

# CONSTRUCTION PLANS FOR HOLDEN AVENUE PHASE 1 UTILITY IMPROVEMENTS

FROM JOHN YOUNG PARKWAY TO  
ORANGE BLOSSOM TRAIL (U.S. 441)



**PROJECT SEQ. #36906      UNIT 1432 - SUBUNIT 96**

DISTRICT NO. 6  
ORANGE COUNTY, FLORIDA

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## BID SET

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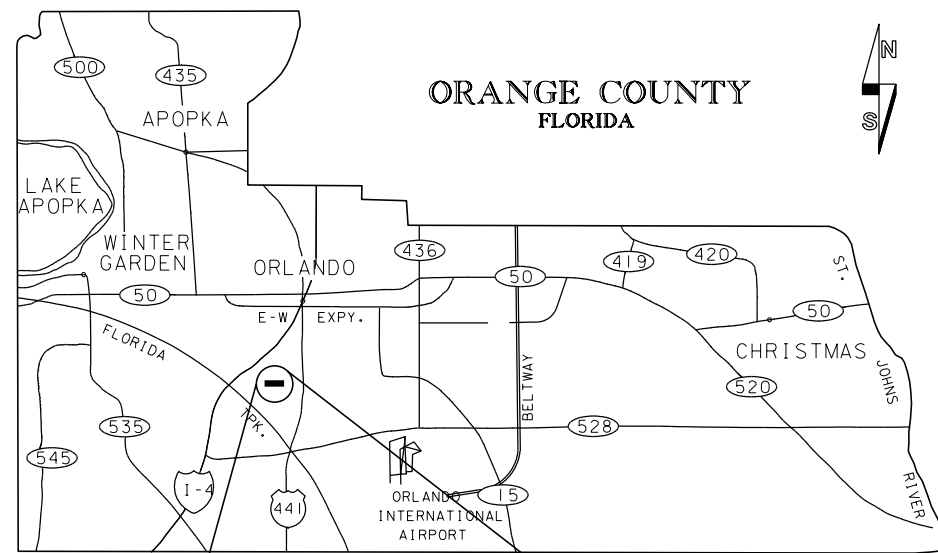
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DIRECTOR ORANGE COUNTY UTILITIES DEPARTMENT



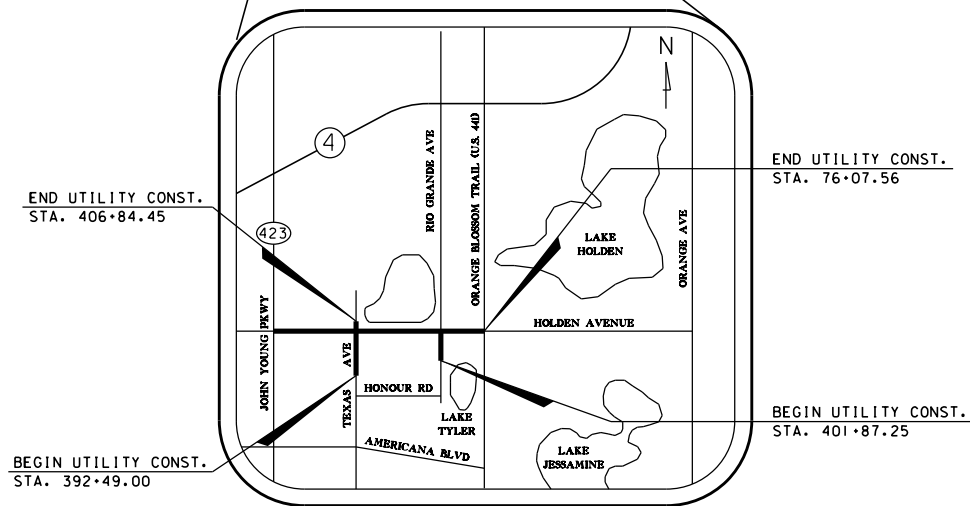
REVISIONS	DATE	BY

DESIGNED BY:	FWA	DATE:	
CHECKED BY:	RB	DATE:	
DRAWN BY:	TA	DATE:	
APPROVED BY:	TGL	DATE:	
PROJECT NO.:	04012.40		

SHEET **U1**  
OF **U24**



LOCATION MAP  
N.T.S.



VICINITY MAP  
N.T.S.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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*HOLDEN AVENUE  
PROJECT LOCATION*

SHEET  
NO.  
**U-2**

UTILITIES ENCOUNTERED

TELEPHONE, FIBER OPTIC CABLE	
BELL SOUTH	(407) 273-5084
AT&T (PEA)	(407) 578-8000
NATURAL GAS	
TECO/PEOPLES GAS	(407) 420-2679
WATER	
ORLANDO UTILITIES COMMISSION (DISPATCH)	(407) 236-9651
OVERHEAD AND UNDERGROUND ELECTRIC	
ORLANDO UTILITIES COMMISSION	(407) 649-4449
CABLE TV	
BRIGHT HOUSE NETWORKS	(407) 532-8509
ORANGE COUNTY UTILITIES	
DISPATCH	(407) 836-2777
FIELD SERVICES	(407) 836-6818 OR
	UD-FSC@OCFL.NET
RAY RICE (INSPECTOR/ CONSTRUCTION DIVISION)	(407) 947-9800

NOTE: THIS LISTING IS PROVIDED AS AN AID TO THE CONTRACTOR. UTILITIES LISTED ARE THOSE WHICH ARE KNOWN TO HAVE FACILITIES WITHIN THE GENERAL LOCATION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY AND ARRANGE FOR FIELD LOCATION OF ALL FACILITIES THAT ARE ENCOUNTERED DURING CONSTRUCTION.

GENERAL CONSTRUCTION NOTES

ALL WORK AND REQUIREMENTS FROM THE NOTES IN THIS PAGE SHALL BE A REQUIREMENT OF THE CONTRACT AND EXECUTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO ORANGE COUNTY.

- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING IN PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS AND RECLAIMED WATER MAINS. MAIN LOCATIONS SHOWN ON THE PLANS MAY NOT BE EXACT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
- SHOULD A PIPE EMERGENCY OCCUR, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OCU DISPATCH OPERATOR (407-836-2777) AND THE OCU INSPECTOR.
- THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION DIVISION AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION PROJECT BY CALLING (407) 254-9798.
- THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION DIVISION AT LEAST 48 HOURS PRIOR TO ANY UTILITIES CONSTRUCTION BY CALLING (407) 254-9798.
- THE MATERIALS, PRODUCTS, AND CONSTRUCTION OF ALL UTILITIES CONNECTING TO THE OCU SYSTEM SHALL BE IN CONFORMANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL.
- ALL OCU MAINS AND FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL ADJUST ALL EXISTING OCU MAINS AND FACILITIES IN CONFLICT WITH NEW GRADE, NEW OR ALTERED ROADWAYS, SIDEWALKS, DRIVEWAYS, OR STORM WATER IMPROVEMENTS. OCU FACILITIES TO BE ADJUSTED INCLUDE, BUT ARE NOT LIMITED TO PIPELINES, PUMP STATIONS, VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS AND METERS. ALL EXISTING AND NEW OCU WATER AND SEWER VALVES, VALVE BOXES, AND MANHOLES SHALL BE PROTECTED AND ADJUSTED TO FINISH GRADE AS SHOWN ON THE DRAWINGS. VALVE AND VALVE BOXES SHALL REMAIN ACCESSIBLE AT ALL TIMES. ANY VALVES THAT MIGHT BE COVERED DURING CONSTRUCTION SHALL BE MARKED WITH A MARKER (GREEN FOR SEWER, BLUE FOR WATER, AND PURPLE FOR RECLAIMED WATER MAIN), A MINIMUM OF FOUR (4) FEET ABOVE GRADE. ALL VALVES UNDER CONSTRUCTION ARE TO REMAIN CLOSED DURING CONSTRUCTION.
- ONLY OCU SHALL OPERATE OCU WATER, WASTEWATER, AND RECLAIMED WATER VALVES. THE CONTRACTOR SHALL COORDINATE VALVE OPERATION WITH THE OCU INSPECTOR. FOR OPERATION OF MAINS NOT OWNED BY OCU, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE APPROPRIATE UTILITY REPRESENTATIVE.
- CONSTRUCTION ACTIVITIES SHALL NOT CAUSE INTERRUPTIONS IN WATER, WASTEWATER, OR RECLAIMED WATER SERVICE. THE CONTRACTOR SHALL COORDINATE PRE-APPROVED INTERRUPTIONS OF SERVICE WITH THE OCU INSPECTOR 7 WORKING DAYS IN ADVANCE.
- THE CONTRACTOR SHALL PROVIDE FOR BYPASSING AND/OR HAULING WASTEWATER. THE CONTRACTOR SHALL SUBMIT A BYPASS PLAN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER TO OCU DEVELOPMENT ENGINEERING FOR APPROVAL PRIOR TO IMPLEMENTATION BY CONTRACTOR.
- ALL VALVES INSTALLED AS PART OF THIS CONSTRUCTION PROJECT SHALL REMAIN CLOSED DURING CONSTRUCTION. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT NEWLY CONSTRUCTED WATER MAINS TO ANY EXISTING WATER MAINS UNLESS CLEARED BY FDEP AND OCU.
- THE CONTRACTOR SHALL PROVIDE A JUMPER ASSEMBLY WITH A BACKFLOW PREVENTER FOR MAKING TEMPORARY CONNECTIONS TO AN EXISTING POTABLE WATER SOURCE IN ORDER TO CHLORINATE AND FLUSH NEW WATER MAINS WITH POTABLE WATER. ANY TEMPORARY POTABLE WATER CONNECTIONS TO RECLAIMED WATER OR FORCEMAIN SHALL ALSO BE EQUIPPED WITH A BACKFLOW PREVENTER.

- FOR PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY OCU, NO PIPE BENDING IS ALLOWED. THE MAXIMUM ALLOWABLE TOLERANCE FOR JOINT DEFLECTION IS 0.75 DEGREES (3-INCHES PER JOINT PER 20 FT STICK OF PIPE). ALIGNMENT CHANGE SHALL BE MADE ONLY WITH SLEEVES AND FITTINGS.
- FOR NON-PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY OCU, LONG RADIUS CURVES, EITHER HORIZONTAL OR VERTICAL MAY BE INSTALLED WITH STANDARD PIPE BY DEFLECTIONS AT THE JOINTS. MAXIMUM DEFLECTIONS AT PIPE JOINTS, FITTINGS AND LAYING RADIUS FOR THE VARIOUS PIPE LENGTHS SHALL NOT EXCEED 75 PERCENT OF THE PIPE MANUFACTURER'S RECOMMENDATION.
- CONTRACTOR SHALL COORDINATE WITH ALL OTHER UTILITY OWNERS FOR RESOLUTION OF CONFLICTS. CONTRACTOR SHALL HAVE 48 HOURS TO DETERMINE THE RESOLUTION OF ANY UNKNOWN OR UNFORESEEN CONFLICTS. COSTS INCURRED SHALL BE BORNE BY THE UTILITY OWNER AND/OR CONTRACTOR AND NO CLAIMS MAY BE MADE AGAINST ORANGE COUNTY OR THE ENGINEER FOR THESE CONFLICTS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THE PERIOD OF TIME TO RESOLVE ANY CONFLICTS.
- SUPPORT & PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS FOR LOCATION OF ALL EXISTING FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS AND BE RESPONSIBLE FOR PROVIDING TEMPORARY SUPPORT FOR UTILITY POLES AND ALL OTHER UTILITIES DURING CONSTRUCTION.
- THE UTILITIES IMPROVEMENTS AND ADJUSTMENT SHOWN ON THESE DRAWINGS ARE INTENDED TO MAINTAIN THE INTEGRITY OF THE ORANGE COUNTY WATER, WASTEWATER, AND RECLAIMED WATER SYSTEMS. THE DRAWINGS DO NOT INCLUDE WORK PERFORMED ON, OR FOR UTILITY SYSTEMS OWNED BY OTHERS, UNLESS STATED OTHERWISE ON THE DRAWINGS.
- NOTIFY FIBER OPTICS COMPANIES SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION. EXTREME CAUTION SHALL BE EXERCISED IN THE AREAS OF FIBER OPTICS.
- SEE DETAIL SHEET FOR SEPARATION REQUIREMENTS BETWEEN WATER MAINS, SEWER MAINS AND OTHER PIPELINES AND MAINS. NO CONCRETE ENCASEMENT OF PIPES WILL BE PERMITTED.
- ALL PVC WATER MAIN, SEWER AND RECLAIMED MAIN PIPE SHALL CONFORM TO AWWA C900, C909, DR 16, OR C905, DR 18. ALL DUCTILE IRON WATER MAIN AND RECLAIM WATER SHALL CONFORM TO ANSI/AWWA A21.51/C151. ALL PVC PRESSURE PIPES SHALL USE DUCTILE IRON FITTINGS. FITTINGS FOR ALL SERVICES SHALL BE BRASS. GRAVITY MAIN SHALL MEET ASTM 03034, MAX SDR 35.
- ALL PIPE, PIPE FITTINGS AND APPURTENANCES INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320 (21) (b) 3, FAC, USING BLUE AS A PREDOMINANT COLOR FOR WATER; GREEN FOR WASTEWATER; PURPLE FOR RECLAIMED WATER.
- ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD 'D' TEST (MODIFIED PROCTOR) IN OPEN AREAS AND TO NOT LESS THAN 98% MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD 'D' TEST (MODIFIED PROCTOR) UNDER ASPHALT OR CONCRETE PAVEMENT AND WITHIN 3-FT OF PAVEMENT. ALL SOIL TESTING TO BE CONDUCTED BY THE COUNTY. THE CONTRACTOR SHALL PROVIDE ALL REASONABLE ASSISTANCE DURING SOIL TESTING.
- PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION.
- ALL STATIONS AND OFFSETS REFER TO CENTERLINE OF CONSTRUCTION.
- MAINTAIN EMERGENCY VEHICLE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES.
- LOCAL RESIDENTIAL AND BUSINESS ACCESS SHALL BE MAINTAINED AT ALL TIMES. PROVIDE WRITTEN NOTIFICATION TO RESIDENTS SEVEN (7) DAYS PRIOR TO IMPLEMENTING ANY ROADWAY OR DRIVEWAY CLOSURE.
- ALL MAINS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. A MINIMUM COVER OF 36 INCHES SHALL BE MAINTAINED ON ALL MAINS, WHERE IT IS NOT OTHERWISE SPECIFIED ON PLANS OR DIRECTED BY THE ENGINEER. A MINIMUM COVER OF 48" SHALL BE MAINTAINED FOR MAINS 16 INCHES OR HIGHER IN DIAMETER OR GREATER (SEE TABLE 2210-1 OCU STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL). ALL DIRECTION CHANGES IN THE PIPE BOTH HORIZONTAL AND VERTICAL SHALL BE BY JOINT DEFLECTION UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER. JOINT DEFLECTION SHALL NOT EXCEED 50% OF THE MANUFACTURER'S RECOMMENDED DEFLECTION FOR DUCTILE IRON PIPE. NO JOINT DEFLECTIONS OR BENDING IS ALLOWED IN PVC PIPE. ALIGNMENT CHANGE FOR PVC PIPE SHALL BE MADE ONLY WITH FITTINGS.
- ALL PIPES SHALL BE RESTRAINED IN ACCORDANCE WITH THE RESTRAINT TABLES SHOWN ON THE DETAIL SHEETS. IN ADDITION, ALL FITTINGS SHALL BE MECHANICAL JOINT RESTRAINED. NO THRUST BLOCKS SHALL BE PERMITTED. RESTRAIN EXISTING PIPE WHERE REQUIRED IN ACCORDANCE WITH THE RESTRAINT TABLES.
- COMPLETE ALL CONSTRUCTION WITHIN RIGHT-OF-WAY LIMITS AND EASEMENT LIMITS, UNLESS OTHERWISE NOTED.
- PIPE SIZES SHOWN ON PLANS ARE MINIMUM INSIDE DIAMETER.
- ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE BY THE CONTRACTOR ONLY AFTER THE PROPOSED CONNECTION PROCEDURE AND WORK SCHEDULE HAVE BEEN REVIEWED AND ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE OWNER A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO SCHEDULING ANY CONNECTIONS. THE REQUEST SHALL REFERENCE THE PROFESSIONAL LAND SURVEYOR CERTIFIED COMPLETED AS-BUILT RECORD DRAWINGS PREVIOUSLY SUBMITTED AND SHALL OUTLINE THE FOLLOWING:
  - POINTS OF CONNECTION, FITTINGS TO BE USED, METHODS OF FLUSHING AND DISINFECTION AND VERIFICATION OF RESTRAINT ON EXISTING PIPE.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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**ORANGE COUNTY**  
**GOVERNMENT**  
FLORIDA

**HOLDEN AVENUE**  
**UTILITY NOTES**

SHEET NO.  
**U-3**

- b. ESTIMATED CONSTRUCTION TIME FOR THE CONNECTIONS. THE OWNER SHALL REVIEW THE SUBMITTAL WITHIN FIVE (5) WORKING DAYS AFTER RECEIVING IT AND INFORM THE CONTRACTOR REGARDING APPROVAL OR DENIAL OF THE REQUEST. IF THE OWNER REJECTS THE REQUEST, THE CONTRACTOR SHALL RESUBMIT THE REQUEST MODIFYING IT IN A MANNER ACCEPTABLE TO THE OWNER. ALL CONNECTIONS SHALL ONLY BE MADE ON THE AGREED UPON DATE AND TIME. SHOULD THE CONTRACTOR NOT INITIATE AND COMPLETE THE CONNECTION WORK IN THE AGREED UPON MANNER, HE SHALL BE REQUIRED TO RESCHEDULE THE CONNECTION BY FOLLOWING THE PROCEDURE OUTLINED ABOVE. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES IN THE SYSTEM. MAINS SHALL NOT BE PLACED IN SERVICE UNTIL CLEARANCE IS RECEIVED FROM FDEP. AS-BUILT DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO WATER MAIN CHLORINATION.
32. PROTECT EXISTING IMPROVEMENTS TO THE MAXIMUM EXTENT POSSIBLE. RESTORE ALL EXISTING IMPROVEMENTS AND DISTURBED AREAS TO ORIGINAL CONDITION. PAVEMENT TO BE RESTORED IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAILS SHOWN ON THE CONSTRUCTION DETAIL SHEETS. ALL DAMAGED SIDEWALK, ROADWAY PAVEMENT AND OTHER IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION.
  33. ALL COUNTY ROADS TO BE OPEN CUT SHALL BE APPROVED BY ORANGE COUNTY PUBLIC WORKS PRIOR TO OPEN-CUTS. SUBMIT A MAINTENANCE OF TRAFFIC (MOT) PLAN CONFORMING TO ORANGE COUNTY RIGHT-OF-WAY UTILIZATION REGULATIONS TO ORANGE COUNTY PUBLIC WORKS A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO ANY WORK WITHIN COUNTY RIGHT-OF-WAY. A COPY OF THIS PLAN SHALL ALSO BE SUBMITTED TO THE ENGINEER AND UTILITY COUNTY INSPECTOR. NOTIFY THE COUNTY ENGINEER 48 HOURS PRIOR TO ANY OPEN CUT OF ROADWAYS OR JACK AND BORE OPERATIONS WITHIN THE COUNTY RIGHT-OF-WAY. TWO WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. MAINTAIN A SET OF COUNTY APPROVED CONSTRUCTION PLANS AND MOT PLANS AT THE CONSTRUCTION SITE AT ALL TIMES WHEN WORKING WITHIN THE COUNTY RIGHT-OF-WAY.
  34. INSTALL AIR RELEASE VALVES (ARV) AT ALL HIGH POINTS IN THE SYSTEM WHERE AIR CAN ACCUMULATE. AIR RELEASE VALVES AND APPURTENANCES SHALL BE COLOR CODED BLUE FOR WATER, GREEN FOR SEWER, AND PURPLE FOR RECLAIMED. STATIONING FOR AIR RELEASE VALVES IS APPROXIMATE. CONTRACTOR TO INSTALL AIR RELEASE VALVES AT HIGH POINTS IN MAIN.
  35. WATER, SEWER, AND RECLAIMED WATER LINE MARKERS SHALL BE PLACED EVERY 1,000 FT AND AT ALL VALVE AND DIRECTIONAL CHANGES. SEE VALVE AND PIPING MARKING DETAILS. NO MARKERS ARE REQUIRED AT VALVES ADJACENT TO FIRE HYDRANTS, OR IN RESIDENTIAL SUBDIVISIONS.
  36. BENCHMARK LOCATIONS AND ELEVATION ARE SHOWN IN THE PLANS AS REPRESENTED BY SURVEYOR AT THE TIME OF SURVEY. CONTRACTOR SHALL VERIFY ITS CORRECTNESS AT THE TIME OF CONSTRUCTION AND INSTALL HIS OWN TEMPORARY BENCHMARKS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OCU UTILITIES INSPECTOR.
  37. NO VALVE BOXES, METERS, PORTIONS OF MANHOLES, OR OTHER APPURTENANCES OF ANY KIND RELATING TO ANY UNDERGROUND UTILITIES SHALL BE LOCATED IN ANY PORTION OF A CURB-AND-GUTTER SECTION. CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF A POTENTIAL CONFLICT.
  38. WHERE REQUIRED, AT NO ADDITIONAL COST TO THE COUNTY, THE CONTRACTOR SHALL USE TEMPORARY SHEETING OR TRENCH BOXES TO MINIMIZE THE SIZE OF EXCAVATIONS AND PROTECT EXISTING ROADWAYS, UTILITIES AND OTHER FACILITIES. OR AS NEEDED TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR TO COMPLY WITH OSHA TRENCH SAFETY REQUIREMENTS AT ALL TIMES.
  39. CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS OF ALL UTILITIES UNCOVERED IN TRENCHES. THE AS-BUILT SHALL RECORD LOCATION, SIZE, TYPE, ELEVATION AND OWNER OF ALL UTILITY FACILITIES UNCOVERED.
  40. ALL EXISTING MAINS SHALL REMAIN IN SERVICE UNTIL THE PROPOSED MAIN(S) ARE ACCEPTED FOR SERVICE AND ALL SERVICE ARE TRANSFERRED TO THE MAIN(S).
  41. CONTRACTOR IS RESPONSIBLE FOR ALL BY-PASS PUMPING, TANKERS AND PUMPING OUT LINES. BY-PASS PUMPING MUST BE MONITORED AT ALL TIMES.
  42. WHERE MINIMUM SEPARATION BETWEEN UTILITIES OR STORM SEWERS IS REQUIRED, THE DISTANCE IS MEASURED FROM THE OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE.
  43. COORDINATION AND COMMUNICATIONS WITH ORANGE COUNTY STAFF SHALL BE MADE THROUGH THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION INSPECTOR.
  44. ALL NEW INSTALLED DUCTILE IRON PIPE FOR WATER AND RECLAIMED WATER SHALL HAVE POLYETHYLENE ENCASEMENT (POLYWRAP) IN ACCORDANCE WITH ANSI/AWWA A21.51/C105 AND AWWA C105 WRAPPING COLORS TO BE BLUE FOR WATER AND PANTONE PURPLE FOR RECLAIMED. POLY WRAP TAPE ONLY. ALL PROPOSED IRON PIPES SHALL BE WRAPPED IN 8 MIL POLYETHYLENE. POLYETHYLENE BAGGING SHALL HAVE "ORANGE COUNTY UTILITIES" STAMPED ON THE BAGGING.
  45. THE CONTRACTOR SHALL SUBMIT TO THE COUNTY A COMPREHENSIVE WRITTEN PLAN FOR APPROVAL AND ACCEPTANCE BY THE COUNTY THAT DESCRIBES THE METHODS AND EQUIPMENT FOR INSTALLING UTILITY LINES PROPOSED WITHIN A THREE (3) FOOT PROXIMITY TO THE OUTSIDE DIAMETER OF AN EXISTING UTILITY MAIN GREATER THAN 6' DIAMETER IS SIZE. THE PLAN SHALL BE CONSISTENT WITH THE SUBMITTED BYPASS PLAN AND SHALL DETAIL THE METHODS FOR AVOIDING UNNECESSARY DELAY, INJURY, DAMAGE OR DESTRUCTION OF EXISTING PUBLIC UTILITY SERVICES.
  46. CONTRACTOR TO PERFORM PRELIMINARY LOCATOR WIRE CHECK PRIOR TO OCU INSPECTION.
  47. CONTRACTOR IS RESPONSIBLE TO PERFORM FINAL WALK THROUGH INSPECTION WITH OCU INSPECTORS.
  48. JOINTS FOR DISSIMILAR PIPE TO MEET ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL CHAPTER 3, SECTION 3310 PART 2, 2.01-C.
  49. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE AND LOCATION OF ALL ABOVEGROUND AND UNDERGROUND UTILITIES AND DETERMINE THE STATUS OF SAID UTILITY, PRIOR TO ANY DEMOLITION OR CONNECTION OF PROPOSED UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS, INCLUDING FIBER OPTICS COMPANIES, AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION AND A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION. EXTREME CAUTION SHALL BE EXERCISED IN AREAS OF FIBER OPTICS AND GAS MAINS.
  50. IMMEDIATELY AT ONSET OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES CRITICAL TO COMPLETING THE PROJECT (INCLUDING WATER, SEWER, RECLAIMED WATER, POWER, TELEPHONE, GAS AND CABLE TV) AND SHALL EVALUATE POTENTIAL CONFLICTS IN A WRITTEN REPORT TO OWNER AND ENGINEER. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER/OWNER IMMEDIATELY UPON DISCOVERY AND DETAILED IN THE REPORT.
  51. REPLACE ALL EXISTING VALVE BOXES WITH NEW BOXES.
  52. LOCATIONS AND DIMENSIONS OF EXISTING RIGHT-OF-WAYS AND EASEMENTS ARE BASED ON BEST AVAILABLE INFORMATION. VERIFY AND STAKE THE LIMITS OF THE RIGHT-OF-WAYS AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS BEFORE ANY CONSTRUCTION.
  53. WHEN USING SCALED DATA CONSIDER THAT THESE PLANS MAY HAVE ALTERED IN SIZE DURING REPRODUCTION.
  54. WHEN OBTAINING DATA AND INFORMATION FROM THE PLANS, FIGURES SHALL BE USED IN REFERENCE TO SCALED DIMENSIONS.
  55. RESTORE ALL EXISTING IMPROVEMENTS AND DISTURBED AREAS TO ORIGINAL OR BETTER CONDITIONS.
  56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS FOR CONSTRUCTION ACTIVITIES AND RELATED ACTIVITIES.
  57. SALVAGE AND/OR DISPOSAL OF ALL EXISTING EQUIPMENT SHALL BE AT THE DIRECTION OF THE ORANGE COUNTY RESIDENT PROJECT REPRESENTATIVE.
  58. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL STRUCTURES, PIPE, CONDUIT, WIRE, FITTINGS, PANELS, ETC. THAT ARE DEMOLISHED, DISASSEMBLED, OR REMOVED, PER SECTION 02080 OF THE SPECIFICATION MANUAL OF THIS PROJECT.
  59. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DE-WATERING REQUIRED DURING CONSTRUCTION AND TO OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE TEMPORARY DEWATERING OF DRAINAGE STRUCTURES.
  60. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY PLUGS, BLOCKING, TAPS, AND TESTING EQUIPMENT REQUIRED TO COMPLETE PRESSURE TESTING, AS SPECIFIED.
  61. CONTRACTOR TO PROVIDE SIGNED AND SEALED SURVEYED AS-BUILTS BY A STATE OF FLORIDA LICENSED SURVEYOR. SURVEY TO INCLUDE AS-BUILTS ON ALL INSTALLED WATER LINES, VALVES, AND FITTINGS ON THE NEW WATER MAIN. ALL TABLES TO BE UPDATED WITH THE CORRECT DATA TO CORRESPOND WITH THE WATER LINE AND APPURTENANCES BEING AS-BUILT. SURVEY ALSO TO INCLUDE BOTH HORIZONTAL AND VERTICAL SEPARATION FROM ALL EXISTING WATER LINES, SANITARY SEWER LINES AND STORM LINES. SURVEY TO INCLUDE LOCATION AND SIZE OF ALL CASING PIPES INSTALLED (DIAMETER, END POINT, INVERT ELEVATION). AS-BUILTS TO BE PROVIDED WITH REQUEST FOR CLEARANCE OF WATER LINES. CONTRACTOR TO PROVIDE BACTERIOLOGICAL TEST RESULTS AS PER THE FPED WATER PERMIT FOR EACH PORTION OF WATER LINE BEING CLEARED FOR USE.
  62. ALL WORK PERFORMED WITHIN THE FDOT RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE 2018 EDITIONS OF THE FDOT DESIGN STANDARDS, SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE 2017 UTILITY ACCOMMODATION MANUAL.
  63. FDOT 48 HOURS START NOTICE, CONTACT PHONE NUMBER 32-319-8100.
  64. PERMITTEE SHALL NOT BEGIN ANY WORKS ALONG FDOT RIGHT-OF-WAY UNTIL AN INSPECTOR IS PRESENT AT THE JOB SITE AND AGREES THAT PROPER PREPARATIONS HAVE BEEN MADE.
  61. FOURTEEN (14) DAYS PRIOR TO CLOSING A LANE, THE PERMITTEE SHALL NOTIFY THE LCIS SYSTEM THE TIME, LOCATION OF THE NEEDED LANE CLOSURE AND A DESCRIPTION WORK BEING DONE. THE UAO SHALL NOT CLOSE ANY LANES UNTIL RECEIVING APPROVAL FROM FDOT. THE UAO IS NOT REQUIRED TO REPORT LANE CLOSURES FOR EMERGENCIES AS DESCRIBED IN 2017 UAM SECTION 2.2 [HTTPS://L.CIS.DOT.STATE.FL.US](https://l.cis.dot.state.fl.us)
    - a. MIX NUMBER: 1219360 COLOR NAME: Y35-OBT
    - b. CONCRETE STRENGTH: CLASS 1 (3000 PSI)
    - c. SUPPLIER COMPANY: CRS RINKER (407-599-4899)
    - d. COLOR: OBT TERRA COTTA (UTILIZING) LM SCHOFIELD COLOR

