

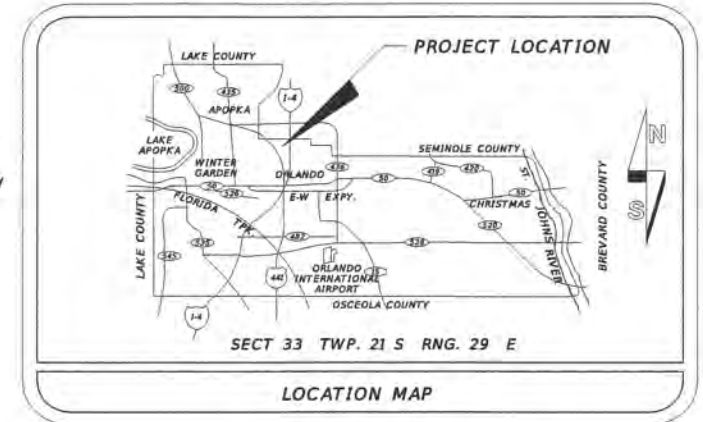


CONSTRUCTION PLANS FOR DR. LOVE RD. - SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE SCHOOL ORANGE COUNTY CIP NO.: 2841-450 DISTRICT NO. 2 ORANGE COUNTY, FLORIDA

TERESA JACOBS, COUNTY MAYOR

BOARD OF COUNTY
COMMISSIONERS

BETSY VANDERLEY	DISTRICT 1
BRYAN NELSON	DISTRICT 2
PETE CLARKE	DISTRICT 3
JENNIFER THOMPSON	DISTRICT 4
EMILY BONILLA	DISTRICT 5
VICTORIA P. SIPLIN	DISTRICT 6
MARK V. MASSARO, P.E. PUBLIC WORKS DIRECTOR	



UTILITIES ENCOUNTERED

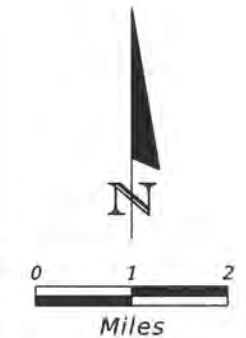
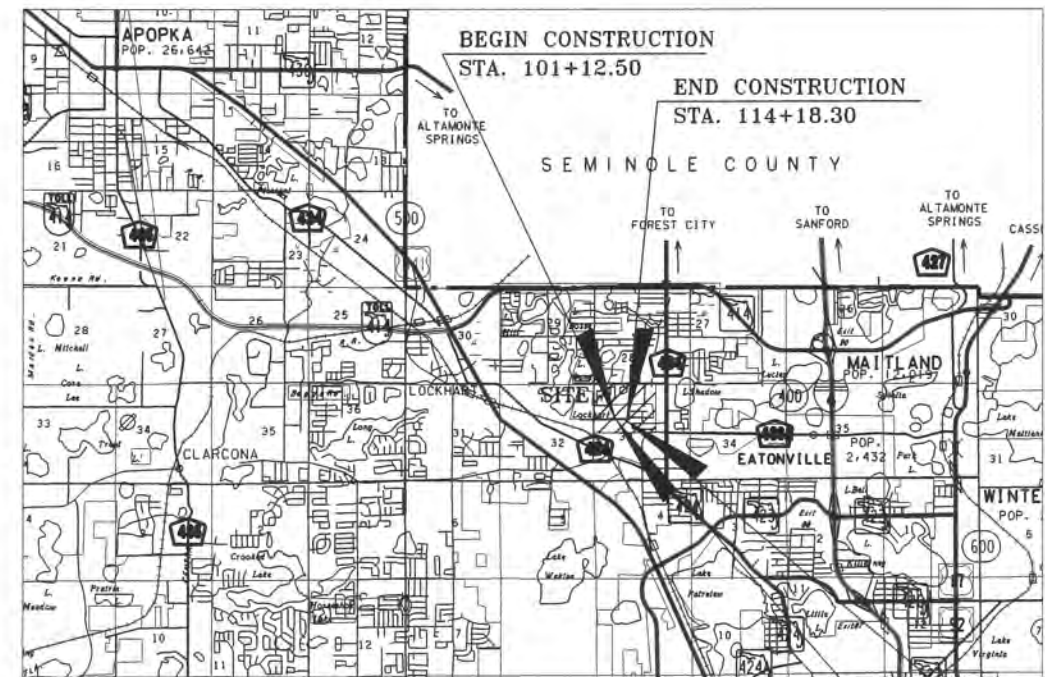
COMPANY NAME	TELEPHONE NO.
AT&T - DISTRIBUTION	954-249-0558
CHARTER COMMUNICATIONS	407-532-8509
COMCAST COMMUNICATIONS	407-849-3611
DUKE ENERGY - DISTRIBUTION	407-905-3321
LAKE APOPKA NATURAL GAS DISTRICT (LANGD)	407-656-2734
ORANGE COUNTY UTILITIES (OCU)	407-254-9706

INDEX OF SHEETS

SHEET	DESCRIPTION
1	KEY SHEET
2-3	GENERAL NOTES & STANDARD DETAILS
4	DRAINAGE DETAIL FRONT OF SIDEWALK INLET
5	PICKET RAILING DETAIL
6	SUMMARY OF PAY ITEMS & PAY ITEM NOTES
7	DRAINAGE MAP
8	SUMMARY OF EXISTING DRAINAGE STRUCTURES
9	TYPICAL SECTION
10-12	SUMMARY OF QUANTITIES
13	SUMMARY OF DRAINAGE STRUCTURES
14-16	PLAN & PROFILE SHEETS
17-18	DRIVEWAY PROFILE SHEETS
19-27	DRAINAGE STRUCTURE CROSS SECTIONS
28-35	SIDEWALK CROSS SECTIONS
36-40	STORMWATER POLLUTION PREVENTION PLANS
41-43	UTILITY ADJUSTMENT SHEETS
44	SUMMARY OF VERIFIED UTILITIES
G-1 - G-3	SOIL SURVEY SHEETS
SV-1	SURVEY CONTROL SHEET

SUPPLEMENTAL DESIGN INFORMATION

DS-1 - DS-5 INDEX 860, 2008 FDOT DESIGN STANDARDS



**FINAL SUBMITTAL
NOVEMBER 29, 2017**

ORANGE COUNTY BENCH MARKS USED

SITE BENCHMARK
THE SOURCE BENCHMARK USED IS BASED ON ORANGE COUNTY 88 DATUM - BENCHMARK L-831-001 - RECOVERED "SQUARE" IN CENTERLINE OF CONCRETE SIDEWALK; 328' MORE OR LESS EAST OF CENTERLINE OF MAGNOLIA HOMES ROAD; 28' MORE OR LESS NORTH OF CENTERLINE OF DOCTOR LOVE ROAD. ELEV = 99.837'

SITE BENCHMARK
5-639-016 - RECOVERED 2.5 INCH ORANGE COUNTY BRASS DISC IN CENTERLINE OF 0.9' X 4.0' CONCRETE HEADWALL AT THE SOUTHEAST CORNER OF MAGNOLIA HOMES ROAD AND DOCTOR LOVE ROAD. ELEVATION = 99.866'

LEGEND

EXIST. EDGE OF PAVT.	CONCRETE RATE OF SUPERELEVATION	UT
PROPOSED PAVEMENT	TELEPHONE POLE	OT
RIGHT OF WAY LINE	OVERHEAD TELEPHONE	BTIDP
SEWER STORM INLET	BURIED POWER CABLE	OTV
SURVEY REFERENCE POINT	TELEPHONE DUCT	OTV
POINT OF INTERSECTION	LIGHT POLE	OTV
BASE LINE	GAS MAIN	OTV
CENTER LINE	SANITARY SEWER	OTV
PROPERTY LINE	FIRE HYDRANT	OTV
DELTA ANGLE	OVERHEAD CABLE TV	OTV
APPROXIMATE ROUND	CONCRETE MONUMENT	OTV
CURB	IRON ROD	OTV
CURB & GUTTER	IRON PIPE	OTV
BARBED WIRE FENCE	BUSH	OTV
WATER METER	GATE POST	OTV
VALVE	TRAFFIC SIGN	OTV
WATER MAIN	MAIL BOX	OTV
RE-USE WATER MAIN	STORM SEWER, SIZE & TYPE	OTV
COMBINATION POLE	CATCH BASIN	OTV
POWER POLE	CLEAN OUT	OTV
GUY WIRE	EXIST. MANHOLE	OTV
OVERHEAD POWER	CHAIN LINK FENCE	OTV
BURIED TELEPHONE CABLE	FENCE GATE	OTV
TELEPHONE PEDESTAL	OAK TREES	OTV
BURIED TV CABLE	EAR TREES	OTV
BENCHMARK	PALM TREES	OTV
SOIL BORING	CAMPOR TREES	OTV
PALM TREE & SIZE	HEDGES	OTV
SWALE FLOW LINE	MAPLE TREE	OTV
SIGNAL MAST ARM		
TRAFFIC SIGNAL CABLE		

LENGTH OF SIDEWALK

	LINEAR FEET	MILES
DOCTOR LOVE RD.	744.2	0.14

NOTE :
PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION TO ADEQUATELY ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION. NEEDS, CONDITIONS AND OWNERSHIP OF PROPERTIES MAY HAVE CHANGED SINCE PROJECT DESIGN. THE COUNTY'S REPRESENTATIVE WILL ADDRESS CHANGES AND NEEDS WITH THE PROPERTY OWNER OR THEIR REPRESENTATIVES. CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING NEEDS AND CONDITIONS THAT MAY CHANGE SINCE PLANS PREPARATION.

CERTIFICATION TO PLANS

I HEREBY CERTIFY THAT THE DESIGN FOR THIS PROJECT AND THE ATTACHED CONSTRUCTION PLANS COMPLY WITH THE REQUIREMENTS OF SECTION 336.045 OF THE FLORIDA STATUTES AND ARE IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS CONTAINED IN THE EDITION OF THE "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS" IN EFFECT ON THIS DATE AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION PURSUANT TO SUBSECTION 336.045(1) OF THE FLORIDA STATUTES.

DATE: NOV. 2017 ENGINEER: ERIC L. WHIKEHART, P.E. PE NO.: 70776

END PROJECT
STA. 108+81.19

BEGIN PROJECT
STA. 101+37.00

ERIC L. WHIKEHART
 LICENSE NO. 70776
 STATE OF FLORIDA
 PREPARED BY
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PHONE: 407-901-5060
 CERT. OF AUTH. #27205

GOVERNING STANDARDS AND STANDARD SPECIFICATIONS :
FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM, DATED 2016 AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED JANUARY 2016 AS AMENDED BY CONTRACT DOCUMENTS.

REVISIONS	DATE	BY

DESIGNED BY: ELW	DATE: JULY 2016
CHECKED BY: SWD	DATE: NOV. 2017
APPROVED BY: YMM	DATE: NOV. 2017

SHEET 1
OF 44

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AND CONFORM TO THE MOST STRINGENT REQUIREMENT OF THE PROJECT SPECIFICATION, THE JANUARY 2016 EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (FDOT), AND SUPPLEMENTS THERETO, AND ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.
2. SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
3. ALL PERSONAL PROPERTY, EXCEPT MAILBOXES, WITHIN THE RIGHT-OF-WAY NOT RELOCATED BY THE PROPERTY OWNER SHALL BE REMOVED BY THE CONTRACTOR AS NECESSARY TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS. PAYMENT WILL BE INCLUDED IN THE PAY ITEM NO. 110-1-1 (CLEARING AND GRUBBING). MAILBOXES SHALL BE RELOCATED BY THE CONTRACTOR IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARD 532. PAYMENT FOR MAILBOX RELOCATION WILL BE INCLUDED IN PAY ITEM NO. 102-1.
4. ALL EXISTING TREES WITHIN LIMITS OF CONSTRUCTION ARE TO BE REMOVED AS CLEARING AND GRUBBING UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER.
5. THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVALS OF DISPOSAL SITES SHALL BE OBTAINED FROM ORANGE COUNTY PRIOR TO DISPOSAL. ALL EXCESS MATERIAL IS THE PROPERTY OF THE CONTRACTOR.
6. SOD IN DISTURBED AREAS SHALL MATCH EXISTING TYPE SOD, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
7. INSTALL A 4" MUCK BLANKET OR TOPSOIL TREATMENT ON ALL PERMANENT GRASS AREAS. COST TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SOD.
8. SOD ALL SLOPES. SLOPES STEEPER THAN 3:1 SHALL BE PEGGED.
9. SAW CUT CONCRETE DRIVEWAYS AS REQUIRED FOR CONSTRUCTION.
10. ALL OFFSETS SHOWN ARE TO PROPOSED BASELINE OF CONSTRUCTION.
11. FOR STABILIZATION AT TURNOUTS AND DRIVEWAY CONNECTIONS SEE STANDARD INDEX No. 515 AND TYPICAL SECTIONS FOR DEPTH AND LBR.
12. DRIVEWAY LOCATIONS AND WIDTHS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY AS DIRECTED BY THE ENGINEER.
13. THE CONTRACTOR SHALL PERFORM HIS WORK IN ACCORDANCE WITH REQUIREMENTS OF THE VARIOUS PERMITS INCLUDED IN THE BID SPECIFICATIONS. PAYMENT IS INCLUDED IN THE QUANTITIES STATED ON THE SUMMARY OF PAY ITEMS; EXCLUDING ITEMS SPECIFIED ELSEWHERE. ENVIRONMENTAL CONTROLS SHALL BE USED AT LOCATIONS DESIGNATED IN THE PLANS AND/OR DESIGNATED BY THE ENGINEER.
14. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND SURVEYS BUT IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WITH PROJECT CONSTRUCTION. PRIOR TO ORDERING DRAINAGE STRUCTURES, THE CONTRACTOR SHALL DETERMINE IF DRAINAGE/UTILITY CONFLICTS EXIST. INFORMATION ON CONFLICTS IS TO BE SUBMITTED TO THE ENGINEER AS SOON AS POSSIBLE AFTER DISCOVERY FOR RESOLUTION.
15. PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CALL SUNSHINE ONE 48 HOURS IN ADVANCE OF PERFORMING ANY UTILITY ADJUSTMENTS OR RELOCATIONS. SUNSHINE ONE PHONE NUMBER IS 1-800-432-4770.
16. UTILITIES ARE TO BE ADJUSTED BY OTHERS OR AS DIRECTED BY THE ENGINEER.
17. THE CONTRACTOR SHALL NOTIFY ALL GAS UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION AS REQUIRED BY CHAPTER 77-153 OF THE FLORIDA STATUTES.*
18. ALL DRAINAGE PIPES SHALL BE STEEL REINFORCED CONCRETE PIPE, CLASS III, UNLESS OTHERWISE NOTED.
19. MEASUREMENT OF DRAINAGE PIPE FOR PAYMENT SHALL BE DETERMINED FROM ACTUAL LENGTHS INSTALLED.

20. ALL INLET/MANHOLE - PIPE JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT, COVERED WITH AN ASPHALT MASTIC COATING, AND WRAPPED WITH A FILTER FABRIC MATERIAL PER SECTION 13.07 OF THE ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS. ALL PIPE JOINTS IN THIS PROJECT SHALL BE WRAPPED PER FDOT STANDARD INDEX No. 280 OR AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE COST OF THE PIPE CULVERT.
 21. ALL CURB INLETS, DITCH BOTTOM INLETS, AND MANHOLES SHALL HAVE TRAFFIC BEARING FRAMES AND COVERS OR GRATES MEETING HS-20 LOADING REQUIREMENTS.
 22. ALL EXISTING DRAINAGE STRUCTURES AND PIPES IF ABANDONED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED, UNLESS OTHERWISE SHOWN IN THE PLANS OR DIRECTED BY THE ENGINEER.
 23. DESIGN CHANGES OF PIPE INVERTS NOT EXCEEDING PLUS OR MINUS ONE FOOT WILL NOT BE CONSIDERED AS A BASIS FOR ADDITIONAL COMPENSATION FOR THE PERTINENT PIPE BID ITEM OR FOR MODIFICATION OF PRECAST STRUCTURES.
 25. ALL (P.R.M.'s) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
 26. ANY U.S.C. AND G.S. MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, ORANGE COUNTY SURVEY SECTION (RON CLARK) 407-836-7947 AND BOTH SHALL NOTIFY:
STATE GEODETIC ADVISOR
3900 COMMONWEALTH BOULEVARD, SUITE 309,
TALLAHASSEE, FL
850-245-2606
 - ORANGE COUNTY BENCHMARKS SHALL BE PRESERVED. IF AN ORANGE COUNTY BENCHMARK IS IN DANGER OF BEING DESTROYED, CONTACT ORANGE COUNTY SURVEY SECTION (RON CLARK) 407-836-7947 ONE WEEK PRIOR TO ANY CONSTRUCTION ACTIVITY THAT MAY DAMAGE SAID BENCHMARK.
 27. PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR, WITHOUT DELAY, BY TELEPHONE 407-836-7940. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.
 28. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO ORANGE COUNTY HIGHWAY CONSTRUCTION DEPARTMENT A SET OF FIELD NOTES VERIFYING THE BENCHMARK ELEVATIONS AND THE REFERENCE POINT TIES SHOWN ON THE TITLE SHEET AND PLAN AND PROFILE SHEETS, AND/OR A SET OF FIELD NOTES FOR ALL ADDITIONAL BENCHMARK AND REFERENCE POINT TIES PROPOSED TO BE USED IN CONSTRUCTING THE PROJECT WITH THEIR LOCATION, DESCRIPTION AND ELEVATION, BASED ON ORANGE COUNTY DATUM. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.
 29. TO MEET ADA REQUIREMENTS, ALL SIDEWALK CONSTRUCTION SHALL COMPLY WITH FDOT STANDARDS AS FOLLOWS: GRADE SIDEWALK FOR POSITIVE DRAINAGE, CROSS SLOPES NOT TO EXCEED 2%. NO SIDEWALK SHALL HAVE A LONGITUDINAL GRADE(SLOPE) GREATER THAN 1:20 OR 5%; CURB RAMPS 1:12 OR 8.3%. REFER TO FDOT STANDARD INDEX 304.
 30. FOR PEDESTRIAN CURB CUT RAMP DETAILS, REFER TO FDOT STANDARD INDEX 304. NOMENCLATURE SHOWN IN THE PLANS REFERS TO THE RAMP TYPES IDENTIFIED IN INDEX 304.
 31. THE CONTRACTOR SHALL RELOCATE EXISTING TRAFFIC SIGNS AS REQUIRED DURING CONSTRUCTION. SIGNS, WHICH ARE DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE COUNTY. THE CONTRACTOR SHALL REMOVE AND STORE EXISTING TRAFFIC SIGNS THAT ARE NOT USED DURING CONSTRUCTION. THE CONTRACTOR SHALL RE-INSTALL THE STORED SIGNS AS SHOWN ON THE SIGNING PLANS OR AS DIRECTED BY THE ENGINEER. SIGNS NOT TO BE RE-INSTALLED SHALL BE DELIVERED TO ORANGE COUNTY'S TRAFFIC SIGN SHOP. DAMAGED SIGNS SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO ORANGE COUNTY. COST OF RELOCATION, MAINTENANCE, REMOVAL AND LEFTOVER SHALL BE INCLUDED IN THE UNIT PRICES STATED ON THE SUMMARY OF PAY ITEMS.
- *CAUTION:**
MAPS SHOW ONLY THE APPROXIMATE LOCATION OF GAS MAINS OR SERVICE LINES. THE ONLY SAFE AND PROPER WAY TO LOCATE GAS FACILITIES IS BY AN 'ON-SITE INSPECTION BY T.E.C.O. GAS SYSTEMS THEREFORE, EXCAVATORS ARE INSTRUCTED TO TELEPHONE T.E.C.O. GAS FACILITIES US AT 407-425-4661 TWO WORKING DAYS BEFORE DIGGING IN A CONSTRUCTION AREA.



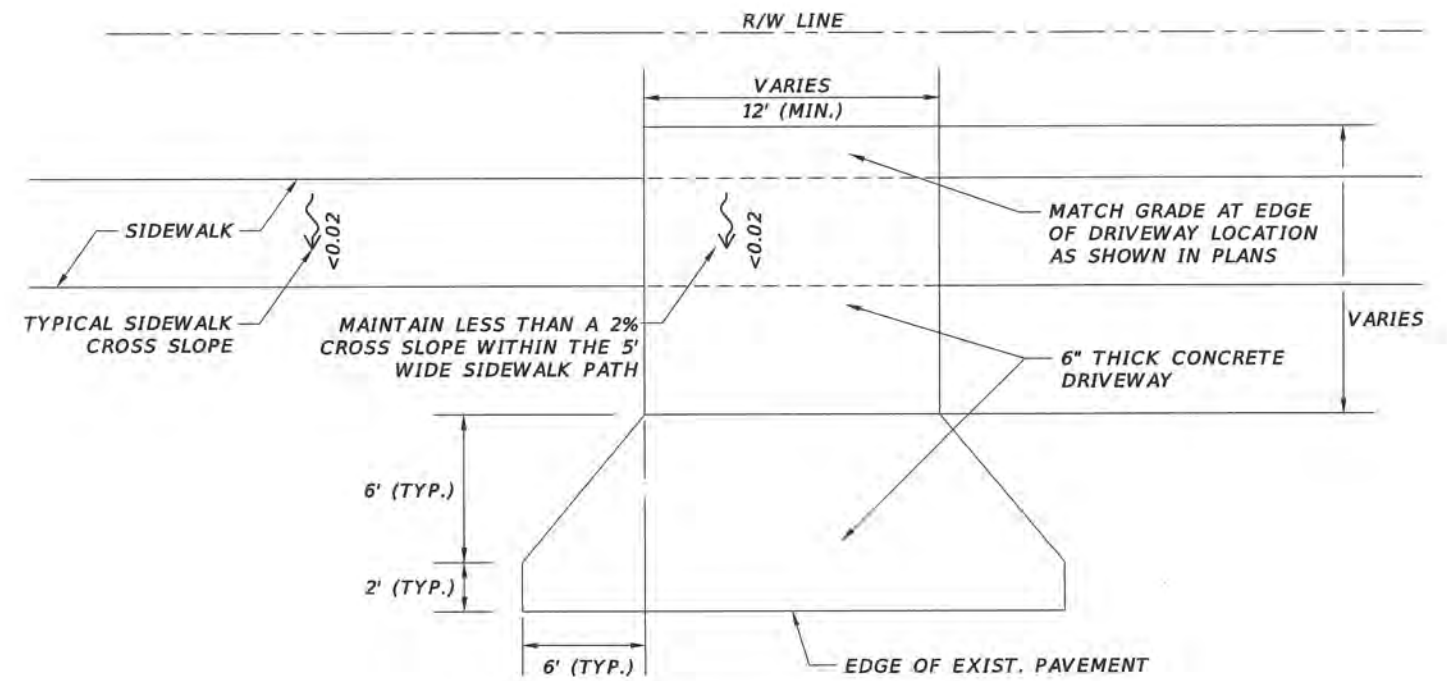
REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		GENERAL NOTES & STANDARD DETAILS	SHEET NO. 2
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		

**GENERAL NOTES
(CONTINUED)**

32. ALL EXCAVATIONS SHALL BE REQUIRED TO CONFORM TO THE PROVISION OF PART III OF CHAPTER 553.60, F.S., ALSO KNOWN AS THE "TRENCH SAFETY ACT". TO PROTECT EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, AND CONSTRUCTION PERSONNEL DURING CONSTRUCTION OF THE PROJECT.
33. CONTRACTOR IS TO MAINTAIN UNINTERRUPTED ACCESS TO ALL DRIVEWAYS AND SIDE STREETS AT ALL TIMES AND IS TO NOTIFY PROPERTY OWNERS FIVE DAYS PRIOR TO STARTING CONSTRUCTION.
34. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING PAVEMENT ELEVATIONS OF ALL DRIVEWAYS AND SIDEWALKS TO MATCH THE PROPOSED PAVEMENT TO THE EXISTING.
35. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAT THE CONDITION EXISTING. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.
36. ALL CONCRETE SHALL BE MIN. OF 3,000 PSI.
37. EXISTING UTILITIES ARE TO REMAIN UNLESS THEY ARE NOTED OTHERWISE IN THE UTILITY ADJUSTMENT SHEETS.
38. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMIT, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE. THE LOCATION OF UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR IS TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES AND ANY UTILITY ADJUSTMENT REQUIRED. UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION.
39. LOCKHART MIDDLE SCHOOL'S DRIVEWAYS CANNOT BE SHUTDOWN DURING SCHOOL HOURS. CONSTRUCTION OF DRIVEWAYS AND CULVERT WORK WILL NEED TO OCCUR DURING WEEKEND OR SCHOOL HOLIDAY HOURS. WHERE SCHOOL WILL NOT BE IN SESSION DURING DEMOLITION, CONSTRUCTION AND CURING TIME. CONTRACTOR TO COORDINATE WITH THE SCHOOL'S SUPERINTENDENT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
40. UTILITY CONTACTS ARE AS FOLLOWS:

- A. AT&T DISTRIBUTION
DINO FARRUGGIO
5100 STEYR STREET
ORLANDO, FL 32819
954-249-0558
df1979@att.com
- B. CHARTER COMMUNICATIONS
MARVIN USRY, JR
3767 ALL AMERICAN BLVD
ORLANDO, FL 32810
407-532-8509
marvin.usryjr@charter.com
- C. COMCAST COMMUNICATIONS
CESAR RIVERA
4305 VINELAND ROAD, SUITE G-2
ORLANDO, FL 32811
407-849-3611
cesar_rivera@cable.comcast.com
- D. DUKE-ENERGY DISTRIBUTION
SHARON DEAR
3250 BONNET CREEK RD
P.O. BOX 10,000
LAKE BUENA VISTA, FL 32830
407-905-3321
sharon.dear@duke-energy.com

- E. LAKE APOPKA NATURAL GAS
ANTONIO GIBSON
1320 SOUTH WINTER GARDEN RD
WINTER GARDEN, FL 34787
407-656-2734 EXT. 121
agibson@langd.org
- F. ORANGE COUNTY UTILITIES
CHRISTINA CROSBY
9150 CURRY FORD ROAD
ORLANDO, FL 32825
407-254-9706
Christina.Crosby@ocfl.net

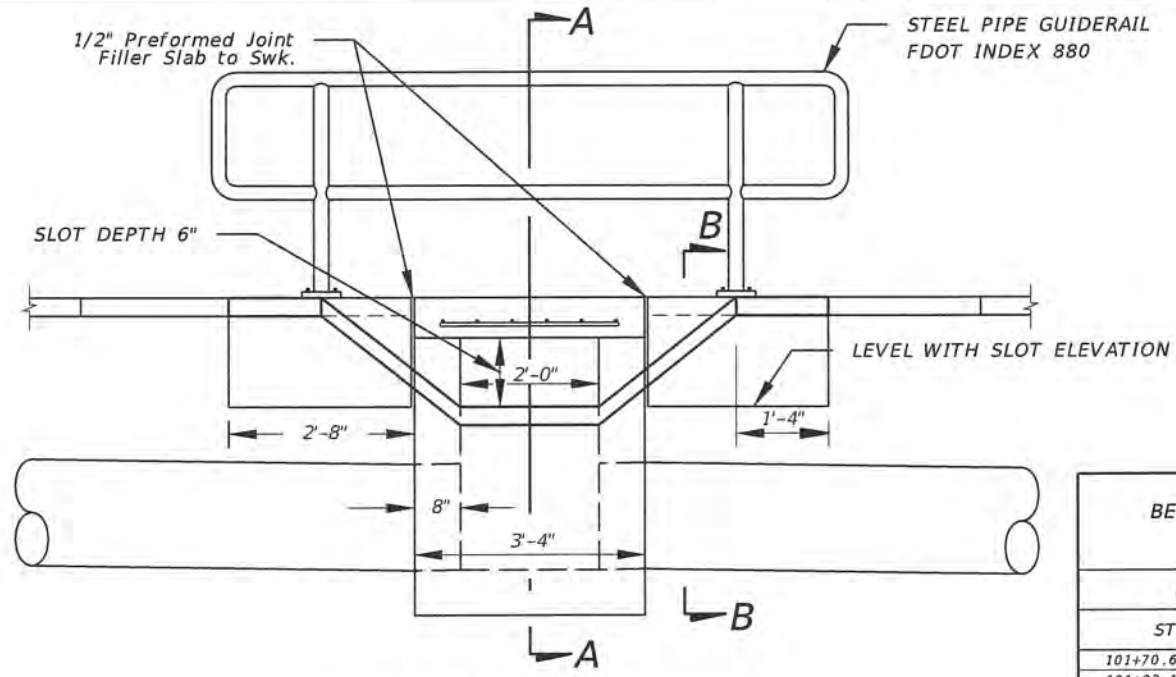


**TYP. DRIVEWAY APRONS
WITH SIDEWALK CROSS SLOPE
TRANSITION DETAIL**

N. T. S.

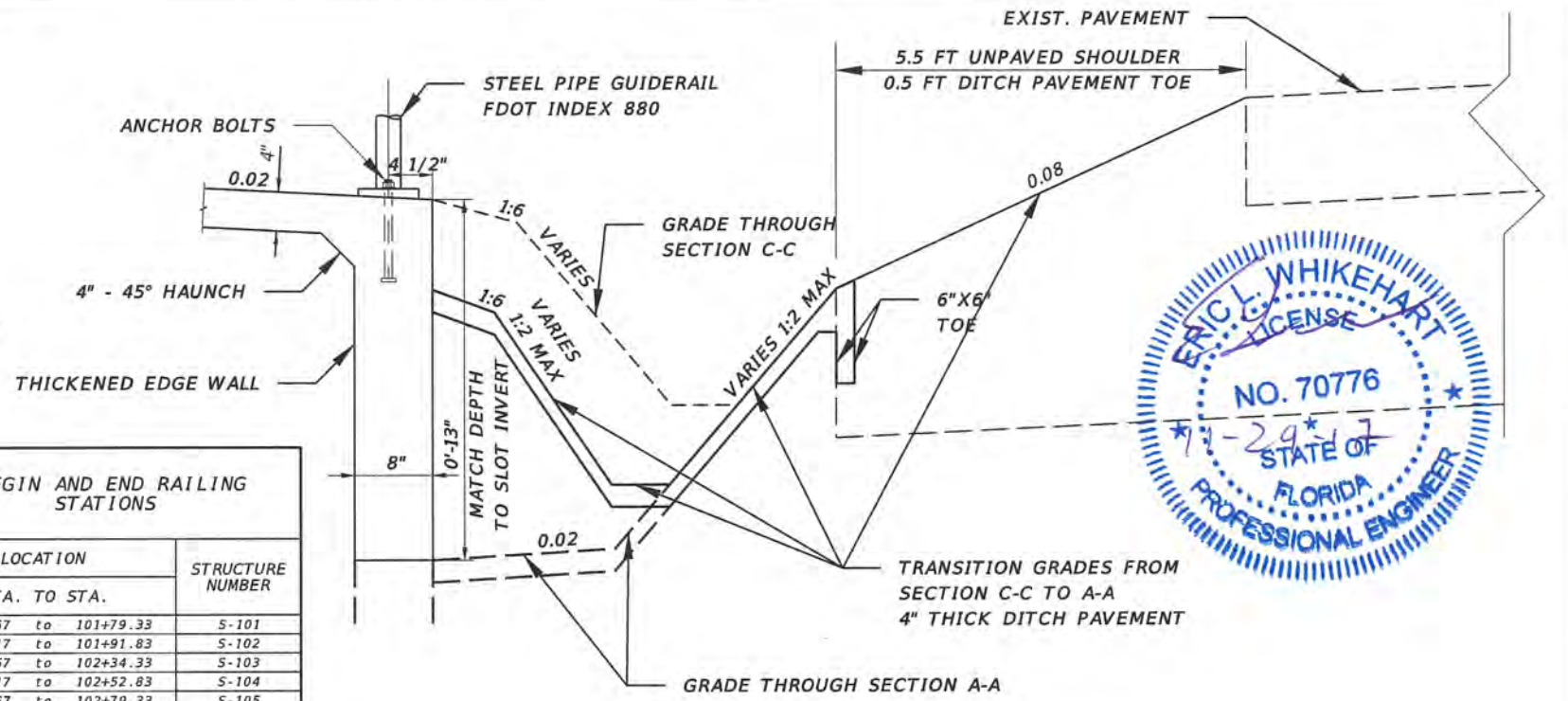


REVISIONS		ORANGE COUNTY GOVERNMENT	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		GENERAL NOTES & STANDARD DETAILS	SHEET NO. 3
DATE	DESCRIPTION			DATE	DESCRIPTION		
				DR. LOVE RD.	CIP 2841-450		

