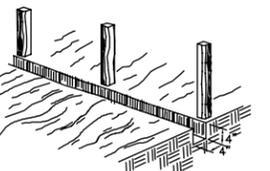
**CONSTRUCTION OF A FILTER BARRIER**

N.T.S.

1. SET THE STAKES.

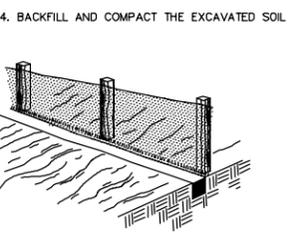


2. EXCAVATE A 4\"/>



**CONSTRUCTION OF A FILTER BARRIER**

N.T.S.



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 VISION • EXPERIENCE • INTEGRITY

NO.	BY	DATE	REVISIONS
1			
2			
3			
4			

DESIGNER:	N. BOLATETE
DRAWN BY:	R. MCDANIEL
DATE:	
CHECKED BY:	N. BOLATETE
DATE:	
DESIGN ENGINEER:	NICOLE D. BOLATETE
FLORIDA REGISTRATION NO.:	74821

**JEA**  
 Building Community™

**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 EROSION & SEDIMENT CONTROL DETAILS**

PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED
NO. SHEETS:	32
SHEET NO.:	19
DRAWING NO.:	ESC-4

# TEMPORARY TRAFFIC CONTROL NOTES

1. FOR TEMPORARY TRAFFIC CONTROL, THE CONTRACTOR SHALL:
  - 1.1. REFERENCE FDOT INDEX 102-600 FOR GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES.
  - 1.2. REFERENCE FDOT INDEX 102-602 FOR ALL SEGMENTS WHERE WORK WILL BE ACCOMPLISHED ON THE SHOULDER AND NO TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
  - 1.3. REFERENCE FDOT INDEX 102-603 FOR ALL SEGMENTS WHERE ONE TRAVEL LANE IS EXPECTED TO BE CLOSED OR IMPACTED.
  - 1.4. REFERENCE FDOT INDEX 102-660 FOR ALL SEGMENTS WHERE A SIDEWALK IS EXPECTED TO BE CLOSED OR IMPACTED.
  - 1.5. SEE SHEETS 27-30 FOR FDOT STANDARD INDEXES.
2. THE CONTRACTOR SHALL PROVIDE FOR ALL LANES OF TRAFFIC TO BE OPEN IN THE CASE OF AN EMERGENCY. THE CONTRACTOR SHALL RESPOND AND PROVIDE ADJUSTMENTS AS DIRECTED BY THE PROJECT ENGINEER WITHOUT DELAY UNDER THESE CONDITIONS. THE CONTRACTOR SHALL ALSO RESPOND WITHIN 30 MINUTES UPON NOTIFICATION BY THE PROJECT ENGINEER TO ANY REQUESTS FOR CORRECTION, IMPROVEMENT OR MODIFICATION TO THE TRAFFIC CONTROL PLAN AND/OR DEVICES.
3. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) 2009 EDITION" AND SERIES 102 OF THE STANDARD PLANS FY 2020-2021 EDITION AT ALL TIMES.
4. ALL TRAFFIC CONTROL DEVICES (TEMPORARY SIGNS, PAVEMENT MARKINGS, BARRIER WALLS, ETC.) REQUIRED DURING A CONSTRUCTION PHASE SHALL BE INSTALLED AND APPROVED BY THE PROJECT ENGINEER OR REPRESENTATIVE PRIOR TO THE DIVERSION OF TRAFFIC AND THE COMMENCEMENT OF CONSTRUCTION AND SHALL BE MAINTAINED IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 102-600. FDOT STANDARD PLANS INDEX 102-600 SHALL BE USED IN CONJUNCTION WITH ALL OTHER INDEXES SPECIFICALLY MENTIONED IN EACH TRAFFIC CONTROL PHASE.
5. ALL EXISTING SIGNS AND PAVEMENT MARKINGS, WHICH CONFLICT WITH THE TRAFFIC CONTROL PLAN DURING A CONSTRUCTION PHASE, SHALL BE REMOVED OR TEMPORARILY RELOCATED AS NECESSARY PRIOR TO THE DIVERSION OF TRAFFIC AND THE COMMENCEMENT OF CONSTRUCTION. THE REMOVAL OF EXISTING PAVEMENT MARKINGS CAN BE ACCOMPLISHED BY ANY METHOD APPROVED BY THE PROJECT ENGINEER. PAINTING OVER EXISTING MARKINGS IS NOT ACCEPTABLE.
6. MINIMUM TRAVEL LANE WIDTHS SHALL BE 10'.
7. ARROWS DENOTE DIRECTION OF TRAFFIC ONLY AND DO NOT REPRESENT PAVEMENT MARKINGS.
8. THE REMOVAL AND REPLACEMENT OF ANY TEMPORARY STRIPING OR R.P.M.'S SHALL BE DONE WITH THE CLOSURE OF THE AFFECTED LANE.
9. ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. CONSTRUCTION IN THE VICINITY OF DRIVEWAYS AND SIDESTREETS MAY REQUIRE FLAGGING OPERATIONS, LANE CLOSURES & INTERIM PAVEMENT REPAIRS NOT DETAILED IN THE PLANS. PAVEMENT REPAIRS SHALL MATCH EXISTING PAVEMENT.
10. THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE REMOVAL OF STORM WATER FROM THE ROADWAY DURING CONSTRUCTION. PROVISIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE USE.
11. THE CONTRACTOR SHALL MATCH EXISTING CONDITIONS AT PROJECT BEGINNING AND ENDING AS DIRECTED BY THE ENGINEER.
12. THE CONTRACTOR SHALL NOT MILL MORE THAN CAN BE RESURFACED IN THE SAME DAY'S/NIGHT'S OPERATION. THE FIRST LIFT OF ASPHALT SHALL BE PLACED BEFORE ROADWAY IS OPEN TO TRAFFIC FOLLOWING MILLING.
13. TEMPORARY STOP SIGNS FOR CROSS STREETS SHALL BE IN LINE WITH, OR BEHIND, CHANNELIZING DEVICES.
14. ALL COSTS TO MAINTAIN TRAFFIC SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR MAINTENANCE OF TRAFFIC.
15. ANY DAMAGE TO EXISTING ROADWAYS SHALL BE REPAIRED BY THE CONTRACTOR AND RESTORED TO PRIOR CONDITION. DAMAGE SHALL BE MILLED AND RESURFACED NOT PATCHED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR RIGHT OF WAY MAINTENANCE WITHIN THE CONSTRUCTION AREA AND AREAS MADE INACCESSIBLE DUE TO CONSTRUCTION THROUGHOUT THE TERM OF CONSTRUCTION.
17. THE CONTRACTOR SHALL MAINTAIN THE ACTUATED OPERATION OF THE SIGNALIZED INTERSECTIONS THROUGHOUT THE LIFE OF THE CONTRACT. PLANNED DETECTION DISRUPTIONS ARE NOT ALLOWED. ANY UNPLANNED DISRUPTION TO THE VEHICULAR DETECTION SYSTEM AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE RE-ACTUATED WITHIN 24 HOURS (AT THE CONTRACTOR'S EXPENSE). THIS INCLUDES FURNISHING AND INSTALLING OVERHEAD OPTICAL DETECTION DEVICES AS REQUIRED TO MAINTAIN ALL EXISTING ACTUATED SIGNAL OPERATIONS.
18. RAISED PAVEMENT MARKERS SHALL BE PLACED ON ALL LANE LINES, EDGE LINES IN TRANSITION AND APPROACH AREAS AS SHOWN IN FDOT INDEX 706-001.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PEDESTRIAN TRAFFIC DURING CONSTRUCTION. ALL TEMPORARY PEDESTRIAN WALKWAYS SHALL MEET A.D.A. REQUIREMENTS, INCLUDING A MAXIMUM CROSS SLOPE OF 2% WHERE TEMPORARY PEDESTRIAN WALKWAYS CROSS SIDE STREET & DRIVEWAY CONNECTIONS. WHEN AN ALTERNATIVE PAVED PEDESTRIAN ROUTE IS NOT FEASIBLE, THE CONTRACTOR SHALL MAINTAIN A 4' WIDE STABLE PEDESTRIAN PATHWAY IN ACCORDANCE WITH FDOT INDEX #102-660.
20. NOTIFY THE TRAFFIC ENGINEERING DIVISION (904-255-7533) A MINIMUM OF 5 WORKING DAYS PRIOR TO IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN.
21. IF SIGNS ARE DAMAGED DURING CONSTRUCTION ACTIVITY, THE CONTRACTOR IS REQUIRED TO REPLACE THEM IMMEDIATELY IN ACCORDANCE WITH THE CURRENT CITY STANDARD SPECIFICATIONS.
22. CONFLICTING OR MISLEADING PAVEMENT MARKINGS SHALL BE REMOVED BY HYDROBLASTING OR GRINDING. ALL EXISTING PAVEMENT MARKINGS OUTSIDE OF THE LIMITS OF CONSTRUCTION WHICH ARE ALTERED SHALL BE REPLACED UPON COMPLETION OF THE PROJECT.
23. ANY MODIFICATIONS OF THIS TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY OF JACKSONVILLE TRAFFIC ENGINEERING DIVISION FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.
24. THE ROADWAY SHALL BE RESTORED TO AT LEAST A LIMEROCK SURFACE BEFORE IT IS REOPENED TO TRAFFIC AND BEFORE THE CONTRACTOR MOVES TO THE NEXT CONSTRUCTION ZONE.
25. THE JACKSONVILLE FIRE AND RESCUE COMMUNICATIONS CENTER (FRCC) SHALL BE NOTIFIED OF ROAD CLOSURES/DETOURS.
26. TRAFFIC CONTROL PLANS WITHIN THE FDOT RIGHT-OF-WAY (1-10) ARE SUBJECT TO FDOT APPROVAL.