EMERGENCY WASTEWATER SPILL, WATER MAIN, RECLAIMED WATER MAIN BREAK PROCEDURES

1. THE ORANGE COUNTY UTILITY DISPATCH OPERATOR SHALL BE NOTIFIED IMMEDIATELY IN THE EVENT OF A FORCE MAIN, GRAVITY SEWER, WATER MAIN OR RECLAIMED WATER MAIN BREAK OR DAMAGE.
2. ALL DAMAGE TO ORANGE COUNTY'S MAINS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. IF THE REPAIR IS NOT MADE IN A TIMELY AND APPROVED MANNER, AS DETERMINED BY THE ORANGE COUNTY UTILITIES INSPECTOR, ORANGE COUNTY MAY PERFORM THE REPAIRS AND THE CONTRACTOR WILL BE CHARGED FOR THE REPAIRS.
3. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL IMMEDIATELY REPAIR ALL DAMAGES TO OCU MAINS AND FACILITIES TO EQUAL OR BETTER CONDITIONS. IF REPAIR IS NOT MADE IN A TIMELY MANNER, AS DETERMINED BY OCU, OCU MAY PERFORM REQUIRED REPAIRS AND CLEANUP. THE CONTRACTOR WILL BE CHARGED FOR ALL EXPENSES ASSOCIATED WITH THE REPAIR. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS FOR RESTORATION OF ALL LANDSCAPED AND SODDED AREAS DISTURBED AS PART OF HIS WORK.

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FLORIDA

**HOLDEN AVENUE**  
**UTILITY NOTES**

SHEET NO.  
**U-4**

PAY ITEM No.	DESCRIPTION	QTY.	UNIT
U-1	MOBILIZATION/DEMOBILIZATION	1	LS
U-2	PRECONSTRUCTION AUDIO-VIDEO DOCUMENTATION	1	LS
U-3	INDEMNIFICATION	1	LS
U-4	RECORD DRAWINGS	1	LS
U-5	MAINTENANCE OF TRAFFIC	1	LS
U-6	UNSUITABLE MATERIAL	100	CY
U-7	REMOVE EXISTING GRAVITY PIPE (8")	259	LF
U-8	REMOVE EXISTING FORCEMAIN (6")	1,183	LF
U-9	REMOVE EXISTING FORCEMAIN (8")	1,722	LF
U-10	REMOVE EXISTING FORCEMAIN (10")	1,451	LF
U-11	REMOVE EXISTING MANHOLE	1	EA
U-12	FORCEMAIN W/FITTINGS AND RESTRAINED JOINTS (4" DIAMETER) (PVC)	32	LF
U-13	FORCEMAIN W/FITTINGS AND RESTRAINED JOINTS (6" DIAMETER) (PVC)	347	LF
U-14	FORCEMAIN W/FITTINGS AND RESTRAINED JOINTS (10" DIAMETER) (PVC)	1,506	LF
U-15	FORCEMAIN W/FITTINGS AND RESTRAINED JOINTS (12" DIAMETER) (PVC)	1,678	LF
U-16	PLUG VALVE WITH BOX (4" DIAMETER)	2	EA
U-17	PLUG VALVE WITH BOX (6" DIAMETER)	5	EA
U-18	PLUG VALVE WITH BOX (10" DIAMETER)	4	EA
U-19	PLUG VALVE WITH BOX (12" DIAMETER)	5	EA
U-20	TAPPING SLEEVE AND VALVE ASSEMBLY (6" DIAMETER)	5	EA
U-21	TAPPING SLEEVE AND VALVE ASSEMBLY (10" DIAMETER)	2	EA
U-22	TAPPING SLEEVE AND VALVE ASSEMBLY (12" DIAMETER)	1	EA
U-23	LINE STOP ASSEMBLY (6" DIAMETER)	5	EA
U-24	LINE STOP ASSEMBLY (10" DIAMETER)	2	EA
U-25	LINE STOP ASSEMBLY (12" DIAMETER)	1	EA
U-26	OFFSET AIR RELEASE VALVE ASSEMBLY (2" DIAMETER)	6	EA
U-27	SANITARY SEWER MAIN 8" DIAMETER (PVC)	259	LF
U-28	CORE BORE CONNECTION TO EXISTING MANHOLE	2	LS
U-29	SANITARY MANHOLES 4 FEET DIAMETER	4	EA
U-30	ADJUST EXISTING SANITARY MANHOLE (TEXAS AVENUE STA. 396+00 RT.)	1	EA
U-31	MANHOLE CONE REPLACEMENT	1	EA
U-32	SEWPERCOAT MANHOLE	11	VF
U-33	FIBERGLASS MANHOLE LINER (48" DIAMETER)	6	EA
U-34	CIPP LINE EXISTING GRAVITY (8")	547	LF

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

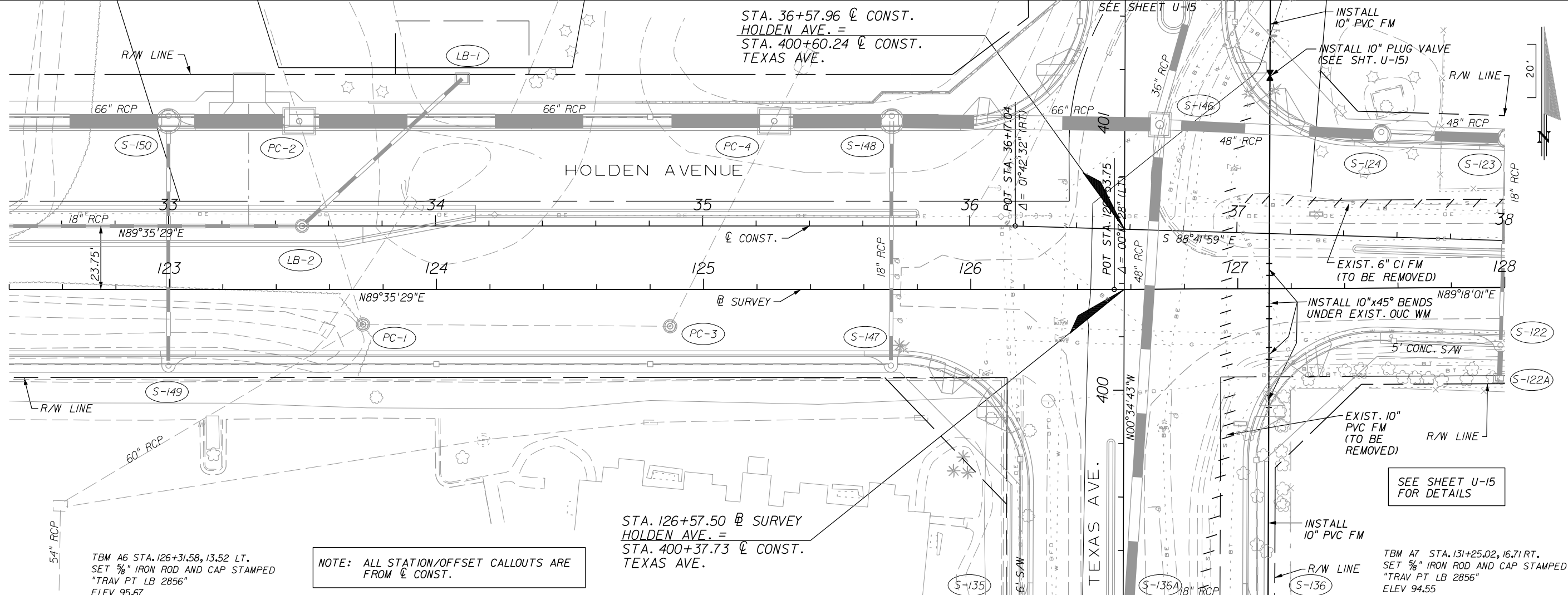
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PH: (407) 896-3317 FAX: (407) 896-9167 EMAIL: WWW.LOCHRANE.COM  
CERTIFICATE OF AUTHORIZATION NO. 2856  
FOREST W. ADKINS, P.E. P.E. NUMBER 56003



**ORANGE COUNTY**  
**GOVERNMENT**  
FLORIDA

**HOLDEN AVENUE**  
**SUMMARY OF QUANTITIES**

SHEET NO.  
**U-5**



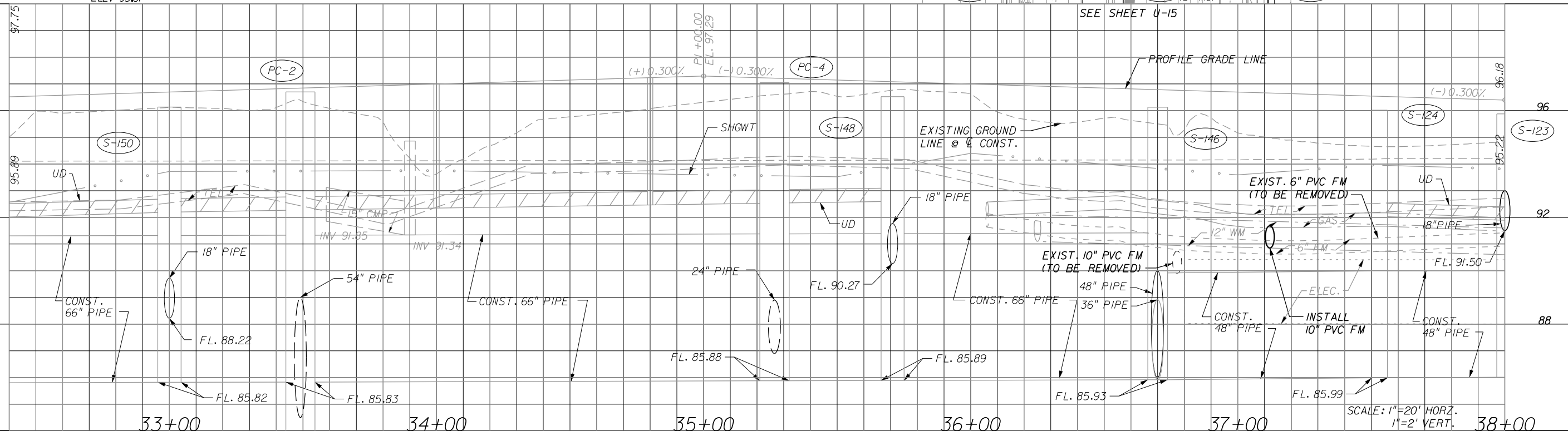
TBM A6 STA. 126+31.58, 13.52 LT.  
SET 5/8\"/>

NOTE: ALL STATION/OFFSET CALLOUTS ARE FROM  $\varnothing$  CONST.

STA. 126+57.50  $\varnothing$  SURVEY  
HOLDEN AVE. =  
STA. 400+37.73  $\varnothing$  CONST.  
TEXAS AVE.

SEE SHEET U-15 FOR DETAILS

TBM A7 STA. 131+25.02, 16.71 RT.  
SET 5/8\"/>



SCALE: 1"=20' HORZ.  
1"=2' VERT.

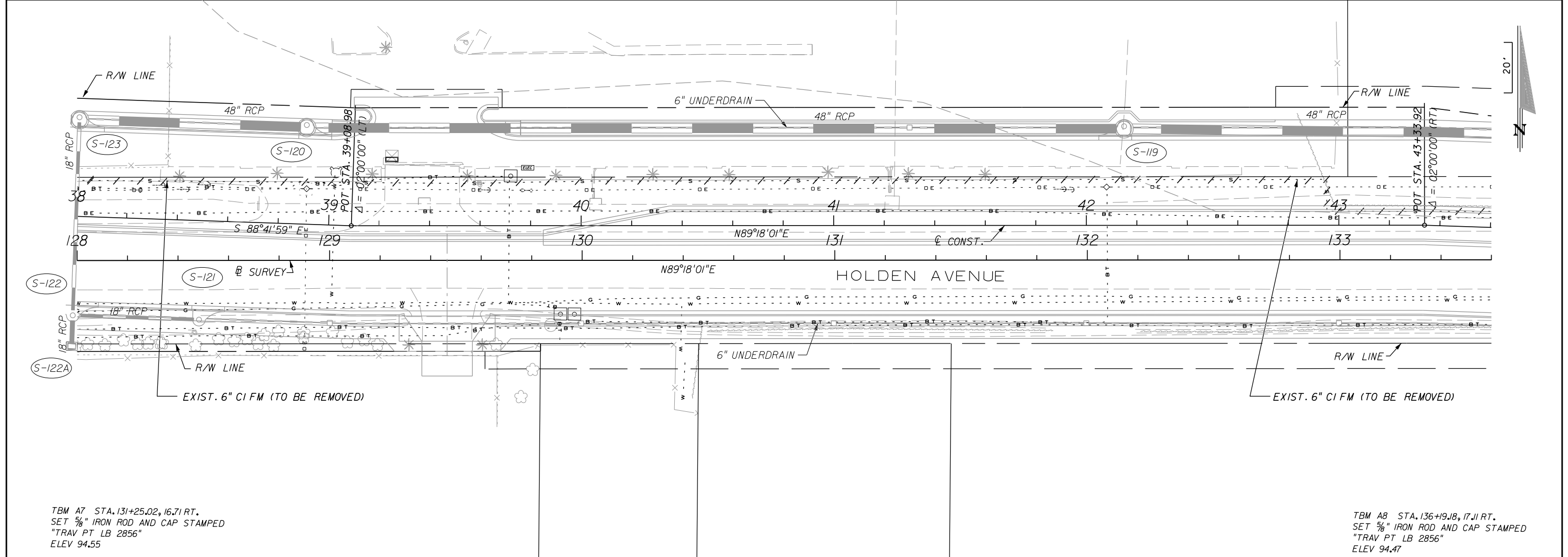
REVISIONS					
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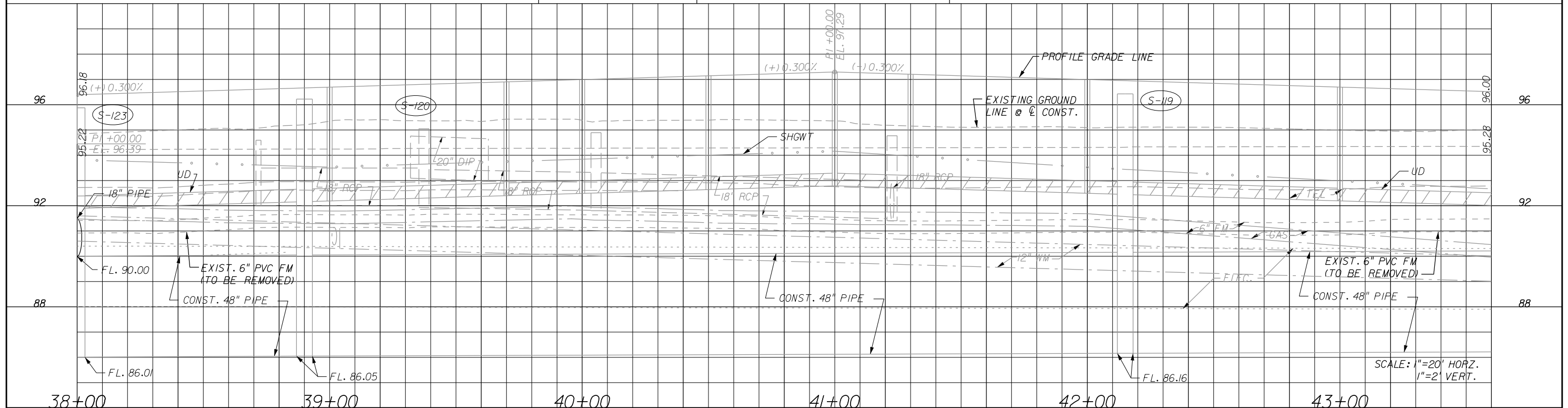
**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

SHEET NO.  
**U-6**



TBM A7 STA. 131+25.02, 16.71 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 94.55

TBM A8 STA. 136+19.18, 17.11 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 94.47



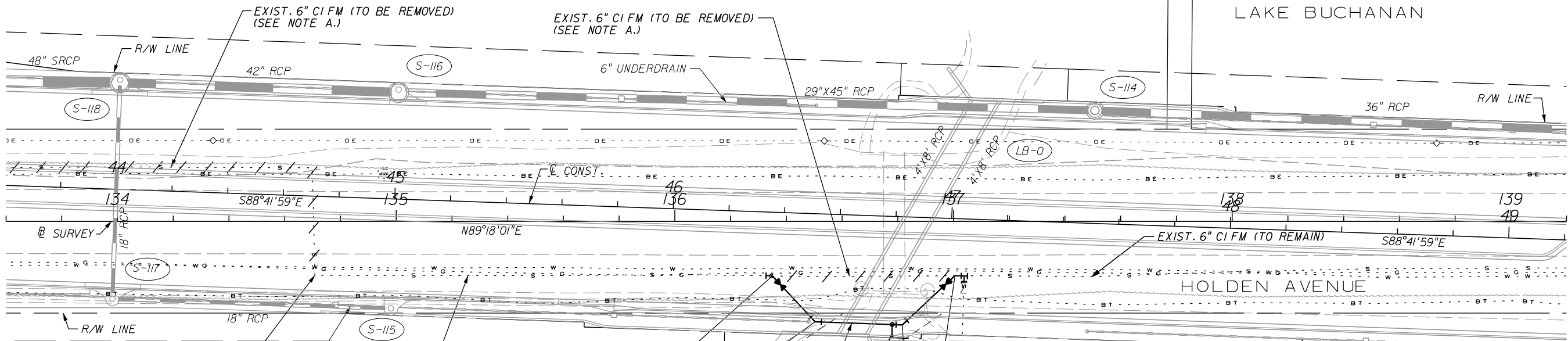
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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

SHEET NO.  
**U-7**



REMOVE EXIST. 6" CI FM TO BEND +72.35, 28.37' RT. (FIELD VERIFY) CUT & CAP EXIST. FM RESTRAIN PER TABLE (SEE NOTE A.)

EXIST. 6" CI FM (TO REMAIN) (SEE NOTE A.)

INSTALL 6"x45° BEND +36.37, 22.84 RT [FMF-1] 6" TAPPING SLEEVE VALVE, PLUG VALVE, AND LINE STOP RESTRAIN PER TABLE (SEE NOTE A.)

INSTALL 6" x45° BEND +52.29, 38.75 RT [FMF-2] (SEE NOTE A.)

CONST. 16" CI FM

INSTALL OFFSET ARV +80.00, 38.75' RT. [FARV-1] (SEE NOTE A.)

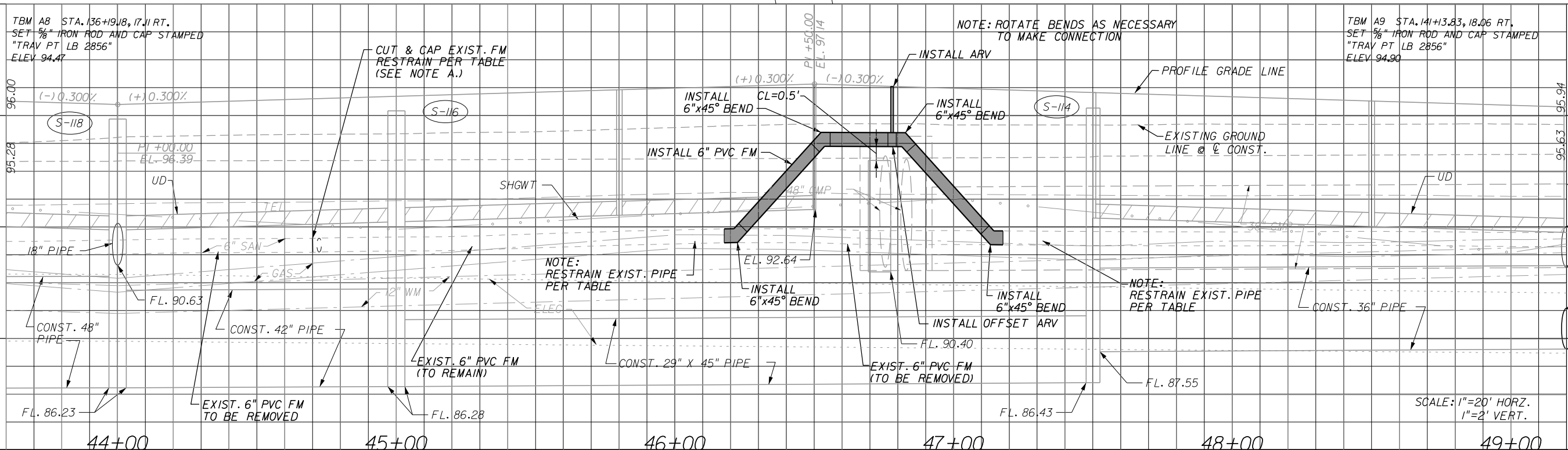
INSTALL 6"x45° BEND +83.58, 38.75 RT [FMF-3] - (SEE NOTE A.)

INSTALL 6"x45° BEND +01.86, 20.46 RT [FMF-4] RESTRAIN PER TABLE 6" TAPPING SLEEVE VALVE, PLUG VALVE, AND LINE STOP AND CAP (SEE NOTE A.)

(NOTE A.) EXISTING FM FROM MILLENM CONDOS TO REMAIN. (APPROX. LOCATION - NOT LOCATED IN FIELD) IF THE FM CONNECTION IS AS SHOWN, DELETE BY-PASS FROM STA. 46+36.37 TO STA. 47+01.86 AND REMOVE EXISTING 6" FM UP TO 47+01.86, CUT & CAP EXIST. FM AND RESTRAIN PER TABLE. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING THE WORK.

(NOTE C.) CONTRACTOR TO PROVIDE SIGNED AND SEALED ASBUILT DRAWINGS OF EXISTING 6" CI FM THAT REMAINS IN PLACE. THE ASBUILT SHALL RECORD LOCATION, SIZE, TYPE AND ELEVATION OF THE FACILITY.

NOTES:  
 - ALL EXIST. SERVICE CONNECTIONS TO REMAIN STA. 44+70 AHEAD. FIELD VERIFY LOCATION OF CONNECTIONS PRIOR TO ESTABLISHING LIMITS OF REMOVAL OF EXIST. 6" FM. (SEE NOTE A.)



