FINAL PRELIMINARY ENGINEERING REPORT APPENDICES

I-75 (SR 93) at NW 49 Street PD&E Study

Marion County, Florida

Financial Project ID Number: 435209-1-22-01
ETDM Number: 14242

January 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016, and executed by Federal Highway Administration and FDOT.

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Appendix A: Reference Documents

A. Reference Documents

1. Ocala/Marion Transportation Planning Organization (TPO) 2040 LRTP
2. Ocala/Marion TPO Transportation Improvement Program
3. 2019 Florida Department of Transportation Design Manual
4. FY 2020-2021 Florida Department of Transportation Standard Plans
5. AASHTO Geometric Design of Highways and Streets

B. Companion Documents

1. Interchange Justification Report
2. Catgorical Exclusion Type II
3. Contamination Screening Evaluation Report
4. Noise Study Report
5. Natural Resources Evaluation
6. Culture Resource Assessment Survey
7. Conceptual Stage Relocation Plan
8. Location Hydraulics Report
9. Pond Siting Report
10. Sociocultural Effects Evaluation
11. Context Classification Request Form

Appendix B: Concept Plans and Typical Section Package

Concept Plans

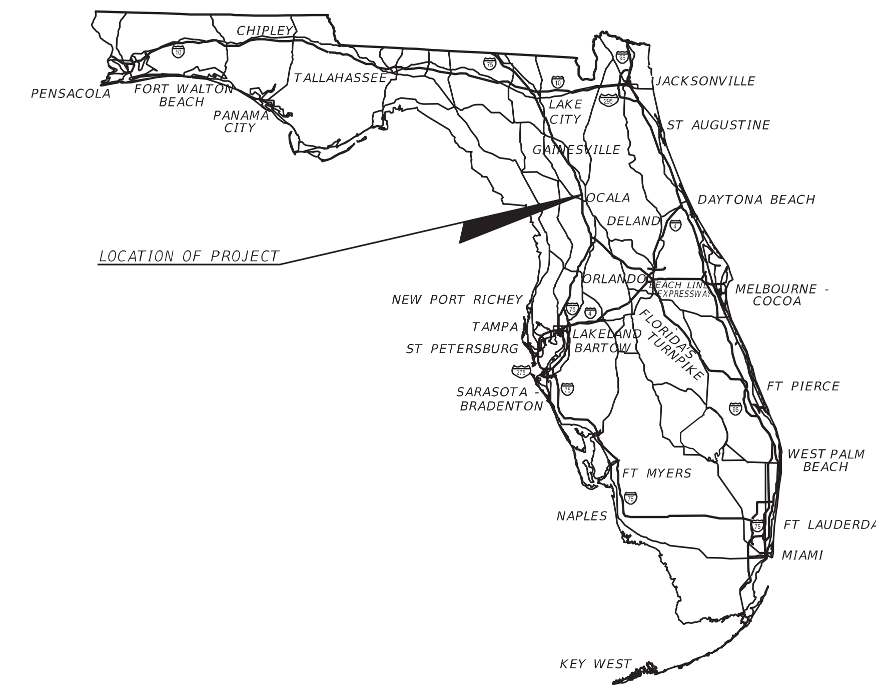
CONTRACT PLANS COMPONENTS

ROADWAY PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 435209-1-22-01
MARION COUNTY (36210000)
STATE ROAD NO. I-75 (SR 93) at NW 49 Street



INDEX OF ROADWAY PLANS

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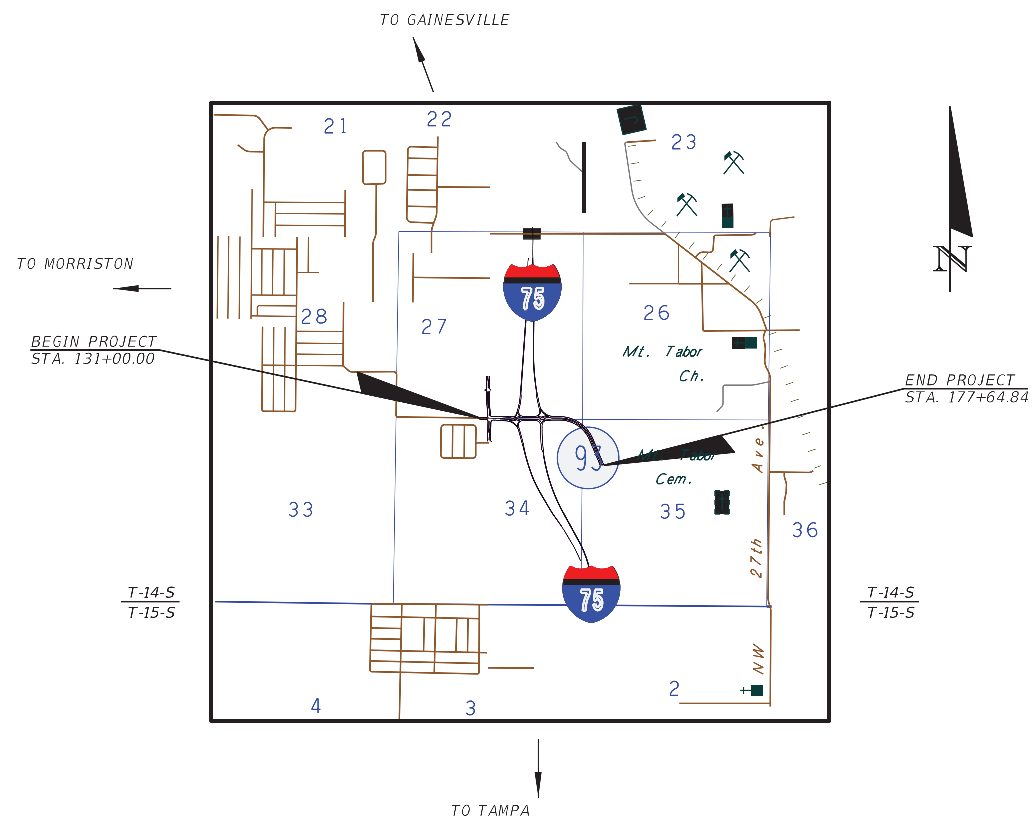
3-5	TYPICAL SECTIONS
6-23	ROADWAY CONCEPT PLANS
24-27	PROFILE
B8-01	STRUCTURES PLAN AND ELEVATION
B8-02	STRUCTURES TYPICAL SECTION



carlos rodriguez

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ROADWAY PLANS
ENGINEER OF RECORD:

CARLOS D. RODRIGUEZ, P.E.
P.E. LICENSE NUMBER 72638
METRIC ENGINEERING, INC.
13940 SW 136 STREET - SUITE 200
MIAMI, FLORIDA - 33186
CERTIFICATE OF AUTHORIZATION 00002294

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2021-2022 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: http://www.fdot.gov/design/standardplans

Standard Plans for Bridge Construction are included in the Structures Plans Component

FDOT PROJECT MANAGER:

AMY WINDOM, P.E.

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, FY 2021-2022 Standard Specifications for Road and Bridge Construction at the following website: http://www.fdot.gov/programmanagement/Implemented/SpecBooks

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
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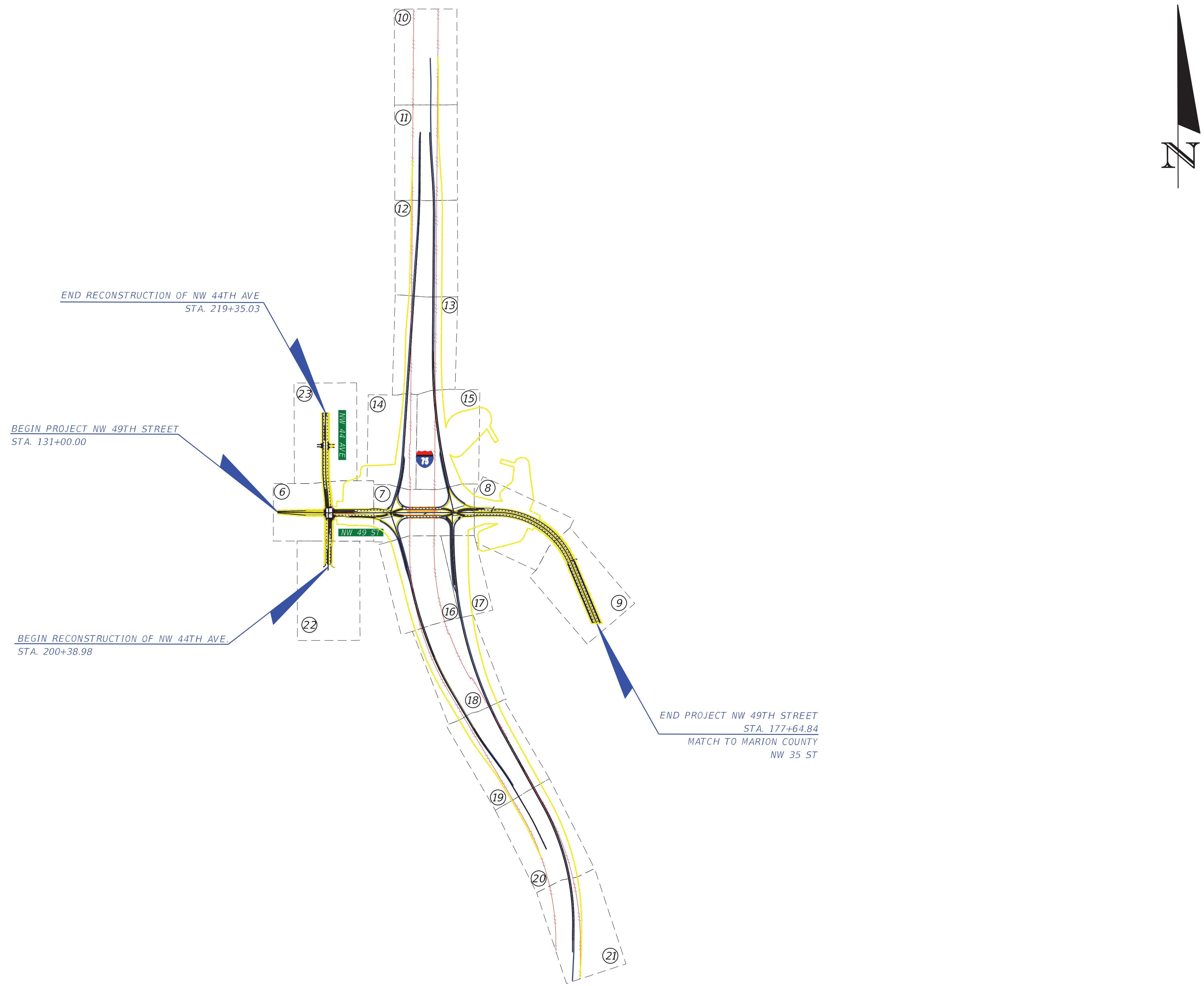

REVISIONS				METRIC ENGINEERING, INC.	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT LAYOUT	SHEET NO.
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					I-75	MARION	435209-1-22-01		2

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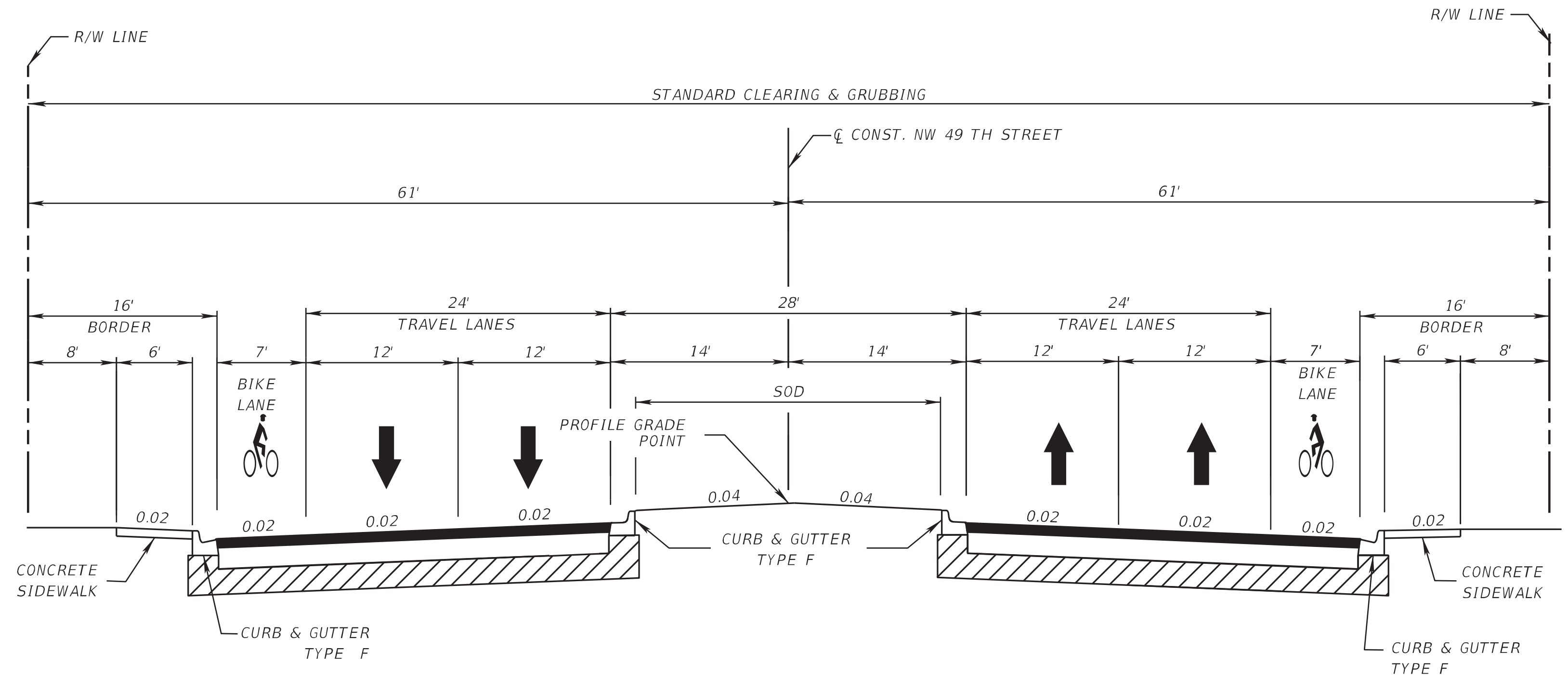