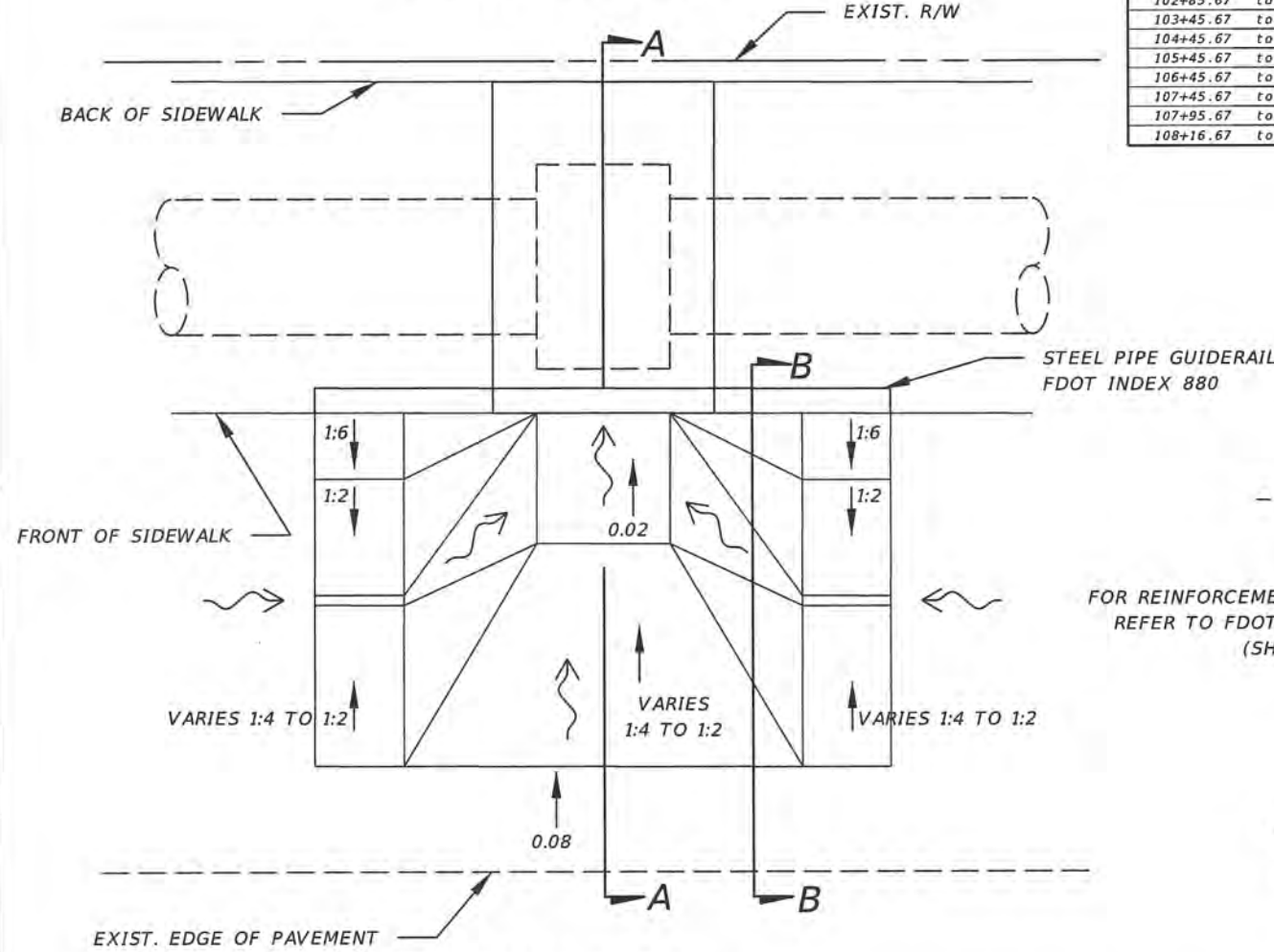


FRONT ELEVATION

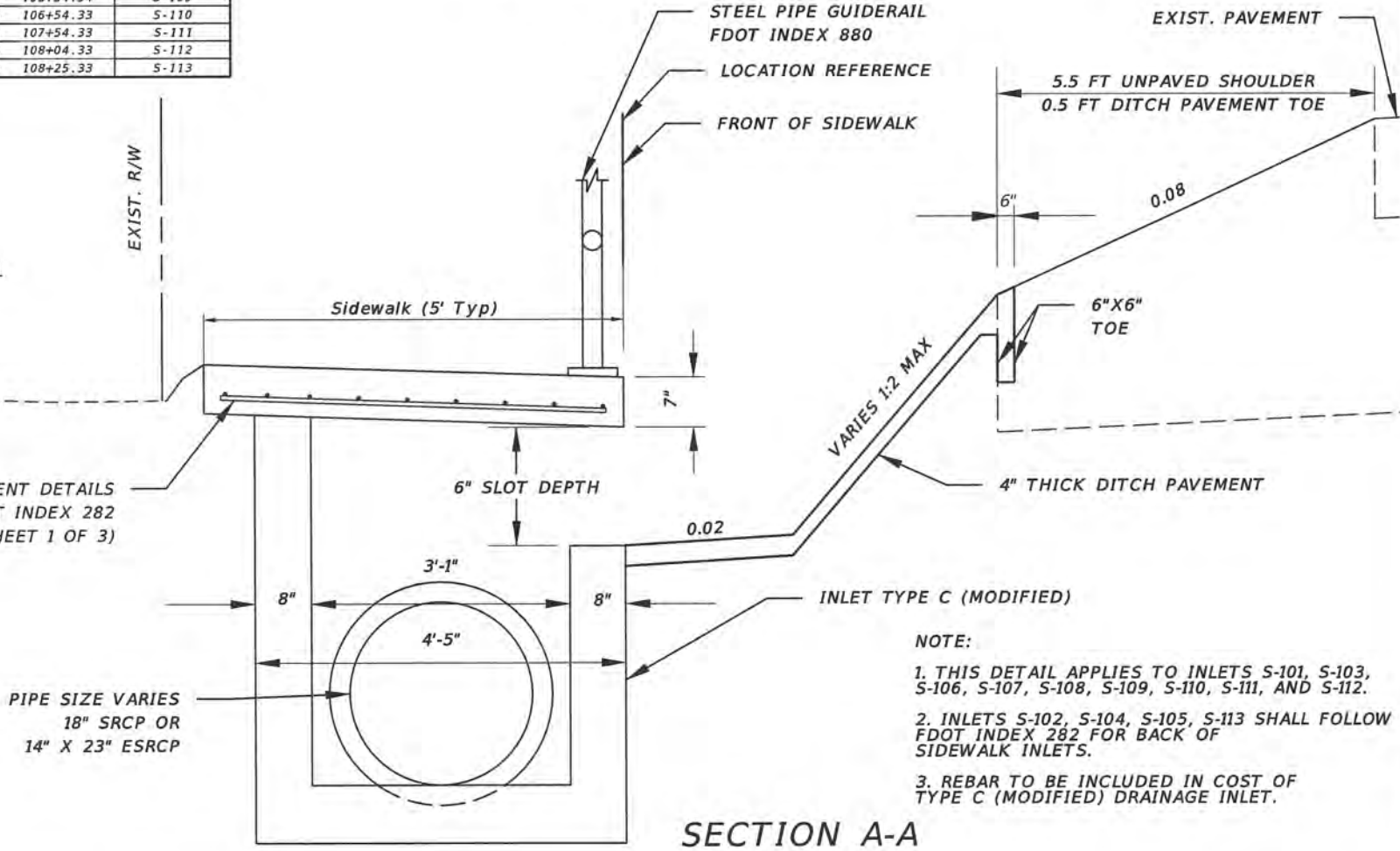
BEGIN AND END RAILING STATIONS		
LOCATION	STA. TO STA.	STRUCTURE NUMBER
	101+70.67 to 101+79.33	S-101
	101+83.17 to 101+91.83	S-102
	102+25.67 to 102+34.33	S-103
	102+44.17 to 102+52.83	S-104
	102+70.67 to 102+79.33	S-105
	102+85.67 to 102+94.33	S-106
	103+45.67 to 103+54.33	S-107
	104+45.67 to 104+54.33	S-108
	105+45.67 to 105+54.34	S-109
	106+45.67 to 106+54.33	S-110
	107+45.67 to 107+54.33	S-111
	107+95.67 to 108+04.33	S-112
	108+16.67 to 108+25.33	S-113



SECTION B-B



PLAN VIEW



SECTION A-A

- NOTE:
1. THIS DETAIL APPLIES TO INLETS S-101, S-103, S-106, S-107, S-108, S-109, S-110, S-111, AND S-112.
 2. INLETS S-102, S-104, S-105, S-113 SHALL FOLLOW FDOT INDEX 282 FOR BACK OF SIDEWALK INLETS.
 3. REBAR TO BE INCLUDED IN COST OF TYPE C (MODIFIED) DRAINAGE INLET.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

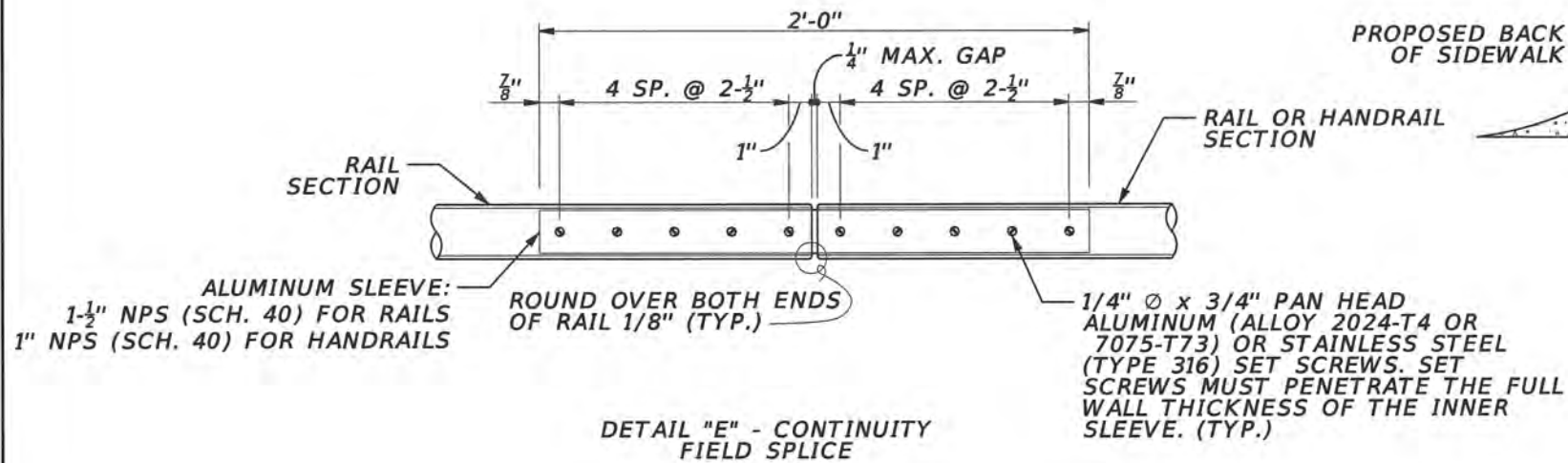
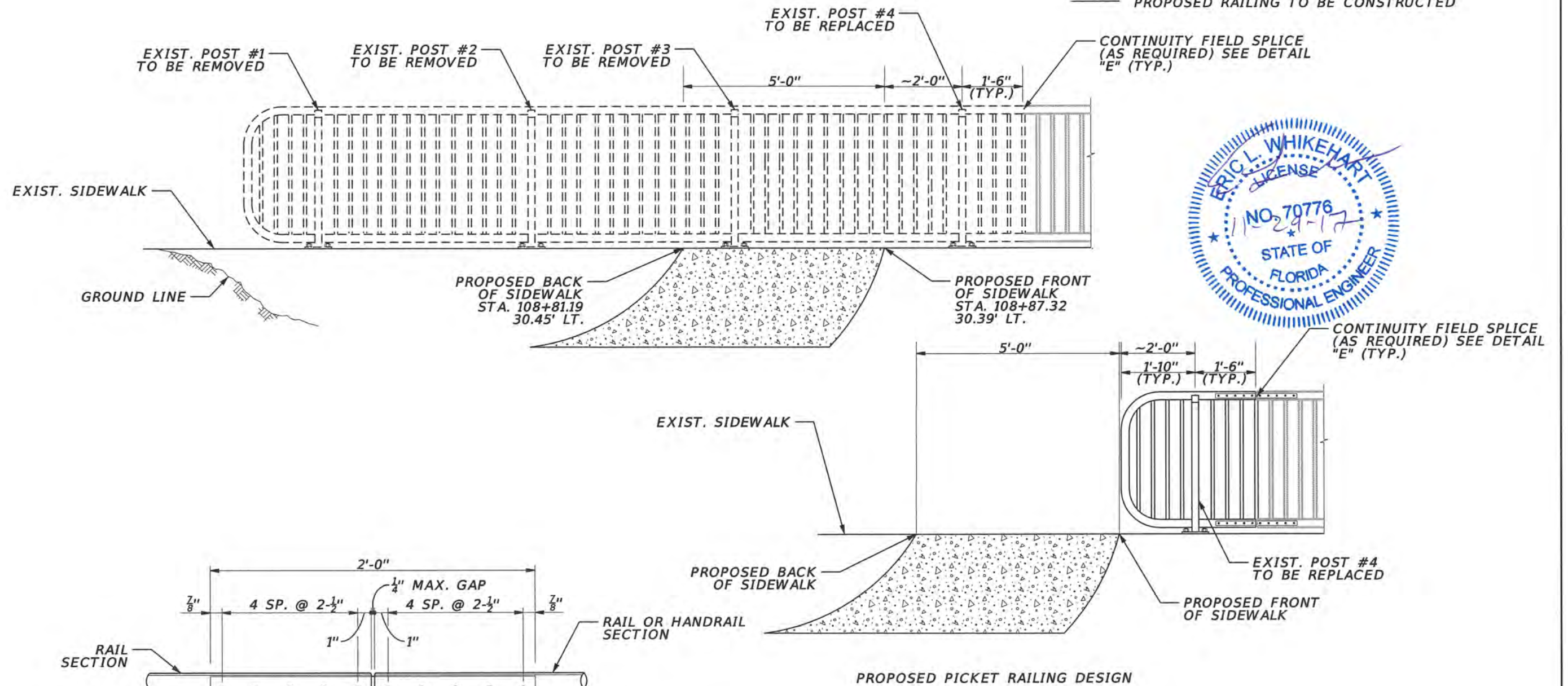
DESIGN PLANS FOR:
 SIDEWALK IMPROVEMENTS FROM
 MICHELLE AVE. TO LOCKHART MIDDLE
 PROJECT NAME PROJECT NO.
 DR. LOVE RD. CIP 2841-450

DRAINAGE DETAIL
FRONT OF SIDEWALK INLET

SHEET NO.
 4

LEGEND

- EXIST. RAILING TO BE REMOVED
- ===== EXIST. RAILING TO BE REMAIN
- ===== PROPOSED RAILING TO BE CONSTRUCTED



NOTE:
REFER TO THE SUPPLEMENTAL DESIGN INFORMATION SECTION, INDEX 860, 2008 FDOT DESIGN STANDARDS FOR ADDITIONAL INFORMATION.

REVISIONS		REVISIONS		ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SHEET NO. 5
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.	
						DR. LOVE RD.	CIP 2841-450	

PICKET RAILING DETAIL

SUMMARY OF PAY ITEMS

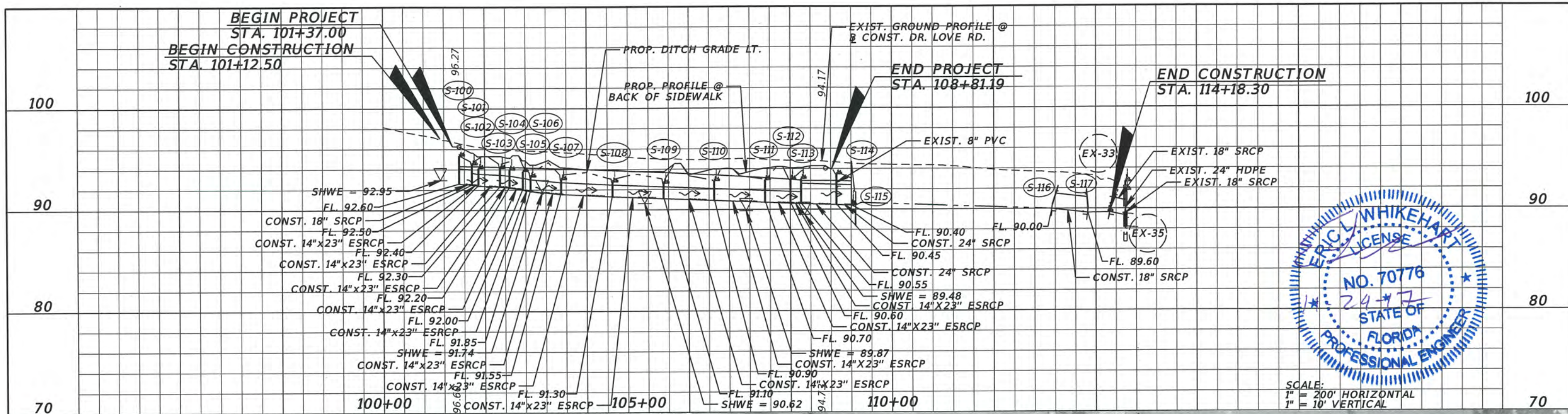
PAY ITEM NO.	PAY ITEM DESCRIPTION	UNIT	QUANTITY	
			P	F
101-1	MOBILIZATION	LS		1
102-1	MAINTENANCE OF TRAFFIC	LS		1
104-14	PREVENTION CONTROL & ABATEMENT CONTROL OF EROSION & WATER POLLUTION	LS		1
110-1-1	CLEARING AND GRUBBING	LS		1
120-1	EXCAVATION, EMBANKMENT, AND GRADING	LS		1
425-1-521	INLET - DITCH BOTTOM TYPE-C (<10 FT)	EA		2
425-1-531F	INLET - DITCH BOTTOM TYPE-C MOD FRONT OF SIDEWALK (<10 FT)	EA		9
425-1-531B	INLET - DITCH BOTTOM TYPE-C MOD BACK OF SIDEWALK (<10 FT)	EA		4
430-175-118	PIPE CULVERT, SRCP-CLASS III, ROUND, 18" S/CD	LF		77
430-175-124	PIPE CULVERT, SRCP-CLASS III, ROUND, 24" S/CD	LF		97
430-175-218	PIPE CULVERT, SRCP-CLASS III, OTHER-ELIP/ARCH, 18" S/CD	LF		625
430-611-329	U-ENDWALL, STD 261, 1:2 SLOPE, 24" PIPE	EA		1
430-982-125	MITERED END SECTION, ROUND, 18" CD	EA		2
515-1-1	GALVANIZED STEEL PIPE HANDRAIL (THREE RAIL)	LF		113
515-2-202	PED/BICYCLE RAILING (GALVANIZED STEEL) 54" PICKET RAILING	LF		3
522-1	CONCRETE SIDEWALK (4" THICK INCLUDING COMPACTION)	SY		364
522-2	CONCRETE DRIVEWAY (6" THICK INCLUDING COMPACTION)	SY		314
524-1-2	4" CONCRETE DITCH PAVEMENT-NON REINFORCED	SY		73
527-2	DETECTABLE WARNINGS (ON WALKING SURFACES)	SF		10
550-10-210	FENCING, TYPE B, 0.0-5.0', STANDARD FEATURES	LF		198
570-1-2	PERFORMANCE TURF (MATCH EXISTING)	SY		1917
700-1-50	SINGLE POST SIGN, RELOCATE	AS		1
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID (12")	LF		89
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID (24")	LF		30
900-1	AS-BUILT PLANS	LS		1
900-2	INDEMNIFICATION	LS		1



PAY ITEM NOTES:

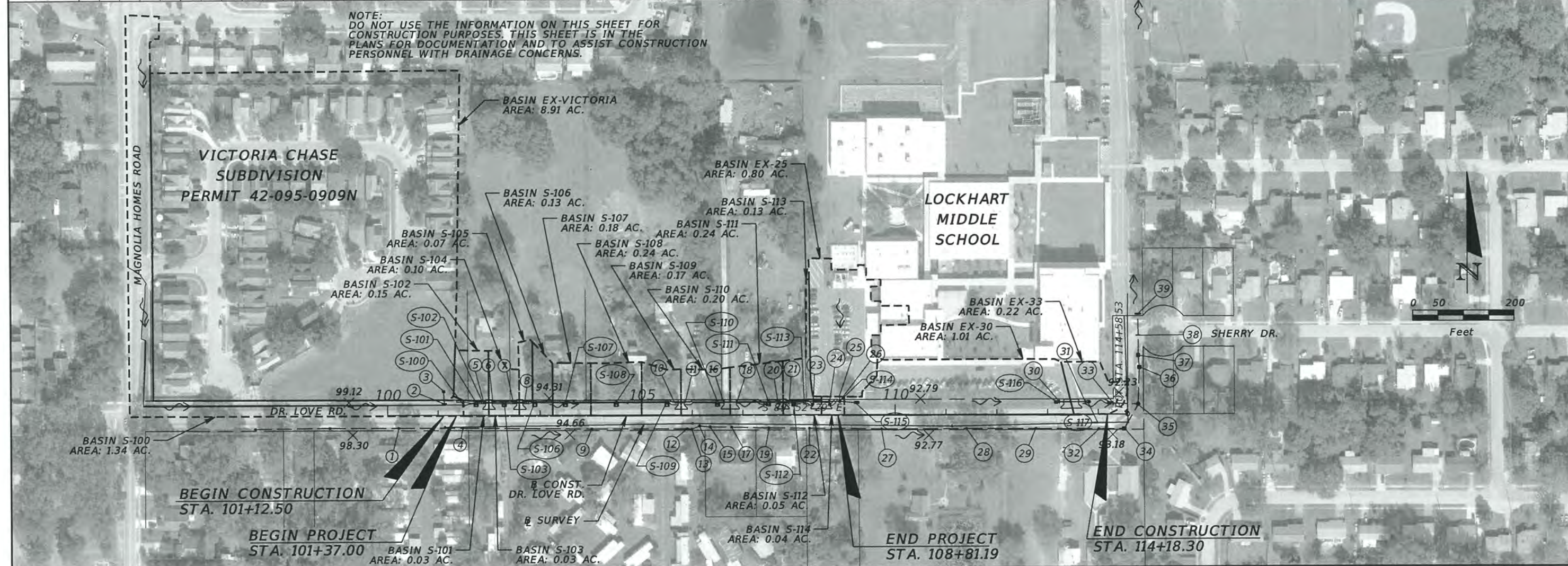
- 102-1 INCLUDES THE COST OF RELOCATION OF EXISTING MAILBOXES.
- 430-611-329 INCLUDES COST OF REINFORCING STEEL.
- 550-10-210 INCLUDES COST OF FENCE REPLACEMENT "IN KIND" AS SHOWN IN PLANS.

REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SUMMARY OF PAY ITEMS & PAY ITEM NOTES	SHEET NO. 6
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		



SCALE:
 1" = 200' HORIZONTAL
 1" = 10' VERTICAL

NOTE:
 DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

DRAINAGE MAP

SHEET NO.
7

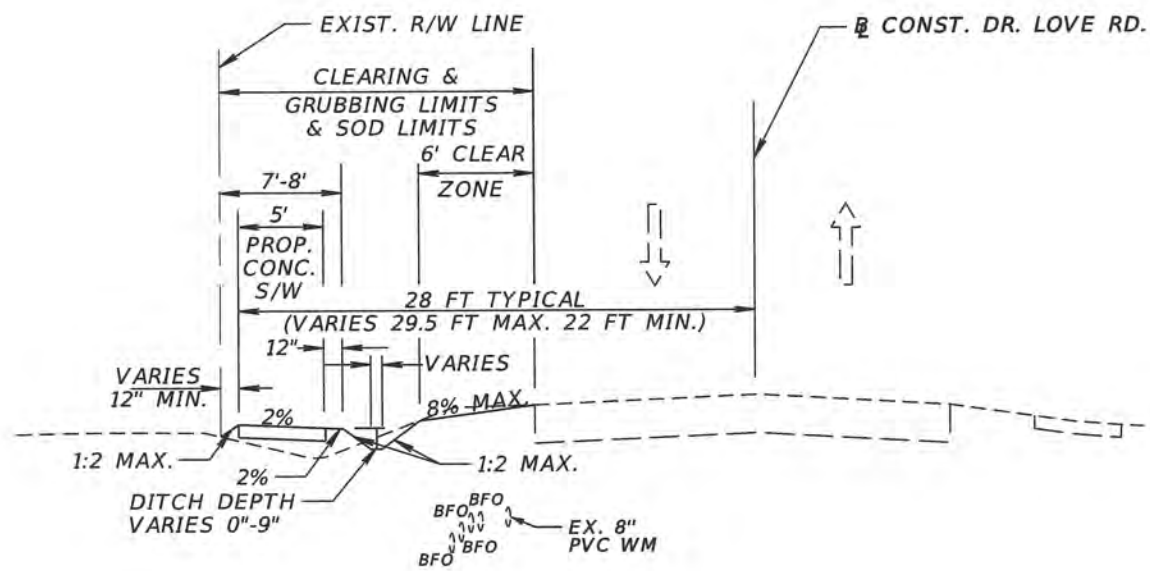
- ① INLET
GRATE EL. UNKNOWN
W. INV. 93.65 (18" HDPE)
E. INV. 93.59 (18" HDPE)
- ② HEADWALL
N. INV. 94.72 (15" RCP)
- ③ INLET
GRATE EL. 97.42
E. INV. 95.12 (2-4" CAST IRON)
N. INV. 95.08 (UNKNOWN)
S. INV. 94.91 (15" RCP)
- ④ INLET
GRATE EL. UNKNOWN
W. INV. 93.20 (18" HDPE)
E. INV. 93.10 (18" HDPE)
- ⑤ NO END TREATMENT
W. INV. 94.08 (15" RCP)
- ⑥ NO END TREATMENT
E. INV. 93.76 (15" RCP)
- ⑦ NO END TREATMENT
W. INV. 93.60 (15" RCP)
- ⑧ NO END TREATMENT
E. INV. 93.64 (15" RCP)
- ⑨ INLET
GRATE EL. UNKNOWN
W. INV. 91.57 (18" HDPE)
E. INV. 91.53 (18" HDPE)
- ⑩ NO END TREATMENT
W. INV. 92.48 (15" RCP)
- ⑪ NO END TREATMENT
E. INV. 92.49 (15" RCP)
- ⑫ INLET
GRATE EL. UNKNOWN
W. INV. 91.26 (18" HDPE)
E. INV. 91.26 (18" HDPE)
- ⑬ MANHOLE
TOP EL. 94.60
W. INV. 91.24 (18" HDPE)
E. INV. 91.25 (18" HDPE)
- ⑭ MANHOLE
TOP EL. 94.77
W. INV. 91.17 (18" HDPE)
E. INV. 91.29 (18" HDPE)
- ⑮ MANHOLE
TOP EL. 94.64
W. INV. 91.30 (18" HDPE)
E. INV. 91.38 (18" HDPE)
- ⑯ NO END TREATMENT
W. INV. 92.39 (18" RCP)

- ⑰ INLET
GRATE EL. UNKNOWN
W. INV. 91.11 (18" HDPE)
E. INV. 91.04 (18" HDPE)
- ⑱ NO END TREATMENT
E. INV. 91.35 (24" HDPE)
- ⑲ INLET
GRATE EL. UNKNOWN
W. INV. 91.10 (18" HDPE)
E. INV. 91.10 (18" HDPE)
- ⑳ NO END TREATMENT
W. INV. 91.59 (15" RCP)
- ㉑ NO END TREATMENT
E. INV. 91.51 (15" RCP)
- ㉓ HEADWALL
W. INV. 91.40 (18" RCP)
- ㉔ HEADWALL
E. INV. 91.48 (18" RCP)
- ㉕ NO END TREATMENT
N. INV. 92.56 (8" PVC)
- ㉖ NO END TREATMENT
S. INV. 91.87 (8" PVC)
- ㉘ HEADWALL
W. INV. 90.19 (18" RCP)
- ㉙ HEADWALL
E. INV. 90.21 (18" RCP)
- ㉚ INLET
GRATE EL. UNKNOWN
W. INV. 88.81 (18" HDPE)
E. INV. 88.72 (18" HDPE)
- ㉛ HEADWALL
E. INV. 89.58 (18" RCP)
- ㉜ INLET
GRATE EL. UNKNOWN
W. INV. 88.68 (18" HDPE)
NE. INV. 88.61 (18" HDPE)
- ㉝ MANHOLE
TOP EL. 92.61
W. INV. 89.32 (18" HDPE)
SW. INV. 88.31 (18" HDPE)
N. INV. 88.26 (24" HDPE)
- ㉞ INLET
GRATE EL. UNKNOWN
S. INV. 88.03 (24" HDPE)
N. INV. 88.05 (24" HDPE)

- ㉟ INLET
GRATE EL. UNKNOWN
S. INV. 87.92 (24" HDPE)
N. INV. 87.86 (24" HDPE)
- ㊱ HEADWALL
S. INV. 87.76 (24" HDPE)
N. INV. 87.76 (24" RCP)
- ㊲ HEADWALL
E. INV. 87.65 (24" RCP)



REVISIONS					DESIGN PLANS FOR:		SUMMARY OF EXISTING DRAINAGE STRUCTURES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		PROJECT NAME	PROJECT NO.		8
				TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	DR. LOVE RD.	CIP 2841-450	



TYPICAL SECTION
 DR. LOVE RD.
 STA. 101+37.00 TO STA. 108+81.19
 N.T.S.

REVISIONS		REVISIONS		 TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR:		SHEET NO. 9
DATE	DESCRIPTION	DATE	DESCRIPTION		PROJECT NAME	PROJECT NO.	
					DR. LOVE RD.	CIP 2841-450	

SUMMARY OF LUMP SUM ITEMS					
PAY ITEM NO.	PAY ITEM DESCRIPTION	QUANTITY		DESIGN NOTES	CONSTRUCTION REMARKS
		P	F		
101-1	Mobilization		1		
102-1	Maintenance of Traffic		1		
104-14	Prevention Control & Abatement Control of Erosion & Water Pollution		1		
110-1-1	Clearing and Grubbing		1		
120-1	Excavation, Embankment, and Grading		1		
900-1	As-Built Plans		1		
900-2	Indemnification		1		

SUMMARY OF RAILING					
LOCATION	SIDE	GALVANIZED STEEL PIPE HANDRAIL (THREE RAIL)		DESIGN NOTES	CONSTRUCTION REMARKS
		0515 1 1			
		LF			
STA. TO STA.		P	F		
101+70.67 to 101+79.33	LT		8.7		
101+83.17 to 101+91.83	LT		8.7		
102+25.67 to 102+34.33	LT		8.7		
102+44.17 to 102+52.83	LT		8.7		
102+70.67 to 102+79.33	LT		8.7		
102+85.67 to 102+94.33	LT		8.7		
103+45.67 to 103+54.33	LT		8.7		
104+45.67 to 104+54.33	LT		8.7		
105+45.67 to 105+54.34	LT		8.7		
106+45.67 to 106+54.33	LT		8.7		
107+45.67 to 107+54.33	LT		8.7		
107+95.67 to 108+04.33	LT		8.7		
108+16.67 to 108+25.33	LT		8.7		
SUB-TOTAL:			113.1		
TOTAL:			113		



SUMMARY OF PICKET RAILING					
LOCATION	SIDE	PED/BICYCLE RAILING (GALVANIZED STEEL) PICKET RAILING		DESIGN NOTES	CONSTRUCTION REMARKS
		515 2 202			
		LF			
STA. TO STA.		P	F		
108+87.49 to 108+90.80	LT		3.3	FDOT INDEX 860, 2008	INCLUDE REMOVAL OF EXISTING PICKET RAILING.
SUB-TOTAL:			3.3		
TOTAL:			3		

REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SUMMARY OF QUANTITIES (SHEET 1 OF 3)	SHEET NO. 10
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		

SUMMARY OF SIDEWALK & DETECTABLE WARNINGS									
LOCATION STA. TO STA.	SIDE	LENGTH	WIDTH	CONC SIDEWALK 4"		DETECTABLE WARNINGS		DESIGN NOTES	CONSTRUCTION REMARKS
				0522 1		0527 2			
				SY		SF			
				P	F	P	F		
101+37.00 to 101+94.02	LT				28.6				
102+06.02 to 102+54.46	LT				26.9				
102+66.46 to 105+72.03	LT				170.1				
105+84.03 to 106+63.02	LT				44.7				
106+87.02 to 107+73.02	LT				47.8				
107+85.02 to 108+39.85	LT				31.1				
108+69.56 to 108+81.19	LT				10.6				
114+52.15 to 114+58.53	RT				4.2				
114+35.63 to 114+39.01	LT							10.0	
SUB-TOTAL					364.0			10.0	
TOTAL					364			10	

SUMMARY OF CONCRETE DITCH PAVEMENT				
STRUCTURE NUMBER	4" CONCRETE DITCH PAVEMENT-NON REINFORCED		DESIGN NOTES	CONSTRUCTION REMARKS
	524-1-2			
	SY			
	P	F		
S-101		5.61		
S-102		1.92		
S-103		5.57		
S-104		1.92		
S-105		1.92		
S-106		7.48		
S-107		6.65		
S-108		6.69		
S-109		7.10		
S-110		6.14		
S-111		6.69		
S-112		5.90		
S-113		1.92		
S-115		7.78		
SUB-TOTAL:		73.30		
TOTAL:		73		

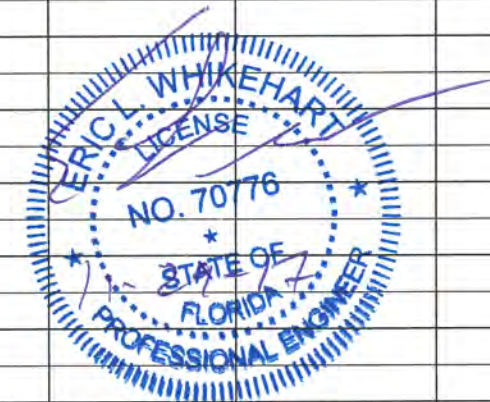
SUMMARY OF PERMANENT DRIVEWAYS					
LOCATION STA. @ C OF DRIVEWAY	SIDE	MATERIAL CONCRETE (SY)		DESIGN NOTES	CONSTRUCTION REMARKS
		0522 2			
		P	F		
102+00.00	LT	31.2			
102+60.00	LT	31.5			
105+78.00	LT	31.6			
106+75.00	LT	55.9			
107+79.00	LT	31.4			
108+55.00	LT	67.5			
113+46.75	LT	65.3			
SUB-TOTAL		314.4			
TOTAL		314			

TABULATION OF SIGNING & PAVEMENT MARKING QUANTITIES									
PAY ITEM NO.	DESCRIPTION	UNIT	SHEET		TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			15						
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
700-1-50	Single Post Sign, Relocate	AS	1		1				
711-11-123	Thermoplastic, Standard, White, Solid (12")	LF	89		89				
711-11-125	Thermoplastic, Standard, White, Solid (24")	LF	30		30				