# SEQUENCE OF CONSTRUCTION

AT THE BEGINNING OF EACH PHASE:  
 ERECT ADVANCE WARNING SIGNS, TEMPORARY PAVEMENT MARKINGS, BARRICADES & CHANNELING DEVICES AS SHOWN ON THE TRAFFIC CONTROL PLANS FOR EACH PHASE. ADJUST PER ACTUAL FIELD CONDITIONS TO ENSURE VISIBILITY OF ALL EXISTING SIGNS WHICH WILL NEED TO REMAIN DURING CONSTRUCTION.

### PHASING NOTES:

#### PHASE C1

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM NELSON STREET TO 200' WEST OF OWEN AVENUE UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

#### PHASE C2

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM 200' WEST OF OWEN AVENUE TO 200' EAST OF OWEN AVENUE UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

#### PHASE C3

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM 200' EAST OF OWEN AVENUE TO DAY STREET UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

#### PHASE C4

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM DAY STREET TO 150' WEST OF SHEARER AVENUE UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

#### PHASE C5

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM 150' WEST OF SHEARER AVENUE TO 300' EAST OF SHEARER AVENUE UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

#### PHASE C6

CONSTRUCT NEW WATER MAIN ALONG NORTHERN SIDE OF ROSSELLE STREET FROM 300' EAST OF SHEARER AVENUE TO MCDUFF AVENUE UTILIZING DETOURS AND ROAD CLOSURES AS SHOWN IN THE PLANS.

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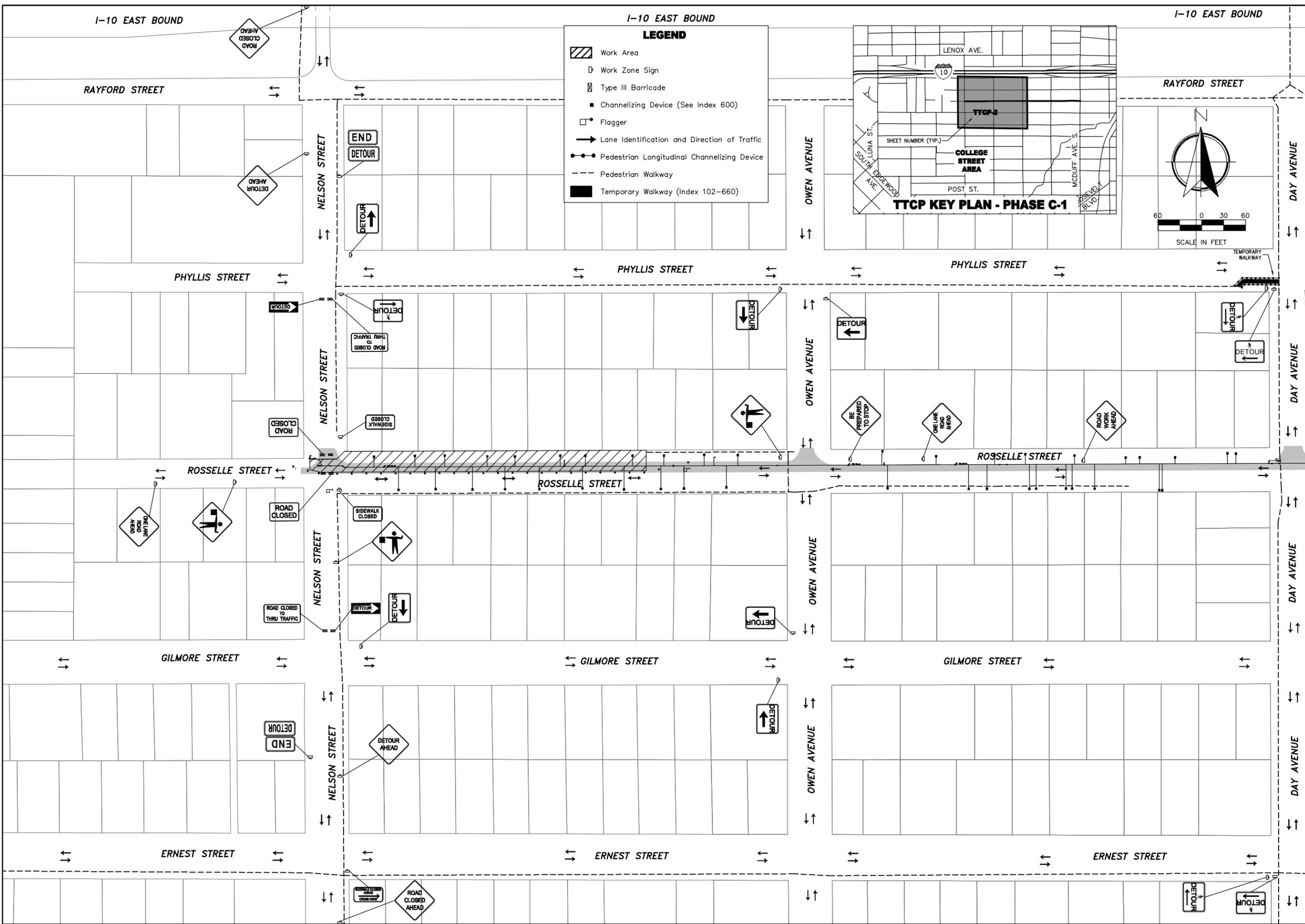
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GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP GENERAL NOTES

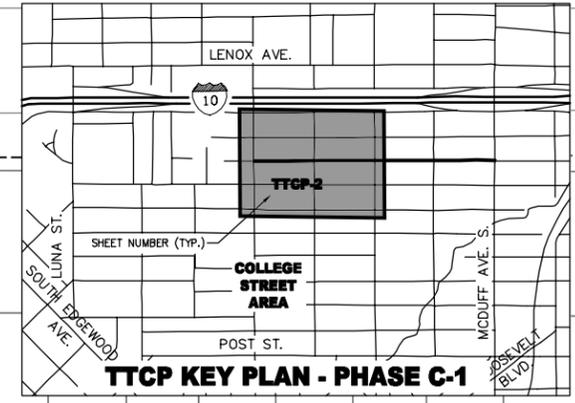
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**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)



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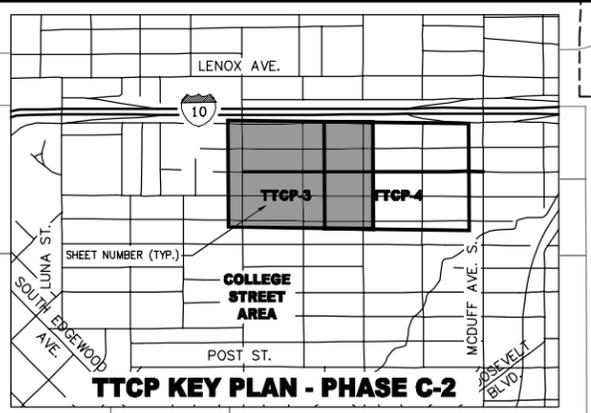
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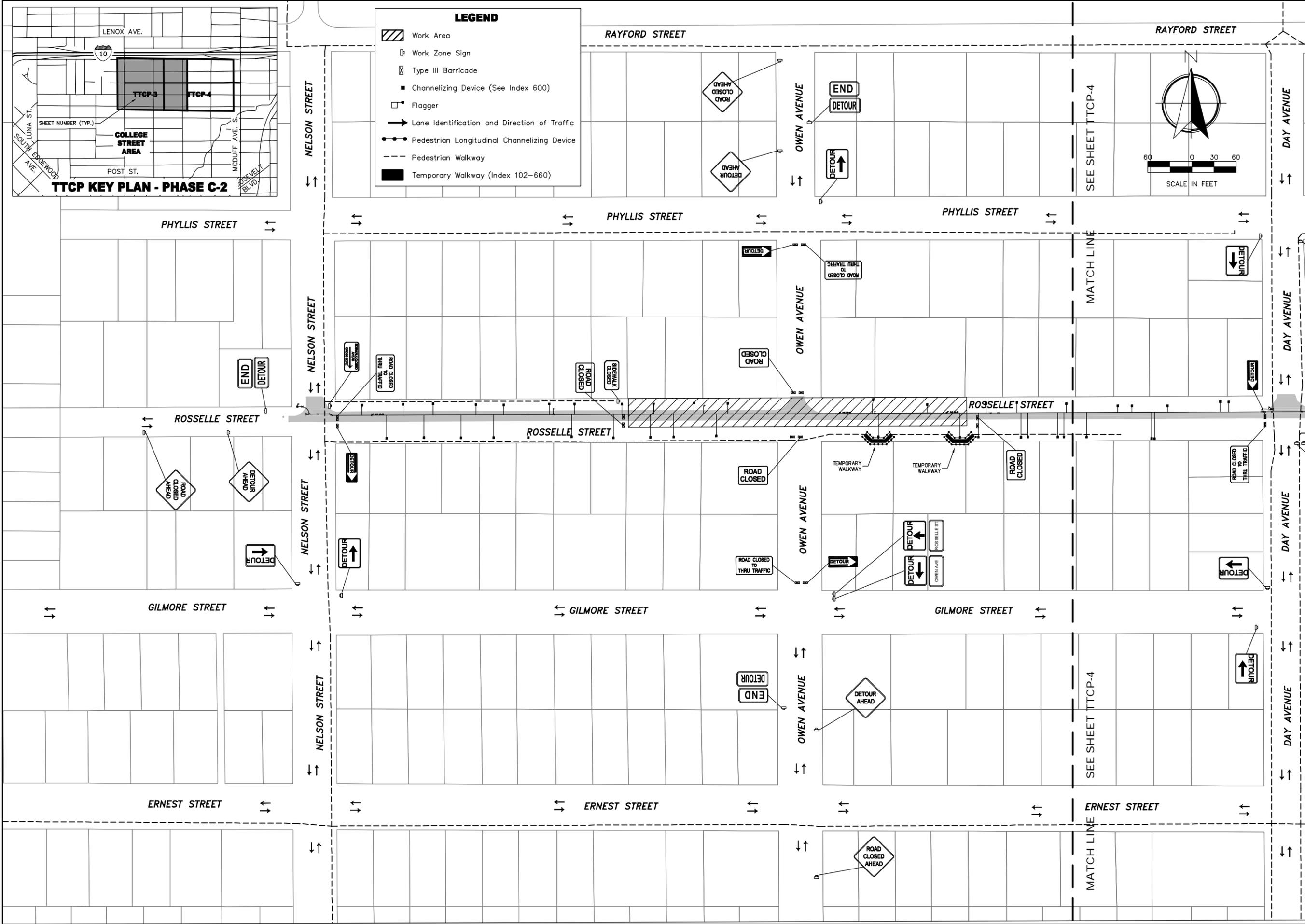
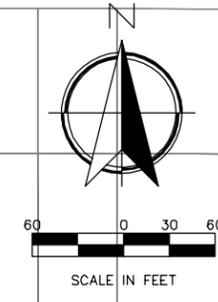
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 COLLEGE STREET AREA - PACKAGE C  
 TTCP - PHASE C1

PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED
NO. SHEETS:	32
SHEET NO.:	21
DRAWING NO.:	TTCP-2



**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)



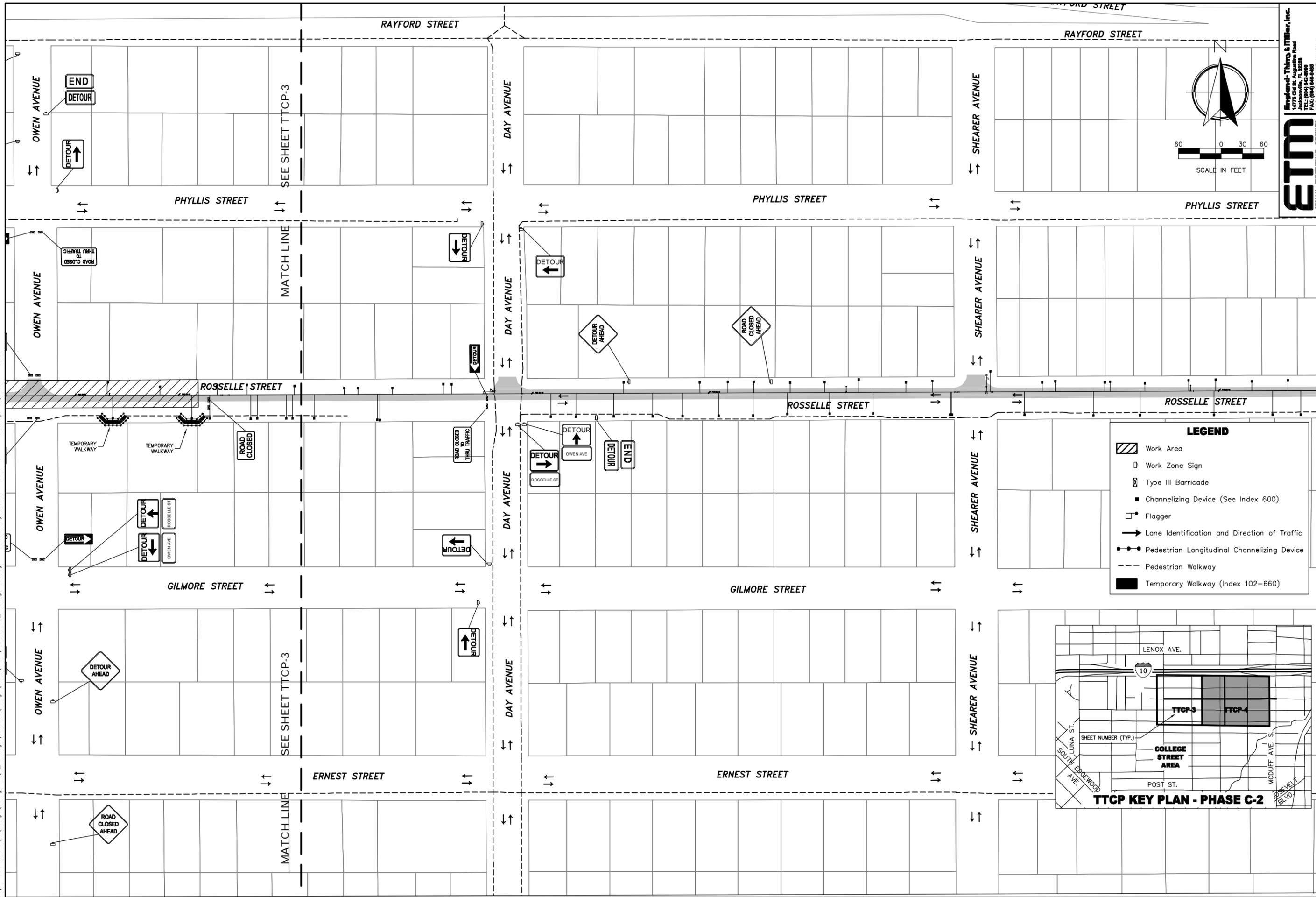
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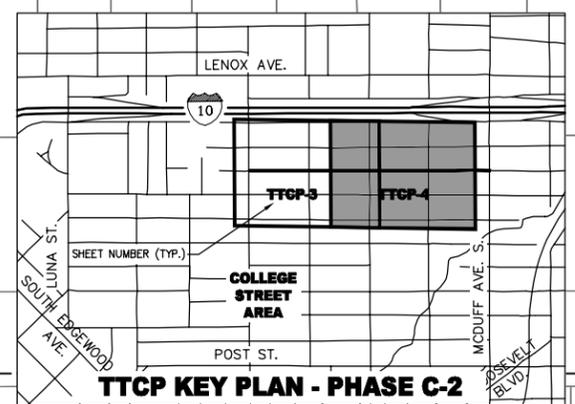
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**COLLEGE STREET AREA - PACKAGE C**  
**TTCP - PHASE C2**

PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED
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DRAWING NO.:	TTCP-3