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℄ CONST. STA. 150+30.31 TO STA. 177+64.84

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

TYPICAL SECTION

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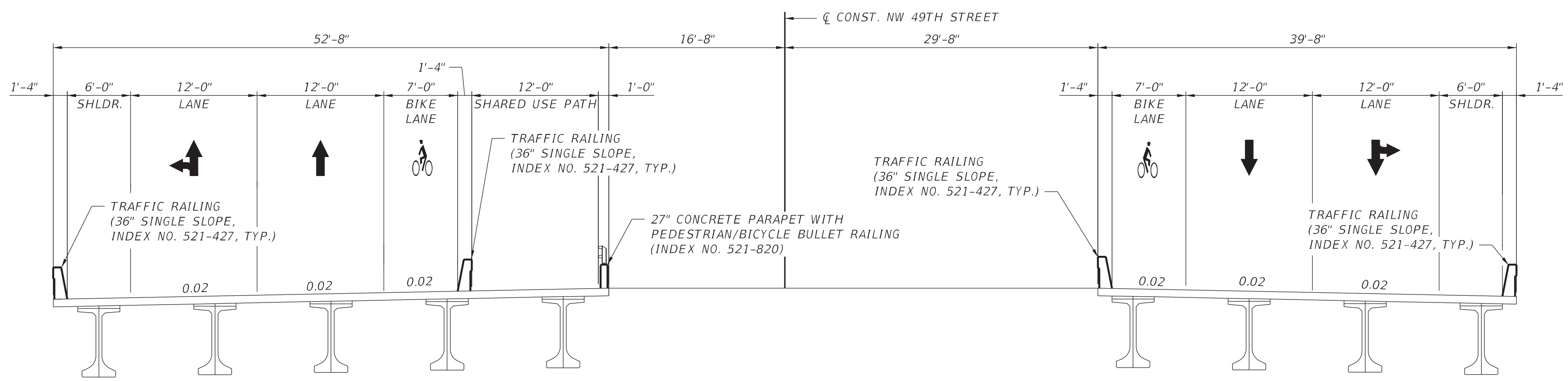

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METRIC ENGINEERING, INC.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

TYPICAL SECTION

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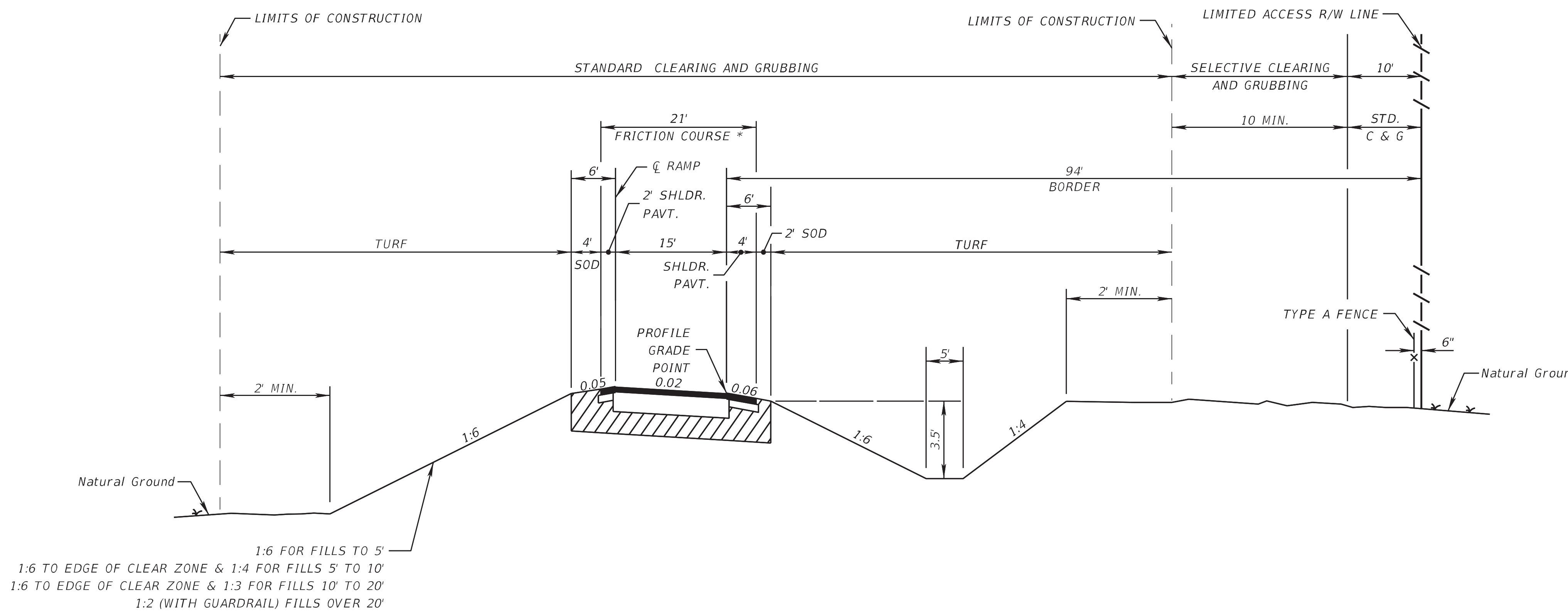

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

TYPICAL SECTION

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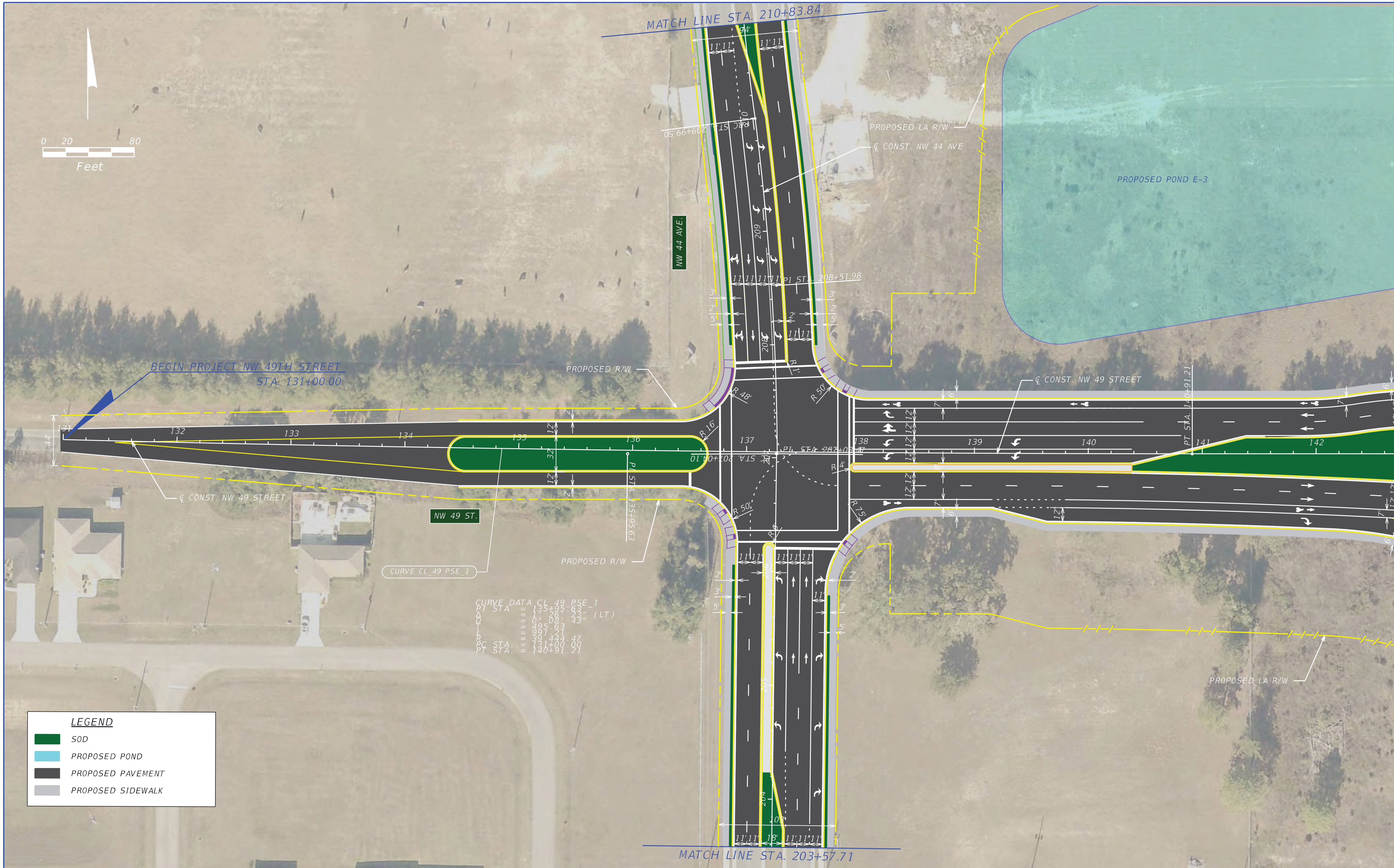

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

ROADWAY PLANS

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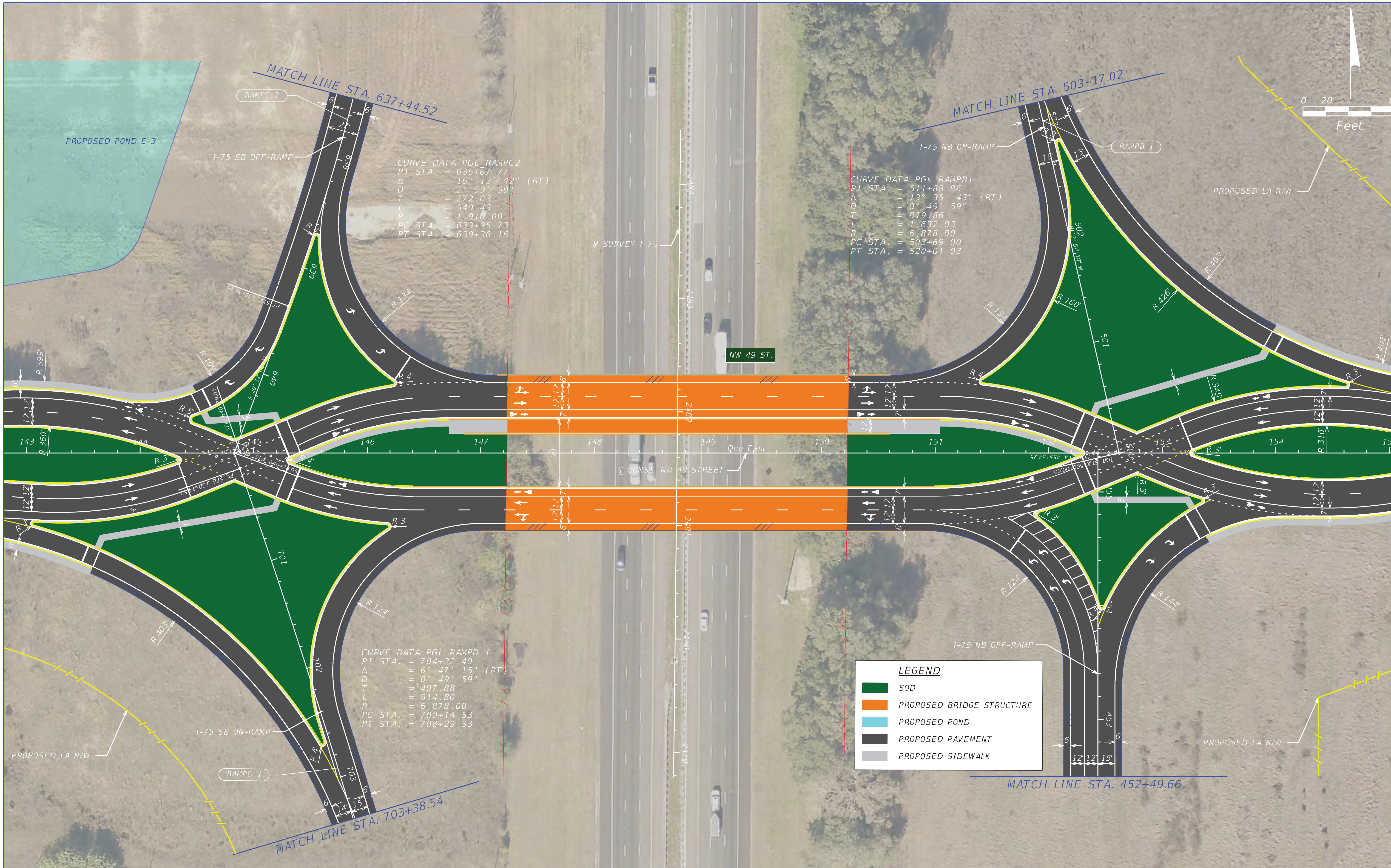