DATE		BY		DESCRIPTION	

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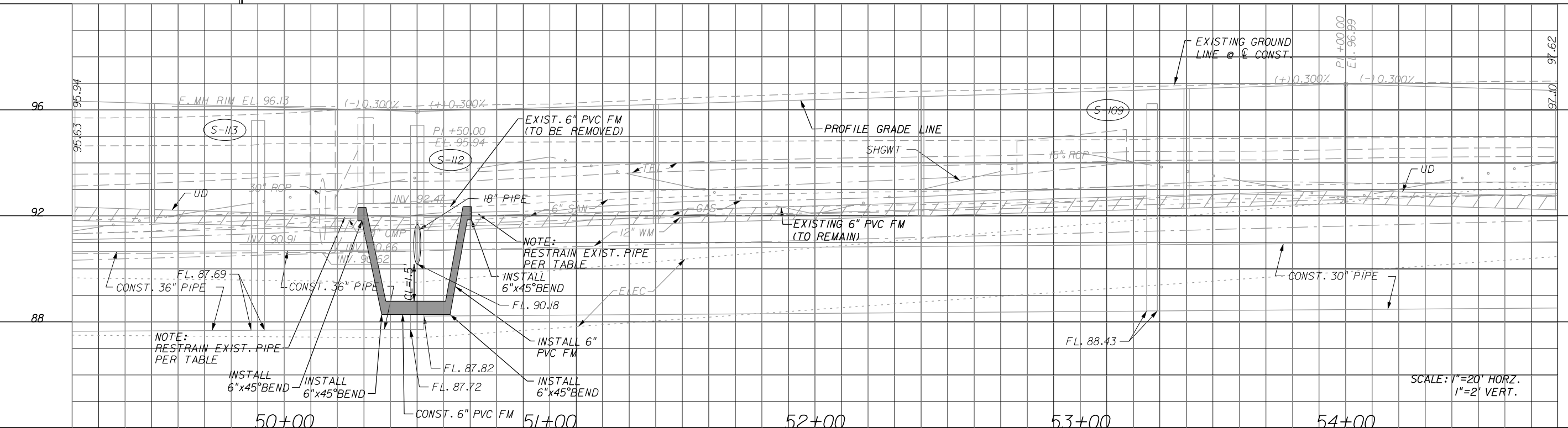
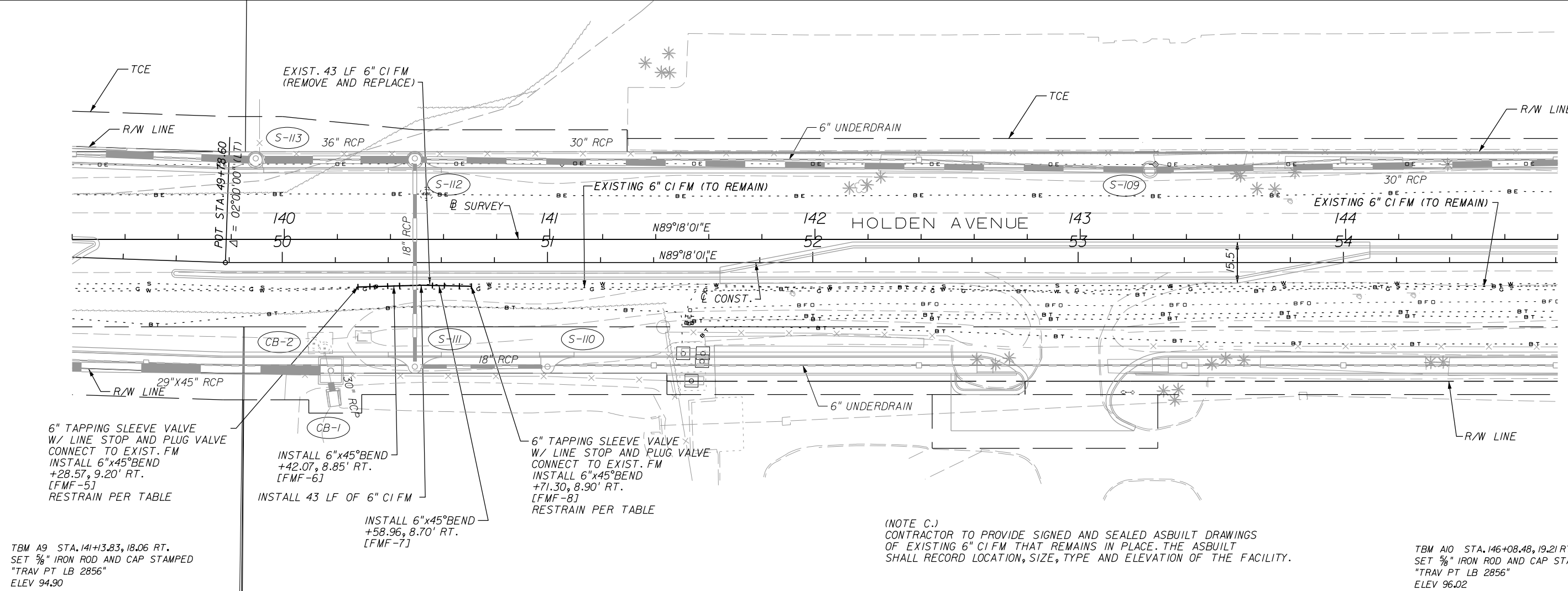
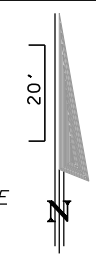
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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

SHEET NO.  
**U-8**

SCALE: 1"=20' HORIZ.  
1"=2' VERT.





REVISIONS					
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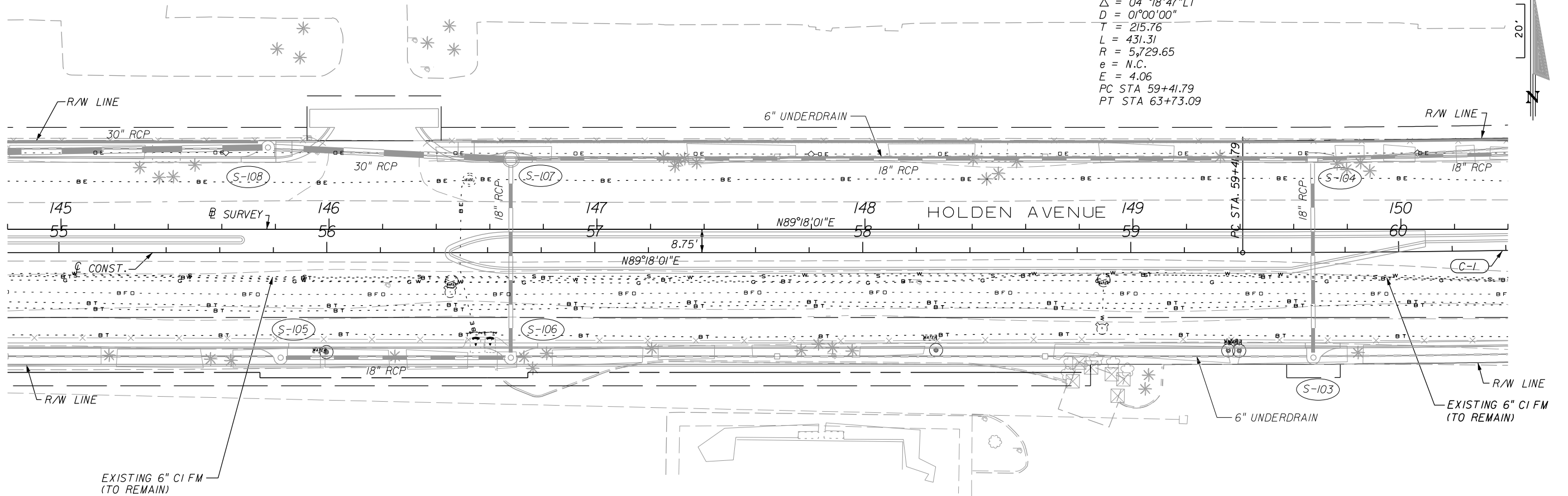
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CERTIFICATE OF AUTHORIZATION NO. 2856  
FOREST W. ADKINS, P.E. P.E. NUMBER 56003

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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

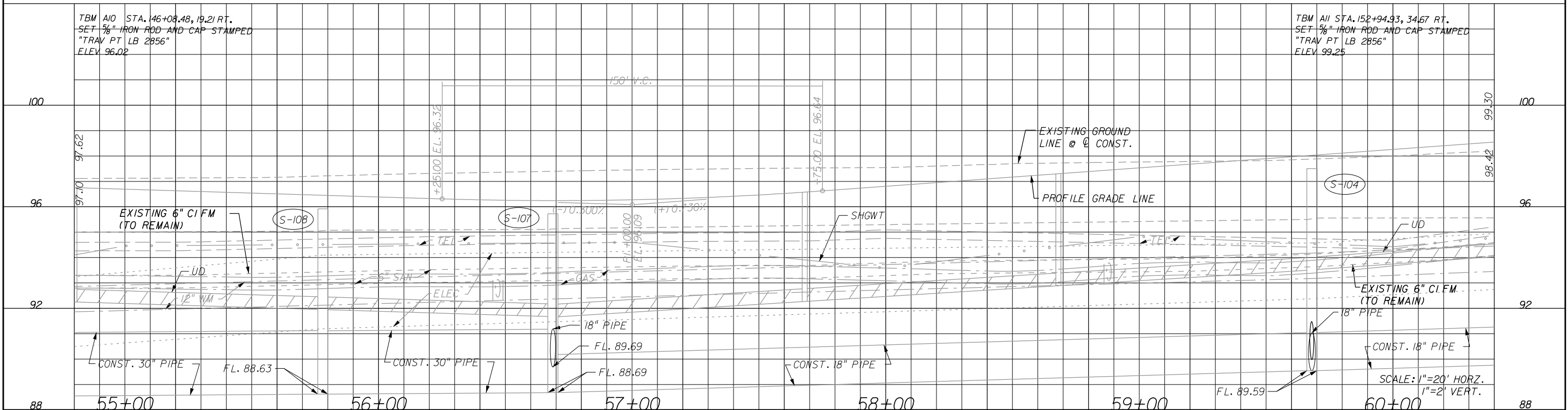
SHEET NO.  
**U-9**

C-1  
 PI STA 61+57.54  
 $\Delta = 04^\circ 18' 47''$  LT  
 $D = 01^\circ 00' 00''$   
 $T = 215.76$   
 $L = 431.31$   
 $R = 5,729.65$   
 $e = N.C.$   
 $E = 4.06$   
 PC STA 59+41.79  
 PT STA 63+73.09



NOTE:  
 - SHEET SHOWN FOR INFORMATION ONLY, NO UTILITY WORK THIS SHEET.

(NOTE C.)  
 CONTRACTOR TO PROVIDE SIGNED AND SEALED ASBUILT DRAWINGS OF EXISTING 6" CI FM. THE ASBUILT SHALL RECORD LOCATION, SIZE, TYPE AND ELEVATION OF THE FACILITY.



DATE		BY		DESCRIPTION	

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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

SHEET NO.  
**U-10**

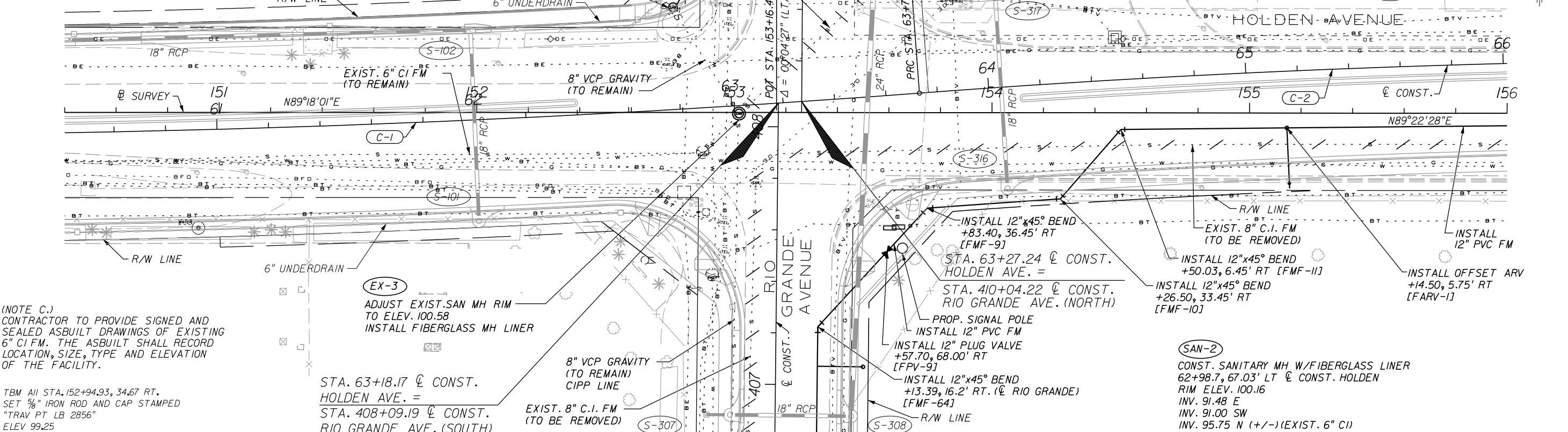
Q CONST CURVE (C-1)  
 PI STA 61+57.54  
 $\Delta = 04^{\circ}18'47''$  LT  
 $D = 01^{\circ}00'00''$   
 $T = 215.76$   
 $L = 431.31$   
 $R = 5,729.65$   
 $E = 4.06$   
 $e = N.C.$   
 PC STA 59+41.79  
 PT STA 63+73.09

Q CONST CURVE (C-2)  
 PI STA 67+18.57  
 $\Delta = 08^{\circ}37'13''$  RT  
 $D = 01^{\circ}14'60''$   
 $T = 345.47$   
 $L = 689.64$   
 $R = 4,583.74$   
 $E = N/C$   
 $e = 13.00$   
 PC STA 63+73.09  
 PT STA 70+62.74

EX-2  
 SEWERCOAT EXIST. MH  
 INSTALL FIBERGLASS LINER  
 REPLACE SAN MH CONE  
 WITH ECCENTRIC TOP AND  
 RESET TO ELEV. 100.30  
 PLUG EXIST. 6" FM OPENING  
 CONNECT NEW 8" SAN  
 SEWER MAIN INV 90.01 NE (CORE BORE)

CONST. 69 LF. OF 8" PVC, 0.28%  
 REMOVE EXIST. 8" PVC  
 RECONNECT EXIST.  
 6" FM TO SAN-2  
 CONST. 31 LF. OF  
 8" PVC, 0.30%  
 34 LF OF 6" FM  
 (TO BE REMOVED)

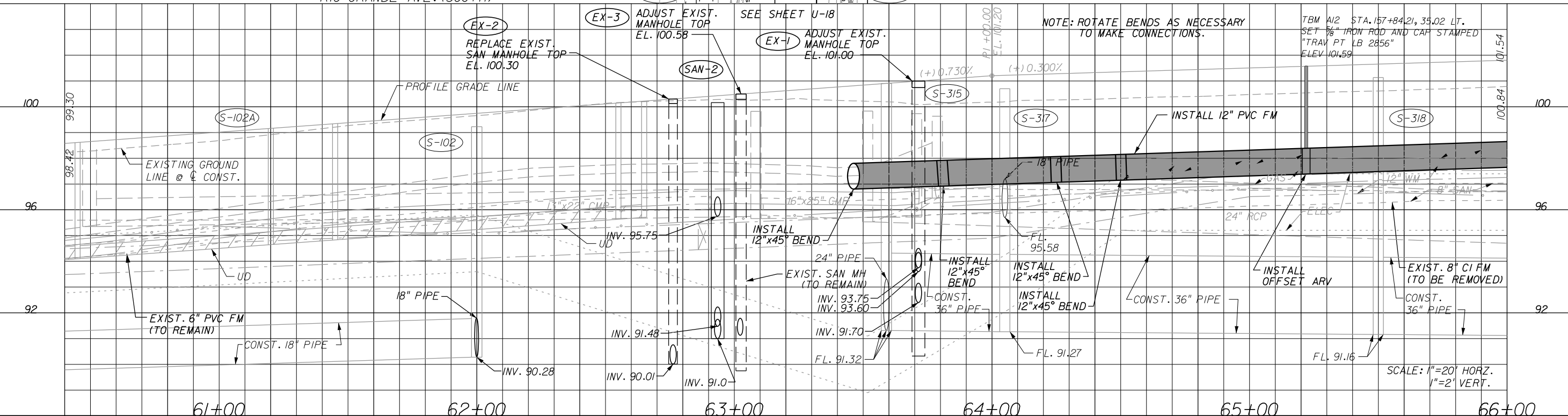
EX-1  
 EXIST. SANITARY MH 63+70.09, 52.61' LT Q CONST. HOLDEN  
 INSTALL FIBERGLASS LINER ADJUST RIM TO ELEV. 101.00  
 INV. 93.60 E (+/-) (EXIST. 6" PVC)  
 INV. 93.75 NE (+/-) (EXIST. 8" LINE)  
 INV. 91.70 W (CORE BORE)



(NOTE C.)  
 CONTRACTOR TO PROVIDE SIGNED AND  
 SEALED ASBUILT DRAWINGS OF EXISTING  
 6" C.I. FM. THE ASBUILT SHALL RECORD  
 LOCATION, SIZE, TYPE AND ELEVATION  
 OF THE FACILITY.

TBM A11 STA. 152+94.93, 34.67 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 99.25

STA. 63+18.17 Q CONST.  
 HOLDEN AVE. =  
 STA. 408+09.19 Q CONST.  
 RIO GRANDE AVE. (SOUTH)

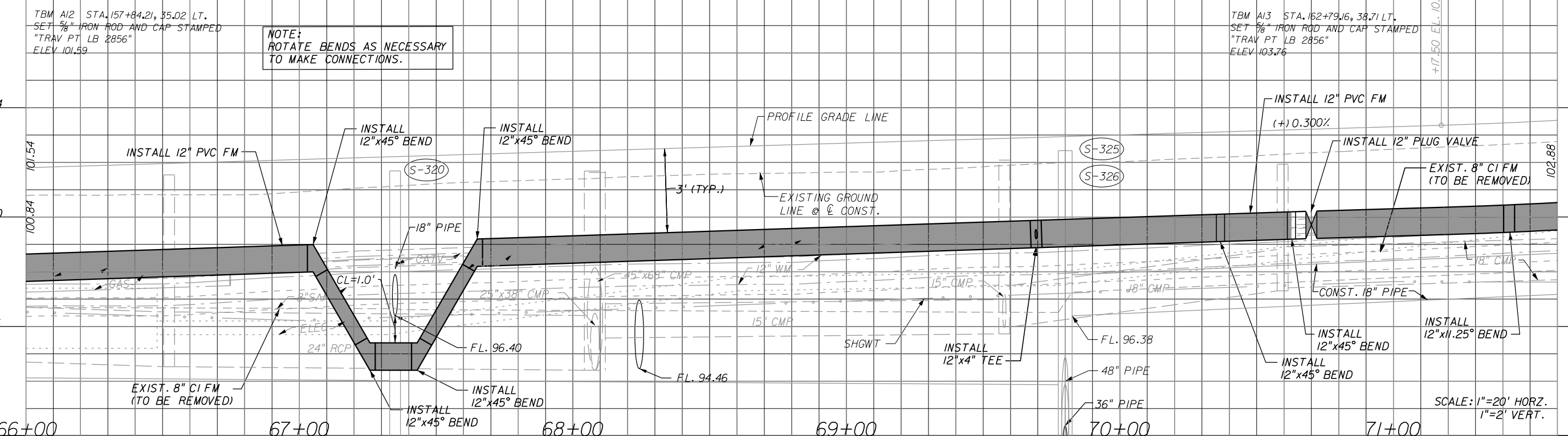
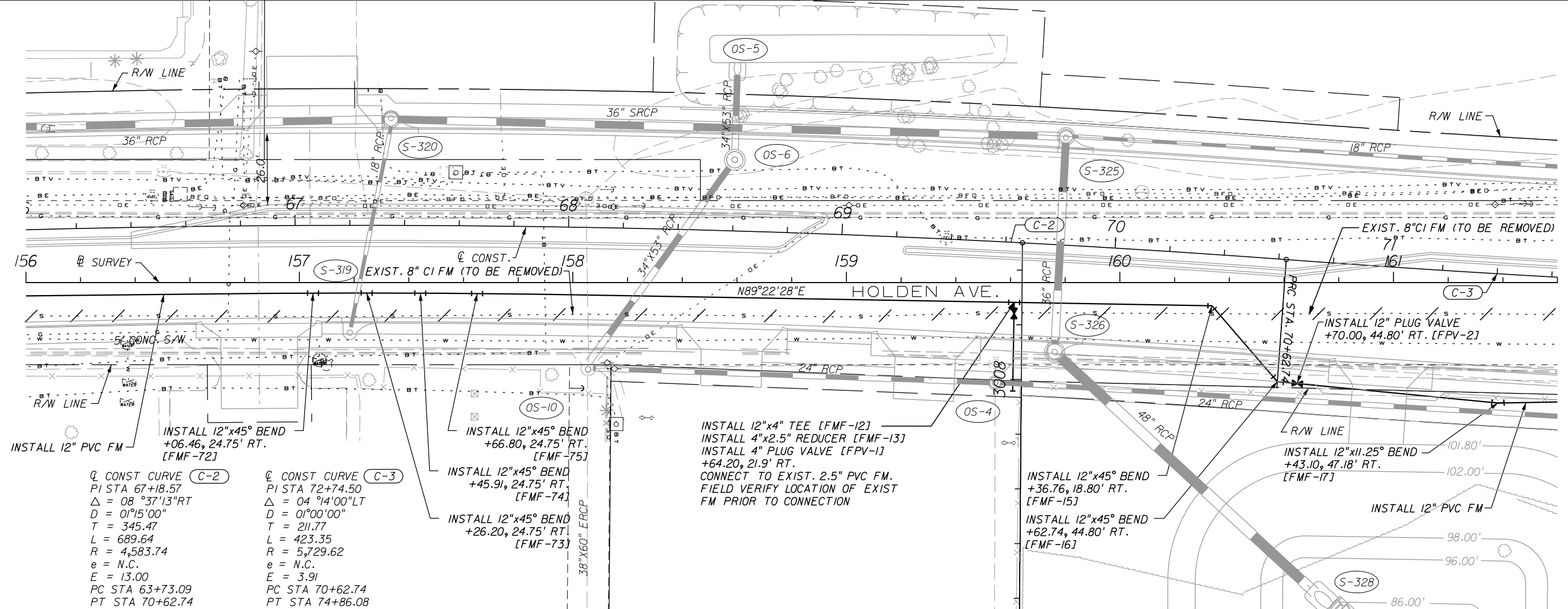


REVISIONS					
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**GOVERNMENT**  
 FLORIDA

**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**  
 SHEET NO. **U-11**



TBM A12 STA. 157+84.21, 35.02 LT.  
 SET 5/8\"/>

**NOTE:**  
 ROTATE BENDS AS NECESSARY  
 TO MAKE CONNECTIONS.

TBM A13 STA. 162+79.16, 38.71 LT.  
 SET 5/8\"/>

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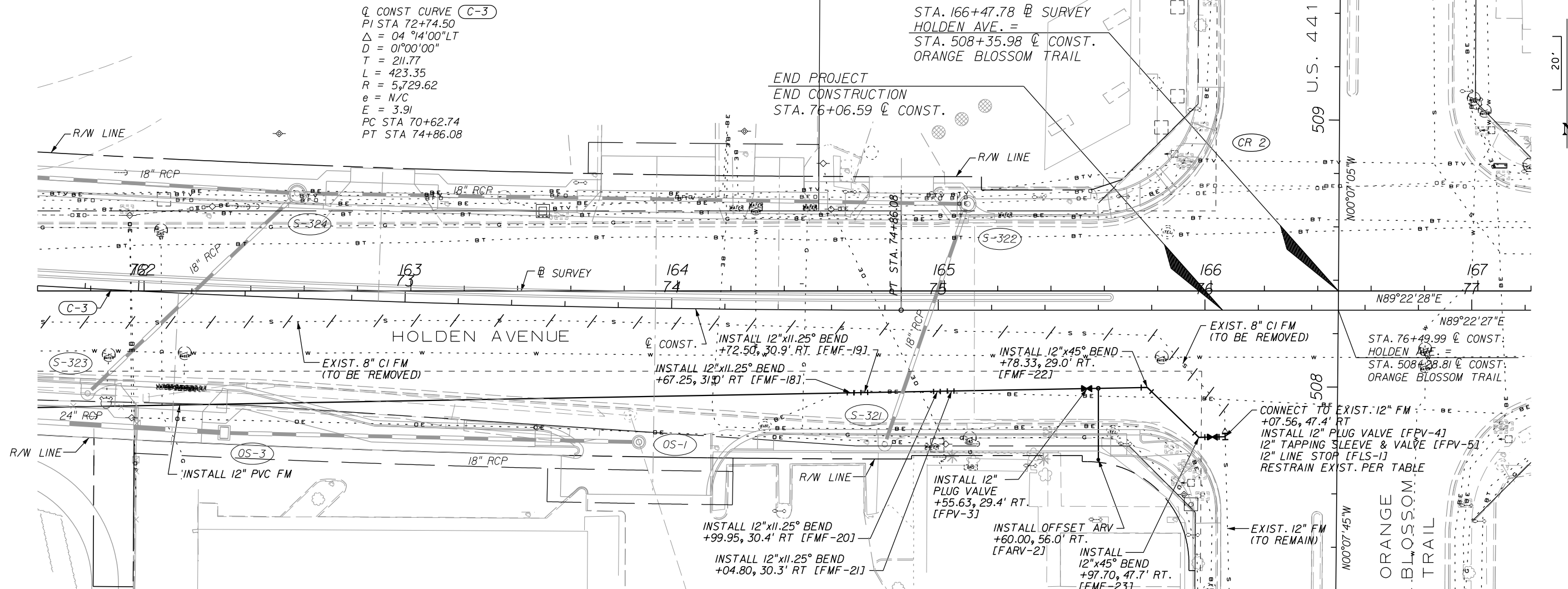
**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**HOLDEN AVENUE**

SHEET NO.  
**U-12**

Q CONST CURVE (C-3)  
 PI STA 72+74.50  
 $\Delta = 04^{\circ}14'00"LT$   
 $D = 01^{\circ}00'00"$   
 $T = 211.77$   
 $L = 423.35$   
 $R = 5,729.62$   
 $e = N/C$   
 $E = 3.91$   
 PC STA 70+62.74  
 PT STA 74+86.08

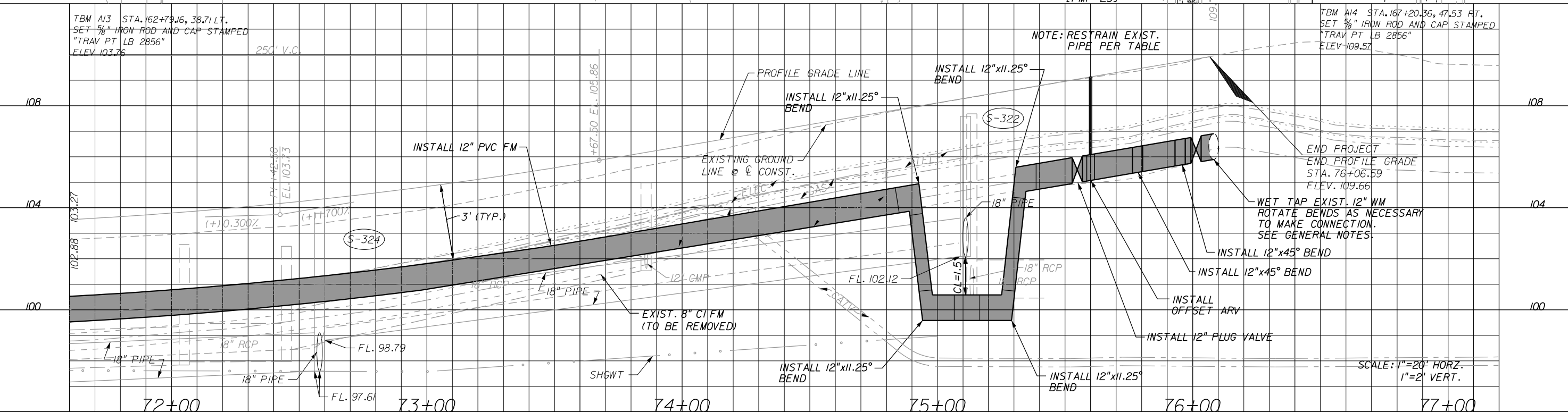
STA. 166+47.78 @ SURVEY  
 HOLDEN AVE. =  
 STA. 508+35.98 @ CONST.  
 ORANGE BLOSSOM TRAIL

END PROJECT  
 END CONSTRUCTION  
 STA. 76+06.59 @ CONST.



