

CONSTRUCTION PLANS FOR:
AVALON PARK BOULEVARD
RECLAIMED WATER MAIN
IMPROVEMENTS

DISTRICT 4
OCTOBER 2012



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 ORANGE COUNTY MAYOR

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 Director Orange County Utilities Department

ORANGE COUNTY UTILITIES DEPARTMENT
ENGINEERING DIVISION

9150 CURRY FORD ROAD
 ORLANDO, FL 32825

CONTINUING ENGINEERING SERVICES CONTRACT
 PROJECT NO. Y8-902D

BID SET
OCTOBER 2012

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 FL. REG. 2822

BFA Environmental Consultants
 Barnes, Ferland and Associates, Inc.
 1230 E. Hillcrest Street, Orlando, FL 32803
 PH: (407) 896-8608 FAX: (407) 896-1822
 ENGINEERING BUSINESS No. 6899

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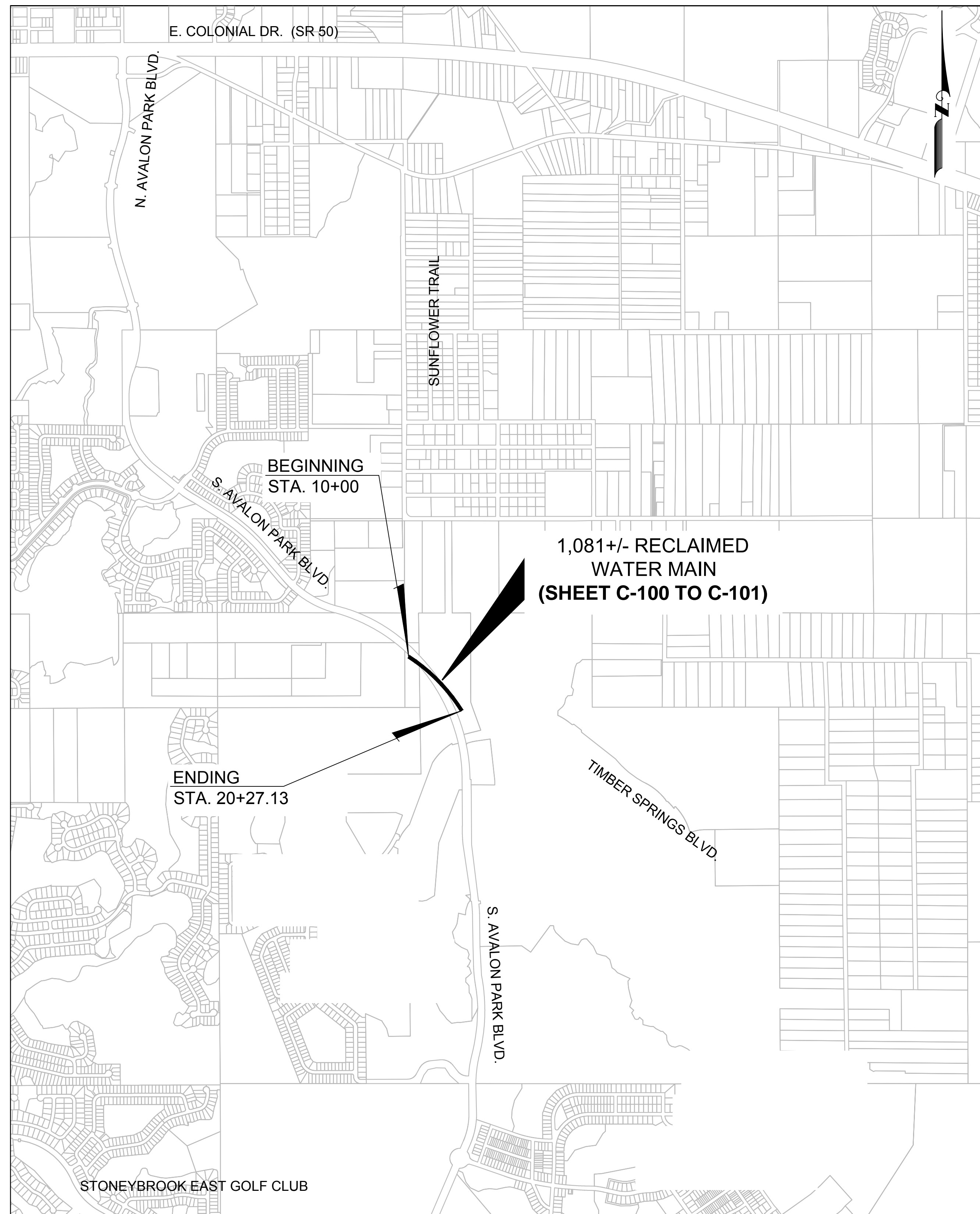
CONTRACT NUMBER: Y8-902D
 PROJECT NUMBER: E8X84000

REVISIONS		
DATE	BY	SHEET NO.

AVALON PARK BOULEVARD
RECLAIMED WATER MAIN
IMPROVEMENTS

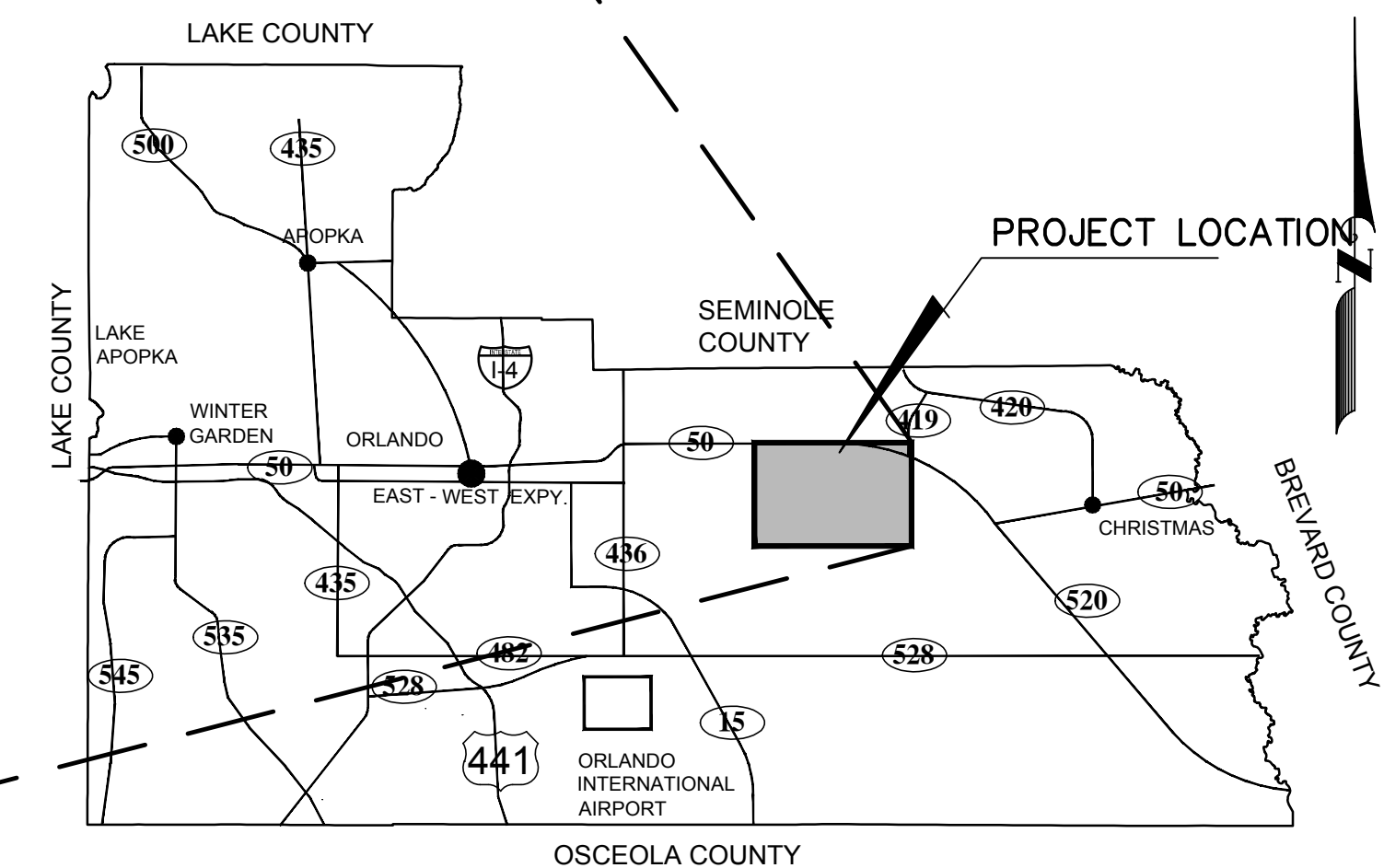
SIGNATURE: _____	SHEET NO.
NAME: CYNTHIA K. MALONE, P.E.	G-100
P.E. NUMBER: 58685	1 OF 10
DATE: _____	

OCU FILE NUMBER:	60045
OCU FUND CODE:	4420-038-1483-15



LOCATION MAP / KEY MAP
N.T.S.

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N.T.S.

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CERTIFICATE OF AUTHORIZATION NUMBER: 00006899

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FL. REG. 5300

ORANGE COUNTY GOVERNMENT
ORANGE COUNTY UTILITIES DEPARTMENT
ENGINEERING DIVISION
9150 CURRY FORD ROAD
ORLANDO, FL. 32825

AVALON PARK BOULEVARD
RECLAIMED WATER MAIN
IMPROVEMENTS

LOCATION MAP / KEY MAP
AND
INDEX SHEET

CYNTHIA K. MALONE, P.E.
FLA. REG. NO. 58685

DATE:

DESIGNED BY: L.E.Y.
DRAWN BY: L.E.Y.
DATE: 6-2012
SCALE: NONE
SHEET CHK'D BY:
APPROVED BY:
DATE:

PROJECT NO.: **EBX84000**

CLIENT PROJ. NO.:

SHEET NO.
G-200

2 OF 10

REV. NO.	DATE	DRWN	CHKD	REMARKS

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, FAC. FILE REF: 201206031000000000-21. Author: PWA\SD Drawing\2009-241_Avalon_PWA_C-200.dwg PLOTTED: Sun, 06/20/2012 8:58:09 AM Plot Scale: 1:1

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.

1. ALL UTILITIES FACILITIES CONSTRUCTION CONNECTING TO THE ORANGE COUNTY PUBLIC UTILITIES SYSTEM SHALL CONFORM TO THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL, AND BE ONE OF THE APPROVED PRODUCTS LISTED IN APPENDIX 'D' OF THE MANUAL.

2. COORDINATION AND COMMUNICATIONS WITH ORANGE COUNTY STAFF SHALL BE MADE THROUGH THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION INSPECTOR. CONTACT THE OCU DISPATCH DURING EMERGENCIES.

3. THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY, OR PRIOR TO ANY ACTIVITY REQUIRING THE PRESENCE OF OR AN ACTION BY UTILITIES STAFF SUCH AS SCHEDULING VALVE OPERATION, PRESSURE TESTING, PIPE CONNECTION, PUMP STATION OPERATIONS OR SHUTDOWNS, ETC.

4. ORANGE COUNTY UTILITIES DEPARTMENT TELEPHONE NUMBERS:

ORANGE COUNTY UTILITIES DISPATCH 407-836-2777
 ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION 407-254-9798
 ORANGE COUNTY UTILITIES WATER RECLAMATION DIVISION 407-254-9680
 ORANGE COUNTY UTILITIES WATER DIVISION 407-254-9850
 ORANGE COUNTY UTILITIES ENGINEERING DIVISION 407-254-9900

5. THE CONTRACTOR SHALL PROVIDE FOR ALL BY-PASSING AND/OR HAULING OF WASTEWATER DURING ALL INTERRUPTIONS OF FLOWS AND/OR CONNECTIONS TO THE EXISTING WASTEWATER SYSTEM.

6. WATER, WASTEWATER AND RECLAIMED WATER VALVES, PUMP STATIONS OR OTHER UTILITY INFRASTRUCTURE ARE TO BE OPERATED ONLY BY ORANGE COUNTY UTILITIES PERSONNEL. ALL VALVES BEING INSTALLED ARE TO REMAIN CLOSED DURING CONSTRUCTION.

7. ALL EXISTING WATER MAIN, FORCE MAINS, GRAVITY PIPES AND OTHER UTILITY FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS, AND RECLAIMED WATER MAIN. WATER MAINS, FORCE MAINS, GRAVITY MAIN, AND RECLAIMED WATER MAIN LOCATIONS SHOWN ON THE PLANS ARE NOT EXACT OR GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.

9. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE AND LOCATION OF ALL ABOVEGROUND AND UNDERGROUND 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.

10. 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. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER/OWNER IMMEDIATELY UPON DISCOVERY AND DETAILED IN THE REPORT.

11. 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.

12. USE EXTREME CAUTION WHEN EXCAVATING OR CONNECTING TO ASBESTOS CEMENT PIPE. THE CONTRACTOR WILL BE REQUIRED TO SUPPLY TRUCKS CAPABLE OF PUMPING OUT THE PUMP STATION UPSTREAM FROM BREAKS OR CONNECTION POINT. WHEN CONNECTING TO ASBESTOS CEMENT WATER MAIN OR FORCE MAIN THE CONTRACTOR IS REQUIRED TO REPLACE ANY DAMAGED LENGTHS OF PIPE. THE AMOUNT OF REPLACED PIPE WILL BE DETERMINED BY THE ORANGE COUNTY UTILITIES INSPECTOR.

13. ALL ASBESTOS CEMENT PIPE TO BE TAKEN OUT OF SERVICE WILL BE REMOVED UNLESS OTHERWISE NOTED ON PLANS. GROUT PIPE WHERE INDICATED ON PLANS. ALL ASBESTOS CEMENT PIPE TO BE REMOVED SHALL BE REMOVED AND DISPOSED OF ACCORDING TO STATE AND FEDERAL ORDINANCES AND REGULATIONS.

14. 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.

15. 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 OWNER BY OTHERS, UNLESS STATED OTHERWISE ON THE DRAWINGS.

* 16. NOT USED

* 17. NEW OCU RECLAIMED WATER VALVES AND VALVE BOXES, SHALL BE ADJUSTED TO FINISHED 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 (PURPLE FOR RECLAIMED WATER MAIN), A MINIMUM OF FOUR (4) FEET ABOVE GRADE. ALL VALVES UNDER CONSTRUCTION ARE TO REMAIN CLOSED DURING CONSTRUCTION.

18. SEE DETAIL SHEET FOR SEPARATION REQUIREMENTS BETWEEN WATER MAINS, SEWER MAINS AND OTHER PIPELINES AND MAINS. NO CONCRETE ENCASMENT OF PIPES WILL BE PERMITTED.

19. ALL PVC WATER AND SEWER MAIN AND RECLAIMED WATER MAIN SHALL CONFORM TO AWWA C900, DR 18, OR C905, DR 25. ALL DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO ANSI/AWWA A21.51/C151. ALL PVC PRESSURE PIPE SHALL USE DUCTILE IRON FITTINGS. FITTINGS FOR ALL SERVICES SHALL BE BRASS.

20. 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, FAS, USING BLUE AS A PREDOMINANT COLOR FOR WATER; GREEN FOR WASTEWATER; PURPLE FOR RECLAIMED WATER.

21. 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.

22. PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION.

23. ALL STATIONS AND OFFSETS REFER TO BASELINE OF STATIONING.

24. MAINTAIN EMERGENCY VEHICLE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES.

25. LOCAL RESIDENTIAL ACCESS SHALL BE MAINTAINED AT ALL TIMES. PROVIDE WRITTEN NOTIFICATION TO RESIDENTS SEVEN (7) DAYS PRIOR TO IMPLEMENTING ANY ROADWAY OR DRIVEWAY CLOSURE.

* 26. 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. 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 75% OF THE MANUFACTURER'S RECOMMENDED DEFLECTION. NO DEFLECTION OR BENDING IS ALLOWED IN PVC PIPE.

27. 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.

28. COMPLETE ALL CONSTRUCTION WITHIN RIGHT OF WAY LIMITS AND EASEMENT LIMITS, UNLESS OTHERWISE NOTED.

29. PIPE SIZES SHOWN ON PLANS ARE MINIMUM INSIDE DIAMETER.

30. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT ANY PROPOSED WATER MAIN TO ANY EXISTING WATER MAIN UNLESS CLEARED BY FDEP.

31. 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:

a. POINTS OF CONNECTION, FITTINGS TO BE USED, METHODS OF FLUSHING AND DISINFECTION AND VERIFICATION OF RESTRAINT ON EXISTING PIPE.

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 COUNTRY 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 ELEVATIONS 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 DISCREPENCIES 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 SERVICES ARE TRANSFERRED TO THE MAIN(S).

41. CONTRACTOR TO FURNISH AND INSTALL NEW METER BOXES.

42. CONTRACTOR SHALL ADJUST VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS, ETC IN CONFLICT WITH ROADWAY.

43. ALL (P.R.M's) IRONS AND MONUMENTS SHOWN ON THE PLANS OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.

44. ALL MANHOLE COVERS SHALL INCLUDE THE ORANGE COUNTY LOGO AND BE IDENTIFIED AS "ORANGE COUNTY SANITARY".

45. SAW-CUT CONCRETE DRIVEWAYS AS REQUIRED FOR CONSTRUCTION.

46. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION, AS REQUIRED BY CHAPTER 77-153 OF THE FLORIDA STATUTES.

47. THE FOLLOWING UTILITY PROVIDERS SHALL BE RESPONSIBLE FOR ADJUSTMENTS TO THEIR EXISTING FACILITIES: COMCAST CABLE COMMUNICATIONS, BRIGHT HOUSE NETWORKS, PROGRESS ENERGY FLORIDA, AT&T TELEPHONE.