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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49 ST	MARION	435209-1-22-01

ROADWAY PLANS

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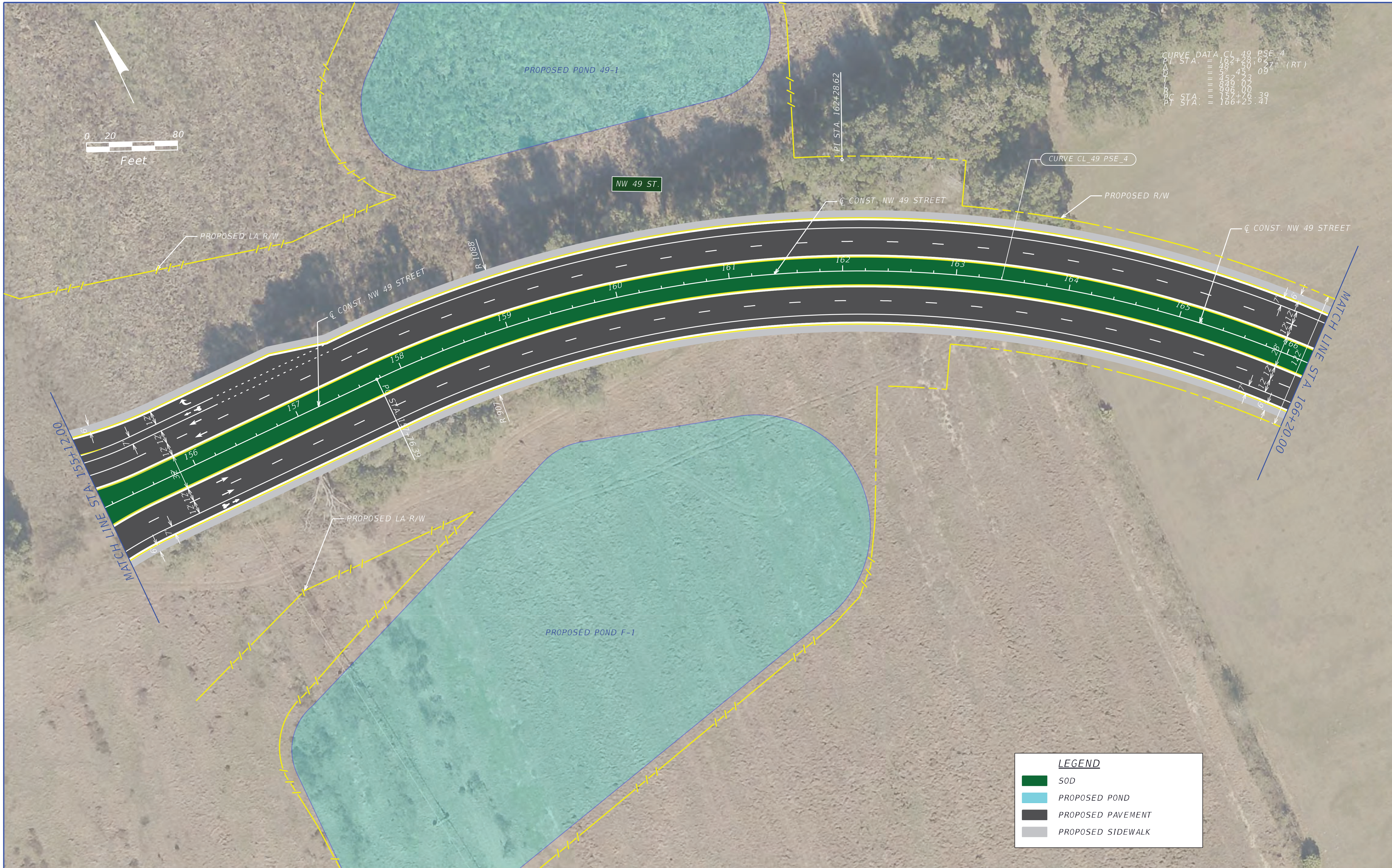

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DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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ROADWAY PLANS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

ROADWAY PLANS

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METRIC ENGINEERING, INC.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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I-75	MARION	435209-1-22-01

ROADWAY PLANS

SHEET NO.
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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

ROADWAY PLANS

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METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
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STATE OF FLORIDA
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I-75	MARION	435209-1-22-01

ROADWAY PLANS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

ROADWAY PLANS

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METRIC ENGINEERING, INC.
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I-75	MARION	435209-1-22-01

ROADWAY PLANS

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METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
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ROADWAY PLANS

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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ROADWAY PLANS

SHEET NO.
16

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DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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SUITE 200
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STATE OF FLORIDA
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I-75	MARION	435209-1-22-01

ROADWAY PLANS

SHEET NO. 17

REVISIONS			
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METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
MIAMI, FLORIDA 33186
TEL. (305) 235-5098
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CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

ROADWAY PLANS

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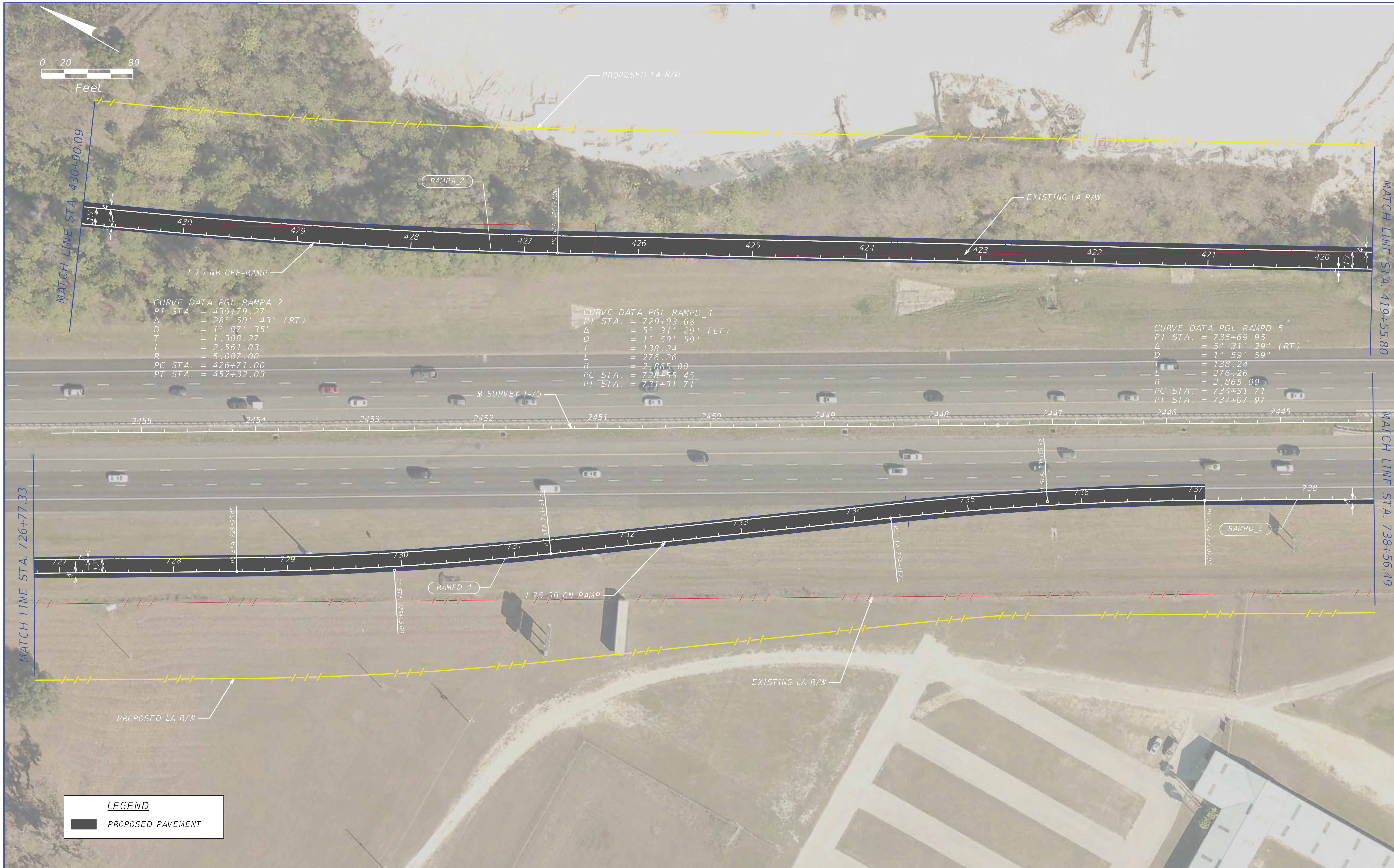

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DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
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SUITE 200
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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I-75	MARION	435209-1-22-01

ROADWAY PLANS

SHEET NO.
19

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

ROADWAY PLANS

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REVISIONS			
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METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
MIAMI, FLORIDA 33186
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

ROADWAY PLANS

SHEET NO. 21

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
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FAX. (305) 235-5271
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
44 AVE	MARION	435209-1-22-01

ROADWAY PLANS

SHEET NO.
22

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
MIAMI, FLORIDA 33186
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
44 AVE	MARION	435209-1-22-01

ROADWAY PLANS

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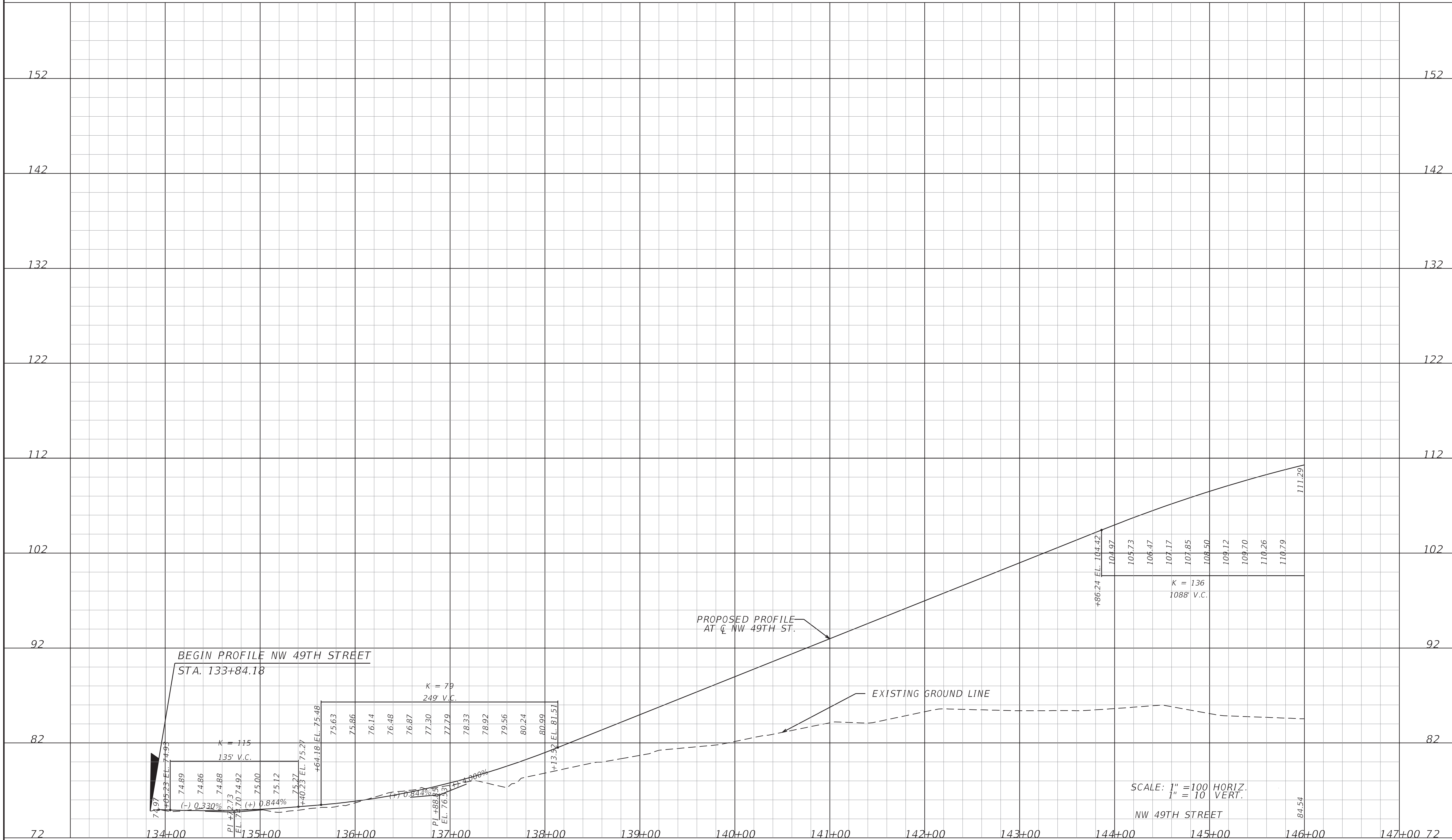