TBM A13 STA. 162+79.16, 38.71 LT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV. 103.76

TBM A14 STA. 167+20.36, 47.53 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV. 109.57



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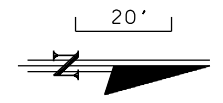
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**PLAN AND PROFILE**  
**HOLDEN AVENUE**

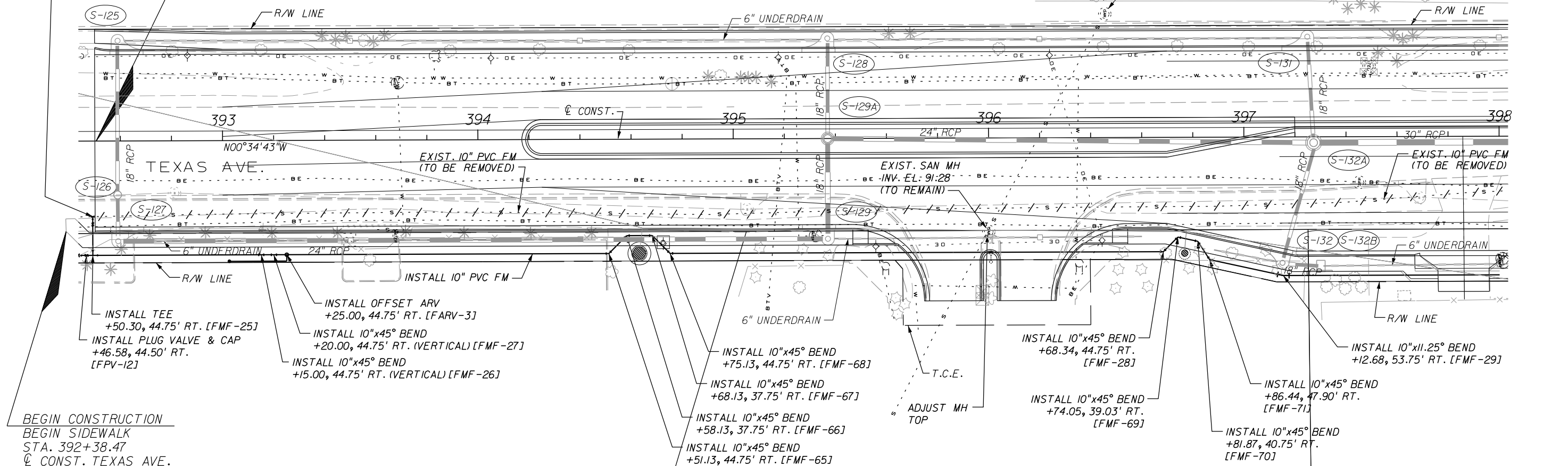
SHEET NO.  
**U-13**

CONNECT TO EXIST. 10" PVC FM  
 +49.00, 29.5' RT.  
 INSTALL 10" PLUG VALVE [FPV-6], 10" TAPPING SLEEVE & VALVE [FPV-7],  
 10" LINE STOP [FLS-2], RESTRAIN EXIST. 10" FM PER TABLE

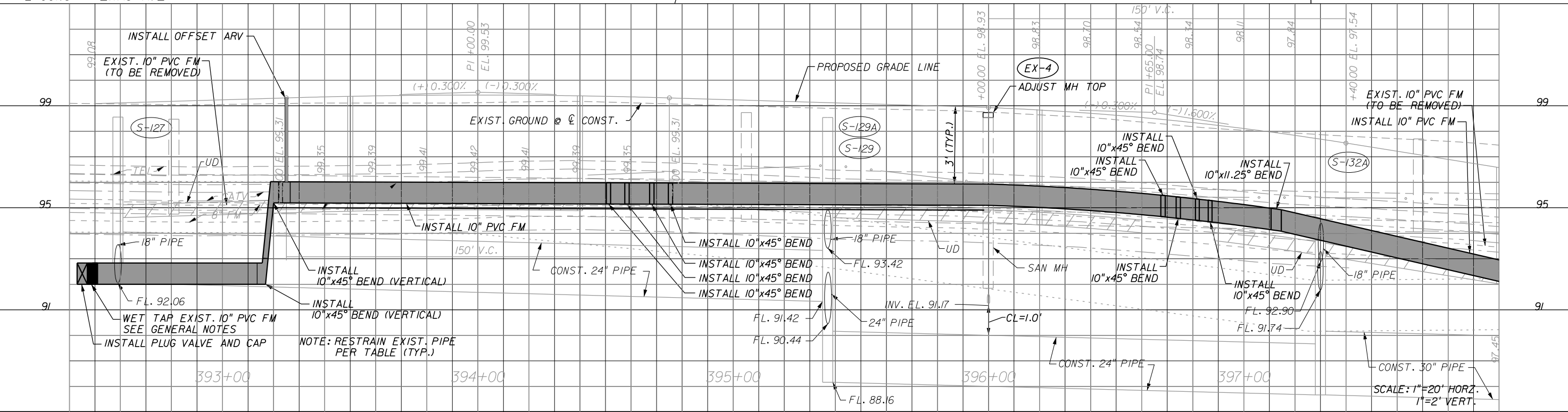
BEGIN TYPICAL SECTION CONSTRUCTION  
 STA. 392+50.00  
 CL CONST. TEXAS AVE.



EXIST. SAN MH  
 INV. EL. 91.02  
 (TO REMAIN)



BEGIN CONSTRUCTION  
 BEGIN SIDEWALK  
 STA. 392+38.47  
 CL CONST. TEXAS AVE.



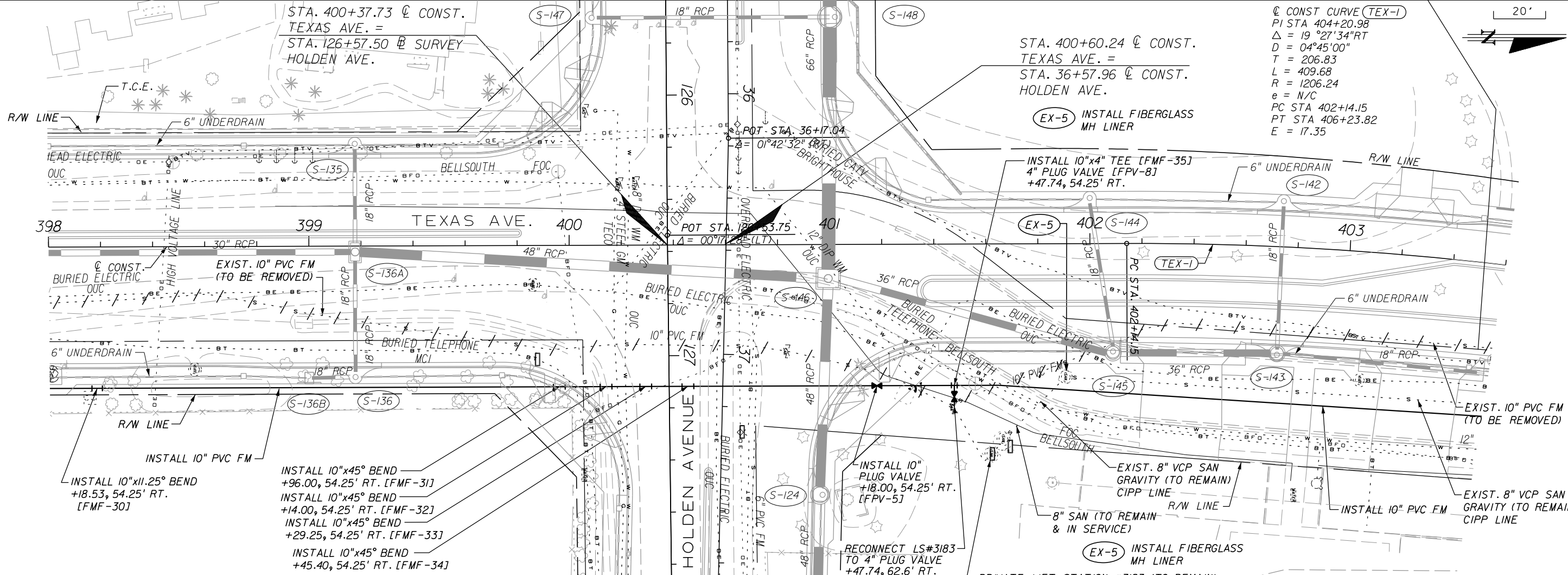
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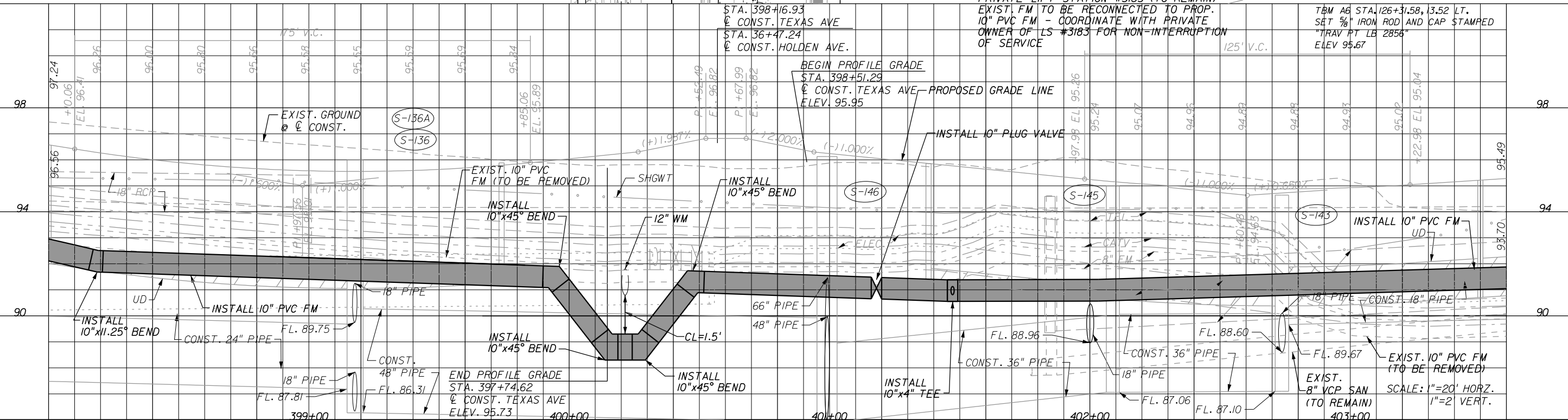
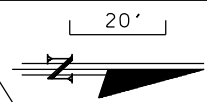
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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**TEXAS AVENUE**

SHEET NO.  
**U-14**



@ CONST CURVE (TEX-1)  
 PI STA 404+20.98  
 $\Delta = 19^\circ 27' 34''$  RT  
 $D = 04^\circ 45' 00''$   
 $T = 206.83$   
 $L = 409.68$   
 $R = 1206.24$   
 $e = N/C$   
 PC STA 402+14.15  
 PT STA 406+23.82  
 $E = 17.35$



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

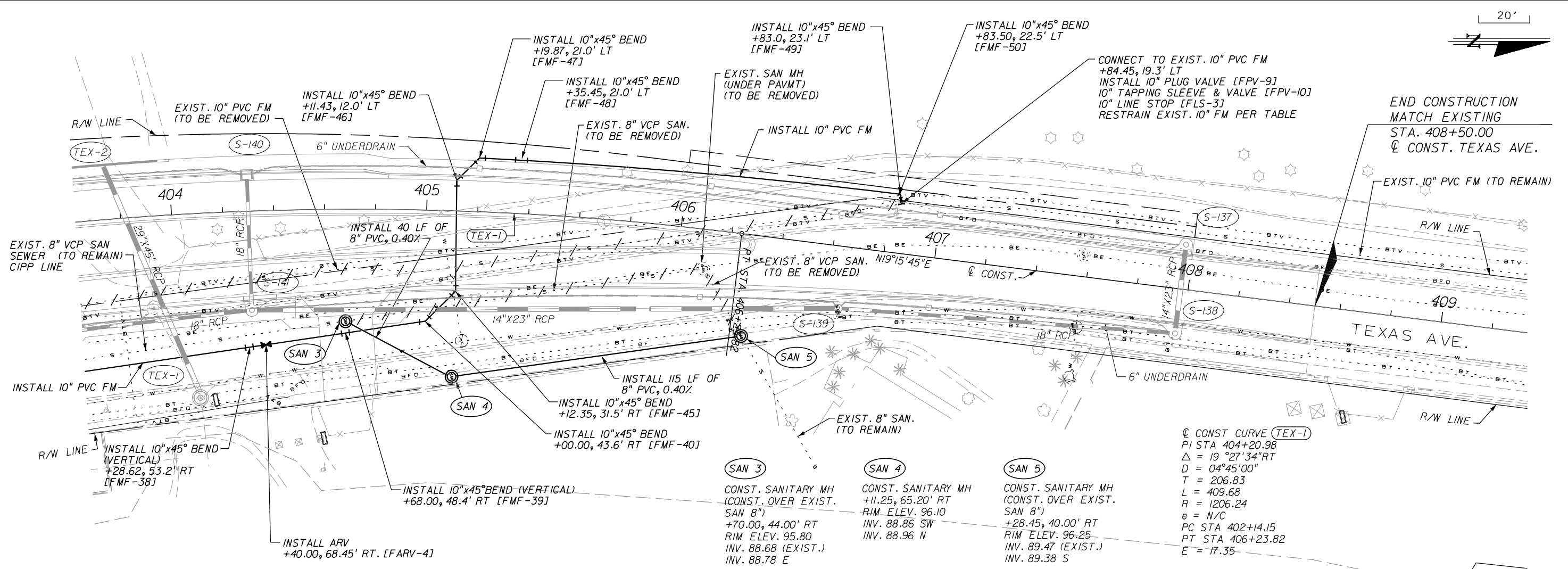
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**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**TEXAS AVENUE**

SHEET NO.  
**U-15**

8/31/2018 4:41:11 PM H:\projects\04012.40\uterd13.dgn

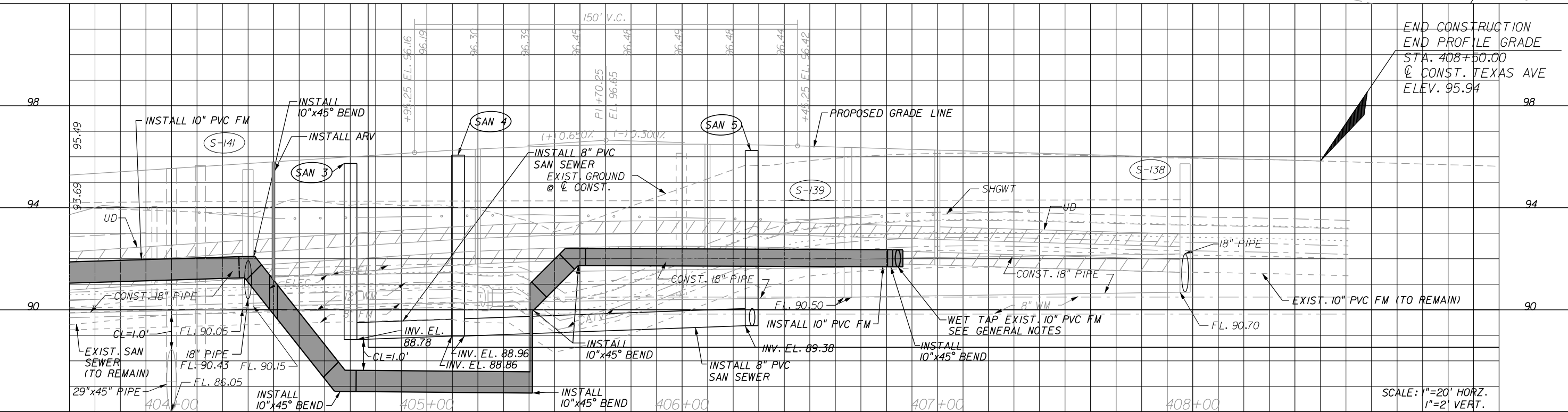


@ CONST. CURVE (TEX-1)  
 PI STA 404+20.98  
 $\Delta = 19^\circ 27' 34''$  RT  
 $D = 04^\circ 45' 00''$   
 $T = 206.83$   
 $L = 409.68$   
 $R = 1206.24$   
 $e = N/C$   
 PC STA 402+14.15  
 PT STA 406+23.82  
 $E = 17.35$

**(SAN 3)**  
 CONST. SANITARY MH  
 (CONST. OVER EXIST.  
 SAN 8")  
 +70.00, 44.00' RT  
 RIM ELEV. 95.80  
 INV. 88.68 (EXIST.)  
 INV. 88.78 E

**(SAN 4)**  
 CONST. SANITARY MH  
 +11.25, 65.20' RT  
 RIM ELEV. 96.10  
 INV. 88.86 SW  
 INV. 88.96 N

**(SAN 5)**  
 CONST. SANITARY MH  
 (CONST. OVER EXIST.  
 SAN 8")  
 +28.45, 40.00' RT  
 RIM ELEV. 96.25  
 INV. 89.47 (EXIST.)  
 INV. 89.38 S



SCALE: 1"=20' HORZ.  
 1"=2' VERT.

REVISIONS	
DATE	DESCRIPTION

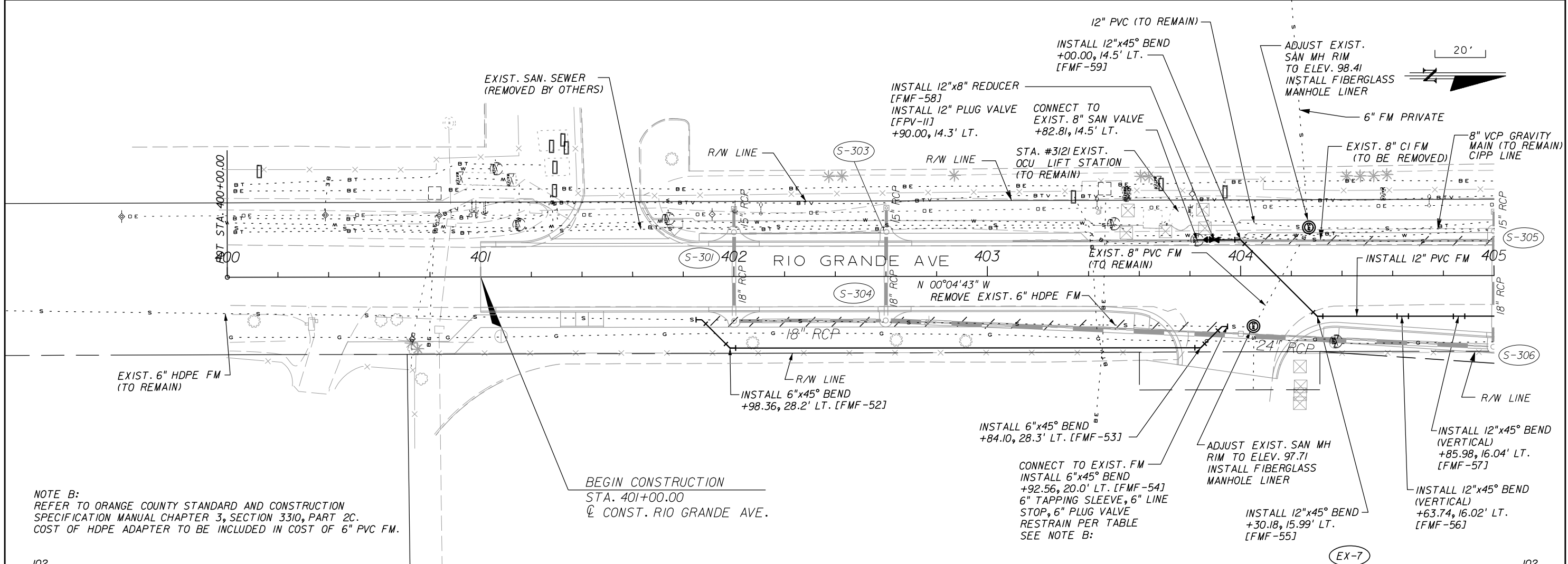
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 FOREST W. ADKINS, P.E. P.E. NUMBER 56003


**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**TEXAS AVENUE**

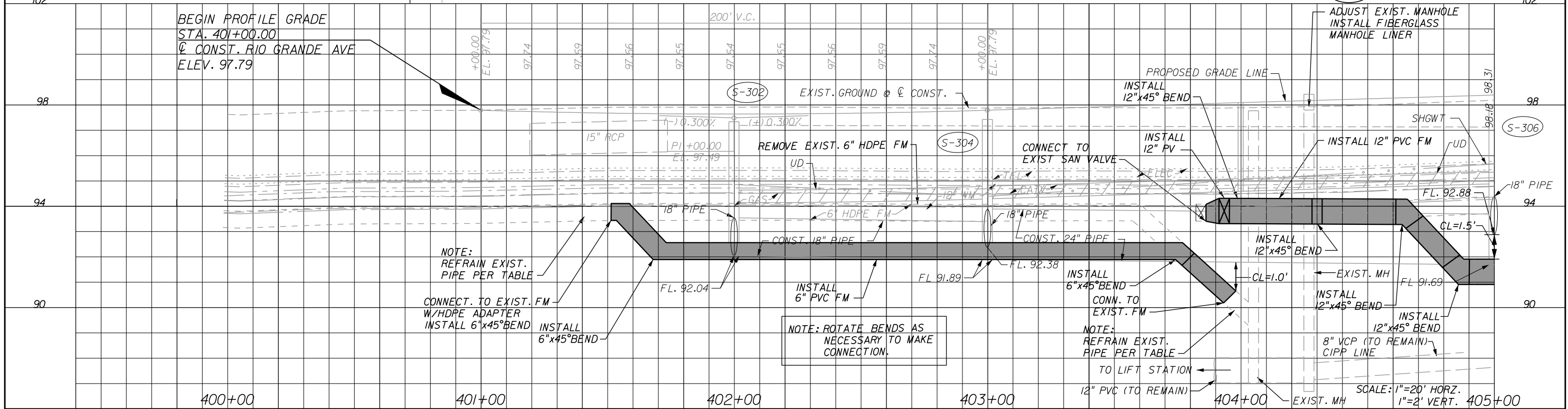
SHEET NO.  
**U-16**





NOTE B:  
REFER TO ORANGE COUNTY STANDARD AND CONSTRUCTION SPECIFICATION MANUAL CHAPTER 3, SECTION 3310, PART 2C. COST OF HDPE ADAPTER TO BE INCLUDED IN COST OF 6" PVC FM.

BEGIN CONSTRUCTION  
STA. 401+00.00  
@ CONST. RIO GRANDE AVE.



NOTE: REFRAIN EXIST. PIPE PER TABLE

CONNECT. TO EXIST. FM W/HDPE ADAPTER  
INSTALL 6"x45° BEND

INSTALL 6"x45° BEND

NOTE: ROTATE BENDS AS NECESSARY TO MAKE CONNECTION.