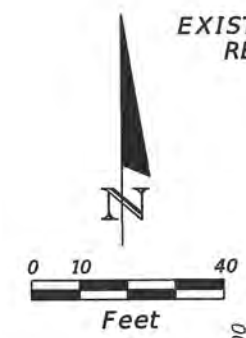
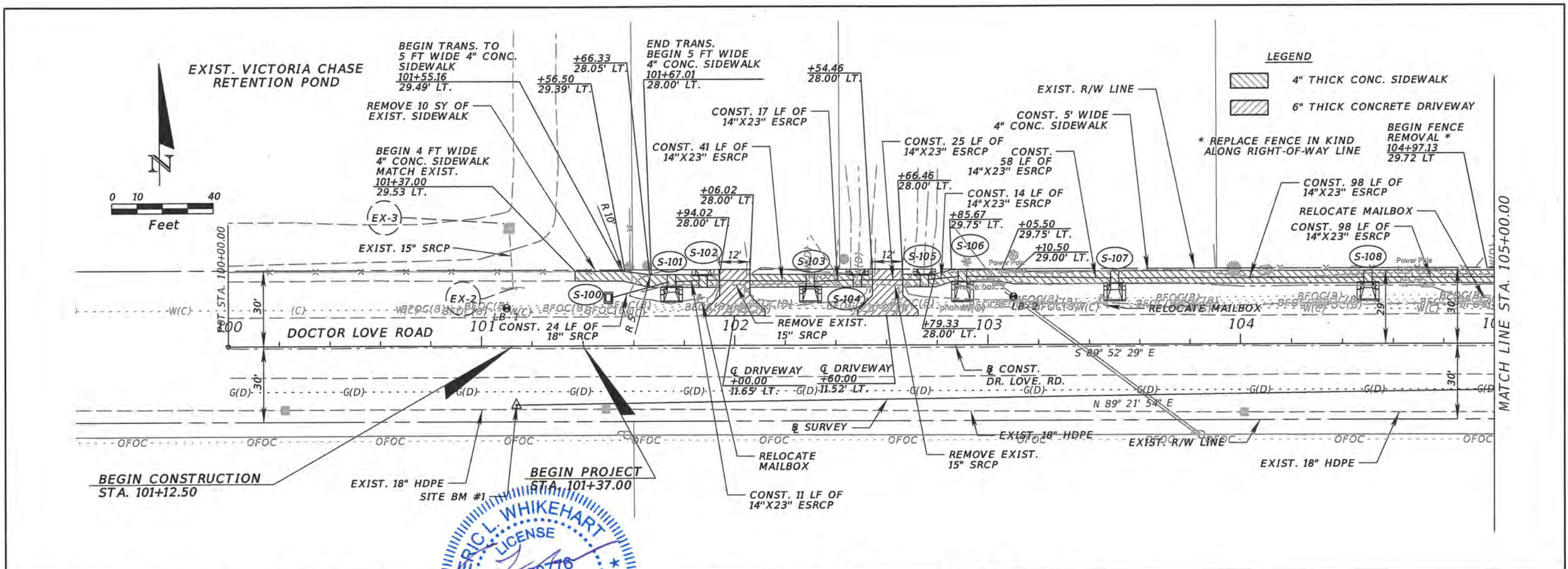


REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SUMMARY OF QUANTITIES (SHEET 2 OF 3)	SHEET NO. 11
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		

QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM DRAIN STEEL REINFORCED CONCRETE PIPE		DITCH BOTTOM INLETS	DITCH BOTTOM INLETS	DITCH BOTTOM INLETS	CROSS DRAIN MITERED END SECTION	U-ENDWALL W/ BAFFLES (1:2)	SODDING	REMARKS	
						ROUND		ELLIPSE	C	C MOD FRONT					C MOD BACK
						430-175-118	430-175-124	430-175-218	425-1-521	425-1-531F					425-1-531B
						18"	24"	14" x 23"	<10'	<10'					<10'
P	S-100	101+50.00	LT.	Inlet, Pipe	1	24			1						
F															
P	S-101	101+75.00	LT.	Inlet, Pipe	1			11		1					
F															
P	S-102	101+87.50	LT.	Inlet, Pipe	1			41			1				
F															
P	S-103	102+30.00	LT.	Inlet, Pipe	1			17		1					
F															
P	S-104	102+48.50	LT.	Inlet, Pipe	1			25			1				
F															
P	S-105	102+75.00	LT.	Inlet, Pipe	1			14			1				
F															
P	S-106	102+90.00	LT.	Inlet, Pipe	1			58		1					
F															
P	S-107	103+50.00	LT.	Inlet, Pipe	1			98		1					
F															
P	S-108	104+50.00	LT.	Inlet, Pipe	1			98		1					
F															
P	S-109	105+50.00	LT.	Inlet, Pipe	1			98		1					
F															
P	S-110	106+50.00	LT.	Inlet, Pipe	1			98		1					
F															
P	S-111	107+50.00	LT.	Inlet, Pipe	1			48		1					
F															
P	S-112	108+00.00	LT.	Inlet, Pipe	1			19		1					
F															
P	S-113	108+21.00	LT.	Inlet, Pipe	1		68				1				
F															
P	S-114	108+91.00	LT.	Inlet, Pipe	1		29		1						
F															
P	S-115	109+20.00	LT.	U-ENDWALL	1							1	19	1:2	
F															
P	S-116	113+18.56	LT.	MES, Pipe	1	53					1		10	1:4	
F															
P	S-117	113+78.89	LT.	MES	1						1		10	1:4	
F															
Sheet Summary					P Total	77	97	625	2	9	4	2	1	39	
					F Total										
Final Summary					P Total	77	97	625	2	9	4	2	1	39	
					F Total										

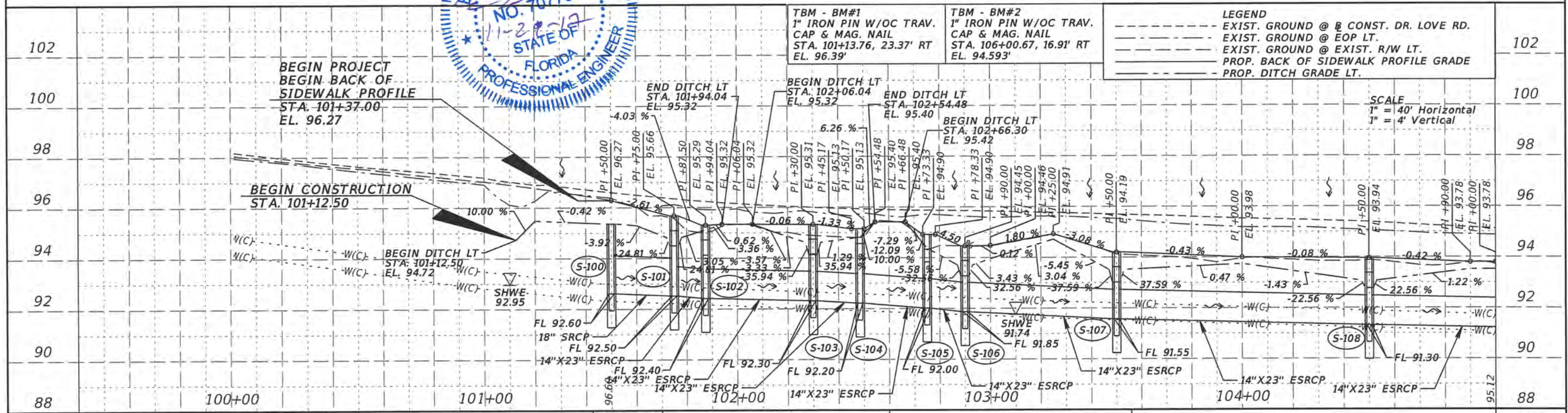
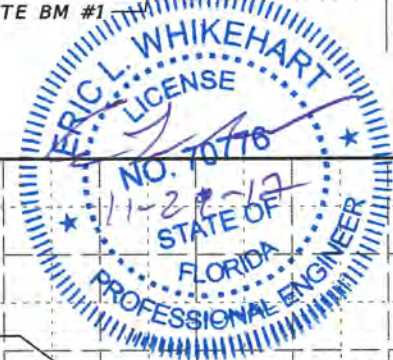


REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR:		SUMMARY OF DRAINAGE STRUCTURES	SHEET NO. 13
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		



LEGEND
 4" THICK CONC. SIDEWALK
 6" THICK CONCRETE DRIVEWAY
 * REPLACE FENCE IN KIND ALONG RIGHT-OF-WAY LINE
 BEGIN FENCE REMOVAL * 104+97.13 29.72 LT

MATCH LINE STA. 105+00.00



TBM - BM#1 1" IRON PIN W/O C TRAV. CAP & MAG. NAIL STA. 101+13.76, 23.37' RT EL. 96.39'	TBM - BM#2 1" IRON PIN W/O C TRAV. CAP & MAG. NAIL STA. 106+00.67, 16.91' RT EL. 94.593'	LEGEND - - - - - EXIST. GROUND @ CONST. DR. LOVE RD. - - - - - EXIST. GROUND @ EOP LT. - - - - - EXIST. GROUND @ EXIST. R/W LT. - - - - - PROP. BACK OF SIDEWALK PROFILE GRADE - - - - - PROP. DITCH GRADE LT.
---	--	--

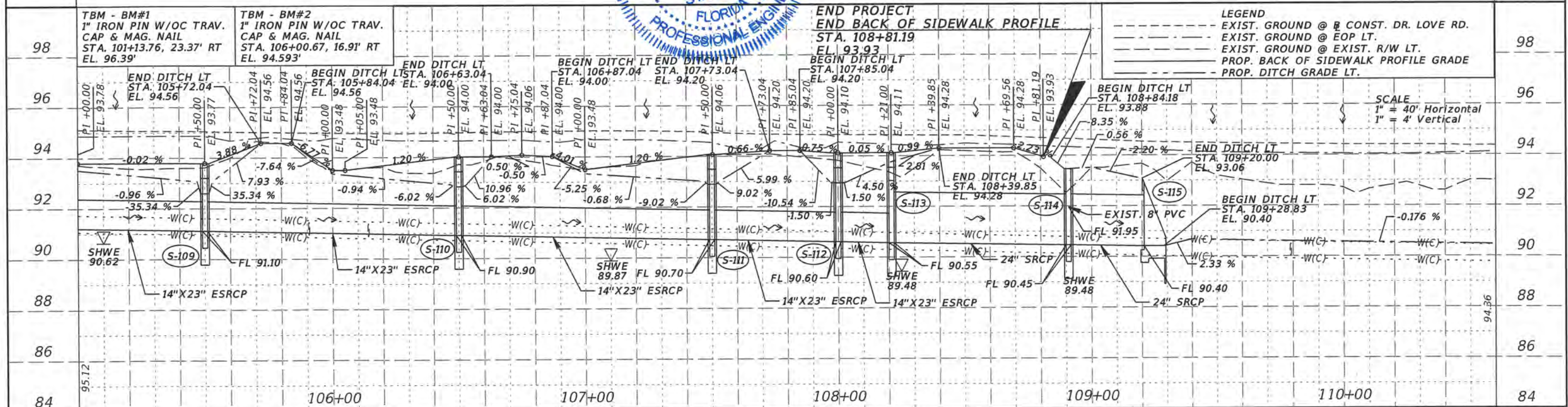
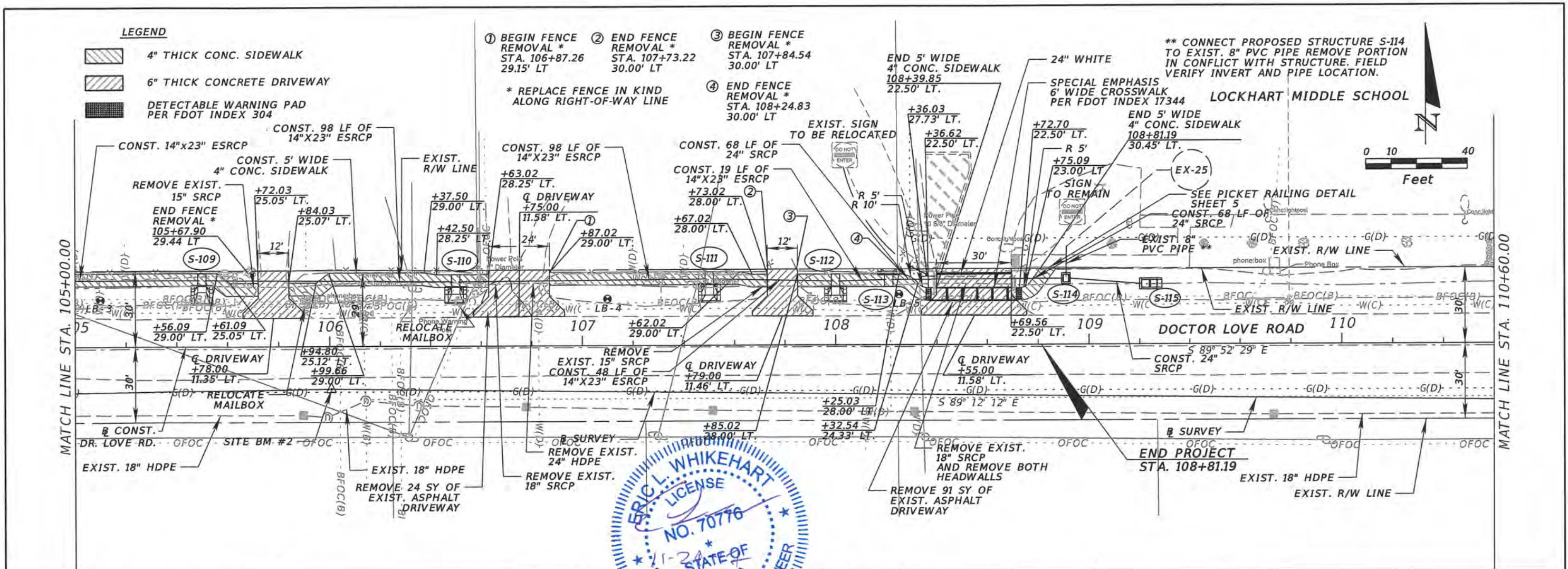
SCALE
 1" = 40' Horizontal
 1" = 4' Vertical

REVISIONS	
DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

PLAN & PROFILE SHEETS
 SHEET NO. 14



REVISIONS	
DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT

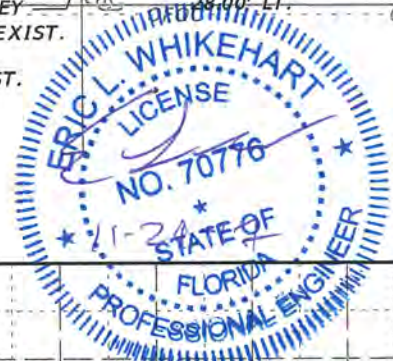
TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

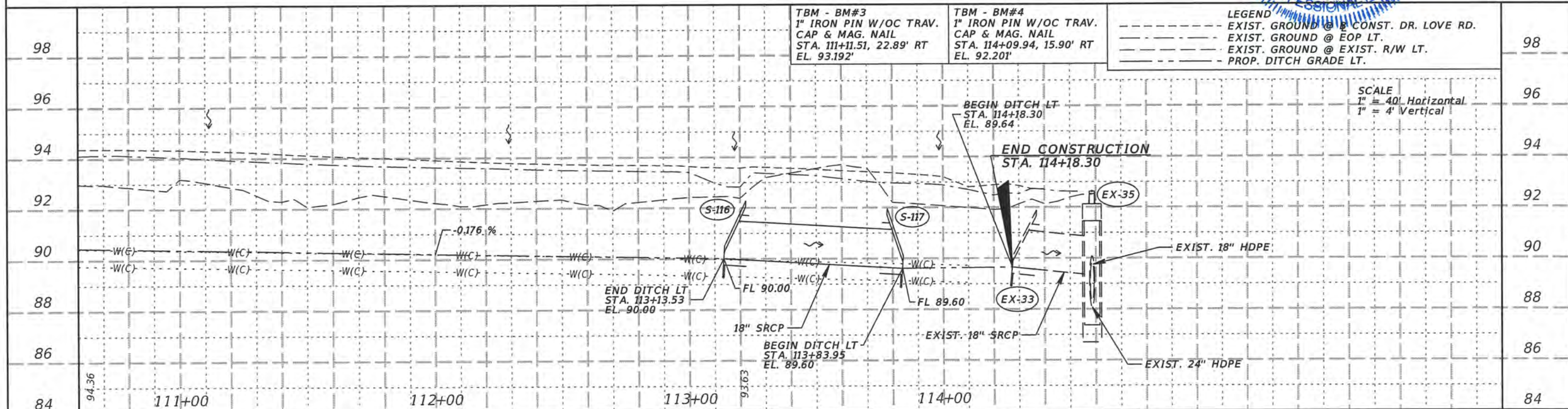
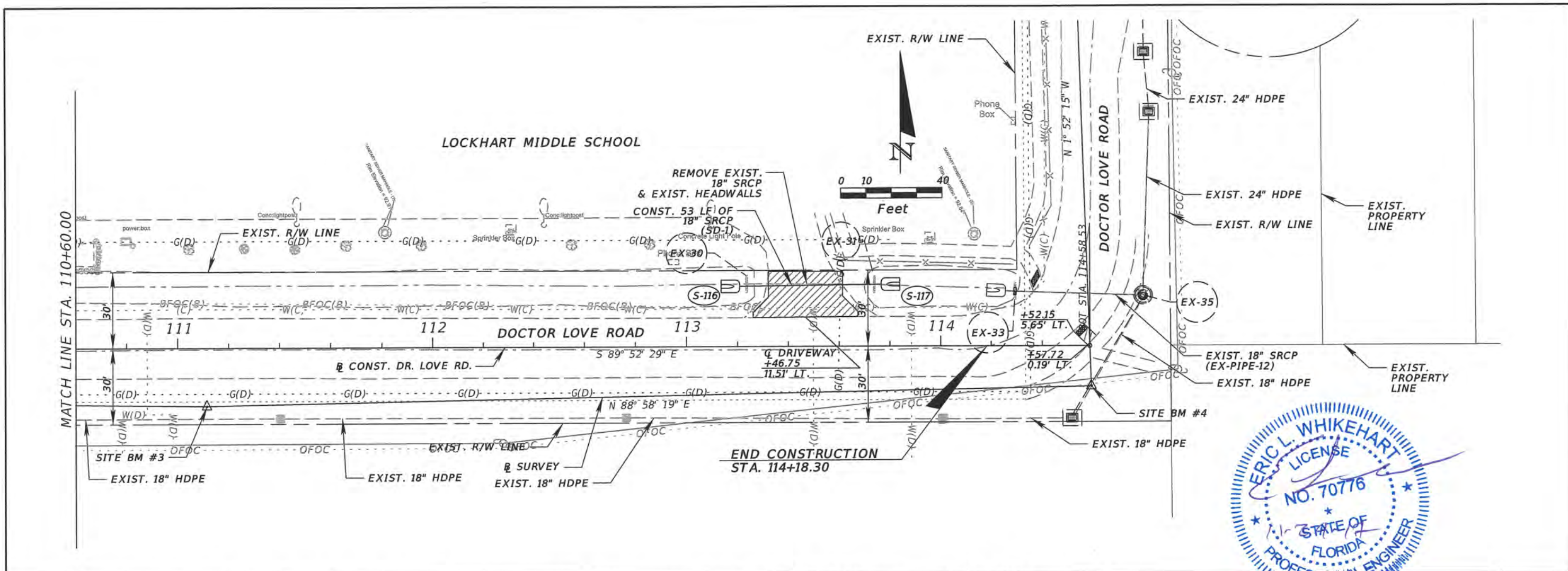
SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE

PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

PLAN & PROFILE SHEETS

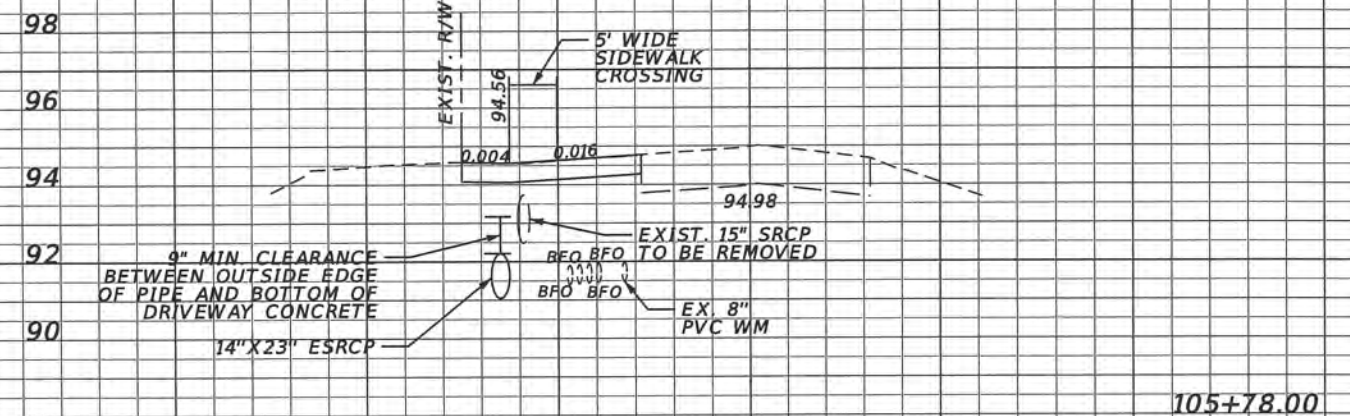
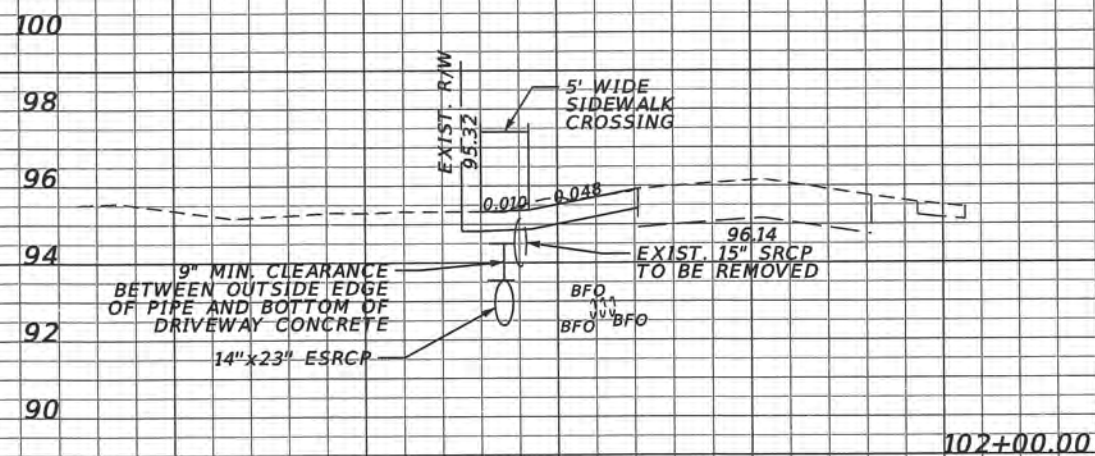
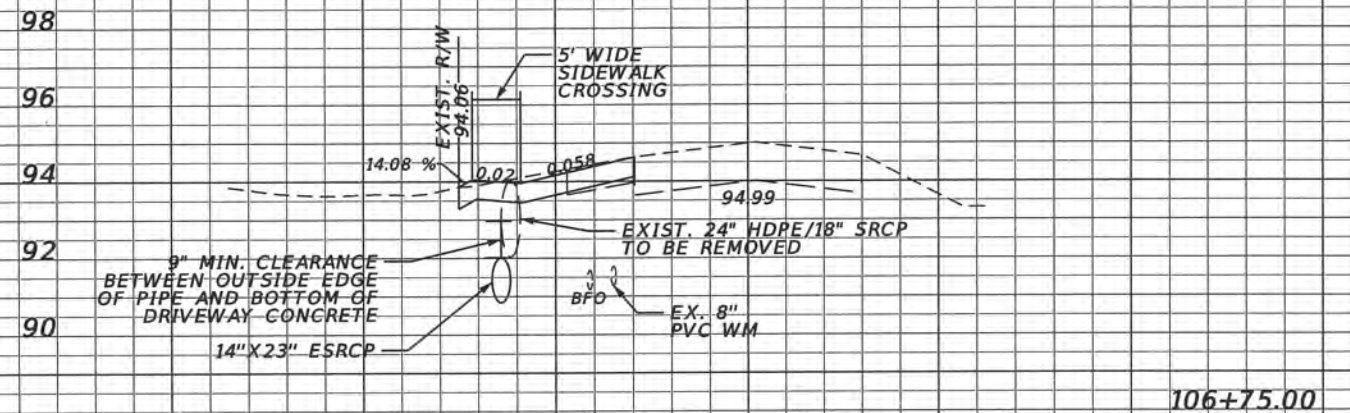
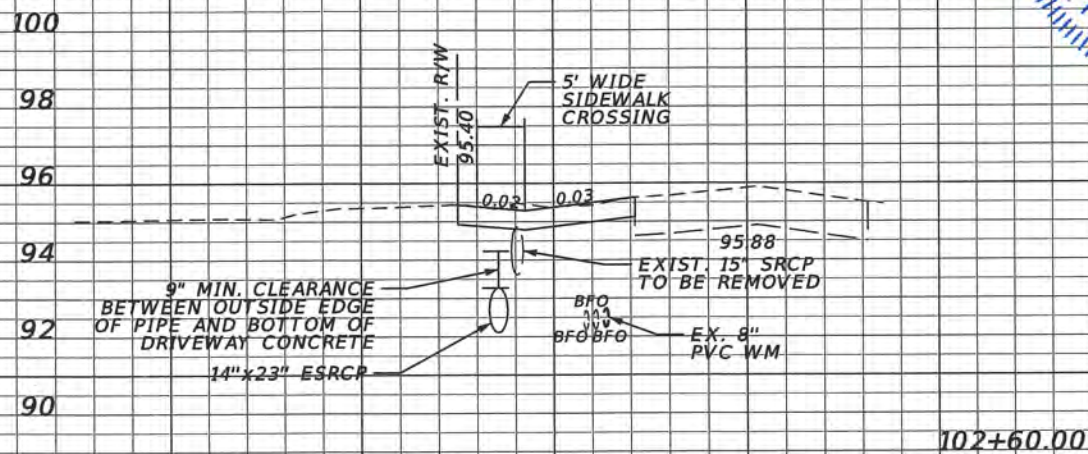
SHEET NO. 15





REVISIONS		DESCRIPTION		ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SHEET NO. 16
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.	
						DR. LOVE RD.	CIP 2841-450	

PLAN & PROFILE SHEETS



SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

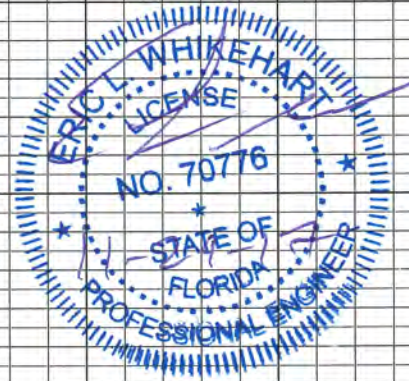
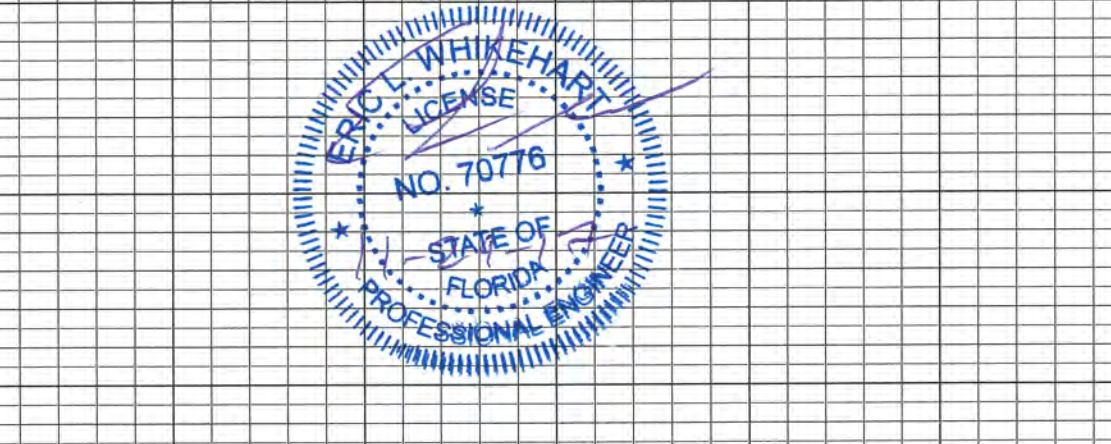
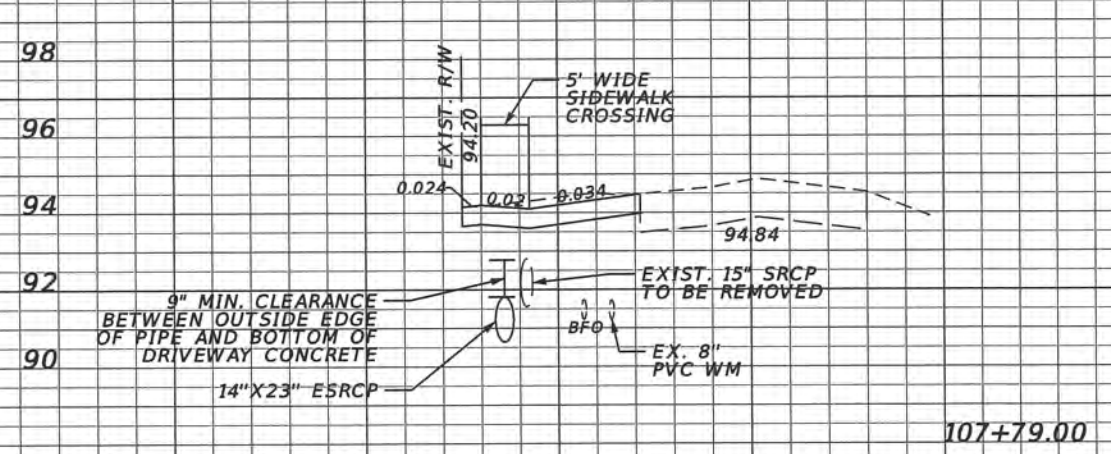
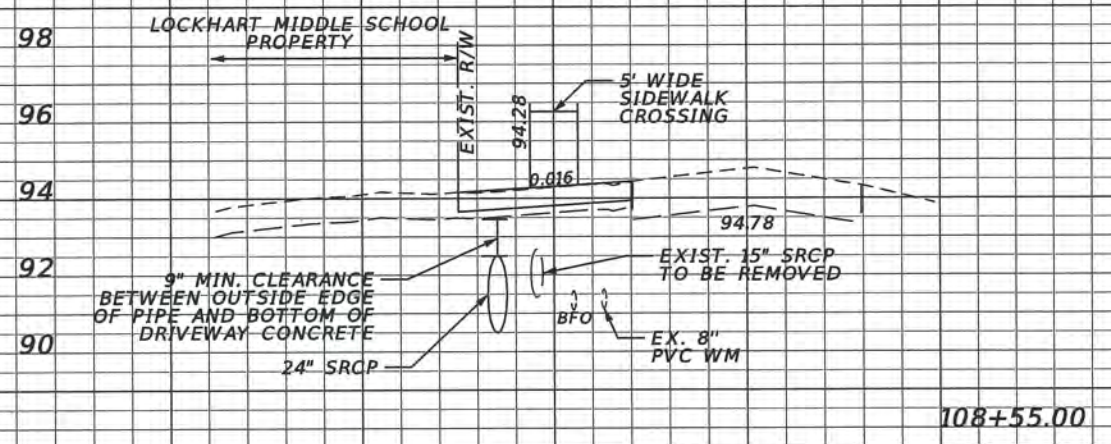
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

DRIVEWAY PROFILE SHEETS

SHEET NO.
17



SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

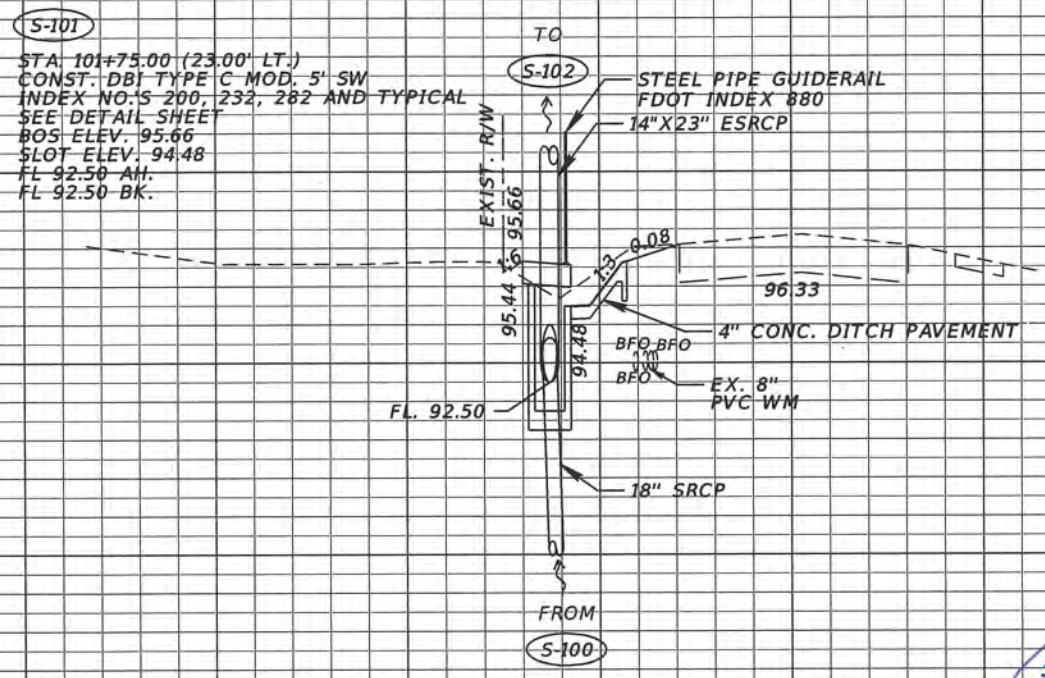
DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