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CARLOS D. RODRIGUEZ, P.E.
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METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

ROADWAY PROFILE

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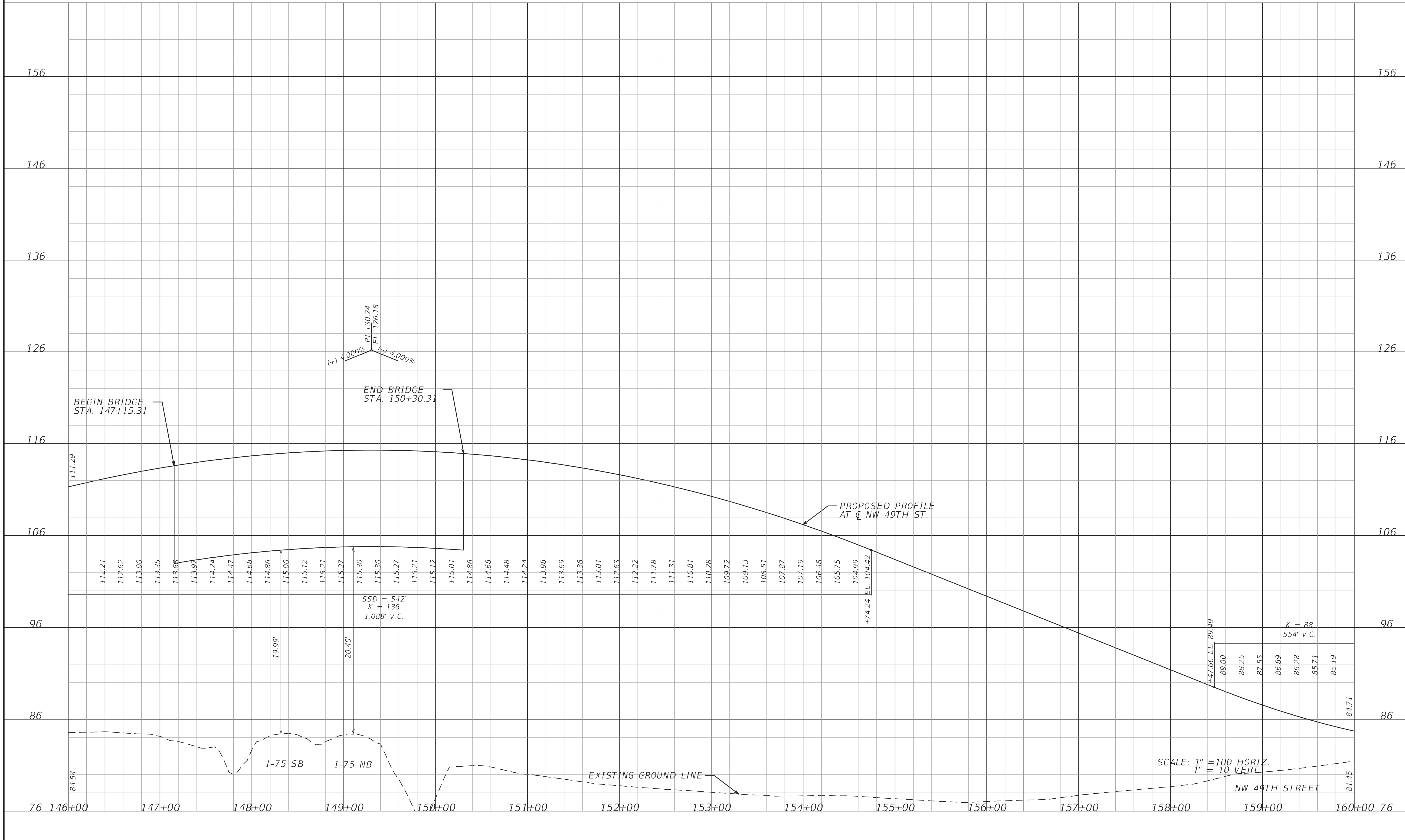

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DATE	DESCRIPTION	DATE	DESCRIPTION

CARLOS D. RODRIGUEZ, P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

ROADWAY PROFILE

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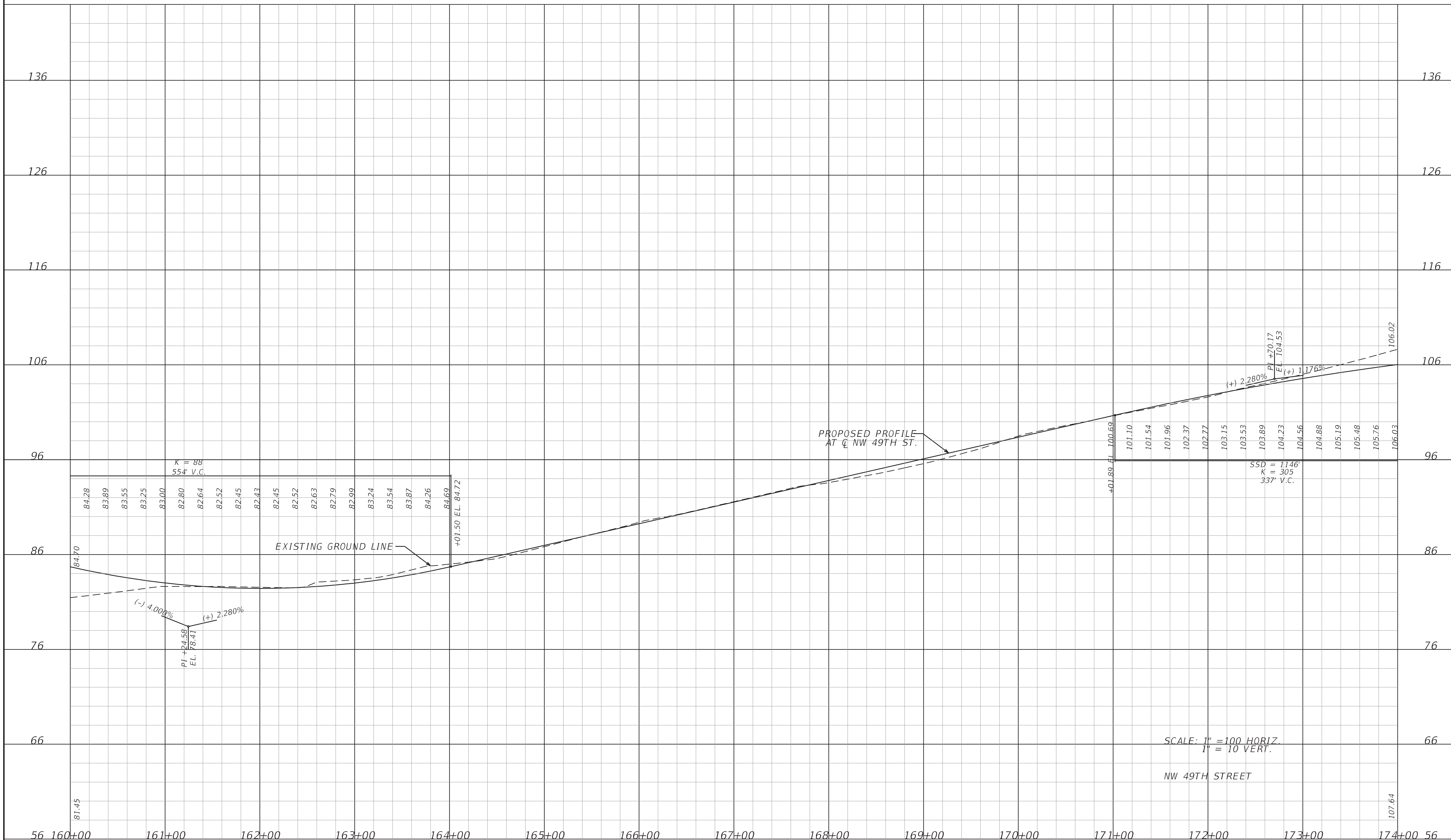

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CARLOS D. RODRIGUEZ, P.E.
P.E. LICENSE NUMBER 72638
METRIC ENGINEERING, INC.
13940 SW 136th STREET - SUITE 200
MIAMI, FLORIDA - 33186
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST	MARION	435209-1-22-01

ROADWAY PROFILE

SHEET NO. 26

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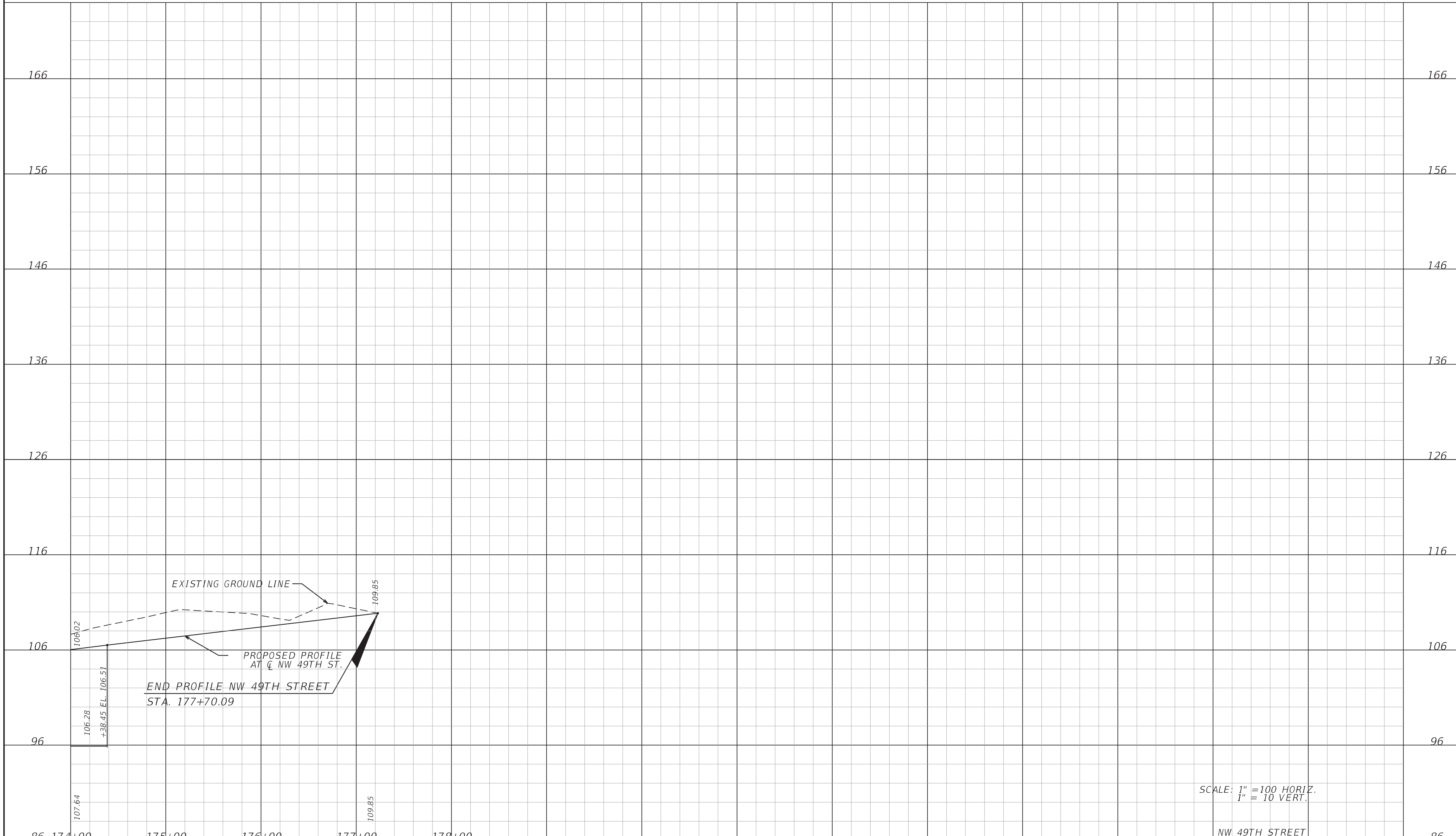

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REVISIONS			
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CARLOS D. RODRIGUEZ, P.E.
P.E. LICENSE NUMBER 72638
METRIC ENGINEERING, INC.
13940 SW 136th STREET - SUITE 200
MIAMI, FLORIDA - 33186
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
49 ST.	MARION	435209-1-22-01