NOTE: REFRAIN EXIST. PIPE PER TABLE TO LIFT STATION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

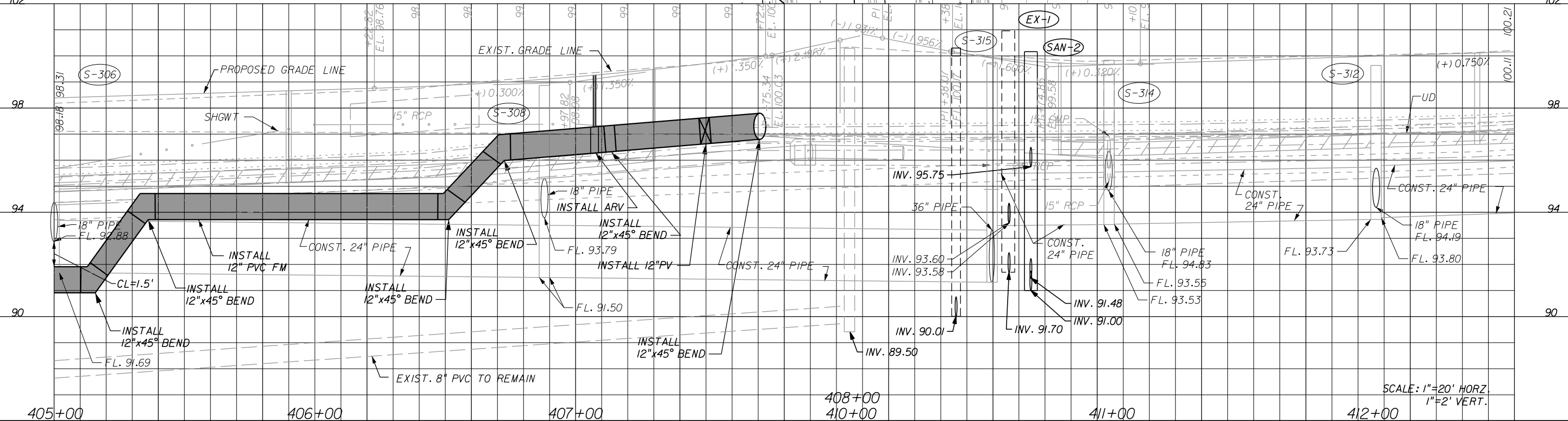
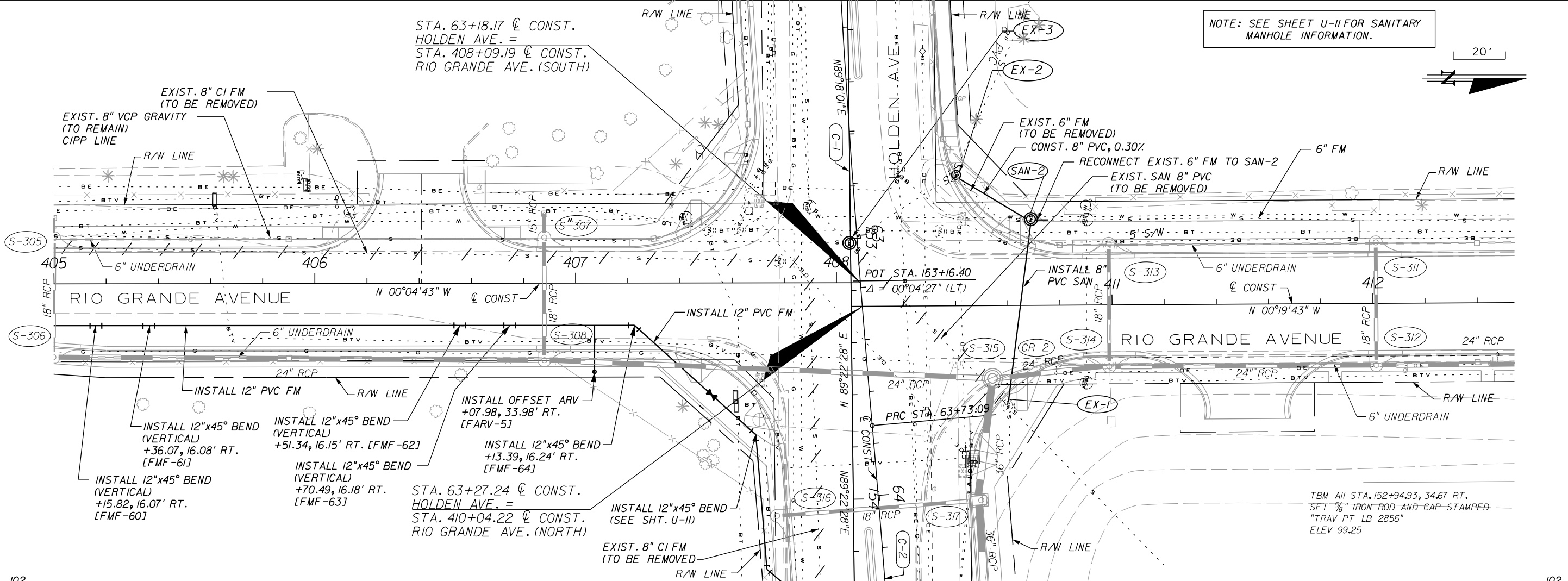
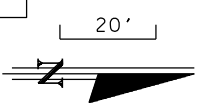
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**GOVERNMENT**  
FLORIDA

**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**RIO GRANDE AVE.**

SHEET NO.  
**U-17**

NOTE: SEE SHEET U-11 FOR SANITARY MANHOLE INFORMATION.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

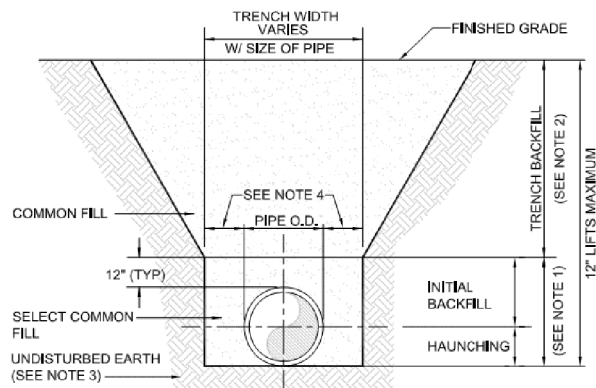
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FLORIDA

**UTILITY IMPROVEMENTS**  
**PLAN AND PROFILE**  
**RIO GRANDE AVE.**

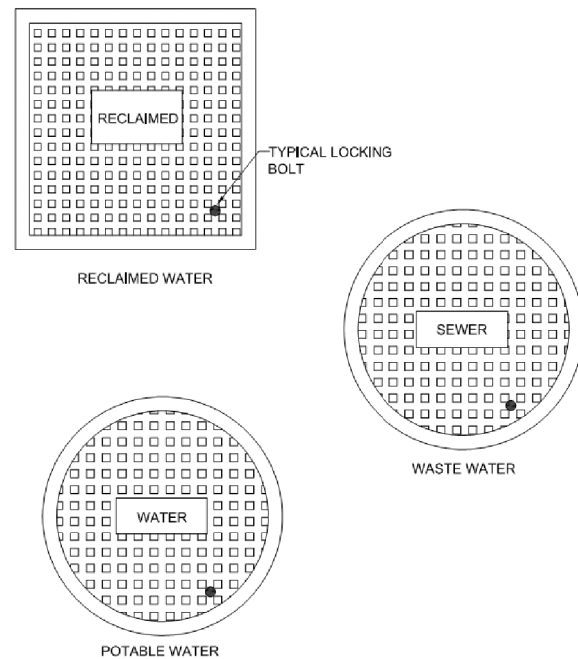
SHEET NO.  
**U-18**

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 BEDDING AND TRENCHING - TYPE B FIGURE A102



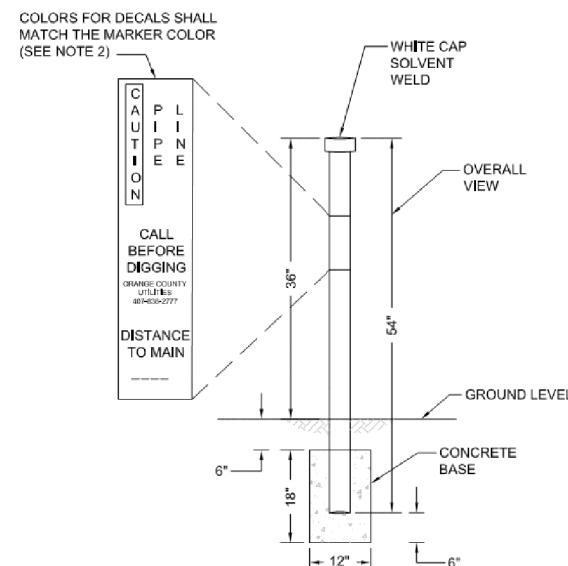
- NOTES:
- INITIAL BACKFILL AND HAUNCHING; SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
  - 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
  - WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  - ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  - FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES, SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 TYPICAL VALVE BOX COVER FIGURE A110



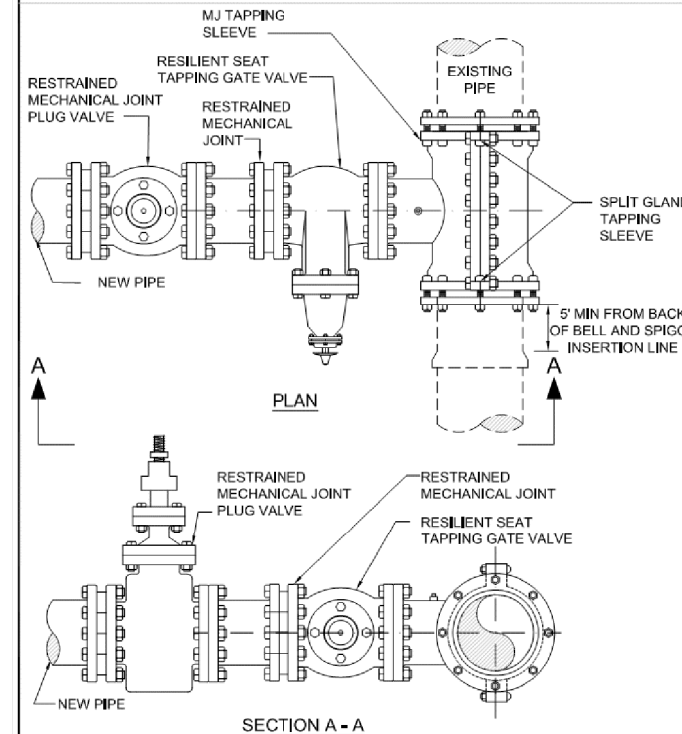
- NOTE:  
1. LOCKING LIDS ARE REQUIRED ON ALL VALVE BOXES.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 UTILITY MAIN MARKER FIGURE A113



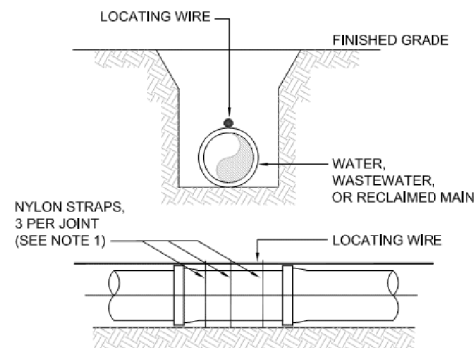
- NOTES:
- MARKERS ARE REQUIRED WHEN UTILITY MAIN IS LOCATED OVER 30 FEET FROM EDGE OF PAVEMENT OR IN AN EASEMENT NOT ADJACENT TO THE RIGHT OF WAY.
  - MARKERS SHALL BE 4" DIAMETER SCH. 80 OR DR18 PVC; BLUE FOR WATER; GREEN FOR WASTEWATER; AND PANTONE PURPLE 622C FOR RECLAIMED WATER.
  - MARKERS SHALL BE PLACED AT ALL DIRECTIONAL CHANGES AND AT ALL VALVES EXCEPT WATER VALVES NEAR FIRE HYDRANTS, ADDITIONAL MARKERS SHALL BE INSTALLED AS NEEDED SO THAT THE DISTANCE BETWEEN MARKERS DOES NOT EXCEED 1000 FEET.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 MJ TAPPING SLEEVE AND GATE VALVE WITH PLUG VALVE FOR WASTEWATER FIGURE A121-2



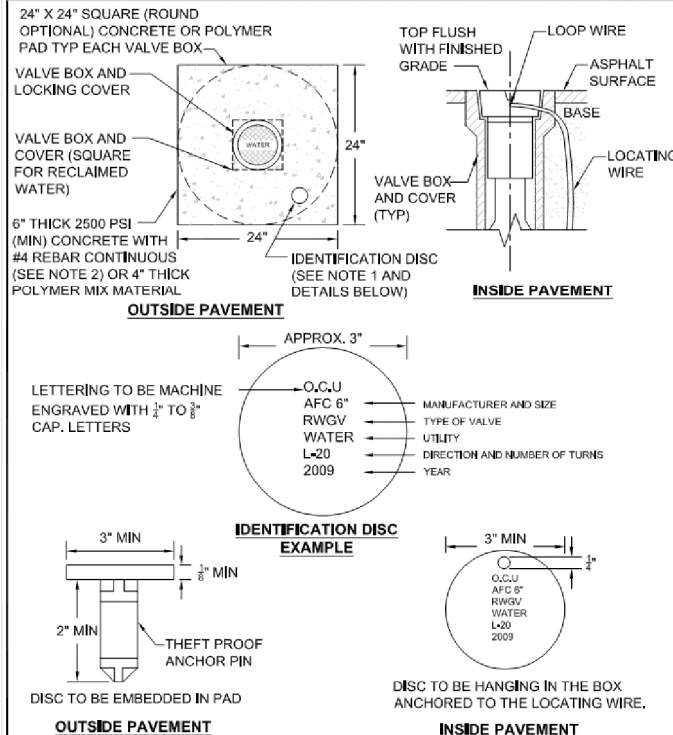
- NOTES:
- PLUG VALVES GREATER THAN 4" SHALL BE GEAR ACTUATED.
  - PLUG VALVE TO BE INSTALLED VERTICALLY, AND TAPPING GATE VALVE TO BE INSTALLED HORIZONTALLY AND ABANDONED IN THE OPEN POSITION.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 PIPE LOCATING WIRE FIGURE A114



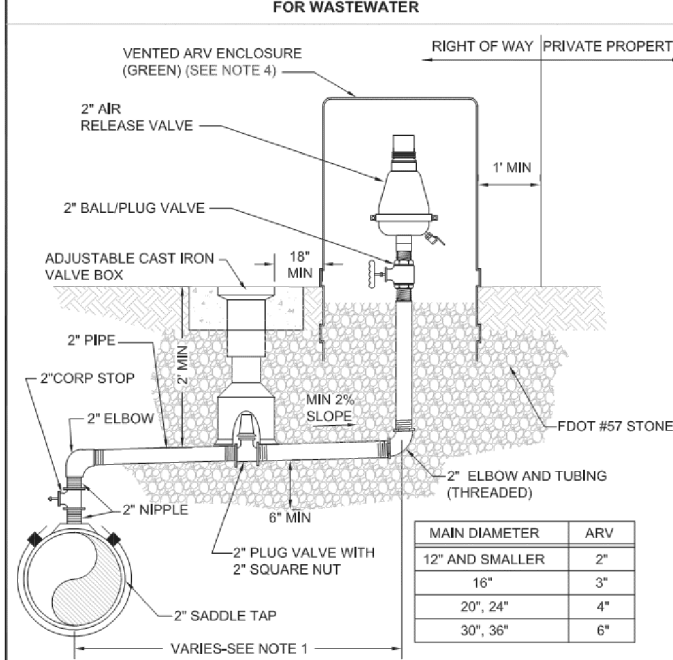
- NOTES:
- ALL PIPE SHALL REQUIRE INSULATED LOCATING WIRE (10 GAUGE SOLID COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE WRAPPED WITH NYLON STRAPS TO TOP CENTERLINE OF THE PIPE.
  - LOCATING WIRE SHALL BE CONTINUOUS INSIDE VALVE BOXES AND SHALL EXTEND 12" ABOVE TOP OF COLLAR.
  - WIRE INSULATION SHALL BE COLOR CODED FOR THE TYPE OF PIPE BEING INSTALLED.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 VALVE BOX PAD FIGURE A112



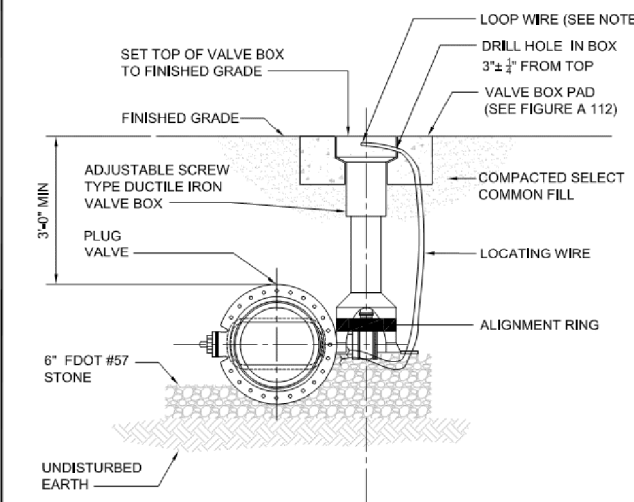
- NOTES:
- BRONZE (OR STAINLESS STEEL) IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES, EXCEPT HYDRANT VALVES.
  - IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD WITH TWO #4 REBAR AROUND PERIMETER MAY BE USED.

APPENDIX A STANDARD DRAWINGS GENERAL  
REV: APRIL 25, 2011 COMBINATION AIR RELEASE VALVE FOR WASTEWATER FIGURE A115-2



- NOTES:
- OFFSET DISTANCE TO BE FIELD DETERMINED AND AS CLOSE TO THE RIGHT OF WAY AS POSSIBLE AND CLEAR OF PEDESTRIAN WALKWAYS. IF PIPE IS AT RIGHT OF WAY LINE, NO OFFSET IS REQUIRED.
  - ABOVE DETAIL APPLIES TO A 2" ARV. FOR LARGER ARVS, PIPE DIAMETER AND VALVES SHALL BE EQUAL TO THE SIZE OF THE ARV.
  - ALL PIPING, VALVES AND APPURTENANCES TO BE BRASS OR 316 S.S. EXCEPT WHERE SPECIFIED OTHERWISE.
  - THE ENCLOSURE VENTS MUST BE CAPABLE OF ALLOWING AT LEAST THE SAME AMOUNT OF AIRFLOW AS THE VALVE.

APPENDIX A STANDARD DRAWINGS GENERAL  
DATE: February 11, 2011 PLUG VALVE AND BOX WASTEWATER FIGURE A109



- NOTES:
- PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
  - THE VALVE ACTUATING NUT SHALL BE EXTENDED TO BE WITHIN 3" OF FINISHED GRADE.
  - PROVIDE A PLASTIC DEBRIS SHIELD / ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION.
  - LOCATING WIRE SHALL BE CONTINUOUS WITH NO SPLICES AND SHALL EXTEND 12" ABOVE TOP OF COLLAR. WIRE SHALL BE COLOR CODED TO MATCH THE UTILITY INSTALLED.
  - FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
  - REFER TO FIGURE A111 FOR INSTALLATIONS AT A DEPTH OF 6' OR GREATER.

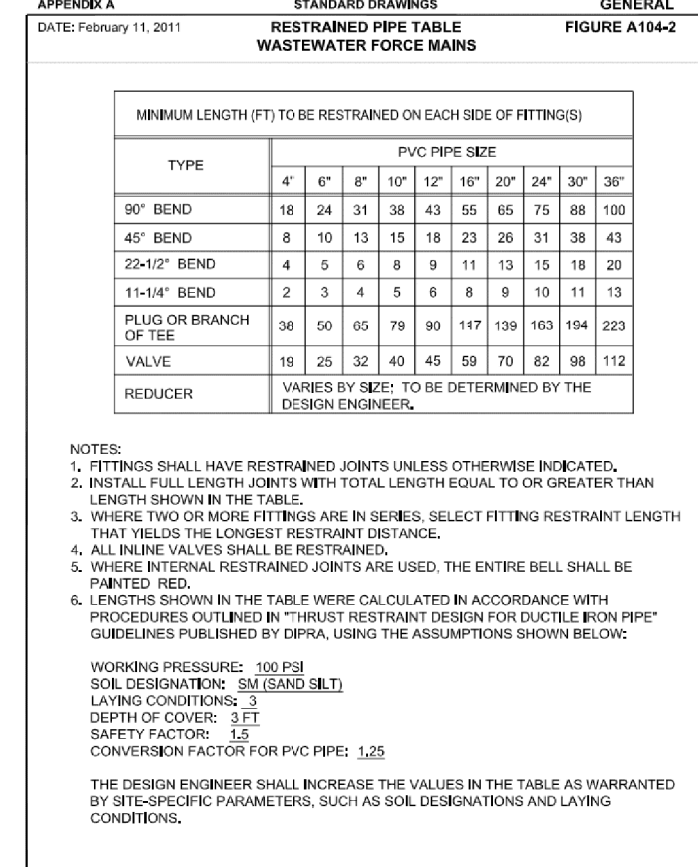
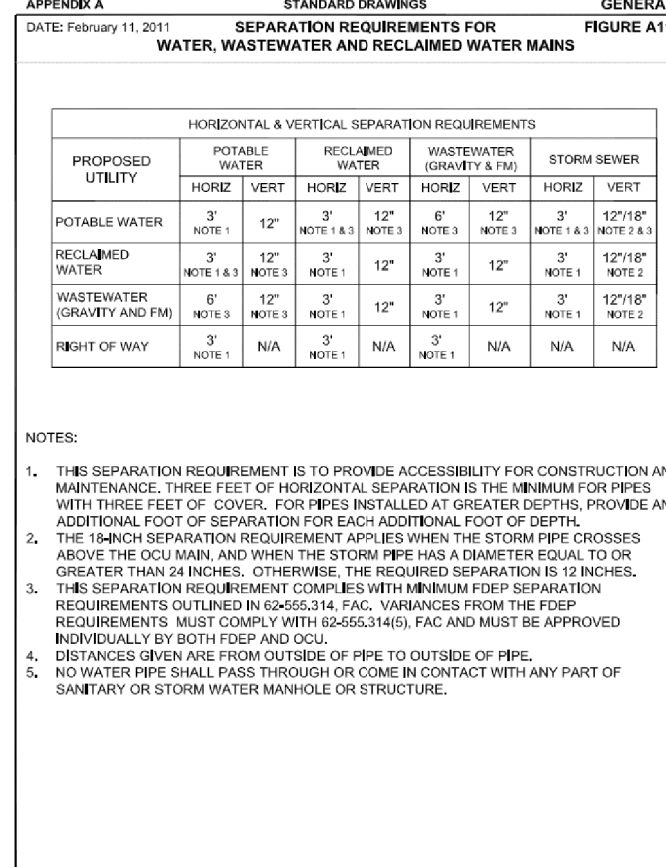
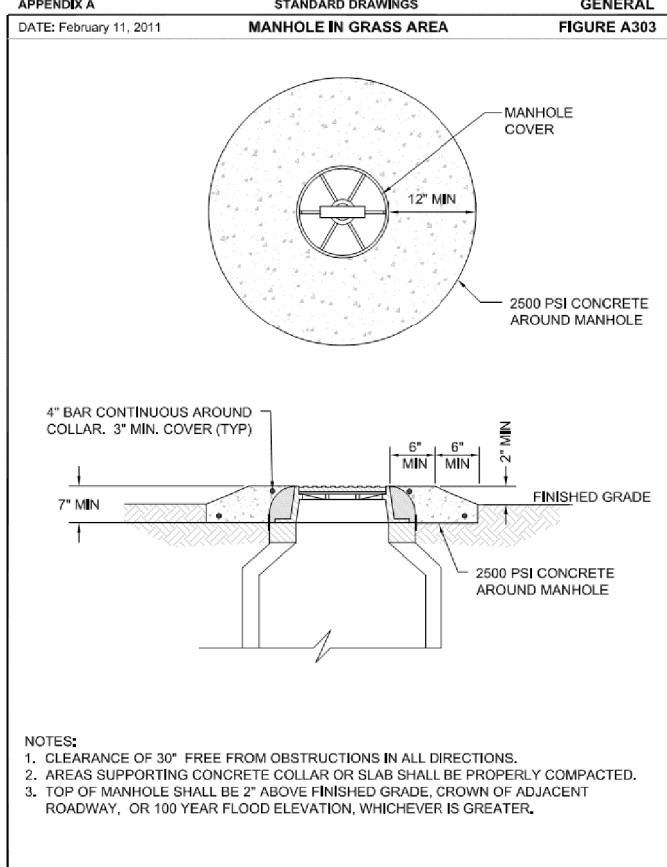
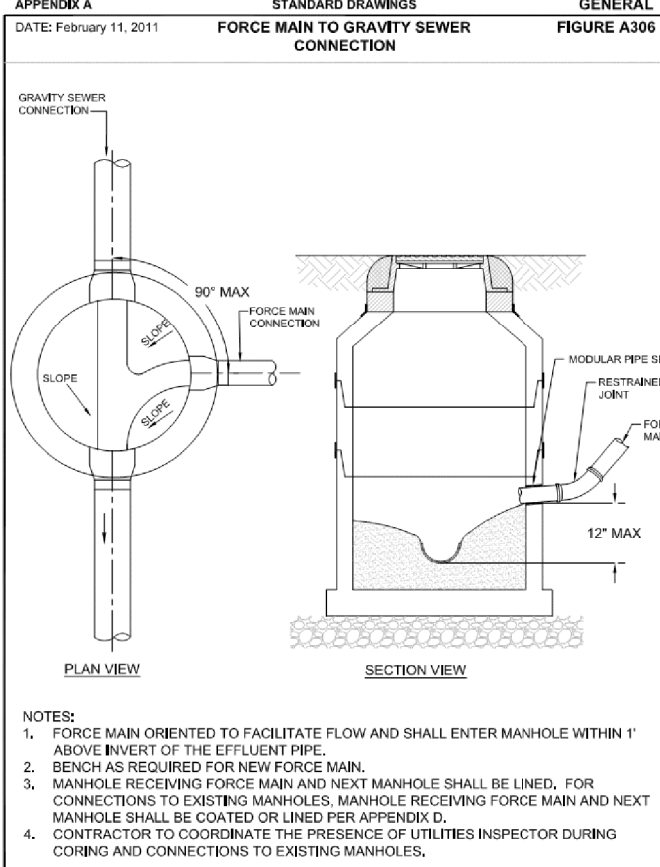
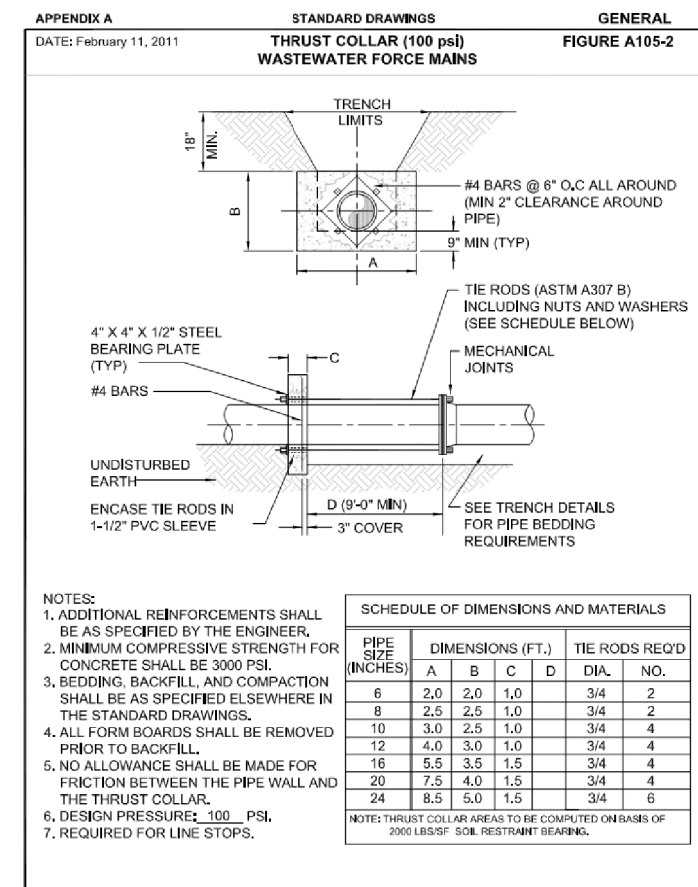
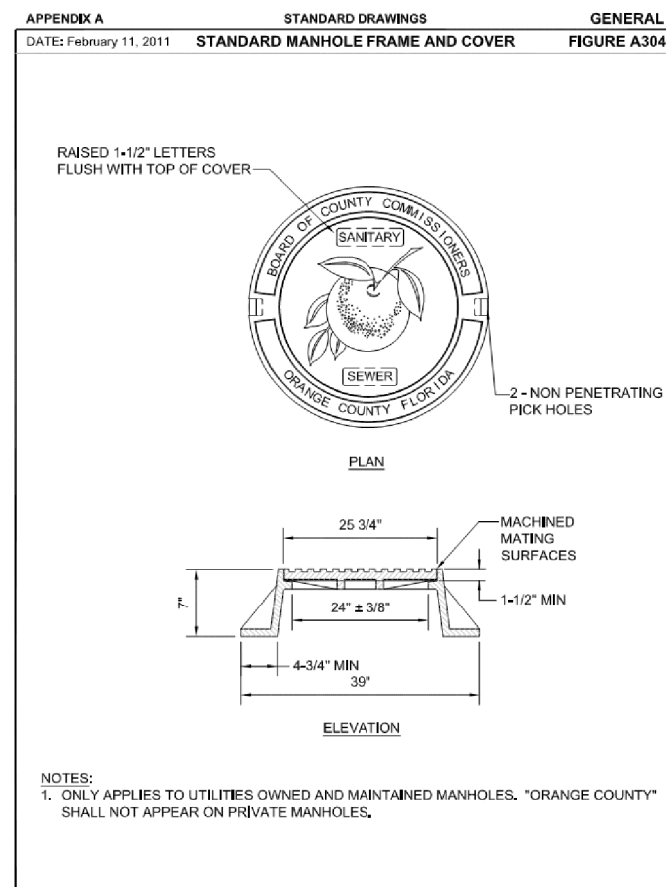
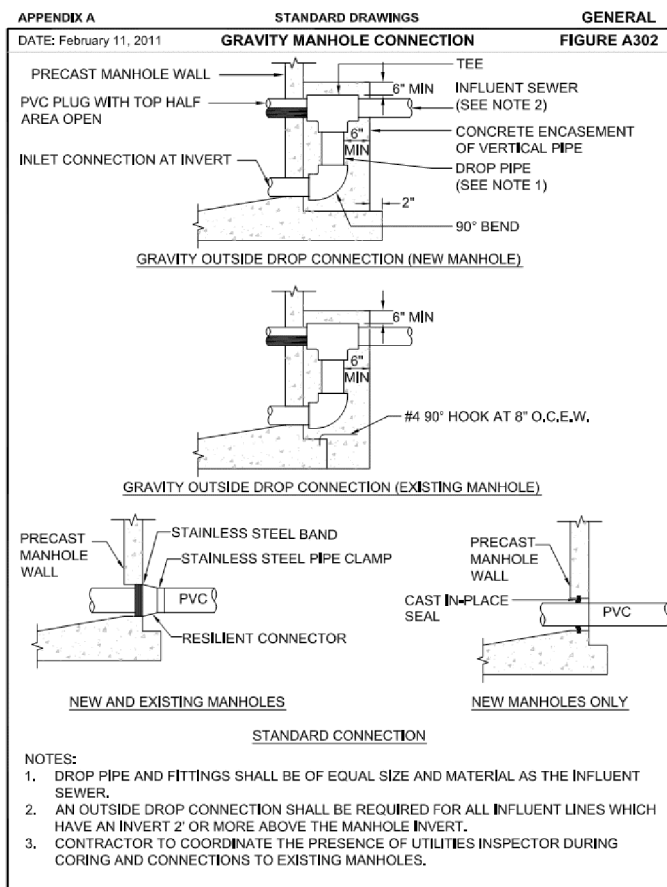
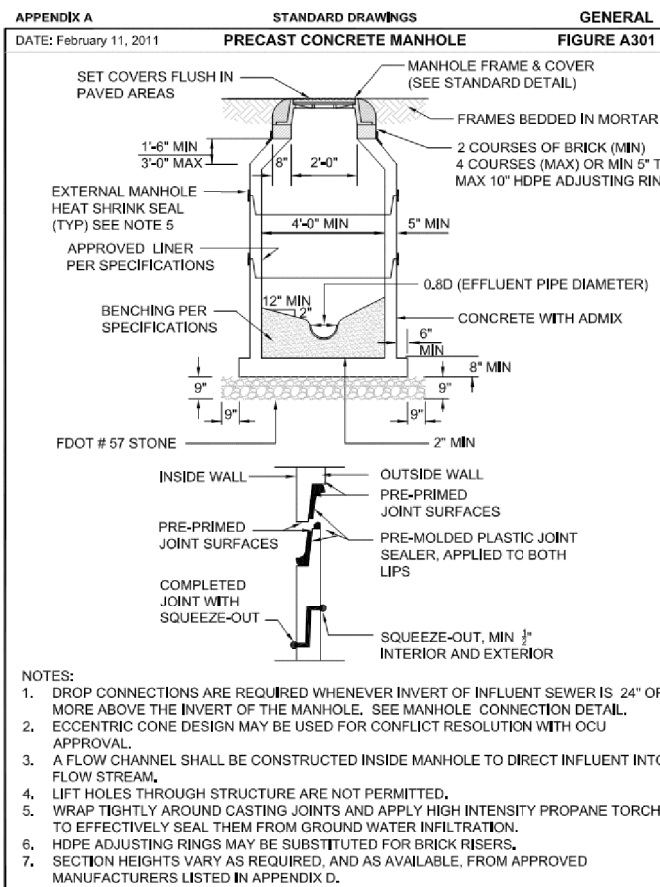
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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FOREST W. ADKINS, P.E. P.E. NUMBER 56003