48. APPARENT ERROR, DISCREPANCIES OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE BIDDING. NO EXTRA PAYMENT WILL BE ALLOWED FOR ANY WORK REQUIRED DUE TO MISUNDERSTANDING OF JOB OR SITE CONDITIONS AFFECTING THE WORK DESCRIBED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL NOT TAKE ADVANTAGE OF ANY APPARENT ERROR OR OMISSION IN THE DRAWINGS OR SPECIFICATIONS, AND THE ENGINEER SHALL BE PERMITTED TO MAKE CORRECTIONS AND INTERPRETATIONS AS MAY BE DEEMED NECESSARY FOR FULFILLMENT OF THE INTENT OF THE CONTRACT DOCUMENTS. THE TENDING OF A PROPOSAL WILL ACKNOWLEDGE ACCEPTANCE OF THE CONDITIONS BY THE BIDDER.

49. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION AND ARE THE MINIMUM REQUIRED. CONTRACTOR TO FURNISH ADDITIONAL CONTROLS AS NEEDED AT NO ADDITIONAL COST. MATERIALS FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND NOT ALLOWED TO COLLECT ON ANY OFF PERIMETER AREAS OR IN WATERWAYS. SILT SCREENS, HAY BALES, AND TURBIDITY BARRIERS MUST REMAIN IN PLACE AND IN GOOD CONDITION AT ALL LOCATIONS IN PLANS OR AS REQUIRED UNTIL THE CONTRACT IS COMPLETED AND SOILS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED. MEASURES SHOWN ARE THE MINIMUM REQUIRED, AND THE CONTRACTOR WILL ENSURE THAT THERE IS NO DIRECT OR INDIRECT DISCHARGE OF CONSTRUCTION MATERIALS IN TURBID WATERS TO OFF SITE AREAS OR WATERWAYS.

50. SOD ALL DISTURBED AREAS UNLESS OTHERWISE DIRECTED. SOD SHALL MATCH EXISTING TYPE SOD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

ADDITIONAL GENERAL CONSTRUCTION NOTES:

* 51. ALL PROPOSED DUCTILE IRON PIPES SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE.

* ORANGE COUNTY GENERAL NOTE THAT HAS BEEN REVISED AND/OR EDITED.



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 PHONE: 407-514-1400, FAX: 407-514-1499
 FL. REG. 5300



ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION

9150 CURRY FORD ROAD ORLANDO, FL. 38825

AVALON PARK BOULEVARD RECLAIMED WATER MAIN IMPROVEMENTS

GENERAL NOTES

CYNTHIA K. MALONE, P.E. FLA. REG. NO. 58685

DATE:

DESIGNED BY: L.E.Y.
 DRAWN BY: L.E.Y.
 DATE: 6-2012
 SCALE: NONE
 SHEET CHK'D BY:
 APPROVED BY:
 DATE:

PROJECT NO.: E8X84000

CLIENT PROJ. NO.:

SHEET NO. G-300

3 OF 10

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, FAC.

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

- GENERAL NOTES 1 THROUGH 8 ARE PART OF THESE EMERGENCY PROCEDURES; HOWEVER, ALL OTHER GENERAL NOTES APPLY.
- 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.
- 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.
- ADVANCE NOTIFICATION OF CONSTRUCTION
THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION (407-254-9798) SHALL BE NOTIFIED AT LEAST SEVEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ADVANCE NOTIFICATION OF PENDING CONNECTION
THE ORANGE COUNTY WATER DIVISION (407-254-9850) AND THE ORANGE COUNTY WATER RECLAMATION DIVISION (407-254-9680) SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS IN ADVANCE TO SCHEDULE MAIN TIE-INS AND VALVE OPERATIONS.
- OPERATION OF ORANGE COUNTY VALVES
WATER, WASTEWATER, AND REUSE VALVES ARE TO BE OPERATED ONLY BY ORANGE COUNTY UTILITIES INSPECTOR (407-254-9798). ALL VALVES BEING INSTALLED ARE TO REMAIN CLOSED DURING CONSTRUCTION. KEEP ALL VALVES ON WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT ANY PROPOSED MAINS TO EXISTING MAINS UNLESS CLEARED BY FDEP AND UTILITIES.
- OPERATION OF ORANGE COUNTY PUMP STATIONS
THE CONTRACTOR SHALL COORDINATE ALL PUMP STATION OPERATION AND SHUT DOWN CONTROL WITH AN ORANGE COUNTY UTILITIES INSPECTOR (407-254-9798).

ASSET TYPE	I.D. NUMBER	COUNTY FEATURE NUMBER	X (EAST) COORDINATE (FEET)	Y (NORTH) COORDINATE (FEET)	Z (ELEV.) COORDINATE (FEET)	REMARKS
GATE VALVES	GV-1					SH. C-100
	GV-2					SH. C-101
	GV-3					SH. C-102
	GV-4					SH. C-103
	GV-5					SH. C-103
BLOW-OFF VALVES	BOV-1					SH. C-100

EMERGENCY NUMBERS

CABLE	COMCAST CABLE COMMUNICATIONS (ORLANDO)	800-778-9140
CABLE	BRIGHT HOUSE NETWORKS	407-532-8549
ELECTRIC	PROGRESS ENERGY FLORIDA	800-778-9140
LOCATES	SUNSHINE ONE CALL	811
TELEPHONE	ATT/DISTRIBUTION	561-315-5528
UTILITIES	ORANGE COUNTY DISPATCH	407-836-2777 (24-HR ASSISTANCE)
WASTEWATER	ORANGE COUNTY UTILITIES	407-254-9680
WATER	ORANGE COUNTY UTILITIES	407-254-9680
LIGHTING	ORLANDO UTILITIES COMMISSION	800-778-9140

ABBREVIATIONS

AKA	ALSO KNOWN AS	L.S.	LIFTSTATION
AC	ASBESTOS CEMENT	LT	LEFT
ALUM.	ALUMINUM	L.W.L.	LOW WATER LEVEL
APPROX.	APPROXIMATE	MAX.	MAXIMUM
ASPH.	ASPHALT	MAT.	MATERIAL
ASSEM.	ASSEMBLY	MH.	MANHOLE
BE	BURIED ELECTRIC	MIN.	MINIMUM
BL	BASELINE	MOD	MODIFIED
B.M.	BENCHMARK	M.O.T.	MAINTENANCE OF TRAFFIC
B.O.	BLOWOFF	M.J.	MECHANICAL JOINT
BT	BURIED TELEPHONE	NG.	NATURAL GROUND
B.F.V.	BUTTERFLY VALVE	NO.	NUMBER
CATV	CABLE TELEVISION	NPW	NON-POTABLE WATER
C.B.	CATCH BASIN	N.T.S.	NOT TO SCALE
C.F.S.	CUBIC FEET PER SECOND	O.C.E.W.	ON CENTER EACH WAY
CIP	CAST INCH PIPE	O.C.U.	ORANGE COUNTY UTILITIES
CL	CENTERLINE	O.D.	OUTSIDE DIAMETER
C.M.	CONCRETE MONUMENT	O.H.E.	OVERHEAD ELECTRIC
C.M.P.	COPRUGATED METAL PIPE	O.U.C.	ORLANDO UTILITY COMMISSION
CONC.	CONCRETE	PAVT.	PAVEMENT
CONN.	CONNECTION	P.B.	PULL BOX
CONST.	CONSTRUCT	PG.	PAGE
CONT.	CONTINUOUS	P.I.	POINT OF INTERSECTION
CORP.	CORPORATION	PL	PROPERTY LINE
C.V.	CHECK VALVE	POLY.	POLYETHYLENE
C.Y.	CUBIC YARD	PP	POWER POLE
DBL.	DOUBLE	PROP.	PROPOSED
DHW	DESIGN HIGH WATER	PS	PUMP STATION
DIA.	DIAMETER	P.S.I.	POUNDS PER SQUARE INCH
D.I.	DUCTILE IRON	P.U.E.	PERMANENT UTILITY EASEMENT
DIP	DUCTILE IRON PIPE	PV	PLUG VALVE
DWLS.	DOWELS	RAD. PT.	RADIUS POINT
DWG.	DRAWING	R	RADIUS
ELEC	ELECTRIC	RCP	REINFORCED CONCRETE PIPE
EA.	EACH	REINF.	REINFORCED
EFF	EFFLUENT	REQ.	REQUIRED
ELEV., EL.	ELEVATION	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
EMB.	EMBED OR EMBEDDED	RT.	RIGHT
E/P	EDGE OF PAVEMENT	RW	RECLAIMED WATER
ESMT.	EASEMENT	R/W	RIGHT-OF-WAY
E.W.	EACH WAY	SAN.	SANITARY SEWER
EXIST.	EXISTING	SCH.	SCHEDULE
EXP. JT.	EXPANSION JOINT	S.D.	STORM DRAIN
F.D.	FLOOR DRAIN	S.F.	SQUARE FEET
F.D.E.P.	FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION		
F.D.O.T.	FLORIDA DEPT. OF TRANSPORTATION	SHT.	SHEET
F.F.	FINISHED FLOOR	SPECS.	SPECIFICATIONS
F.H.	FIRE HYDRANT	SQ.	SQUARE
FKA	FORMALLY KNOWN AS	SS	STAINLESS STEEL
FLG.	FLANGE	STA	STATION
FL	FLOW LINE	STD.	STANDARD
FM	FORCEMAIN	STL.	STEEL
FT.	FEET	S.Y.	SQUARE YARDS
FTG.	FOOTING	TEL	TELEPHONE
GA	GAUGE	T&B	TOP AND BOTTOM
GAL	GALLONS	TBM	TEMPORARY BENCHMARK
GEN.	GENERATOR	TCE	TEMPORARY CONSTRUCTION EASEMENT
GRD.	GROUND	TEMP.	TEMPORARY
G.S.P.	GALVANIZED STEEL PIPE	THD.	THREADED
GM	GAS MAIN	THK.	THICK
GPM	GALLONS PER MINUTE	TYP.	TYPICAL
GV	GATE VALVE	U.G.	UNDERGROUND
HS	HOSE BIBB	VAC	VOLTABLE ALTERNATING CURRENT
HDWL.	HEADWALL	VCP	VITRIFIED CLAY PIPE
HT.	HEIGHT	VDC	VOLTAGE DIRECT CURRENT
HP	HIGH POINT	VERT.	VERTICAL
HORIZ.	HORIZONTAL	V.V.H.	VERIFIED VERTICALLY & HORIZONTALLY
H.W.L.	HIGH WATER LEVEL	W/	WITH
I.D.	INSIDE DIAMETER	WM	WATER MAIN
I.E.	INVERT ELEVATION	W/M	WATER METER
INV. EL.	INVERT ELEVATION	WP	WALL PIPE
IN.	INCHES	WS	WATER SERVICE
INV.	INVERT	W.S.	WATER SURFACE
I.P.	IRON PIPE	WWF	WELDED WIRE FABRIC
I.R.	IRON ROD	"X"	SPOT ELEVATION
J.B.	JUNCTION BOX		
JUNC.	JUNCTION		
LAT.	LATERAL		
LF	LINEAL FEET		
LF	LINEAR FEET		

LEGEND

	GUY WIRE AND ANCHOR		EXISTING STORM PIPE
	M.J. REST. CAP		EXISTING BURIED TELEPHONE
	PLUG		EXISTING FIBER OPTIC CABLE
	BENCHMARK		EXISTING BURIED ELECTRIC
	TREE (TYPE & SIZE NOTED)		EXISTING OVERHEAD ELECTRIC
	SHRUB		EXISTING CABLE TV (BURIED)
	PROPOSED ELEVATION		EXISTING ELEVATION
	PROPOSED FORCE MAIN		EXISTING FORCE MAIN
	PROPOSED GRAVITY MAIN		EXISTING GRAVITY MAIN
	PROPOSED WATER SERVICE		EXISTING WATER MAIN
	PROPOSED CHAIN-LINK FENCE		EXISTING CHAN-LINK FENCE
	PROPOSED WOOD FENCE		EXISTING WOOD FENCE
	PROPOSED POWER POLE		EXISTING POWER POLE
	PROPOSED MANHOLE (SPECIFY)		EXISTING MANHOLE (SPECIFY)
	PROPOSED VALVE (SPECIFY)		EXISTING VALVE (SPECIFY)
	PROPOSED WATER METER		EXISTING WATER METER
	PROPOSED BACK-FLOW PREVENTER		EXISTING BACK-FLOW PREVENTER
	TYPICAL REDUCER		REMOVE AND REPLACE EXISTING SIDEWALK
	TYPICAL FITTING		ASPHALT OPEN CUT AND REPAIR
	TAPPING SLEEVE & ASSEMBLY		REMOVE AND REPLACE EXISTING CURB
	TYPICAL TEE		PROPOSED RECLAIMED WATER MAIN
	LINE STOP ASSEMBLY		UTILITY OF UNKNOWN SIZE AND / OR DEPTH
	BLOW-OFF VALVE ASSEMBLY		WIRE PULL BOX
	AIR RELEASE VALVE ASSEMBLY		
	FIRE HYDRANT ASSEMBLY		
	RECLAIMED WATER INTERCONNECT METER ASSEMBLY		
	REMOVE EXISTING UTILITY		
	ASSET TYPE		



Carter Burgess
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ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION
9150 CURRY FORD ROAD
ORLANDO, FL. 32825