ROADWAY PROFILE

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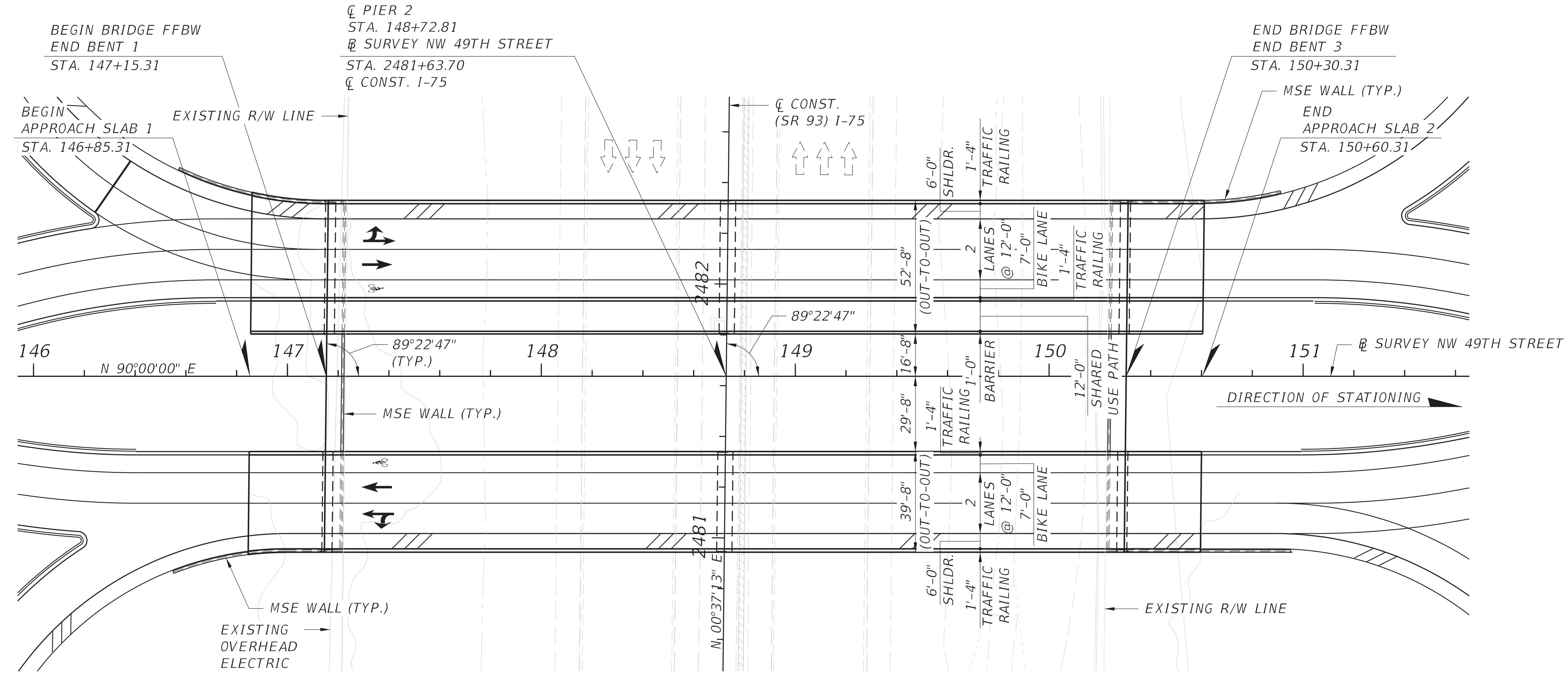
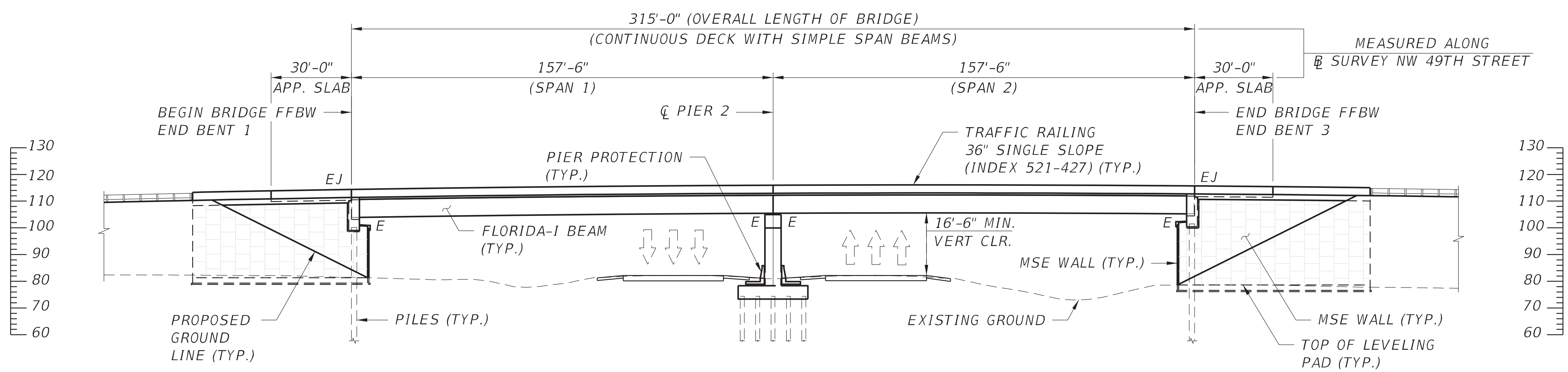


PLAN
DDI ALTERNATIVE



ELEVATION
DDI ALTERNATIVE

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GEORGES EL-GHARIB, P.E.
P.E. LICENSE NO. 72288
BCC ENGINEERING, LCC.
160 N WESTMONTE DRIVE, SUITE 2000
ALTAMONTE SPRINGS, FLORIDA 32714

DRAWN BY: SP 08-20
CHECKED BY: LFR 08-20
DESIGNED BY: LFR 08-20
CHECKED BY: GIE 08-20

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MARION	435209-1-22-01

SHEET TITLE: PLAN AND ELEVATION

PROJECT NAME: I-75 (SR 93) AT NW 49TH STREET FROM END OF NW 49TH STREET TO END OF NW 35TH STREET

REF. DWG. NO.

SHEET NO. B8-01

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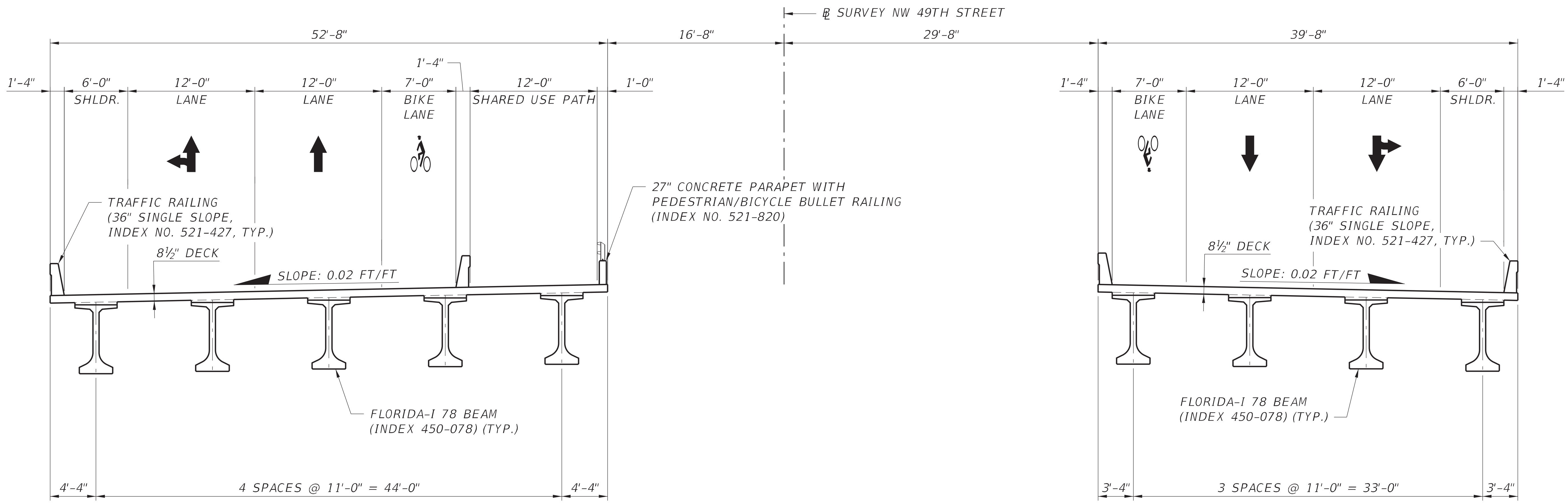


TYPICAL SECTION

DDI ALTERNATIVE

BRIDGE NO. TBD

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GEORGES EL-GHARIB, P.E.
P.E. LICENSE NO. 72288
BCC ENGINEERING, LCC.
160 N WESTMONTE DRIVE, SUITE 2000
ALTAMONTE SPRINGS, FLORIDA 32714

DRAWN BY:	CHECKED BY:	DESIGNED BY:	CHECKED BY:
SP 08-20	LFR 08-20	YH 08-20	GIE 08-20

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MARION	435209-1-22-01

SHEET TITLE: TYPICAL SECTION

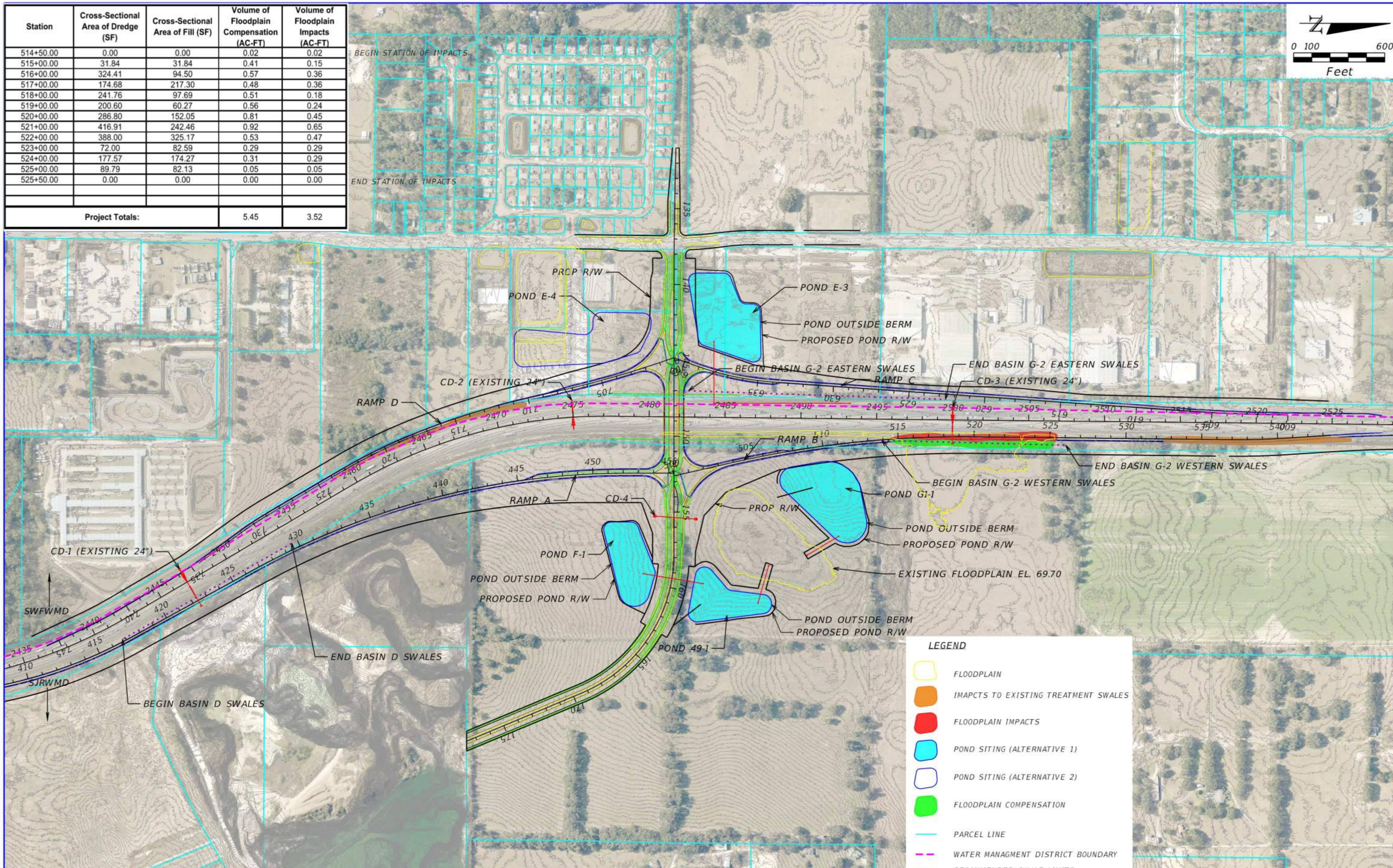
PROJECT NAME: I-75 (SR 93) AT NW 49TH STREET FROM END OF NW 49TH STREET TO END OF NW 35TH STREET

REF. DWG. NO.