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FLORIDA

**HOLDEN AVENUE**  
**STANDARD DETAILS**

SHEET NO.  
**U-19**

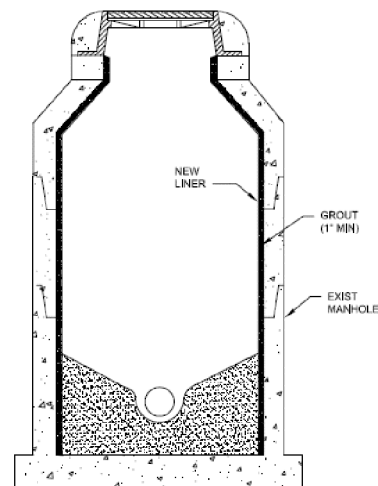


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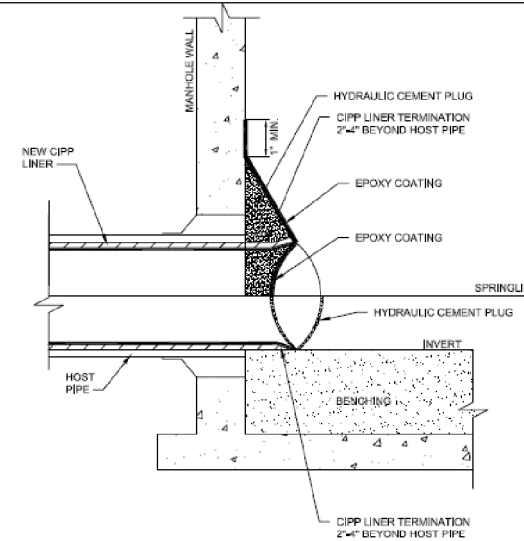
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FLORIDA

**HOLDEN AVENUE**  
**STANDARD DETAILS**  
SHEET NO. **U-20**



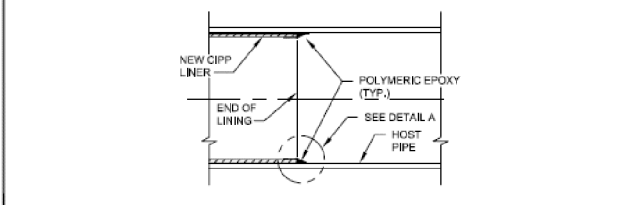
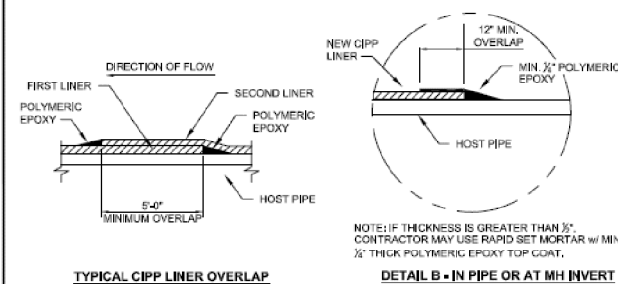
**NOTES:**

1. LINERS SHALL BE HDPE, OR REINFORCED PLASTIC AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
2. PREPARE STRUCTURE INTERIOR, PRESSURE WASH OR SANDBLAST TO REMOVE ALL SCALE, LOOSE MATERIAL, GREASE AND SLUDGE BUILD UP IN ACCORDANCE WITH SPECIFICATION SECTION 09900.
3. ACTIVE LEAKS SHALL BE REPAIRED WITH HYDRAULIC MORTAR, ALL OTHER STRUCTURAL REPAIRS DEEMED NECESSARY SHALL BE PERFORMED PRIOR TO INSTALLING LINER.



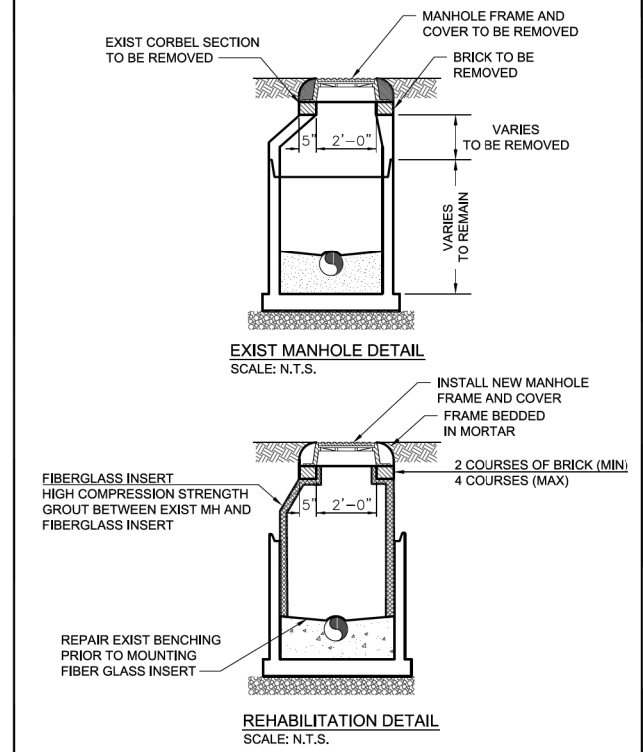
**NOTES:**

1. CONTRACTOR SHALL REPAIR DETERIORATION ON INSIDE CIRCUMFERENCE OF PIPE WALL TO FORM A SMOOTH SURFACE FOR THE END OF CIPP LINER.
2. IF POLYETHYLENE IS USED FOR INTERIOR OF LINING, CONTRACTOR SHALL ABRADE THE POLYETHYLENE LAYER PRIOR TO APPLYING THE EPOXY.
3. COMPLETE MANHOLE REHABILITATION PRIOR TO PIPE LINING.
4. EPOXY COATING PER APPENDIX D OF ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION MANUAL.
5. CONTRACTOR TO INSTALL EPOXY COATING PER MANUFACTURES INSTRUCTIONS.



**NOTES:**

1. CONTRACTOR SHALL REPAIR DETERIORATION ON INSIDE CIRCUMFERENCE OF PIPE WALL TO FORM A SMOOTH SURFACE FOR THE END OF CIPP LINER.
2. POLYMERIC EPOXY SHALL BE RAVEN 405 OR AQUATAPOXY A-6 EPOXY MORTAR SYSTEMS, BY RAVEN LINING SYSTEMS OR APPROVED EQUIVALENT.
3. IF POLYETHYLENE IS USED FOR INTERIOR OF LINING, CONTRACTOR SHALL ABRADE THE POLYETHYLENE LAYER PRIOR TO APPLYING THE EPOXY.



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**GOVERNMENT**  
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**HOLDEN AVENUE**  
**STANDARD DETAILS**  
**U-21**

SHEET NO.  
**U-21**

Fittings Worksheet								
I.D. Number	Plan Sheet #	Coordinates			Main Type	Fitting Size	Fitting Type	Comments
		Easting	Northing	Elevation				
FMF-1								
FMF-2								
FMF-3								
FMF-4								
FMF-5								
FMF-6								
FMF-7								
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**ORANGE COUNTY**  
**GOVERNMENT**  
FLORIDA

**HOLDEN AVENUE**  
**WASTEWATER ASSET TABLES**

Pipes Worksheet											
I.D. Number	Plan Sheet #	Coordinates			Main Type	Type of Shot	Construction Method	Material	Pressure Class	Manufacturer	Comments
		Easting	Northing	Elevation							
FM-1											
FM-2											
FM-3											
FM-4											
FM-5											
FM-6											
FM-7											
FM-8											
FM-9											
FM-10											
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FM-18											
FM-19											
FM-20											
FCSNG-1											
FCSNG-2											
FCSNG-3											
FCSNG-4											

Wastewater Manholes Worksheet															
I.D. Number	Plan Sheet #	Coordinates			Invert Elevations								Manufacturer	Comments	
		Easting	Northing	Elevation	N	NE	E	SE	S	SW	W	NW			
SAN-1															
SAN-2															
SAN A															
SAN B															
SAN C															

Valves Worksheet															
I.D. Number	Plan Sheet #	Coordinates			Size	Valve Type	Main Type	Manufacturer	Model #	# of Turns to Close	Gear Actuator	Gear Ratio	Side Actuator	Actuator Manufacturer	Comments
		Easting	Northing	Elevation											
FPV-1															
FPV-2															
FPV-3															
FPV-4															
FPV-5															
FPV-6															
FPV-7															
FPV-8															
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FPV-12															
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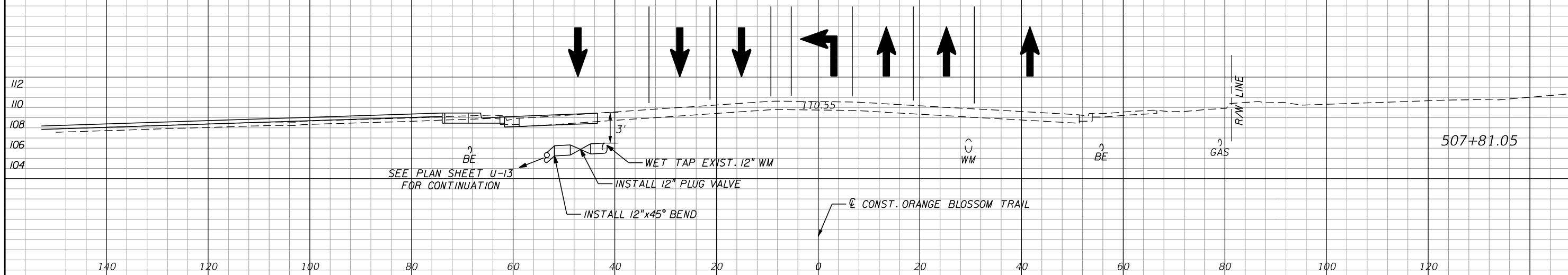
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**HOLDEN AVENUE**  
**WASTEWATER ASSET TABLES**



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**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**UTILITY IMPROVEMENTS**  
**CROSS SECTION**  
**ORANGE BLOSSOM TRAIL**

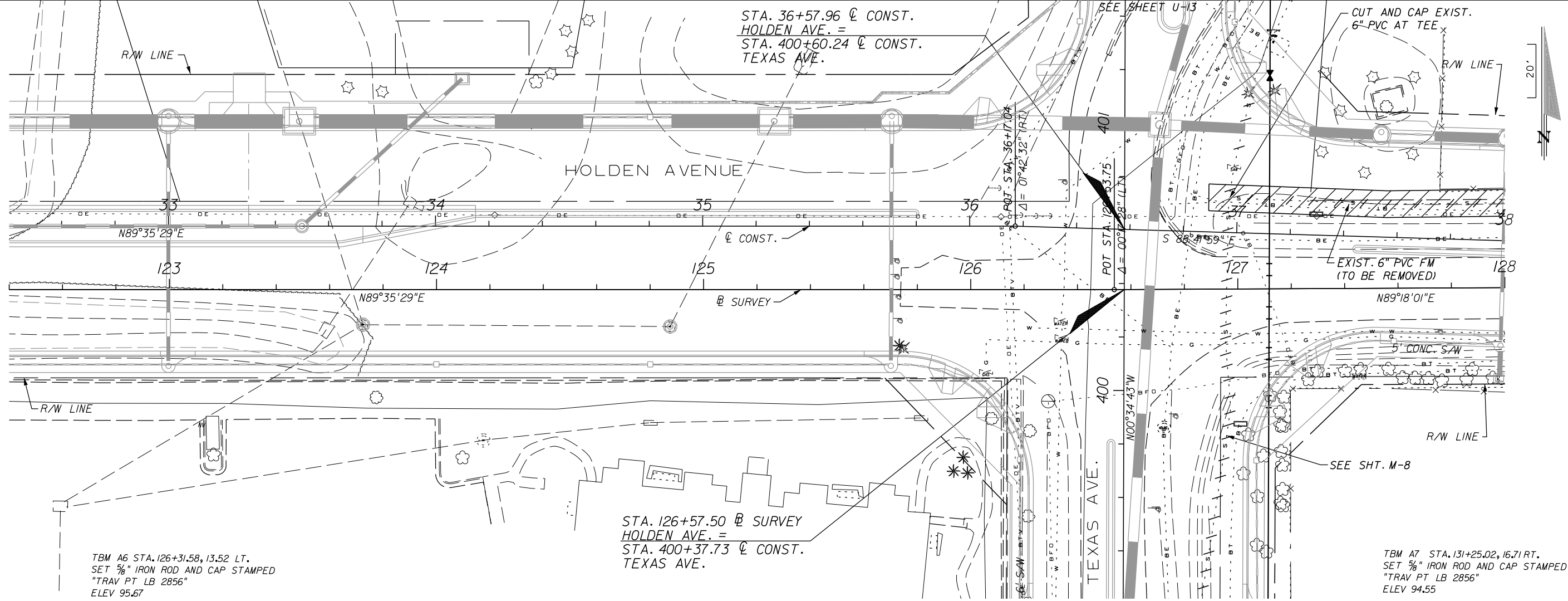
SHEET NO.  
**U-24**



MAINTENANCE OF TRAFFIC NOTES:

1. COST OF ALL ITEMS FOR MAINTENANCE OF TRAFFIC TO BE INCLUDED IN PAY ITEM U-4, MAINTENANCE OF TRAFFIC (LS).
2. FOR MAINTENANCE OF TRAFFIC DETAILS, REFER TO THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, LATEST EDITION, INDEX 600 SERIES AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
3. THE SPEED LIMIT THROUGH THE WORK ZONE DURING ALL PHASES OF CONSTRUCTION SHALL BE 35 MPH.
4. ADVANCE SIGNING TO BE SHOWN AS PER THE APPROPRIATE FDOT INDEX. PHASE SIGNING SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF THAT PHASE. CONTRACTOR TO COVER ALL CONFLICTING SIGNS WHEN NOT IN USE.
5. ADVANCE SIGN LOCATIONS AND SPACING SHALL BE FIELD ADJUSTED TO AVOID CONFLICTS WITH EXISTING ABOVE GROUND OBJECTS. SIGNS TO BE LOCATED WHERE THEY ARE CLEARLY VISIBLE TO ONCOMING TRAFFIC AND SHALL BE KEPT IN GOOD CONDITION THROUGHOUT THE DURATION OF CONSTRUCTION.
6. ARROWS SHOWN ON THE M.O.T. PLANS ARE INTENDED TO REPRESENT THE DIRECTION OF TRAFFIC ONLY AND DO NOT INDICATE PAVEMENT MARKINGS.
7. CONTRACTOR SHALL NOTIFY LYNX AT (407) 841-2279 A MINIMUM OF ONE (1) WEEK PRIOR TO IMPLEMENTING ANY STREET CLOSURE OR DETOUR PLAN TO COORDINATE BUS RE-ROUTING.
8. ANY CHANGE IN SPEED LIMITS MUST BE APPROVED BY THE ORANGE COUNTY TRAFFIC ENGINEER. CONTACT JOHN KLIMOVITCH AT (407) 836-7803.
9. PEDESTRIAN TRAFFIC IS TO BE MAINTAINED PER FDOT INDEX 660.
10. THE CONTRACTOR SHALL CONTACT ORANGE COUNTY ONE (1) WEEK PRIOR TO THE START OF ANY PHASE OF WORK TO REQUEST STREET, LANE OR SIDEWALK CLOSURE AUTHORIZATION.
11. LOCAL RESIDENTIAL/BUSINESS ACCESS SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE RESIDENTS/BUSINESSES AFFECTED BY CONSTRUCTION ACTIVITIES, ONE (1) WEEK IN ADVANCE OF THE START OF ANY PHASE CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE COPIES OF THE NOTIFICATION TO THE TRAFFIC CONTROL MANAGER PRIOR TO DISTRIBUTION.
12. THE CONTRACTOR SHALL NOTIFY THE ORANGE COUNTY SCHOOL BOARD, SAFETY MANAGER WILLIAM WEN (407-317-3816), ONE (1) WEEK IN ADVANCE OF THE START OF ANY PHASE OF CONSTRUCTION TO COORDINATE SCHOOL BUS RE-ROUTING.
13. ORANGE COUNTY RESERVES THE RIGHT TO REQUIRE ADDITIONAL DEVICES AND/OR CHANGES TO THE TRAFFIC CONTROL PLAN BASED UPON CHANGING TRAFFIC CONDITIONS.
14. ANY CHANGES MADE TO THE TRAFFIC CONTROL PLAN BY THE CONTRACTOR SHALL BE SIGNED/SEALED BY A REGISTERED PROFESSIONAL ENGINEER AND APPROVED BY THE TRAFFIC CONTROL MANAGER PRIOR TO IMPLEMENTATION.
15. THE NUMBER OF DEVICES SHOWN ON THESE PLANS ARE FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
16. IF TEMPORARY MARKINGS ARE REQUIRED ON FRICTION COURSE SURFACES, ALL MARKINGS SHALL BE INSTALLED USING 3M BRAND STAMARK REMOVABLE TAPE, SERIES 750, WET REFLECTIVE TEMPORARY TAPE. THE USE OF "FOILBACK" TYPES OF TEMPORARY TAPE IS NOT PERMITTED.
17. 3M BRAND REMOVABLE BLACK MASK TAPE, SERIES 145, IS THE ONLY APPROVED MATERIAL FOR "BLACKING OUT" OF EXIST. PAVEMENT MARKINGS ON FINAL ROADWAY SURFACES. UNDER NO CIRCUMSTANCES WILL BLACK PAINT OR GRINDING BE PERMITTED.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EACH EMPLOYEE SUPERVISING THE SELECTION AND PLACEMENT OF MAINTENANCE OF TRAFFIC (MOT) CONTROL DEVICES IS PROPERLY TRAINED, BY ATTENDING AND SUCCESSFULLY COMPLETEING AN FDOT APPROVED MOT COURSE. THE TRAINING SHALL BE AT A LEVEL APPLICABLE TO THE EMPLOYEE'S LEVEL OF INVOLVEMENT. COPIES OF CERTIFICATIONS SHALL BE PROVIDED TO ORANGE COUNTY PRIOR TO IMPLEMENTING ANY PHASE OF MOT.
19. THE CONTRACTOR SHALL KEEP ALL SIGNALS AFFECTED BY CONSTRUCTION ACTIVITIES OPERATIONAL THROUGHOUT ALL PHASES OF CONSTRUCTION. VEHICLE DETECTION MUST BE MAINTAINED FOR ALL LANES AT ALL TIMES.
20. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO IS RESPONSIBLE FOR INITIATING, INSTALLING AND MAINTAINING ALL TRAFFIC CONTROL DEVICES. THE TCS SHALL BE AVAILABLE ON A 24-HOUR PER DAY BASIS, PARTICIPATE IN ALL CHANGES TO TRAFFIC CONTROL AND REVIEW THE PROJECT ON A DAY TO DAY BASIS. THE TCS SHALL BE PRESENT DURING THE INITIAL SETUP OF THE TRAFFIC CONTROL PLAN AND ALL SUBSEQUENT PHASES OR CHANGES TO THE TRAFFIC CONTROL. THE TCS SHALL IMMEDIATELY CORRECT ALL DEFICIENCIES. THE CONTRACTOR SHALL ENSURE THE TCS BE AVAILABLE ON SITE WITHIN 45 MINUTES OF NOTIFICATION OF AN EMERGENCY SITUATION AND IS PREPARED TO RESPOND TO AND CORRECT THE TRAFFIC CONTROL OR PROVIDE ALTERNATE ARRANGEMENTS FOR CORRECTIVE ACTIONS. THE TCS SHALL BE RESPONSIBLE FOR PERFORMING WEEKLY, DAYTIME AND NIGHTTIME INSPECTIONS OF ALL TRAFFIC CONTROL DEVICES, TRAFFIC FLOW, PEDESTRIAN/BICYCLIST MOVEMENT THROUGH THE WORK AREA, AND BUSINESS ACCOMODATIONS. ORANGE COUNTY MAY DISQUALIFY AND REMOVE FROM THE PROJECT A TCS THAT FAILS TO COMPLY WITH THESE PROVISIONS. ORANGE COUNTY MAY ALSO SUSPEND ALL WORK ACTIVITIES UNTIL CORRECTIVE ACTIONS HAVE BEEN COMPLETED.
21. AN OFF DUTY OFFICER WILL BE REQUIRED FOR NIGHTTIME LANE CLOSURES.
22. ONLY CHANNELIZING DRUMS SHALL BE USED FOR NIGHTTIME LANE CLOSURES.
23. CONTRACTOR TO PROVIDE VARIABLE MESSAGE SIGNS INFORMING THE PUBLIC 10 DAYS PRIOR TO ANY ROAD CLOSURE, AND NOTIFY ORANGE COUNTY EMERGENCY SERVICES 7 DAYS PRIOR TO THE ROAD CLOSURE.
24. EXIST. PAVEMENT MARKINGS WHICH ARE TO BE OBLITERATED, SHALL BE RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF CONSTRUCTION AND PRIOR TO REINSTATING VEHICULAR TRAFFIC.
25. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE NEW OR LIKE NEW CONDITION. ALL SIGNS SHALL BE POST MOUNTED UNLESS OTHERWISE NOTED.
26. CHANNELIZING DRUMS SHALL BE USED ON NEWLY PAVED ROADWAYS.
27. DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
28. EXISTING REGULATORY SIGNS ARE TO BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE NOTED. ALL EXISTING SIGNS WHICH CONFLICT WITH THE TRAFFIC CONTROL PLAN DURING A CONSTRUCTION PHASE SHALL BE REMOVED OR COVERED AS NECESSARY. THE CONTRACTOR SHALL MAINTAIN AND RELOCATE THE EXISTING ROADWAY SIGNS AS CONDITIONS WARRANT IN EACH PHASE, THROUGHOUT THE DURATION OF CONSTRUCTION. THE COST OF THESE SIGNING OPERATIONS IS TO BE INCLUDED IN THE LUMP SUM MAINTENANCE OF TRAFFIC (ITEM U-4).
29. THE CONTRACTOR SHALL EITHER BACKFILL OR COVER BY AN APPROVED METHOD ALL OPEN TRENCHES AT THE END OF EACH WORK PERIOD. REFER TO FDOT INDEX 600, SHEET 9 OF 12.
30. TRAFFIC SHALL BE MAINTAINED ON PAVED SURFACES AT ALL TIMES.
31. POSITIVE DRAINAGE IS TO BE MAINTAINED AT ALL TIMES.
32. ALL TEMPORARY PAVEMENT SHALL UTILIZE A FIRM AND UNYIELDING BASE WITH ASPHALT PAVEMENT. TEMPORARY PAVEMENT SHALL BE REPAIRED AS NEEDED OR AS DIRECTED BY THE ENGINEER AND PAYMENT SHALL BE INCLUDED IN THE LUMP SUM MAINTENANCE OF TRAFFIC (ITEM U-4).
33. RELOCATION OF UTILITIES WILL GO ON CONCURRENTLY WITH THE ROADWAY CONSTRUCTION. ROADWAY CONTRACTOR TO COORDINATE CLOSELY WITH UTILITY CONTRACTOR(S) TO AVOID CONFLICTS.
34. THE CONTRACTOR IS TO PROVIDE TRAFFIC DATA AND LANE CLOSURE ANALYSIS TO THE COUNTY FOR APPROVAL PRIOR TO ANY LANE CLOSURES. NO LANE CLOSURES WITHOUT PRIOR APPROVAL OF ORANGE COUNTY TRAFFIC ENGINEERING. LANE CLOSURES WITHIN FDOT R/W SHALL BE LIMITED TO THE FOLLOWING HOURS: 7:30 PM TO 7:00 AM.
35. THESE MAINTENANCE OF TRAFFIC PLANS ARE FOR INFORMATION ONLY. FINAL PLANS TO BE SUBMITTED TO AND APPROVED BY THE COUNTY. THE MAINTENANCE OF TRAFFIC PLAN DONE BY THE CONTRACTOR SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
36. LYNX WILL MAINTAIN BUS SERVICE IN THE AREA DURING CONSTRUCTION. LINK 8 RUNS NORTH-SOUTH ON TEXAS AVE. AND EAST-WEST ON HOLDEN AVE. FROM TEXAS AVE. TO ORANGE BLOSSOM TRAIL. LINK 57 RUNS NORTH-SOUTH ON JOHN YOUNG PARKWAY. THE CONTRACTOR MUST MAINTAIN LYNX SERVICE, INCLUDING PEDESTRIAN ACCESS TO AND FROM THE BUS AT EACH BUS STOP.
37. AT LEAST 60 FEET FROM THE BACK OF THE STOPPED BUS TO THE TANGENT OF THE CURVE OF THE NEAREST DRIVEWAY OR 100 FEET FROM THE LOCATION OF THE BUS ARE REQUIRED TO ACCOMMODATE A TYPICAL 40 FOOT LONG LYNX BUS. THE FRONT DOORS ARE LOCATED AT THE FRONT CORNER OF THE TRANSIT BUS. THE REAR DOORS ARE LOCATED 27 FEET FROM THE FRONT CORNER. NEITHER CAN EMPTY TO DRAINAGE AS CUSTOMERS CAN TRIP AND BE INJURED.