**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)

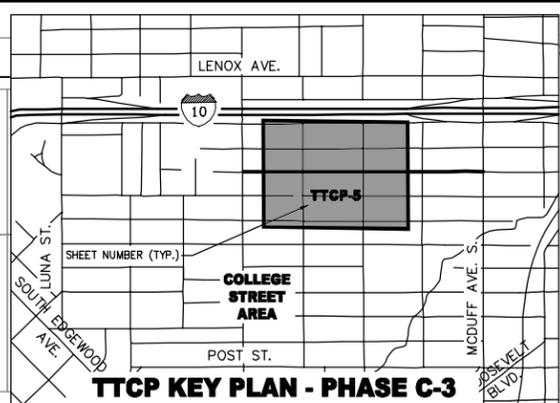
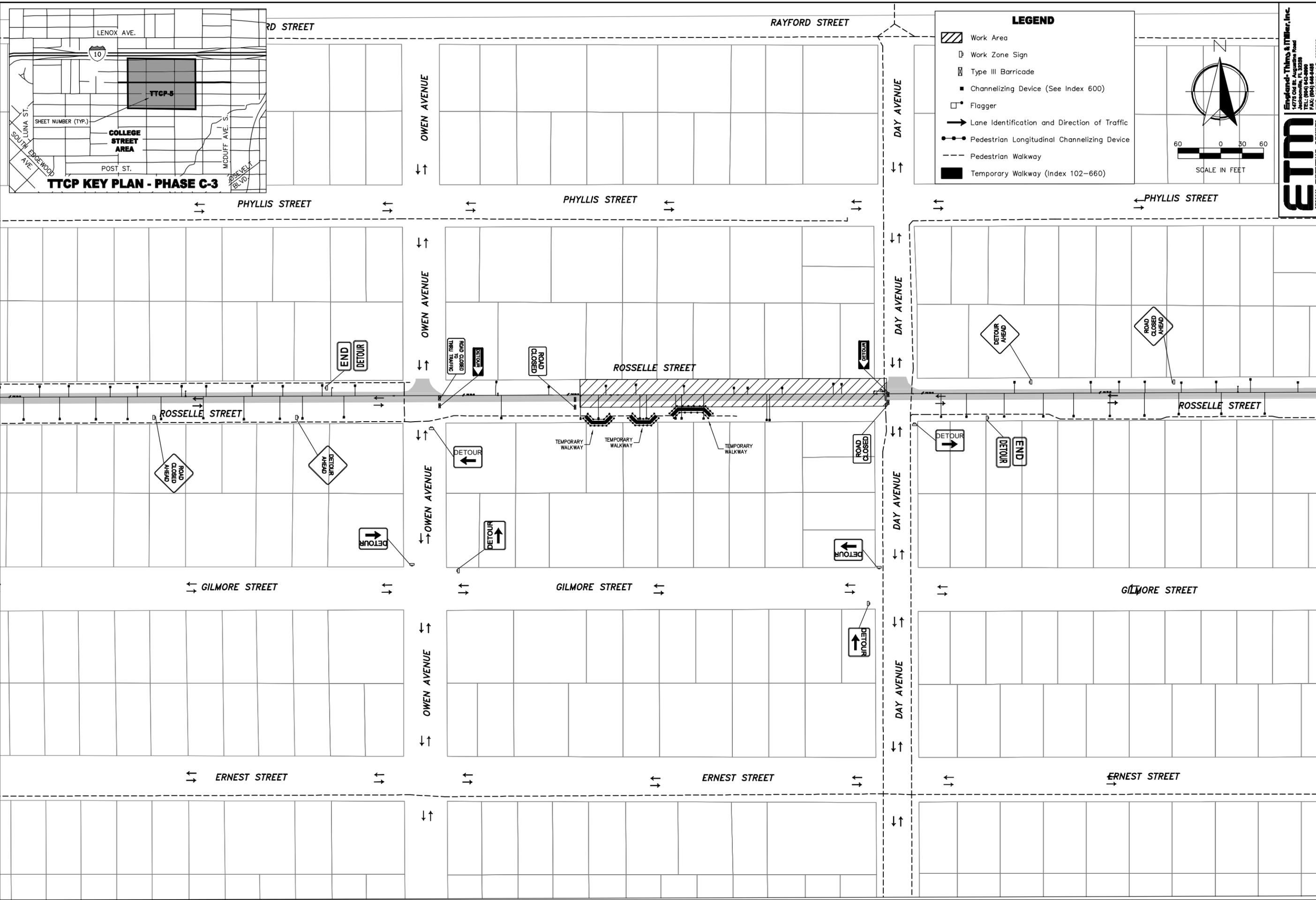


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DRAWN BY: R. MCDANIEL		FLORIDA REGISTRATION NO.: 56371	
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**GALVANIZED PIPE REPLACEMENT PROGRAM**  
**COLLEGE STREET AREA - PACKAGE C**  
**TTCP - PHASE C2**



**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)

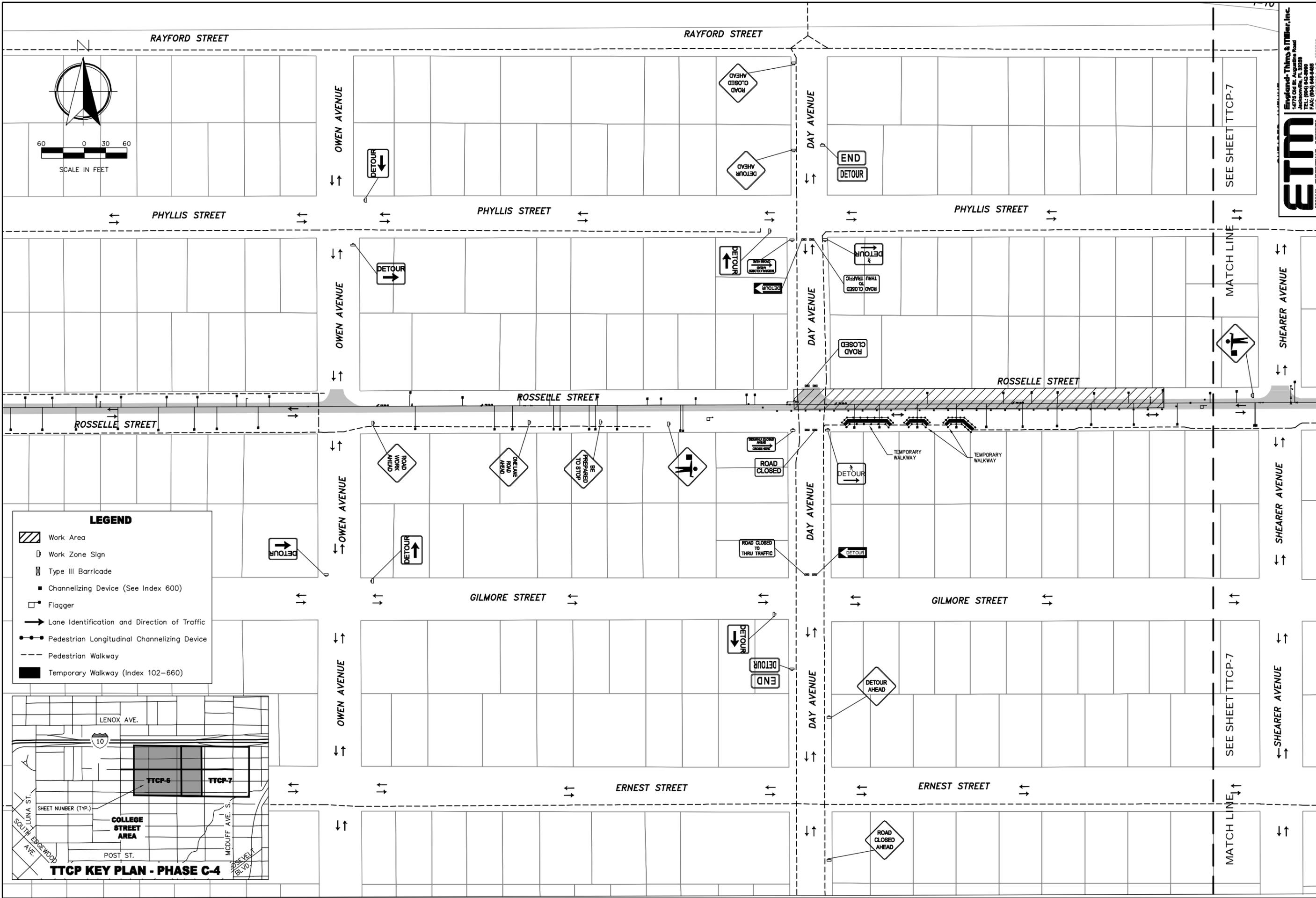
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DESIGNER	N. BOLATETE		
DRAWN BY	R. MCDANIEL		
DATE			
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DATE			
DESIGN ENGINEER	MATT S. MAGGIORE		
FLORIDA REGISTRATION NO.	56371		
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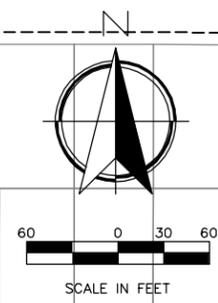
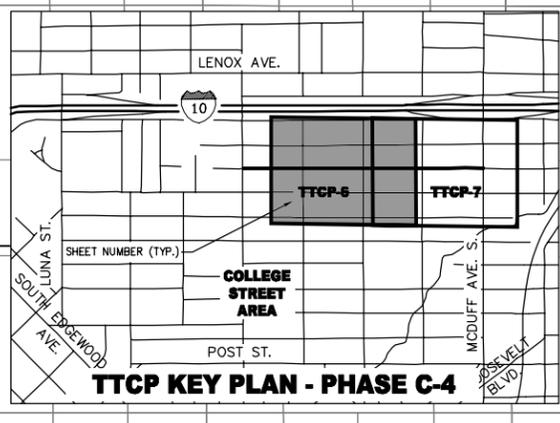


