



15TH STREET EAST SIDEWALK

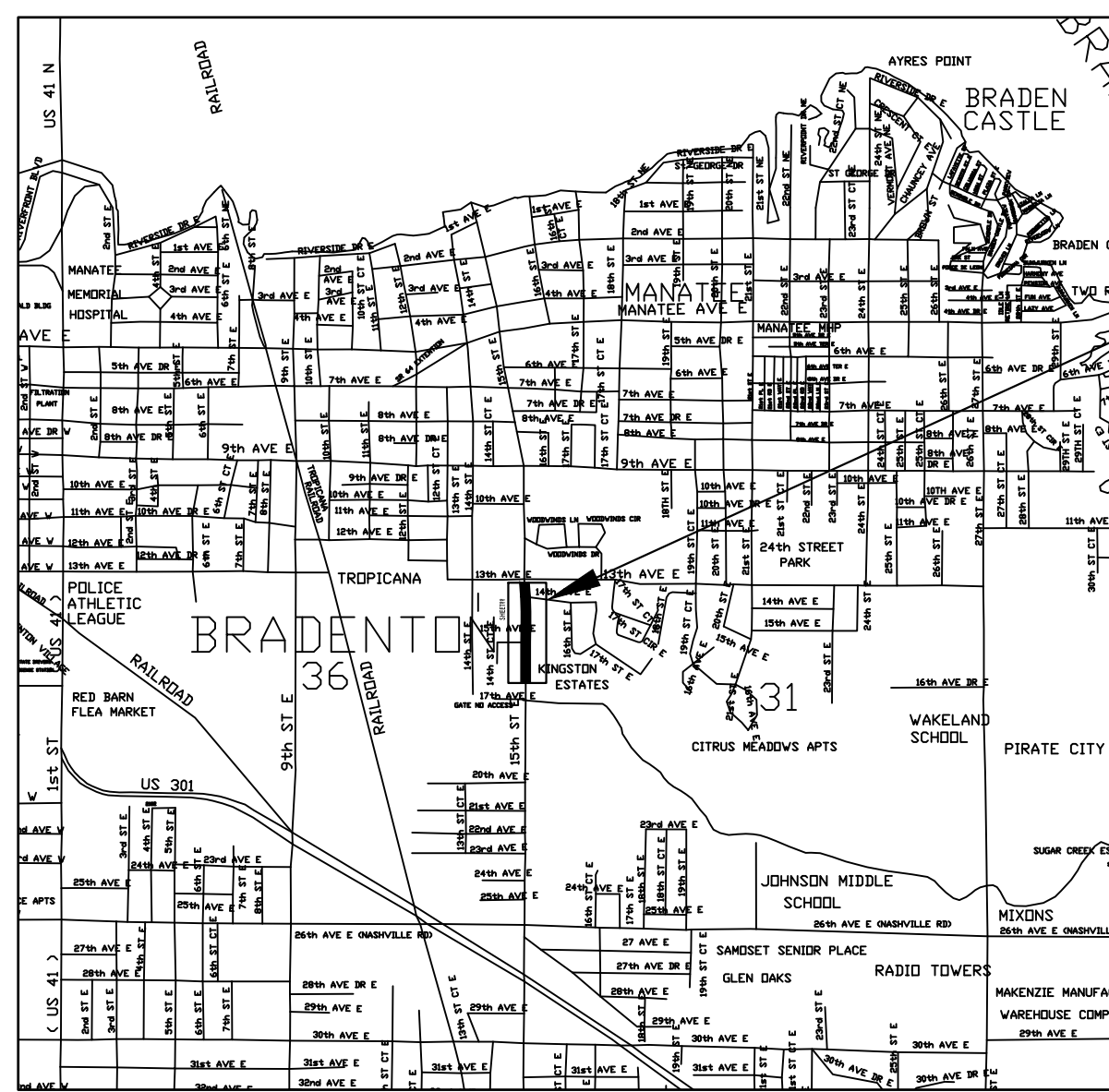
FDOT PERMITS 2019-A-194-00055 AND 2019-D-194-00045
STATE ROAD 70
SECTION 13120001
MILE-POSTS 1.852 - 2.476

100% DESIGN PLANS

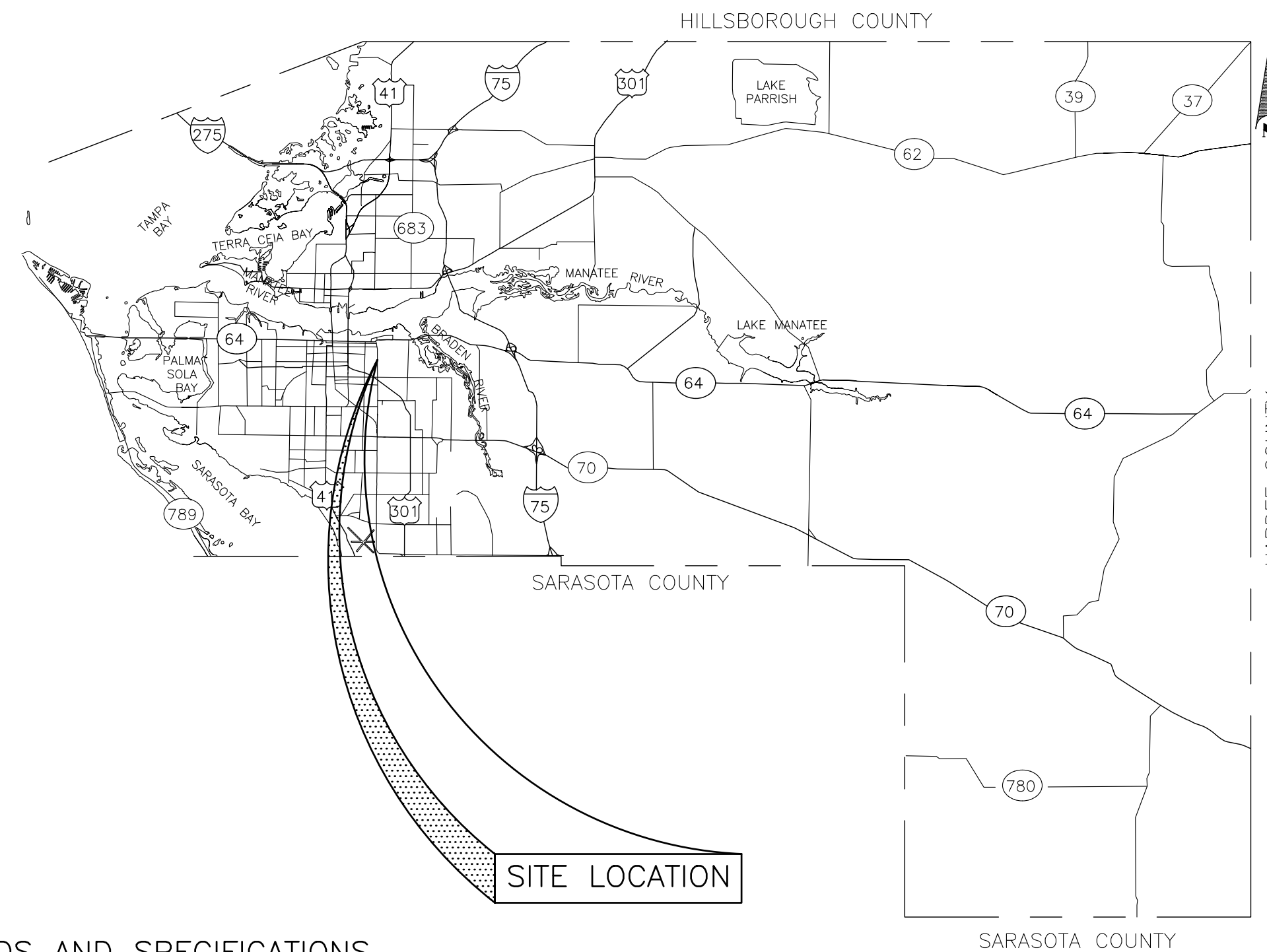
NOTES

1. ALL ELEVATIONS UTILIZED IN THESE PLANS ARE NAVD 1988 DATUM.
2. SYNTHETIC BALES ARE TO BE USED WITHIN FDOT RIGHT OF WAY.

**15TH STREET EAST
SIDEWALK
COVER SHEET**



VICINITY MAP
N.T.S.



SITE LOCATION

PROJECT SITE

NO.	INDEX OF SHEETS
1	COVER SHEET
2	GENERAL NOTES
3	LOCATION MAP
4	EXISTING CONDITION & DEMOLITION PLAN
5	SIDEWALK PLAN
6	CROSS SECTIONS
7	PLAN & PROFILE
8	SIDEWALK DETAILS
9	ENGINEERING DETAILS
10	BEST MANAGEMENT PRACTICES
11	MAINTENANCE OF TRAFFIC PLAN

NO.	REVISION	DESCRIPTION	BY	DATE

PROJECT #	000
SURVEY #	000
SEC./TWN./RGE	31, 34S, 18E
SCALE	N.T.S.
	BY DATE
SURVEYED	N/A N/A
DESIGNED	MF 04/2019
DRAWN	DR 04/2019
CHECKED	MF 04/2019
MICHAEL FERDINAND, P.E.	
FLORIDA P.E. # 77752	
Signature & Date	
SHEET 01	

RELATED STANDARDS AND SPECIFICATIONS

GOVERNING STANDARDS AND SPECIFICATIONS:
FDOT FY 2019 – 2020 STANDARD PLANS, AND REVISED INDEX DRAWINGS, AS APPENDED HEREIN, AND APPLICABLE ARTICLES AND SUBARTICLES OF DIVISION I AND ALL OF DIVISIONS II & III OF THE 2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS.

FOR DESIGN STANDARDS CLICK ON THE "DESIGN STANDARDS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.FDOT.GOV/DESIGN/STANDARDPLANS/CURRENT/DEFAULT.SHTM](http://www.fdot.gov/design/standardplans/current/default.shtm)

FOR THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CLICK ON THE "SPECIFICATIONS" LINK AT THE FOLLOWING WEB SITE:
[HTTP://WWW.FDOT.GOV/PROGRAMMANAGEMENT/IMPLEMENTED/SPECBOOKS/DEFAULT.SHTM](http://www.fdot.gov/programmanagement/implemented/specbooks/default.shtm)

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:
CHRIS MOWBRAY P.E.
1022 26TH AVENUE EAST BRADENTON FLORIDA 34208

PROJECT DESCRIPTION

5' SIDEWALK ALONG THE EAST SIDE OF 15TH STREET EAST FROM 14TH AVENUE EAST. TO 17TH AVENUE EAST.



ZNS ENGINEERING
ENGINEERS | PLANNERS | SURVEYORS
CA 0027478 LB 0006862
LANDSCAPE ARCHITECTS
LC 0000385
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
E-MAIL: ZNS@ZNSENG.COM | TELEPHONE 941.748.8080 | FAX 941.748.3316

PREPARED FOR:
MANATEE COUNTY
PUBLIC WORKS DEPT.
1022 26TH AVE. E.
BRADENTON, FL 34208

PREPARED BY:
ZNS ENGINEERING, LLC
201 5th AVENUE DRIVE EAST
BRADENTON, FLORIDA 34208
941.748.8080
FAX: 941.748.8316

PROJECT DATA:
MC 15TH STREET SIDEWALK
44630

© ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 196 OF THE "UNITED STATES COPYRIGHT ACT". REPRODUCTION OR ALTERATION OF THIS DOCUMENT OR THE INFORMATION CONTAINED HEREON BY ANY MEANS WHATSOEVER IS STRICTLY PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF ZNS ENGINEERING, L.C. CONSENT IS HEREBY GRANTED SPECIFICALLY TO GOVERNMENTAL AGENCIES TO REPRODUCE THIS DOCUMENT IN COMPLIANCE WITH F.S. CHAPTER 119



Know what's below
Call before you dig

REVISIONS
1
2
3
4
5
6

I:\Projects\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44-360) ENCL\MC15 COV.dwg, COV CP, 10/10/2019 3:56 PM Mike Ferdinand, 1:1, ANSI full bleed D (34.00 x 22.00 inches)

DRAINAGE AND GRADING NOTES

- ALL CONSTRUCTION IS TO BE STAKED IN THE FIELD BY OR UNDER THE SUPERVISION OF A FLORIDA REGISTERED LAND SURVEYOR.
- TOPOGRAPHIC AND PROPERTY SURVEYS GIVING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, LOCATIONS AND DEPTHS OF SEWERS, CONDUITS, PIPES, EXISTING STRUCTURES, CURBS, PAVEMENTS, TRACTS, AND SOIL BORING DATA GIVING THE NATURE OF GROUND AND SUBSURFACE CONDITIONS HAVE BEEN OBTAINED FROM RELIABLE SOURCES. THE ACCURACY OF THIS DATA IS NOT GUARANTEED, AND IS FURNISHED SOLELY AS AN ACCOMMODATION TO THE CONTRACTOR. USE OF THIS DATA SHALL BE MADE AT THE CONTRACTOR'S DISCRETION. NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO THE CONTRACTOR'S LACK OF KNOWLEDGE OF SITE CONDITIONS. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL CONDUCT ANY ADDITIONAL SURVEYS AND SOILS TESTS HE MAY DEEM NECESSARY TO VERIFY THE ACCURACY OF THE INFORMATION PROVIDED.
- THE CONTRACTOR SHALL VERIFY TOPOGRAPHY AND SATISFY HIMSELF AS TO THE EXTENT OF FILL NECESSARY TO ACHIEVE FINISHED GRADE PRIOR TO AWARD OF CONTRACT. THERE SHALL BE NO CLAIM FOR EXTRAS NOTWITHSTANDING SITE PLAN REVISIONS PROMULGATED SUBSEQUENT TO AWARD OF CONTRACT.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURES PRIOR TO INSTALLATIONS.
- REFER TO CONSTRUCTION TECHNICAL SPECIFICATIONS FOR COMPACTION REQUIREMENTS, GRASSING/SODDING REQUIREMENTS, AND PAVING CONSTRUCTION MATERIAL SPECIFICATIONS.
- THE CONTRACTOR IS TO REVIEW SOILS TESTS AS PERFORMED BY THE SOIL CONSULTANT AND IS ENCOURAGED TO CONDUCT ON-SITE TESTING TO SATISFY HIMSELF AS TO ACTUAL LIMITS OF REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIALS PRIOR TO BIDDING.
- ALL PROPOSED CONSTRUCTION IS TO MEET OR EXCEED LATEST APPLICABLE MANATEE COUNTY TRANSPORTATION DEPARTMENT STANDARDS AND IS TO MEET ENGINEER'S SPECIFICATIONS.
- CONTRACTOR TO SOD/RESTORE ALL DISTURBED AREAS