REVISIONS								<b>MAINTENANCE OF TRAFFIC HOLDEN AVENUE GENERAL NOTES</b>	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				M-1



TBM A6 STA. 126+31.58, 13.52 LT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 95.67

STA. 126+57.50 @ SURVEY  
 HOLDEN AVE. =  
 STA. 400+37.73 @ CONST.  
 TEXAS AVE.

TBM A7 STA. 131+25.02, 16.71 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 94.55

**PHASE I NOTES**

- THIS PHASE IS TO ADDRESS THE EXIST. 6" PVC FORCEMAIN ALONG HOLDEN AVENUE BETWEEN TEXAS AVENUE AND RIO GRANDE AVENUE.
1. REMOVE THE EXIST. 6" PVC FM FROM ITS CONNECTION TO THE EXIST. 10" FM ALONG THE EAST SIDE OF TEXAS AVENUE TO STA. 44+72.35 RT. MAINTAIN TRAFFIC USING FDOT INDEXES 601 AND 602.
  2. CONSTRUCT THE 6" PVC FM DEFLECTIONS BETWEEN STATIONS 46+36.37 AND 47+01.86 RT, 50+25 AND 50+75. MAINTAIN TRAFFIC USING FDOT INDEXES 601 AND 602.
  3. FOR THE OPEN CUT CROSSING AT STA. 44+70, MAINTAIN TRAFFIC USING FDOT INDEX 603. FOR ALLOWABLE LANE CLOSURE TIMES, SEE GENERAL NOTES.



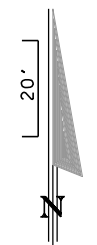
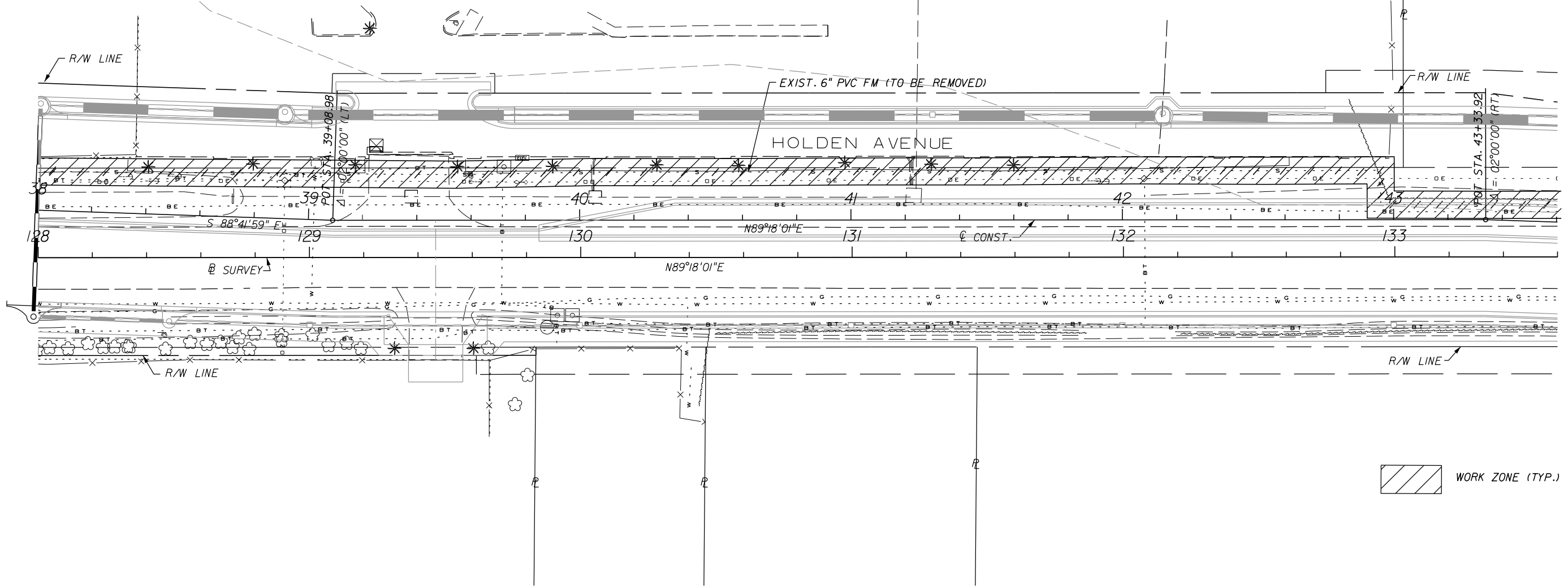
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 CERTIFICATE OF AUTHORIZATION NO. 2856  
 FOREST W. ADKINS, P.E. P.E. NUMBER 56003

**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 1**

SHEET NO.  
**M-2**



 WORK ZONE (TYP.)

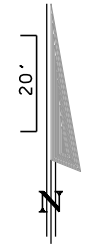
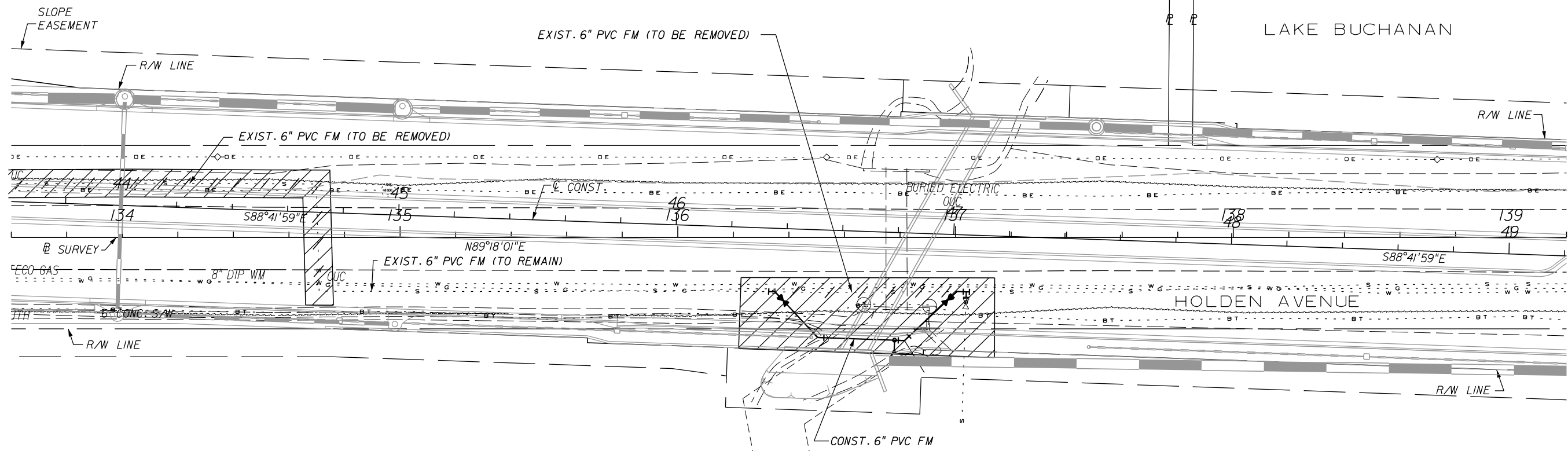
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**MAINTENANCE OF TRAFFIC  
 HOLDEN AVENUE  
 PHASE 1**

SHEET NO.  
**M-3**



 WORK ZONE (TYP.)

NOTE: SEE NOTE A., SHEET U-6 FOR INFORMATION REGARDING CONSTRUCTION SHOWN ON THIS SHEET.

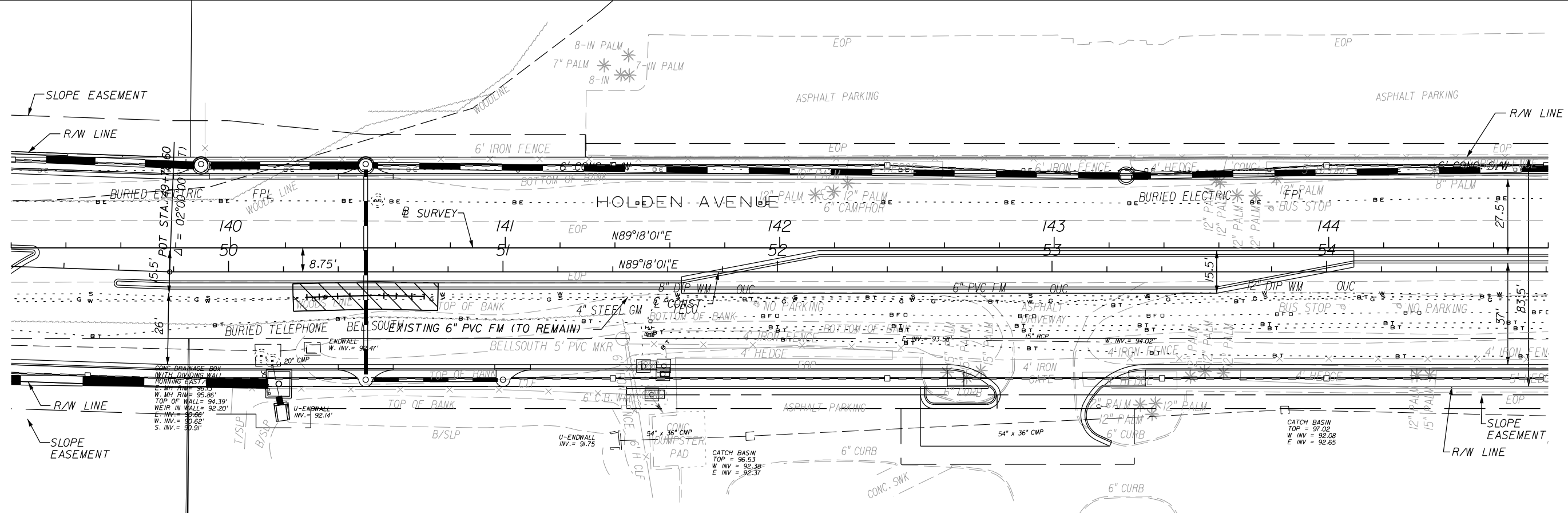
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 1**

SHEET NO.  
**M-4**



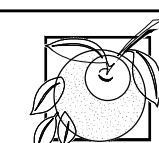
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 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 94.90

TBM A10 STA. 146+08.48, 19.21 RT.  
 SET 5/8" IRON ROD AND CAP STAMPED  
 "TRAV PT LB 2856"  
 ELEV 96.02

 WORK ZONE (TYP.)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

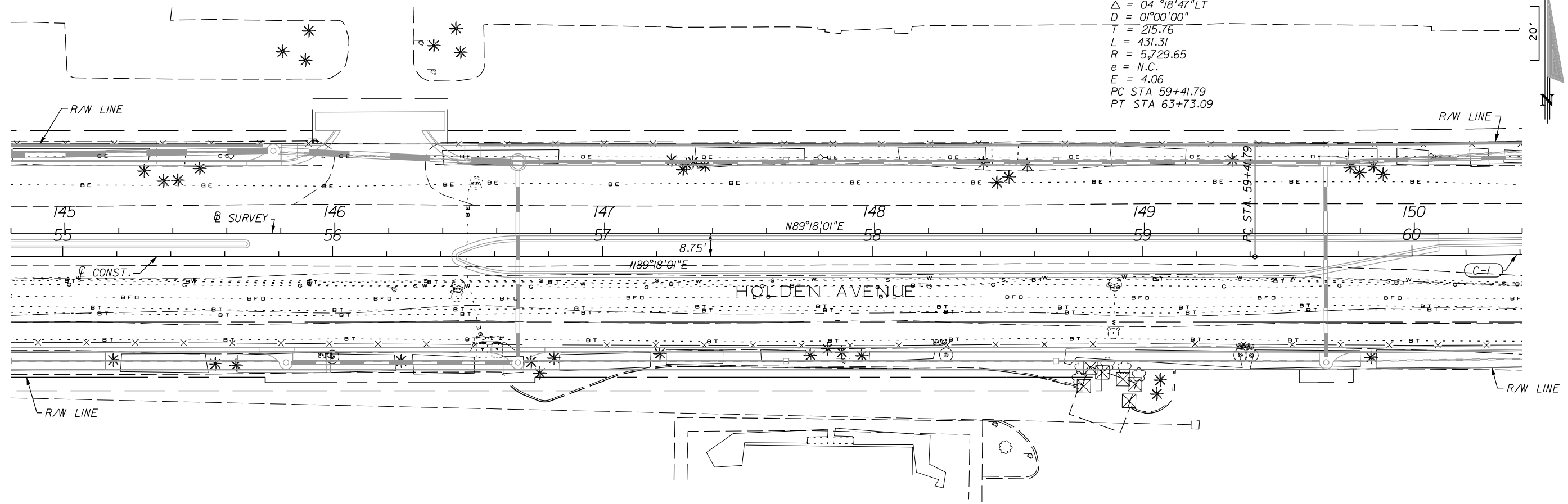
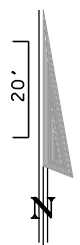
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 GOVERNMENT  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 1**

SHEET NO.  
**M-5**

C-1  
 PI STA 61+57.54  
 $\Delta = 04^{\circ}18'47''$  LT  
 $D = 01^{\circ}00'00''$   
 $T = 215.76$   
 $L = 431.31$   
 $R = 5,729.65$   
 $e = N.C.$   
 $E = 4.06$   
 PC STA 59+41.79  
 PT STA 63+73.09



 WORK ZONE (TYP.)

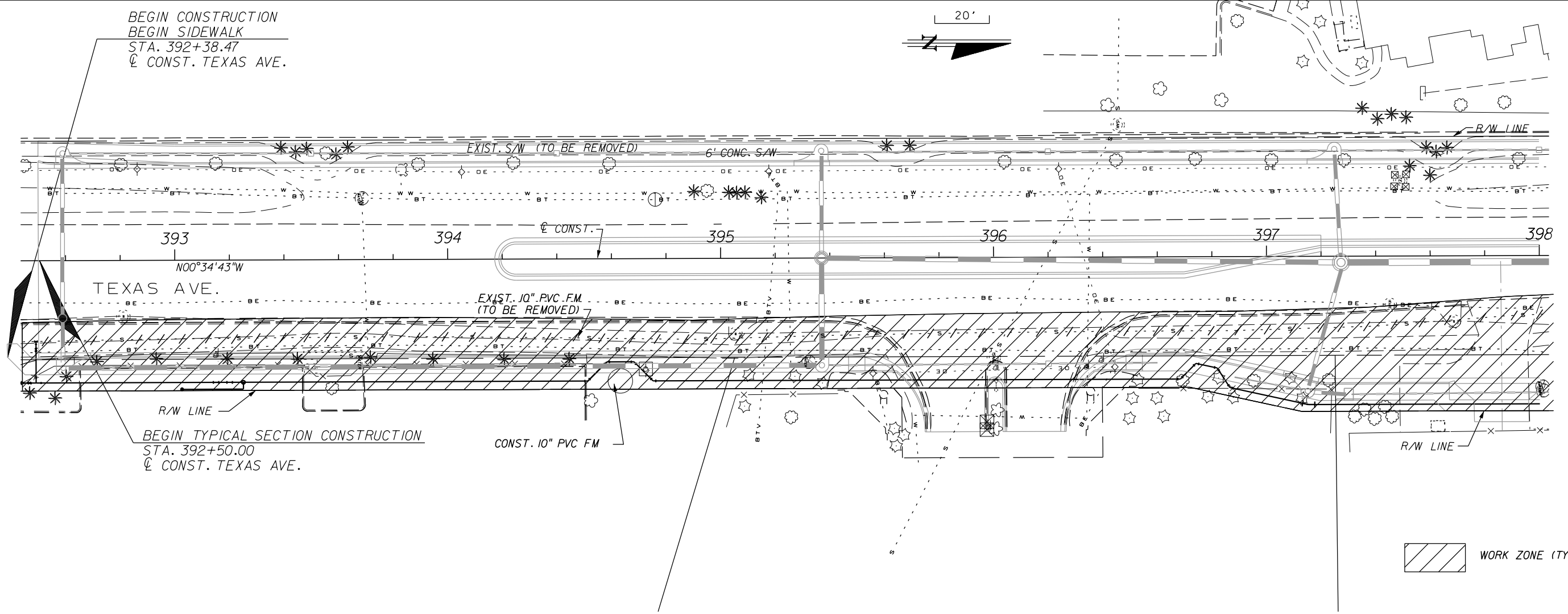
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**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 1**

SHEET NO.  
**M-6**



BEGIN CONSTRUCTION  
 BEGIN SIDEWALK  
 STA. 392+38.47  
 CL CONST. TEXAS AVE.

BEGIN TYPICAL SECTION CONSTRUCTION  
 STA. 392+50.00  
 CL CONST. TEXAS AVE.

 WORK ZONE (TYP.)

PHASE 2 NOTES

THIS PHASE IS TO ADDRESS THE EXISTING 10" PVC FORCEMAIN ALONG TEXAS AVENUE.

1. CONSTRUCT THE PROPOSED 10" PVC FM WET TAPS AT STA. 392+49 RT AND STA. 406+84.45 LT. MAINTAIN TRAFFIC USING FDOT INDEXES 601 AND 602.
2. CONSTRUCT THE PROPOSED 10" PVC FM ALONG THE EAST SIDE OF TEXAS AVENUE SOUTH OF HOLDEN AVENUE. MAINTAIN TRAFFIC USING FDOT INDEXES 601 AND 602.
3. CONSTRUCT THE PROPOSED 10" PVC FM ALONG THE EAST AND WEST SIDES OF TEXAS AVENUE NORTH OF HOLDEN AVENUE. MAINTAIN TRAFFIC USING FDOT INDEXES 601 AND 602.
4. FOR THE THREE PROPOSED OPEN CUT CROSSINGS (HOLDEN AVENUE STA. 37+00 - PROPOSED 10" FM AND REMOVAL OF EXISTING 10" FM; TEXAS AVENUE STA. 401+90 - REMOVAL OF EXISTING 10" FM; TEXAS AVENUE STA. 405+10 - PROPOSED 10" FM) MAINTAIN TRAFFIC USING FDOT INDEXES 603 AND 605. SEE GENERAL NOTES FOR LANE CLOSURE INFORMATION.

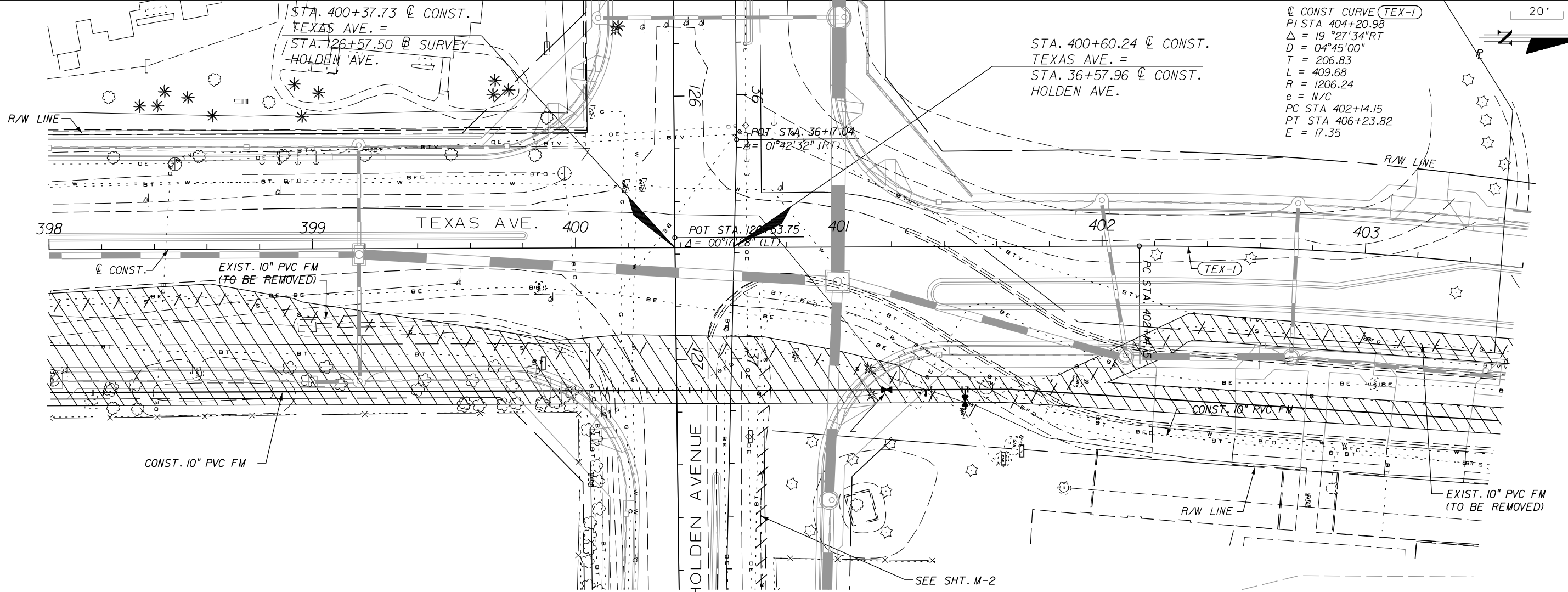
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 **ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**TEXAS AVENUE**  
**PHASE 2**

SHEET NO.  
**M-7**



 WORK ZONE (TYP.)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

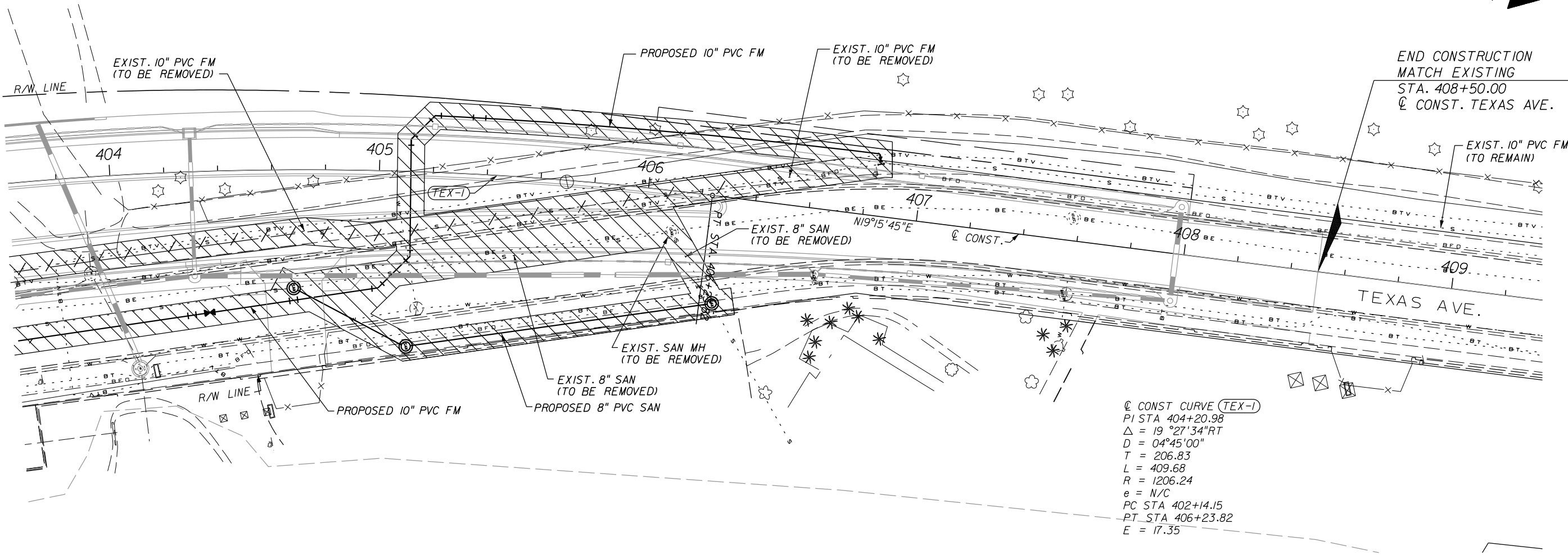
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 **ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**TEXAS AVENUE**  
**PHASE 2**

SHEET NO.  
**M-8**





@ CONST CURVE (TEX-1)  
 PI STA 404+20.98  
 $\Delta = 19^\circ 27' 34'' RT$   
 $D = 04^\circ 45' 00''$   
 $T = 206.83$   
 $L = 409.68$   
 $R = 1206.24$   
 $e = N/C$   
 PC STA 402+14.15  
 PT STA 406+23.82  
 $E = 17.35$

WORK ZONE (TYP.)