SHEET NO. B8-2

ggharib 8/27/2020 2:46:47 PM c:\bms\bcc-pw-01\georges gharib\dms86108\B8TypicalSection01.dgn

Station	Cross-Sectional Area of Dredge (SF)	Cross-Sectional Area of Fill (SF)	Volume of Floodplain Compensation (AC-FT)	Volume of Floodplain Impacts (AC-FT)
514+50.00	0.00	0.00	0.02	0.02
515+00.00	31.84	31.84	0.41	0.15
516+00.00	324.41	94.50	0.57	0.36
517+00.00	174.68	217.30	0.48	0.36
518+00.00	241.76	97.69	0.51	0.18
519+00.00	200.60	60.27	0.56	0.24
520+00.00	286.80	152.05	0.81	0.45
521+00.00	416.91	242.46	0.92	0.65
522+00.00	388.00	325.17	0.53	0.47
523+00.00	72.00	82.59	0.29	0.29
524+00.00	177.57	174.27	0.31	0.29
525+00.00	89.79	82.13	0.05	0.05
525+50.00	0.00	0.00	0.00	0.00
Project Totals:			5.45	3.52



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
MIAMI, FLORIDA 33186
TEL. (305) 235-5098
FAX. (305) 235-5271
CERTIFICATE OF AUTHORIZATION 2294

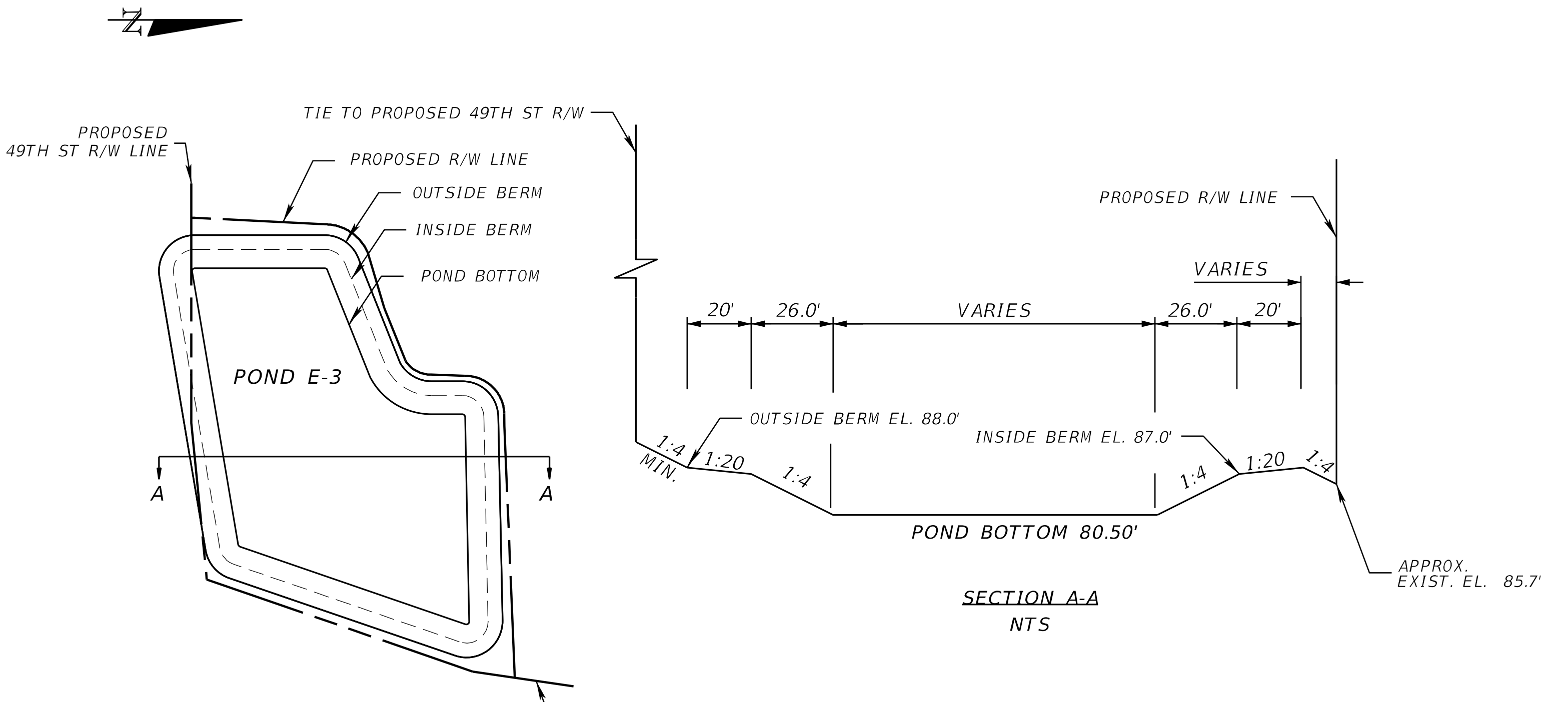
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

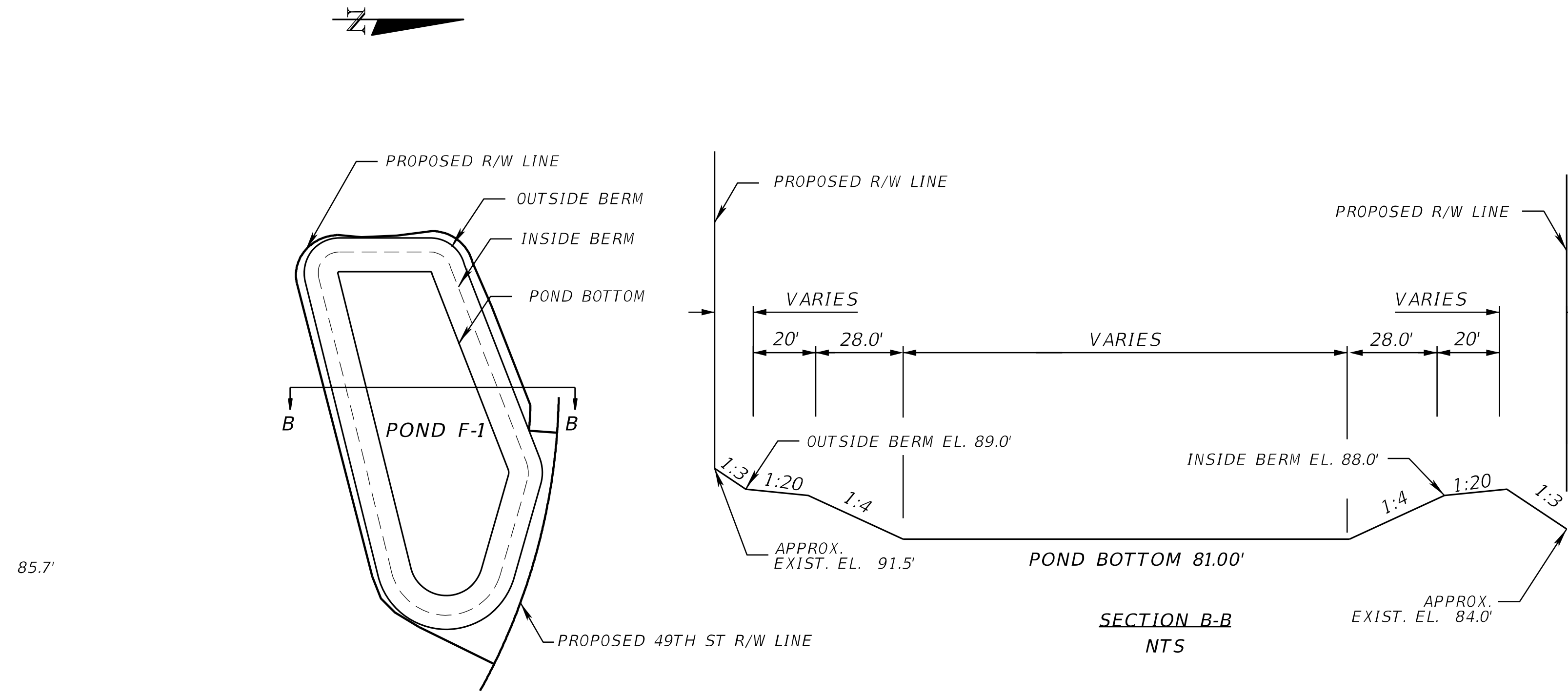
PROPOSED POND/ FLOODPLAIN COMPENSATION MAP
FIGURE 9

SHEET NO.

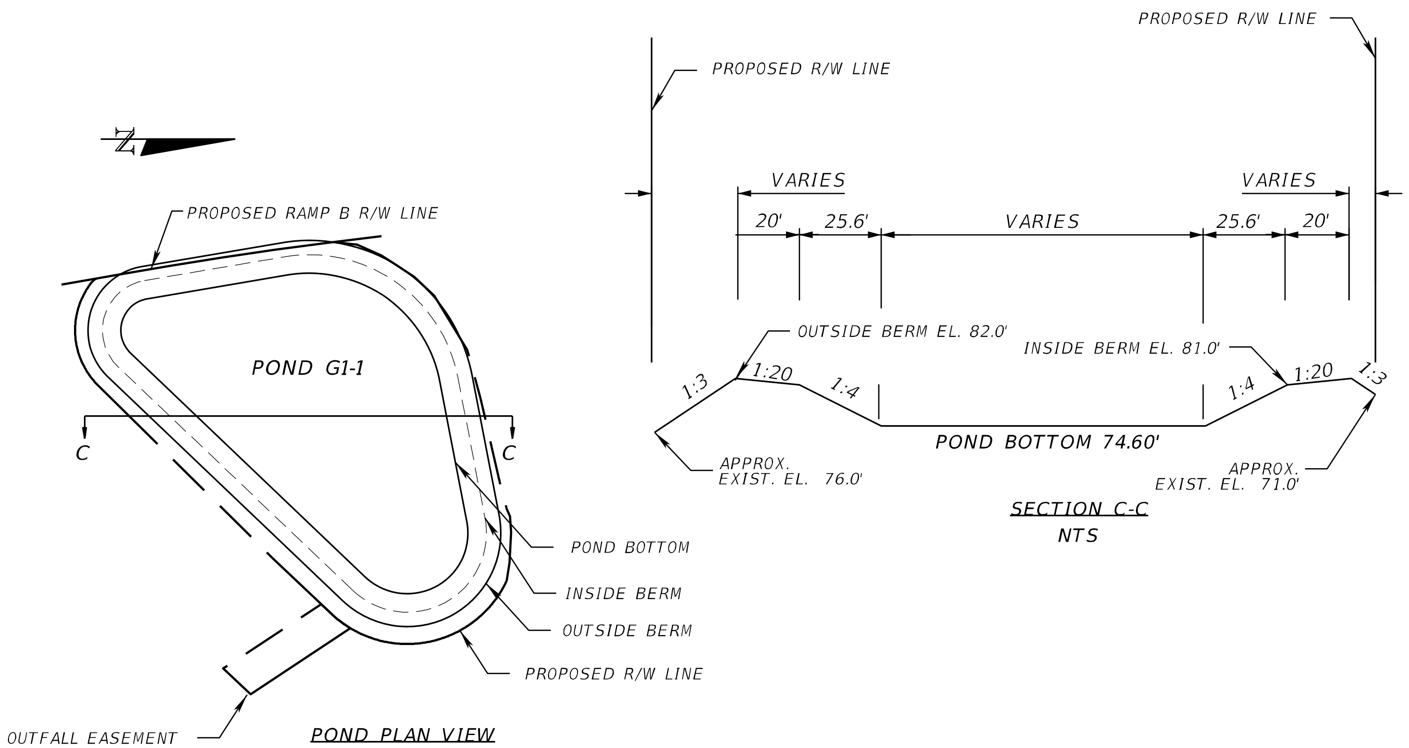
$USERS $DATES $TIMES $FILES



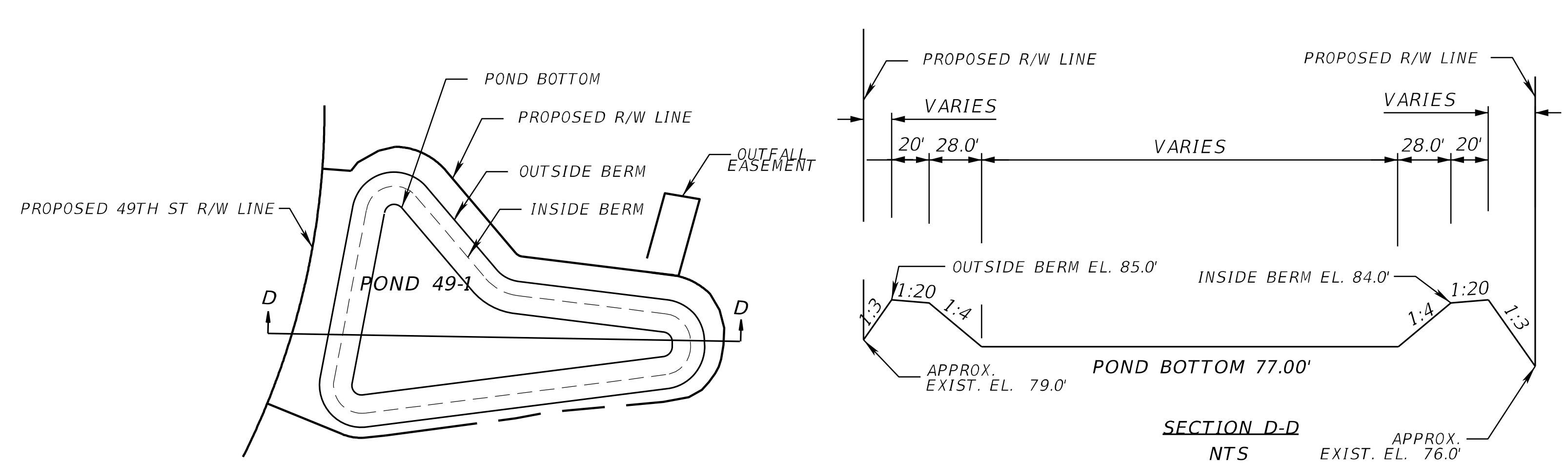
POND PLAN VIEW
NTS
POND AREA = 4.55 AC. (TO OUTSIDE BERM)
R/W AREA = 5.80 AC.