DRIVEWAY PROFILE SHEETS

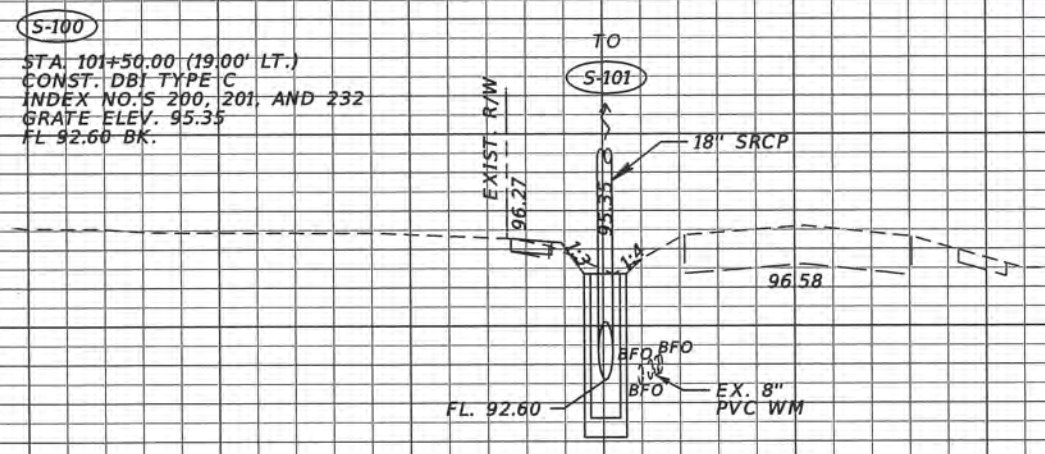
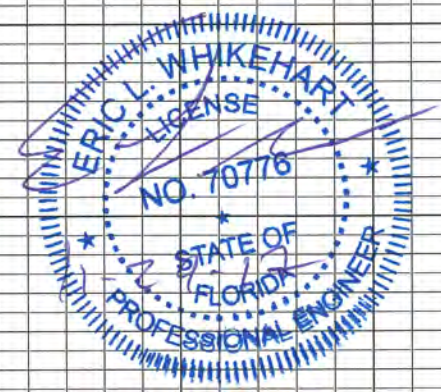
SHEET NO.
 18

102
100
98
96
94
92
90

102
100
98
96
94
92
90
88



S-101
101+75.00



S-100
101+50.00

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

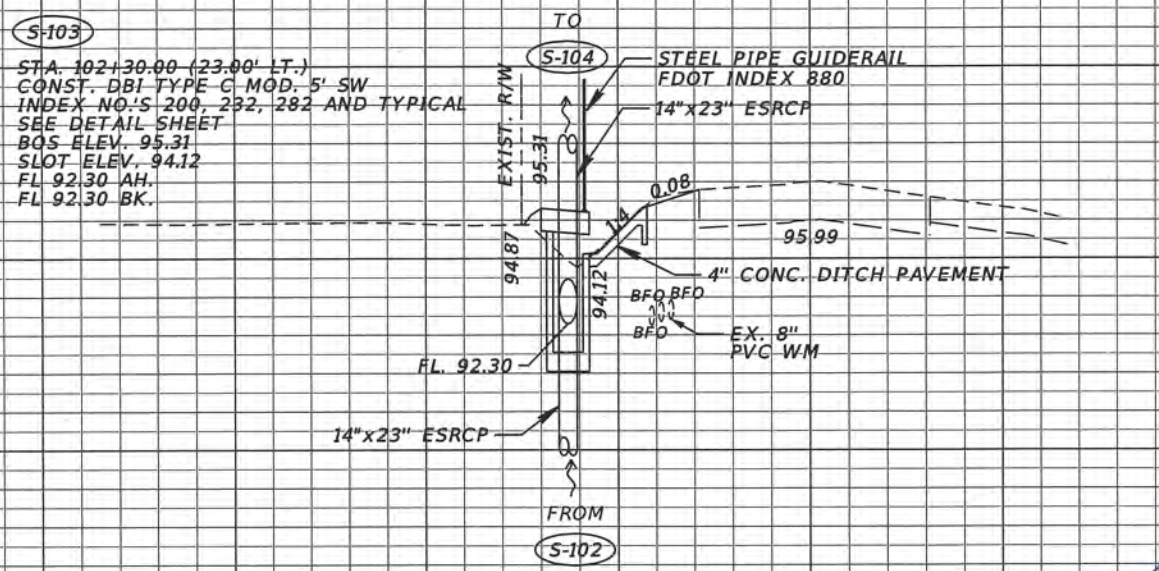
ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHIKEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

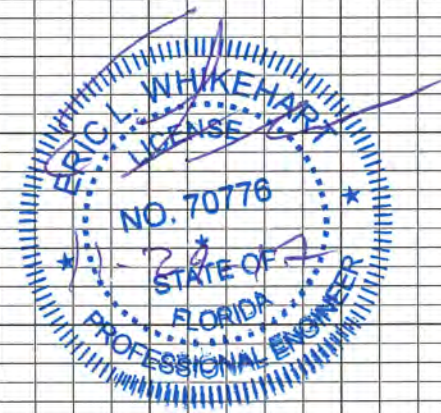
**DRAINAGE STRUCTURE
CROSS SECTIONS**

SHEET NO.
19

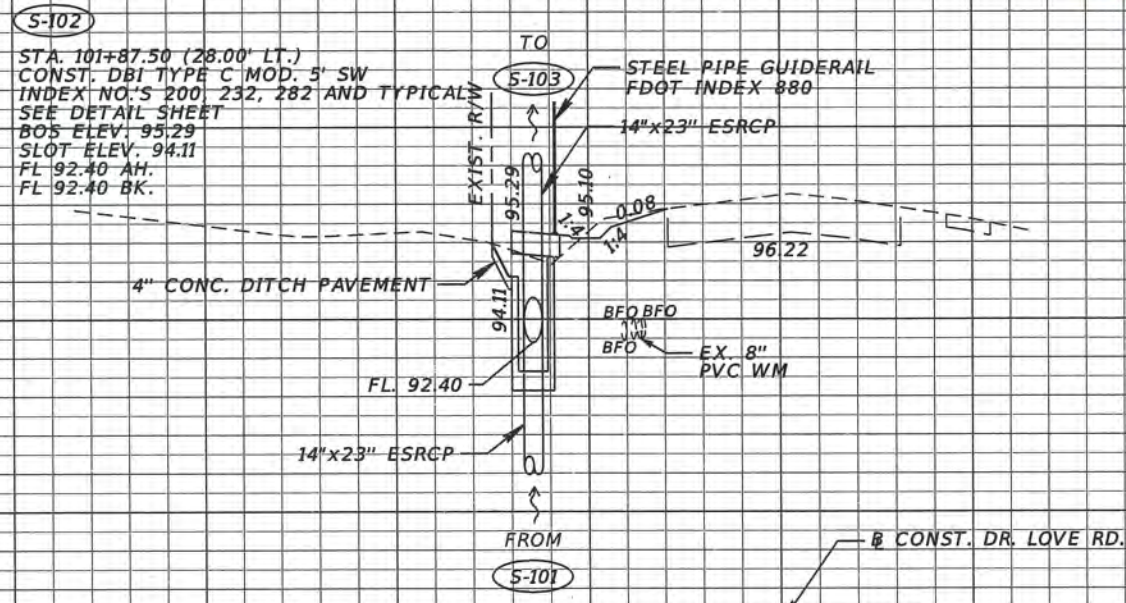
100
98
96
94
92
90
88
86



S-103
102+30.00



100
98
96
94
92
90
88
86



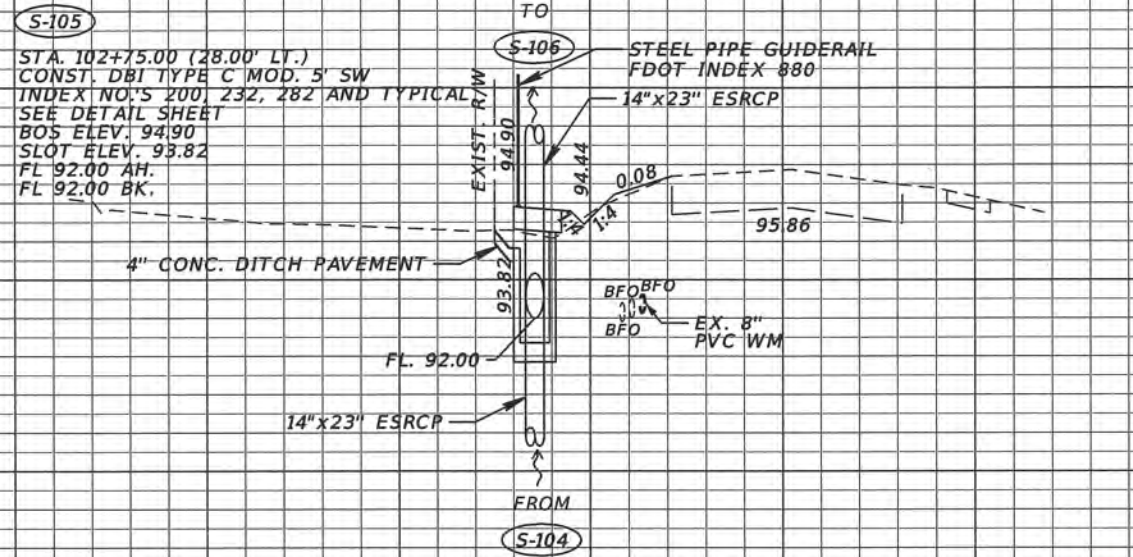
S-102
101+87.50

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS		DESCRIPTION		ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		DRAINAGE STRUCTURE CROSS SECTIONS	SHEET NO. 20
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		

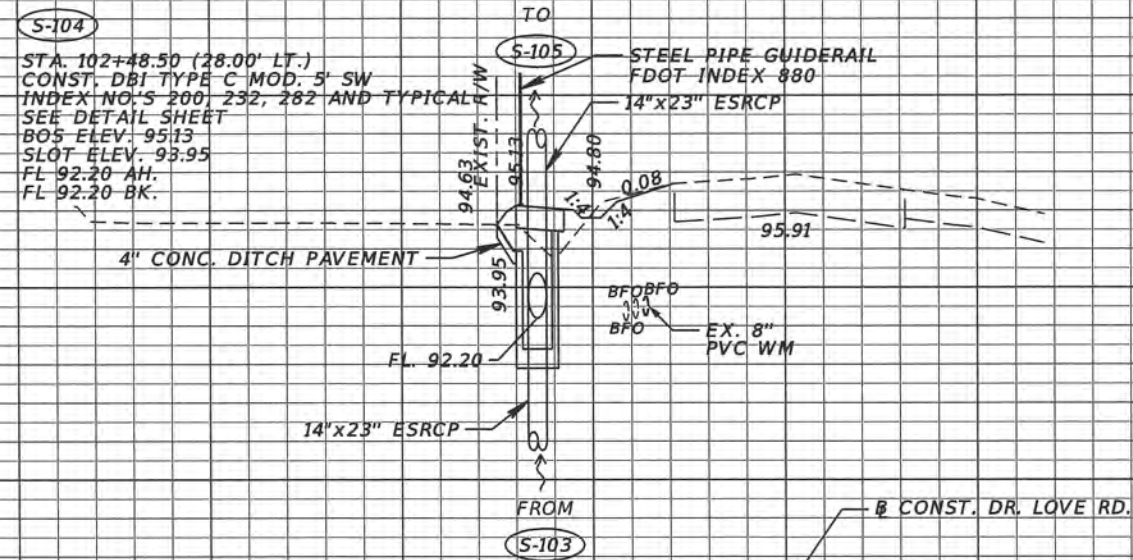
100
98
96
94
92
90
88
86



S-105
102+75.00



100
98
96
94
92
90
88



S-104
102+48.50

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

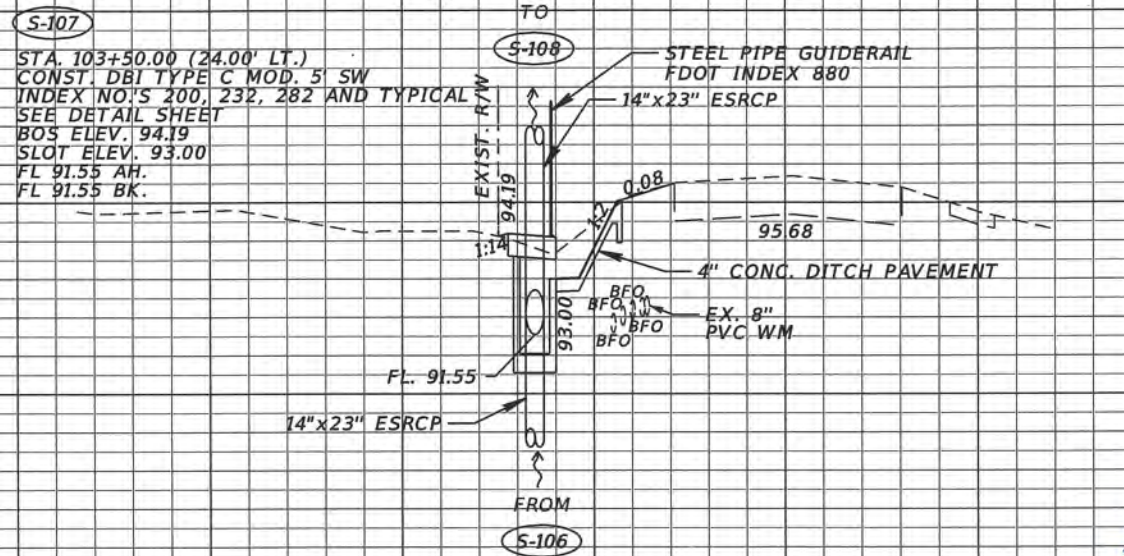
ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR:
SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE
 PROJECT NAME: DR. LOVE RD.
 PROJECT NO.: CIP 2841-450

DRAINAGE STRUCTURE CROSS SECTIONS

SHEET NO.
21

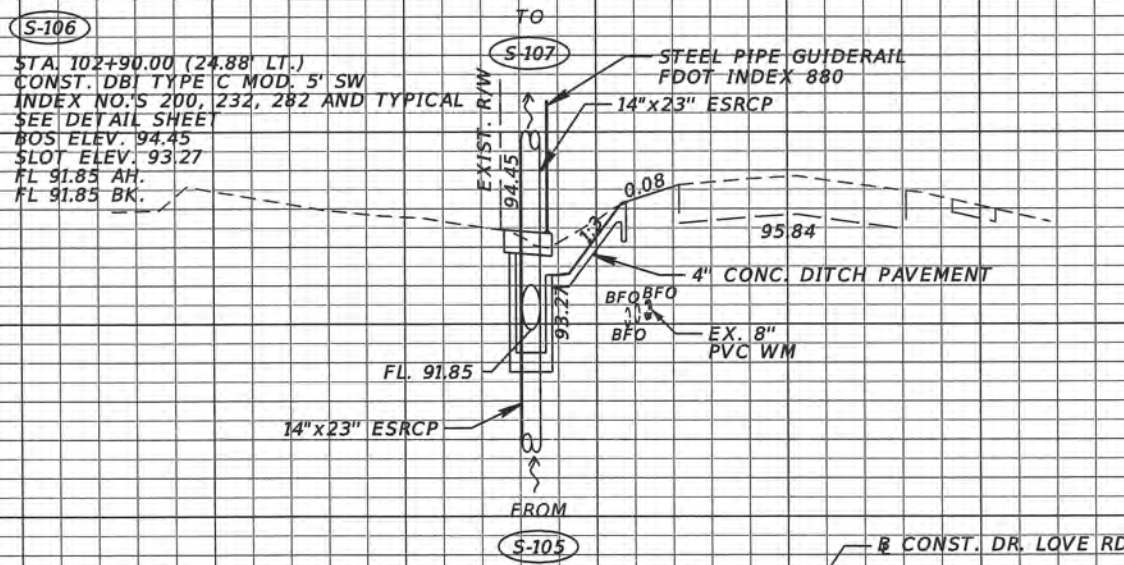
98
96
94
92
90
88
86



S-107
103+50.00



98
96
94
92
90
88
86



S-106
102+90.00

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS	
DATE	DESCRIPTION



TLP ENGINEERING CONSULTANTS, INC.
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL. 32817
PH. 407-901-5060
ERIC L. WHITEHART, P.E. 70776
CERT. OF AUTH. #27205

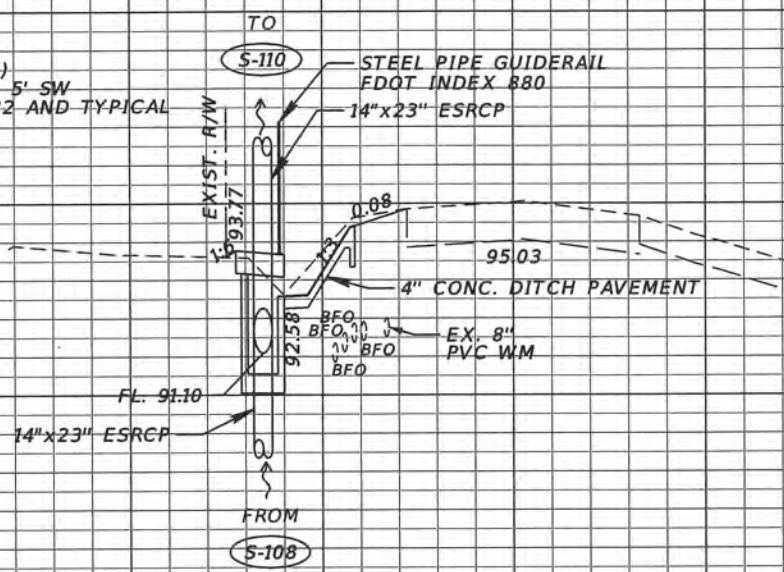
DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

**DRAINAGE STRUCTURE
CROSS SECTIONS**

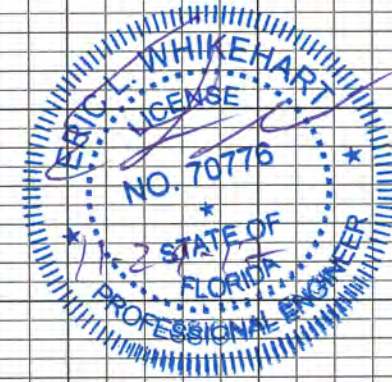
SHEET
NO.
22

98
96
94
92
90
88
86

(S-109)
STA. 105+50.00 (24.00' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 93.77
SLOT ELEV. 92.58
FL 91.10 AH.
FL 91.10 BK.

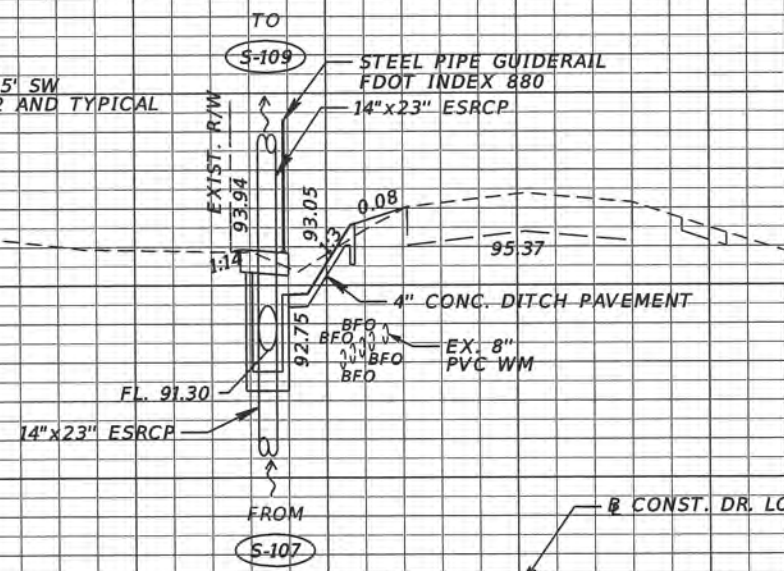


(S-109)
105+50.00



98
96
94
92
90
88
86

(S-108)
STA. 104+50.00 (24.00' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 93.94
SLOT ELEV. 92.75
FL 91.30 AH.
FL 91.30 BK.



(S-108)
104+50.00

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT
FLORIDA
Tyler Renfro
11/16/2017

TLP ENGINEERING CONSULTANTS, INC.
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL 32817
PH. 407-901-5060
ERIC L. WHITEHART, P.E. 70776
CERT. OF AUTH. #27205

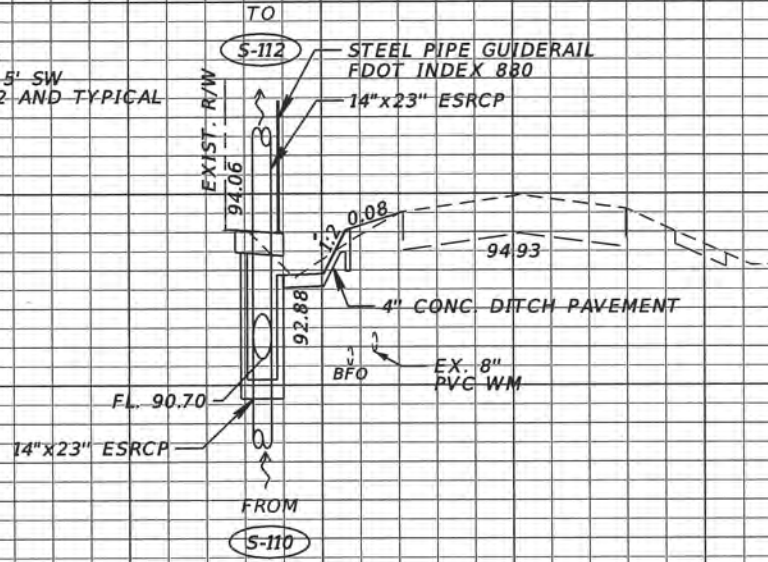
DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

**DRAINAGE STRUCTURE
CROSS SECTIONS**

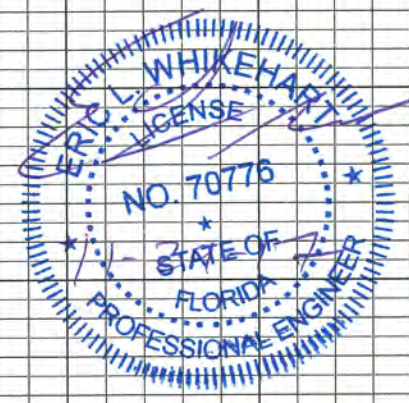
SHEET NO.
23

98
96
94
92
90
88
86

(S-111)
STA. 107+50.00 (24.00' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 94.06
SLOT ELEV. 92.88
FL 90.70 AH.
FL 90.70 BK.

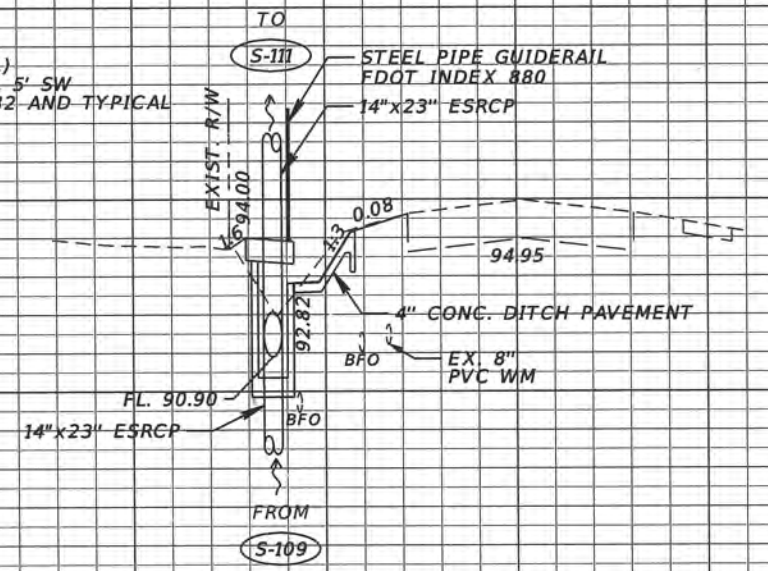


(S-111)
107+50.00



98
96
94
92
90
88
86

(S-110)
STA. 106+50.00 (23.25' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 94.00
SLOT ELEV. 92.82
FL 90.90 AH.
FL 90.90 BK.



(S-110)
106+50.00

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY GOVERNMENT FLORIDA
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

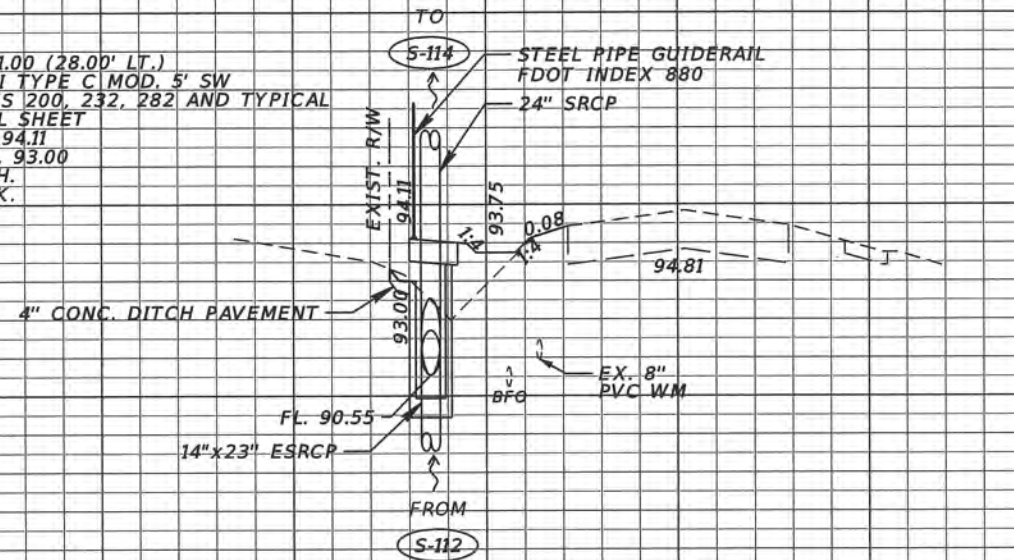
**DRAINAGE STRUCTURE
CROSS SECTIONS**

SHEET NO.
24

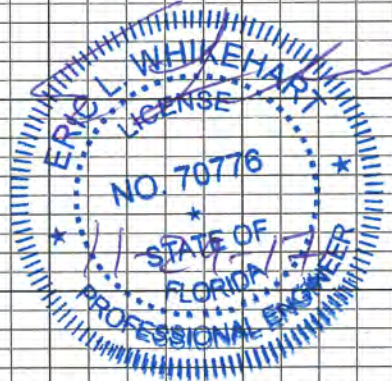
98
96
94
92
90
88
86

S-113

STA. 108+21.00 (28.00' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 94.11
SLOT ELEV. 93.00
FL 90.55 AH.
FL 90.55 BK.

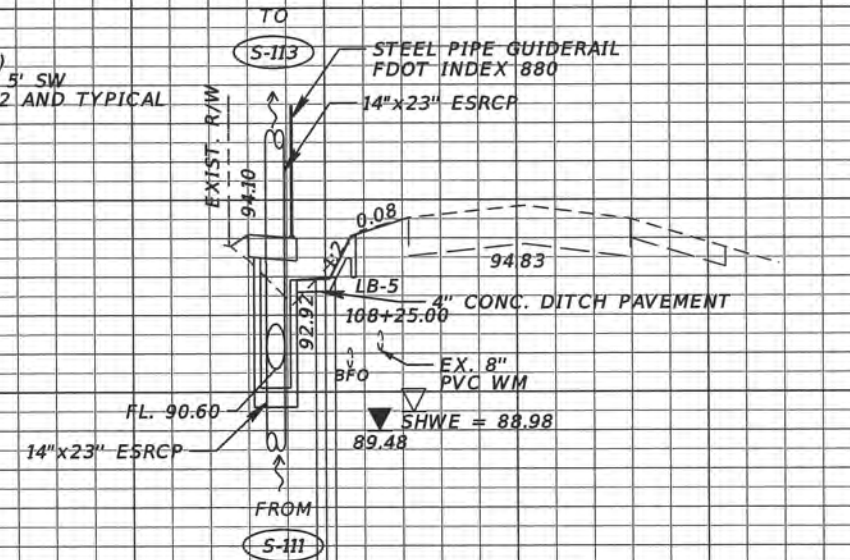


S-113
108+21.00



S-112

STA. 108+00.00 (23.00' LT.)
CONST. DBI TYPE C MOD. 5' SW
INDEX NO.'S 200, 232, 282 AND TYPICAL
SEE DETAIL SHEET
BOS ELEV. 94.10
SLOT ELEV. 92.92
FL 90.60 AH.
FL 90.60 BK.



S-112
108+00.00

98
96
94
92
90
88
86

160 140 120 100 80 60 40 20 0 20 40 60 80 100

SCALE
1" = 20' Horizontal
1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



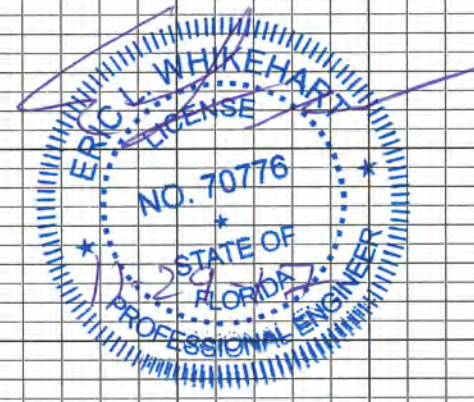
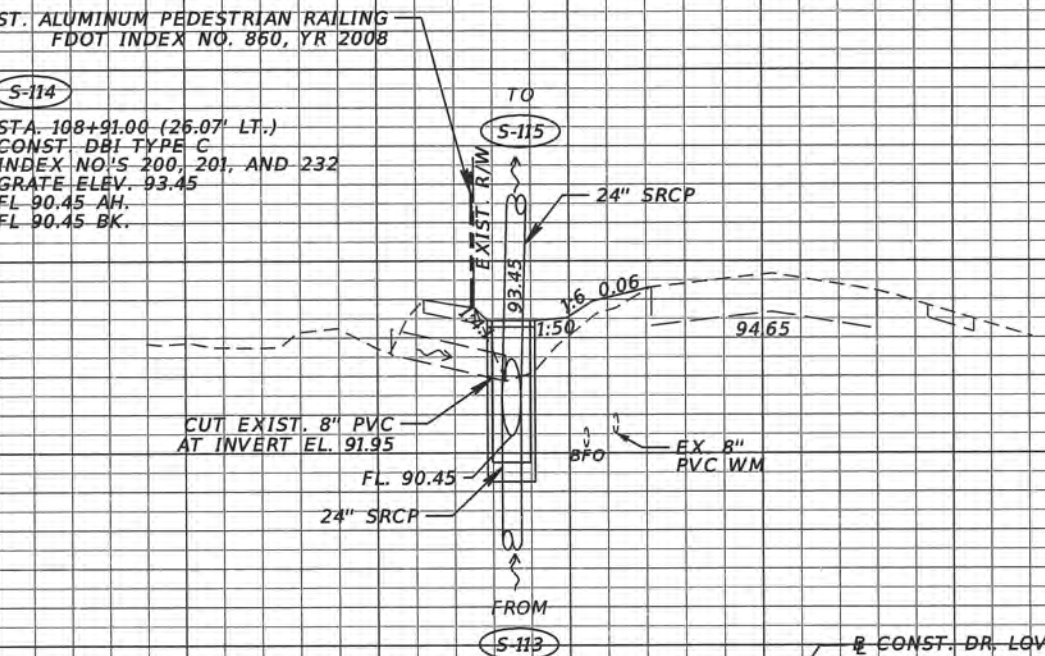
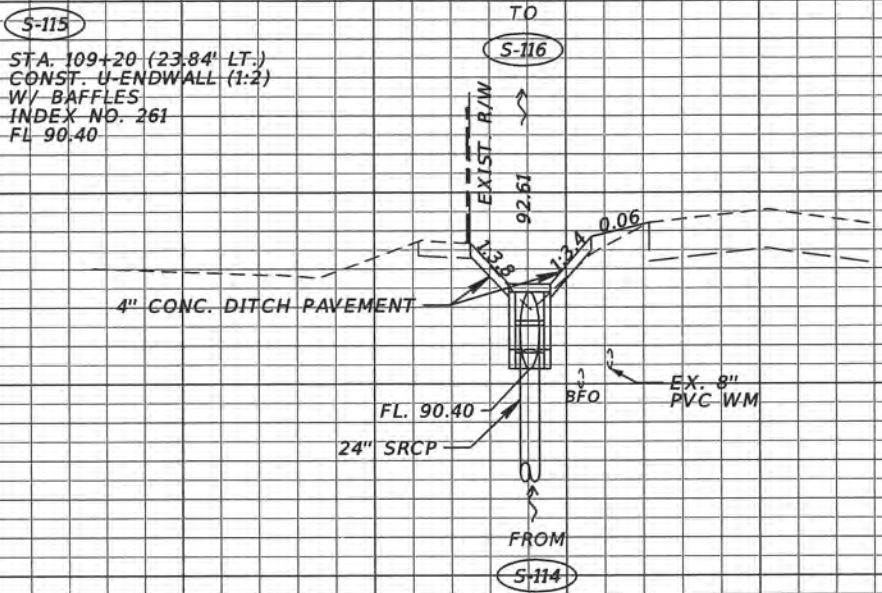
TLP ENGINEERING CONSULTANTS, INC
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL 32817
PH. 407-901-5060
ERIC L. WHITEHART, P.E. 70776
CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

**DRAINAGE STRUCTURE
CROSS SECTIONS**

SHEET NO.
25

98
96
94
92
90
88
86
98
96
94
92
90
88
86
84



SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80 100

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

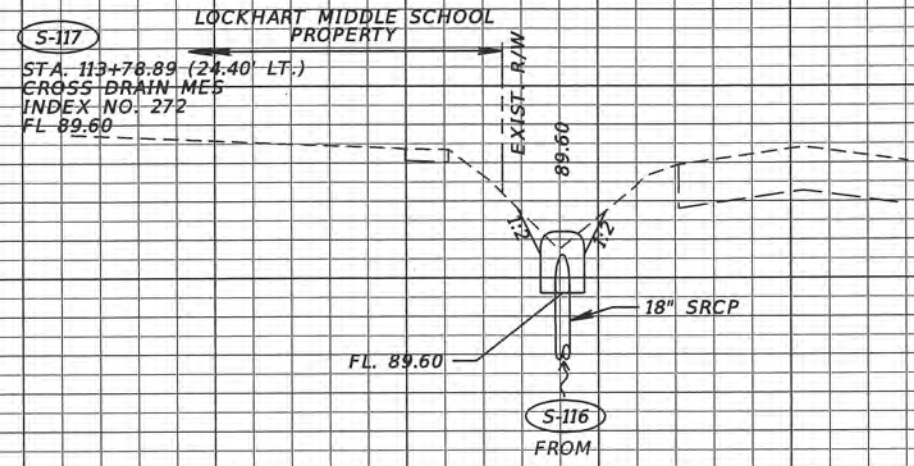
ORANGE COUNTY GOVERNMENT
 TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