AVALON PARK BOULEVARD
RECLAIMED WATER MAIN
IMPROVEMENTS

GENERAL NOTES,
ABBREVIATIONS,
ASSET TABLE, AND LEGEND

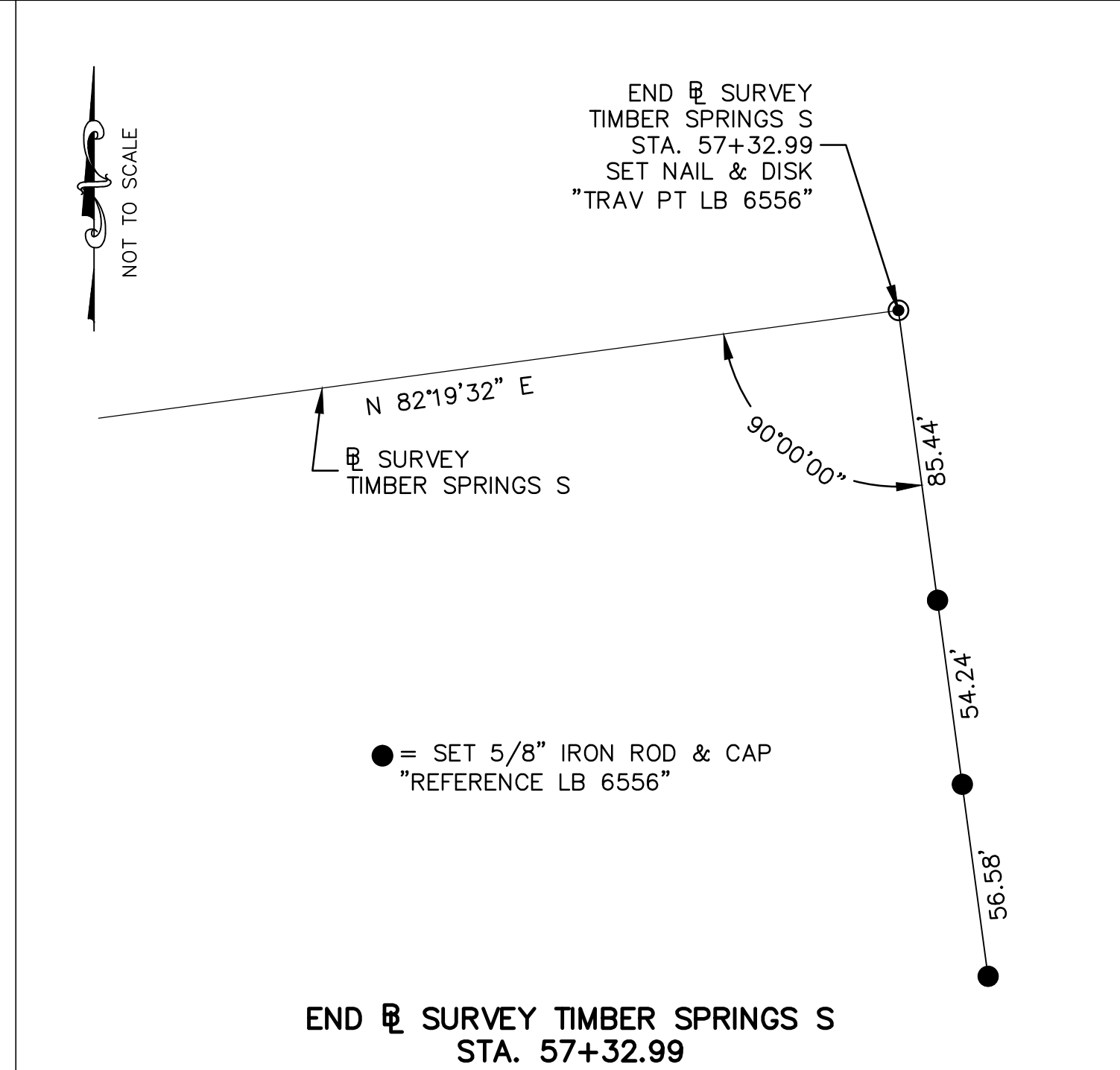
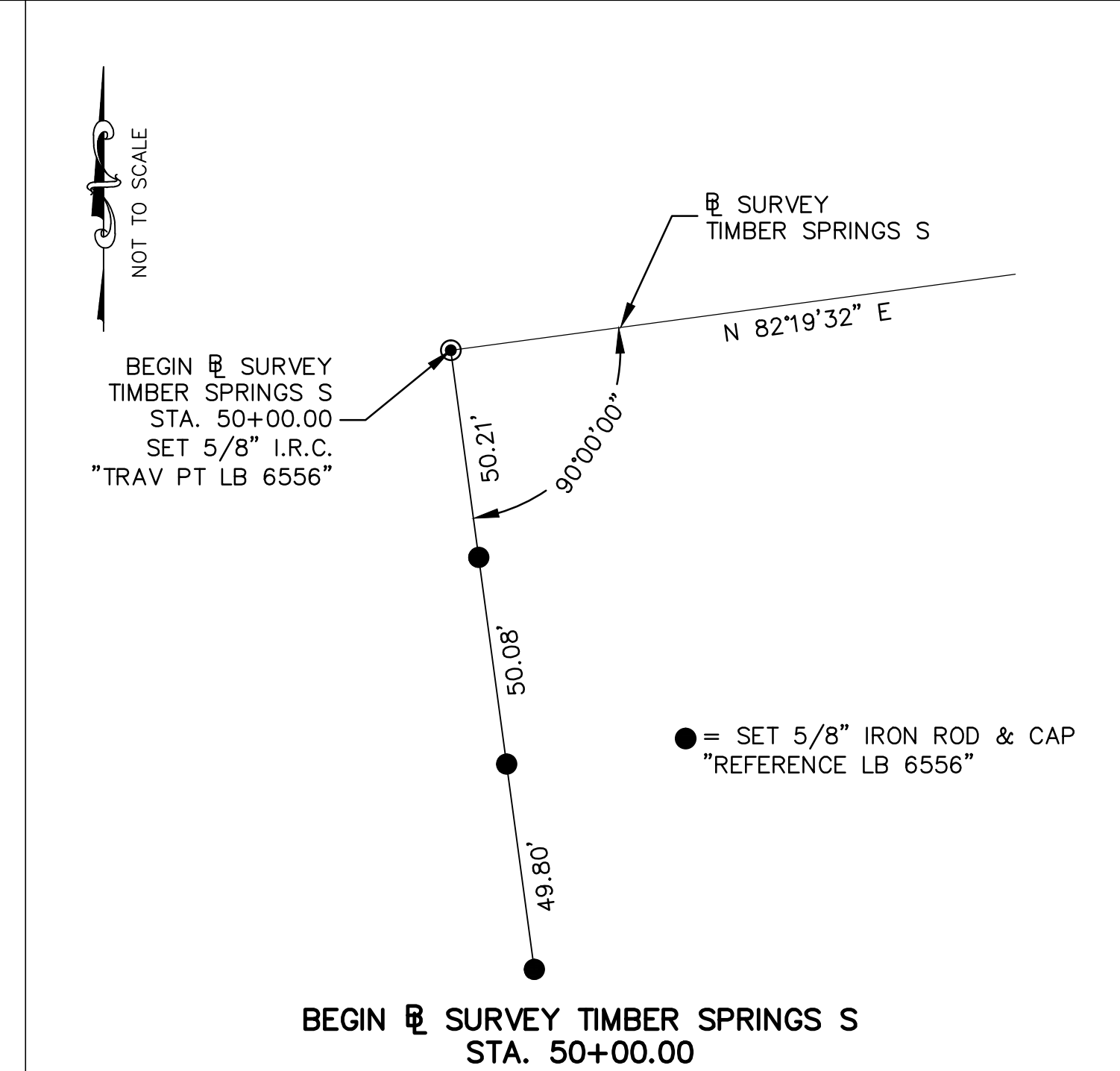
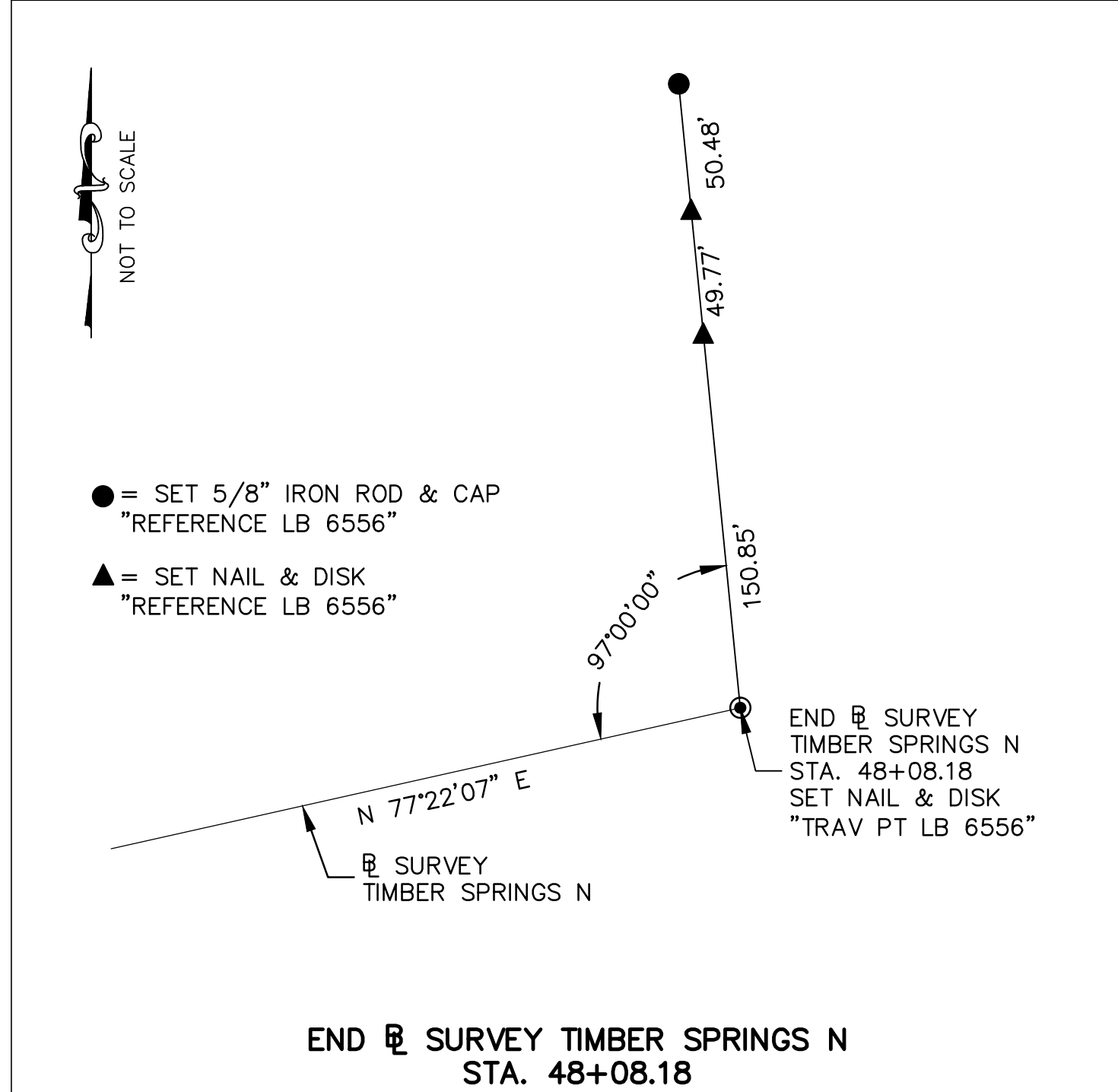
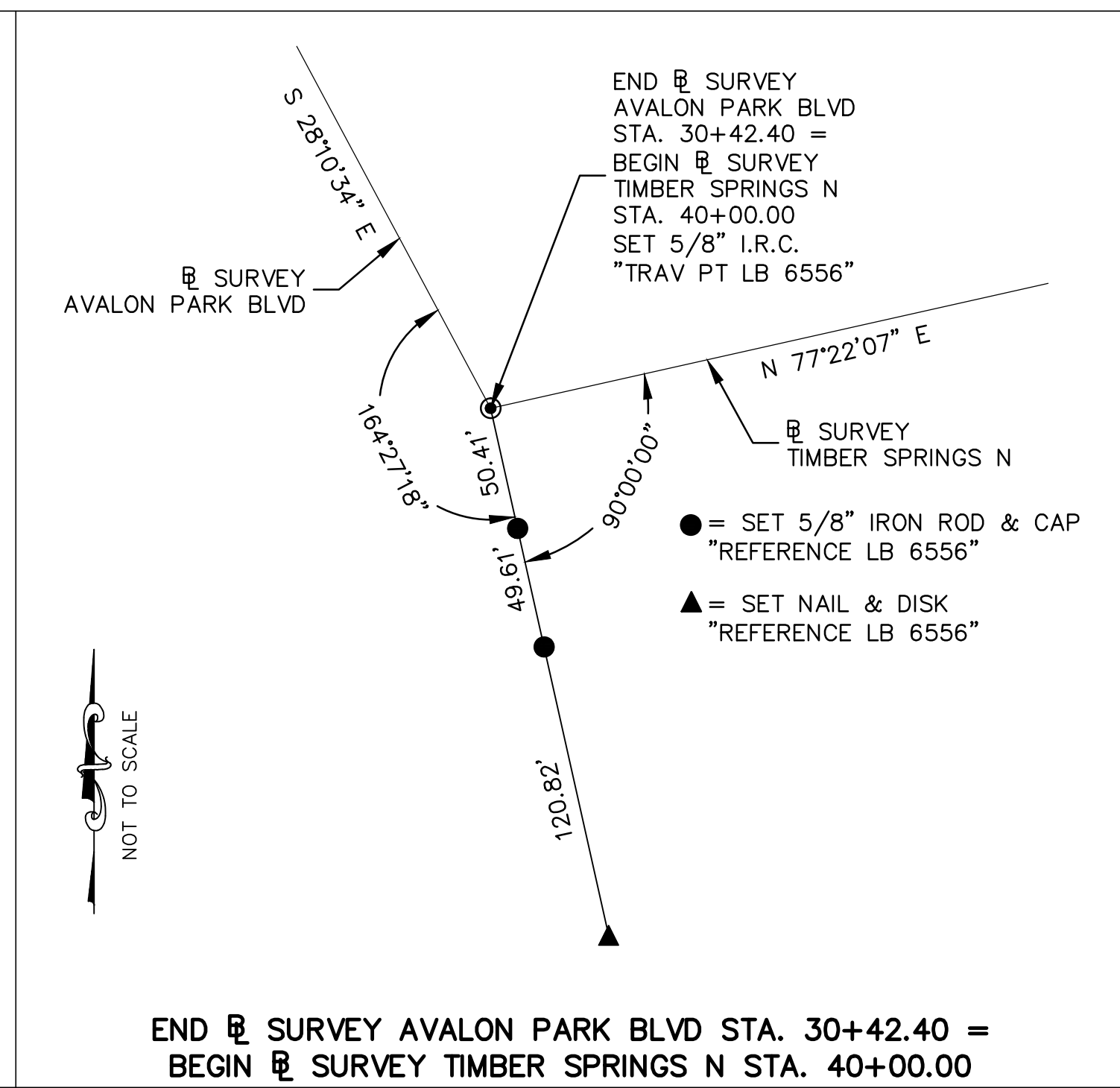
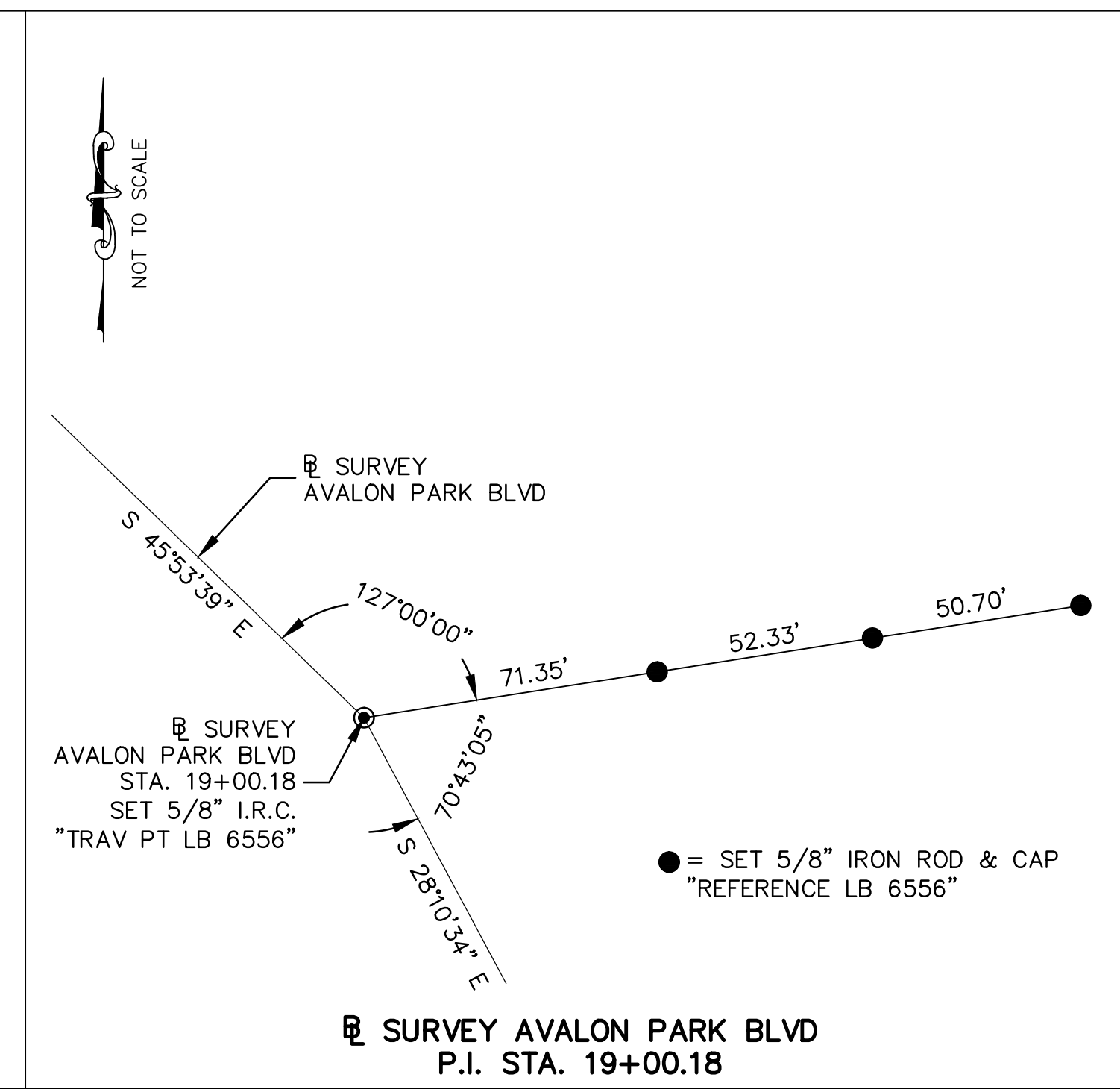
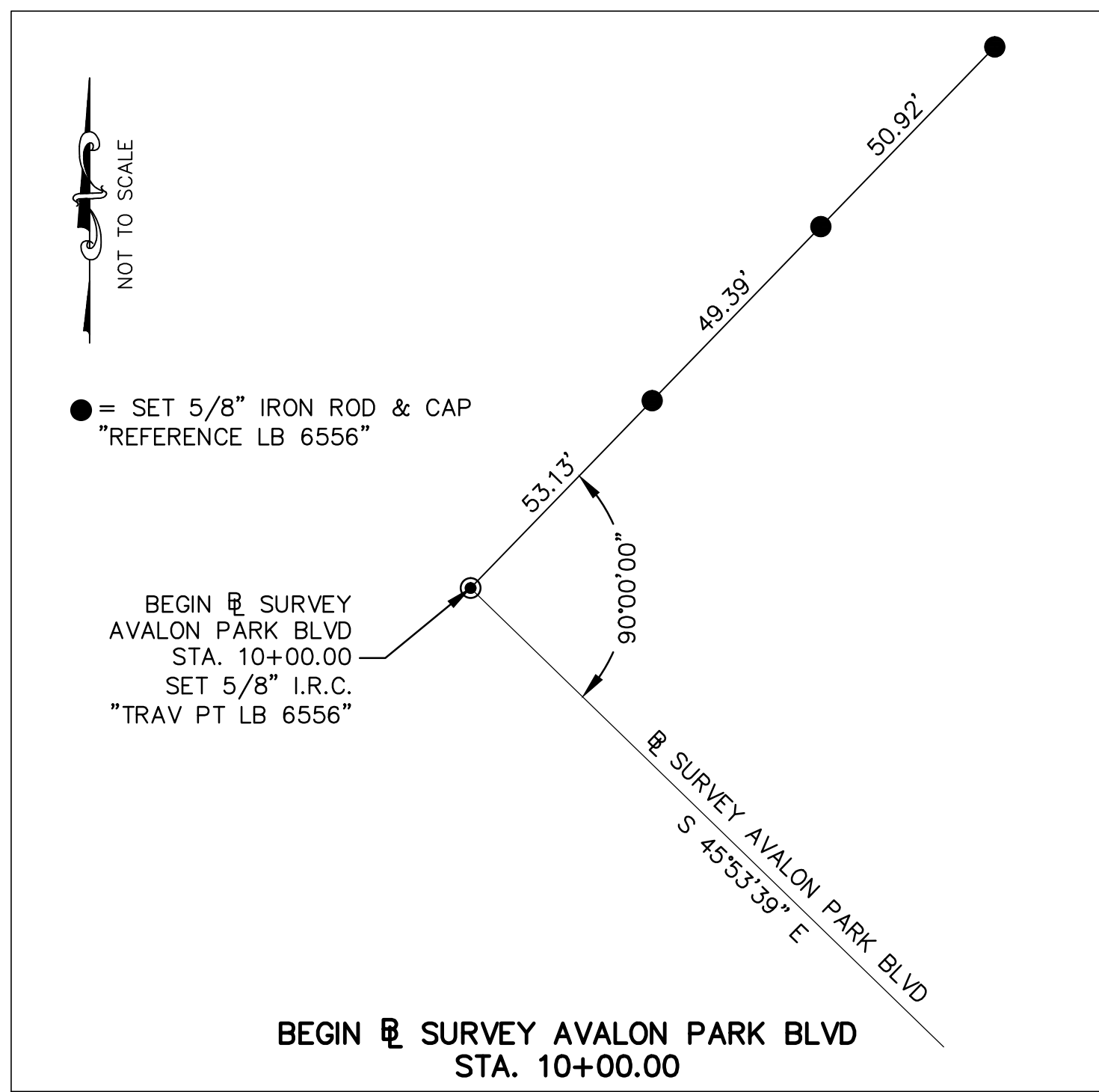
DESIGNED BY: L.E.Y.
DRAWN BY: L.E.Y.
DATE: 6-2012
SCALE: NONE
SHEET CHK'D BY:
APPROVED BY:
DATE:

CYNTHIA K. MALONE, P.E.
FLA. REG. NO. 58685

PROJECT NO.: **EBX84000**
CLIENT PROJ. NO.:
SHEET NO. **G-301**
4 OF 10



NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, FAC.