GENERAL CONSTRUCTION NOTES

- THE CONTRACTOR IS TO COORDINATE THE LOCATION AND ELEVATION OF ALL FRANCHISE UTILITIES, INCLUDING BUT NOT LIMITED TO FP&L, GTE AND IRRIGATION SERVICE SLEEVES WITH RESPECTIVE AGENCY PRIOR TO CONSTRUCTION.
- ALL PROPOSED ELECTRICAL AND COMMUNICATION SERVICES ARE TO BE LOCATED UNDERGROUND AS DIRECTED BY RESPECTIVE AGENCY.
- CURBING AT SIDEWALK INTERSECTIONS TO BE RECESSED FOR PEDESTRIAN RAMPS. RAMPS TO BE CONSTRUCTED AT TIME OF CURB RADII.
- CONTRACTOR TO OBTAIN APPLICABLE PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND ISSUANCE OF ALL COMMENCEMENT AND/OR PROGRESS NOTICES TO GOVERNMENTAL AGENCIES DURING THE COURSE OF CONSTRUCTION, AS REQUIRED FOR INSPECTION, TESTING AND TRACKING PER APPLICABLE AGENCY PERMIT CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMIT CONDITIONS AND STIPULATIONS FOR ALL LOCAL, REGIONAL AND STATE AGENCIES, INCLUDING, BUT NOT LIMITED TO, FINAL SITE PLANS, UTILITIES, DRAINAGE, FUGITIVE PARTICULATES AND EROSION.
- ALL UTILITIES AND/OR DRAINAGE SHOWN AS EXISTING WERE DERIVED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACTUAL LOCATION, SIZE, TYPE AND AMOUNT OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR TO NOTIFY SUNSHINE UNDERGROUND FACILITIES NOTIFICATION (1-800-432-4770), MCPWD AND FP&L 48 HOURS MINIMUM PRIOR TO START OF CONSTRUCTION FOR POSSIBLE UTILITY LOCATIONS NOT SHOWN ON PLANS.
- RIGHT OF WAY USE PERMIT TO BE OBTAINED BY THE CONTRACTOR FOR OFF-SITE CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ESTIMATING AND CALCULATING ALL QUANTITIES. PRIOR TO BID SUBMISSION THE CONTRACTOR SHALL CONDUCT ANY ADDITIONAL SURVEYS AND SOIL TESTS HE DEEMS NECESSARY TO CALCULATE THE QUANTITIES PROPERLY. ADDITIONAL SURVEYS AND TESTS MADE BY THE CONTRACTOR SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- ALL EASEMENTS AS SHOWN WITHIN THE PROJECT BOUNDARY LIMITS ARE TO BE CONSIDERED PUBLIC (UNLESS OTHERWISE STATED). EASEMENTS TO BE GRANTED IN CONJUNCTION WITH RECORD PLAT PROCESSING.

SEDIMENT AND EROSION CONTROL NOTES

- SEDIMENTATION AND EROSION CONTROL MEASURES WILL BE IN COMPLIANCE WITH SECTION 519, APPENDIX A-19 OF THE MANATEE COUNTY LAND DEVELOPMENT CODE. TO PREVENT SEDIMENTARY RUNOFF DURING CONSTRUCTION, STAKED HAYBALES, STAKED SILT SCREENS OR INLET DEBRIS CONTROL SCREENS ARE TO BE PLACED AT STORM INLETS, OUTFALL LOCATIONS AND ADJACENT PROPERTY LINES AS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION BARRIERS IN A WORKING MANNER FOR THE DURATION OF CONSTRUCTION AND SHOULD BE CHECKED DAILY. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF OF THE DEPTH OF THE SEDIMENTATION BARRIER SHALL BE IMMEDIATELY REMOVED AND REPLACED IN UPLAND AREAS. IN ADDITION TO SPECIFIED EROSION CONTROL LOCATIONS, THE CONTRACTOR SHALL PERFORM DAILY SITE INSPECTIONS FOR POTENTIAL EROSION PROBLEMS. IF PROBLEMS OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE EROSION CONTROL IMMEDIATELY. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TEMPORARY EROSION CONTROL DEVICES FOLLOWING COMPLETION OF ALL CONSTRUCTION AND FINAL STABILIZATION.
- NOTIFY MANATEE COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT (EMD) WATER QUALITY DIVISION PRIOR TO THE INITIATION OF CONSTRUCTION. A PRE CONSTRUCTION INSPECTION OF THE SEDIMENTATION AND EROSION CONTROL (S&EC) DEVICES MAY BE REQUIRED AND WILL BE THE OPTION OF THE EMD STAFF.
- CONTRACTOR SHALL LOCATE EROSION CONTROL MEASURES (ECM'S) ALONG WETLAND BUFFERS AS IDENTIFIED ON PLAN. EXOTIC NUISANCE SPECIES LOCATED WITHIN WETLAND BUFFER SHALL BE MANUALLY REMOVED WITH CARE TAKEN TO PROTECT EXISTING NATIVE VEGETATION UNLESS OTHERWISE SPECIFICALLY ADDRESSED ON THE APPROVED PLANS. IN THOSE INSTANCES WHERE ADDITIONAL AREAS OF THE WETLAND BUFFER ARE SO HEAVILY VEGETATED WITH EXOTIC NUISANCE SPECIES AS TO MAKE MANUAL REMOVAL UNFEASIBLE, THE CONTRACTOR SHALL PROVIDE PROJECT ENGINEER AND MANATEE COUNTY ENVIRONMENTAL MANAGEMENT DIVISION SHOP DRAWING SHOWING LIMITS OF ADDITIONAL ECHANIZED CLEARING WITHIN BUFFER, PLANS TO RELOCATE ECM'S AND PROPOSED STABILIZATION OF CLEARING WITHIN WETLAND BUFFERS. ALL PROPOSED MODIFICATIONS TO LOCATIONS OF ECM'S, SOIL STABILIZATION, SHOP DRAWINGS AND PROCESSING FOR APPROVAL SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.

Thu, 10 Oct 2019 - 3:56pm W:\Acad\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5_GN.dwg

DESIGNED: ME
DRAWN: DR
DATE: 09.20.19
JOB NO: 44360
SCALE: 1"=20'

GENERAL NOTES
FOR
15TH STREET EAST SIDEWALK
LOCATED IN
SECTION 31, TOWNSHIP 34 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

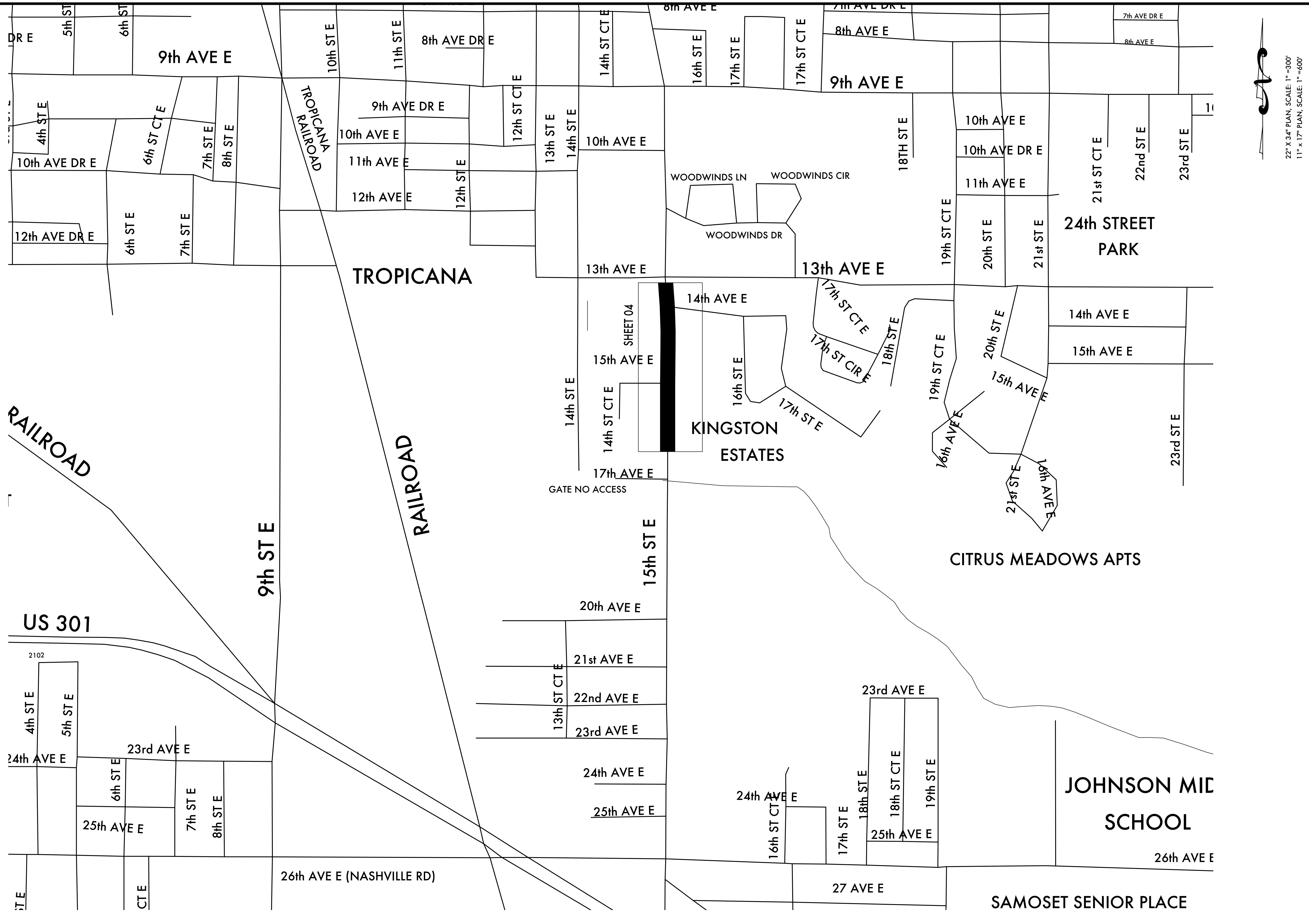
©ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 106
OF THE FLORIDA CONSTITUTION. REPRODUCTION
OR ALTERATION OF THIS DOCUMENT OR
THE INFORMATION CONTAINED HEREIN BY ANY
MEANS WHATSOEVER IS STRICTLY PROHIBITED
UNLESS EXPRESS WRITTEN PERMISSION IS
OBTAINED FROM ZNS ENGINEERING, L.C. CONSENT IS HEREBY GRANTED
SPECIFICALLY TO GOVERNMENTAL AGENCIES
TO REPRODUCE THIS DOCUMENT IN COMPLIANCE
WITH F.S. CHAPTER 119.

REVISIONS
1
2
3
4
5
6
7

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
EB 0022476 IB 0006982 LC 0000345
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
E-MAIL: ZNS@ZNSENG.COM TELEPHONE 941.748.8000 FAX 941.748.1316

MICHAEL FERDINAND
PROFESSIONAL ENGINEER #77752
SIGNATURE

Thu, 10 Oct 2019 3:56pm W:\acad\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5-LM.dwg



22" X 34" PLAN, SCALE: 1" = 300'
11" X 17" PLAN, SCALE: 1" = 600'

DESIGNED: JAE
DRAWN: JBE
DATE: 8.19.2019
JOB NO: 44360
SCALE: 1" = 300'
SHEET: 03

LOCATION MAP
FOR
15TH STREET EAST SIDEWALK
LOCATED IN
SECTION 31, TOWNSHIP 34 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

©ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 106
OF THE FLORIDA CONSTITUTION AND
SECTION 119 OF THE FLORIDA STATUTES.
REPRODUCTION OR ALTERATION OF THIS DOCUMENT OR
THE INFORMATION CONTAINED HEREON BY ANY
MEANS WHATSOEVER IS STRICTLY PROHIBITED
WITHOUT THE WRITTEN CONSENT OF ZNS
ENGINEERING, L.C. CONSENT IS HEREBY GRANTED
SPECIFICALLY TO GOVERNMENTAL AGENCIES
TO REPRODUCE THIS DOCUMENT IN COMPLIANCE
WITH F.S. CHAPTER 119.

REVISIONS

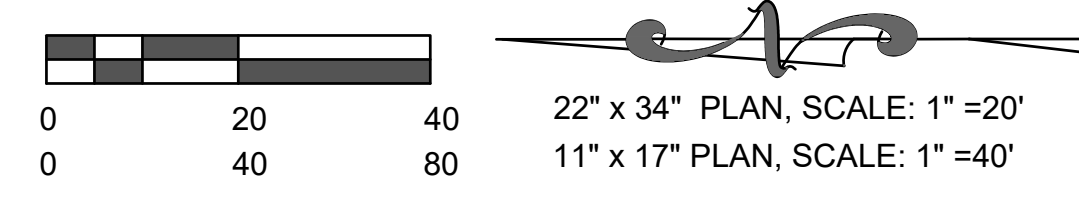
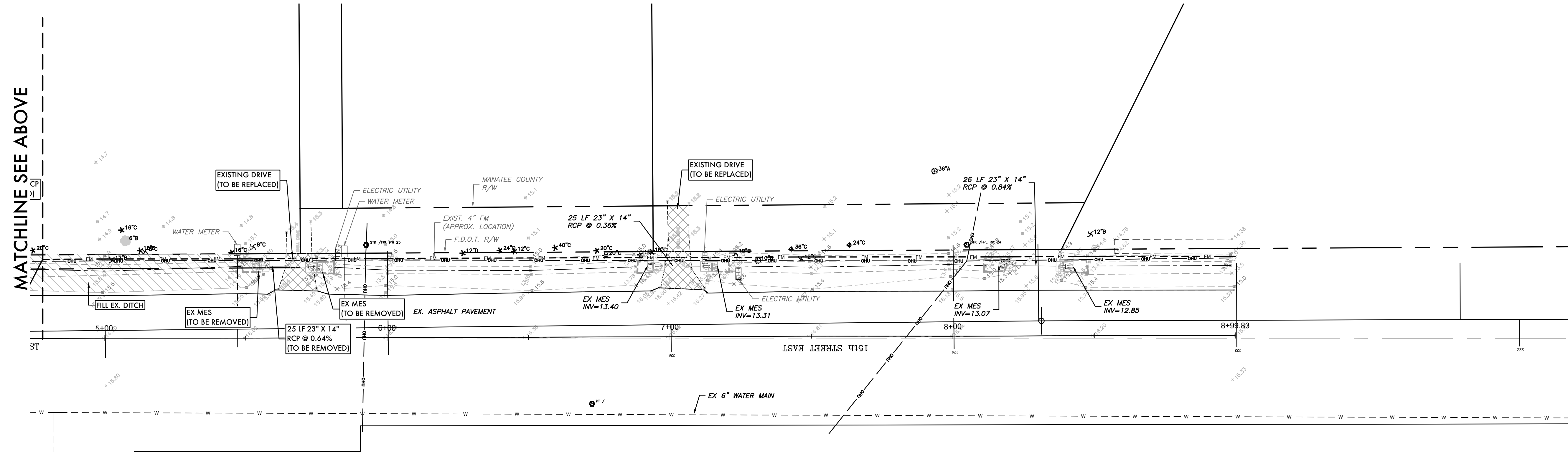
1	
2	
3	
4	
5	
6	
7	