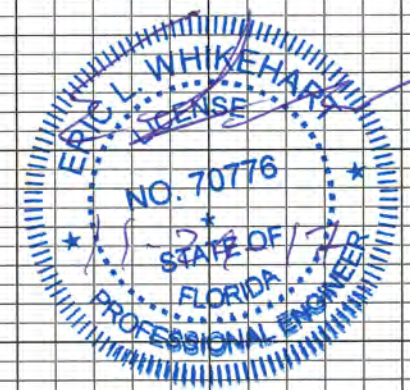
**DRAINAGE STRUCTURE
CROSS SECTIONS**

SHEET NO.
26

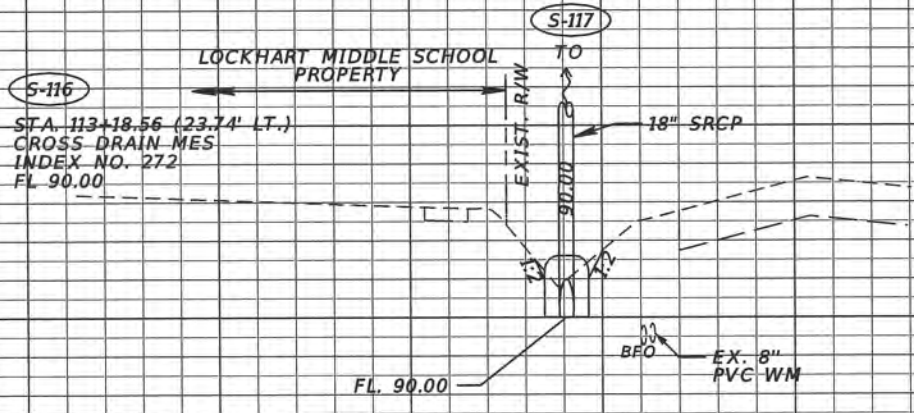
98
96
94
92
90
88
86



S-117
113+78.89



98
96
94
92
90
88
86
84

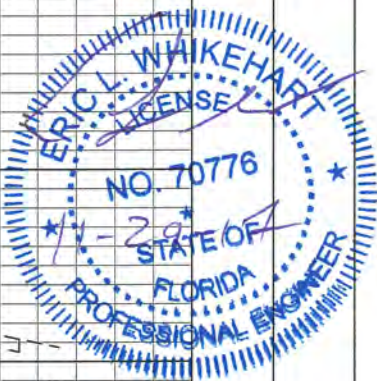
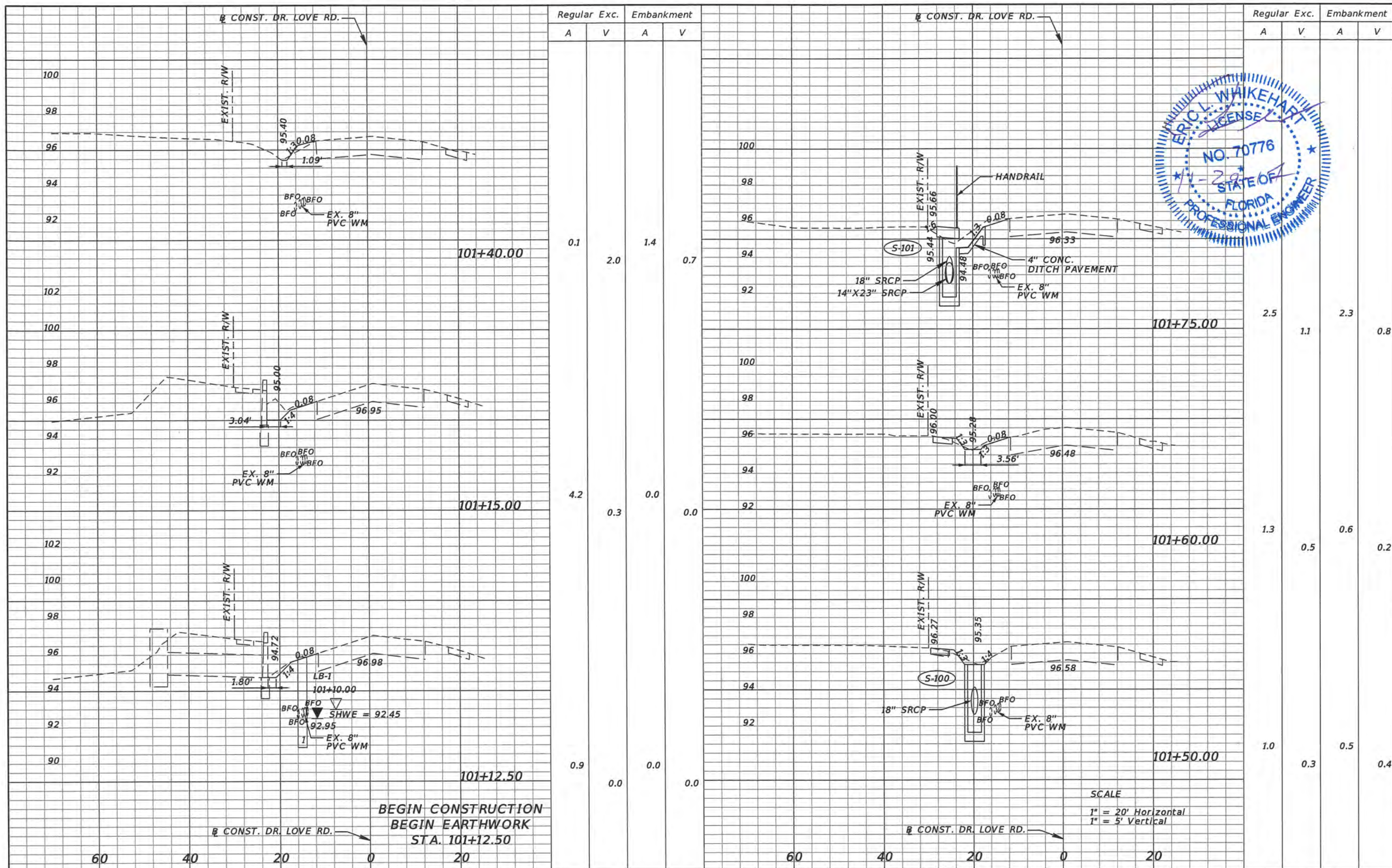


S-116
113+18.56

SCALE
1" = 20' Horizontal
1" = 5' Vertical

160 140 120 100 80 60 40 20 0 20 40 60 80

REVISIONS		DESCRIPTION		ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		DRAINAGE STRUCTURE CROSS SECTIONS	SHEET NO. 27
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		



Regular Exc.		Embankment	
A	V	A	V
0.1	2.0	1.4	0.7
4.2	0.3	0.0	0.0
0.9	0.0	0.0	0.0

Regular Exc.		Embankment	
A	V	A	V
2.5	1.1	2.3	0.8
1.3	0.5	0.6	0.2
1.0	0.3	0.5	0.4

SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

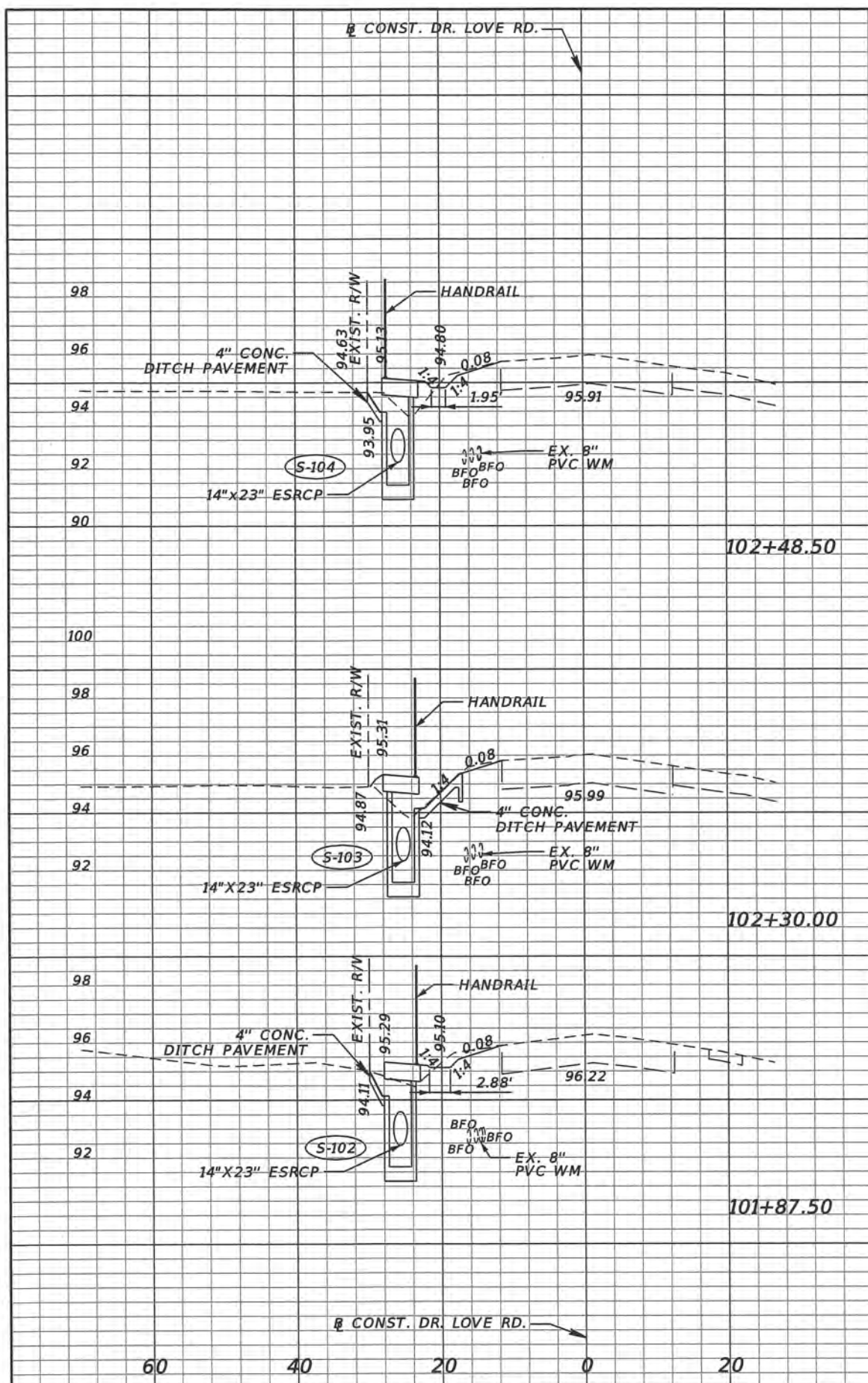


TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

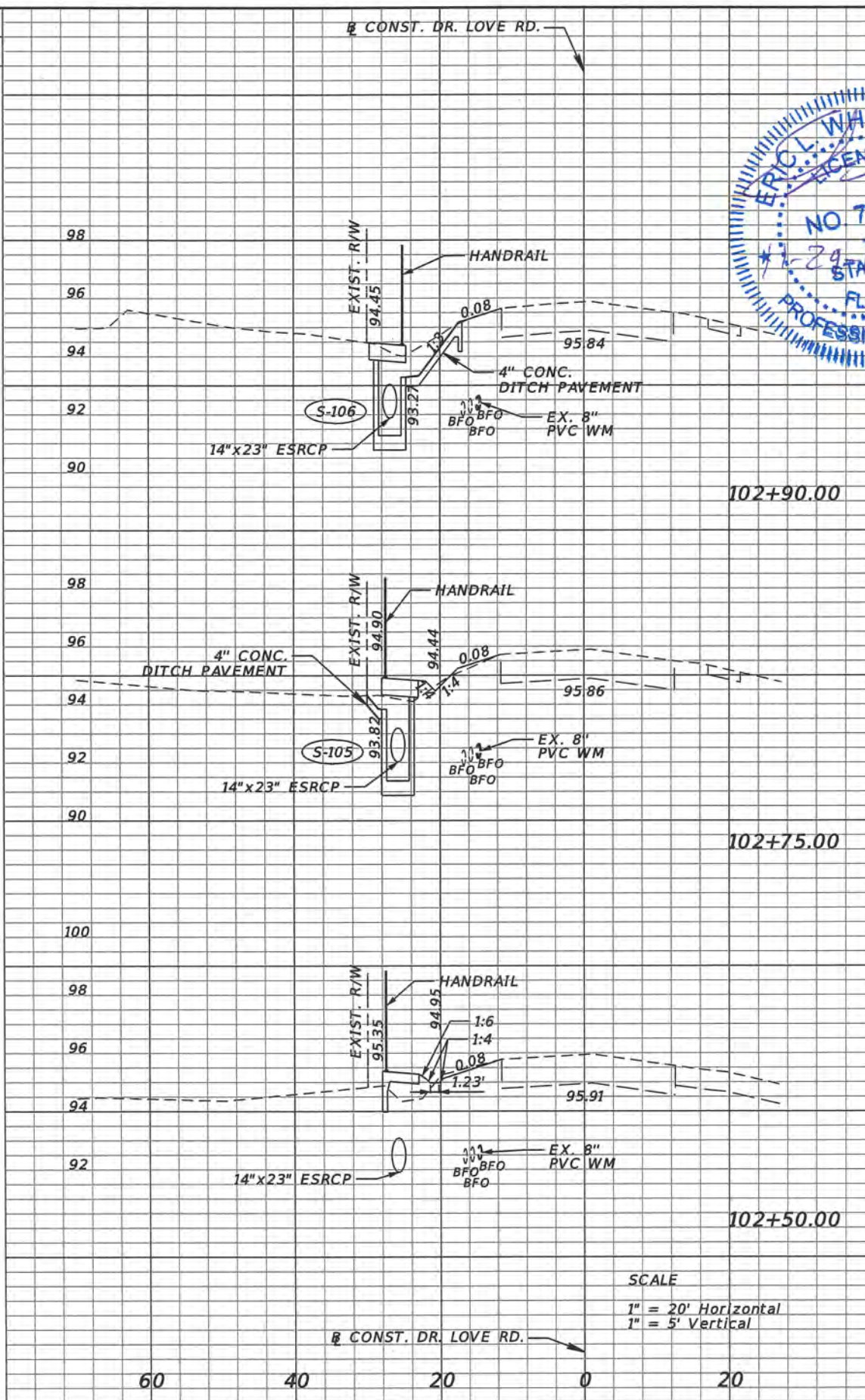
DESIGN PLANS FOR:	
SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

SIDEWALK CROSS SECTIONS

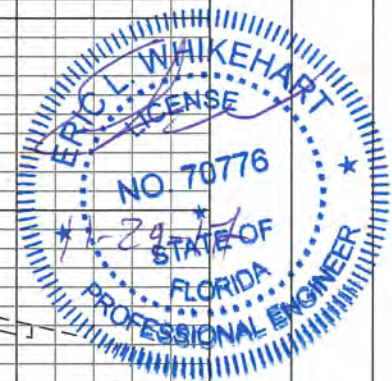
SHEET NO.
 28



Regular Exc.		Embankment	
A	V	A	V
1.0	0.6	5.7	4.7
0.5	1.7	7.8	8.0
1.6	1.0	2.3	1.1



Regular Exc.		Embankment	
A	V	A	V
2.3	0.7	0.3	1.2
0.2	0.5	3.8	4.0
0.7	0.1	4.8	0.3



SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

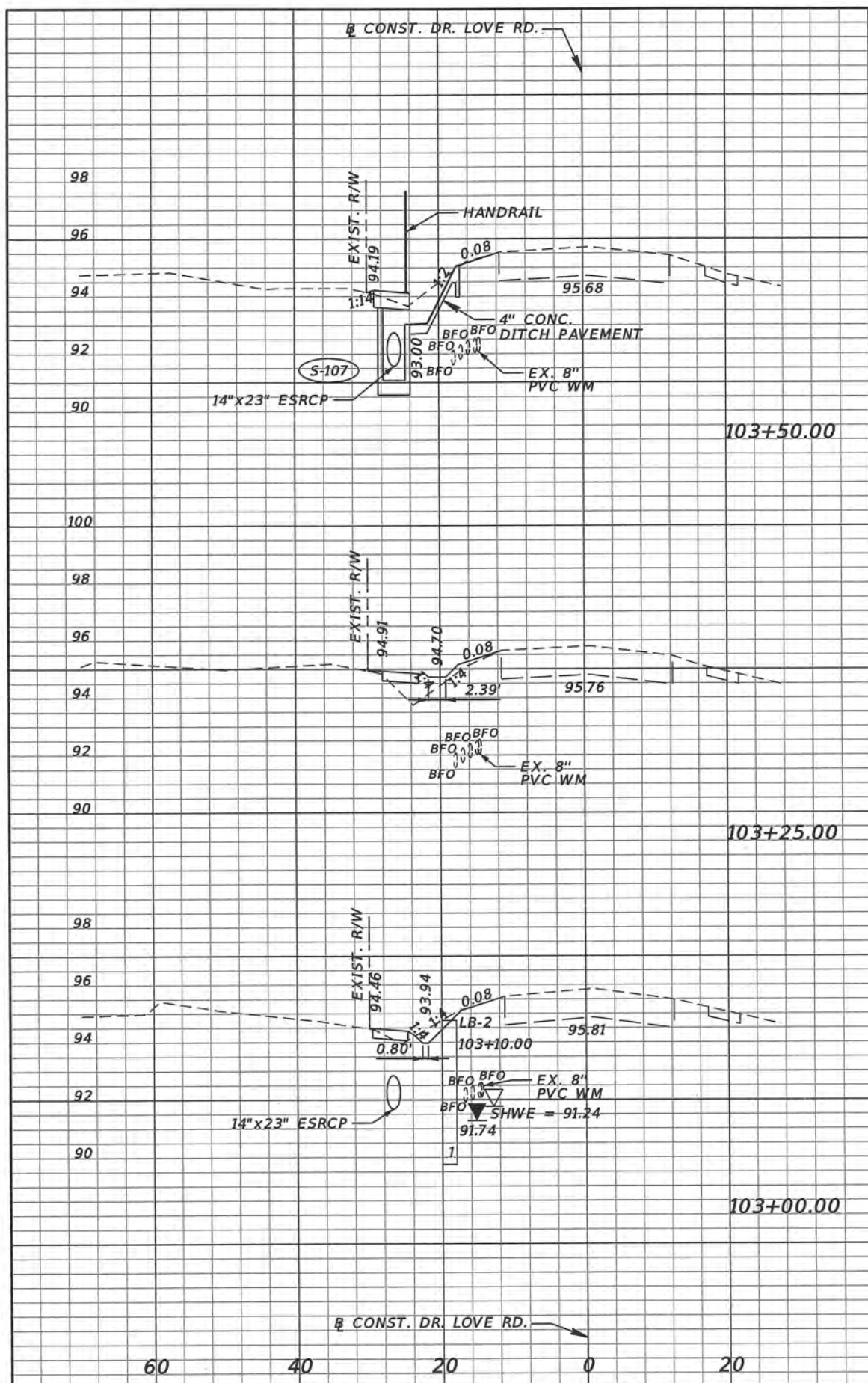


TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

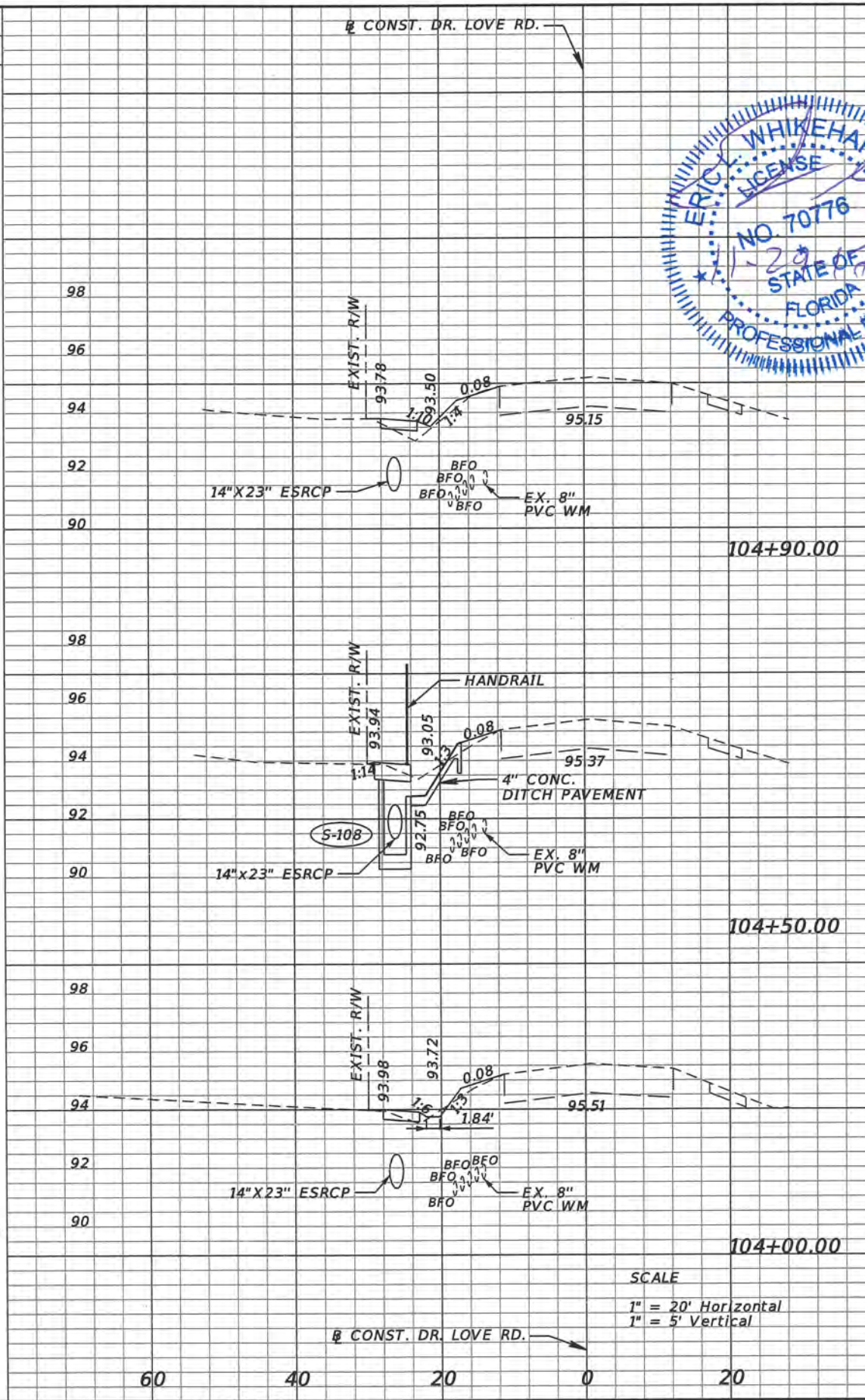
DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

SIDEWALK CROSS SECTIONS

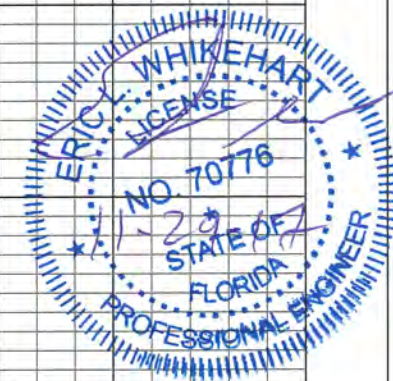
SHEET NO.
29



Regular Exc.		Embankment	
A	V	A	V
2.5	1.2	0.5	3.7
0.0	0.9	7.4	3.7
1.9	0.8	0.5	0.2



Regular Exc.		Embankment	
A	V	A	V
0.1	0.9	3.5	4.5
1.0	1.3	2.6	4.2
0.3	2.6	2.0	2.3



SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

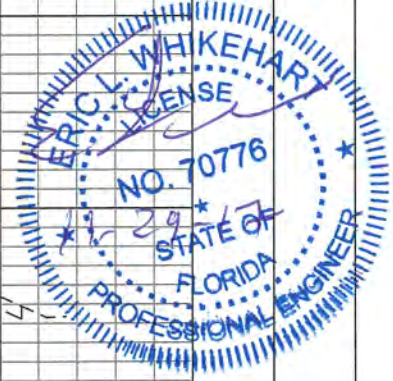
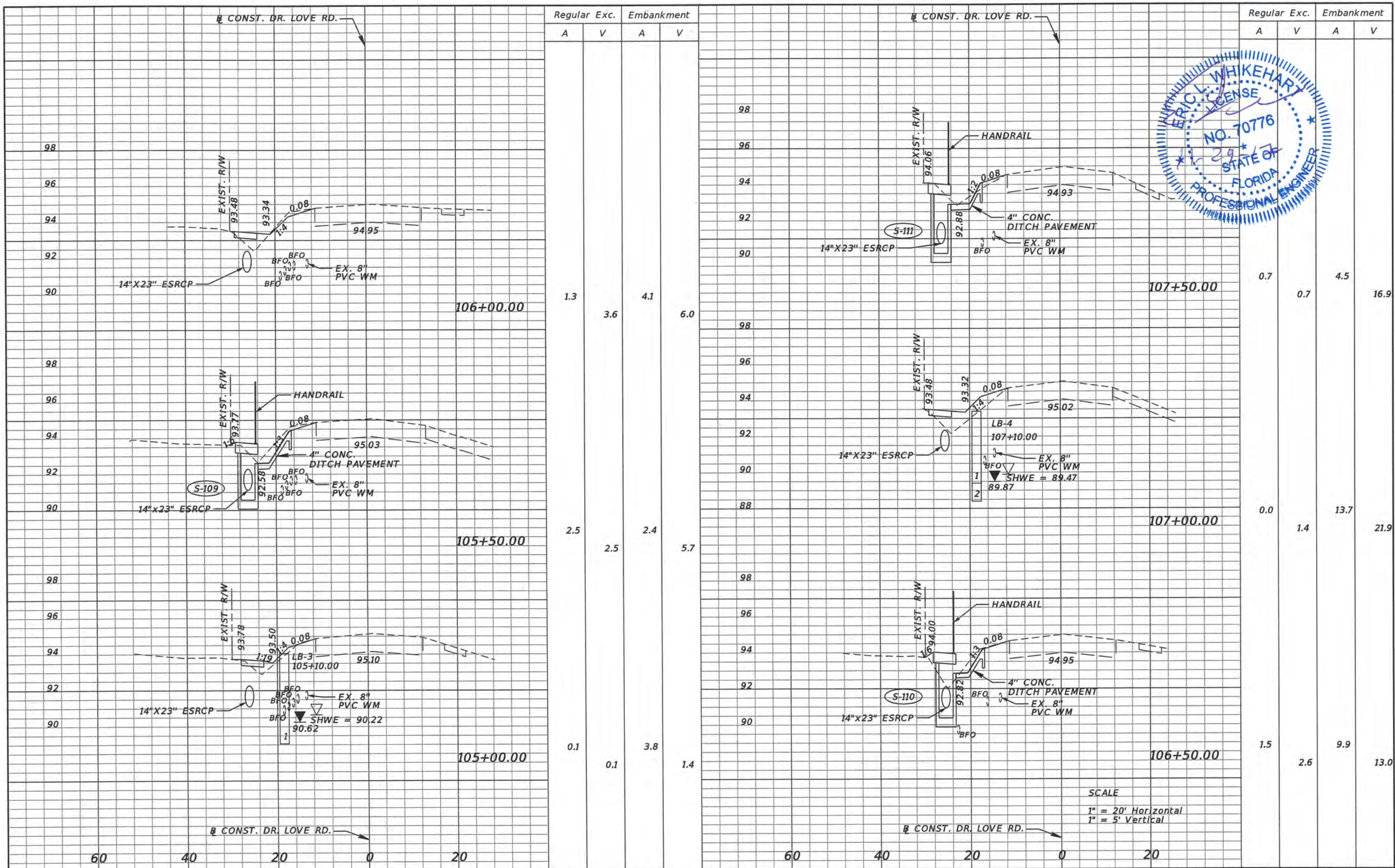


TLP ENGINEERING CONSULTANTS, INC
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

SIDEWALK CROSS SECTIONS

SHEET NO.
 30



Regular Exc. Embankment

A V A V

Regular Exc. Embankment

A V A V

1.3	3.6	4.1	6.0
2.5	2.5	2.4	5.7
0.1	0.1	3.8	1.4

0.7	0.7	4.5	16.9
0.0	1.4	13.7	21.9
1.5	2.6	9.9	13.0

SCALE
1" = 20' Horizontal
1" = 5' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

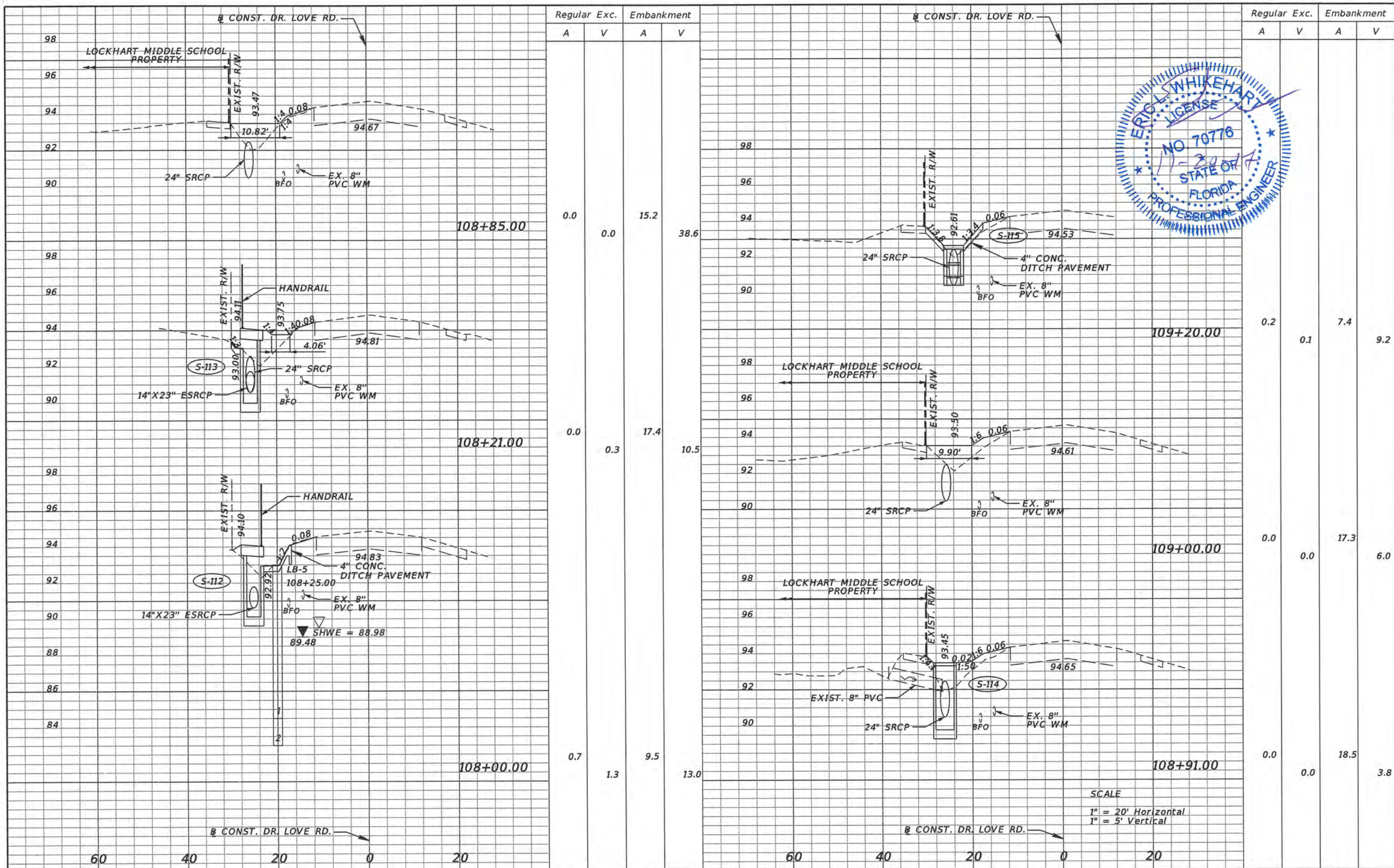


TLP ENGINEERING CONSULTANTS, INC.
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL. 32817
PH. 407-901-5060
ERIC L. WHITEHART, P.E. 70776
CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

SIDEWALK CROSS SECTIONS

SHEET NO.
31



SCALE
 1" = 20' Horizontal
 1" = 5' Vertical

Regular Exc.		Embankment		Regular Exc.		Embankment	
A	V	A	V	A	V	A	V
0.0	0.0	15.2		38.6			
0.0	0.3	17.4		10.5		0.2	7.4
0.0						0.1	9.2
0.7	1.3	9.5				0.0	17.3
						0.0	6.0
						0.0	18.5
						0.0	3.8