BERAINGS ARE BASED ON THE SOUTH LINE OF THE SOUTHEAST 1/4 OF SECTION 30, TOWNSHIP 22 SOUTH, RANGE 32 EAST, BEING NORTH 89°23'16" EAST, RELATIVE TO THE FLORIDA STATE PLAN COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983/1990 ADJUSTMENT (NAD83/90), EAST ZONE, ACCORDING TO THE FOLLOWING:

SOUTH 1 14 COMER OF SECTION 30, TOWNSHIP 22 SOUTH, RANGE 31 EAST
 CERTIFIED COMER RECORD #084944
 NORTHING 1528962.40, EASTING 606967.28 (NAD83/90)

SOUTHEAST COMER OF SECTION 30, TOWNSHIP 22 SOUTH, RANGE 31 EAST
 CERTIFIED COMER RECORD #084943
 NORTHING 1528991.32, EASTING 609674.15 (NAD83/90)

HORIZONTAL CLOSURE EXCEEDS 1 PART IN 10,000 REQUIRED FOR COMMERCIAL 1HIGH RISK SURVEYS BY THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE.

VERTICAL
 VERTICAL INFORMATION IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED FROM THE FOLLOWING ORANGE COUNTY BENCHMARKS:

S-1311-036
 FOUND 3" ORANGE COUNTY ALUMINUM DISC IN CONCRETE CURB INLET, NORTH SIDE OF AVALON PARK BOULEVARD, 200 FEET EAST OF WEIR AT CURVE TO THE NORTH, 3,200 FEET SOUTH OF THE INTERSECTION OF AVALONPARK BOULEVARD AND WATERFORD CHASE ROAD.
 PUBLISHED ELEVATION = 66.249' (NAVD88)

S-1311-029
 FOUND 3" ORANGE COUNTY ALUMINUM DISC IN CONCRETE CURB INLET, EAST SIDE OF AVALON PARK BOULEVARD, 2,400 FEET NORTH OF THE NORTH ENTRANCE TO TIMBER CREEK HIGH SCHOOL, EAST OF THE NORTH END OF CYPRESS BAY HEAD, WEST SIDE OF AVALON PARK BOULEVARD.
 PUBLISHED ELEVATION = 66.249' (NAVD88)

VERTICAL CLOSURES DO NOT TO EXCEED 0.05 FEET TIMES THE SQUARE ROOT OF THE DISTANCE IN MILES, STANDARD FOR VERTICAL CONTROL REQUIRED BY THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 FLORIDA ADMINISTRATIVE CODE.

GEODATA CONSULTANTS, INC.
 SURVEYING & MAPPING
 2700 WESTHALL LANE SUITE 137
 MAITLAND, FLORIDA 32751
 PHONE: (407) 660-2322
 FAX: (407) 660-8223

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 1000 LEGION PLACE, ORLANDO, FLORIDA, 32801
 PHONE: 407-514-1400, FAX: 407-514-1499
 FL. REG. 5300

ORANGE COUNTY
 UTILITIES DEPARTMENT
 ENGINEERING DIVISION
 9150 CURRY FORD ROAD
 ORLANDO, FL. 32825

**AVALON PARK BOULEVARD
 RECLAIMED WATER MAIN
 IMPROVEMENTS**

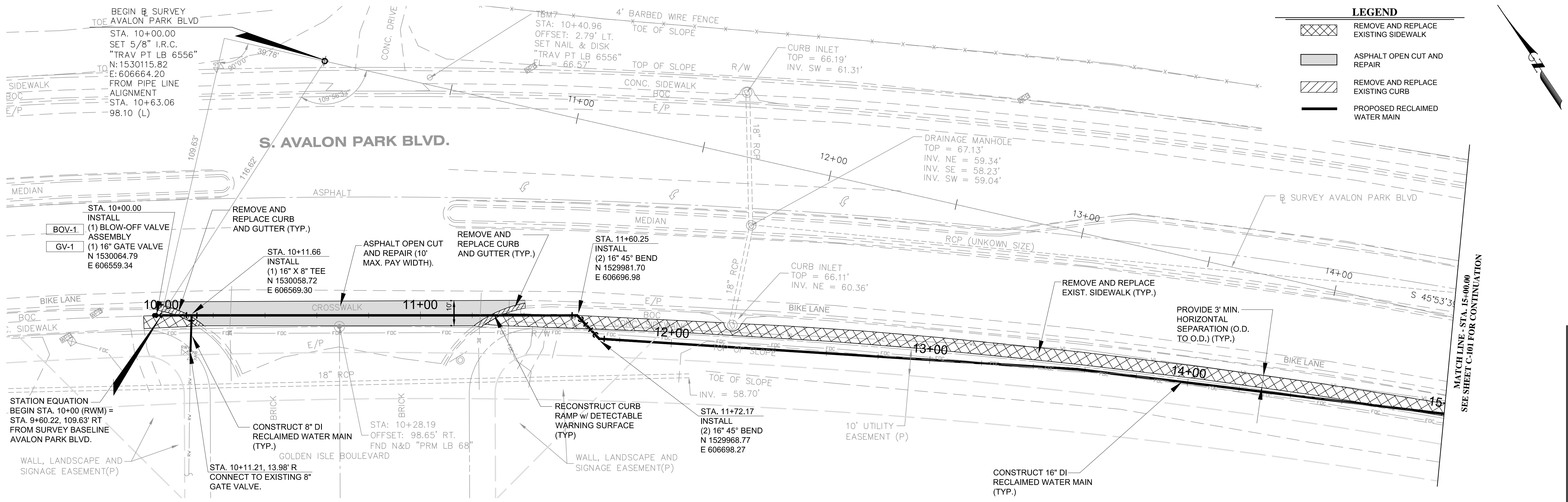
SURVEY CONTROL

DESIGNED BY: L.E.Y.
 DRAWN BY: L.E.Y.
 DATE: 6-2012
 SCALE: NONE
 SHEET CHK'D BY:
 APPROVED BY:
 DATE:

PROJECT NO.: E8X84000
 CLIENT PROJ. NO.:
 SHEET NO.
G-302
 5 OF 10

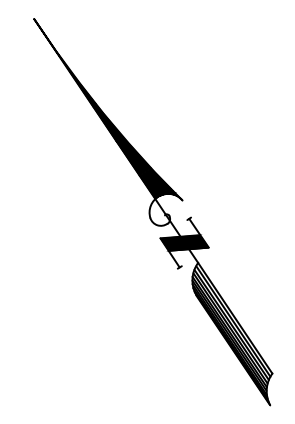
REV. NO.	DATE	DRWN	CHKD	REMARKS

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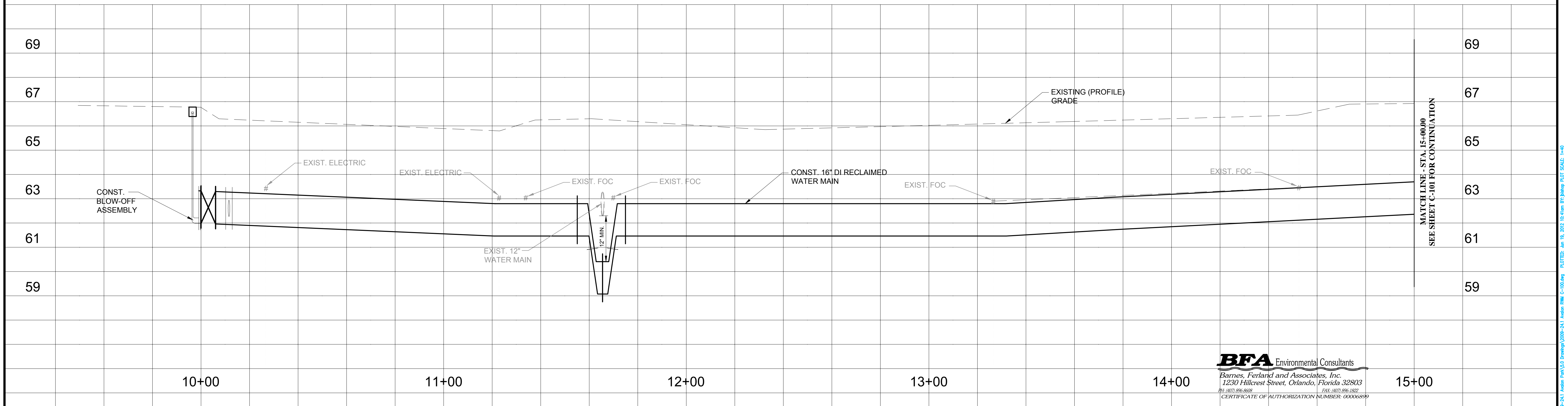
LEGEND

	REMOVE AND REPLACE EXISTING SIDEWALK
	ASPHALT OPEN CUT AND REPAIR
	REMOVE AND REPLACE EXISTING CURB
	PROPOSED RECLAIMED WATER MAIN



SCALE: 1" = 20' HORIZONTAL
1" = 2' VERTICAL

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BFA Environmental Consultants
Barnes, Ferland and Associates, Inc.
1230 Hillcrest Street, Orlando, Florida 32803
PH: 407.888.8888 FAX: 407.888.1822
CERTIFICATE OF AUTHORIZATION NUMBER: 00006599

REV. NO.	DATE	DRWN	CHKD	REMARKS

Carter Burgess
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PHONE: 407-514-1400, FAX: 407-514-1499
FL. REG. 5300

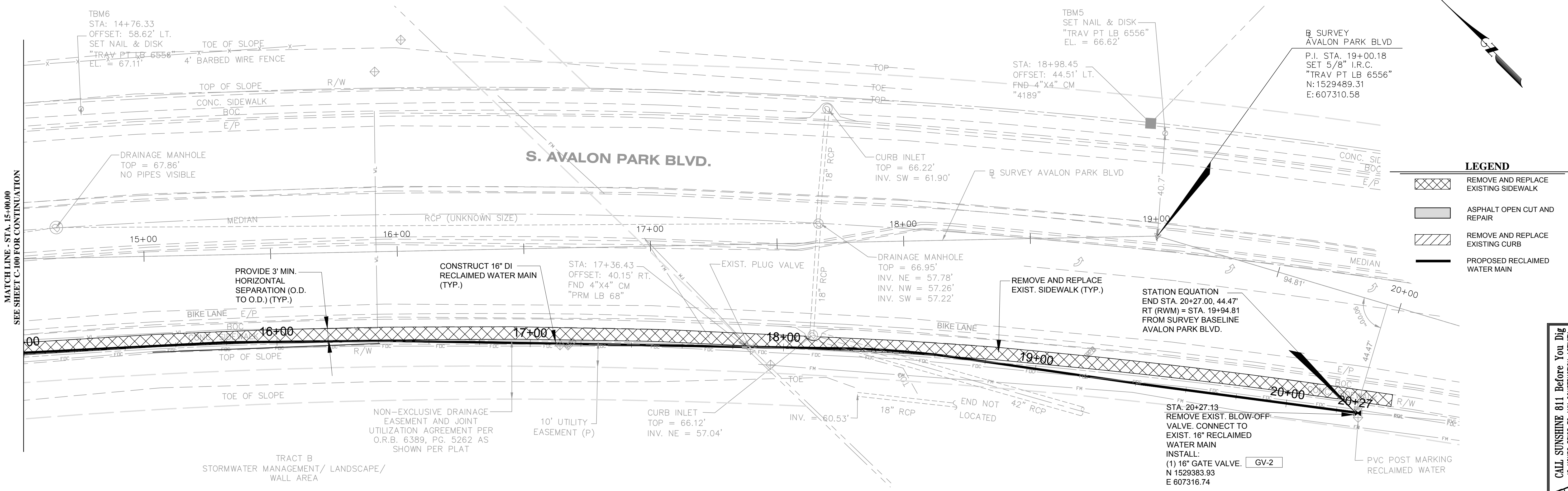
ORANGE COUNTY GOVERNMENT
ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION
9150 CURRY FORD ROAD
ORLANDO, FL. 32825

AVALON PARK BOULEVARD RECLAIMED WATER MAIN IMPROVEMENTS

S. AVALON PARK BLVD. STA. 10+00 TO STA. 15+00 PLAN AND PROFILE

DESIGNED BY: <u>L.E.Y.</u>	PROJECT NO.: <u>E8X84000</u>
DRAWN BY: <u>L.E.Y.</u>	CLIENT PROJ. NO.: _____
DATE: <u>6-2012</u>	SHEET NO. C-100
SCALE: <u>NONE</u>	6 OF 10
SHEET CHK'D BY: _____	
APPROVED BY: _____	
DATE: _____	

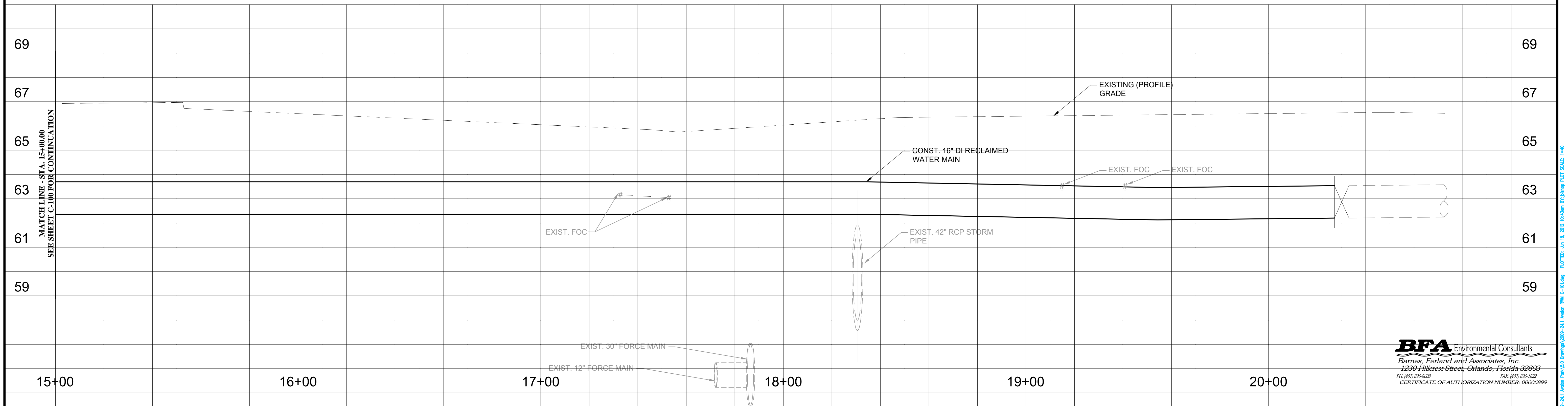
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- LEGEND**
- REMOVE AND REPLACE EXISTING SIDEWALK
 - ASPHALT OPEN CUT AND REPAIR
 - REMOVE AND REPLACE EXISTING CURB
 - PROPOSED RECLAIMED WATER MAIN