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
EB 0022476
IB 0006982
LC 0000345
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
FAX 941.748.8860 TELEPHONE 941.748.3316
E-MAIL: ZNS@ZNSENG.COM

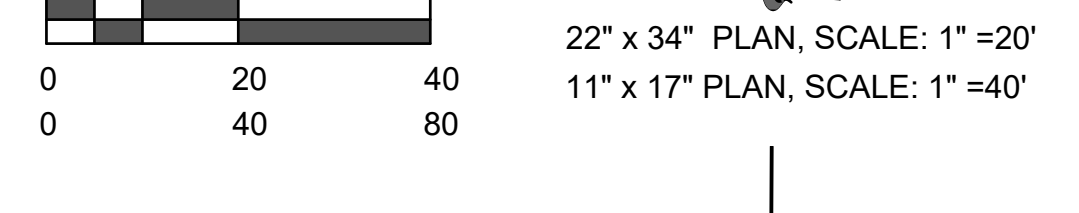
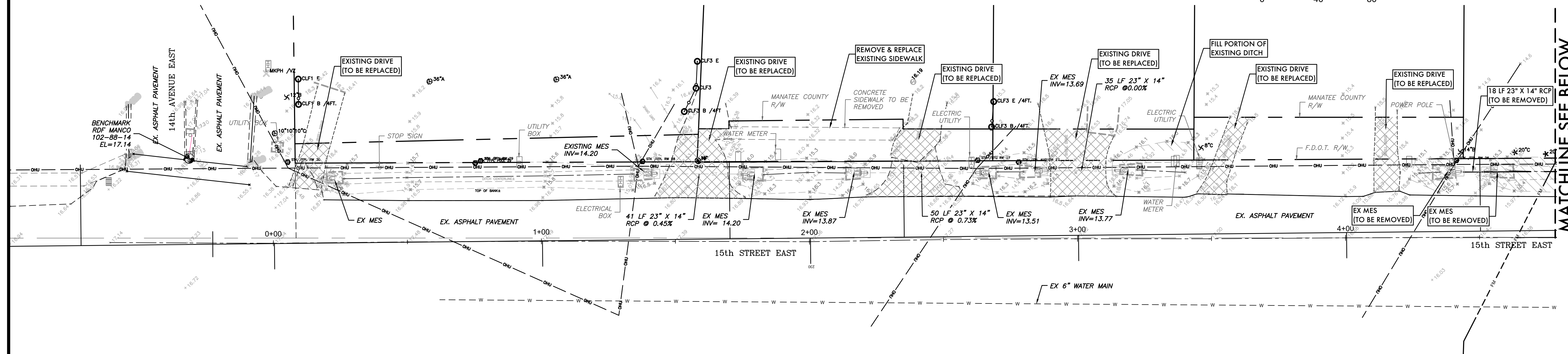
MICHAEL FERROVINO
PROFESSIONAL ENGINEER #77752
SIGNATURE

Thu, 10 Oct 2019 - 4:06pm W:\acod\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5 EODP.dwg

MATCHLINE SEE ABOVE



22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'



22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'

MATCHLINE SEE BELOW

EXISTING CONDITIONS & DEMOLITION PLAN
FOR
15TH STREET EAST SIDEWALK
LOCATED IN
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

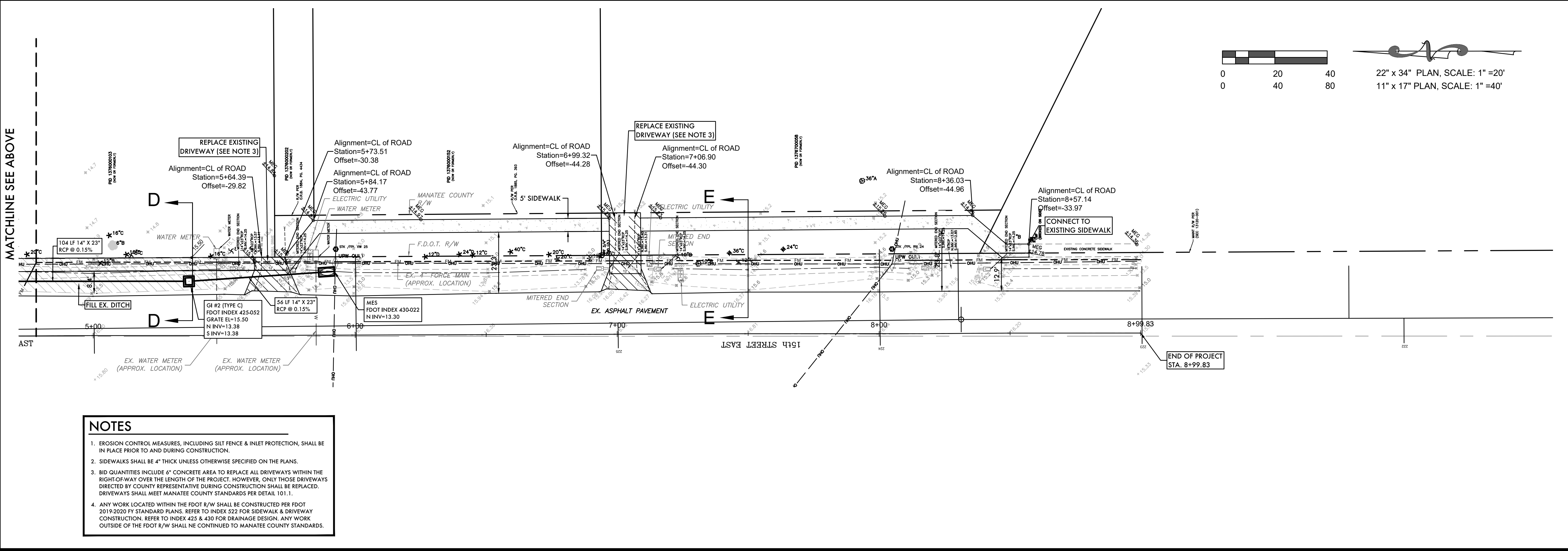
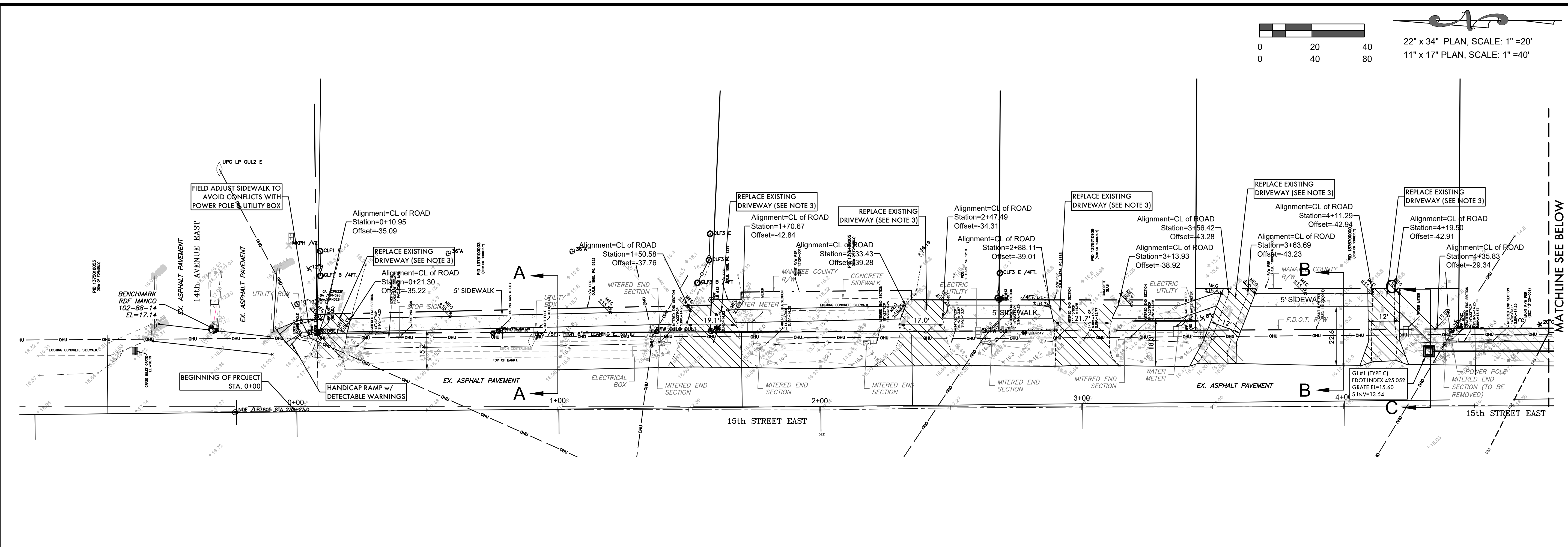
DESIGNED	ME
DRAWN	DK
DATE	05.2019
JOB NO.	44360
SCALE	1"=20'
SHEET	04

THIS DOCUMENT IS PROTECTED BY SECTION 106 OF THE FLORIDA CONSTITUTION AND BY FEDERAL COPYRIGHT LAW. ANY REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT OR THE INFORMATION CONTAINED HEREIN BY ANY MEANS WHATSOEVER IS STRICTLY PROHIBITED WITHOUT THE WRITTEN PERMISSION OF ZNS ENGINEERING, L.C. CONSENT IS HEREBY GRANTED SPECIFICALLY TO GOVERNMENTAL AGENCIES TO REPRODUCE THIS DOCUMENT IN COMPLIANCE WITH F.S. CHAPTER 119.

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
EB 0022476 IB 0006982
201 5th Avenue Drive East Bradenton, FL 34208
E-MAIL: ZNS@ZNSENG.COM TELEPHONE: 941.748.8800 FAX: 941.748.3316
LC 0000345

MICHAEL FERROVANO
PROFESSIONAL ENGINEER #77752
SIGNATURE



- NOTES**
1. EROSION CONTROL MEASURES, INCLUDING SILT FENCE & INLET PROTECTION, SHALL BE IN PLACE PRIOR TO AND DURING CONSTRUCTION.
 2. SIDEWALKS SHALL BE 4" THICK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 3. BID QUANTITIES INCLUDE 6" CONCRETE AREA TO REPLACE ALL DRIVEWAYS WITHIN THE RIGHT-OF-WAY OVER THE LENGTH OF THE PROJECT. HOWEVER, ONLY THOSE DRIVEWAYS DIRECTED BY COUNTY REPRESENTATIVE DURING CONSTRUCTION SHALL BE REPLACED. DRIVEWAYS SHALL MEET MANATEE COUNTY STANDARDS PER DETAIL 101.1.
 4. ANY WORK LOCATED WITHIN THE FDOT R/W SHALL BE CONSTRUCTED PER FDOT 2019-2020 FY STANDARD PLANS. REFER TO INDEX 522 FOR SIDEWALK & DRIVEWAY CONSTRUCTION. REFER TO INDEX 425 & 430 FOR DRAINAGE DESIGN. ANY WORK OUTSIDE OF THE FDOT R/W SHALL BE CONTINUED TO MANATEE COUNTY STANDARDS.

0 20 40
0 40 80
22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'

0 20 40
0 40 80
22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'

MICHAEL FERROVANO
PROFESSIONAL ENGINEER #77752
SIGNATURE

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
EB 0022476 IB 0006982 LC 0000345
E-MAIL: ZNS@ZNS-ENG.COM TELEPHONE: 941.748.8800 FAX: 941.748.1316