POND PLAN VIEW
NTS
POND AREA = 2.94 AC. (TO OUTSIDE BERM)
R/W AREA = 3.41 AC.



POND PLAN VIEW
NTS
POND AREA = 4.60 AC. (TO OUTSIDE BERM)
R/W AREA = 5.29 AC.



POND PLAN VIEW
NTS
POND AREA = 2.63 AC. (TO OUTSIDE BERM)
R/W AREA = 3.99 AC.

FIGURE 9A

Typical Section Package

STATE OF FLORIDA

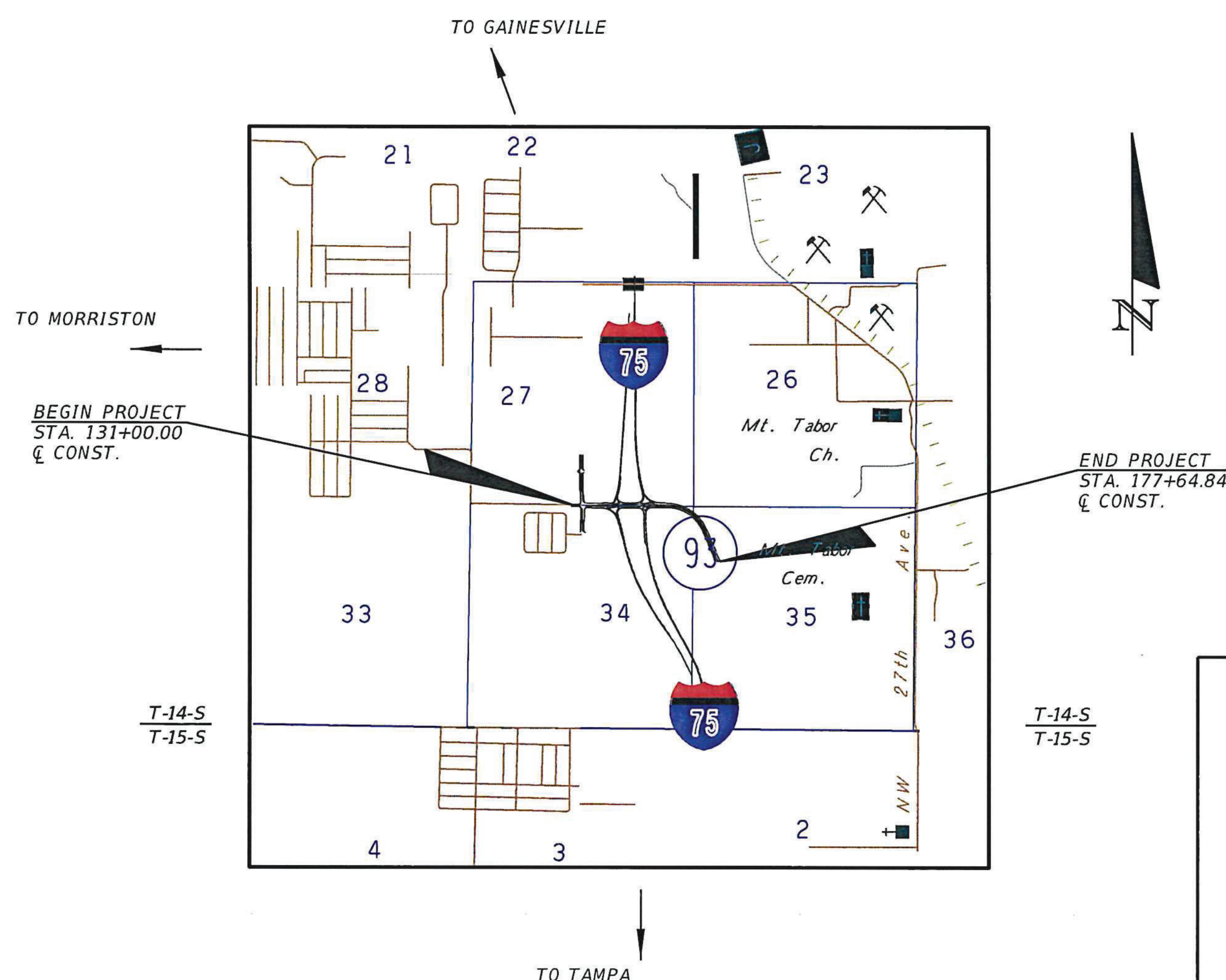
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 435209-1-22-01

MARION COUNTY (14242)

I-75 (SR 93) INTERCHANGE AT NW 49TH ST



APPROVED BY:

carlos rodriguez

Digitally signed by carlos rodriguez
Date: 2021.02.11 16:47:58 -05'00'

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

TYPICAL SECTION PACKAGE

SHEET NO	SHEET DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION NO. 01
3	TYPICAL SECTION NO. 02
4	TYPICAL SECTION NO. 03

TYPICAL SECTION CONCURRENCE

NW 49 STREET

Jeffrey P Cicerello for

Digitally signed by: Jeffrey P Cicerello for
DN: CN = Jeffrey P Cicerello for email = jeffrey.cicerello@dot.state.fl.us C = US O = Florida Department of Transportation OU = District 5 Design Office
Date: 2021.02.12 17:07:04 -05'00'

FDOT DISTRICT DESIGN ENGINEER

Gary Skofronick

Digitally signed by Gary Skofronick
DN: CN=Gary Skofronick, OU=A01410C0000017232B3423D0001380B, O=FLORIDA DEPARTMENT OF TRANSPORTATION, C=US
Reason: I have reviewed this document
Date: 2021.02.16 10:45:45-05'00'

FDOT DISTRICT STRUCTURES DESIGN ENGINEER

FHWA TRANSPORTATION ENGINEER

Tracy Straub 2/11/2021

MARION COUNTY ENGINEER

DESIGN SPEED AND POSTED SPEED CONCURRENCE:

NW 49 STREET

James S Stroz

Digitally signed by James S Stroz
Date: 2021.02.12 14:55:53 -05'00'

FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER

Jeffrey P Cicerello for

Digitally signed by: Jeffrey P Cicerello for
DN: CN = Jeffrey P Cicerello for email = jeffrey.cicerello@dot.state.fl.us C = US O = Florida Department of Transportation OU = District 5 Design Office
Date: 2021.02.12 17:06:26 -05'00'

FDOT DISTRICT DESIGN ENGINEER

Tracy Straub 2/11/2021

MARION COUNTY ENGINEER

CONTEXT CLASSIFICATION CONCURRENCE:

Kellie Smith

Digitally signed by: Kellie Smith
DN: CN = Kellie Smith email = kellie.smith@dot.state.fl.us C = US
Date: 2021.02.16 07:00:52 -05'00'

FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

SHEET NO.

1

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) N/A : L.A. FACILITY
(X) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) FREEWAY/EXPWY.
(X) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

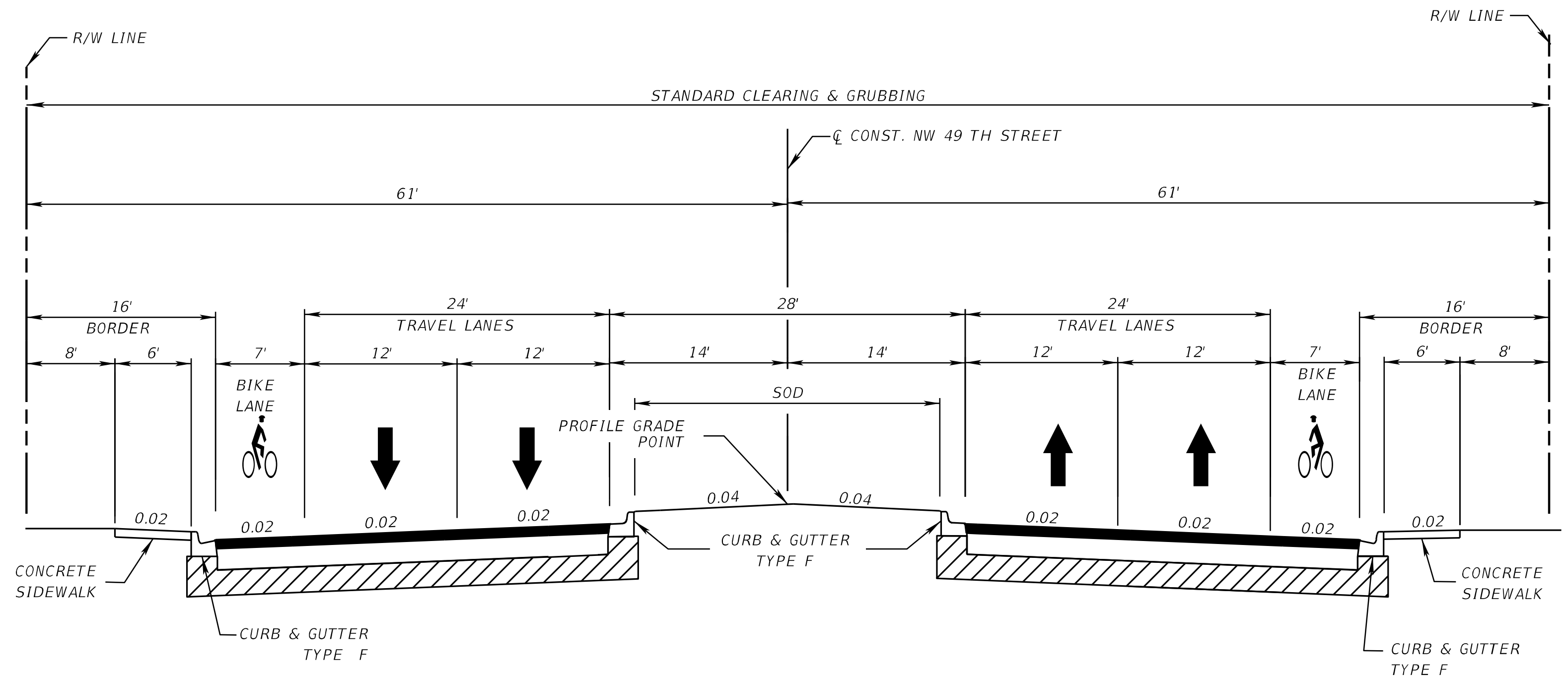
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

TYPICAL SECTION No. 1



DESIGN SPEED = 45 MPH
NW 49 ST URBAN TYPICAL SECTION WITH CURB & GUTTER

℄ CONST. STA. 131+00.00 TO STA. 147+15.31
℄ CONST. STA. 150+30.31 TO STA. 177+64.84

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 14900
ESTIMATED DESIGN YEAR = 2045 AADT = 21500
K = 9% D = 63.5% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	2

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) N/A : L.A. FACILITY
(X) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) FREEWAY/EXPWY.
(X) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

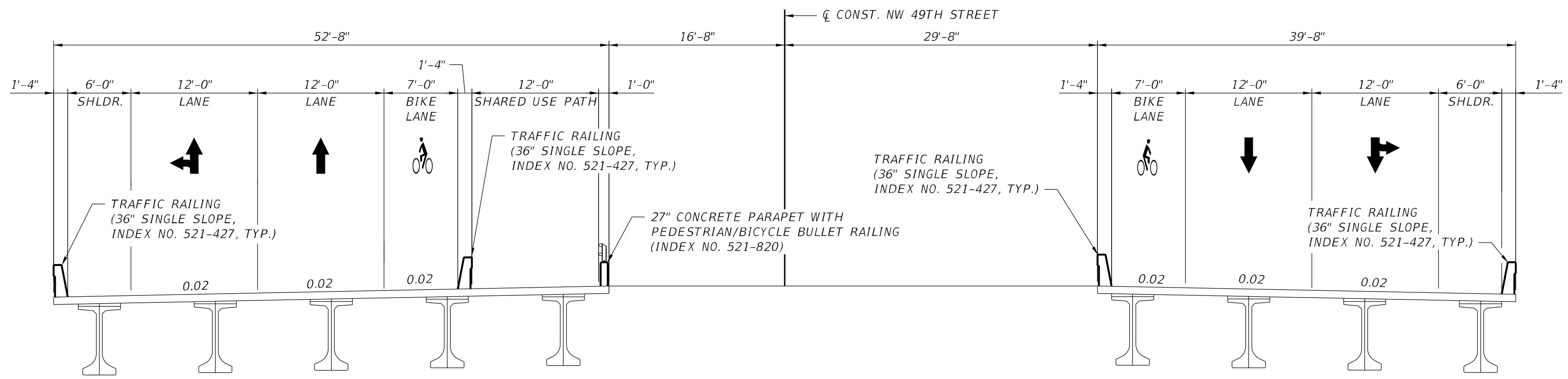
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