SCALE: 1" = 20' HORIZONTAL
1" = 2' VERTICAL

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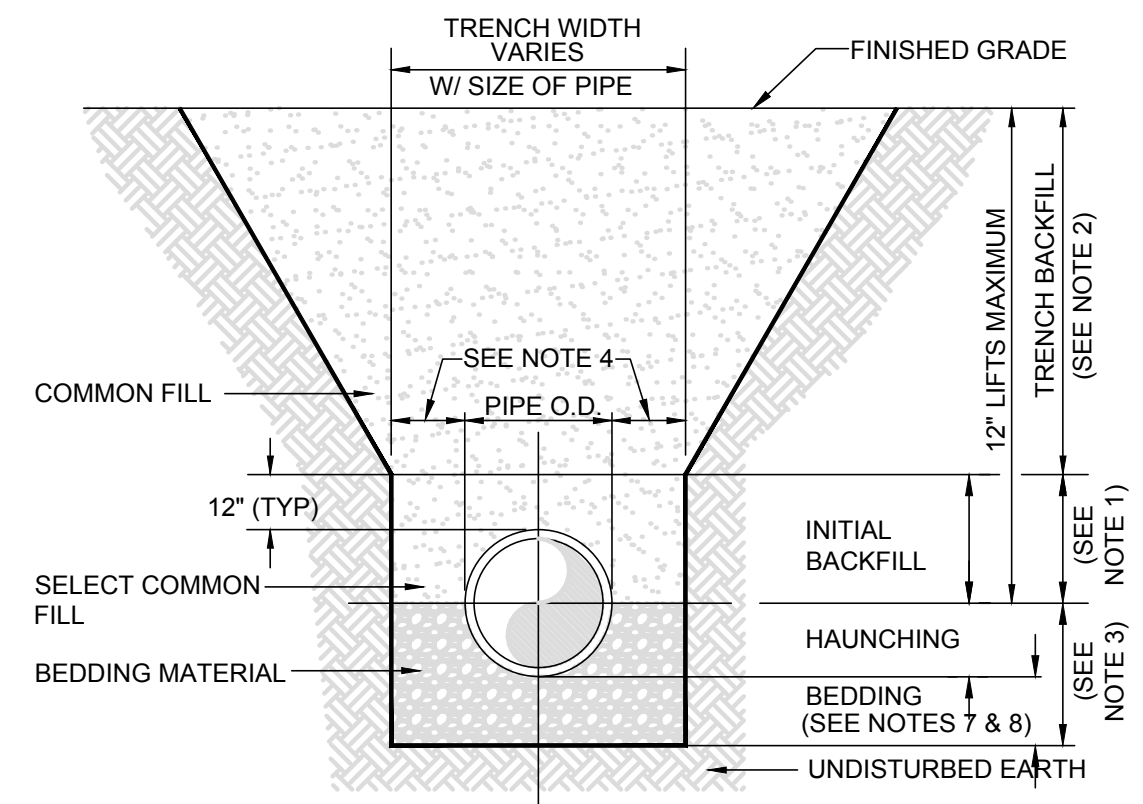


BFA Environmental Consultants
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1230 Hillcrest Street, Orlando, Florida 32803
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CERTIFICATE OF AUTHORIZATION NUMBER: 00006899

<p>Carter Burgess 1000 LEGION PLACE, ORLANDO, FLORIDA, 32801 PHONE: 407-514-1400, FAX: 407-514-1499 FL. REG. 5300</p>	<p>ORANGE COUNTY GOVERNMENT ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION 9150 CURRY FORD ROAD ORLANDO, FL. 32825</p>	<p>AVALON PARK BOULEVARD RECLAIMED WATER MAIN IMPROVEMENTS</p>	<p>S. AVALON PARK BLVD. STA. 15+00 TO STA. 20+27.13 PLAN AND PROFILE</p>	<p>DESIGNED BY: L.E.Y. DRAWN BY: L.E.Y. DATE: 6-2012 SCALE: NONE SHEET CHK'D BY: APPROVED BY: DATE:</p>	<p>PROJECT NO.: E8X64000 CLIENT PROJ. NO.: SHEET NO. C-101 7 OF 10</p>										
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REV. NO.	DATE	DRWN	CHKD	REMARKS											

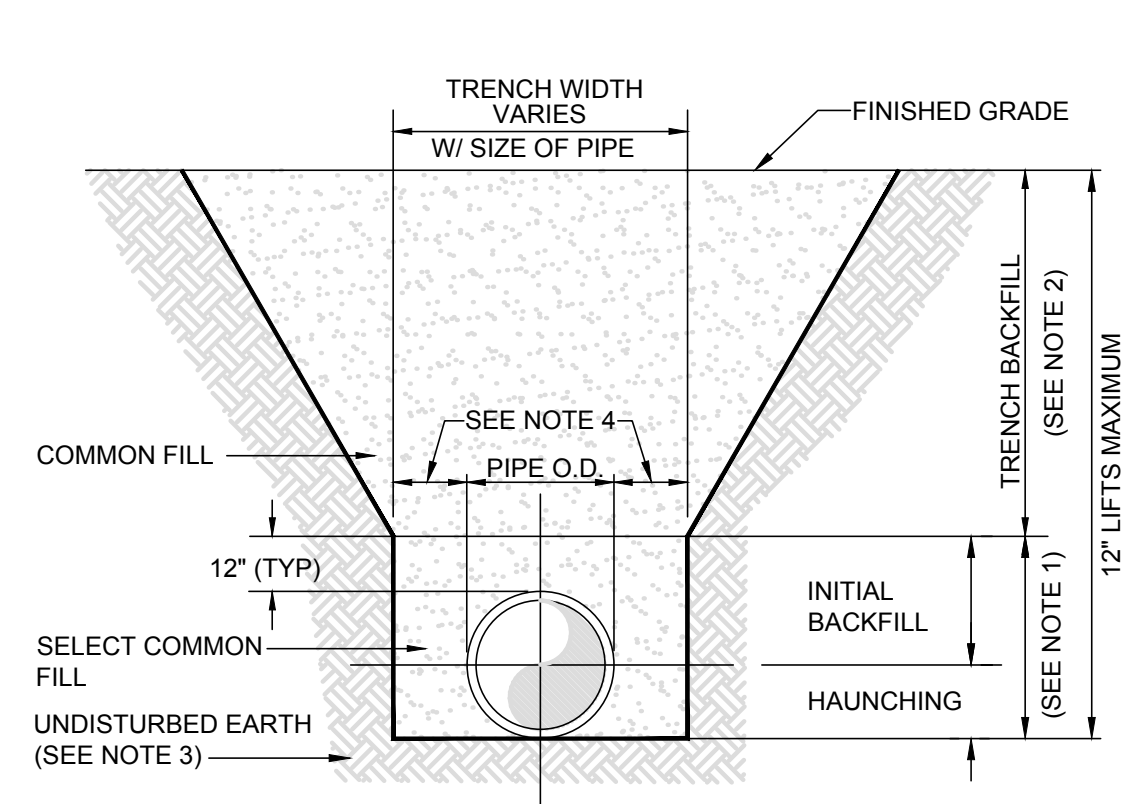
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APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 BEDDING AND TRENCHING - TYPE A FIGURE A101



- NOTES:
- INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 - TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 - TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
 - 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.
 - BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
 - DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
 - 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 R/W UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 BEDDING AND TRENCHING - TYPE B FIGURE A102



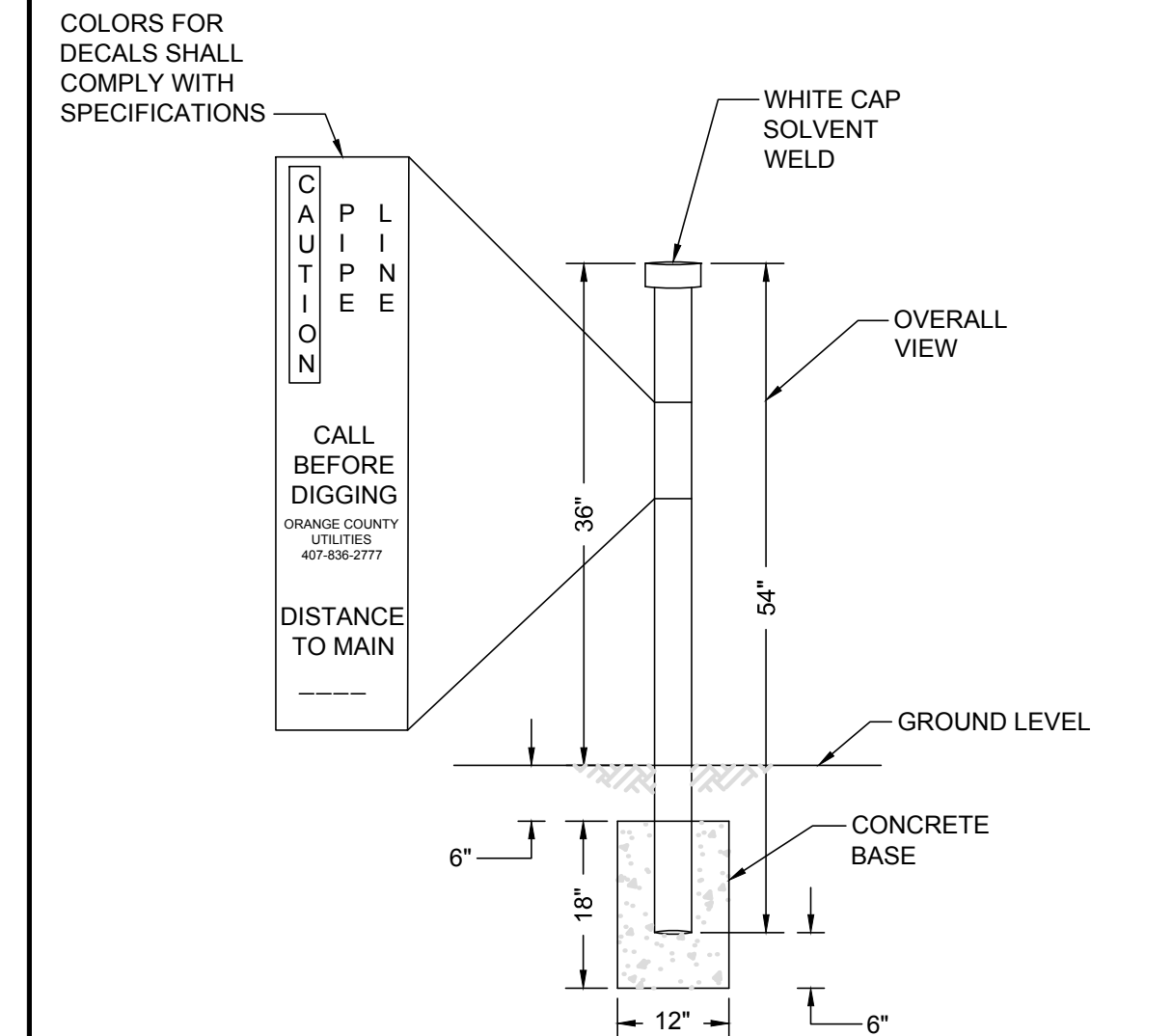
- NOTES:
- INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 - TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 - PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE 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: April 15, 2007 RESTRAINED PIPE TABLE WATER AND RECLAIMED WATER MAINS FIGURE A104-1

TYPE	PIPE SIZE									
	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
90° BEND	20	29	37	44	51	65	77	89	105	120
45° BEND	8	12	15	18	21	27	32	37	44	50
22-1/2° BEND	4	6	7	9	10	13	15	18	21	24
11-1/4° BEND	2	3	4	5	6	7	8	9	10	12
PLUG OR BRANCH OF TEE	42	59	77	93	108	138	166	194	231	265
VALVE	21	30	39	47	54	69	83	97	116	133

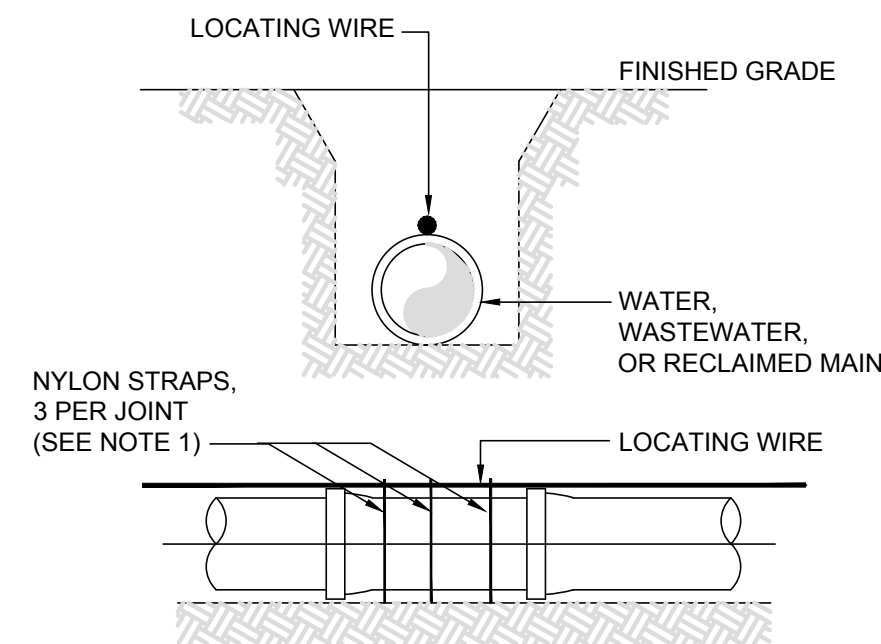
- NOTES:
- FITTINGS SHALL BE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
 - INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN SHOWN IN THE TABLE.
 - WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.
 - ALL LINE VALVES AND THROUGH RUN OF TEES SHALL BE RESTRAINED.
 - LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AS PUBLISHED BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:
WORKING PRESSURE: 150 PSI
SOIL DESIGNATION: SM (SAND SILT)
LAYING CONDITIONS: 3
 - FOR HDPE, PVC OR PIPE ENCASED IN POLYETHYLENE, INCREASE THE GIVEN VALUE BY A FACTOR OF 1.25.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 PIPE LINE MARKER FIGURE A113



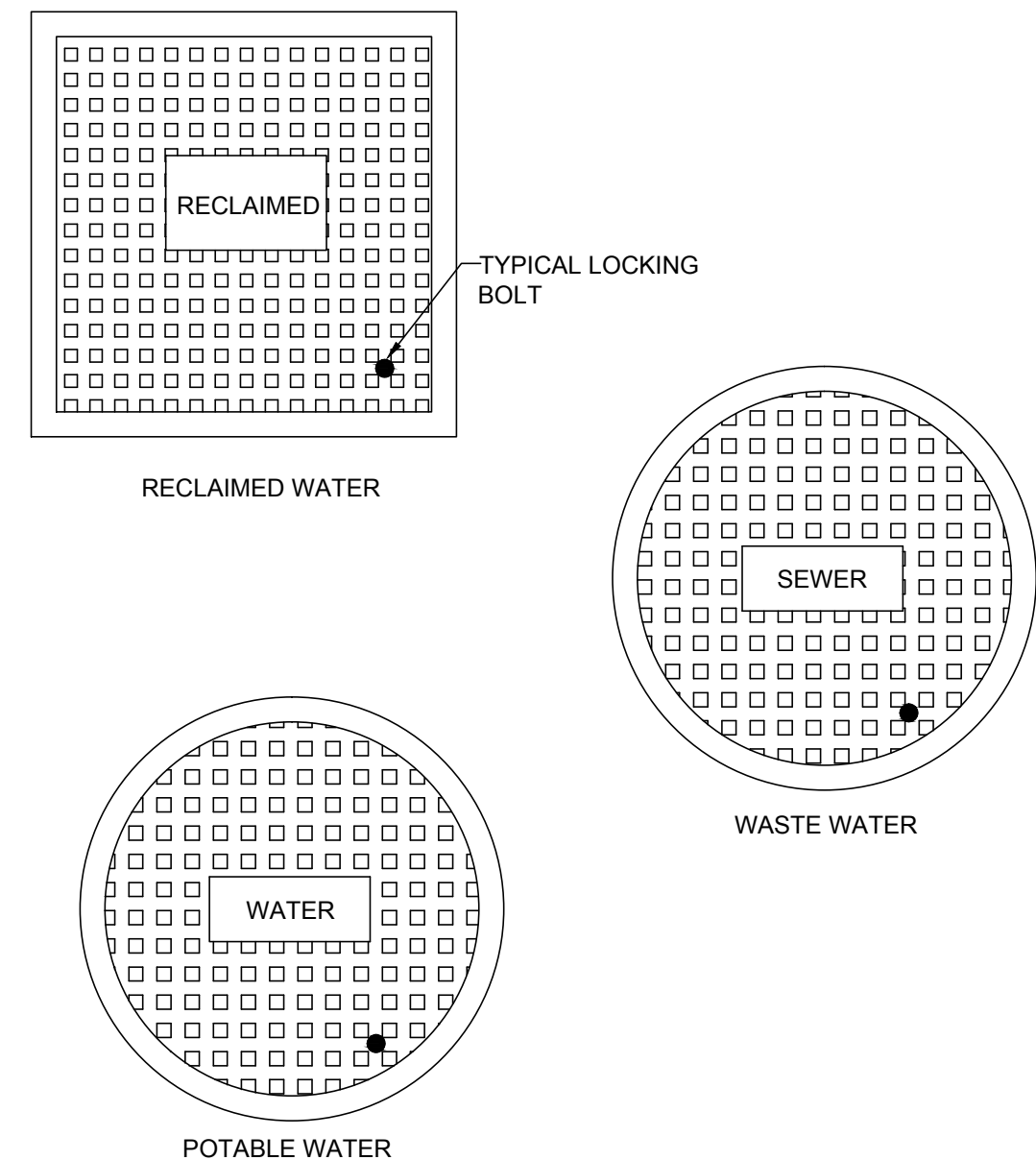
- NOTES:
- UTILITY MAIN MARKERS SHALL BE 4" DIAMETER SCH. 80 PVC: BLUE FOR WATER; GREEN FOR WASTEWATER; AND PANTONE PURPLE 522C FOR RECLAIMED WATER.
 - UTILITY MAIN MARKERS SHALL BE PLACED AT THE EDGE OF THE R/W, ALONG ALL DRAINAGE EASEMENT LINES.
 - UTILITY MAIN MARKERS SHALL BE PLACED EVERY 1000' AND AT ALL VALVES (EXCEPT WATER VALVES NEAR FIRE HYDRANTS) AND DIRECTIONAL CHANGES. IN SUCH CASES, MARKERS SHALL BE PLACED AT MIDPOINT BETWEEN HYDRANTS.
 - UTILITY MAIN MARKERS SHALL NOT BE USED ALONG RESIDENTIAL STREETS.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 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 TERMINATE INSIDE THE TEST STATION BOX AND SHALL EXTEND 12" ABOVE TOP OF COLLAR.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 TYPICAL VALVE BOX COVER FIGURE A110