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

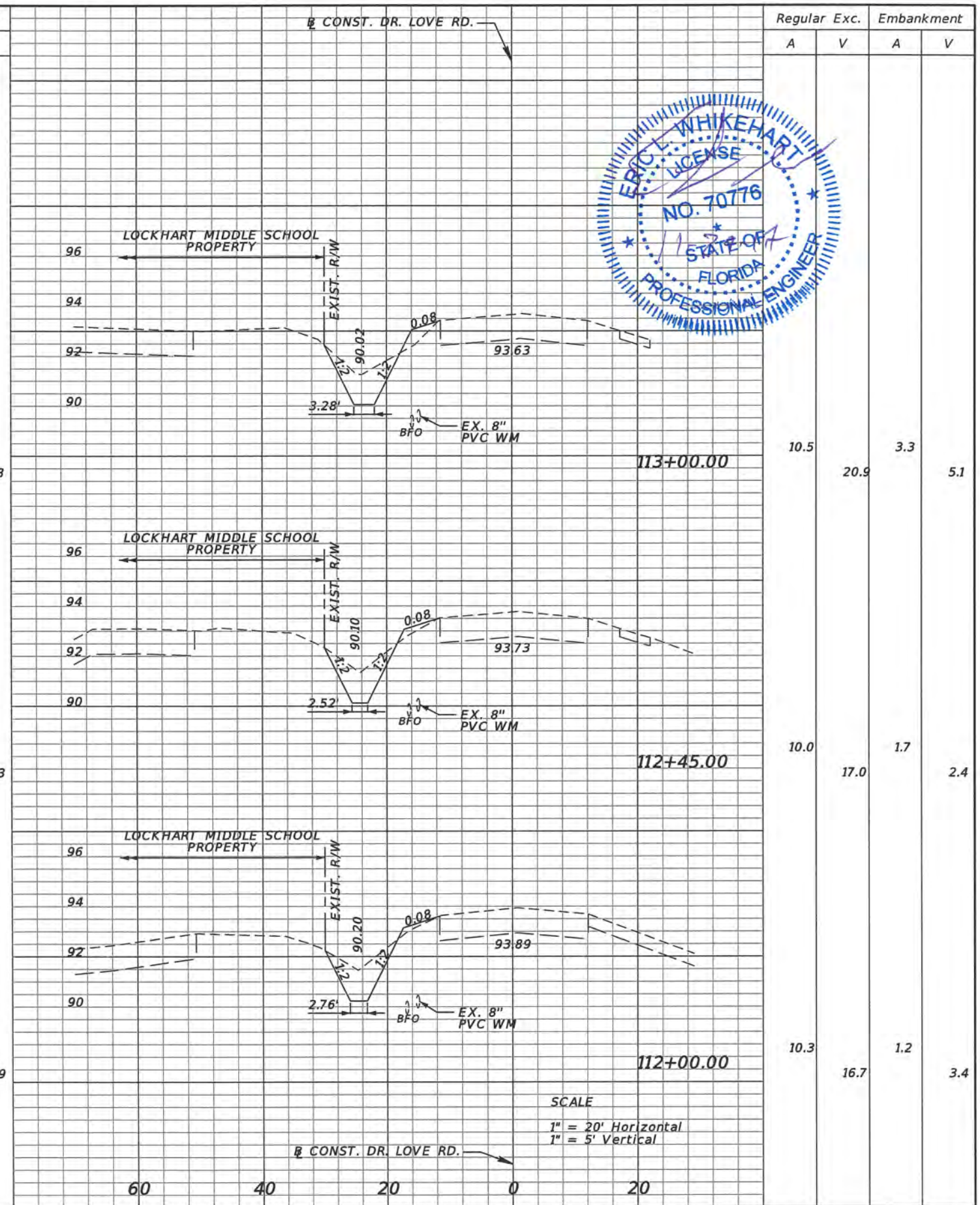
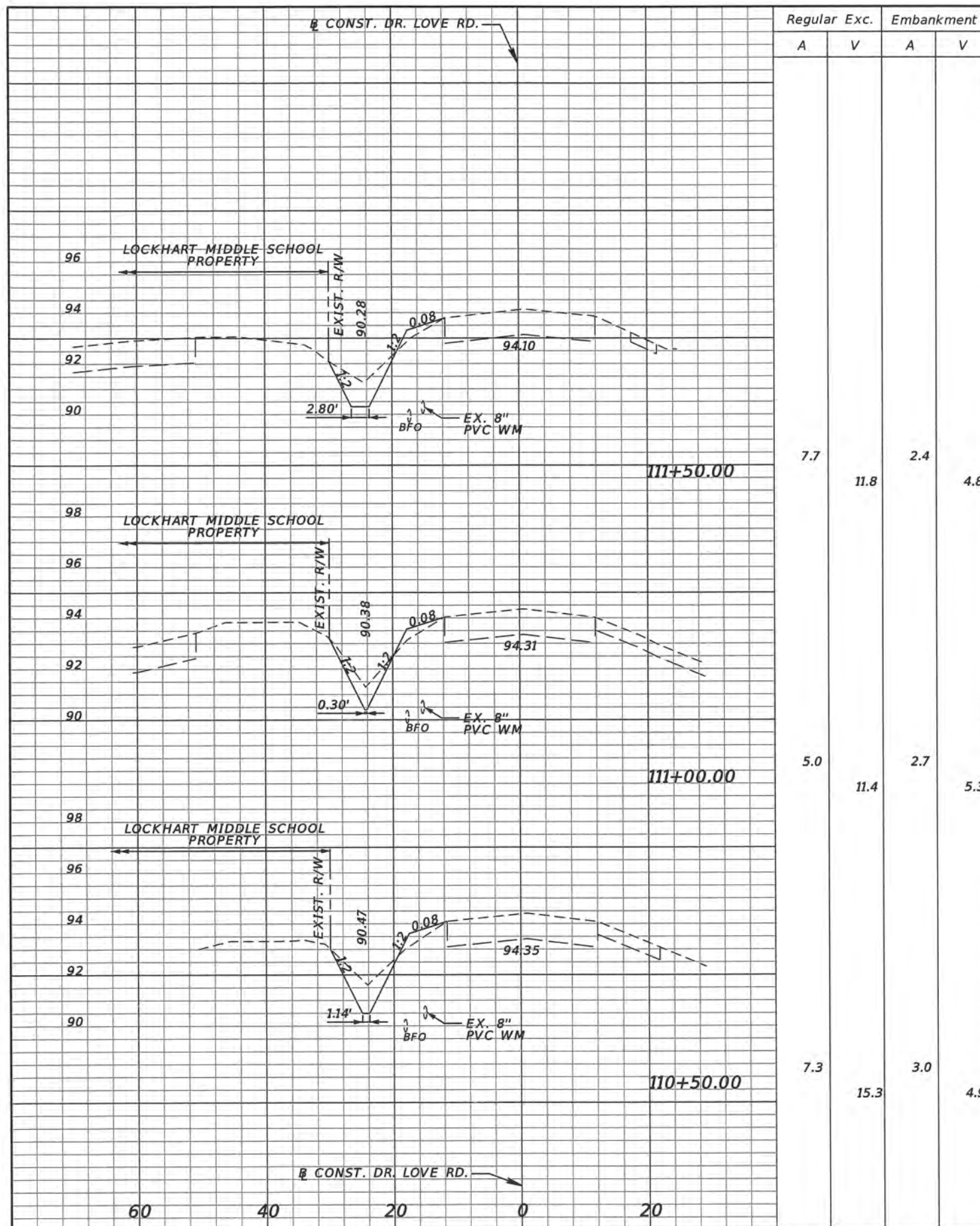


TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR:
 SIDEWALK IMPROVEMENTS FROM
 MICHELLE AVE. TO LOCKHART MIDDLE
 PROJECT NAME PROJECT NO.
 DR. LOVE RD. CIP 2841-450

SIDEWALK CROSS SECTIONS

SHEET NO.
 32



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



TLP ENGINEERING CONSULTANTS, INC.
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL. 32817
 PH. 407-901-5060
 ERIC L. WHITEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

SIDEWALK CROSS SECTIONS

SHEET NO.
34

1 SITE DESCRIPTION

A Construction Activity:

This SWPPP is applicable to all phases of construction for this project and will apply to phased construction plans including, but not limited to, maintenance of traffic plans, roadway widening, and drainage improvements.

Project limits:

The project is located in northwest Orange County on Doctor Love Road from East of Michelle Avenue to Lockhart Middle School. The project limits extend approximately 1,185 LF along Doctor Love Rd. in Section 33, Township 21 south, Range 29 east in Orange County, Florida.

Project Description:

The construction activities will take place over a 0.23 mile length of Moselle Ave. in Orange County, Florida. This project involves construction of a new sidewalk along the left (west) side of Moselle Ave. The existing swale and side drain system will be replaced with a shallow conveyance ditch and storm sewer system. The roadway limits will not be milled and resurfaced, disturbed permanent pervious area will be sodded with performance turf.

B Major Soil Disturbing Activities:

Soil disturbing activities are associated with the construction of the new sidewalk, and storm sewer.

Clear and grub the area necessary to install perimeter erosion controls before beginning any work off pavement for the construction phase. Remove perimeter controls only after all upstream areas are stabilized.

C Area Estimates:

Total Project Area: 1.76 acres.
Total Area To Be Disturbed: 0.52 acres.

E Runoff Data:

(1) runoff coefficients before, during, and after construction:

Runoff Coefficients:

- Grassed Area Adjacent To Pavement, C = 0.20
- Impervious Surface, C = 0.95
- Disturbed Areas During Construction, C = 0.40

Before Construction C = 0.39
During Construction C = 0.41
After Construction C = 0.41

(2) Description of Soil or Quality of Discharge:

The soils within the project limits are comprised primarily poorly drained sands and are classified as hydrologic group A/D. The most common soil type is Zoilo-Urban land complex. Detailed data on the soils and others found within the project limits is supplied in the soil survey of Orange County, prepared by the Natural Resources Conservation Service.

(3) Estimates of Size of Drainage Area for Each Outfall:

Doctor Love Road North Side Roadside Ditch: EX-30 4.927 ac

(4) For locations of outfalls see construction plans. outfalls are located at the following approximate locations (latitude, longitude):

EX-30: Doctor Love Road North Side Roadside Ditch:

(28° 37' 13" N, 81° 25' 18" W)

E Site Map:

The construction plans are being used as the required site map. The location of the required information is described below. The sheet numbers for the plan sheets referenced are identified on the Key Sheet of these construction plans.

*** Drainage Patterns:**

The drainage basin divides and flow directions are shown on the drainage map. The shapes shown in these sheets indicate runoff collected and conveyed by either on site or off site systems.

*** Approximate slopes:**

The slopes of the site can be seen in the roadway cross section sheets and the profile sheets.

*** Areas of soil disturbance:**

The areas to be disturbed are shown in the roadway plans. Any areas where permanent features are shown to be constructed above or below ground will be disturbed.

*** Locations of Temporary Controls:**

These are shown on the stormwater pollution prevention plan sheets.

*** Areas to be Stabilized:**

The sidewalk and driveway construction will be permanently stabilized with concrete additionally, the fill slopes will be permanently stabilized with sod. These details are shown in the typical sections, roadway plans and profiles and cross sections.

*** Surface Waters and Wetlands Within the Site:**

The project limits do not contain wetlands or surface waters.

*** Discharge Points to Surface waters:**

No surface waters are located within the project limits.

F (1) Name of Receiving Waters:

The project drains to a storm sewer system that outfalls into the Little Wekiva River.

(2) Wetland Area:

There are no wetland impacts.

2.0 CONTROLS:

A. Erosion, Sediment, and Turbidity Controls

During construction operations, the following control measures will be used to prevent erosion and sedimentation.

Clearing and grubbing operations are controlled so as to minimize unprotected areas exposed to weather from eroding. Areas outside the limits of construction will not be disturbed. Excavated material will not be deposited in locations where it could be washed away by high water or storm water runoff, and stockpiles shall be covered or encircled with sediment containment devices. New and existing structures will be protected from siltation during construction.

Development of detailed erosion, sediment, and turbidity control plans. The plan will include:

- * The construction project schedule with erosion, sediment, and turbidity control installation and maintenance tied to specific dates of construction activities.
- * Modifications to the department's SWPPP and erosion control plans due to contractor's proposed construction means, methods and phasing. The contractor's erosion control plan will be utilized as the first formal update to the SWPPP.
- * Name and phone number of contractor's representative responsible for erosion and sediment control installation and maintenance on a 24 hour basis.

The Contractor is advised that the contract drawings only indicate erosion, sediment, and turbidity controls at locations determined in the design process. However, the contractor is required to update the SWPPP to reflect any additional controls necessary to prevent the possibility of silting any adjacent lowland parcel, receiving water, or otherwise violating State and Federal permit requirements.

(1) Stabilization Practices

The Contractor shall be responsible for:

a) Erosion and sediment control measures are to be placed prior to, or as the first step in construction. Sediment control devices will be employed as a perimeter defense against any transportation of silt off the site.

b) Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity if the portions of the site has temporarily or permanently ceased.

c) Permanent soil erosion control measures for all slopes, channels, ditches or any disturbed land areas shall be completed immediately after final grading. When it is not possible to permanently protect a disturbed area immediately after grading operations, temporary erosion control measures shall be installed. All temporary protection shall be maintained until permanent measures are in place and established.

d) The Contractor shall furnish, install, maintain and subsequently remove, all necessary erosion control, including but not limited to sediment barriers, inlet protection devices, synthetic hay bales, turbidity barriers and any other miscellaneous items as indicated within the contract document. Or as required per applicable standards or the Engineer.

(2) Structural Practices

The costs for the following structural practices may be included in the approved pay items in the summary of quantities within the construction plans:

- artificial coverings
- turbidity barrier
- sediment barrier
- geotextile filter fabric
- rock bags
- inlet protection devices

B. Storm Water Management and Monitoring

Runoff from Doctor Love Road sheet flows into a swale/storm sewer system whose outfall ultimately discharges to the Little Wekiva River.

C. Other Controls

(1) Waste Disposal - To be developed as part of the contractor's ECP.

(2) Sanitary Waste - To be developed as part of the contractor's ECP.

(3) Fertilizers and Pesticides - To be developed as part of the contractor's ECP.

(4) This project is exempt from having to submit an NOI application as the total disturbed area is less than 1 acre and is not part of a planned phased construction that will exceed 1 acre of disturbed area.

Non-Storm Water Discharges and Hazardous Waste

When the Contractor encounters a spill, the contractor must contact Orange County. Construction will stop and work will not resume until directed by the engineer. Disposition of hazardous waste will be made in accordance with any requirements and regulations of any local, state, or federal agency jurisdiction.



REVISIONS				ORANGE COUNTY GOVERNMENT FLORIDA	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		SHEET NO. 36
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.	
						DR. LOVE RD.	CIP 2841-450	

STORMWATER POLLUTION PREVENTION PLAN (1 OF 2)

3. MAINTENANCE

The Contractor shall be responsible for maintaining all pollution prevention controls. Daily inspections shall be made by the Contractor to determine the effectiveness of erosion, sedimentation, turbidity, and pollution control measures. Remedial action shall be performed immediately.

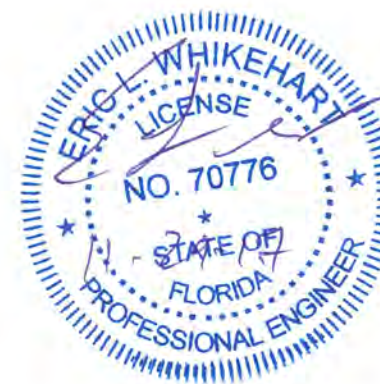
4. INSPECTION

The Contractor is required to inspect all erosion control features at least once every seven calendar days and within 24 hours of the end of a storm of 0.5 inches or greater. In addition, maintain all erosion control features as required herein and as specified in State and or Federal environmental regulatory permits. This includes, but is not limited to, the daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that silt fences are properly located for effectiveness. The Contractor will use a form acceptable to the Engineer to report all inspection findings and corrective actions taken as a result of the inspection. The Contractor will sign each inspection report and submit it weekly to the Engineer.

The Contractor shall be responsible for the installation and maintenance of rain gauges. Daily Rainfall data will be recorded and submitted to the Engineer along with the weekly inspection reports.

5. REFERENCES

The construction plans and specifications for Doctor Love Road Sidewalk Improvements are hereby referenced and made a part of this plan.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

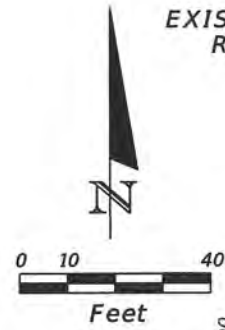


TLP ENGINEERING CONSULTANTS, INC
 11486 CORPORATE BLVD., SUITE 151
 ORLANDO, FL 32817
 PH. 407-901-5060
 ERIC L. WHIKEHART, P.E. 70776
 CERT. OF AUTH. #27205

DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

**STORMWATER POLLUTION
 PREVENTION PLAN (2 OF 2)**

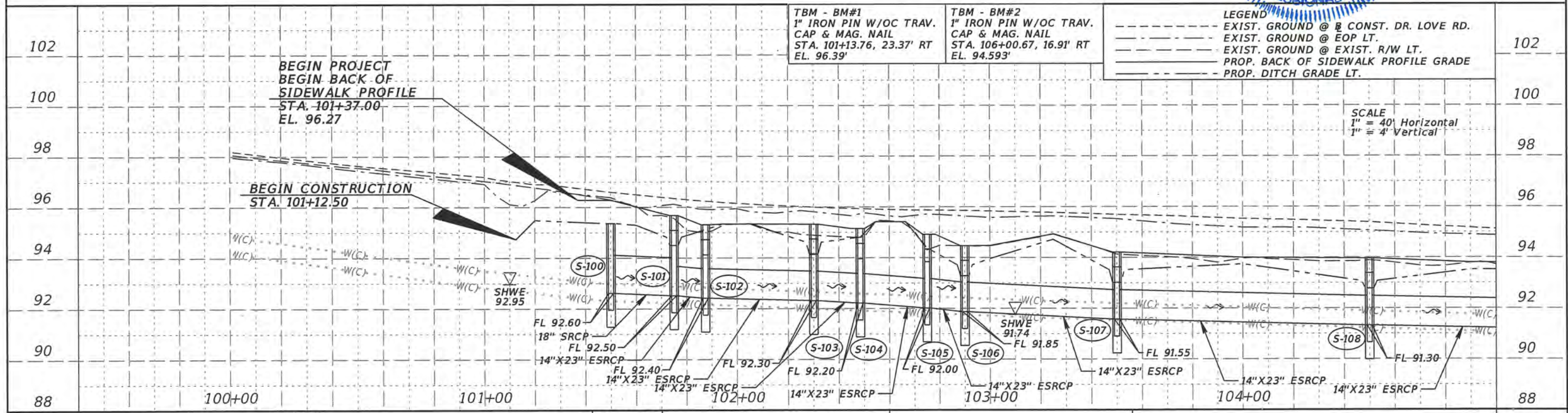
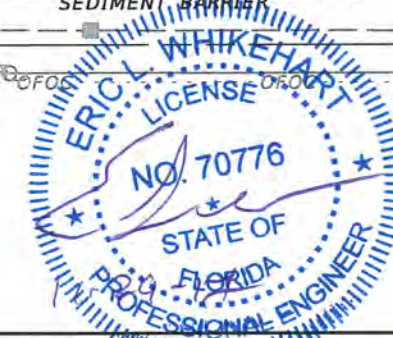
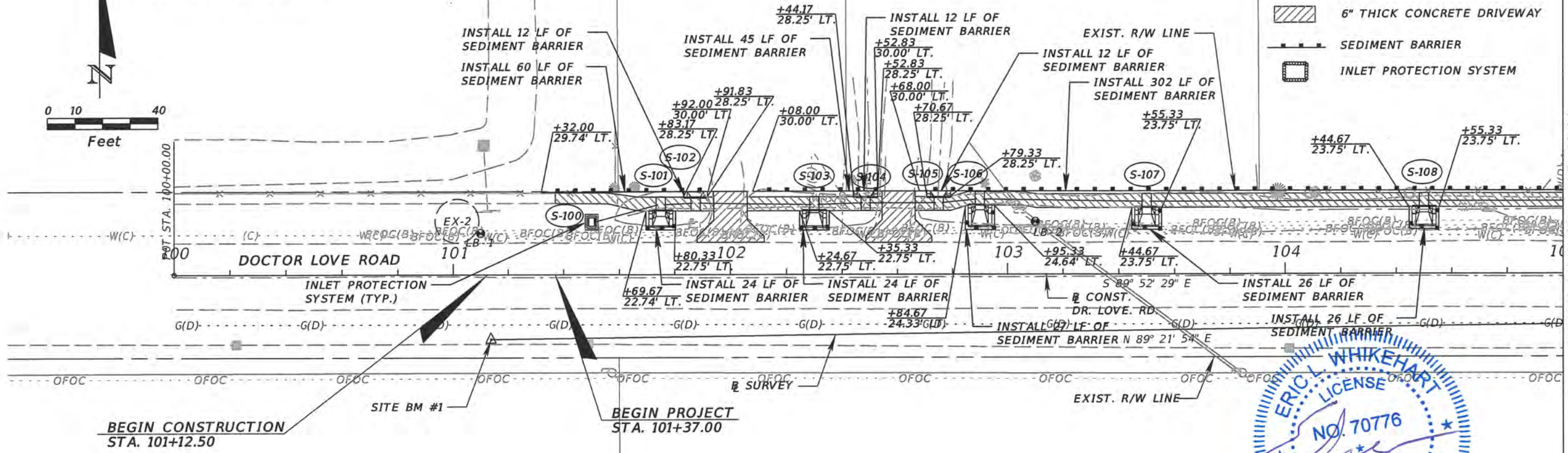
SHEET
 NO.
 37



EXIST. VICTORIA CHASE
RETENTION POND

LEGEND

- 4" THICK CONC. SIDEWALK
- 6" THICK CONCRETE DRIVEWAY
- SEDIMENT BARRIER
- INLET PROTECTION SYSTEM



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

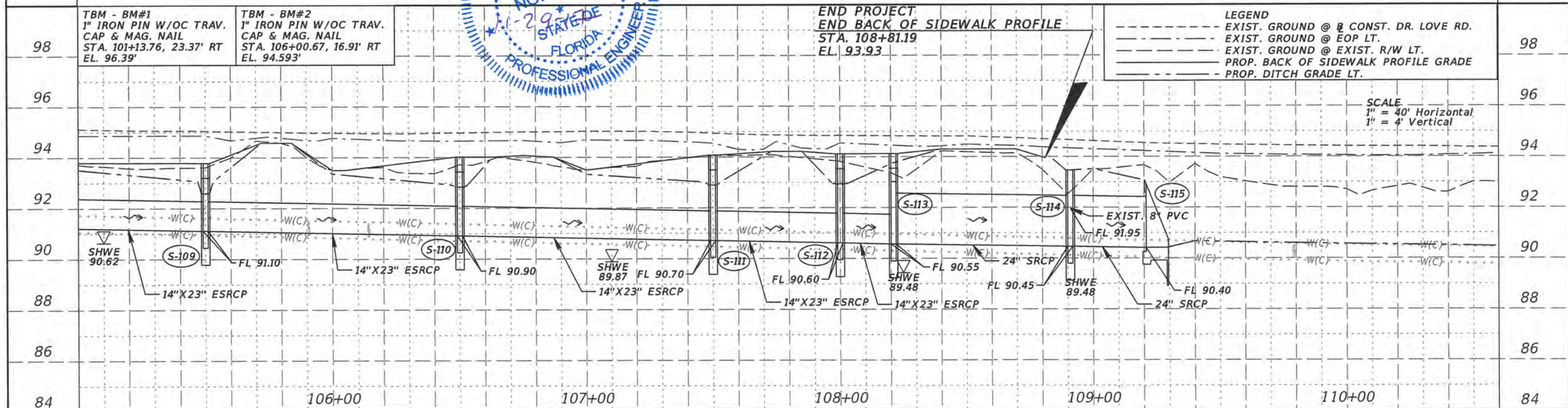
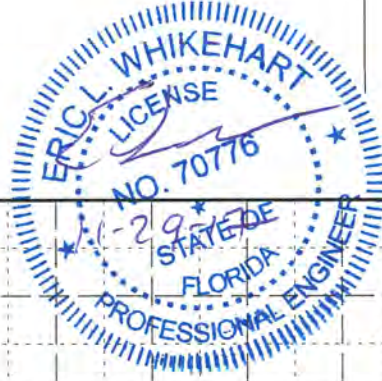
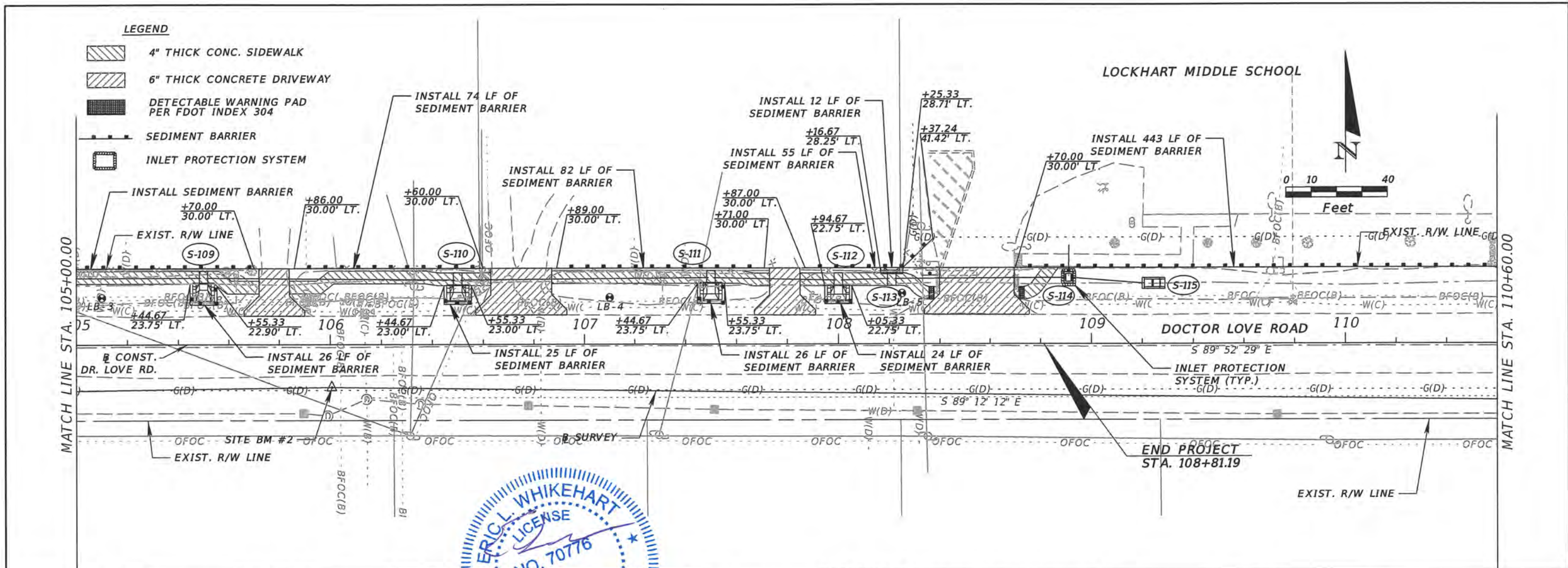


TLP ENGINEERING CONSULTANTS, INC.
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL. 32817
PH. 407-901-5060
ERIC L. WHIKEHART, P.E. 70776
CERT. OF AUTH. #27205

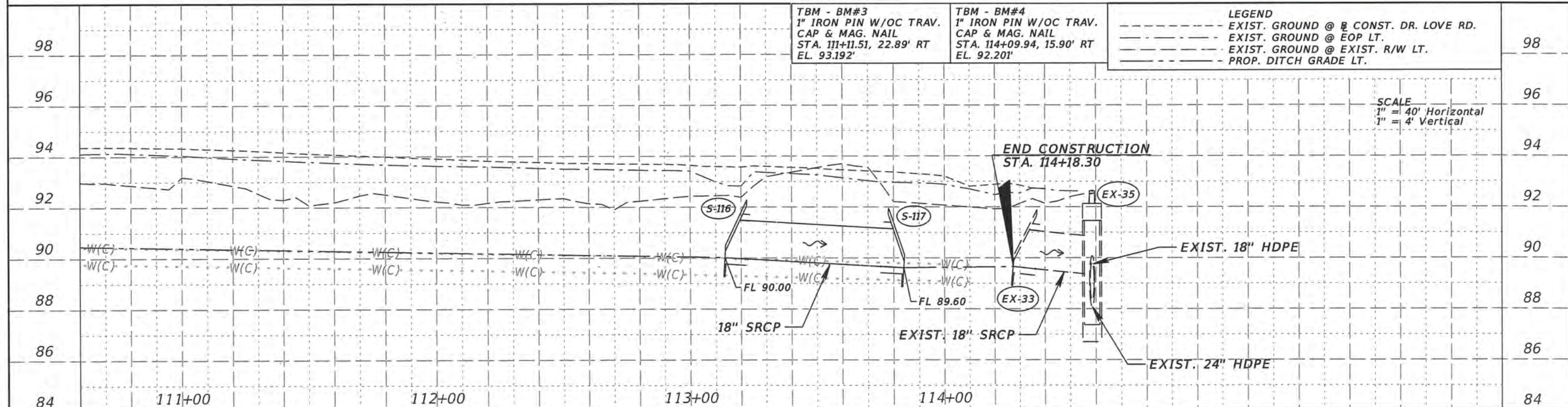
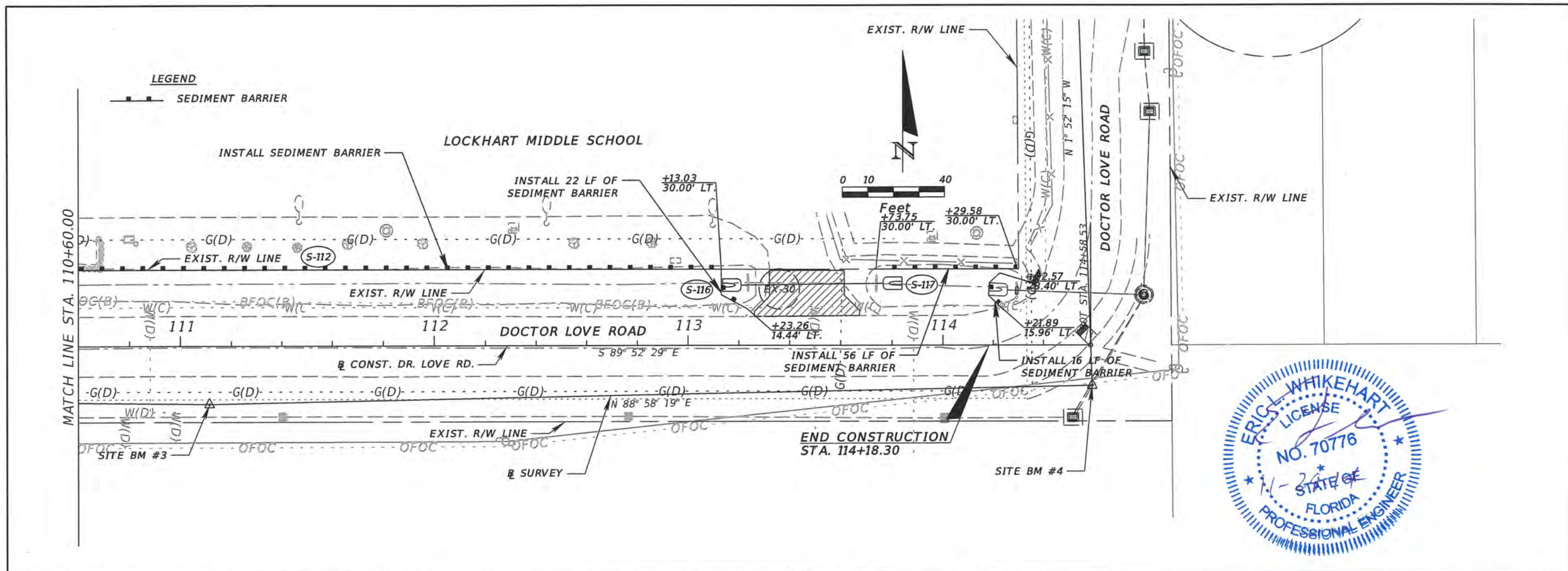
SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

**STORMWATER POLLUTION
PREVENTION PLAN**

SHEET
NO.
38

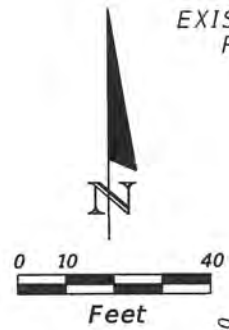


REVISIONS		DESCRIPTION		ORANGE COUNTY GOVERNMENT	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205	SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE		STORMWATER POLLUTION PREVENTION PLAN	SHEET NO. 39
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		



REVISIONS		DESCRIPTION	
DATE	DESCRIPTION	DATE	DESCRIPTION

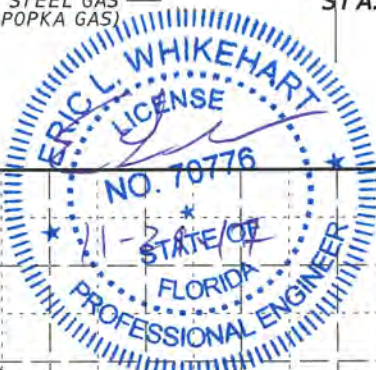
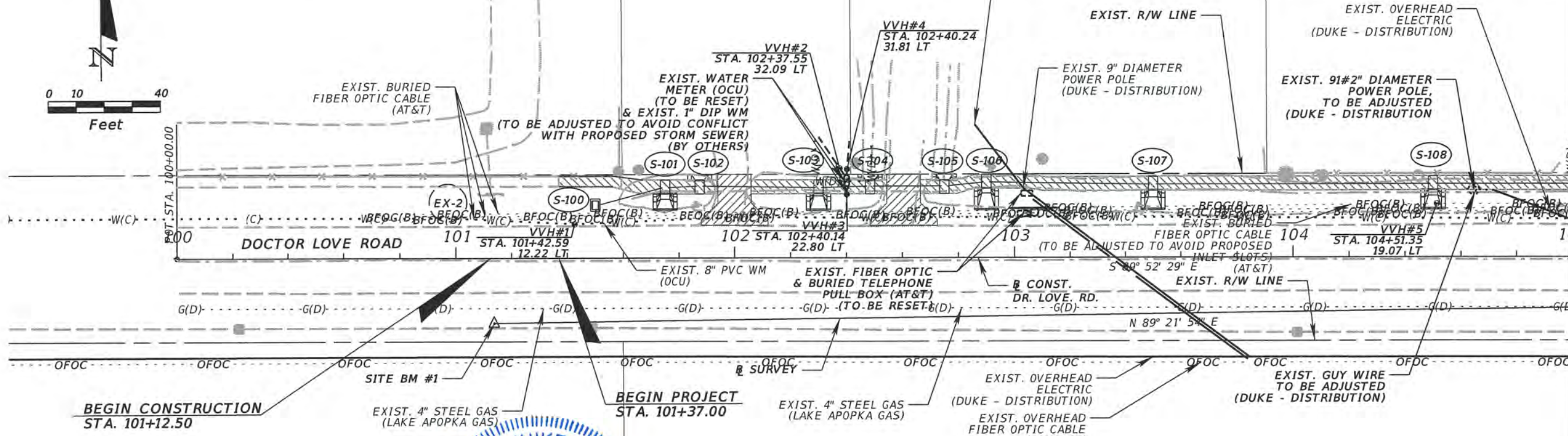
	TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205	SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE PROJECT NAME: DR. LOVE RD. PROJECT NO.: CIP 2841-450	STORMWATER POLLUTION PREVENTION PLAN	SHEET NO. 40
	Tyler Renfro 11/16/2017 6:23:36 PM	J:\PROJECTS\T201208 - Orange County Cont Svcs\DOCTOR_LOVE_ROAD_Y12-905-CH_DOCTOR_LOVE_ROAD\drainage\swppr03.dgn		