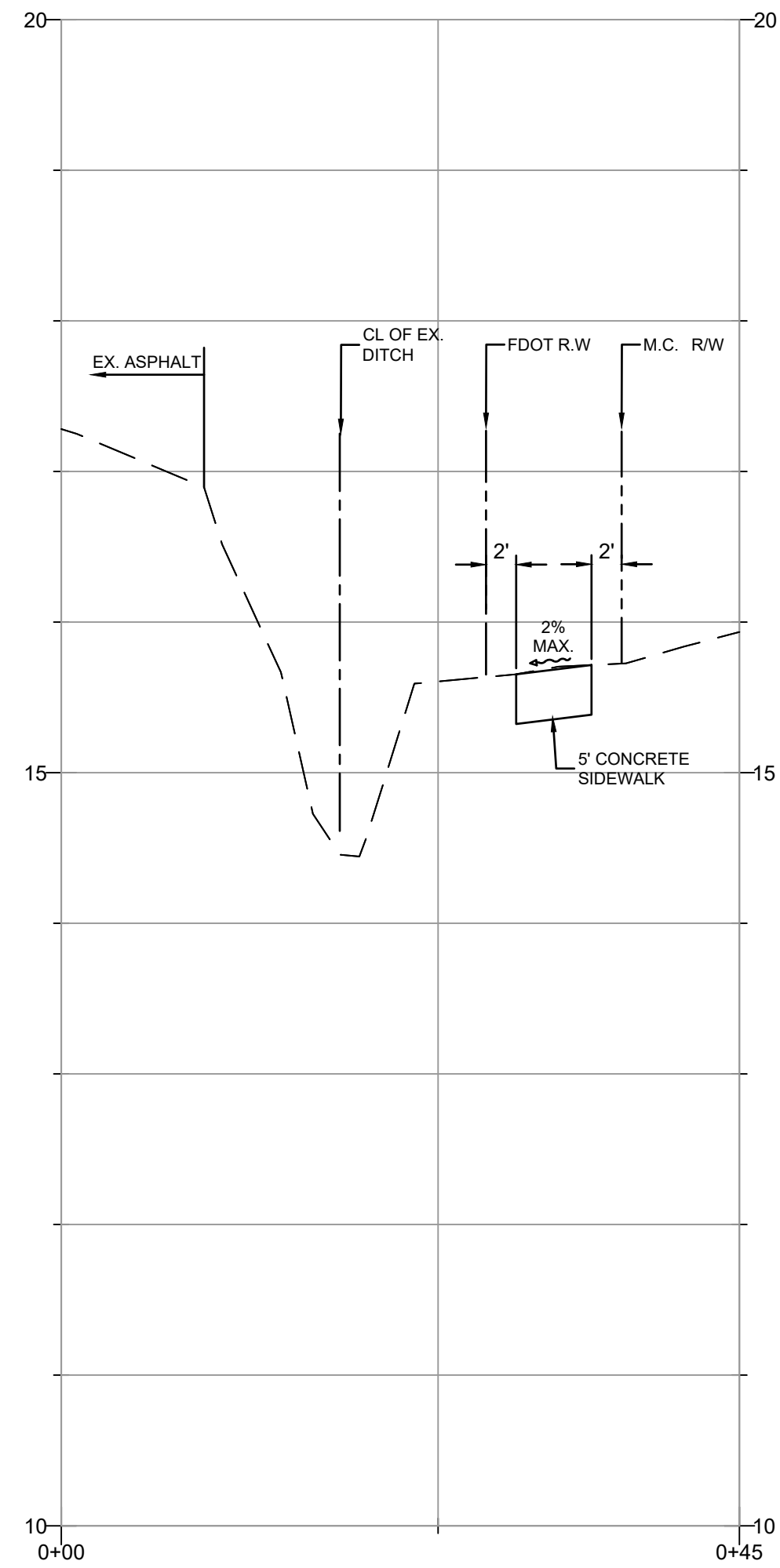
REVISIONS

1	
2	
3	
4	
5	
6	
7	

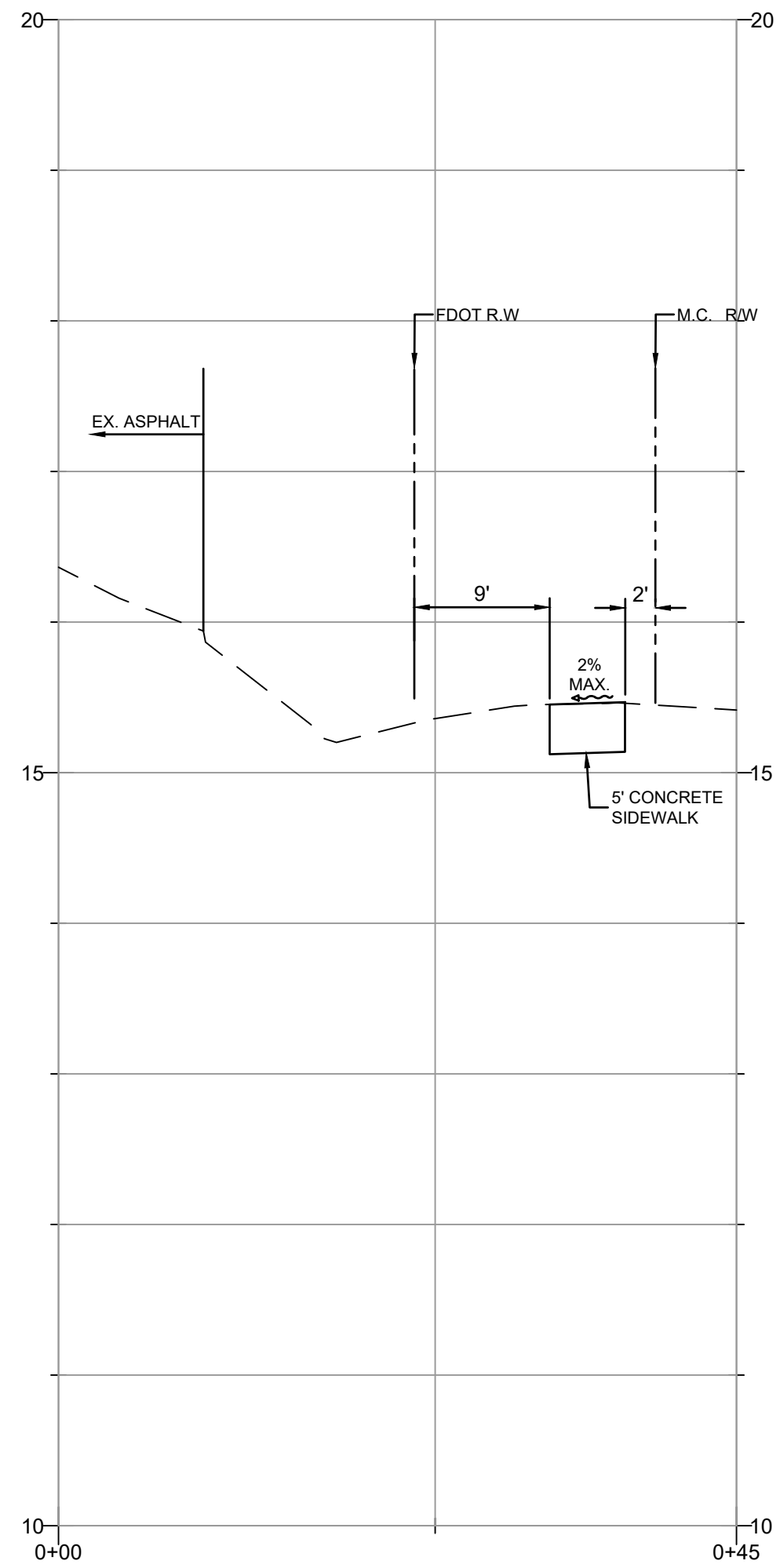
©ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 106 OF THE U.S. COPYRIGHT ACT OF 1976. ANY REPRODUCTION OR ALTERATION OF THIS DOCUMENT OR THE INFORMATION CONTAINED HEREON BY ANY MEANS WHATSOEVER IS STRICTLY PROHIBITED. ZNS ENGINEERING, L.C. CONSENT IS HEREBY GRANTED SPECIFICALLY TO GOVERNMENTAL AGENCIES TO REPRODUCE THIS DOCUMENT IN COMPLIANCE WITH F.S. CHAPTER 119.

SIDEWALK PLAN
FOR
15TH STREET EAST SIDEWALK
LOCATED IN
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

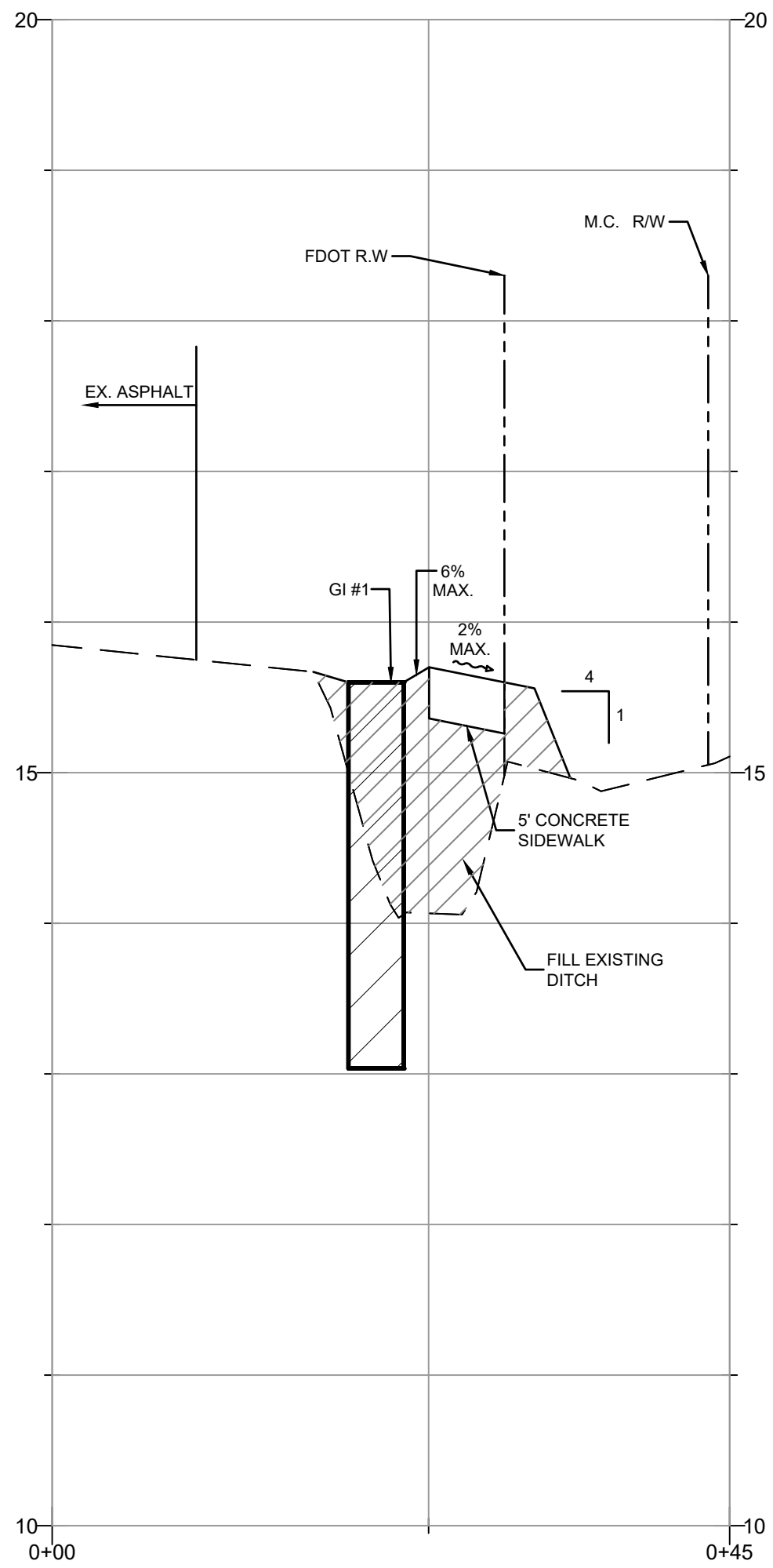
DESIGNED: ME
DRAWN: DK
DATE: 03.2019
JOB NO.: 44360
SCALE: 1"=20'
SHEET: 05



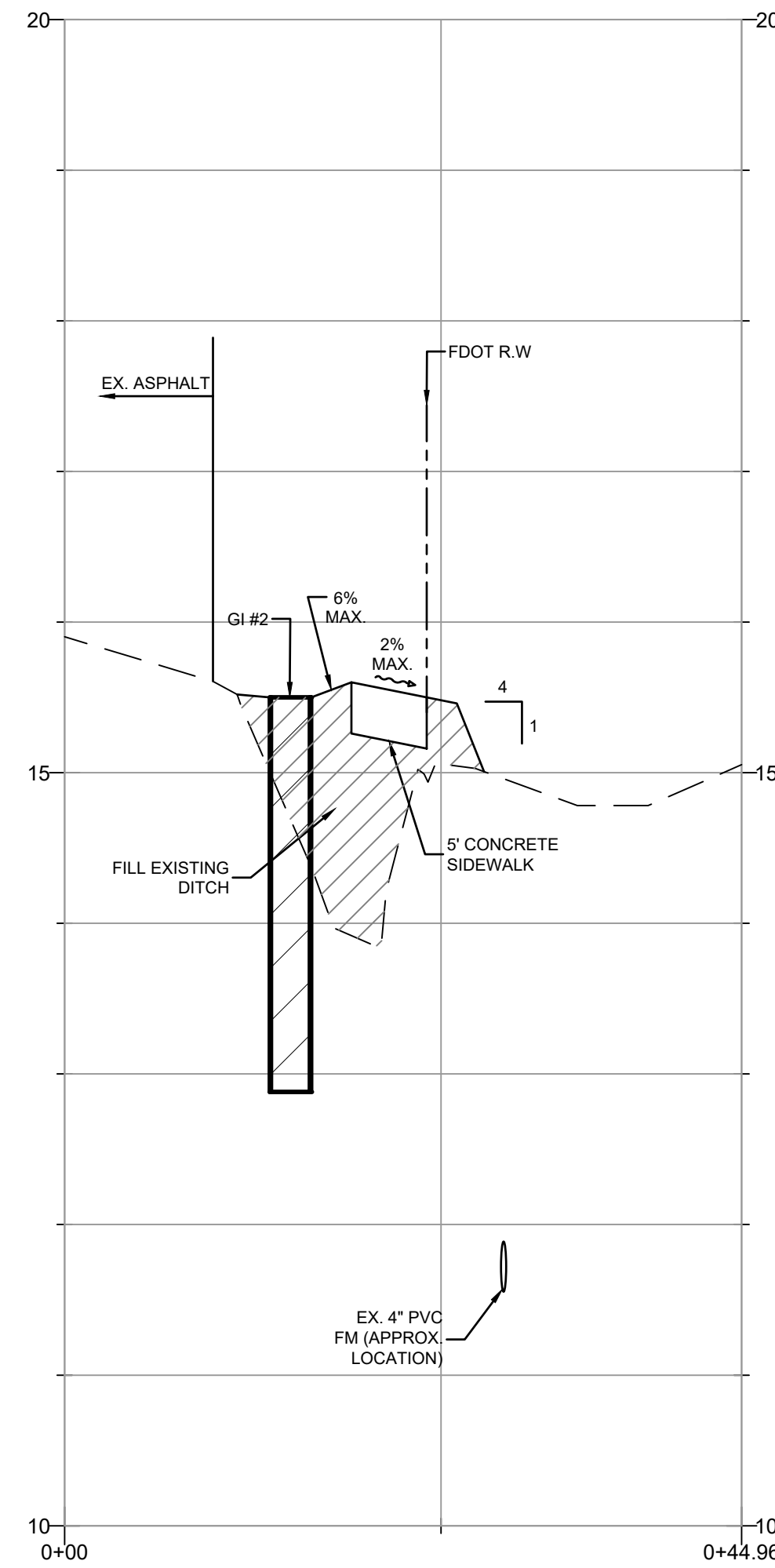
SECTION "A"
 22" x 34" PLAN, SCALE: 1"=10'
 11" x 17" PLAN, SCALE 1" = 20'