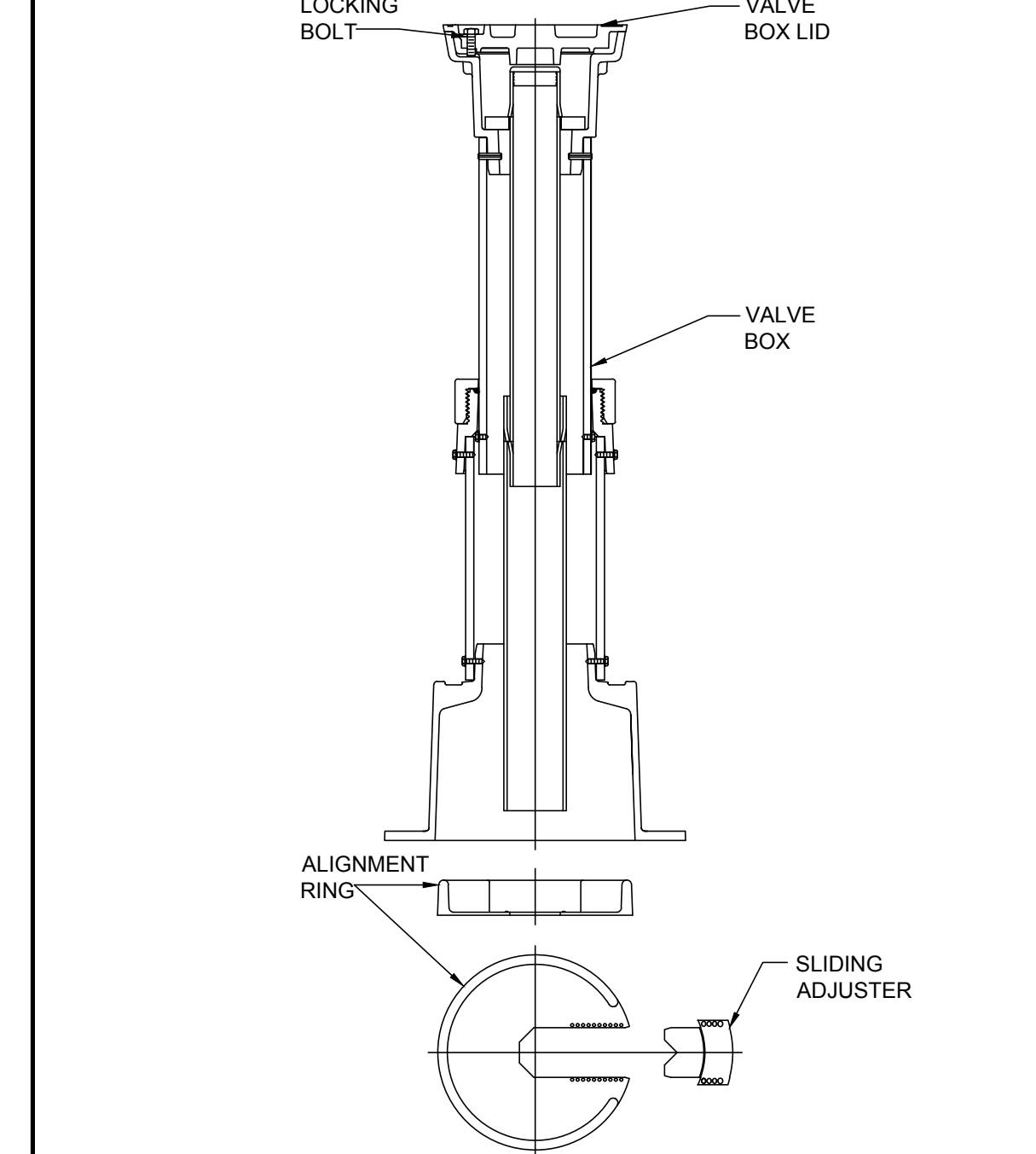
- NOTE:
- LOCKING LIDS ARE REQUIRED ON ALL VALVE BOXES.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 MINIMUM HORIZONTAL SEPARATION REQUIREMENTS WATER, WASTEWATER AND RECLAIMED WATER MAINS FIGURE A116

PROPOSED UTILITY	HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS								ACCEPTABLE VARIANCES
	POTABLE WATER (PW)		RECLAIMED WATER (RW)		SAN SEWER (SS) GRAVITY & FM		STORM SEWER		
	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	
POTABLE WATER	-	-	3'	12"	6'	12"	3'	12"	REFER TO GENERAL NOTE #4
RECLAIMED WATER	3'	12"	-	-	3'	12"	-	-	
SANITARY SEWER	6'	12"	3'	12"	-	-	-	-	

- GENERAL NOTES:
- THE TABLE MEETS SEPARATION REQUIREMENTS AS DESCRIBED BY FDEP IN THE FLORIDA ADMINISTRATION CODE (FAC). THESE SEPARATION REQUIREMENTS SHALL APPLY BETWEEN NEWLY PROPOSED UTILITY LINES AND EXISTING OR PROPOSED UTILITY LINES.
 - FOR THE PURPOSE OF THIS TABLE, RECLAIMED WATER SHALL MEAN UNRESTRICTED PUBLIC ACCESS REUSE WATER AS DEFINED BY F.A.C. 62-610. OTHER TYPES OF RECLAIMED WATER ARE CONSIDERED RAW SEWAGE AND SEPARATION LISTED FOR SANITARY SEWER SHALL APPLY.
 - ALL SEPARATION DISTANCES ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
 - ACCEPTABLE VARIANCES:
 - WHERE HORIZONTAL SEPARATION IS NOT ATTAINABLE FOR NEW INSTALLATIONS OF PW AND SS, THE PIPES WILL BE INSTALLED IN SEPARATE TRENCHES AND THE BOTTOM OF THE PW MAIN WILL BE 12" HIGHER THAN THE TOP OF THE SS.
 - WHERE HORIZONTAL SEPARATION IS NOT ATTAINABLE FOR NEW SS AND A NEW OR EXISTING PW MAIN, THE SS WILL BE UPGRADED TO A DR OF 18.
 - WHERE INSTALLATION OF A NEW PW MAIN IS IN CONFLICT WITH EXISTING SS, THE FOLLOWING SHALL BE MAINTAINED:
 - VERTICAL CONFLICT: DEFLECT NEW PW MAIN 12" ABOVE THE EXISTING SS WITH SUFFICIENT COVER FOR THE PW OR 12" BELOW THE EXISTING SS. WHERE DEFLECTION IS NOT POSSIBLE OR MINIMUM COVER NOT MET, THE PW MAIN SHALL BE UPGRADED TO DIP AND CENTERED AT CROSSING.
 - HORIZONTAL CONFLICT: PW MAIN SHALL BE INSTALLED 18" HIGHER THAN THE EXISTING SS WITH SUFFICIENT COVER OR THE PW WILL BE DIP.
 - SEPARATION REQUIREMENTS BETWEEN PW AND STORM SEWER ARE THE SAME AS WITH PW AND SS. SPECIAL SUPPORT MAY BE REQUIRED.
 - WHERE VERTICAL AND HORIZONTAL SEPARATIONS ARE NOT ATTAINABLE FOR PW AND FM, THE FOLLOWING SHALL BE MAINTAINED:
 - FM UPGRADED TO DR 14 (12" DIA AND UNDER) AND DR 18 (14" DIA AND OVER). WHERE FM IS EXISTING, PW SHALL BE UPGRADED TO DIP.
 - STAGGER THE LOCATION OF JOINTS FOR EACH PIPE.
 - NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY OR STORM WATER MANHOLE OR STRUCTURE.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 ADJUSTABLE SEALED VALVE BOX FIGURE A111



- NOTES:
- ALL MAINS 6" DEEP OR GREATER.
 - FOR MAINS 16" IN DIAMETER OR GREATER REGARDLESS OF DEPTH.

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ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION
9150 CURRY FORD ROAD
ORLANDO, FL. 32825

AVALON PARK BOULEVARD
RECLAIMED WATER MAIN
IMPROVEMENTS

STANDARD DETAILS

CYNTHIA K. MALONE, P.E.
FLA. REG. NO. 58685

DESIGNED BY: L.E.Y.
DRAWN BY: L.E.Y.
DATE: 6-2012
SCALE: NONE
SHEET CHK'D BY:
APPROVED BY:
DATE:

PROJECT NO.: E8X84000
CLIENT PROJ. NO.:
SHEET NO.
D-100
8 OF 10

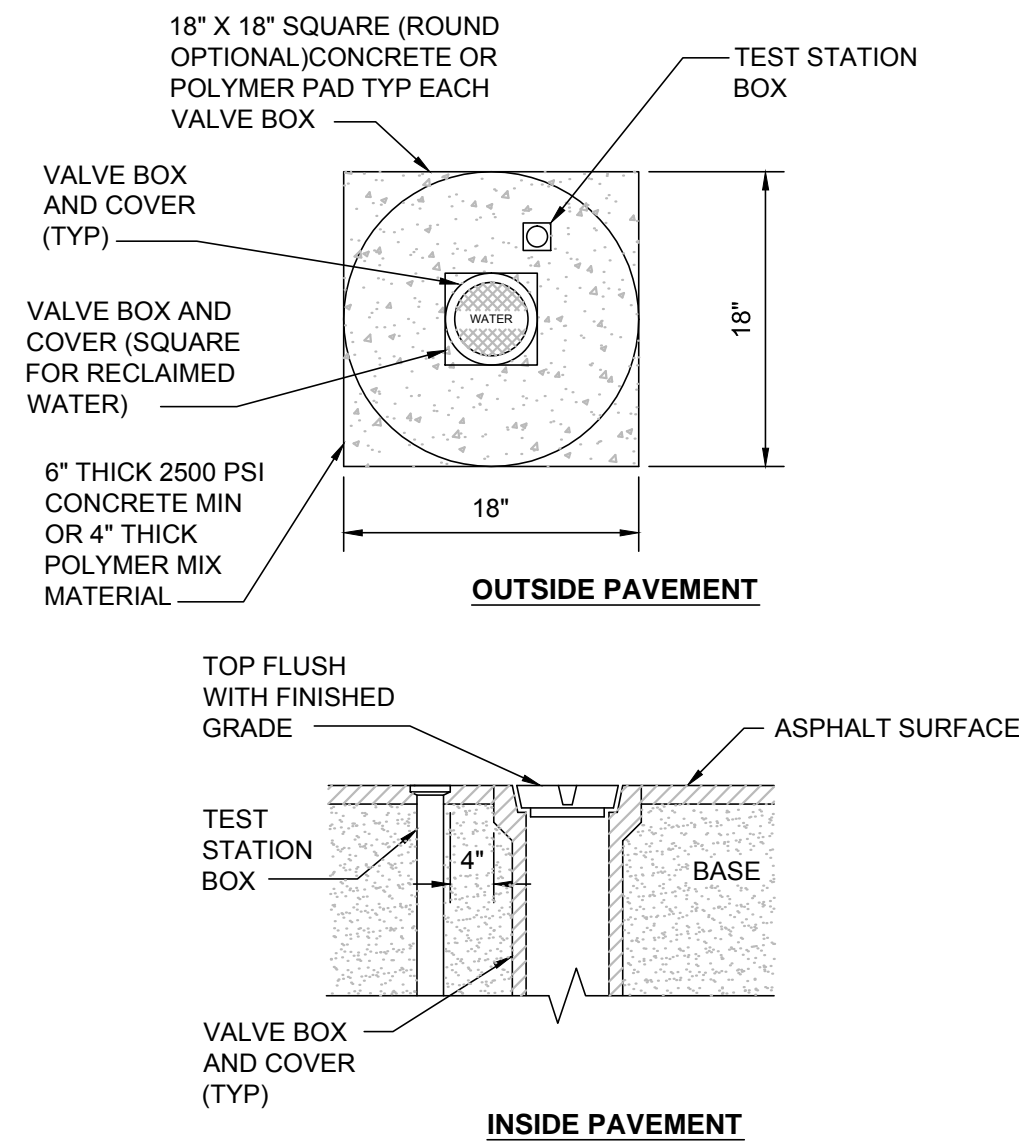
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www.callsunshine.com

BFA Environmental Consultants
Barnes, Feiland and Associates, Inc.
1230 Hillcrest Street, Orlando, Florida 32803
REGISTERED PROFESSIONAL ENGINEER, LICENSE NO. 00006999

NOTED: Jan. 19, 2012 10:46am BY: jshay, RGT SCALE 1/4"=1'

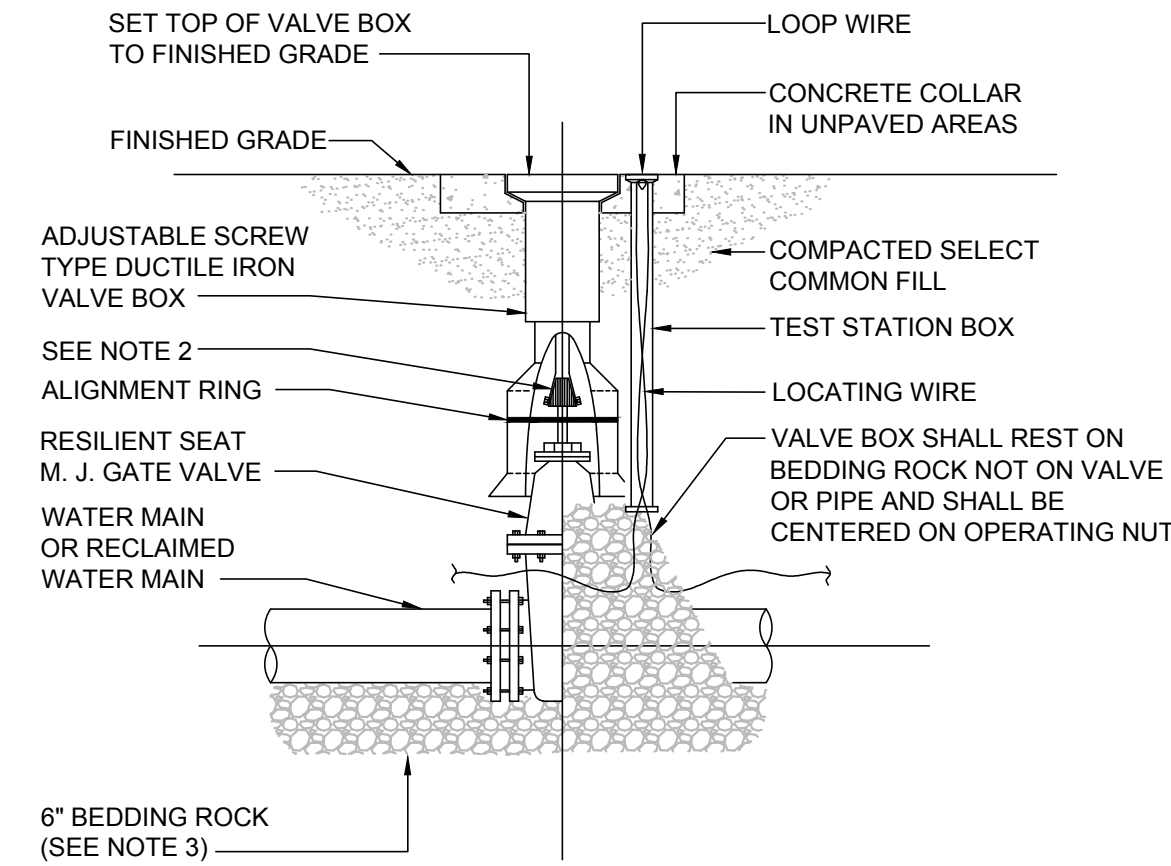
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, FAC.