**GALVANIZED PIPE REPLACEMENT PROGRAM**  
**COLLEGE STREET AREA - PACKAGE C**  
**TTCP - PHASE C3**



**LEGEND**

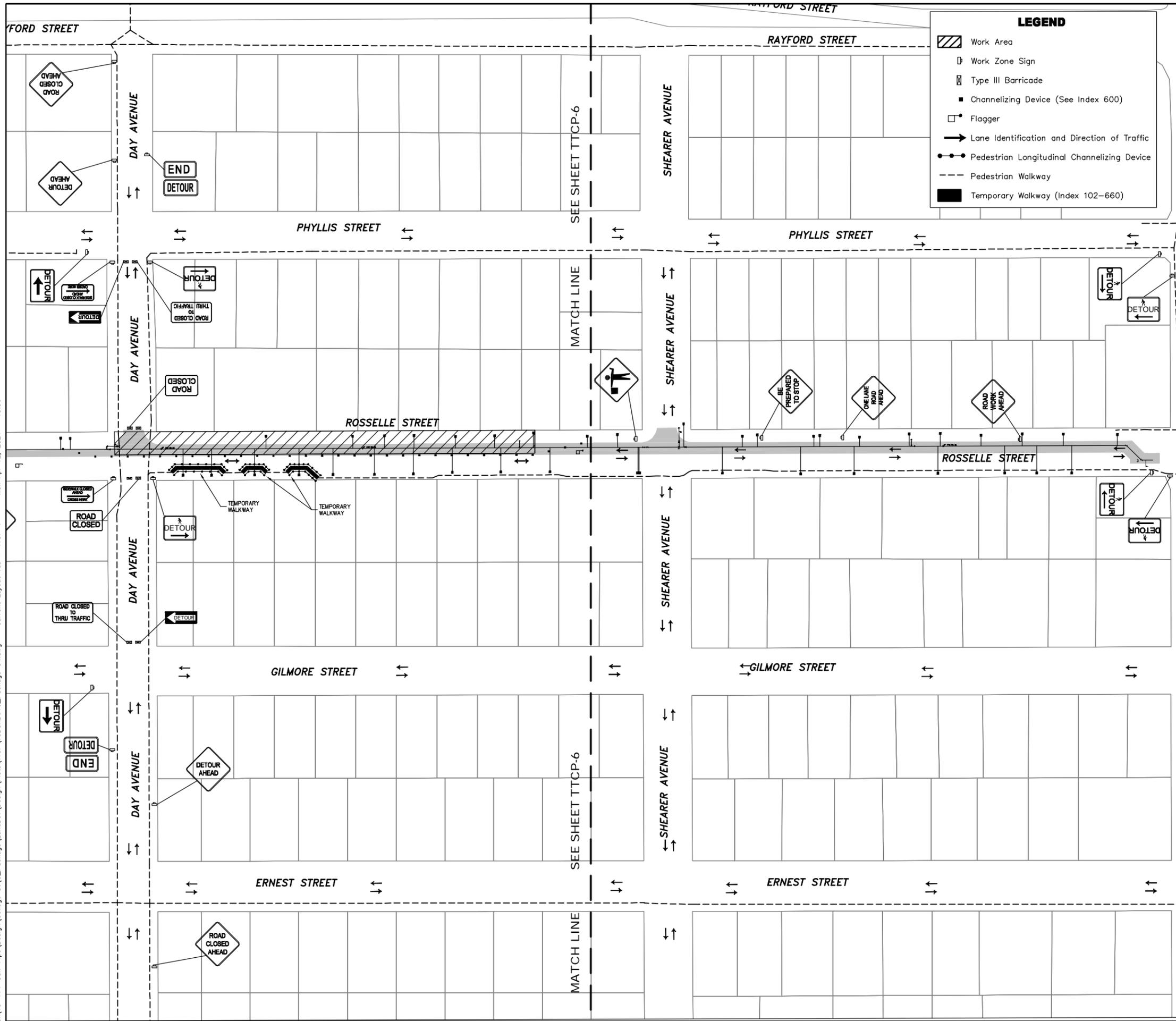
- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)



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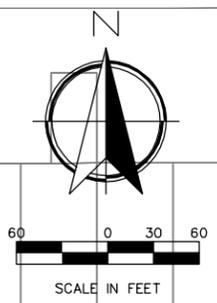
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DESIGNER	N. BOLATETE	DESIGN ENGINEER	MATT S. MAGGIORE																								
DRAWN BY	R. MCDANIEL	FLORIDA REGISTRATION NO.	56371																								
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**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)



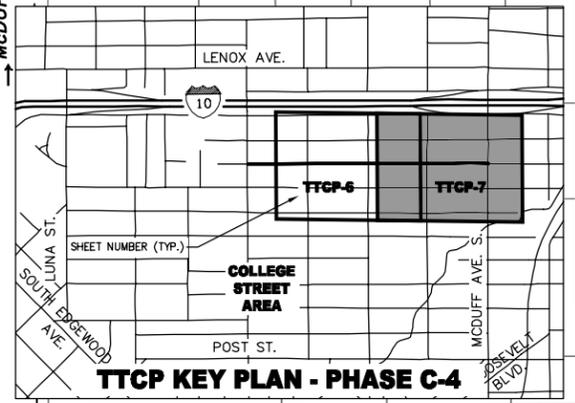
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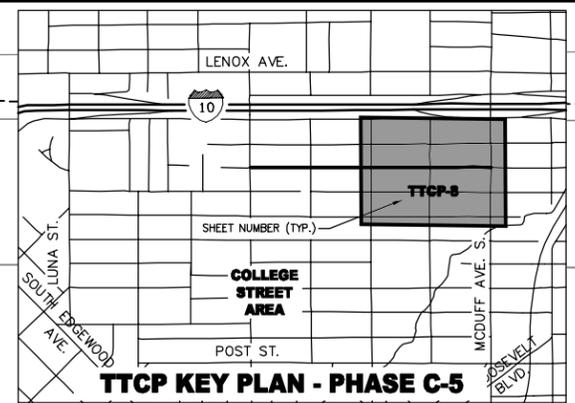
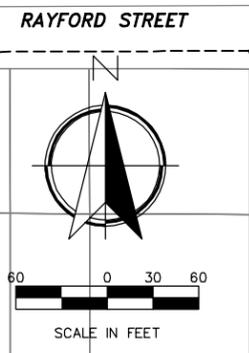
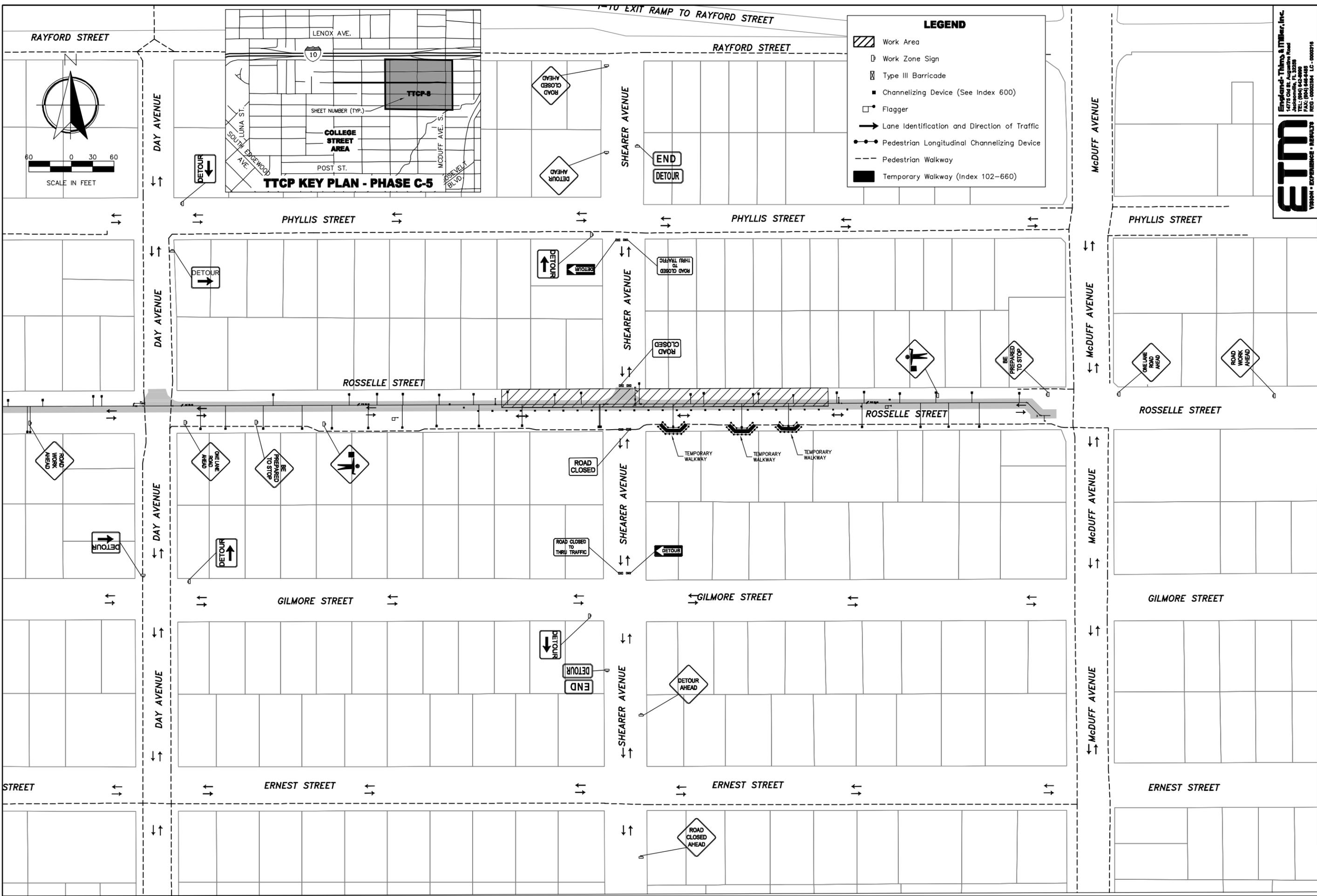
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**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP - PHASE C4**