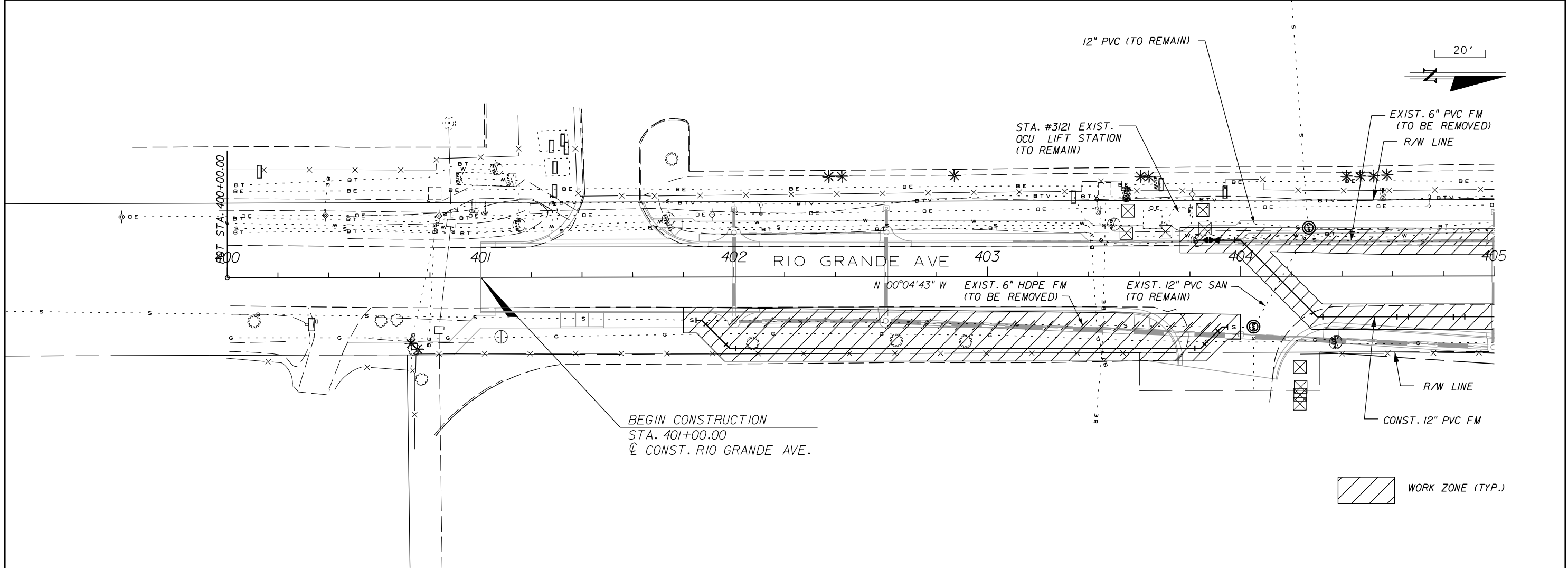
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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**MAINTENANCE OF TRAFFIC**  
**TEXAS AVENUE**  
**PHASE 2**

SHEET NO.  
**M-9**



**PHASE 3 NOTES**

THIS PHASE IS TO ADDRESS THE 12" PVC FM ALONG RIO GRANDE AVE AND HOLDEN AVENUE, AND TO ADDRESS THE GRAVITY SANITARY SEWER RE-ROUTING ON THE NORTH LEG OF RIO GRANDE AVENUE.

**PHASE 3A**

1. CONSTRUCT THE PROPOSED 6" HDPE FM ALONG THE EAST SIDE OF RIO GRANDE AVENUE STA. 401+87.25 RT TO STA. 403+92.56 RT, MAINTAIN TRAFFIC USING FDOT INDEXES 602 AND 603.
2. CONSTRUCT THE PROPOSED 12" PVC FM ALONG THE EAST SIDE OF RIO GRANDE AVENUE AND THE SOUTH SIDE OF HOLDEN AVENUE FROM RIO GRANDE AVENUE STA. 404+30 RT TO HOLDEN AVE STA. 64+25 RT, AND FROM HOLDEN AVENUE STA. 70+63 RT TO STA. 76+08 RT, INCLUDING THE WET TAP OF THE EXISTING 12" FM AT US 441. MAINTAIN TRAFFIC USING FDOT INDEXES 602 AND 603
3. CLOSE THE EASTBOUND TWO LANES OF HOLDEN AVENUE AND MAINTAIN TWO-WAY TRAFFIC ON THE WESTBOUND LANES USING FDOT INDEX 623 FOR DOUBLE LANE CLOSURES. CONSTRUCT THE PROPOSED 12" PVC FM BETWEEN STATIONS 64+25 RT AND 70+63 RT.
4. CONSTRUCT THE CROSSING OF RIO GRANDE AVENUE AT STA. 404+10 AND CONNECT TO THE VALVES AT THE LIFT STATION, PLACING THE EXIST. 8" CI FM OUT OF SERVICE. MAINTAIN TRAFFIC USING FDOT INDEX 603
5. REMOVE THE EXIST. 8" CI FM WHERE ACCESSIBLE ALONG RIO GRANDE AVENUE AND HOLDEN AVENUE, MAINTAINING TRAFFIC USING FDOT INDEXES 602, 603 AND THE WESTBOUND LANES OF HOLDEN AVENUE.
6. SEE GENERAL NOTES FOR LANE CLOSURE INFORMATION.

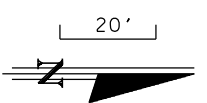
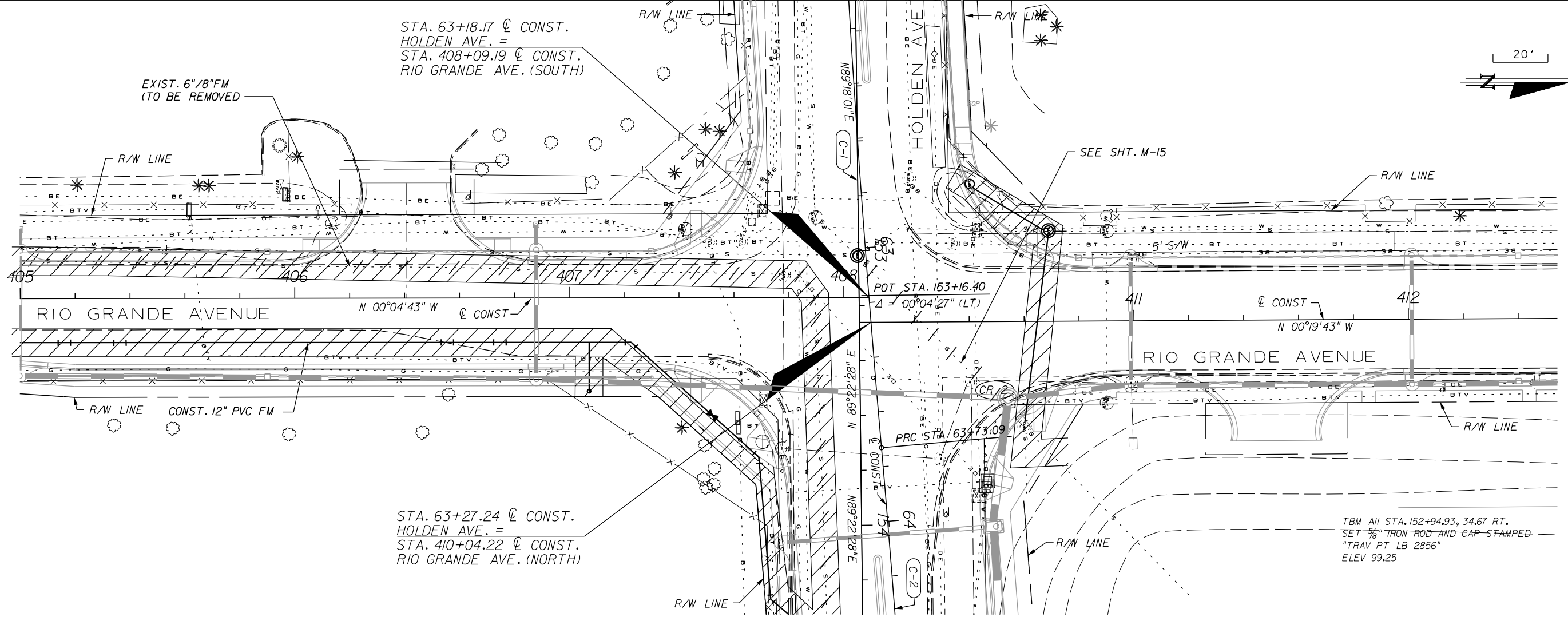
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**ORANGE COUNTY**  
**GOVERNMENT**  
FLORIDA

**MAINTENANCE OF TRAFFIC**  
**RIO GRANDE AVE.**  
**PHASE 3A**

SHEET NO.  
**M-10**



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

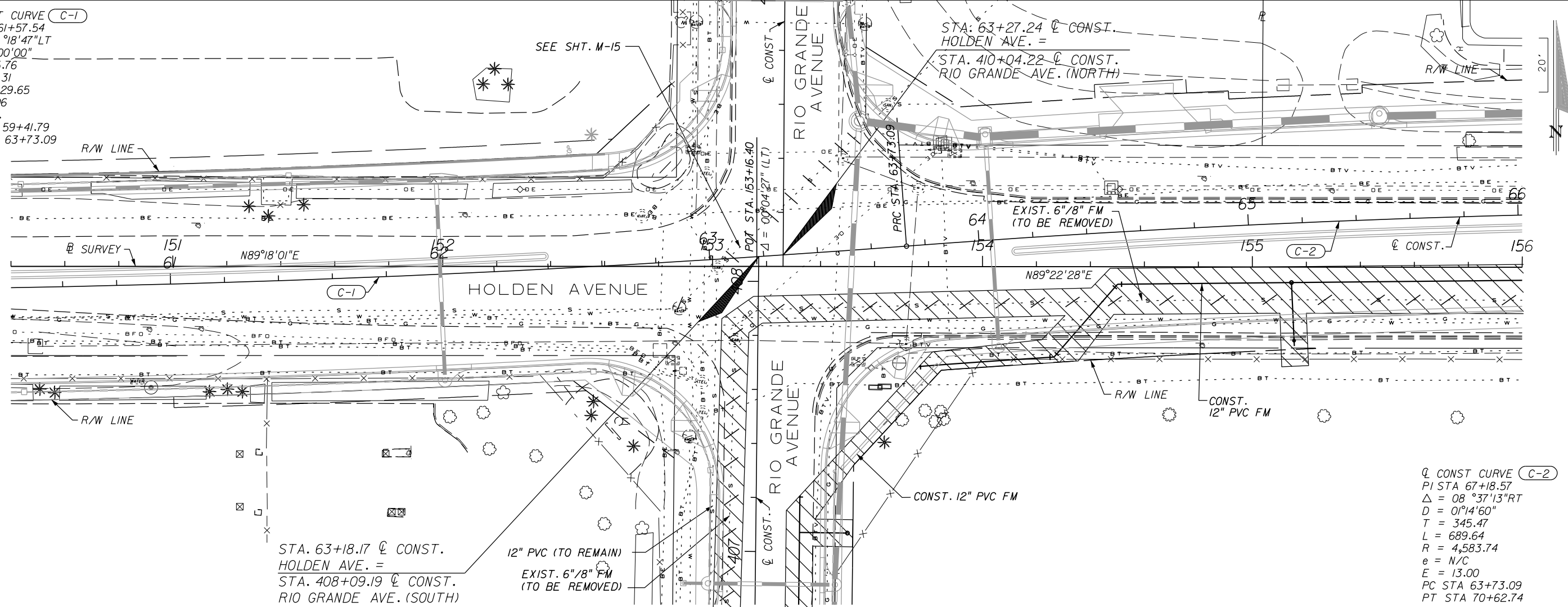
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 FOREST W. ADKINS, P.E. P.E. NUMBER 56003



**MAINTENANCE OF TRAFFIC**  
**RIO GRANDE AVE.**  
**PHASE 3A**

SHEET NO.  
**M-11**

Q CONST CURVE (C-1)  
 PI STA 61+57.54  
 $\Delta = 04^\circ 18' 47" \text{LT}$   
 $D = 01^\circ 00' 00"$   
 $T = 215.76$   
 $L = 431.31$   
 $R = 5,729.65$   
 $E = 4.06$   
 $e = \text{N.C.}$   
 PC STA 59+41.79  
 PT STA 63+73.09



STA. 63+18.17 Q CONST.  
 HOLDEN AVE. =  
 STA. 408+09.19 Q CONST.  
 RIO GRANDE AVE. (SOUTH)

12" PVC (TO REMAIN)  
 EXIST. 6"/8" FM  
 (TO BE REMOVED)

Q CONST CURVE (C-2)  
 PI STA 67+18.57  
 $\Delta = 08^\circ 37' 13" \text{RT}$   
 $D = 01^\circ 14' 60"$   
 $T = 345.47$   
 $L = 689.64$   
 $R = 4,583.74$   
 $e = \text{N/C}$   
 $E = 13.00$   
 PC STA 63+73.09  
 PT STA 70+62.74

 WORK ZONE (TYP.)

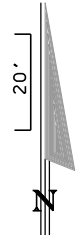
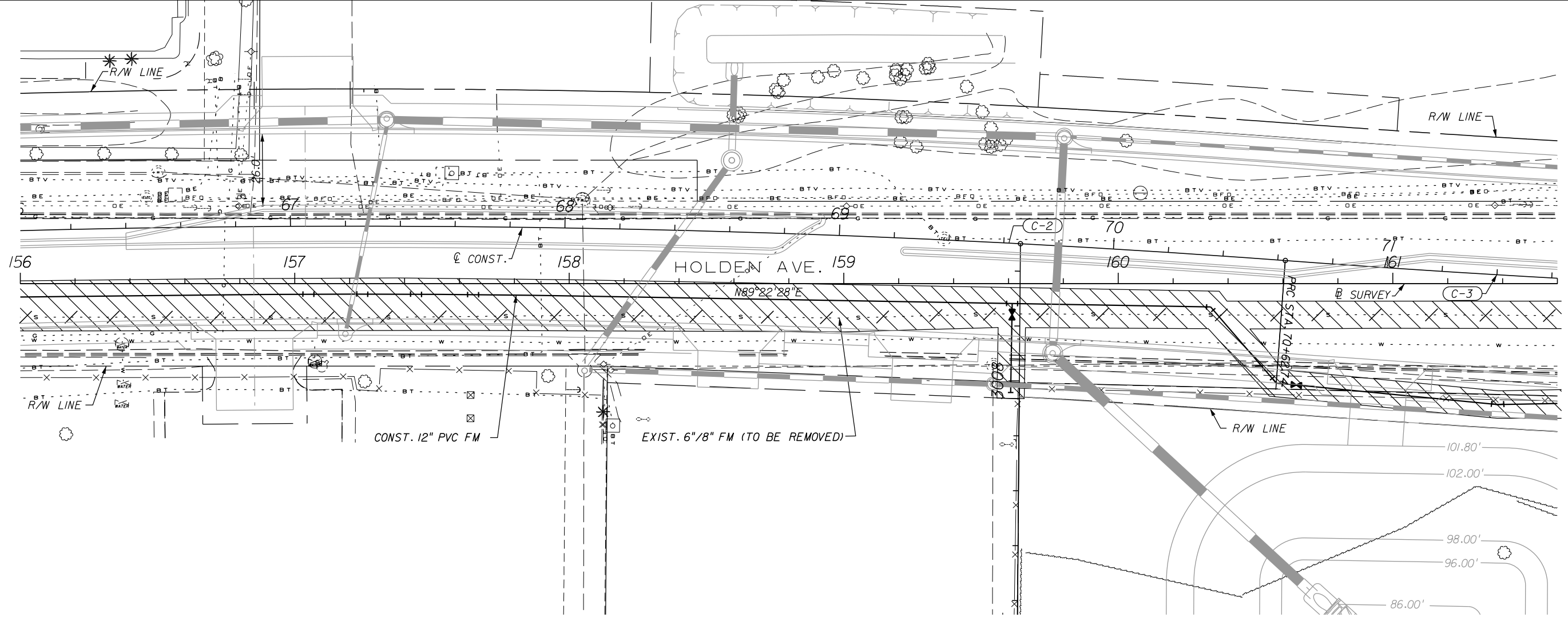
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**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 3A**

SHEET  
 NO.  
**M-12**



Q CONST CURVE (C-2)  
 PI STA 67+18.57  
 $\Delta = 08^\circ 37' 13''$  RT  
 $D = 01^\circ 15' 00''$   
 $T = 345.47$   
 $L = 689.64$   
 $R = 4,583.74$   
 $e = N.C.$   
 $E = 13.00$   
 PC STA 63+73.09  
 PT STA 70+62.74

Q CONST CURVE (C-3)  
 PI STA 72+74.50  
 $\Delta = 04^\circ 14' 00''$  LT  
 $D = 01^\circ 00' 00''$   
 $T = 211.77$   
 $L = 423.35$   
 $R = 5,729.62$   
 $e = N.C.$   
 $E = 3.91$   
 PC STA 70+62.74  
 PT STA 74+86.08

WORK ZONE (TYP.)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**LOCHRANE**  
 ENGINEERS • SURVEYORS  
201 SOUTH BUMBY AVENUE ORLANDO, FLORIDA 32803  
 PH: (407) 896-3317 FAX: (407) 896-9167 EMAIL: WWW.LOCHRANE.COM  
 CERTIFICATE OF AUTHORIZATION NO. 2856  
 FOREST W. ADKINS, P.E. P.E. NUMBER 56003

**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

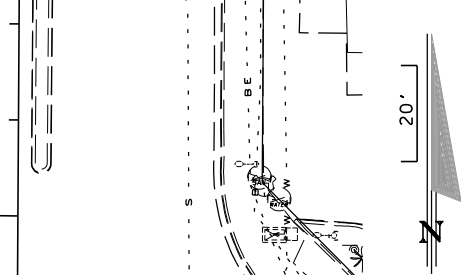
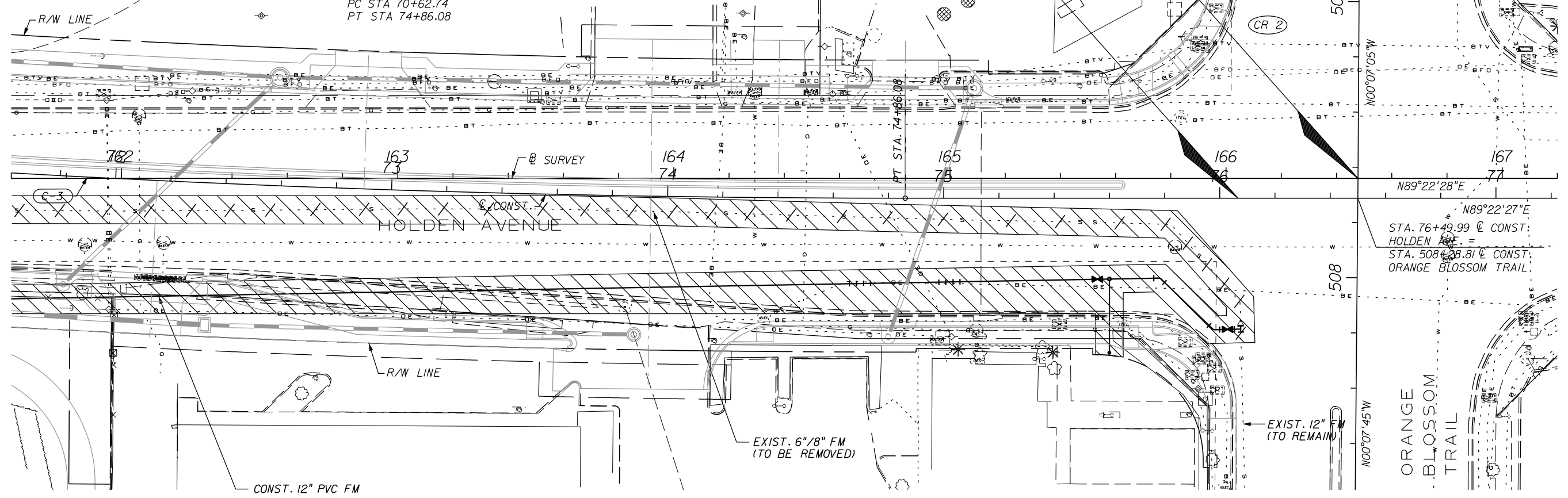
**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 3A**

SHEET NO.  
**M-13**

Q CONST CURVE (C-3)  
 PI STA 72+74.50  
 $\Delta = 04^{\circ}14'00''$  LT  
 $D = 01^{\circ}00'00''$   
 $T = 211.77$   
 $L = 423.35$   
 $R = 5,729.62$   
 $e = N/C$   
 $E = 3.91$   
 PC STA 70+62.74  
 PT STA 74+86.08

STA. 166+47.78 @ SURVEY  
 HOLDEN AVE. =  
 STA. 508+35.98 @ CONST.  
 ORANGE BLOSSOM TRAIL

END PROJECT  
 END CONSTRUCTION  
 STA. 76+06.59 @ CONST.



 WORK ZONE (TYP.)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

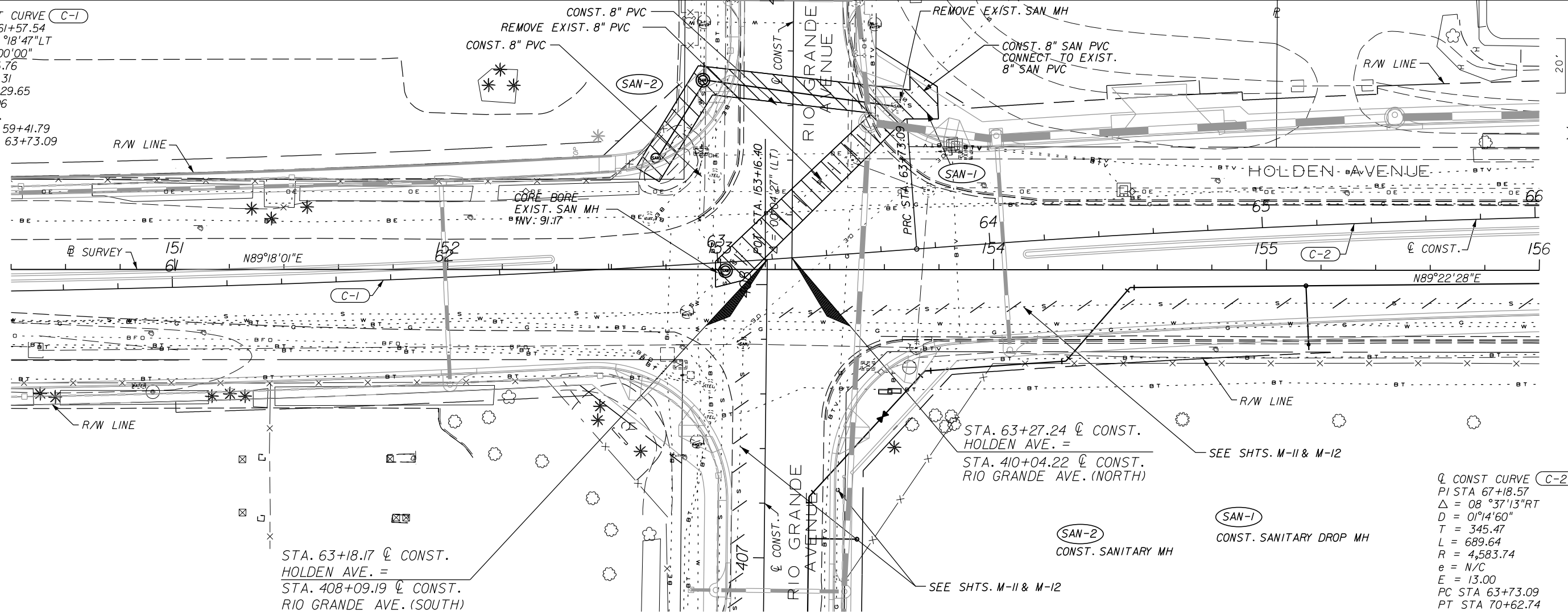
**LOCHRANE**  
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**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 3A**

SHEET NO.  
**M-14**

Q CONST CURVE (C-1)  
 PI STA 61+57.54  
 $\Delta = 04^{\circ}18'47''$  LT  
 $D = 01^{\circ}00'00''$   
 $T = 215.76$   
 $L = 431.31$   
 $R = 5,729.65$   
 $E = 4.06$   
 $e = N.C.$   
 PC STA 59+41.79  
 PT STA 63+73.09



STA. 63+18.17 Q CONST.  
 HOLDEN AVE. =  
 STA. 408+09.19 Q CONST.  
 RIO GRANDE AVE. (SOUTH)

STA. 63+27.24 Q CONST.  
 HOLDEN AVE. =  
 STA. 410+04.22 Q CONST.  
 RIO GRANDE AVE. (NORTH)

Q CONST CURVE (C-2)  
 PI STA 67+18.57  
 $\Delta = 08^{\circ}37'13''$  RT  
 $D = 01^{\circ}14'60''$   
 $T = 345.47$   
 $L = 689.64$   
 $R = 4,583.74$   
 $e = N/C$   
 $E = 13.00$   
 PC STA 63+73.09  
 PT STA 70+62.74

WORK ZONE (TYP.)

**PHASE 3B**

1. CONSTRUCT SANITARY STRUCTURES SAN-1 AND SAN-2 ALONG WITH THE RELOCATED GRAVITY SANITARY SYSTEM ACROSS THE NORTH LEG OF RIO GRANDE AVENUE. REMOVE THE EXISTING 8" PVC GRAVITY SANITARY PIPE WHERE ACCESSIBLE. MAINTAIN TRAFFIC USING FDOT INDEXES 604 AND 605. PHASE THE WORK SUCH THAT ONE LANE OF RIO GRANDE AVENUE NORTHBOUND AND SOUTHBOUND CAN REMAIN OPEN AT ALL TIMES.
2. SEE GENERAL NOTES FOR LANE CLOSURE INFORMATION.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**LOCHRANE**  
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**ORANGE COUNTY**  
**GOVERNMENT**  
 FLORIDA

**MAINTENANCE OF TRAFFIC**  
**HOLDEN AVENUE**  
**PHASE 3B**

SHEET NO.  
**M-15**