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 VALVE COLLAR FIGURE A112



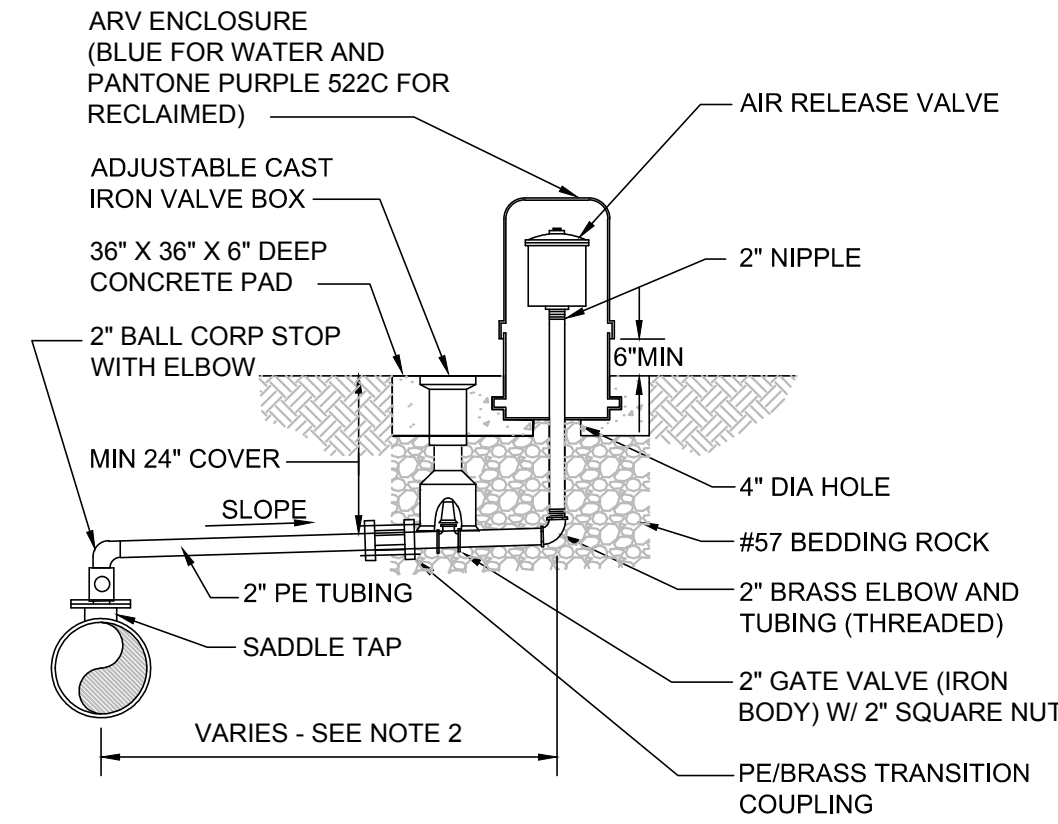
- NOTES:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES 16\"/>

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 GATE VALVE AND BOX WATER AND RECLAIMED WATER MAINS FIGURE A107

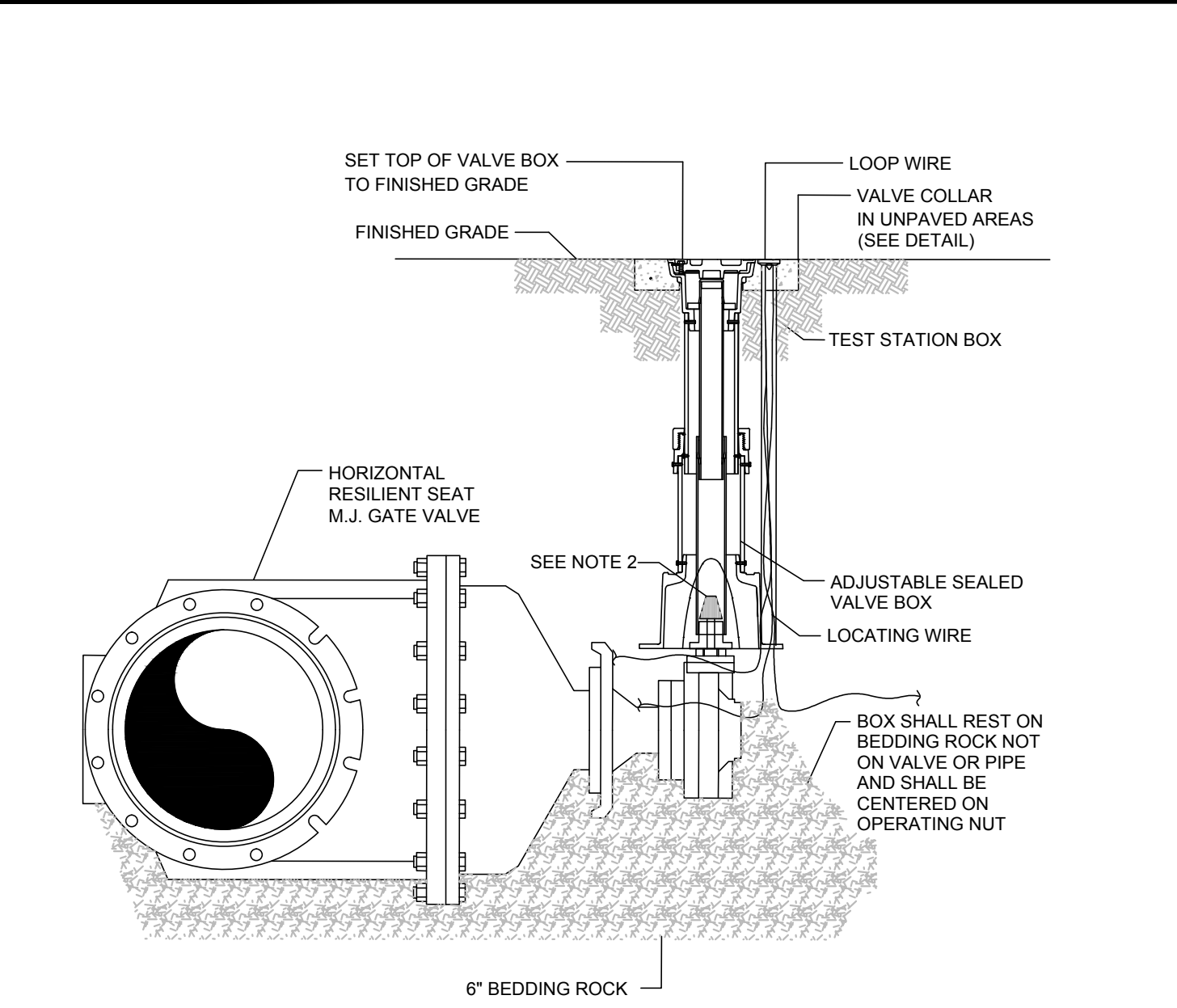


- NOTES:
1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED TO BE WITHIN 3\"/>

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 AIR OR COMBINATION AIR/VACUUM RELEASE WATER AND RECLAIMED WATER FIGURE A115-1

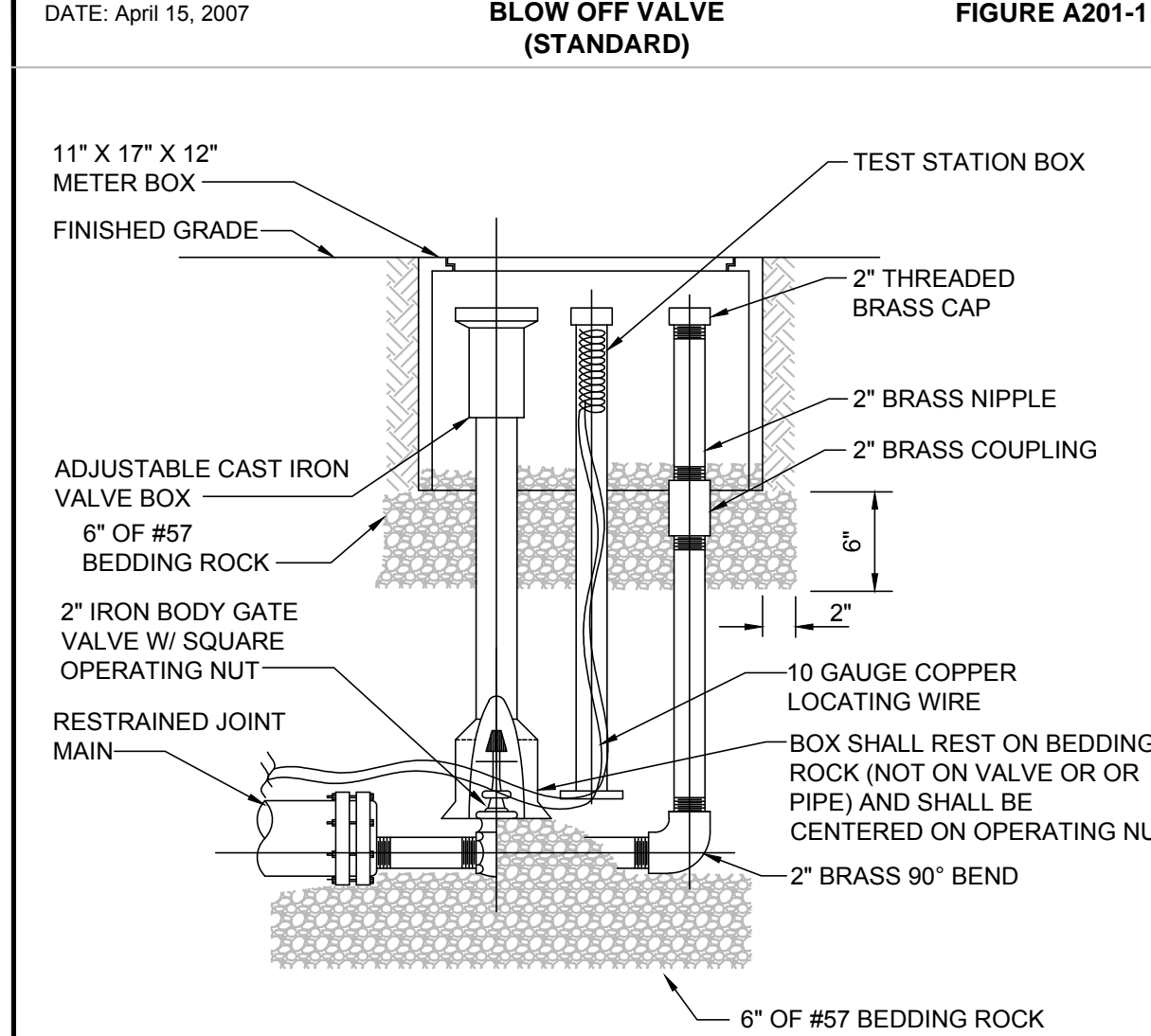


- NOTES:
1. FOR WATER OR RECLAIMED WATER USE ONLY.
2. OFFSET DISTANCE TO BE FIELD DETERMINED AND AS CLOSE TO THE RW AS POSSIBLE.
3. ADJUST HORIZONTAL LOCATION OF SIDEWALK, AS REQUIRED TO AVOID ARV ENCLOSURE.
4. LOCATE ARV ENCLOSURE WITHIN 6\"/>



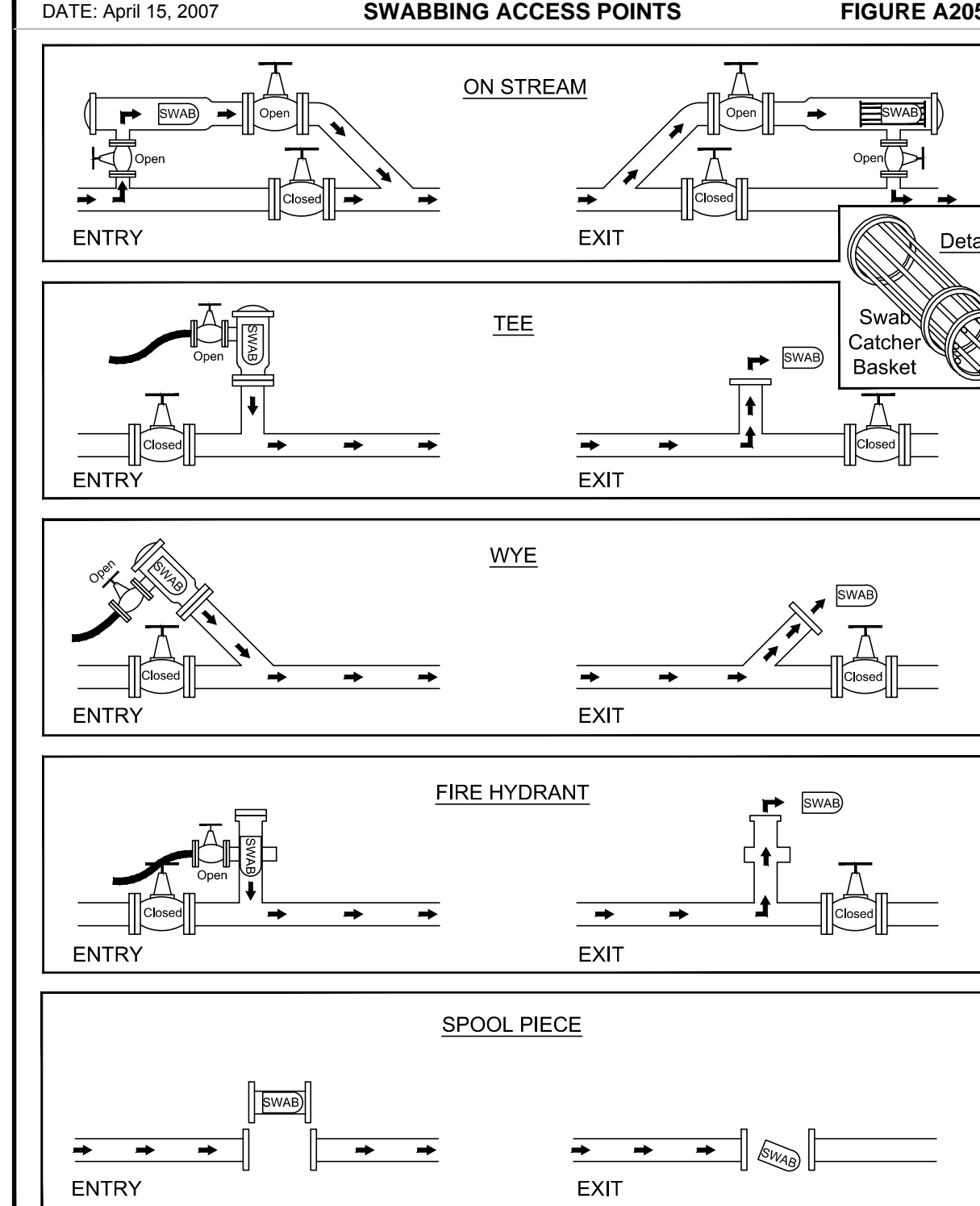
- NOTES:
1. PVC OR DUCTILE IRON EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED TO WITHIN 3\"/>

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 BLOW OFF VALVE (STANDARD) FIGURE A201-1



- NOTES:
1. ALL 2\"/>

APPENDIX A STANDARD DRAWINGS GENERAL
DATE: April 15, 2007 SWABBING ACCESS POINTS FIGURE A205



- NOTES:
1. FOAM SWAB.
2. ONLY APPLIES TO WATER AND RECLAIMED WATER MAINS 12\"/>

JCB-001 HORIZONTAL GATE VALVE AND BOX

NONE

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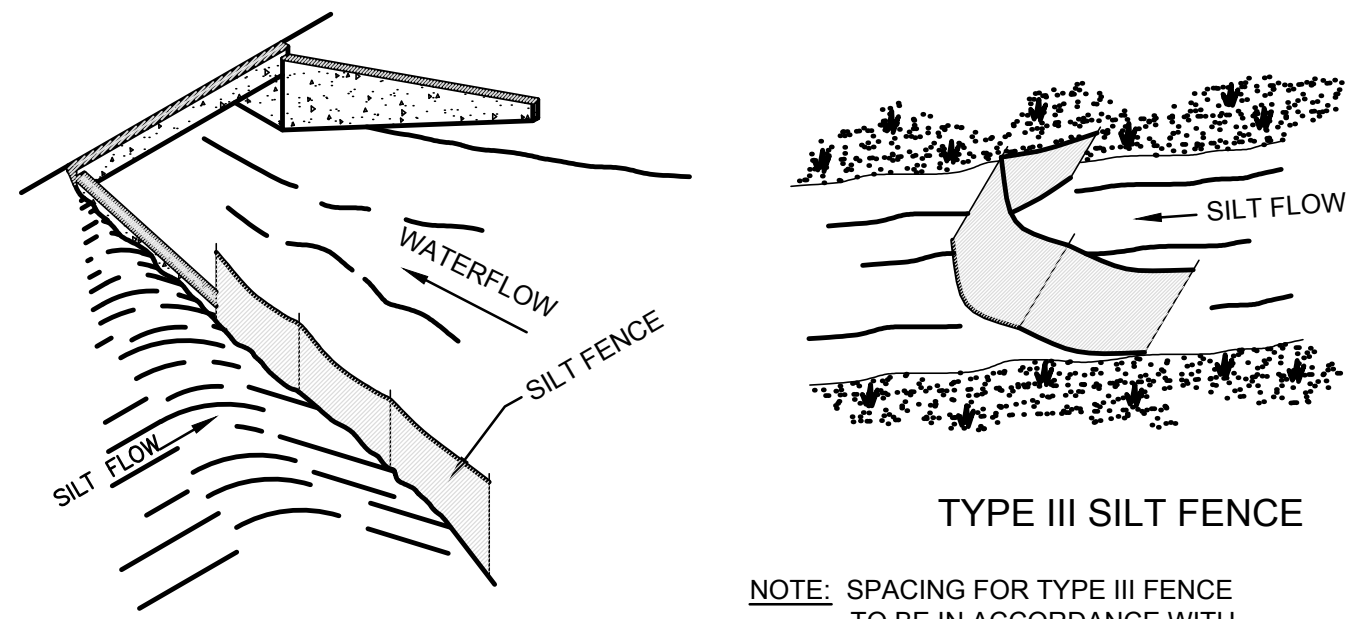
CLIENT PROJ. NO.:

SHEET NO.
D-101

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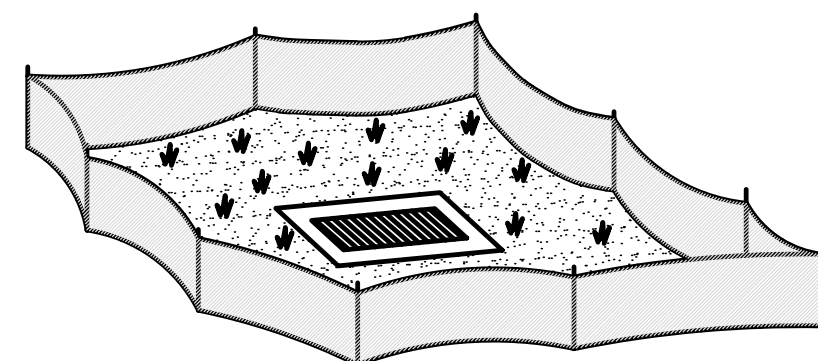
DATE: 06/15/2012 10:40 AM BY: JMB/PL/STW



TYPE III SILT FENCE

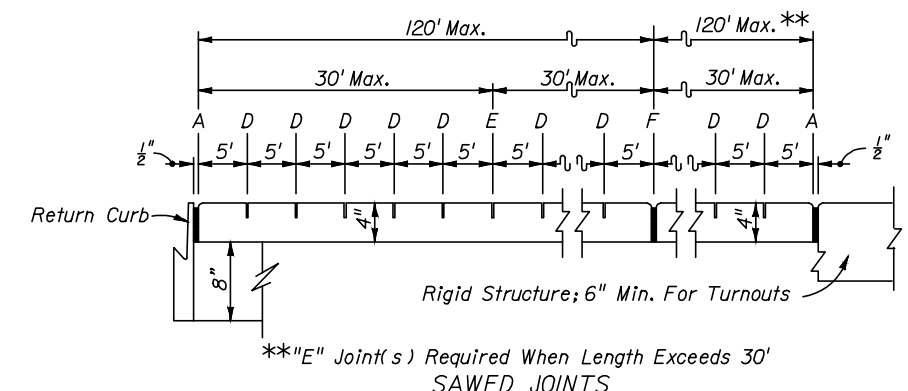
NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3.