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SHEET NO.	SCALE	AS NOTED
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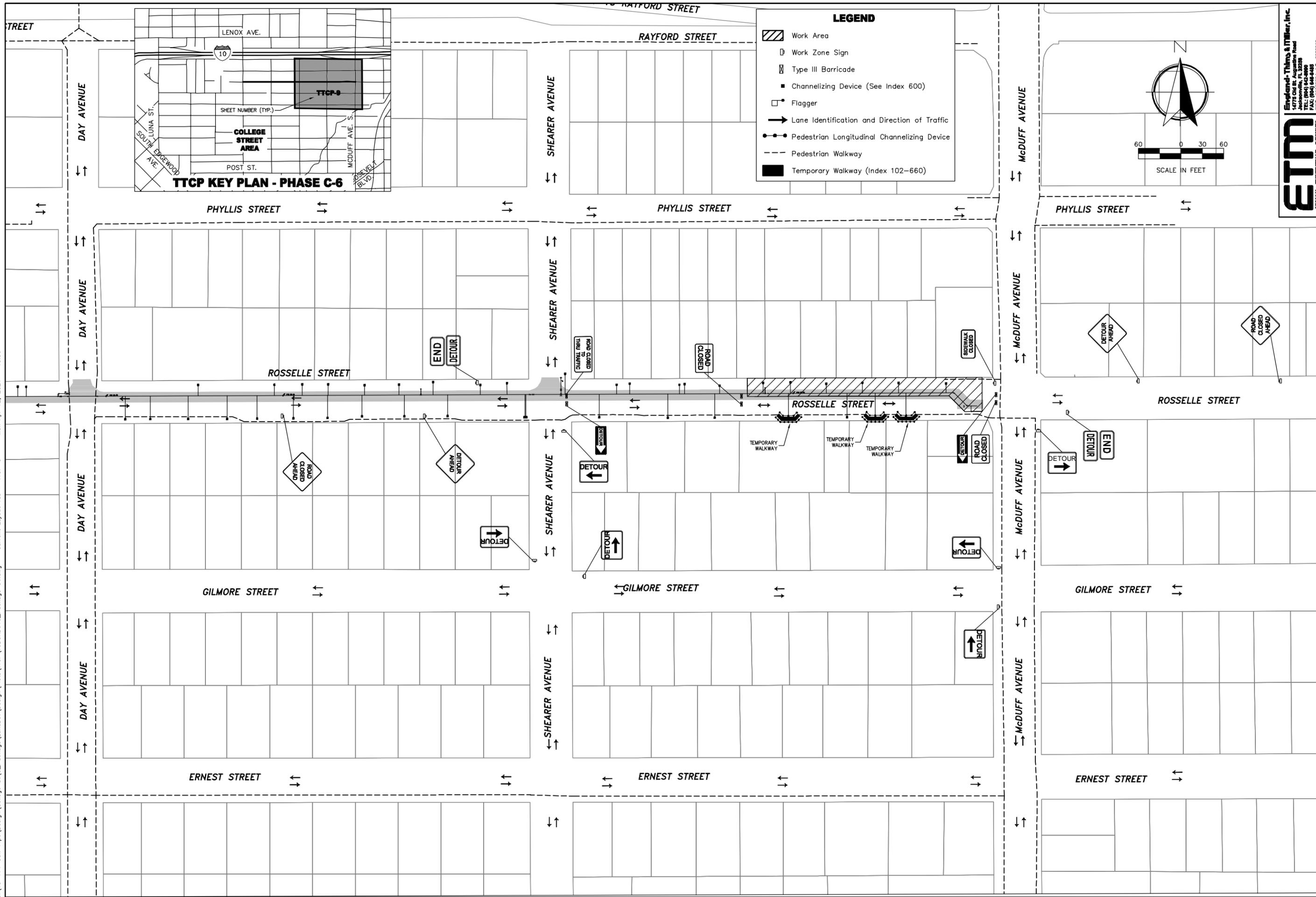
**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)

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PROJ. NO. 18-171	DATE: APRIL 12, 2021	SCALE: AS NOTED
NO. SHEETS 32	SHEET NO. 27	DRAWING NO. TTCP-8
GALVANIZED PIPE REPLACEMENT PROGRAM COLLEGE STREET AREA - PACKAGE C TTCP - PHASE C5		
DESIGNER: N. BOLATETE	DESIGN ENGINEER: MATT S. MAGGIORE	FLORIDA REGISTRATION NO. 56371
DRAWN BY: R. MCDANIEL	CHECKED BY: N. BOLATETE	DATE:
REVISIONS NO. BY DATE		

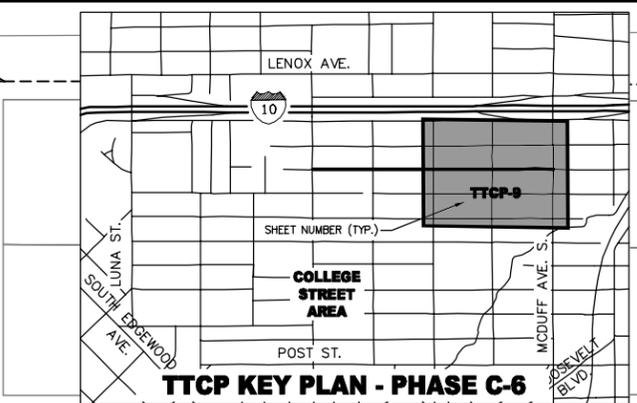




**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Channelizing Device (See Index 600)
- Flagger
- Lane Identification and Direction of Traffic
- Pedestrian Longitudinal Channelizing Device
- Pedestrian Walkway
- Temporary Walkway (Index 102-660)

North arrow pointing up and a graphic scale bar showing 0, 30, and 60 feet. The text 'SCALE IN FEET' is centered below the scale bar.



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NO. SHEETS	32	PROJ. NO.	18-171
SHEET NO.	28	DATE	APRIL 12, 2021
DRAWING NO.	TTCP-9	SCALE	AS NOTED
DESIGNER: N. BOLATETE		DESIGN ENGINEER: MATT S. MAGGIORE	
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**GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP - PHASE C6**

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SHEET	CONTENTS
1	General Notes
2	Definitions Temporary Traffic Control Devices Pedestrian and Bicyclist Overhead Work Railroads Sight Distance Above Ground Hazard
3	Clear Zone Widths For Work Zones Superelevation Length Of Lane Closures Overweight/Oversize Vehicles Lane Widths High-Visibility Safety Apparel Regulatory Speeds In Work Zones
4	Flagger Control Survey Work Zones Signs
5	Work Zone Sign Supports
6	Commonly Used Warning and Regulatory Signs In Work Zones
7	Manholes/Crosswalks/Joints Truck Mounted Attenuators Removing Pavement Markings Signals Channelizing Devices Channelizing Devices Consistency Portable Changeable (Variable) Message Signs (PCMS) Advanced Warning Arrow Boards
8	Drop-Offs In Work Zones
9	Business Entrance Temporary Asphalt Separator
10	Channelizing Devices Notes Temporary Barrier Notes
11	Pavement Markings

**GENERAL NOTES:**

- All projects and works on highways, roads and streets shall have a traffic control plan. All work shall be executed under the established plan and Department-approved procedures. This Index contains information specific to the Federal and State guidelines and standards for the preparation of traffic control plans and for the execution of traffic control in work zones, for construction and maintenance operations and utility work on highways, roads and streets on the State Highway System. Certain requirements in this Index are based on the high volume nature of State Highways. For highways, roads and streets off the State Highway System, the local agency (City/County) having jurisdiction may adopt requirements based on the minimum requirements provided in the MUTCD.
- Indexes 102-601 through 102-670 are Department-specific typical applications of commonly encountered situations. Adjust device location or number thereof as recommended by the Worksite Traffic Supervisor and approved by the Engineer. Devices include, but are not limited to, flaggers, portable temporary signals, signs, pavement markings, and channelizing devices. Comply with MUTCD or applicable Department criteria for any changes and document the reason for the change.
- Except for emergencies, any road closure on State Highway System shall comply with Section 335.15, F.S.

LAST REVISION 01/28/20	DESCRIPTION:	 <b>FY 2020-21 STANDARD PLANS</b>	<b>GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES</b>	INDEX 102-600	SHEET 1 of 11
REVISION				PROJ. NO. 18-171	DATE: APRIL 12, 2021



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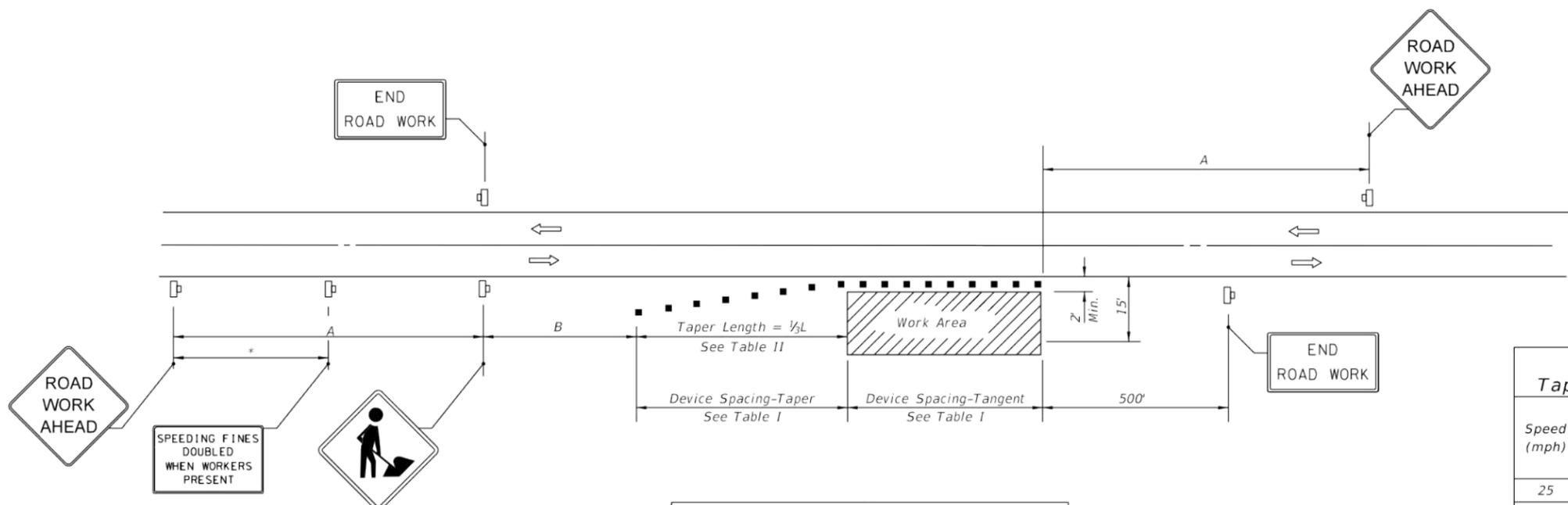
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GALVANIZED PIPE REPLACEMENT PROGRAM  
COLLEGE STREET AREA - PACKAGE C  
TTCP FOOT DETAILS

NO. SHEETS 32	PROJ. NO. 18-171
SHEET NO. 29	DATE: APRIL 12, 2021
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Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

\*Midway between signs.