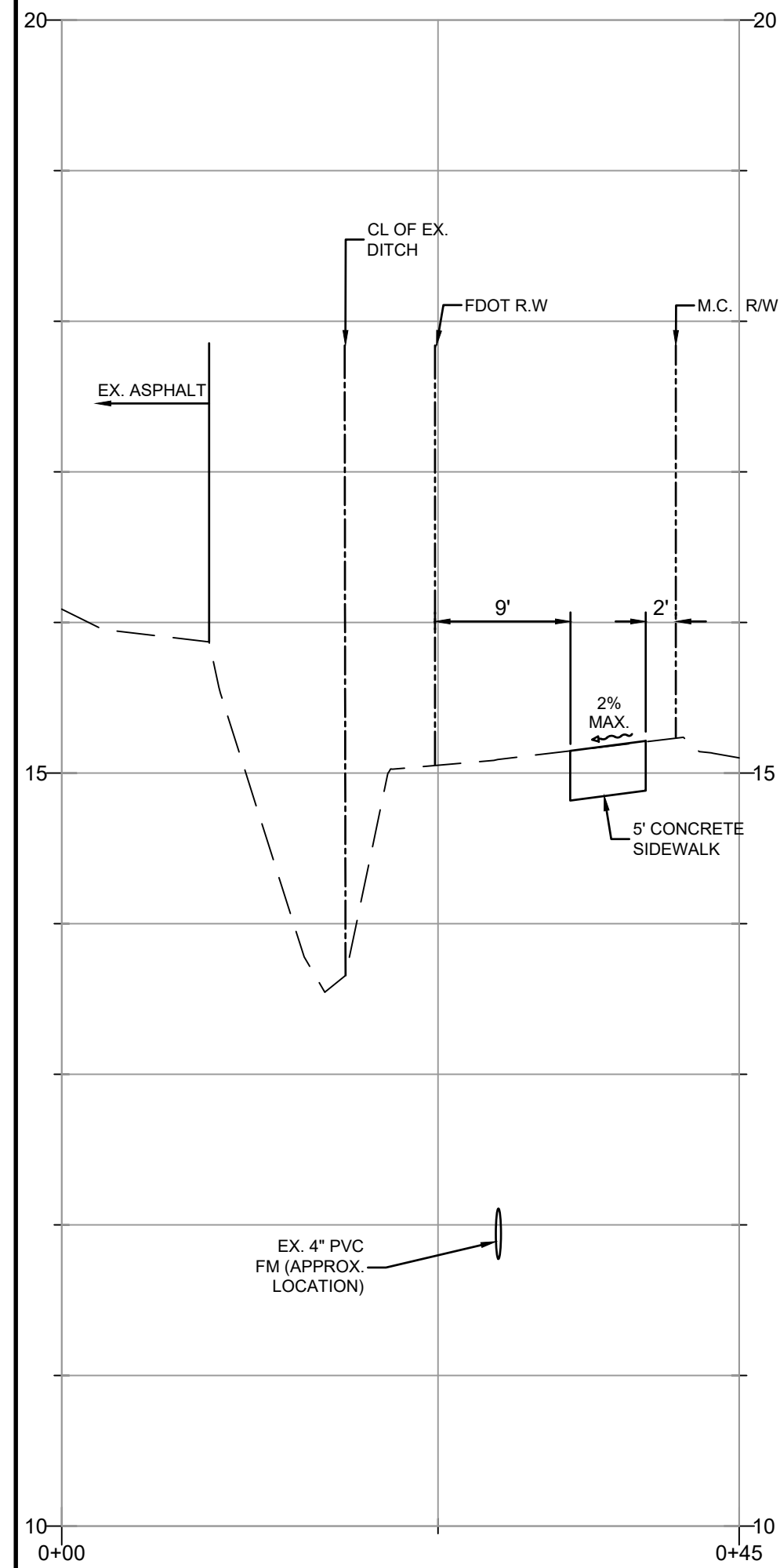
SECTION "B"
 22" x 34" PLAN, SCALE: 1"=10'
 11" x 17" PLAN, SCALE 1" = 20'



SECTION "C"
 22" x 34" PLAN, SCALE: 1"=10'
 11" x 17" PLAN, SCALE 1" = 20'



SECTION "D"
 22" x 34" PLAN, SCALE: 1"=10'
 11" x 17" PLAN, SCALE 1" = 20'



SECTION "E"
 22" x 34" PLAN, SCALE: 1"=10'
 11" x 17" PLAN, SCALE 1" = 20'

DESIGNED	ME
DRAWN	DK
DATE	03.2019
JOB NO.	44360
SCALE	AS SHOWN
SHEET	06

CROSS SECTIONS
 FOR
15TH STREET EAST SIDEWALK
 LOCATED IN
 SECTION 31, TOWNSHIP 34 SOUTH, RANGE 18 EAST
 MANATEE COUNTY, FLORIDA

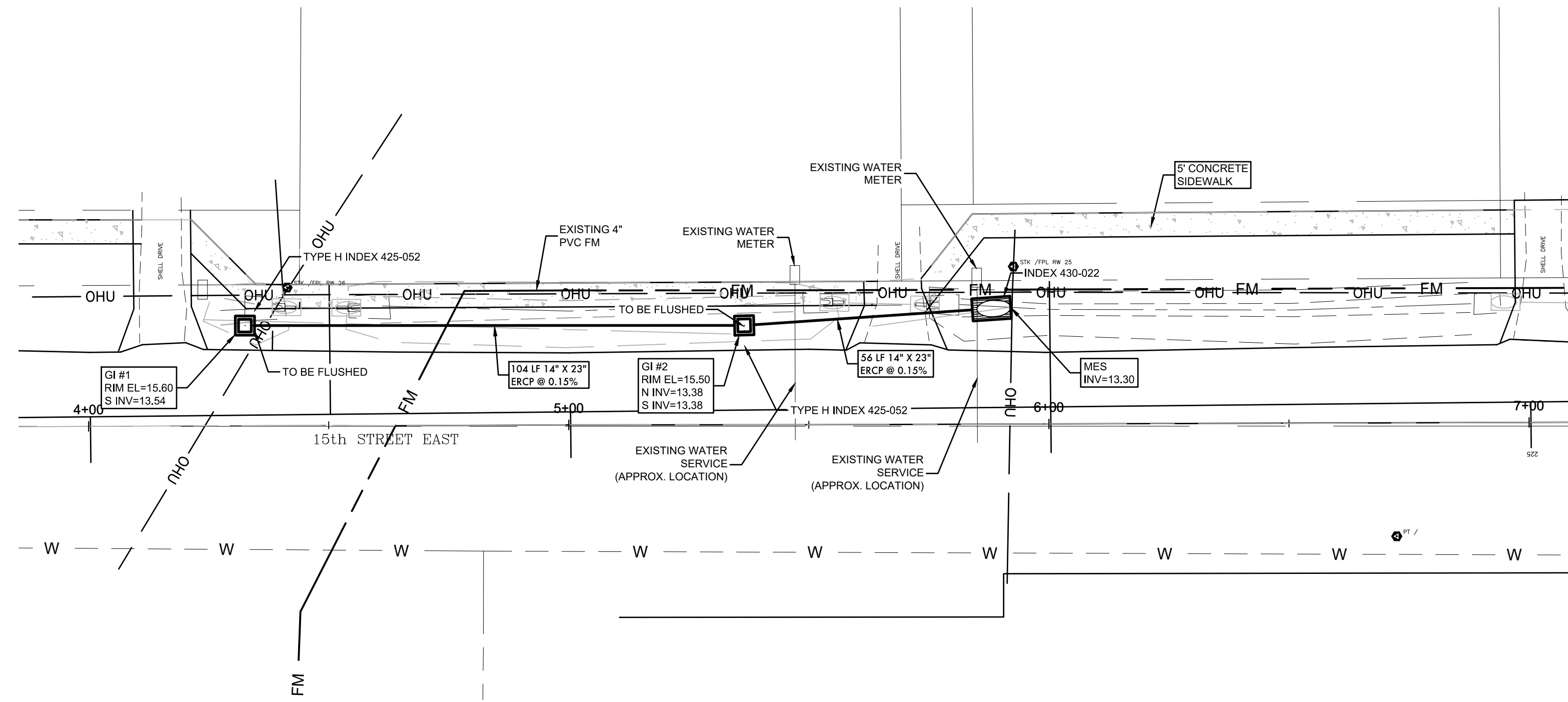
©ZNS ENGINEERING, L.C.
 THIS DOCUMENT IS PROTECTED BY SECTION 106
 OF THE FLORIDA CONSTITUTION AND
 THE INFORMATION CONTAINED HEREIN IS STRICTLY PROHIBITED
 FROM BEING REPRODUCED OR TRANSMITTED IN ANY FORM OR
 BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING
 PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION
 ENGINEERING, L.C. CONSENT IS HEREBY GRANTED
 SPECIFICALLY TO GOVERNMENTAL AGENCIES
 TO REPRODUCE THIS DOCUMENT IN COMPLIANCE
 WITH F.S. CHAPTER 119.

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	

ZNS ENGINEERING
 Land Planning Engineering Surveying Landscape Architecture
 EB 0022476
 IB 0006982
 LC 0000365
 201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
 E-MAIL: ZNS@ZNSENG.COM TELEPHONE 941.748.8800 FAX 941.748.1316

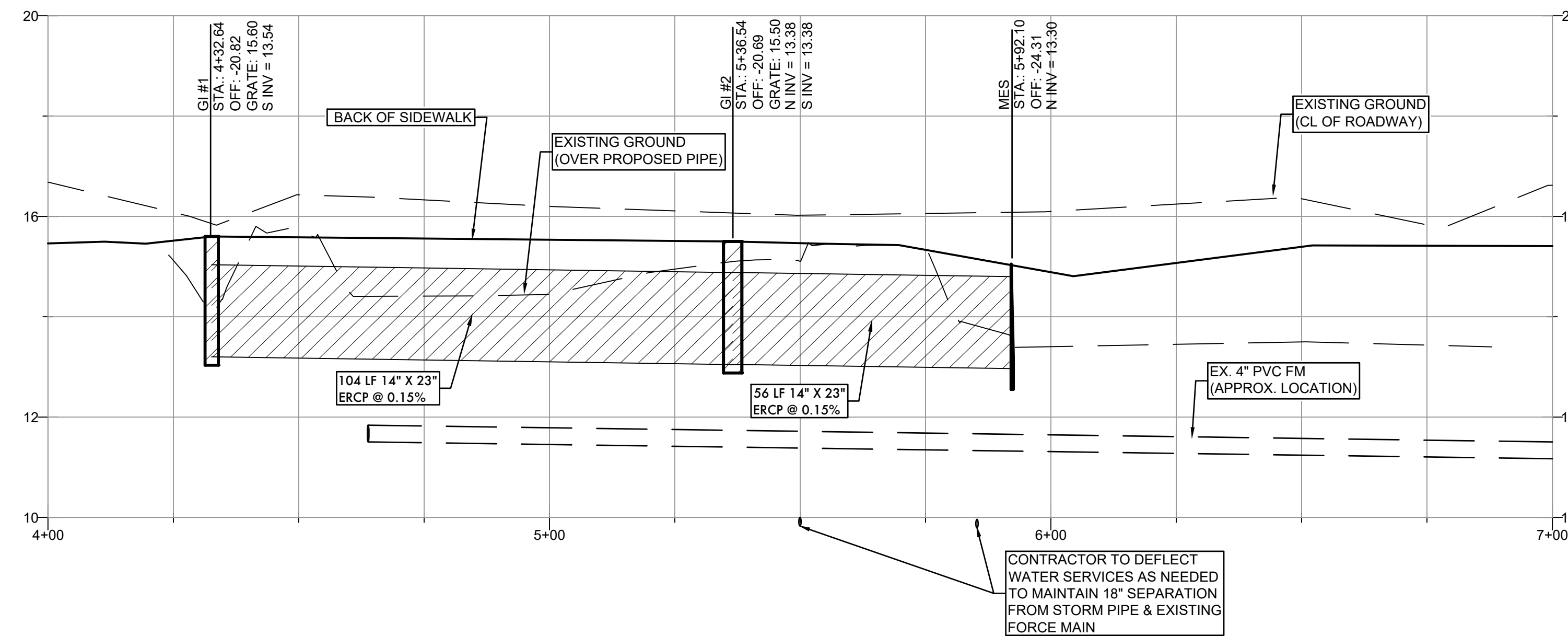
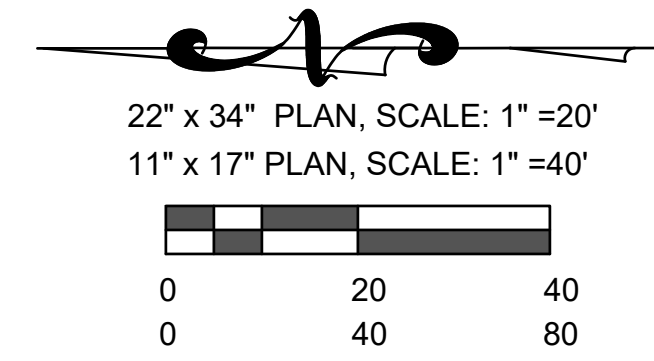
MICHAEL FERDINAND
 PROFESSIONAL ENGINEER #77752
 SIGNATURE

Thu, 10 Oct 2019 - 4:23pm W:\Acad\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5_PP.dwg



PLAN VIEW - STA. 4+00 - 7+00

22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'



PROFILE VIEW - STA. 4+00 - 7+00

22" x 34" PLAN, SCALE: 1" = 20'
11" x 17" PLAN, SCALE: 1" = 40'

DESIGNED	ME
DRAWN	BH
DATE	05.20.18
JOB NO.	44360
SCALE	AS SHOWN
SHEET	07

PLAN AND PROFILE
FOR
15TH STREET EAST SIDEWALK
LOCATED IN
SECTION 31, TOWNSHIP 34 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

THIS DOCUMENT IS PROVIDED BY SECTION 106 CONTRACTOR FOR THE INFORMATION OF THE USER. THE INFORMATION CONTAINED HEREIN IS STRICTLY PROHIBITED FROM BEING REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ENGINEERING, L.C. CONSENT IS HEREBY GRANTED SPECIFICALLY TO GOVERNMENTAL AGENCIES TO REPRODUCE THIS DOCUMENT IN COMPLIANCE WITH F.S. CHAPTER 119.