TYPE III SILT FENCE

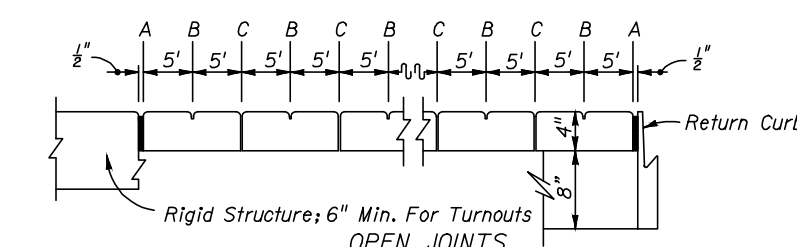


TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLET

NOTE: DO NOT DEPLOY IN ANY MANNER THAT SILT FENCES WILL ACT AS A DAMN ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



***E* Joints Required When Length Exceeds 30' SAWED JOINTS



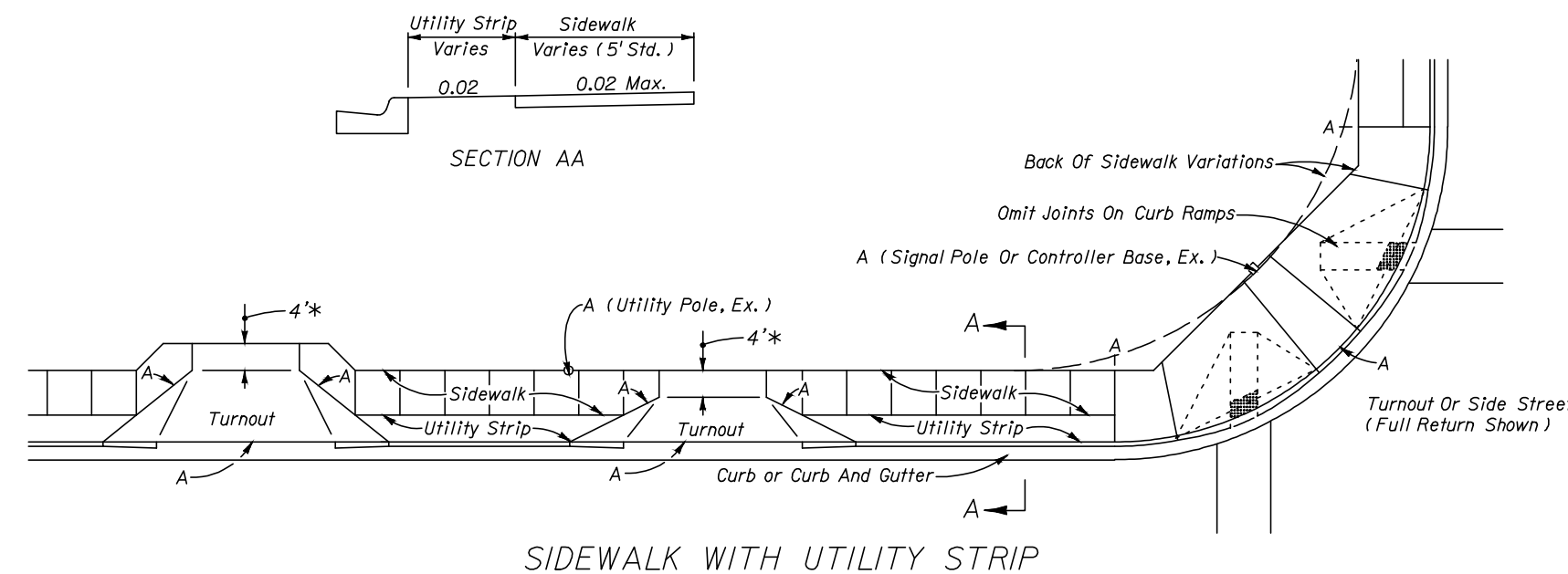
EXAGGERATED SCALE LONGITUDINAL SECTION SIDEWALK JOINTS

JOINT LEGEND

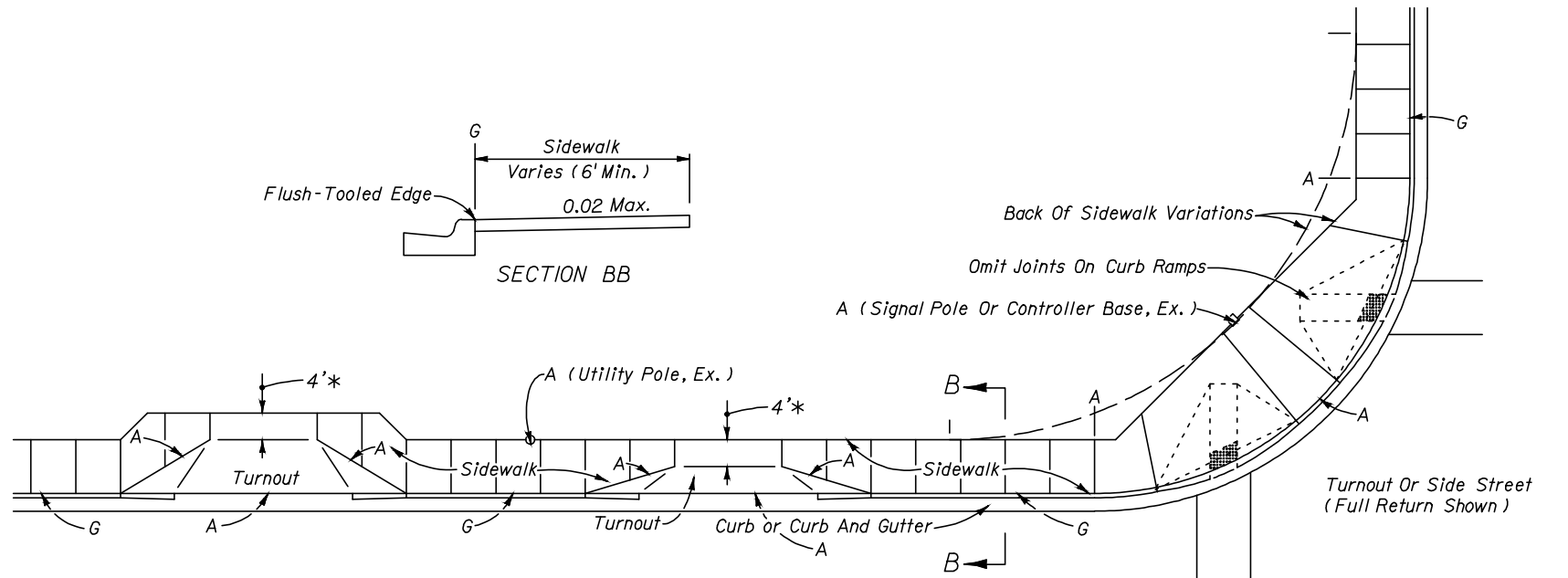
- A - Expansion Joints (Preformed Joint Filler)
- B - Dummy Joints, Tooled
- C - Formed Open Joints
- D - Saw Cut Joints, 1/2" Deep (96 Hour) Max. 5' Centers
- E - Saw Cut Joints, 1/2" Deep (12 Hour) Max. 30' Centers
- F - Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.
- G - Cold Joint With Bond Breaker, Tooled

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. Sidewalks shall be constructed in accordance with section 522 of the FDOT Standard Specifications except for public sidewalk curb ramp runs which shall be finished in accordance with FDOT index No. 304.
2. Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils nor more than 1/2".
3. For public sidewalk curb ramps see FDOT index No. 304. All sidewalk curb ramps shall have detectable warning surfaces in accordance with FDOT index No. 304 that extend the full width of the ramp and in the direction of travel 24" from the back of curb.
4. The location and orientation of curb ramps shall match existing curb ramps.
5. For turnouts see FDOT index No. 515.
6. Construct sidewalks with 1" thick Edge Beam through the limits of any surface mounted pedestrian/bicycle picket rolling or pipe guardrail shown on the plans.



SIDEWALK WITH UTILITY STRIP



SIDEWALK WITHOUT UTILITY STRIP

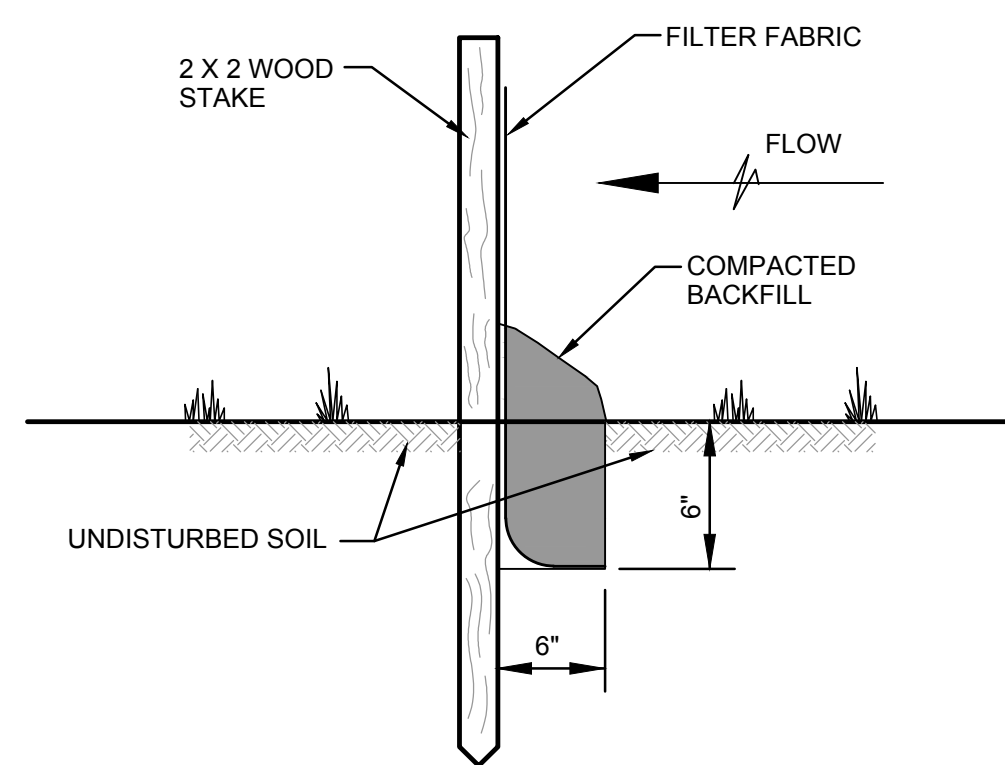
* 4" May Be Reduced to 3" In Restricted Conditions When Approved By The Engineer

JCB-004 EROSION & SEDIMENT CONTROL

NONE

JCB-002 TYPICAL SIDEWALK DETAIL

NONE



NOTES:

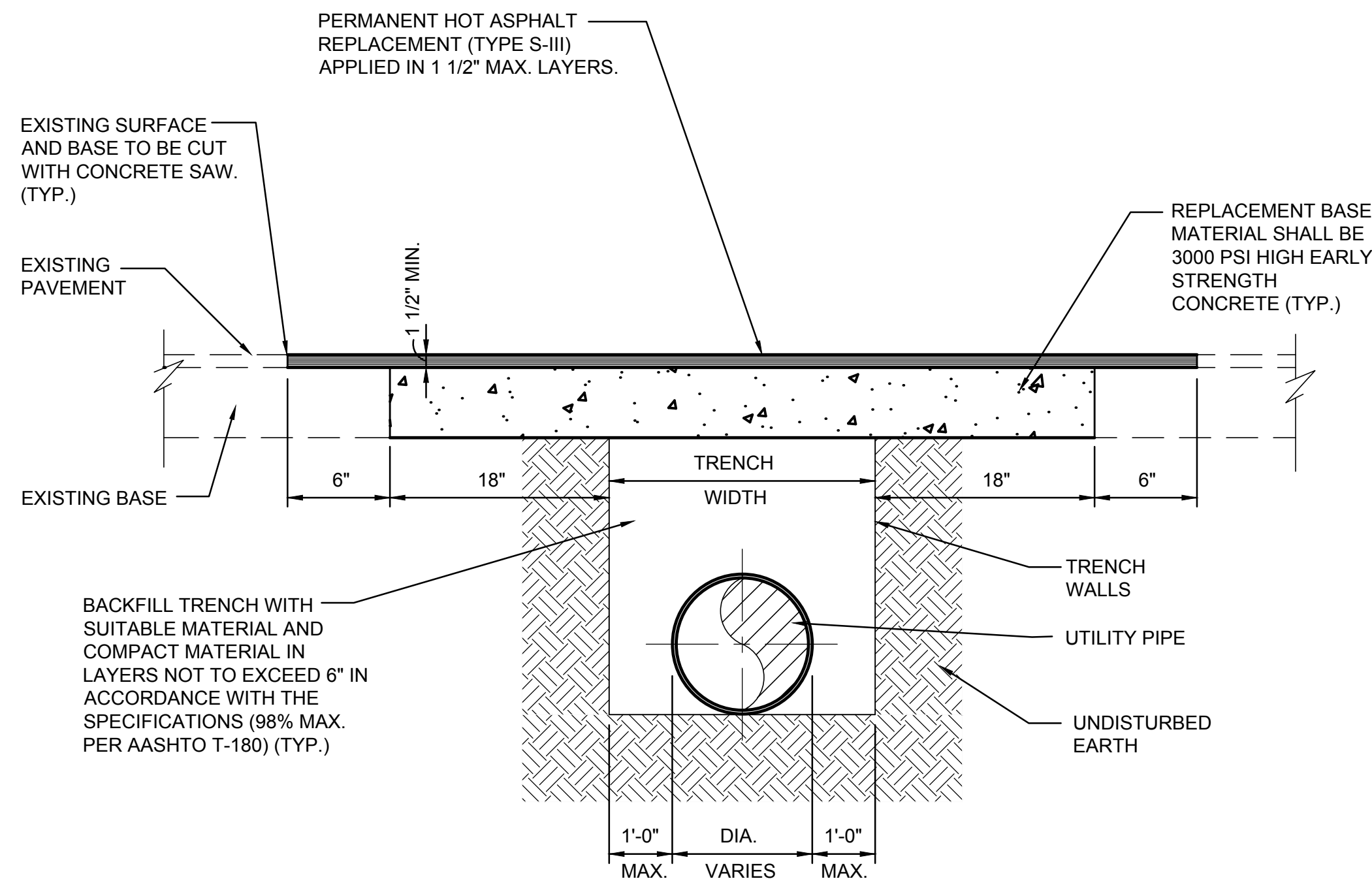
1. THE BARRIER SHALL BE ENVIROFENCE (BY MIRAFI, INC. OR EQUAL), AND IT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS IN CONJUNCTION WITH THE ENGINEERING CONSTRUCTION PLANS.
2. BARRIER MAINTENANCE:
 - A. IT SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
 - B. SHOULD IT DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, IT SHALL BE REPLACED PROMPTLY.
 - C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. SEDIMENT MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
 - D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NOT REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXIST. GRADE, PREPARED AND SODDED (SEEDED AND MULCHED).
3. THE BARRIER SHALL BE PERMANENTLY REMOVED ONLY WHEN IT HAS SERVED ITS USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

GENERAL NOTES:

1. ASPHALTIC CONC. SURFACE MATERIAL SHALL BE REPLACED WITH 1 1/2" TYPE S-III ASPHALT OR AS APPROVED BY THE COUNTY ENGINEER.
2. BASE REPLACEMENT SHALL BE 3000 PSI, HIGH EARLY STRENGTH CONC.
3. ALL JOINT CUTS SHALL BE MECHANICALLY SAW CUT.

PAVEMENT RESTORATION:

1. WHERE INDICATED ON CONSTRUCTION PLANS, LONGITUDINAL CUT SHALL REQUIRE OVERLAY / RESURFACING OF THE COMPLETE WIDTH OF THE TRAVELED WAY.
2. CUTS AT INTERSECTIONS OF STREETS GENERALLY MAY REQUIRE A COMPLETE OVERLAY / RESURFACING TO THE END OF ALL RETURN RADII AND ALSO TO A POINT 10' BEYOND THE CUT, WHICHEVER IS GREATER.
3. MINIMUM ASPHALTIC CONC. SURFACE OVERLAY THICKNESS SHALL BE 1", OR AS APPROVED BY THE COUNTY ENGINEER.



JCB-005 EROSION CONTROL DETAIL

NONE

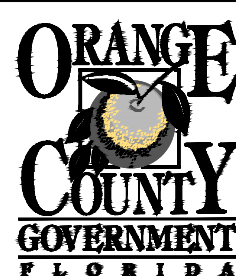
JCB-003 PAVEMENT RESTORATION - ASPHALT OPEN CUT AND REPAIR

NONE

(COUNTY RIGHT-OF-WAY)

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CLIENT PROJ. NO.:

SHEET NO.

D-102

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PLATE: 04-05-2012 2:29pm 473-jump FDOT SCALE: 1/4" = 1'-0"