EXIST. VICTORIA CHASE
RETENTION POND

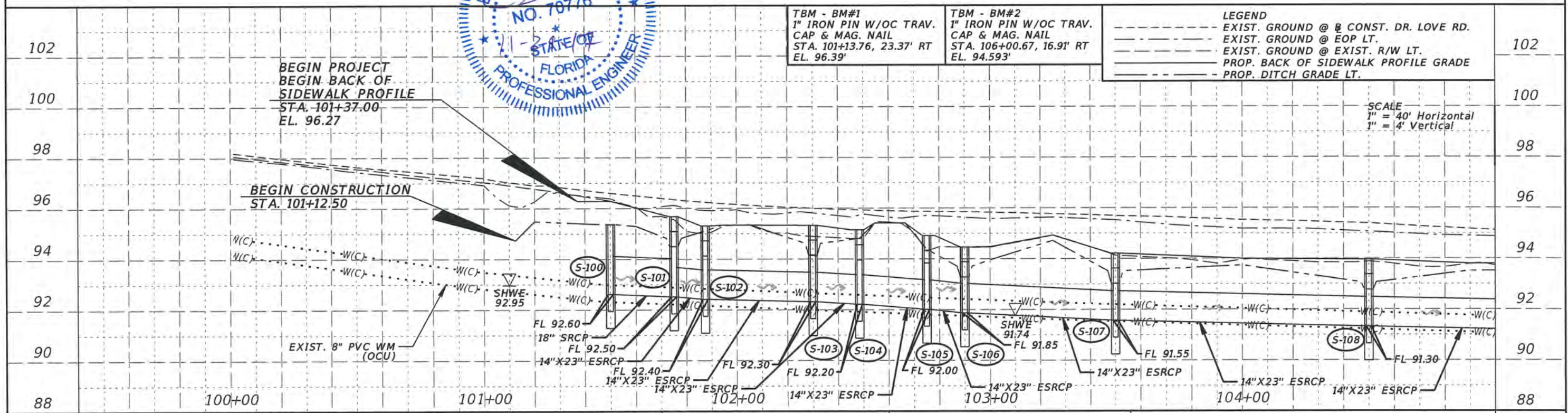
LEGEND

	4" THICK CONC. SIDEWALK
	6" THICK CONCRETE DRIVEWAY

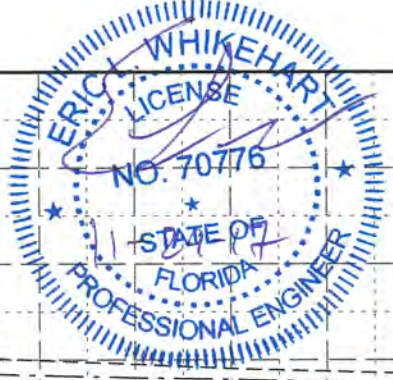
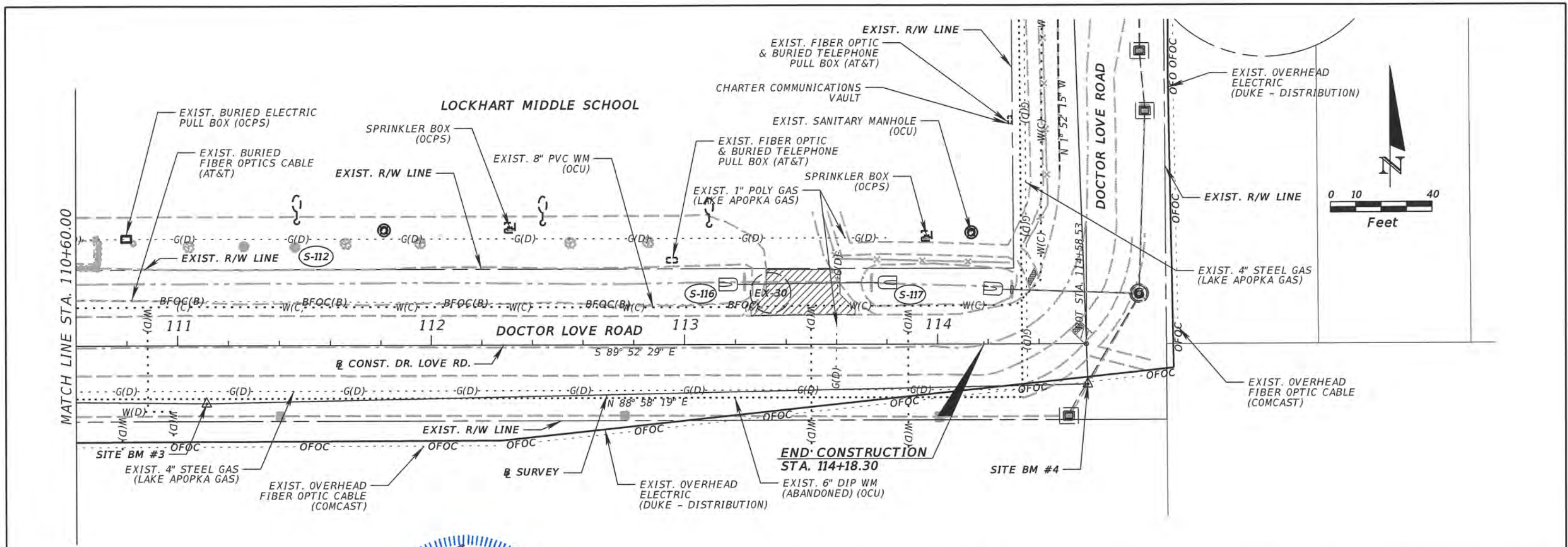


TBM - BM#1 1" IRON PIN W/OC TRAV. CAP & MAG. NAIL STA. 101+13.76, 23.37' RT EL. 96.39'	TBM - BM#2 1" IRON PIN W/OC TRAV. CAP & MAG. NAIL STA. 106+00.67, 16.91' RT EL. 94.593'	LEGEND - - - - - EXIST. GROUND @ CONST. DR. LOVE RD. - - - - - EXIST. GROUND @ EOP LT. - - - - - EXIST. GROUND @ EXIST. R/W LT. - - - - - PROP. BACK OF SIDEWALK PROFILE GRADE - - - - - PROP. DITCH GRADE LT.
--	---	--

SCALE
1" = 40' Horizontal
1" = 4' Vertical



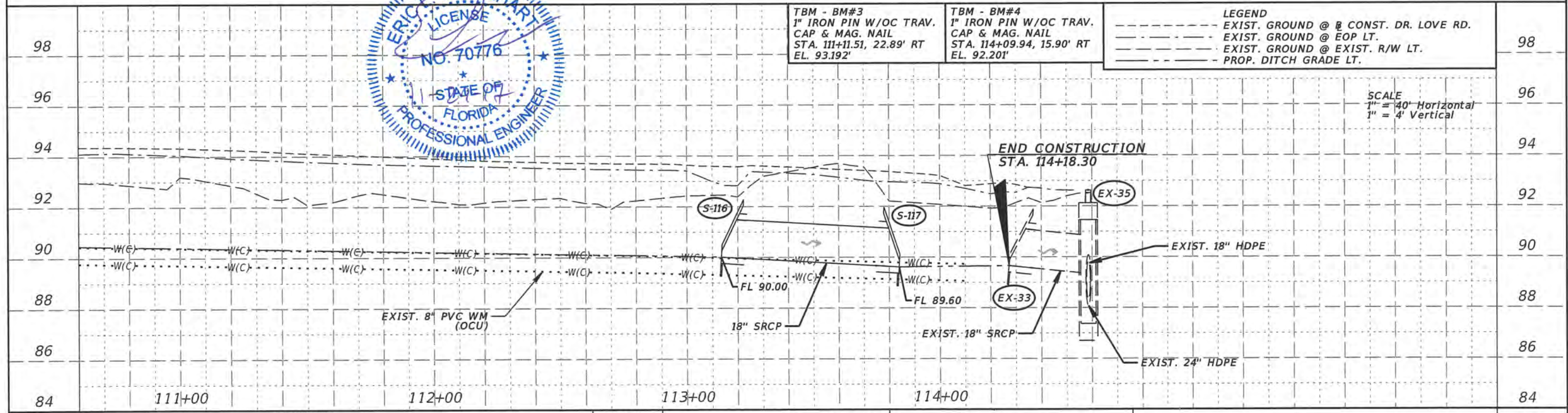
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		DATE	DESCRIPTION	DATE	DESCRIPTION					<p>ORANGE COUNTY GOVERNMENT</p> <p>TLP ENGINEERING CONSULTANTS, INC. 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL. 32817 PH. 407-901-5060 ERIC L. WHIKEHART, P.E. 70776 CERT. OF AUTH. #27205</p>	<p>SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE</p> <table border="1"> <tr> <th>PROJECT NAME</th> <th>PROJECT NO.</th> </tr> <tr> <td>DR. LOVE RD.</td> <td>CIP 2841-450</td> </tr> </table>	PROJECT NAME	PROJECT NO.	DR. LOVE RD.	CIP 2841-450	<p>UTILITY ADJUSTMENT SHEETS</p>	<p>SHEET NO. 41</p>
DATE	DESCRIPTION	DATE	DESCRIPTION														
PROJECT NAME	PROJECT NO.																
DR. LOVE RD.	CIP 2841-450																
<p>DATE: 11/16/2017 6:23:37 PM</p>																	



TBM - BM#3 1" IRON PIN W/OC TRAV. CAP & MAG. NAIL STA. 111+11.51, 22.89' RT EL. 93.192'	TBM - BM#4 1" IRON PIN W/OC TRAV. CAP & MAG. NAIL STA. 114+09.94, 15.90' RT EL. 92.201'
---	---

LEGEND	
---	EXIST. GROUND @ CONST. DR. LOVE RD.
---	EXIST. GROUND @ EOP LT.
---	EXIST. GROUND @ EXIST. R/W LT.
---	PROP. DITCH GRADE LT.

SCALE
1" = 40' Horizontal
1" = 4' Vertical



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



TLP ENGINEERING CONSULTANTS, INC.
11486 CORPORATE BLVD., SUITE 151
ORLANDO, FL. 32817
PH. 407-901-5060
ERIC L. WHITEHART, P.E. 70776
CERT. OF AUTH. #27205

SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	
PROJECT NAME	PROJECT NO.
DR. LOVE RD.	CIP 2841-450

UTILITY ADJUSTMENT SHEETS

SHEET NO.
43

SUMMARY OF VERIFIED UTILITIES

Vvh #	UTILITY DESCRIPTION (Owner, Type)	SIZE	MATERIALS	# OF CONST. PALM PARKWAY			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
TH 1	ORANGE COUNTY UTILITIES, WATER MAIN	8 1/2"	PVC	101+42.59	12.2	LT	96.34	92.64	No conflict.
TH 2	ORANGE COUNTY UTILITIES, WATER SERVICE LINE	1"	PVC	102+37.55	32.1	LT	94.83	94.03	Water service line to be adjusted to avoid conflict.
TH 3	ORANGE COUNTY UTILITIES, WATER SERVICE LINE	1"	PLASTIC	102+40.14	22.8	LT	94.14	92.59	Water service line to be adjusted to avoid conflict.
TH 4	ORANGE COUNTY UTILITIES, WATER SERVICE LINE	1"	PVC	102+40.24	31.8	LT	94.81	93.91	Water service line to be adjusted to avoid conflict.
TH 5	BELL SOUTH, FIBER OPTIC CABLE	1"	DBC	104+51.35	19.1	LT	93.97	91.52	FOC adjust to avoid conflict with inlet slots.
TH 6	ORANGE COUNTY UTILITIES, WATER SERVICE LINE	1"	PLASTIC	105+63.02	21.5	LT	93.60	92.10	Water service line to be adjusted to avoid conflict.
TH 7	N/A	-	-	105+90.87	27.3	LT	93.61	-	Per records water main should be present, excavated to 5 feet no utility found.
TH 8	BELL SOUTH, FIBER OPTIC CABLE	1"	DBC	106+45.11	18.9	LT	93.95	91.30	FOC adjust to avoid conflict with inlet slot.
TH 9	ORANGE COUNTY UTILITIES, WATER SERVICE LINE	1"	PLASTIC	107+30.94	17.7	LT	93.71	91.86	Water service line to be adjusted to avoid conflict.
TH 10	ORANGE COUNTY UTILITIES, WATER MAIN	8 1/2"	PVC	108+18.29	13.1	LT	94.34	90.14	No conflict.
TH 11	ORANGE COUNTY UTILITIES, WATER MAIN,	6 1/2"	PVC	109+79.36	30.3	LT	92.81	89.81	Caution, proposed ditch bottom at Elv. 90.55, cover = 0.74'



<table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				REVISIONS				DATE	DESCRIPTION	DATE	DESCRIPTION					 <p>TLP ENGINEERING CONSULTANTS, INC 11486 CORPORATE BLVD., SUITE 151 ORLANDO, FL 32817 PH. 407-901-5060 ERIC L. WHITEHART, P.E. 70776 CERT. OF AUTH. #27205</p>	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE. TO LOCKHART MIDDLE	<p align="center">SUMMARY OF VERIFIED UTILITIES</p>	SHEET NO. 44
REVISIONS																			
DATE	DESCRIPTION	DATE	DESCRIPTION																
PROJECT NAME		PROJECT NO.																	
DR. LOVE RD.		CIP 2841-450																	

ROADWAY SOILS SURVEY REPORT OF TESTS

TOWNSHIP: 21 SOUTH
RANGE: 29 EAST
SECTION: 33

PROJECT NO.: AEA PROJ. NO. 201304-6
ROAD NAME: DR. LOVE ROAD
SUBMITTED BY: ANTILLIAN ENGINEERING ASSOCIATES, INC.
CIP NO.: 2841-450


DATE OF SURVEY: 06/13/14
SURVEYED BY: ANTILLIAN ENGINEERING ASSOCIATES, INC.
SURVEY BEGINS STA. NO.: 101+10.00
SURVEY ENDS STA. NO.: 108+25.00
DATE REPORTED: 07/11/14

STRATUM NO.	ORGANIC CONTENT				SIEVE ANALYSIS RESULTS (% PASSING)					ATTERBERG LIMITS (%)			AASHTO GROUP	DESCRIPTION	CORROSION TEST RESULTS				ENVIRONMENTAL CLASSIFICATION (SUBSTRUCTURE)		
	LBR VALUE	NO. OF TESTS	% ORGANIC	MOISTURE CONTENT %	NO. OF TESTS	#10 MESH	#40 MESH	#60 MESH	#100 MESH	#200 MESH	NO. OF TESTS	LIQUID LIMIT			PLASTICITY INDEX	RESISTIVITY ohm-cm	CHLORIDES ppm	SULFATES ppm	pH	CONCRETE	STEEL
1	--	--	--	--	4	--	--	--	--	3-8	--	--	--	A-3	LIGHT BROWNISH GRAY, DARK GRAY, GRAYISH BROWN, BROWN, VERY PALE BROWN, PALE BROWN, YELLOWISH BROWN AND VERY DARK BROWN SAND	--	--	--	--	--	--
2	--	--	--	--	2	--	--	--	--	11-12	--	--	--	A-2-4	BROWN AND DARK GRAY SILTY SAND	--	--	--	--	--	--

NOTES

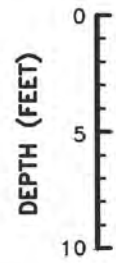
1. THE SYMBOL "--", IF PRESENT, REPRESENTS UNMEASURED SOIL PARAMETERS.
2. STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY. ANY STRATA CONNECTION LINES SHOWN ARE FOR ESTIMATING EARTH WORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
3. ▽ - ENCOUNTERED GROUNDWATER LEVEL
4. ▽ - ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL



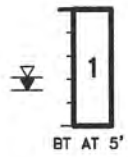
<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS		DATE	DESCRIPTION			 <p>ANTILLIAN ENGINEERING ASSOC., INC. 3331 BARTLETT BOULEVARD ORLANDO, FL. 32811 PH. 407-422-1441 PETER G. SUAH, P.E. 46910 CERT. OF AUTH. EB6685</p>	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE TO LOCKHART MIDDLE	<p style="text-align: center;">REPORT OF TESTS</p>	SHEET NO.
REVISIONS											
DATE	DESCRIPTION										
		PROJECT NAME: DR. LOVE RD. PROJECT NO.: CIP 2841-450	G-1								

S:\Current Projects\UP GC Cont Civil Eng Y12-9050\201304-B Dr. Love Maselle and Nela Avenue Sidewalk Imps\A Drawings\GC Sidewalk Master - Copy.dwg, Dr. Love Auger Borings, 9/26/2016 10:42:49 AM

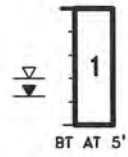
BORING:
STATION:
OFFSET:



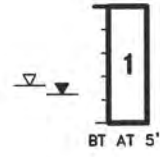
LB-1
101.10.00
15.00 LT



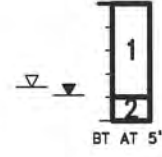
LB-2
103+10.00
19+00 LT



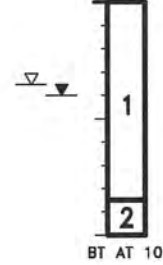
LB-3
105+10.00
18.50 LT



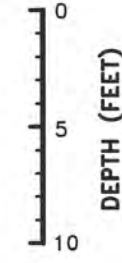
LB-4
107+10.00
18.50 LT



LB-5
108+25.00
20.00 LT



BORING:
STATION:
OFFSET:



STRATUM NO.	AASHTO SOIL CLASSIFICATION SYMBOL	DESCRIPTION
1	A-3	LIGHT BROWNISH GRAY, DARK GRAY, GRAYISH BROWN, BROWN, VERY PALE BROWN, PALE BROWN, YELLOWISH BROWN AND VERY DARK BROWN SAND
2	A-2-4	BROWN AND DARK GRAY SILTY SAND



REVISIONS		DATE		DESCRIPTION	
DATE	DESCRIPTION	DATE	DESCRIPTION		

 ORANGE COUNTY GOVERNMENT <small>FLORIDA</small>	ANTILLIAN ENGINEERING ASSOC., INC. 3331 BARTLETT BOULEVARD ORLANDO, FL. 32811 PH. 407-422-1441 PETER G. SUAH, P.E. 46910 CERT. OF AUTH. EB6685	DESIGN PLANS FOR: SIDEWALK IMPROVEMENTS FROM MICHELLE AVE TO LOCKHART MIDDLE		REPORT OF AUGER BORINGS	SHEET NO.
		PROJECT NAME DR. LOVE RD.	PROJECT NO. CIP 2841-450		G-2



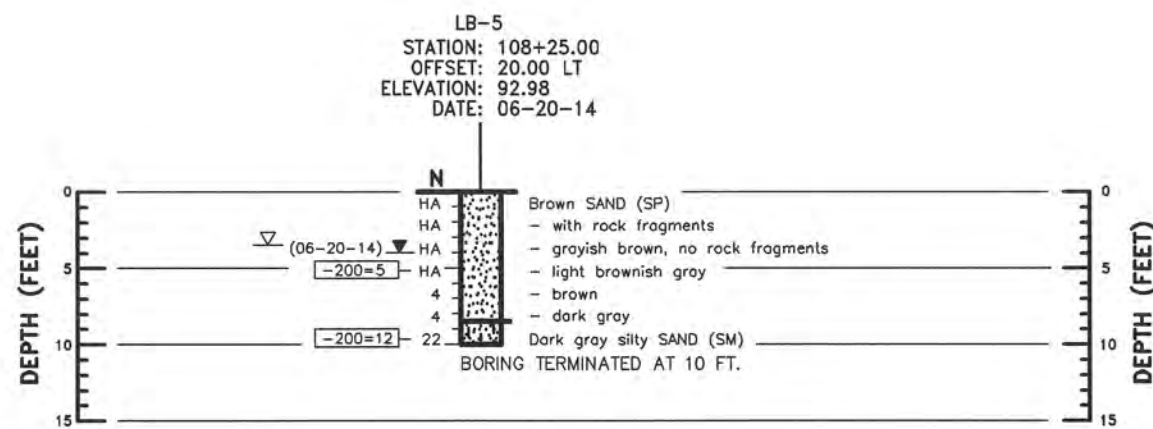
LEGEND

- SAND
- SILTY SAND
- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- CHANGE IN SOIL STRATA
- N** SPT N-VALUE IN BLOWS PER FOOT (ASTM D 1586)
- HA** BORING ADVANCED BY HAND AUGER TO AVOID CONFLICT WITH UTILITIES
- (SP)** UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL BASED ON VISUAL EXAMINATION AND LABORATORY TESTING
- (06-20-14) 24 HOUR GROUNDWATER LEVEL READING
- ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
- 200** PERCENT PASSING U.S. STANDARD NO. 200 SIEVE

NOTES

1. BORING WAS DRILLED BY RELIABLE FIELD SERVICES ON 06/30/14 USING A BR2500 RIG. SPT WAS CONDUCTED WITH A MANUAL HAMMER.

SOIL CONSISTENCY (BASED ON EMPIRICAL CORRELATION WITH SPT N-VALUE)
GRANULAR SOILS
VERY LOOSE - LESS THAN 4 BLOWS/FT.
LOOSE - 4 TO 10 BLOWS/FT.
MEDIUM DENSE - 10 TO 30 BLOWS/FT.
DENSE - 30 TO 50 BLOWS/FT.
VERY DENSE - MORE THAN 50 BLOWS/FT.
FINE-GRAINED SOILS
VERY SOFT - LESS THAN 2 BLOWS/FT.
SOFT - 2 TO 4 BLOWS/FT.
FIRM - 4 TO 8 BLOWS/FT.
STIFF - 8 TO 15 BLOWS/FT.
VERY STIFF - 15 TO 30 BLOWS/FT.
HARD - MORE THAN 30 BLOWS/FT.



S:\Current Projects\11.00.00\11.00.04-8 Dr. Love Moselle and Neo Avenue Sidewalk Improvements\11.00.04 Drawings\00 Sidewalk Master - Copy.dwg, Dr. Love SPT Boring, 9/25/2014, 10:43:12 AM

REVISIONS				 ORANGE COUNTY GOVERNMENT <small>FLORIDA</small>	ANTILLIAN ENGINEERING ASSOC., INC. 3331 BARTLETT BOULEVARD ORLANDO, FL 32811 PH. 407-422-1441 PETER G. SUAH, P.E. 46910 CERT. OF AUTH. EB6685	DESIGN PLANS FOR:		REPORT OF SPT BORING	SHEET NO. G-3
DATE	DESCRIPTION	DATE	DESCRIPTION			PROJECT NAME	PROJECT NO.		
						DR. LOVE RD.	CIP 2841-450		

NOTES

DESIGN SPECIFICATIONS:

American Association of State Highway and Transportation Officials (AASHTO) "LRFD Bridge Design Specifications", Third Edition, 2004, including 75 year Design Life
 Florida Department of Transportation (FDOT) "Structures Design Guidelines for Load and Resistance Factor Design", January 2006.
 Florida Building Commission "Florida Building Code", 2004 Edition, except for Handrail diameter.
 U.S. Access Board "ADA Accessibility Guidelines", July 2004 as adopted with amendments by the USDOT under 49CFR Part 37.
 National Fire Protection Association (NFPA) 101, "Life Safety Code", 2003 Edition.

DESIGN LIVE LOADS:

Post and Base Plate: Equivalent point load = 200 lb. load + (50 lb./ft. x Post Spacing (ft.)) applied transversely at top rail connection.
 Top & Bottom Rails: 50 lb./ft. uniform load applied simultaneously vertically and transversely + 200 lb. concentrated point load applied at midspan in the directions for both maximum stress and deflection.
 Handrails: Maximum of either 50 lb./ft. uniform load applied in any direction or 250 lb. concentrated load applied in any direction at any point along the top.
 Pickets: Concentrated 200 lb. load applied transversely over an area of 1.0 square foot.

GEOMETRY:

Clear Opening between Pickets: Shall reject the passage of a 4" diameter sphere below 42" height, and a 8" diameter sphere above 42" height.
 Clear Opening under Bottom Rail: Shall reject the passage of a 2" diameter sphere.
 ADA Handrail Height: 34"
 Pedestrian Railing Height: 42" minimum.
 Bicycle Railing Height: 54" minimum.

DEFLECTION:

Total combined deflection of the railing system including the resilient or neoprene pads, due to the top rail design live loads, shall not exceed 1 1/2" when measured at midspan of the top rail.

APPLICABILITY NOTE TO DESIGNER:

This railing is not applicable for shielding drop-off hazards for vehicular traffic. This railing is applicable for all cases where a pedestrian or bicyclist drop-off hazard exceeds 2'-6" or when a drop-off hazard is less than 2'-6" and is required by design. See Index No. 861 for special requirements and modifications for use on bridges. Adequate foundation support shall be provided for anchorage and stability against overturning. For unusual site conditions a site specific railing is to be designed by the responsible engineer. The railing shown on these drawings requires a handrail for ramps steeper than a 5% grade to conform with the requirements of the Americans with Disabilities Act (ADA). Refer to FDOT Plans Preparation Manual (Volume I) Chapters 4 & 8, for the definition of vehicular, pedestrian and bicyclist "drop-off hazards".

ALTERNATE DESIGN:

Manufacturers seeking approval of proprietary railing systems for inclusion on the Qualified Products List as pre-approved alternate designs must submit application along with design documentation showing the proprietary railing system is designed to meet the design life, live loads, geometry and deflection requirements specified herein. All fixed joints are to be either welded or commercially designed fixed joint systems. Each field section of railing must be identified with a permanently affixed label with the manufacturer's name and the FDOT QPL approval number. Labels must be a maximum of 1 1/2" by 3" and located at the base of a post within the field section. Project specific shop drawings are required for QPL approved railings, see Shop Drawings note.

In lieu of design calculations, submit certified test reports from an approved independent testing agency. Test railing systems in accordance with ASTM E935 (Test Method A & C) using test loads at least 175% of the design load. Test proprietary or nonstandard anchorage systems in accordance with ASTM E894 (Flexural Test). Anchorage systems must resist the minimum of 175% of the design load for failure of the steel anchors or 220% of the design load for failure in the concrete foundation.

RAILS, PICKETS & POSTS:

Structural Tube, Pipe and Bar shall be in accordance with ASTM B221 or ASTM B429, Alloy 6061-T6. End Rail 90° bends and corner bends with maximum 4'-0" post spacing, may be Alloy 6063-T6. Posts and End Rails shall be fabricated and installed plumb, ± 1" tolerance when measured at 3'-6" above the foundation. Pickets shall be fabricated parallel to the posts. Corners and changes in tangential longitudinal alignment, shall be made continuous with a 9" bend radius. For changes in tangential longitudinal alignment greater than 45°, posts shall be positioned at a maximum distance of 2'-0" each side of the corner and shall not be located at the corner apex. For curved longitudinal alignments the top and bottom rails and handrails shall be shop bent to match the alignment radius.

RAILING MEMBER DIMENSIONS TABLE

MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS
Posts	2" x 4" Rectangular Tube	2.00" x 4.00"	0.250"
Rails	2" NPS (Sch. 40)	2.375"	0.154"
Rail Joint/Splice Sleeves	1 1/2" NPS (Sch. 40)	1.900"	0.145"
Handrail Joint/Splice Sleeves	1" NPS (Sch. 40)	1.315"	0.133"
Handrails	1 1/2" NPS (Sch. 40)	1.900"	0.145"
Handrail Support Bar	1" Ø Round Bar	1.000"	N/A
Pickets	3/4" NPS (Sch. 40)	1.050"	0.113"

BASE PLATES & POST CAPS:

Base Plates and Post Cap plates shall be in accordance with ASTM B209, Alloy 6061-T6.

SHIM PLATES:

Shim Plates shall be aluminum in accordance with ASTM B209, Alloy 6061 or 6063. Shim plates shall be used for foundation height adjustments greater than 1/4" and localized irregularities greater than 1/8". Field trim shim plates when necessary to match the contours of the foundation. Bevelled shim plates may be used in lieu of trimmed flat shim plates shown. Stacked shim plates must be bonded together with adhesive bonding material and limited to a maximum total thickness of 1/2", unless longer anchor bolts are provided for the exposed thread length.

COATINGS:

The aluminum railing shall be mill finish unless otherwise noted in the Contract Documents. All nuts, bolts and washers shall be hot-dip galvanized in accordance with Section 962 of the Specifications.

ANCHOR BOLTS:

Anchor bolts shall be in accordance with ASTM F1554 Grade 36. Headless anchor bolts for Adhesive Anchors shall be threaded full length. Cutting of reinforcing steel is permitted for drilled hole installation. Expansion Anchors are not permitted. All anchor bolts shall have single self-locking hex nuts. Tack welding of the nut to the anchor bolt may be used in lieu of self-locking nuts. All nuts shall be in accordance with ASTM A563 or ASTM A194. Flat Washers shall be in accordance with ASTM F436 and Plate Washers (for long slotted holes only), shall be in accordance with ASTM A36 or ASTM A709 Grade 36. After the nuts have been snug tightened, the anchor bolt threads shall be distorted to prevent removal of the nuts. Distorted threads and tack welds shall be coated with a galvanizing compound in accordance with the Specifications.

RESILIENT AND NEOPRENE PADS:

Resilient and Neoprene pads shall be in accordance with Specification Section 932 except that testing of the finished pads shall not be required. Neoprene pads shall be durometer hardness 60 or 70.

JOINTS:

All fixed joints are to be welded all around and ground smooth. Expansion joints shall be spaced at a maximum 35'-0". Field splices similar to the expansion joint detail may be approved by the Engineer to facilitate handling, but railing must be continuous across a minimum of two posts. Only use the Continuity Field Splice (Detail "E") to make the railing continuous for unforeseen field adjustments.

WELDING:

All welding shall be in accordance with the American Welding Society Structural Welding Code (Aluminum) ANSI/AWS D1.2 (current edition). Filler metal shall be either ER5183, ER5356 or ER5556. Nondestructive testing of welds is not required.

SHOP DRAWINGS:

Complete details addressing project specific geometry (line & grade) showing post and expansion joint locations must be submitted by the Contractor for the Engineer's approval prior to fabrication of the railing. Shop drawings shall be in accordance with the Specifications.

PAYMENT:

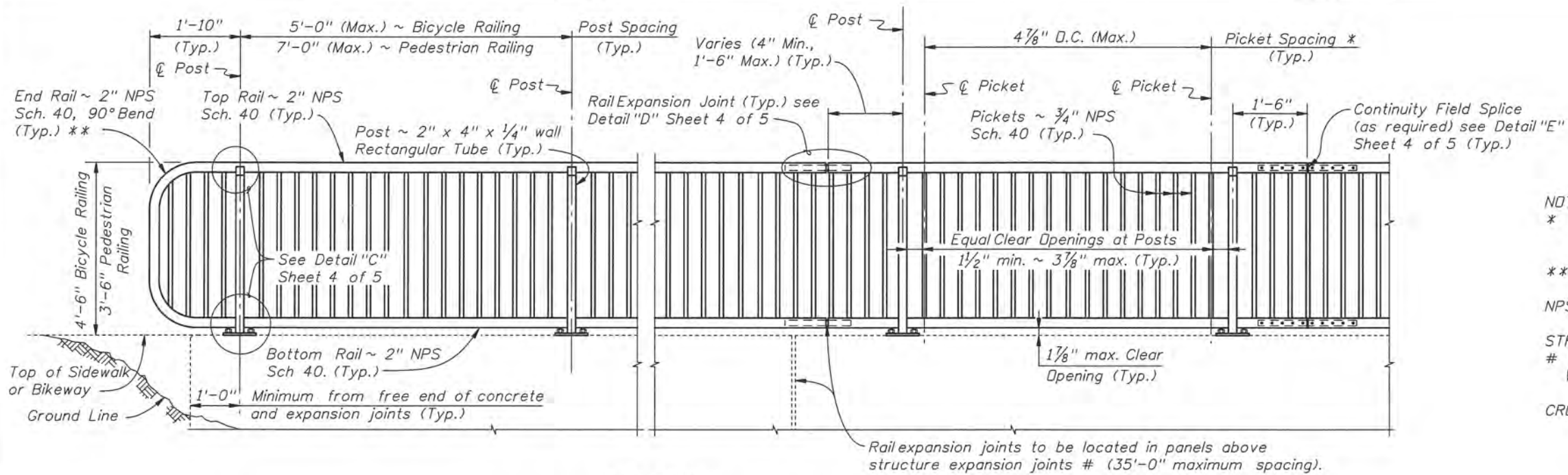
Railing shall be paid for per linear foot (Item No. 515-2-abb). Payment will be plan quantity measured as the length along the center line of the top rail, and includes rails, posts, pickets, rail splice assembly, base plates, anchor bolts, nuts, washers, resilient or neoprene pads and all incidental materials and labor required to complete installation of the railing.