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
EB 0022476
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
FAX 941.748.8800
TELEPHONE 941.748.8800
E-MAIL: ZNS@ZNSENG.COM

MICHAEL FERDINAND
PROFESSIONAL ENGINEER #77752
SIGNATURE

Thu, 10 Oct 2019 4:24pm W:\Acad\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5 SD1 (1).dwg

GENERAL NOTES

- SIDEWALK SHALL BE CONSTRUCTED A MINIMUM OF 4" THICK, USING 3000 PSI CONCRETE. WHERE SIDEWALK BISECTS A DRIVEWAY, THE MINIMUM SHALL BE 6" OF CLASS I CONCRETE REINFORCED WITH 6"x6" #10 WIRE MESH.
* SEE SHEETS #101.2 & 101.3.
- ALL SIDEWALKS SHALL BE CONSTRUCTED TO THE SPECIFICATIONS OF THE MANATEE COUNTY LAND DEVELOPMENT CODE, SECTION 722. A MINIMUM (5) FOOT WIDE SIDEWALK SHALL BE INSTALLED ALONG THE NORTH AND WEST SIDES OF ALL NEW LOCAL STREETS WHICH ARE CONSTRUCTED IN CONJUNCTION WITH A NEW RESIDENTIAL DEVELOPMENT. A SIDEWALK A MINIMUM OF (5) FEET IN WIDTH SHALL BE INSTALLED ON BOTH SIDES OF ALL THROUGHFARES. REFER TO F.D.O.T. ROADWAY AND TRAFFIC STANDARDS, LATEST REVISION FOR CURB CUT RAMP SPECIFICATIONS.
- THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL NOT BE MORE THAN 1/4" UNDER A TEN FOOT STRAIGHTEDGE, NOR MORE THAN 1/8" ON A FIVE-FOOT TRAVERSE SECTION. THE EDGE OF THE SIDEWALK SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/2".
- EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE SIDEWALKS AND THE CURB OR DRIVEWAY OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS SHALL BE 1/2" MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213. FOR LONG POORS, AN EXPANSION JOINT SHALL BE PLACED AT INTERVALS NOT TO EXCEED 120'.
- CONTRACTION JOINTS:
OPEN TYPE JOINTS
OPEN TYPE CONSTRUCTION JOINTS SHALL BE FORMED BY STAKING A METAL BULKHEAD IN PLACE AND DEPOSITING THE CONCRETE ON BOTH SIDES. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO PRESERVE THE WIDTH AND THE SHAPE OF THE JOINT, THE BULKHEAD SHALL BE REMOVED. AFTER THE SIDEWALK HAS BEEN FINISHED OVER THE JOINT, THE SLOT SHALL BE FINISHED WITH A TOOL HAVING A 1/2" RADIUS.
SAWED JOINTS
A SLOT APPROXIMATELY 3/16" WIDE AND NOT LESS THAN 1" DEEP AT 10' CENTERS SHALL BE CUT WITH A CONCRETE SAW AFTER THE CONCRETE HAS SET.
- SIDEWALKS ALONG OTHER STREETS SHALL BE CONSTRUCTED AND DEDICATED AS REQUIRED BY THE APPROVING AUTHORITY WHEN NECESSARY TO CONTINUE AN EXISTING OR PROPOSED SIDEWALK.
- HANDICAP RAMPS SHALL MEET FLORIDA ACCESSIBILITIES STANDARDS, AND SECTIONS 301.0, 301.1 AND 301.2.
- ALL SIDEWALKS ON R/W WITHIN 10' OF AN EXISTING OR PROPOSED TREE THAT WILL EXCEED 6" IN DIAMETER AT MATURITY SHALL BE 5" THICK AND CONTAIN 2-#3 REBAR CENTERED VERTICALLY AND SPACED 3' ON CENTER. PALMS ARE NOT CONSIDERED TREES.

*NOTE: FOR COMPLETE SIDEWALK DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6 AND INDEX 310, SHEETS 1 & 2.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		SIDEWALKS GENERAL NOTES	301.0
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

TYPICAL SIDEWALK LOCATION

ALTERNATE SIDEWALK LOCATION

SIDEWALK LOCATION CLOSE TO TREES

A = BACK OF CURB TO R/W (VARIES)
B = UNPAVED AREA (VARIES) REFER TO F.D.O.T. GREEN BOOK, TABLE 3-12, LATEST REVISION.
C = VARIES, SEE 401 SERIES

D = SIDEWALK WIDTH SHALL BE 6" STANDARD, WHERE WALK ABUTS TYPE "AB, D OR F" CURB. WHERE SPEED LIMIT IS 25 MPH OR LESS, WIDTH CAN BE 5'-6".
* SEE SHEET 300.1 "GENERAL NOTES" FOR FURTHER INFORMATION

MANATEE COUNTY TRANSPORTATION DEPARTMENT		SIDEWALK REQUIREMENTS	301.1
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

HANDICAPPED RAMP SHEET 1

* CROSSWALK WIDTHS AND CONFIGURATION VARY, MUST CONFORM TO FDOT INDEX NO. 17344 AND 17346.

- CURB CUT RAMPS ARE TO BE LOCATED AS SHOWN ON PLANS.
- SEE SHEETS # 300.1 "GENERAL NOTES" & # 301.2 "HANDICAPPED RAMP" SHT 2 FOR FURTHER REQUIREMENTS.
- RADIUS OF CURB VARIES AS FOLLOWS:
A) 25' RAD. LOCAL STREET WITH ALLEY.
B) 25' RAD. LOCAL STREET WITH LOCAL STREET.
C) 35' RAD. LOCAL STREET WITH THOROUGHFARE OR COLLECTOR.
D) 50' RAD. THOROUGHFARE WITH THOROUGHFARE
- CURB RADIUS SHOULD BE A MINIMUM OF 50' WHERE INDUSTRIAL AND BUS TRAFFIC (5% OR MORE) IS ANTICIPATED ON LOWER CLASSIFICATION ROADWAYS.
- BOTH LOCATION OPTIONS FOR HANDICAPPED RAMP ARE SHOWN. ENGINEER MAY SELECT EITHER, WHICHEVER FITS THE SITUATION.
NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		HANDICAPPED RAMP SHEET 1	302.1
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

SECTION A-A
(SEE SHEET 301.0)

S.W. = SIDEWALK	"A"	S.W. + A + 10"	"X"	"B"
5'	0	5.8'	5.8'	5'
6'	0	6.8'	6.8'	6'
7'	0	7.8'	7.3'	6.5'
8'	0	8.8'	7.3'	6.5'
5'	2'	7.8'	7.8'	5'
5'	2.5'	8.3'	8.1'	4.8'
5'	3'	8.8'	8.2'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5'	10.8'	9.1'	3.1'

SECTION B-B
(SEE SHEET 301.0)

NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		HANDICAPPED RAMP SHEET 2	302.2
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

CURB RAMP DETECTABLE WARNING DETAIL

TRUNCATED DOME

INTEGRAL DOME

NOTES:
DETECTABLE WARNINGS ON WALKING SURFACES
THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCH, A HEIGHT OF NOMINAL 0.2 INCH AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCH AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.
THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70%. CONTRAST IN PERCENT IS DETERMINED BY:
CONTRAST = [(B1-B2)/B1] x 100
WHERE B1 = LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.
NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		CURB RAMP DETECTABLE WARNINGS	302.3
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

URBAN DRIVES

MAXIMUM GRADES:
5%-8% FOR COMMERCIAL
10%-15% FOR OTHERS

SECTION A-A
DRIVEWAY TO FIT EXIST. OR PROPOSED CONDITIONS

PLAN VIEW

* For driveways that can demonstrate the need for additional width, the width may not be greater than the LESSER of:
a.) 30' total at the R/W line
b.) 30% of the front footage as defined on the survey (or field measurement, 36' max.)

- CONSTRUCT WITH 6" REINFORCED CONCRETE 3000 PSI @ 28 DAYS, 6"x6" #10 WIRE MESH FROM BACK OF CURB- TO R/W LINE.
- DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE (A) ON PREVIOUS PAGE (STD. 101.0)
- MAINTAIN EXISTING DRAINAGE FLOWLINE. FOR PIPING SPECIFICATIONS REFER TO F.D.O.T. STANDARD SPECIFICATIONS SECTION 430. SEE NOTE 4, PAGE 100.1. SEE SECTION 200- DRAINAGE (STD. 200.0, 202.5).
- 3"x8" FLARE OR 18' RADIUS WITH CURB TRANSITION (TRANSITION FROM TYPE "F" CURB TO MIAMI CURB) SEE STD. 102.2 NO CHANGE WITH 3' VALLEY CROSSINGS - SEE STDS. 201.0, 201.1, 201.2, 201.4, 201.5, 201.6.
- EXPANSION JOINT 0.50" PREFORMED JOINT FILLER OR APPROVED ALTERNATE, DRIVES WIDER THAN 12' (BEYOND FLARE) PLACE JOINT ON 10' CENTER.
- LATERAL ALIGNMENT 45 DEGREES FOR DOUBLE DRIVE PER LOT, 90 DEGREES FOR SINGLE DRIVE, OFF CENTER LINE.

NOTE: DRIVEWAY TO TIE INTO PAVEMENT. CURB DOES NOT EXIST ALONG ROADWAY.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		URBAN DRIVES	101.1
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

TYPICAL DRIVEWAY

VARIABLES: C.M.P. WILL NOT BE ALLOWED WITHIN THE RIGHT-OF-WAY.
R.C.P. WILL REQUIRE A MINIMUM 6" OF COVER BENEATH BOTTOM OF DRIVEWAY, FOR A TOTAL OF 1' OF COVER. HDPE PIPE IS ACCEPTABLE IN LIEU OF RCP.

NOTE: 1) GRADES AND LOCATIONS MUST BE REVIEWED AND APPROVED BY THE DRIVEWAY INSPECTOR FOR ALL PIPE INSTALLATIONS
2) ACTUAL REQUIRED PIPE DIAMETER WILL BE BASED ON THE FLOW RATE REQUIRED TO PASS THROUGH PIPE SO AS NOT TO IMPOUND WATER UPSTREAM.
3) PIPE SIZE TO BE DETERMINED AND APPROVED BY MANATEE COUNTY.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		TYPICAL DRIVEWAY PIPE CROSS SECTION	102.0
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

TYPICAL SECTION
N.T.S.

NOTE: BID QUANTITIES INCLUDE 6" CONCRETE AREA TO REPLACE ALL DRIVEWAYS WITHIN THE RIGHT-OF-WAY OVER THE LENGTH OF THE PROJECT. HOWEVER, ONLY THOSE DRIVEWAYS DIRECTED BY COUNTY REPRESENTATIVE DURING CONSTRUCTION SHALL BE REPLACED.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		TYPICAL SECTION	302.2
REV. BY	DATE		
	6/12/07		
	DATE OF B.O.C.C. APPROVAL		

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture

MANATEE COUNTY
TRANSPORTATION DEPARTMENT

15TH STREET EAST SIDEWALK
FOR
LOCATED IN
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

DESIGNED: ME
DRAWN: DK
DATE: 03/2019
JOB NO: 44360
SCALE: 1"=20'
SHEET: 08

MICHAEL FERRODINO
PROFESSIONAL ENGINEER #77752
SIGNATURE

ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 106
OF THE FLORIDA CONSTITUTION. ANY
REPRODUCTION OR ALTERATION OF THIS DOCUMENT OR
THE INFORMATION CONTAINED HEREON BY ANY
MEANS WHATSOEVER IS STRICTLY PROHIBITED
UNLESS PERMITTED IN WRITING BY ZNS
ENGINEERING, L.C. CONSENT IS HEREBY GRANTED
SPECIFICALLY TO GOVERNMENTAL AGENCIES
TO REPRODUCE THIS DOCUMENT IN COMPLIANCE
WITH F.S. CHAPTER 119.

Thu, 10 Oct 2019 4:24pm W:\Acad\MANATEE COUNTY\15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5 ED.dwg

GENERAL NOTES

- ALL REFERENCED STANDARDS SHALL BE LATEST REVISION.
- CONCRETE SHALL BE CLASS "1" AS SPECIFIED IN SECTION 345 OF F.D.O.T. SPECIFICATIONS
- SEE SECTION 425-2.2 "MORTAR" OF FLORIDA D.O.T. SPECIFICATIONS.
- IRON CASTING SHALL BE AS SPECIFIED IN SECTION 962-8 OF F.D.O.T. SPECIFICATIONS. SEE SECTION 425-5.
- ALL REINFORCEMENT STEEL SHALL BE AS SPECIFIED IN SECTIONS 415 & 931.1 OF F.D.O.T. SPECIFICATIONS.
- SEE FLORIDA D.O.T. SPECIFICATIONS FOR GRATINGS.
- SEE FLORIDA D.O.T. SPECIFICATIONS FOR SECTION 125 "EXCAVATION FOR STRUCTURES."
- PRECAST TOP AND BOTTOM TO BE F.D.O.T. STANDARDS WITH MINIMUM TRAFFIC BEARING 8" THICKNESS.
- ALL STORMWATER PIPE SHALL BE INSTALLED BEHIND THE CURB OR EDGE OF PAVEMENT AND WITHIN THE RIGHT OF WAY AND WITHIN THE DRAINAGE EASEMENTS.
- THE FOLLOWING IS THE DRAINAGE STRUCTURE WALL MINIMUM THICKNESS:

PRECAST	BLOCK
NON-TRAFFIC 6"	8" EITHER WAY

NOTE: FOR DRAINAGE STRUCTURES WITH PIPE DIAMETERS UP TO AND INCLUDING 24". 6" PRECAST WALLS ARE ACCEPTABLE FOR TRAFFIC BEARING.

DIMENSION INDEX		"C"	"D"	"E"	"F"	"G"	"H"
PIPE SIZE	TYPE						
15"	RCP	2'8"	4'	5'	4'	5'4"	6'4"
12"x18"	RCP	-	-	-	-	-	-
18"	RCP	-	-	-	-	-	-
14"x23"	RCP	-	-	-	-	-	-
24"	RCP	3'4"	4'8"	5'8"	-	-	-
19"x30"	RCP	4'	5'4"	6'4"	-	-	-
30"	RCP	-	-	-	-	-	-
24"x38"	RCP	5'	6'4"	7'4"	-	-	-
36"	RCP	5'	6'4"	-	-	-	-
66"	RCP	8'5"	9'9"	10'9"	4'8"	6'0"	7'0"

MANATEE COUNTY TRANSPORTATION DEPARTMENT		DRAINAGE CONTROL SHEET	202.0
REVBY	DATE		
	6/12/07		
DATE OF B.O.C.C. APPROVAL			

NOTE: WHEN PIPE DIAMETER IS GREATER THAN 24", THE CATCH BASIN WALLS SHALL BE 8" THICK.

4"x4"x1/8" ANGLE BRACKET WITH 3 #4 C.I. BOLTS WELDED TO ANGLE

ACCESS COVER PER 202.6

2" TYP.