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Speed (mph)	1/2 L (ft)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	$L = \frac{WS^2}{60}$
30	40	50	60	
35	55	68	82	
40	72	90	107	$L = WS$
45	120	150	180	
50	133	167	200	
55	147	183	220	
60	160	200	240	
65	173	217	260	
70	187	233	280	

8' minimum shoulder width  
 1/2 L = Length of shoulder taper in feet  
 W = Width of total shoulder in feet (combined paved and unpaved width)  
 S = Posted speed limit (mph)

**SYMBOLS**

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

**GENERAL NOTES**

- When four or more work vehicles enter the through traffic lanes in a one hour period or less (excluding establishing and terminating the work area), the advanced FLAGGER sign shall be substituted for the WORKERS sign. For location of flaggers and FLAGGER signs, see Index 102-603.
- SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign only on the side where the shoulder work is being performed.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index 102-600.

**DURATION NOTES**

- Signs and channelizing devices may be omitted if all of the following conditions are met:
  - Work operations are 60 minutes or less.
  - Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

**CONDITIONS**

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

LAST REVISION 11/01/17	DESCRIPTION:	FY 2020-21 STANDARD PLANS	TWO-LANE, TWO-WAY, WORK ON SHOULDER	INDEX 102-602	SHEET 1 of 1
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DATE:	

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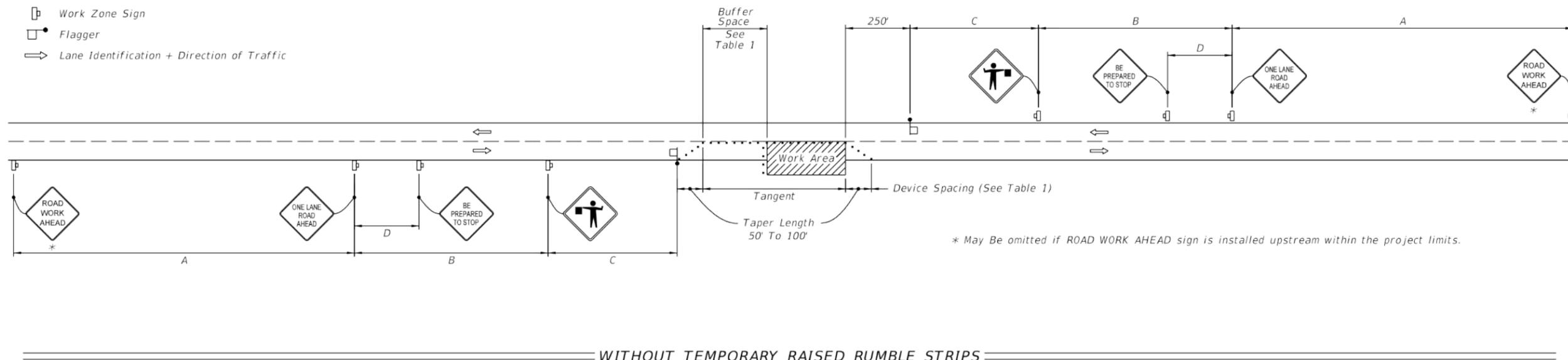
GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP FOOT DETAILS

PROJ. NO. 18-171	DATE: APRIL 12, 2021
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DRAWING NO. TTCP-11	

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**SYMBOLS:**

-  Work Area
-  Channelizing Device (See Index 102-600)
-  Work Zone Sign
-  Flagger
-  Lane Identification + Direction of Traffic



WITHOUT TEMPORARY RAISED RUMBLE STRIPS

**GENERAL NOTES:**

1. Special Conditions may be required in accordance with these notes and the following sheets:
  - A. Railroad Crossings:
    - a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 3.
    - b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.
  - B. If the Work Area encroaches on the Centerline, use the Layout for Temporary Lane Shift to Shoulder on Sheet 3 only if the Existing Paved Shoulder width is sufficient to provide for an 11' lane between the Work Area and the Edge of Existing Paved Shoulder. Reduce the posted speed when appropriate.
2. Temporary Raised Rumble Strips:
  - A. Use when both of the following conditions are met concurrently:
    - a. Existing Posted Speed is 55 mph or greater;
    - b. Work duration is greater than 60 minutes.
  - B. Use a consistent Strip color throughout the work zone.
  - C. Place each Rumble Strip Set transversely across the lane at locations shown.
  - D. Use Option 1 or Option 2 as shown on Sheet 2. Use only one option throughout work zone.
3. Additional one-way control may be provided by the following means:
  - A. Flag-carrying vehicle;
  - B. Official vehicle;
  - C. Pilot vehicles;
  - D. Traffic signals.

When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.
4. When a side road intersects the highway within the TTC zone, place additional TTC devices in accordance with other applicable TCZ Indexes.
5. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. When Buffer Space cannot be attained due to geometric constraints, use the greatest attainable length, not less than 200 ft, for posted speeds greater than 25 mph.
7. ROAD WORK AHEAD and the BE PREPARED TO STOP signs may be omitted if all of the following conditions are met:
  - A. Work operations are 60 minutes or less.
  - B. Speed limit is 45 mph or less.
  - C. There are no sight obstructions to vehicles approaching the work area for a distance equal to the Buffer Space shown in Table 1.
  - D. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
  - E. Volume and complexity of the roadway has been considered.
  - F. If a railroad crossing is present, vehicles will not queue across rail tracks.
  - G. AFADs are not in use.
8. See Index 102-600 for general TCZ requirements and additional information.
9. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specifications Section 102, 990 and the APL vendor drawings.

Posted Speed	DEVICE SPACING				Distance Between Signs				Buffer Space
	Maximum Spacing of Cones or Tubular Markers		Maximum Spacing of Type I or Type II Barricades/Panels/Drums		A	B	C	D	
	On a Taper	On a Tangent	On a Taper	On a Tangent					
25	20'	50'	20'	50'	200'	200'	200'	100'	155'
30	20'	50'	20'	50'	200'	200'	200'	100'	200'
35	20'	50'	20'	50'	200'	200'	200'	100'	250'
40	20'	50'	20'	50'	200'	200'	200'	100'	305'
45	20'	50'	20'	50'	350'	350'	350'	175'	360'
50	20'	50'	20'	100'	500'	500'	500'	250'	425'
55	20'	50'	20'	100'	2640'	1500'	1000'	500'	495'
60	20'	50'	20'	100'	2640'	1500'	1000'	500'	570'
65	20'	50'	20'	100'	2640'	1500'	1000'	500'	645'
70	20'	50'	20'	100'	2640'	1500'	1000'	500'	730'

**CONDITIONS**  
 WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA BETWEEN THE CENTERLINE AND A LINE 2' OUTSIDE THE EDGE OF TRAVEL WAY.