2008 FDOT Design Standards

ALUMINUM PEDESTRIAN/BICYCLE PICKET RAILING

Last Revision	Sheet No.
07/01/07	1 of 5
Index No.	
860	



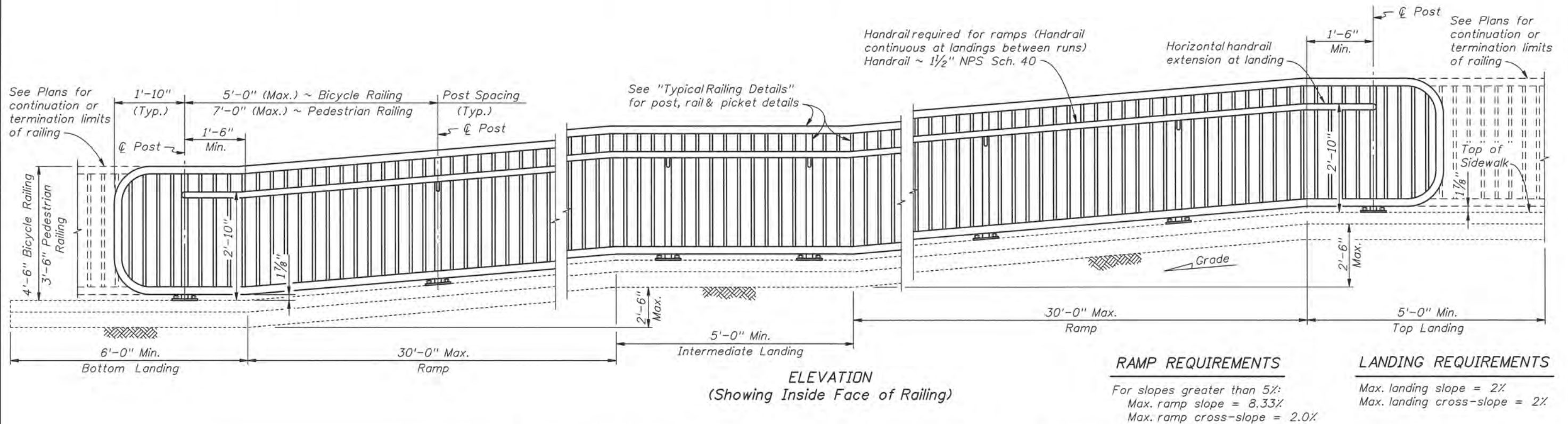
NOTES:
 * Picket Spacing of 4 7/8" centers is based on a 3/4" NPS. If an alternate design is used maintain a maximum clear opening of 3 7/8".
 ** End Rail bend varies for Railings on grades steeper than 2.4%.
 NPS = Nominal Pipe Size

STRUCTURES EXPANSION JOINTS NOTE:
 # Keyed construction joints in Index No. 520 Gravity Wall are not considered to be expansion joints.

CROSS REFERENCE:
 For Details "C", "D" and "E", see Sheet 4 of 5.

ELEVATION
 (Showing Outside Face of Railing)

TYPICAL RAILING DETAILS & RAILINGS ON GRADES 0% TO 5%



ELEVATION
 (Showing Inside Face of Railing)

RAMP REQUIREMENTS

For slopes greater than 5%:
 Max. ramp slope = 8.33%
 Max. ramp cross-slope = 2.0%

LANDING REQUIREMENTS

Max. landing slope = 2%
 Max. landing cross-slope = 2%

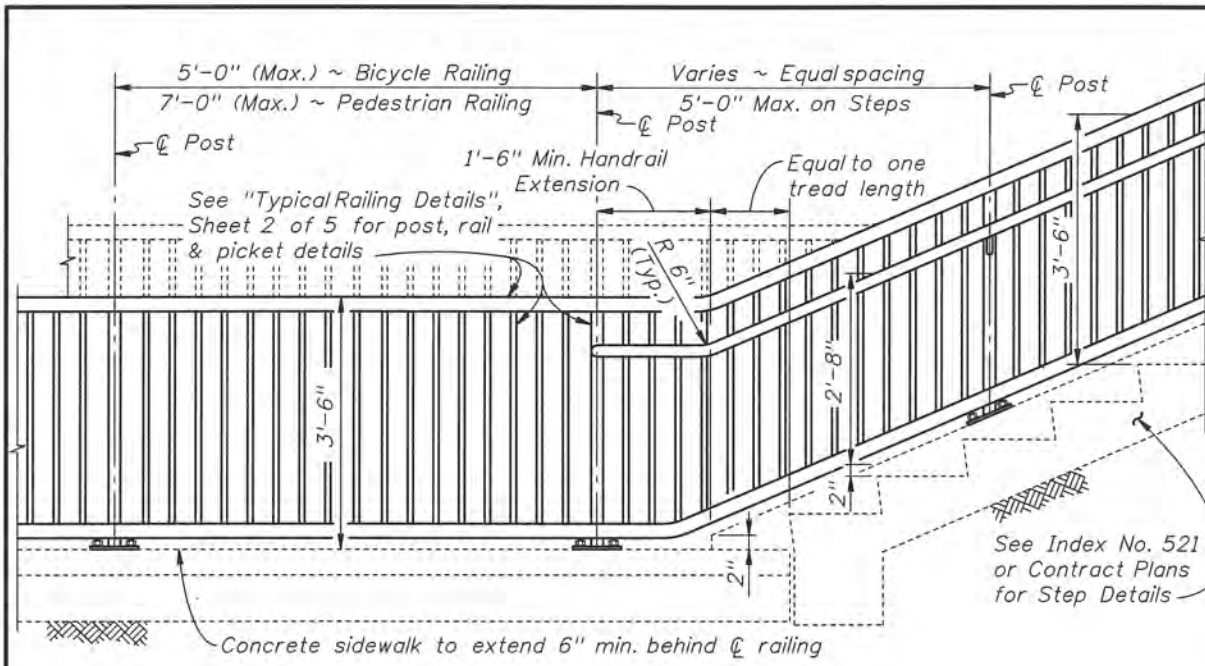
RAILINGS ON GRADES STEEPER THAN 5% TO 8.33%



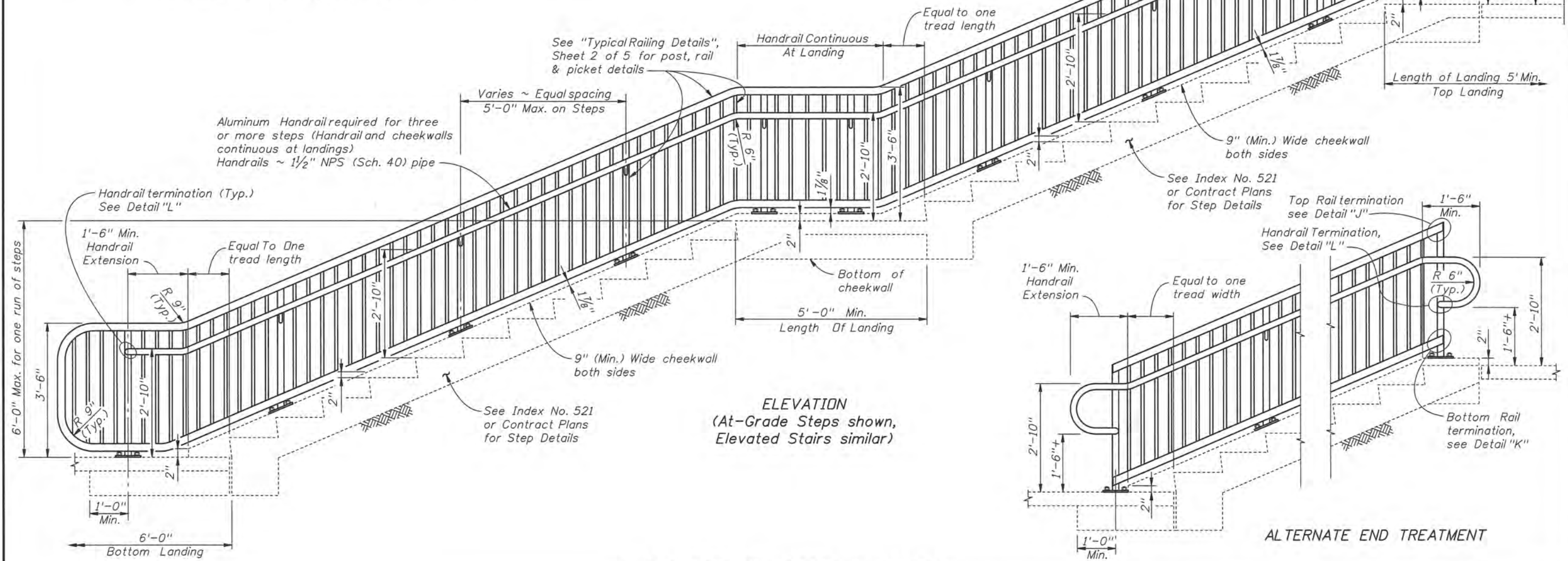
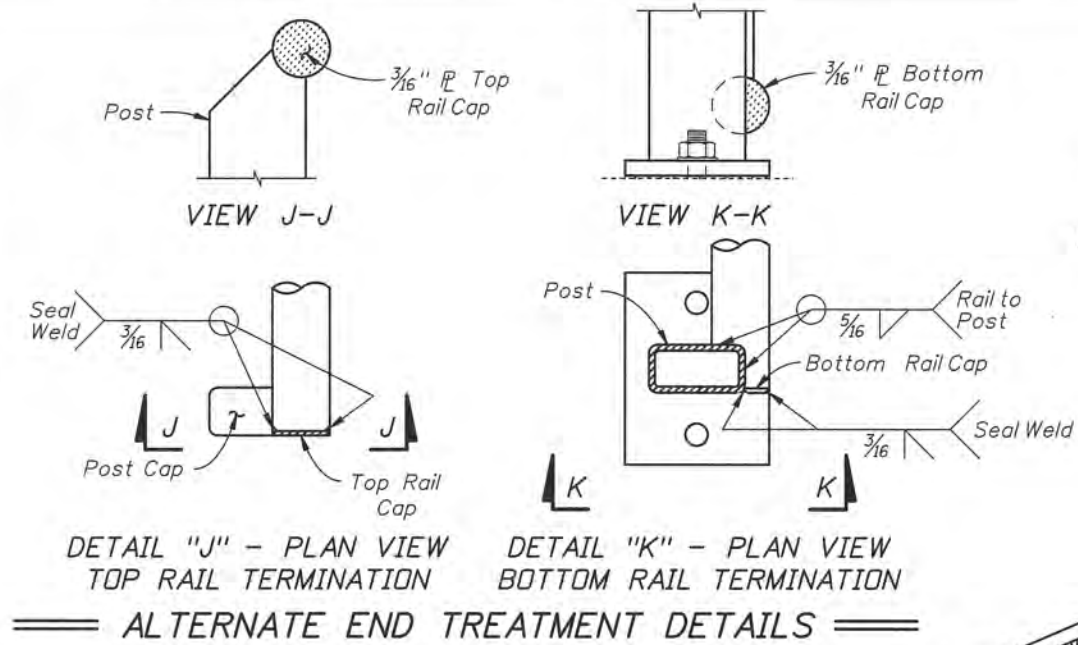
2008 FDOT Design Standards

ALUMINUM PEDESTRIAN/BICYCLE PICKET RAILING

Last Revision: 01/01/07
 Sheet No.: 2 of 5
 Index No.: 860

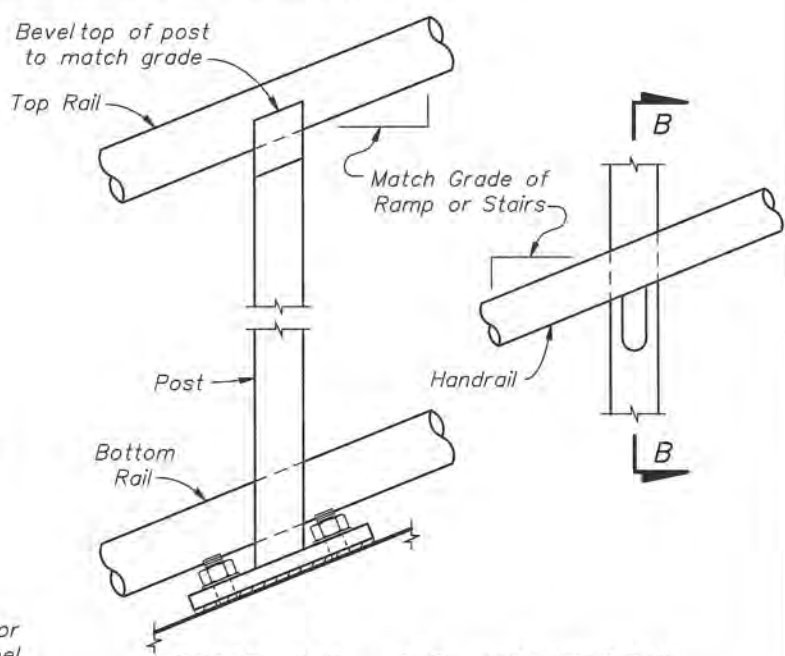
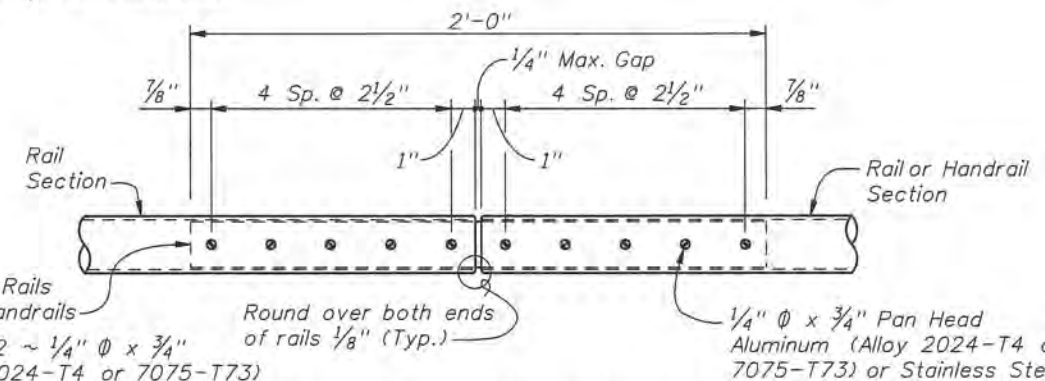
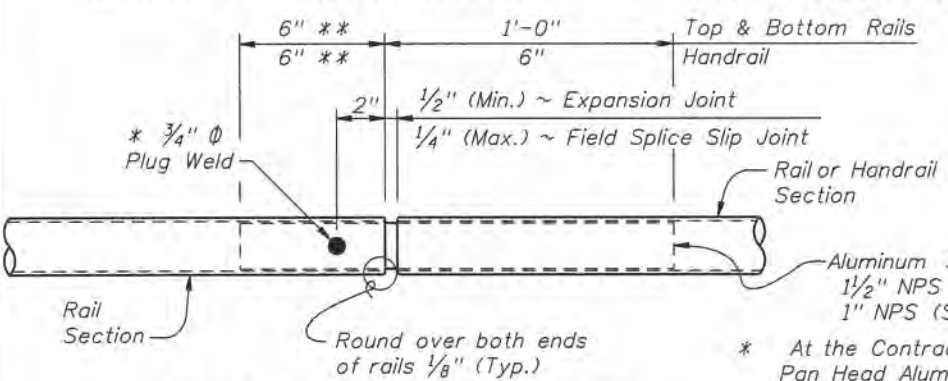
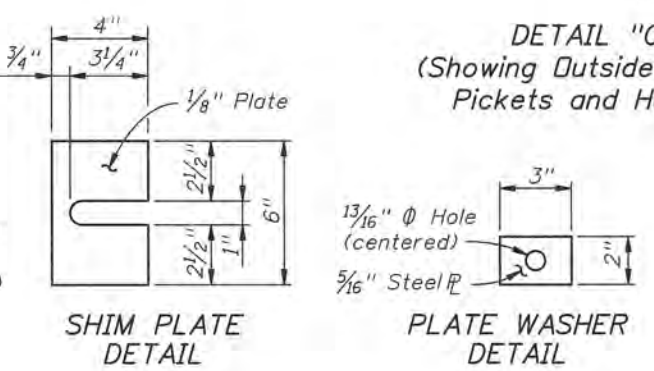
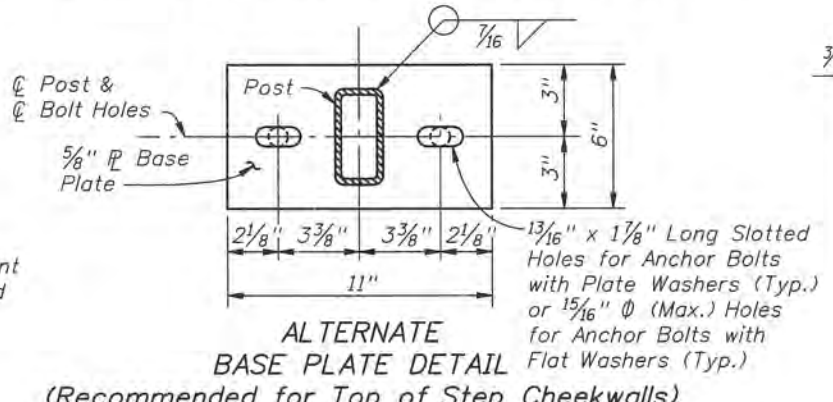
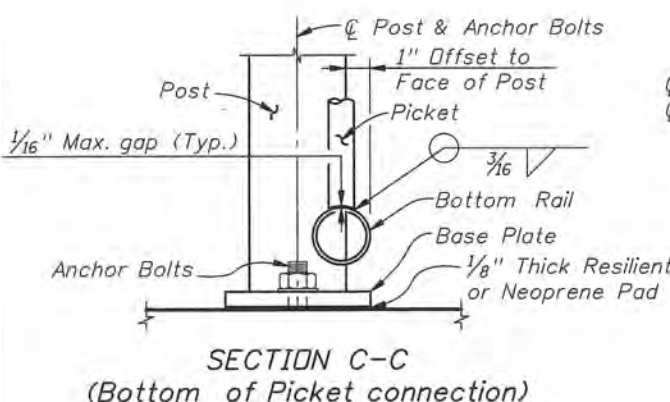
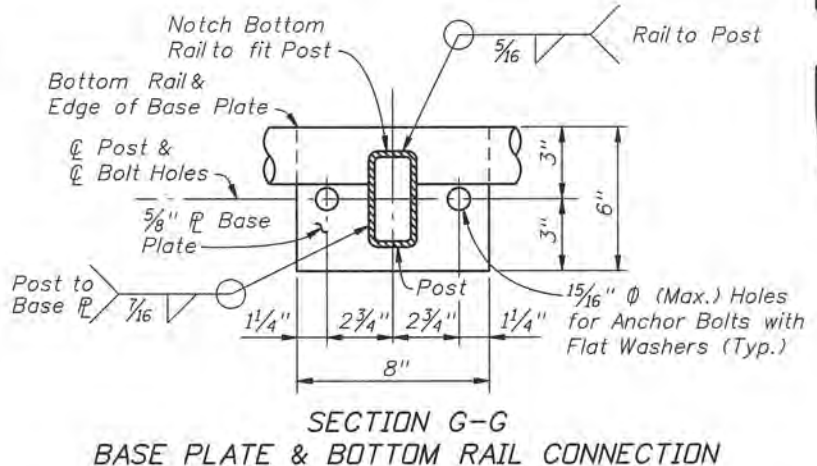
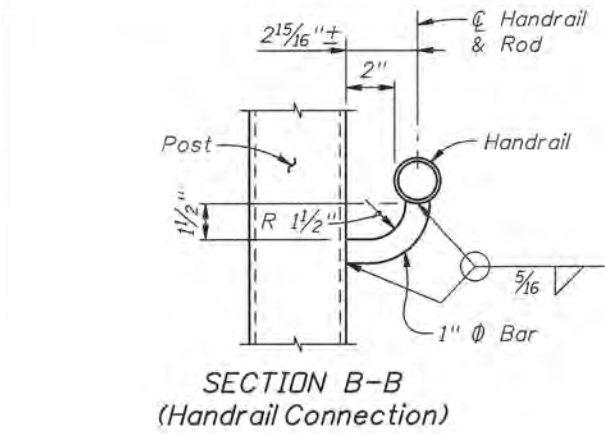
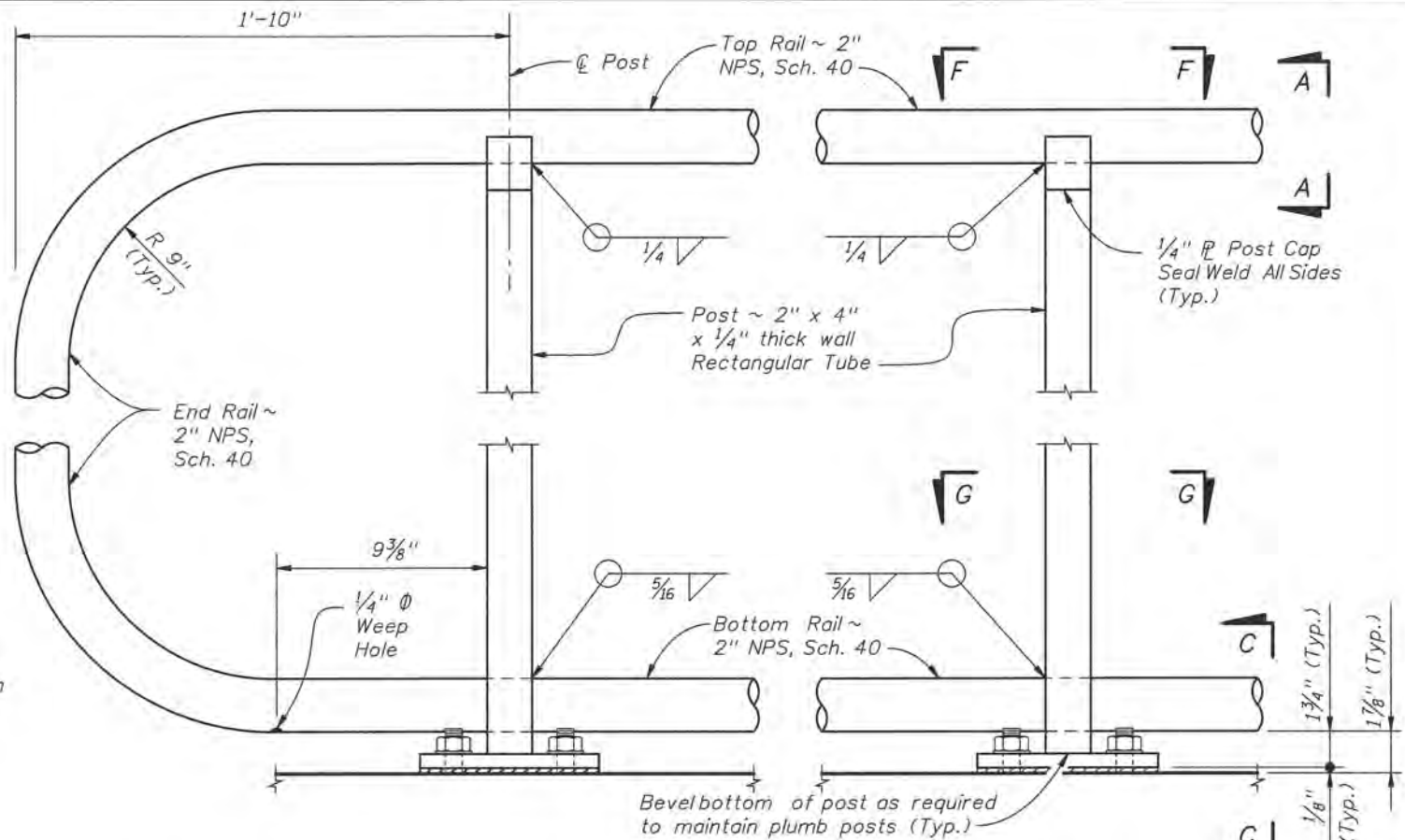
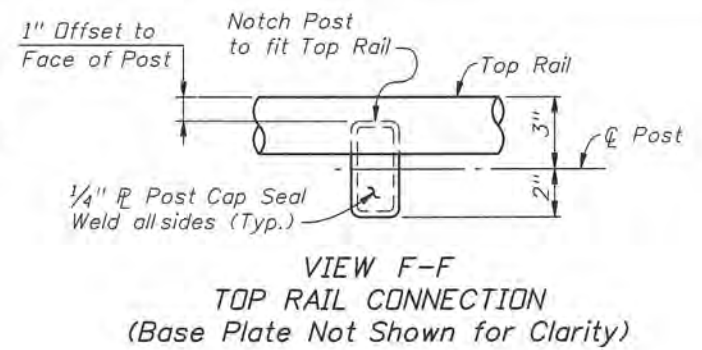
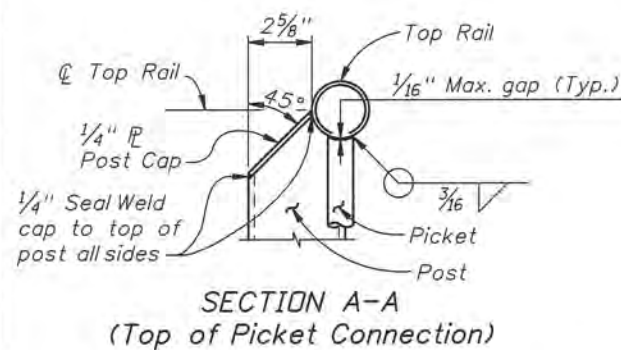


RAILING CONTINUATION BEYOND STEPS OR STAIRS
(Bottom shown, Top similar)



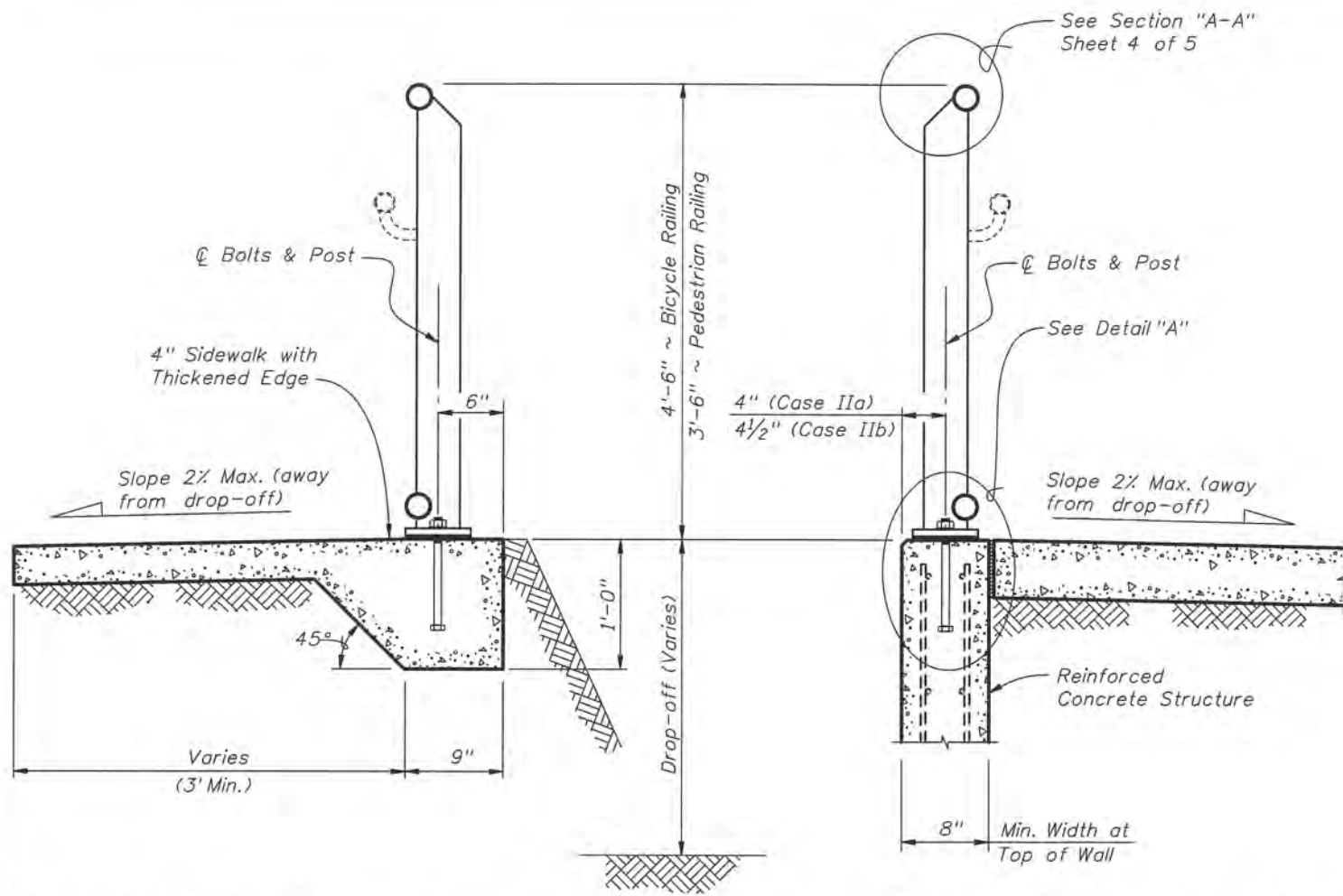
ELEVATION
(At-Grade Steps shown, Elevated Stairs similar)

RAILINGS ON STEPS & STAIRS



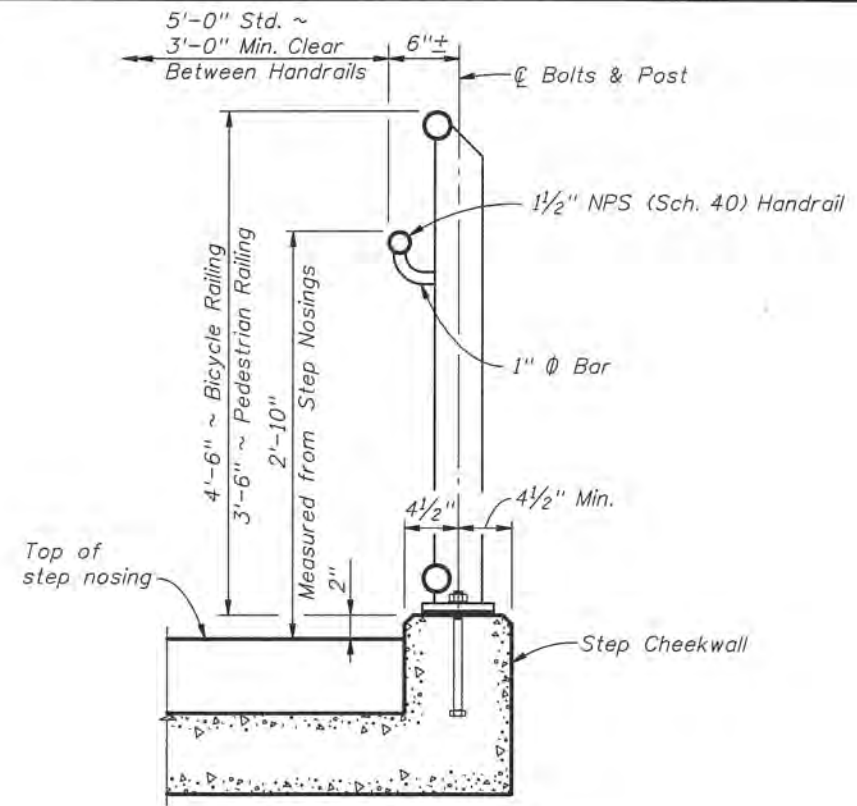
* At the Contractor's option 2 ~ 1/4" Ø x 3/4" Pan Head Aluminum (Alloy 2024-T4 or 7075-T73) or Stainless Steel (Type 316) Set Screws at 2" spacing along outside face of railing may be substituted for the 3/4" Ø plug weld.
 ** Embedded length may be 4" for plug welded connection.

CROSS REFERENCE:
 For locations of Details "C", "D" and "E", see Sheet 2 of 5.

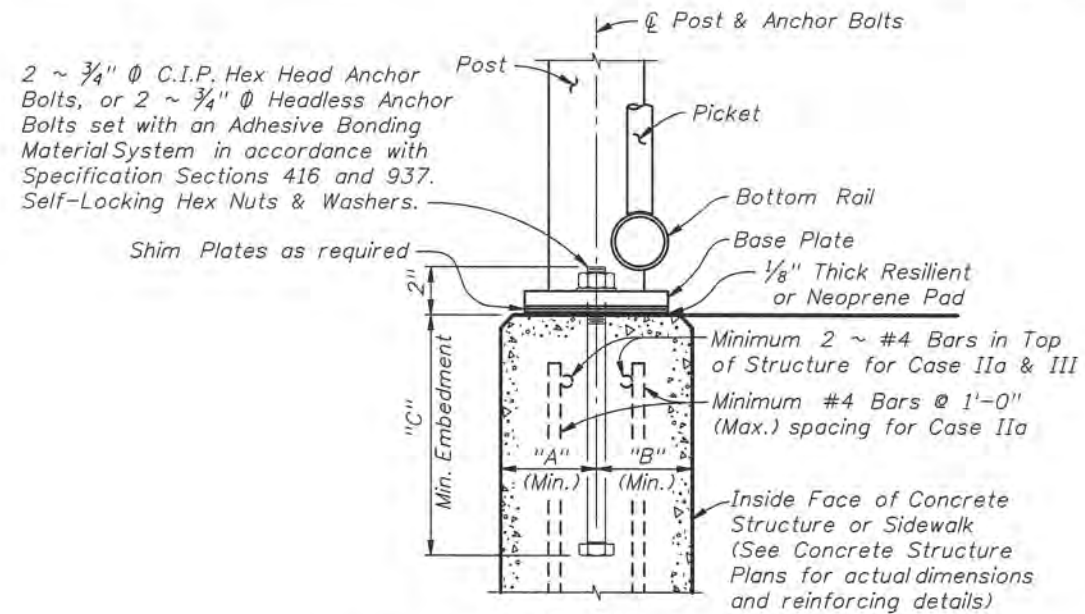


TYPICAL SECTION ON CONCRETE SIDEWALK (Case I)

TYPICAL SECTION ON RETAINING WALL (Case II)



TYPICAL SECTION ON STEPS & STAIRS (Case III)



DETAIL "A"
(Cast-In-Place Anchor Bolts shown, Adhesive Anchors similar)

CASE	STRUCTURE TYPE	DIMENSIONS			ANCHOR LENGTH		ANCHOR SIZE
		"A" Edge Dist.	"B" Edge Dist.	"C" Embedment	C.I.P. Hex Head Bolt	Adhesive Anchor	
I	Unreinforced Concrete	6"	1'-2"	9"	10 1/2"	11"	3/4" ⌀
IIa	Reinforced Concrete	4"	4"	9"	10 1/2"	11"	3/4" ⌀
IIb	Gravity Wall Index No. 520	4 1/2"	3 1/2" @ top	1'-0"	1'-1 1/2"	1'-2"	3/4" ⌀
III	Step Cheekwall	4 1/2"	4 1/2"	9"	10 1/2"	11"	3/4" ⌀