PLAN VIEW

SECTION "A-A"

SECTION "B-B"

MANATEE COUNTY TRANSPORTATION DEPARTMENT

TYPICAL CONC. BLOCK BOX

202.1

6/12/07

DATE OF B.O.C.C. APPROVAL

SECTION A-A

PLAN VIEW

MANATEE COUNTY TRANSPORTATION DEPARTMENT

TRAFFIC BEARING BOX LID

202.5

6/12/07

DATE OF B.O.C.C. APPROVAL

ELLIPTICAL PIPE

DIMENSIONS & QUANTITIES

Rise R	Span S	X	A	B	C	E	F	G	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	
12"	18"	2'-10"	2.36	3.06	5.42	3.03	5'	1.50	2.0	4.92	7.75	10.58	13.42
14"	23"	3'-4"	2.44	3.75	6.19	3.70	6'	1.90	2.5	5.38	8.71	12.04	15.38
18"	30"	4'-0"	2.62	5.47	8.09	5.36	8'	2.37	3.0	6.04	10.04	14.04	18.04
24"	38"	5'-0"	2.79	7.18	9.97	7.03	10'	2.85	3.0	6.79	11.79	16.79	21.79
29"	45"	5'-11"	3.05	8.90	11.95	8.70	12'	3.19	3.3	7.50	13.42	19.33	25.25
34"	53"	7'-0"	3.22	10.62	13.84	10.36	13'	3.57	3.5	8.25	15.25	22.25	29.25
38"	60"	7'-10"	3.39	11.99	15.38	11.70	15'	3.95	3.5	8.92	16.75	24.58	32.42
43"	68"	8'-11"	3.56	13.71	17.27	13.36	17'	4.28	3.6	9.67	18.58	27.50	36.42
48"	76"	9'-11"	3.73	15.43	19.16	15.03	19'	4.59	4.0	10.42	20.33	30.25	40.17
53"	83"	10'-8"	3.91	17.15	21.06	16.70	20'	4.77	3.3	11.08	21.75	32.42	43.08
58"	91"	11'-8"	4.08	18.87	22.95	18.36	22'	5.01	3.6	11.83	23.50	35.17	46.83

MANATEE COUNTY TRANSPORTATION DEPARTMENT

MITERED END SECTION FOR ELLIPTICAL, SINGLE, AND MULTIPLE PIPES

102.1

6/12/07

DATE OF B.O.C.C. APPROVAL

DIMENSIONS & QUANTITIES

Rise R	Span S	X	A	B	C	E	F	G	H	M				N				SODDING (SY)						
										Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Standard Weight Pipe	Extra Strong Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	
12"	18"	2'-10"	2.36	3.06	5.42	3.03	5'	1.50	2.0	4.92	7.75	10.58	13.42	1.21	0.68	1.04	1.41	1.77	8	9	11	12		
14"	23"	3'-4"	2.44	3.75	6.19	3.70	6'	1.90	2.5	5.38	8.71	12.04	15.38	1.23	0.76	1.19	1.63	2.05	9	10	12	13		
18"	30"	4'-0"	2.62	5.47	8.09	5.36	8'	2.37	2.6	6.04	10.04	14.04	18.04	1.27	0.95	1.52	2.09	2.65	10	12	13	15		
24"	38"	5'-0"	2.79	7.18	9.97	7.03	10'	2.85	3.0	6.79	11.79	16.79	21.79	1.31	1.18	1.95	2.74	3.53	11	13	15	18		
29"	45"	5'-11"	3.05	8.90	11.95	8.70	12'	3.19	3.3	7.50	13.42	19.33	25.25	1.38	1.41	2.42	3.44	4.45	12	15	18	20		
34"	53"	7'-0"	3.22	10.62	13.84	10.36	13'	3.57	3.5	8.25	15.25	22.25	29.25	1.42	1.63	2.92	4.22	5.52	13	17	20	23		
38"	60"	7'-10"	3.39	11.99	15.38	11.70	15'	3.95	3.5	8.92	16.75	24.58	32.42	1.46	1.83	3.36	4.89	6.41	14	18	21	25		
43"	68"	8'-11"	3.56	13.71	17.27	13.36	17'	4.28	3.6	9.67	18.58	27.50	36.42	1.50	2.09	3.95	5.80	7.65	16	20	23	27		
48"	76"	9'-11"	3.73	15.43	19.16	15.03	19'	4.59	4.0	10.42	20.33	30.25	40.17	1.54	2.37	4.54	6.73	8.92	17	21	26	30		
53"	83"	10'-8"	3.91	17.15	21.06	16.70	20'	4.77	3.3	11.08	21.75	32.42	43.08	1.58	3	HSS 5"x5/8"	2.61	5.09	7.56	10.03	18	23	27	32
58"	91"	11'-8"	4.08	18.87	22.95	18.36	22'	5.01	3.6	11.83	23.50	35.17	46.83	1.63	3 1/2"	HSS 5"x5/8"	2.91	5.77	8.64	11.50	19	24	29	35

Values shown for estimating pipe quantities and are for information only.

TOP VIEW-SINGLE PIPE

TOP VIEW-MULTIPLE PIPE

MANATEE COUNTY TRANSPORTATION DEPARTMENT

SINGLE AND MULTIPLE ELLIPTICAL CONCRETE PIPE

202.2

6/12/07

DATE OF B.O.C.C. APPROVAL

HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)

WALL DEPTH	SCHEDULE	AREA (in. ² /ft.)	MAX. SPACING BARS WWF
0'-15"	A12	0.20	12" 8"

TYPE C

Recommended Maximum Pipe Size:

- 2'-0" Wall - 18" Pipe
- 3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)

DESIGNED BY: ME

DRAWN BY: DK

DATE: 03/20/19

JOB NO.: 44360

SCALE: 1"=20'

SHEET: 02

MANATEE COUNTY, FLORIDA

SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST

15TH STREET EAST SIDEWALK

FOR

ENGINEERING DETAILS

ZNS ENGINEERING, L.C.

201 5th Avenue Drive East Bradenton, FL 34208

EB 0022476 IB 0006982 LC 0000345

Professional Engineer #7772

Michael Ferrinano

Professional Engineer

STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM

Inspections must occur at least once a week and within 24 hours of the end of a storm event that is 0.50 inches or greater.

Project Name: _____ FDEP NPDES Stormwater Identification Number: _____
 FFLR10 _____

Location	Rain data	Type of control (see below)	Date installed /modified	Current Condition (see below)	Corrective Action/ Other Remarks

Condition Code:
 G = Good M = Marginal, needs maintenance or replacement soon P = Poor, needs immediate maintenance or replacement
 C = Needs to be cleaned O = Other

Control Type Codes

1. Silt Fence	10. Storm drain inlet protection	19. Reinforced soil retaining system	28. Tree protection
2. Earth dikes	11. Vegetative buffer strip	20. Gabion	29. Detention pond
3. Structural diversion	12. Vegetative preservation area	21. Sediment Basin	30. Retention pond
4. Swale	13. Retention Pond	22. Temporary seed / sod	31. Waste disposal / housekeeping
5. Sediment Trap	14. Construction entrance stabilization	23. Permanent seed / sod	32. Dam
6. Check dam	15. Perimeter ditch	24. Mulch	33. Sand Bag
7. Subsurface drain	16. Curb and gutter	25. Hay Bales	34. Other
8. Pipe slope drain	17. Paved road surface	26. Geotextile	
9. Level spreaders	18. Rock outlet protection	27. Rip-rap	

Inspector Information:

Name _____ Qualification _____ Date _____

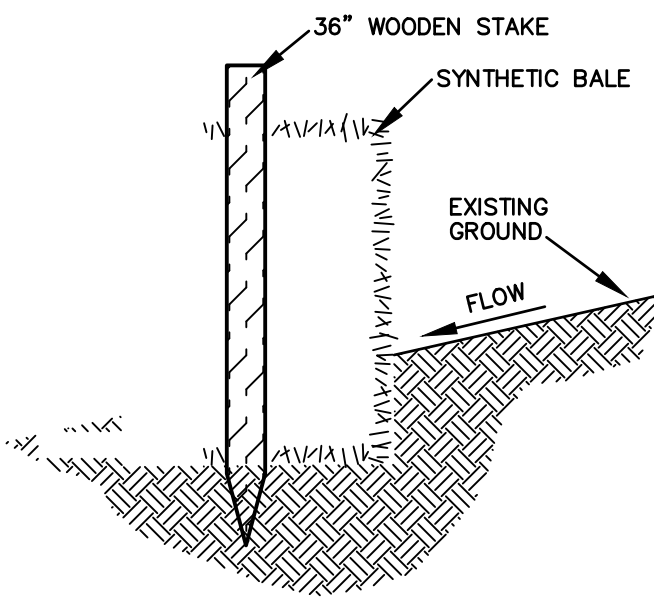
The above signature also shall certify that this facility is in compliance with the Stormwater Pollution Prevention Plan and the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities if there are not any incidents of non-compliance identified above.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

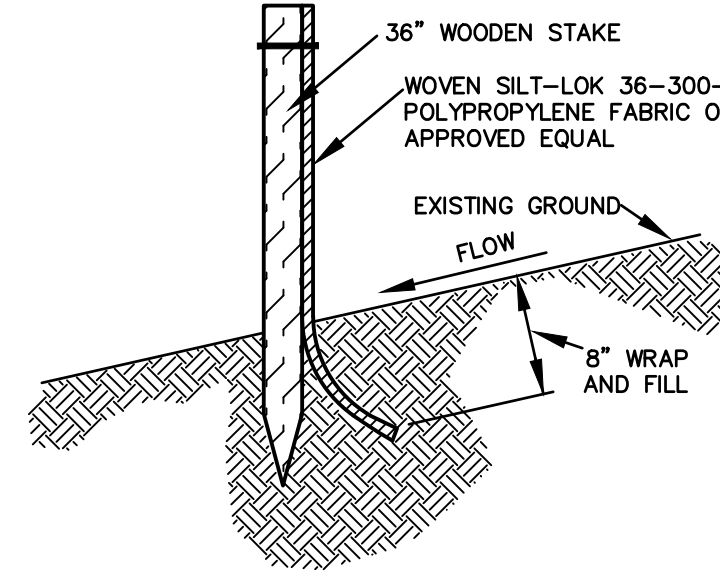
Name (Responsible Authority) _____ Date _____

STORMWATER POLLUTION PREVENTION PLAN

- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE "STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM", WHICH WILL BE KEPT ON SITE BY THE CONTRACTOR. INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER.



SYNTHETIC BALE DETAIL



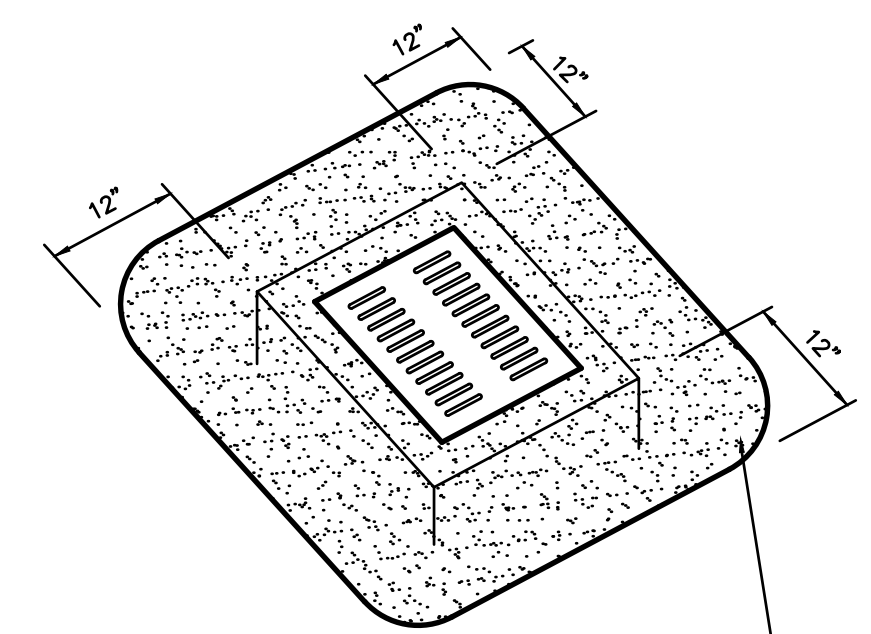
STAKED SILT BARRIER DETAIL

EROSION CONTROL NOTES:

- TO PREVENT SEDIMENTARY RUNOFF DURING CONSTRUCTION, STAKED SYNTHETIC BALES, STAKED SILT SCREENS OR INLET DEBRIS CONTROL SCREENS ARE TO BE PLACED AT STORM INLETS, OUTFALL LOCATIONS AND ADJACENT PROPERTY LINES AS REQUIRED PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR TO KEEP CONSTRUCTION ACTIVITIES AND EQUIPMENT TO A MINIMUM AT OUTFALL LOCATIONS WHICH DISCHARGE TO EXISTING JURISDICTIONAL AREAS. FLOATING OR STAKED TURBIDITY BARRIERS MAY BE USED IN LIEU OF STAKED HAYBALES/SILT SCREENS WHERE WARRANTED.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN-PLACE UNTIL THE SITE HAS BEEN STABILIZED AND REVEGETATED.
- CONSTRUCTION METHOD AND MATERIALS TO BE IN ACCORDANCE WITH SECTION 104-8 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS.
 - HAY BALES MUST BE BUTTED CLOSE TOGETHER AND HAVE NO GAPS TO ALLOW FLOW TO PASS THROUGH WITHOUT BEING FILTERED.
 - JOINTS OF THE FILTER FABRIC MUST BE OVERLAPPED AND PROPERLY CONNECTED TO PREVENT ANY OPENING FROM OCCURRING.
- SILT SCREENS MAY ALSO REPRESENT CONSTRUCTION LIMITS BARRIERS. THEY SHALL BE ERRECTED PRIOR TO INITIATION OF SITE CLEARING OPERATIONS NEAR WETLANDS, BUFFER AREAS AND ANY OTHER AREAS SHOWN AS PRESERVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES. FAILURE TO INSTALL AND MAINTAIN BARRIERS/SILT SCREENS SHALL BE CAUSE FOR PUNITIVE FINANCIAL PENALTIES. FINANCIAL PENALTIES (PUNITIVE AND REGULATORY), CONSULTING FEES AND ESTIMATED COST OF RESTORATION WILL BE DEDUCTED FROM SUBSEQUENT PAYMENT REQUESTS.
- WHERE SILT FENCE IS REQUIRED TO BE INSTALLED WITHIN DRIP LINES OF TREES TO BE PRESERVED, CONTRACTOR SHALL NOT TRENCH SILT FENCE IN, INSTEAD EITHER INSTALL SILT FENCE ON GRADE OR USE SYNTHETIC BALES WITHIN DRIP LINES.

SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSTALLED AND THEN VERIFIED/INSPECTED BY MANATEE COUNTY ENVIRONMENTAL PLANNING (742-5980) PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION BARRIERS IN A WORKING MANNER FOR THE DURATION OF CONSTRUCTION AND SHOULD BE CHECKED DAILY. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF OF THE DEPTH OF THE SEDIMENTATION BARRIER SHALL BE IMMEDIATELY REMOVED AND REPLACED IN UPLAND AREAS. IN ADDITION TO SPECIFIED EROSION CONTROL LOCATIONS, THE CONTRACTOR SHALL PERFORM DAILY SITE INSPECTIONS FOR POTENTIAL EROSION PROBLEMS. IF PROBLEMS OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE EROSION CONTROL IMMEDIATELY. STORMWATER TREATMENT FACILITIES INCLUDING OUTFALL PER DETAIL ARE TO BE CONSTRUCTED EARLY IN SITE DEVELOPMENT, WITH NO OFF-SITE UNTREATED RUN-OFF OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TEMPORARY EROSION CONTROL DEVICES FOLLOWING COMPLETION OF ALL CONSTRUCTION AND



FILTER CLOTH TO BE PLACED UNDER INLET GRATE DURING SITE WORK CONSTRUCTION

NOTE: HAY BALES SURROUNDING ENTIRE PERIMETER OF INLET MAY BE SUBSTITUTED FOR FILTER CLOTH

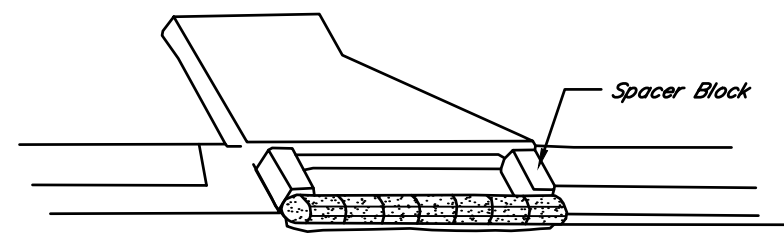
INLET DEBRIS CONTROL SCREEN

N.T.S.