LAST REVISION 11/01/17	DESCRIPTION:	 FY 2020-21 STANDARD PLANS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 1 of 3
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**ETM**  
 ENGINEERING - THINGS & MILLER, INC.  
 14775 Old St. Augustine Road  
 Jacksonville, FL 32228  
 PHONE: (904) 644-4445  
 FAX: (904) 644-4445  
 REG. - 00002364 LC - 000019

NO.	BY	DATE	REVISIONS
1			
2			
3			
4			
5			

**JEA**  
 Building Community

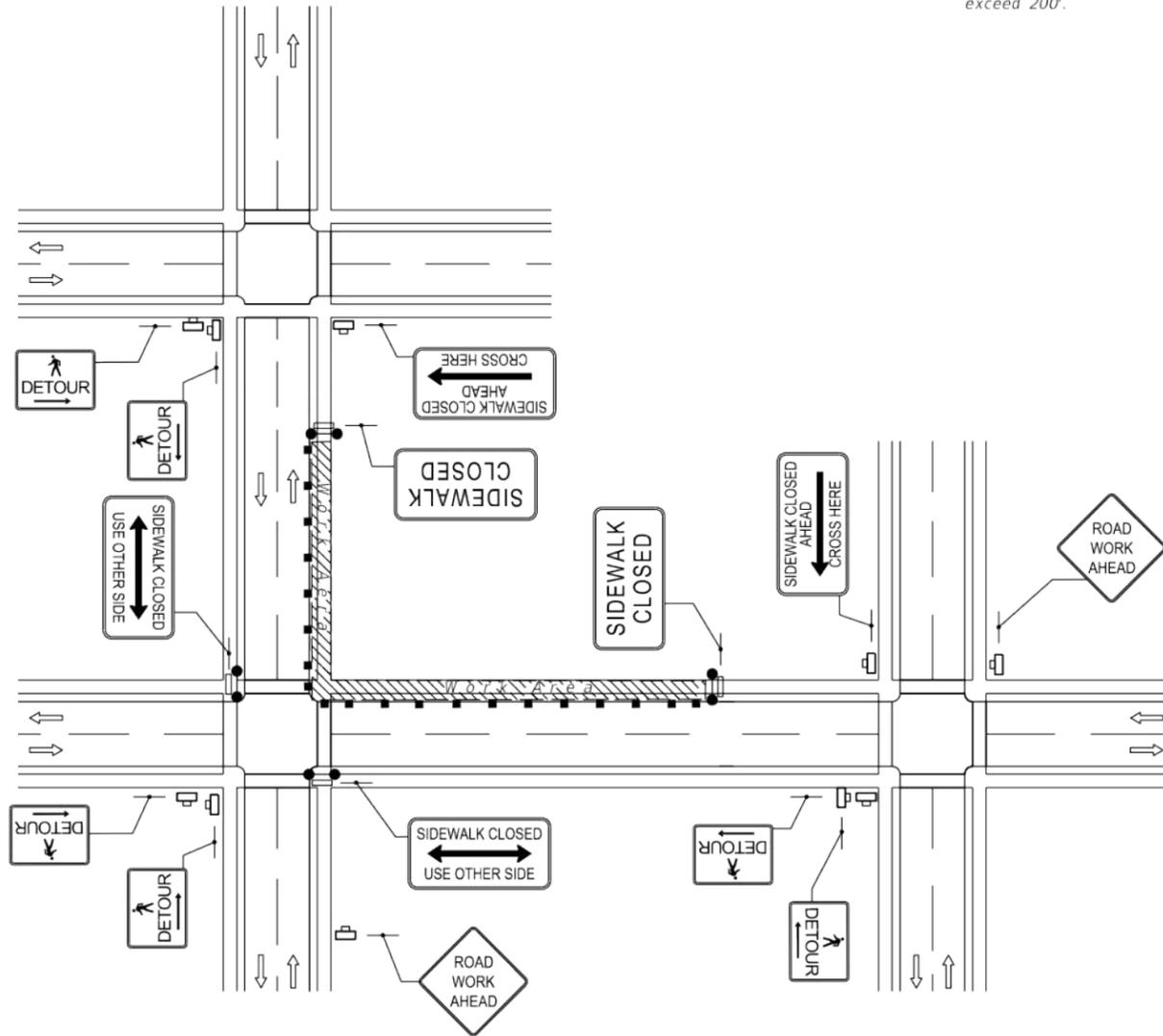
GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP FDOT DETAILS

PROJ. NO. 18-171	DATE APRIL 12, 2021	SCALE AS NOTED
NO. SHEETS 32	SHEET NO. 31	DRAWING NO. TTCP-12

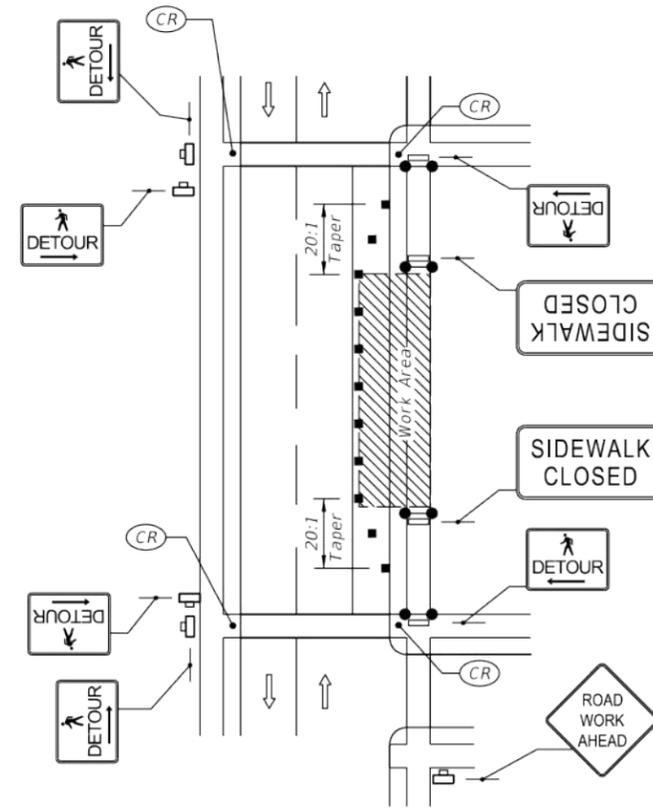
G:\18-171 Galv Pipe Design\College St\C-Package\LandDev\Design\Plots\18-171 PACKAGE C MOT DETAILS.dwg PLOTTED: Apr. 12, 21 - 3:31 PM. BY: Alex Anderson

**SYMBOLS**

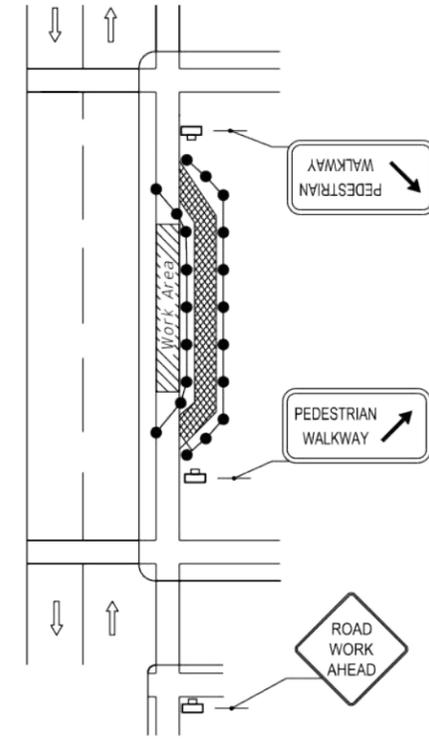
-  Work Area
-  Channelizing Device
-  Work Zone Sign
-  Required Locations For Either Temporary Or Permanent Curb Ramps.
-  Lane Identification + Direction of Traffic
-  Pedestrian Longitudinal Channelizing Device (LCD) with Mounted Work Zone Sign or separate Work Zone Sign
-  Pedestrian Longitudinal Channelizing Device (LCD)
-  Temporary Sidewalk



CROSSWALK CLOSURE AND PEDESTRIAN DETOUR



SIDEWALK DETOUR



SIDEWALK DIVERSION

**GENERAL NOTES:**

1. When encroaching work requires a sidewalk closure for 60 minutes or greater, provide an alternate pedestrian route.
2. For spacing of vehicular Channelizing Devices, see applicable vehicular temporary traffic control Indexes.
3. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.
4. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.
5. Provide a 5' wide temporary walkway, except where space restrictions warrant a minimum width of 4'. Provide a 5' x 5' passing space for temporary walkways less than 5' in width at intervals not to exceed 200'.
6. Provide a cross-slope with a maximum value of 0.02 for all temporary walkways.
7. Maintain temporary walkway surfaces and ramps that are stable, firm, slip-resistant, and free of any obstructions or hazards such as holes, debris, mud, construction equipment, and stored material.
8. Remove temporary walkways immediately after reopening of the sidewalk, unless otherwise noted in the plans.
9. Meet the requirements of Index 522-002 for temporary curb ramps.
10. Place pedestrian longitudinal channelizing device(s) across the full width of the closed sidewalk. For temporary walkways, similar to the Sidewalk Diversion, place LCDs to delineate both sides of the temporary walkway.
11. For sidewalk diversions, ensure that there is sufficient R/W for placement of temporary sidewalk and pedestrian longitudinal channelizing devices.

2/26/2020 12:43:24 PM

LAST REVISION	DESCRIPTION:
11/01/17	

REVISION	DESCRIPTION:

 **FY 2020-21 STANDARD PLANS**

**PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS**

INDEX	SHEET
102-660	1 of 1

**ETM**  
 Englund-Thoms & Miller, Inc.  
 14775 Old St. Augustine Road  
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 TEL: (904) 644-4444 FAX: (904) 644-4445  
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NO.	BY	DATE	REVISIONS
1			
2			
3			
4			

DESIGNER:	N. BOLATETE	DESIGN ENGINEER:	MATT S. MAGGIORE
DRAWN BY:	R. MCDANIEL	FLORIDA REGISTRATION NO.:	56371
DATE:		CHECKED BY:	N. BOLATETE
CHECKED BY:	N. BOLATETE	DATE:	

**JEA**  
 Building Community  
 GALVANIZED PIPE REPLACEMENT PROGRAM  
 COLLEGE STREET AREA - PACKAGE C  
 TTCP FOOT DETAILS

PROJ. NO.:	18-171
DATE:	APRIL 12, 2021
SCALE:	AS NOTED

NO. SHEETS	32
SHEET NO.	22
DRAWING NO.	TTCP-13