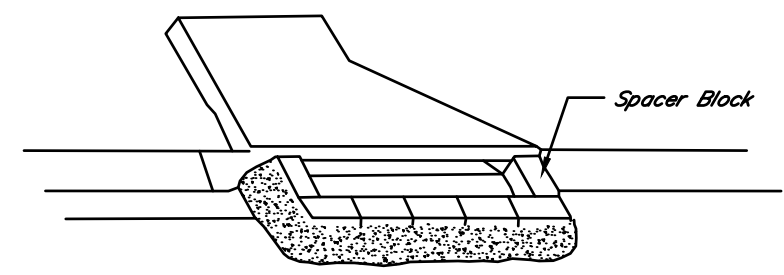
CLEARING AND GRUBBING NOTES

- EROSION CONTROL PREVENTIVE METHODS, SILT SCREENING AND/OR HAY BALES, TO BE IN PLACE PRIOR TO COMMENCEMENT OF EARTHWORK CONSTRUCTION TO MINIMIZE EROSION AND SEDIMENTARY RUNOFF. THE CONTRACTOR SHALL PERFORM DAILY SITE INSPECTIONS FOR ANY POTENTIAL EROSION PROBLEMS. IF ANY POTENTIAL EROSION PROBLEMS ARE ENCOUNTERED, OR HAVE OCCURRED, THE CONTRACTOR SHALL INSTALL PROPER EROSION CONTROL MEASURES IMMEDIATELY. STORMWATER TREATMENT FACILITIES ARE TO BE CONSTRUCTED EARLY IN SITE DEVELOPMENT, WITH NO UNTREATED RUNOFF OFF-SITE OCCURRING DURING CONSTRUCTION.

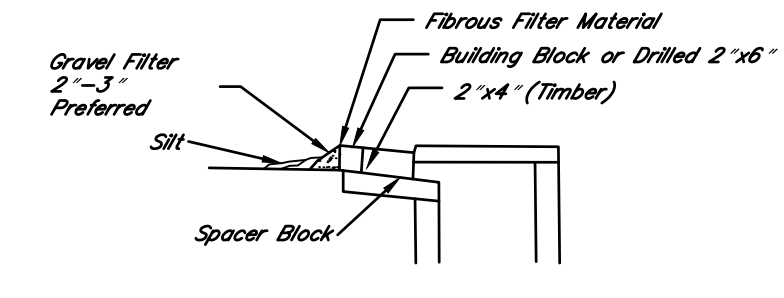
LOCATION OF PROPOSED SEDIMENT AND EROSION CONTROL DEVICES SHALL BE STAKED OUT & LOCATIONS SHALL BE INSPECTED/ APPROVED BY MANATEE COUNTY PRIOR TO INSTALLATION. INSTALLATION OF SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED/ APPROVED BY MANATEE COUNTY ENVIRONMENTAL PLANNING DEPT. (941-742-5980) PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL EXISTING TREES AND BRUSH DESIGNATED FOR REMOVAL ARE TO BE CLEARED AND DISPOSED OF OFFSITE, OR BURNED ON-SITE IF APPROVED BY THE DISTRICT FIRE DEPARTMENT AND COUNTY HEALTH DEPT. ALL EXISTING TREES AND UNDERBRUSH AREAS THAT ARE TO REMAIN UNDISTURBED SHALL BE PROTECTED BY BARRICADES AS SPECIFIED BY THE MANATEE BOARD OF COUNTY COMMISSIONERS IN M.C. ZONING ORDINANCE No. PDC-12-12(2)(P), STIPULATION SECTION E PARA. 4. SEE TREE REMOVAL/PLANTING PLAN FOR DETAILS. THE CONTRACTOR SHALL INSTALL SAID BARRICADES AT COMMENCEMENT OF CONSTRUCTION AND REMOVE FOLLOWING FINAL GRADING AND LANDSCAPING.
- SODDING AND/OR GRASSING TO BE COMPLETED IMMEDIATELY UPON COMPLETION OF FINISH GRADING. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DUST CONTROL.
- TOPOGRAPHIC AND PROPERTY SURVEYS GIVING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, LOCATION AND DEPTHS OF SEWERS, CONDUITS, PIPES, EXISTING STRUCTURES, CURBS, PAVEMENTS, TRACTS, AND SOIL BORING DATA GIVING THE NATURE OF GROUND AND SUBSURFACE CONDITIONS HAVE BEEN OBTAINED FROM RELIABLE SOURCES. THE ACCURACY OF THIS DATA IS NOT GUARANTEED, AND IS FURNISHED SOLELY AS AN ACCOMMODATION TO THE CONTRACTOR. USE OF THIS DATA SHALL BE MADE AT THE CONTRACTOR'S DISCRETION. NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO CONTRACTOR'S LACK OF KNOWLEDGE OF SITE CONDITIONS. PRIOR TO BID SUBMISSION, CONDUCT ANY ADDITIONAL SURVEYS AND SOIL TESTS YOU MAY DEEM NECESSARY TO VERIFY THE ACCURACY OF THE INFORMATION PROVIDED.
- PROPOSED ROADWAY RIGHT-OF-WAY AREAS TO BE CLEARED OF ALL TREES AND BRUSH, AND STRIPPED TO A MINIMUM DEPTH OF 8" AND/OR BOTTOM OF ORGANIC LAYER.
- LOT AREA TO BE DISKED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- REFER TO DRAINAGE & GRADING PLAN FOR ADDITIONAL NOTES REGARDING WETLAND MITIGATION.
- EXISTING WATER SERVICES ENCOUNTERED TO BE REMOVED BACK TO MAIN AND CAPPED OFF.
- EXOTIC, NUISANCE VEGETATION SHALL BE REMOVED FROM THE WETLAND BUFFERS AND ALL OTHER UPLAND PORTIONS OF THE SITE.
- ALL SLOPES 3:1 OR GREATER WILL HAVE STAKED SOD PLACED FOR EROSION CONTROL.



Roll of 1/2" Gauge Welded Fence, 2"x2" Mesh, 8"-10" Diameter Filled With 3/4" Stone.



Building Block Laid 6" From Throat Web Horizontal



Fibrous Filter Material in Front of Block Prevents Gravel From Washing into Structure.
 2"x4" Behind Blocks And Across Throat Helps Keep Block in Place. Place in Outer Hole of Spacer Block.

TEMPORARY SEDIMENT TRAP AT CURB INLET

N.T.S.

NOTES

- PRIOR TO COMMENCEMENT OF CONSTRUCTION OR LAND CLEARING, CONTRACTOR TO CONFIRM WITH THE ENGINEER OF RECORD THAT AN EROSION AND SEDIMENT CONTROL PLAN (ESCP) HAS BEEN SUBMITTED TO THE EMD FOR REVIEW AND APPROVAL. CONSTRUCTION OR LAND CLEARING IS NOT AUTHORIZED UNTIL AN ESCP HAS BEEN APPROVED BY THE EMD AND ALL REQUIRED MEETINGS HAVE BEEN COMPLETED.
- CONTRACTOR TO INSTALL INLET PROTECTION/CONTROL SCREEN ON ALL PROPOSED GRATE/CURB INLETS ONCE INSTALLED.

LDC SECTION 519, APPENDIX A-19

All applications for ESCP submitted pursuant to section 519 of the LDC shall include a plan which identifies the following:

- Details of construction sequencing, dewatering activities and sump locations, stockpile areas and/or deposition areas for excavated material.
 - Description of land clearing/disturbing activities, existing site conditions and adjacent land uses/areas that might be affected by land clearing/disturbances. **CLEARING AND GRUBBING OF EXISTING VEGETATION. EXISTING STRUCTURES TO BE DEMOLISHED AND HAULED OFFSITE.**
 - Identification of stockpile areas and/or deposition areas for excavated materials. **NONE ANTICIPATED.**
 - Description of potential on-site problem areas such as steep grade changes, highly erodible soils, areas adjacent to wetlands, surface waters, or upland preservation areas. **NONE ANTICIPATED.**
 - Construction scheduling, including the expected starting and stabilization dates. **CONSTRUCTION SCHEDULE IS PROVIDED ON SHEET 1 OF THE CONSTRUCTION PLANS.**
 - Identification of disturbed areas where construction will not be ongoing and final grade will not be achieved within fourteen (14) days, and indication of temporary stabilization measures. **FINAL GRADE WILL BE ACHIEVED WITHIN FOURTEEN (14) DAYS, AND TEMPORARY STABILIZATION WILL BE IMPLEMENTED IF THIS CAN NOT BE ACHIEVED.**
- Details of Best Management Practices and Fugitive Particulate Abatement Methods.
 - Details, drawings and cross-sections of erosion and sediment control devices, if different from the approved Final Site Plan/Construction Plans, and when they will be installed. **TO BE DETERMINED**
 - Maintenance program for erosion and sediment control devices including inspection frequency and maintenance activities. **SEE EROSION CONTROL NOTE #1 ON SHEET 4 OF THE CONSTRUCTION PLANS.**
 - Haul routes and details of apron stabilization at ingress/egress points to right-of-way. **NONE ANTICIPATED.**
 - Details/location of equipment washing area. **NONE ANTICIPATED.**
 - Details of fugitive particulate abatement methods. **A WATER TRUCK WILL BE AVAILABLE DURING DRY PERIODS**
 - Contractor information, including a twenty-four hour, seven-day contact and phone numbers. **CONTRACTOR HAS NOT BEEN HIRED AT THIS TIME.**
 - Details of dewatering activities and locations, drawings and cross-sections of dewatering sumps. **NONE ANTICIPATED.**
 - Water Quality Monitoring Plan and monitoring stations (if applicable). **NO WATER QUALITY MONITORING IS REQUIRED.**

DESIGNED: ME
 DRAWN: DK
 DATE: 03.2019
 JOB NO.: 44866
 SCALE: 1"=20'
 SHEET: 10

ZNS ENGINEERING
 Land Planning Engineering Surveying Landscape Architecture
 201 5th Avenue Drive East Bradenton, FL 34208
 EB 0022476 IB 0006982 LC 0000345
 E-MAIL: ZNS@ZNSENG.COM TELEPHONE 941.748.8800 FAX 941.748.1316

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	

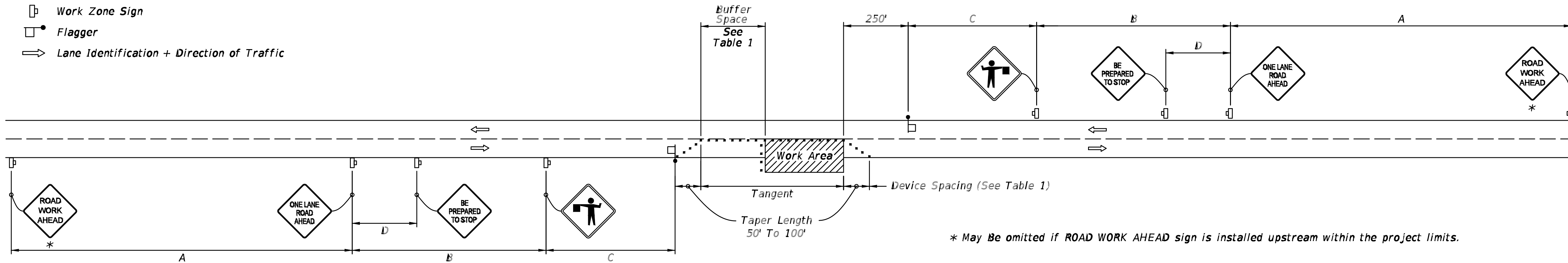
THIS DOCUMENT IS PREPARED BY ZNS ENGINEERING, L.C. UNDER THE SUPERVISION AND CONTROL OF AN ENGINEER OF RECORD. THE INFORMATION CONTAINED HEREIN IS STRICTLY PROPRIETARY TO ZNS ENGINEERING, L.C. ANY REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF ZNS ENGINEERING, L.C. IS PROHIBITED.

BEST MANGEMENT PRACTICES FOR 15TH STREET EAST SIDEWALK
 LOCATED IN SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST MANATEE COUNTY, FLORIDA

Thu, 10 Oct 2019 - 4:24pm W:\Acad\MANATEE COUNTY 15TH STREET EAST SIDEWALK EXPANSION (44360)\ENG\MCI5_MAINT&TRAFF.dwg

9/18/2018 10:24:22 AM

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



WITHOUT TEMPORARY RAISED RUMBLE STRIPS

GENERAL NOTES:

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

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

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

CONDITIONS

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

LAST REVISION 11/01/17	DESCRIPTION:	FY 2019-20 STANDARD PLANS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 1 of 3
---------------------------	--------------	--------------------------------------	--	------------------	-----------------

DESIGNED: ME
DRAWN: DR
DATE: 09/20/18
JOB NO: 44360
SCALE: 1"=20'

SHEET 11

MAINTINENCE OF TRAFFIC PLAN
FOR
15TH STREET EAST SIDEWALK
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 18 EAST
MANATEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	

©ZNS ENGINEERING, L.C.
THIS DOCUMENT IS PROTECTED BY SECTION 106
OF THE FLORIDA CONSTITUTION AND BY
SECTION 112, CHAPTER 218, FLORIDA
STATUTES. ANY REPRODUCTION OR
DISSEMINATION OF THIS DOCUMENT OR
THE INFORMATION CONTAINED HEREIN BY ANY
MEANS WHATSOEVER IS STRICTLY PROHIBITED
WITHOUT THE WRITTEN CONSENT OF ZNS
ENGINEERING, L.C. CONSENT IS HEREBY GRANTED
SPECIFICALLY TO GOVERNMENTAL AGENCIES
TO REPRODUCE THIS DOCUMENT IN COMPLIANCE
WITH F.S. CHAPTER 119.

ZNS ENGINEERING
Land Planning Engineering Surveying Landscape Architecture
LC 0000365
EB 0024276
LB 0006982
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
FAX 941.748.1316
E-MAIL: ZNS@ZNSENG.COM TELEPHONE 941.748.8800

MICHAEL FERDINAND
PROFESSIONAL ENGINEER #77752

SIGNATURE