TYPICAL SECTION No. 2



DESIGN SPEED = 45 MPH
NW 49 ST STRUCTURES TYPICAL SECTION

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 14900
ESTIMATED DESIGN YEAR = 2045 AADT = 21500
K = 9% D = 63.5% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

℄ CONST. STA. 147+15.31 TO STA. 150+30.31

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	3

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
(X)	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

(X)	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

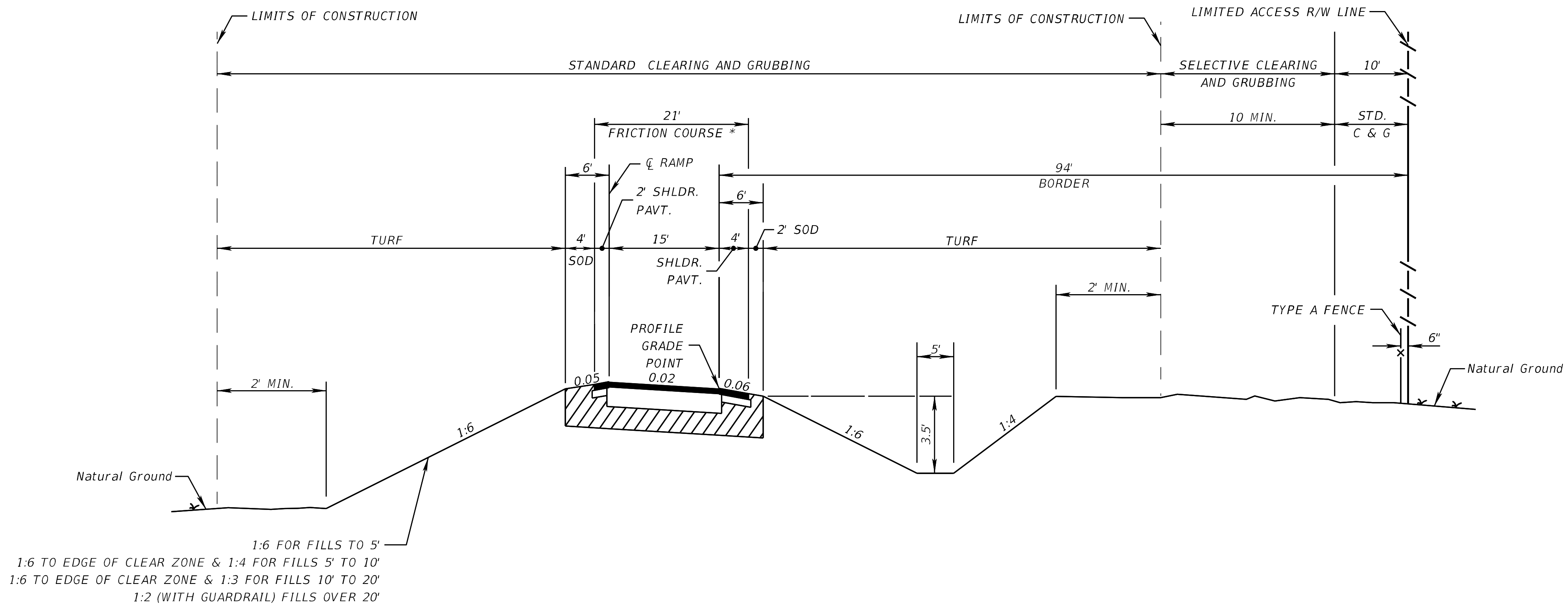
DESIGN VARIATIONS

BORDER WIDTH

DESIGN EXCEPTIONS

N/A

TYPICAL SECTION No. 3



DESIGN SPEED = 45 MPH
ONE LANE RAMP TYPICAL SECTION

I-75 SOUTHBOUND OFF-RAMP ℄ CONST. STA. 600+00.00 TO STA. 640+00.00
I-75 SOUTHBOUND ON-RAMP ℄ CONST. STA. 700+00.00 TO STA. 745+87.90
I-75 NORTHBOUND OFF-RAMP ℄ CONST. STA. 400+00.00 TO STA. 445+42.50
I-75 NORTHBOUND ON-RAMP ℄ CONST. STA. 500+00.00 TO STA. 546+87.20

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 6400
ESTIMATED DESIGN YEAR = 2045 AADT = 9200
K = 9% D = 1% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	4

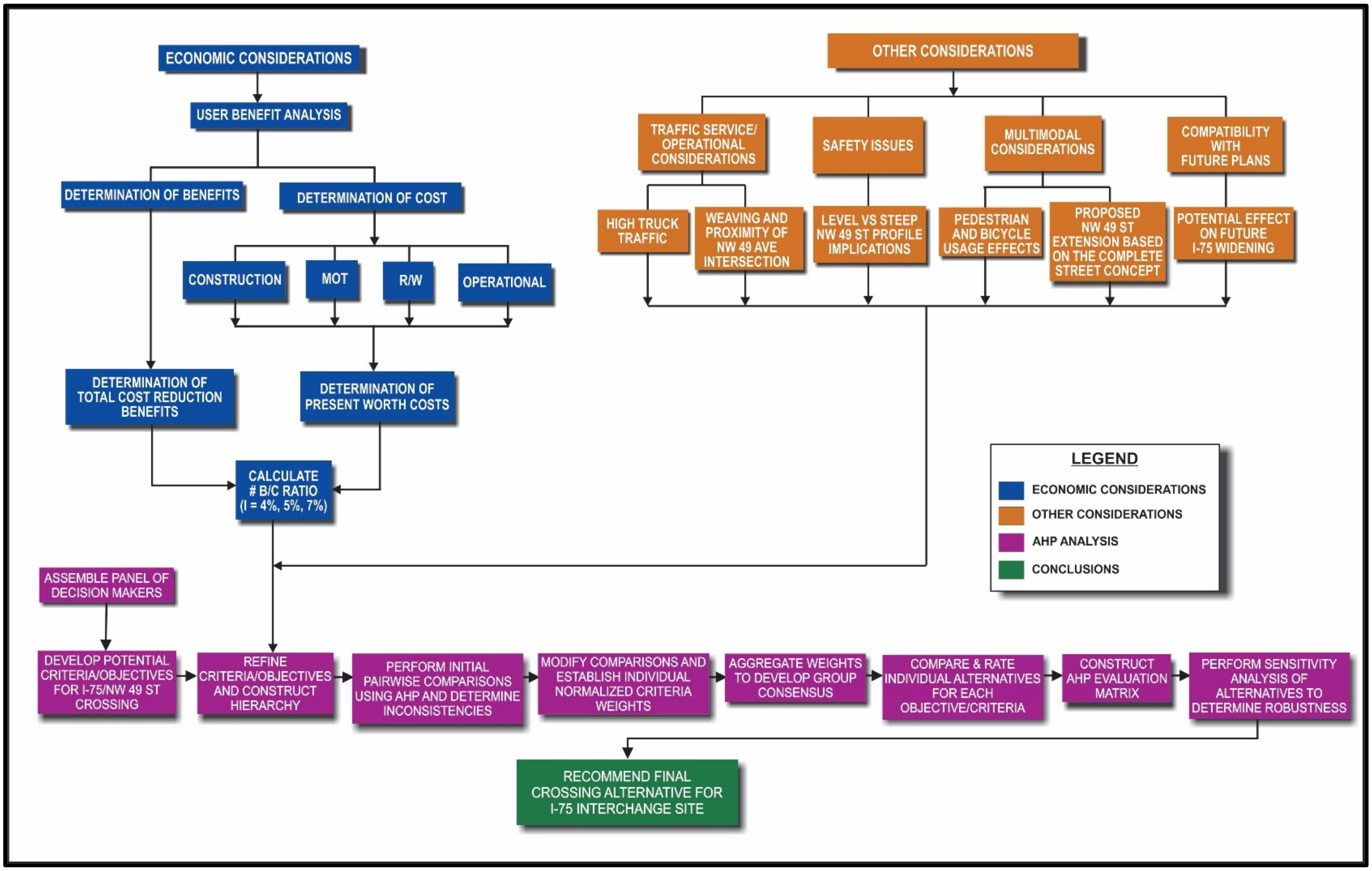
Appendix C: Benefit Cost/Analytical Hierarchy Process

Grade Separation Considerations

The provision of the most efficient grade separation option at the proposed I-75/NW 49 Street interchange site is indeed of critical importance. The ultimate decision as to whether I-75 should cross over or under NW 49 Street will have not only significant direct and quantifiable consequences (e.g. – economic, geometric, operational, safety, etc.) but also other important indirect ramifications.

The purpose of this section is to investigate the optimum grade separation option at the proposed I-75/NW 49 Street interchange site. In order to accomplish this task, both economic as well as other factors will be examined. **Figure 1** illustrates the proposed evaluation methodology.

Figure 1 - Evaluation Methodology



The economic considerations will be based on the benefit-cost analysis, a technique for evaluating a project or investment by comparing the economic benefits with the economic costs of the activity. In addition, it is inherently clear that other less tangible considerations should also play a part in the ultimate decision as to which grade separation option is best for the project site. These other considerations are also discussed below. In summary, our main objective is to compare the desirability of two competing future grade separation options as follows. It should be noted that this investigation excludes the cost and effect of the proposed interchange ramps and thus only covers the I-75 mainline effect. The omission of the ramps effect should not skew the obtained results since their effect will be mostly similar between the two competing options. A detailed description of the two competing options follows.

1.1 Grade Separation Alternatives Description

The two potential crossing alternatives are depicted on **Figure 2**. Alternative 1 would provide two 6-lane I-75 bridges over NW 49 Street (one for northbound I-75 and one for southbound I-75). Alternative 2 would provide a four lane NW 49 Street bridge over the existing at-grade I-75. It is inherently clear that the initial construction cost of Alternative 1 will be much higher than for Alternative 2, however the addition of an interchange at the site would bring some additional advantages to Alternative 1 that must be gauged before a final crossing recommendation is made. The profiles associated with the provision of both grade separation options are illustrated on **Figure 3**.

Figure 2 - Alternative Crossing Options

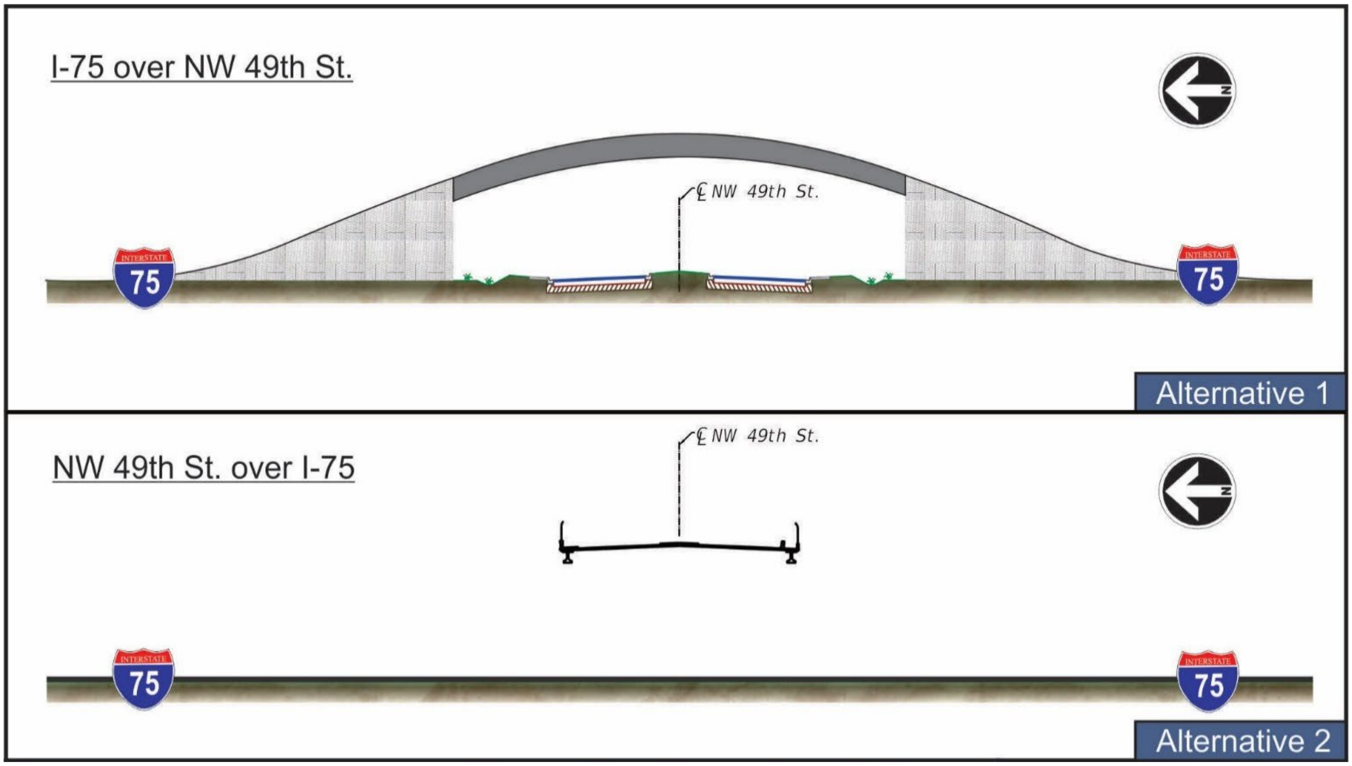
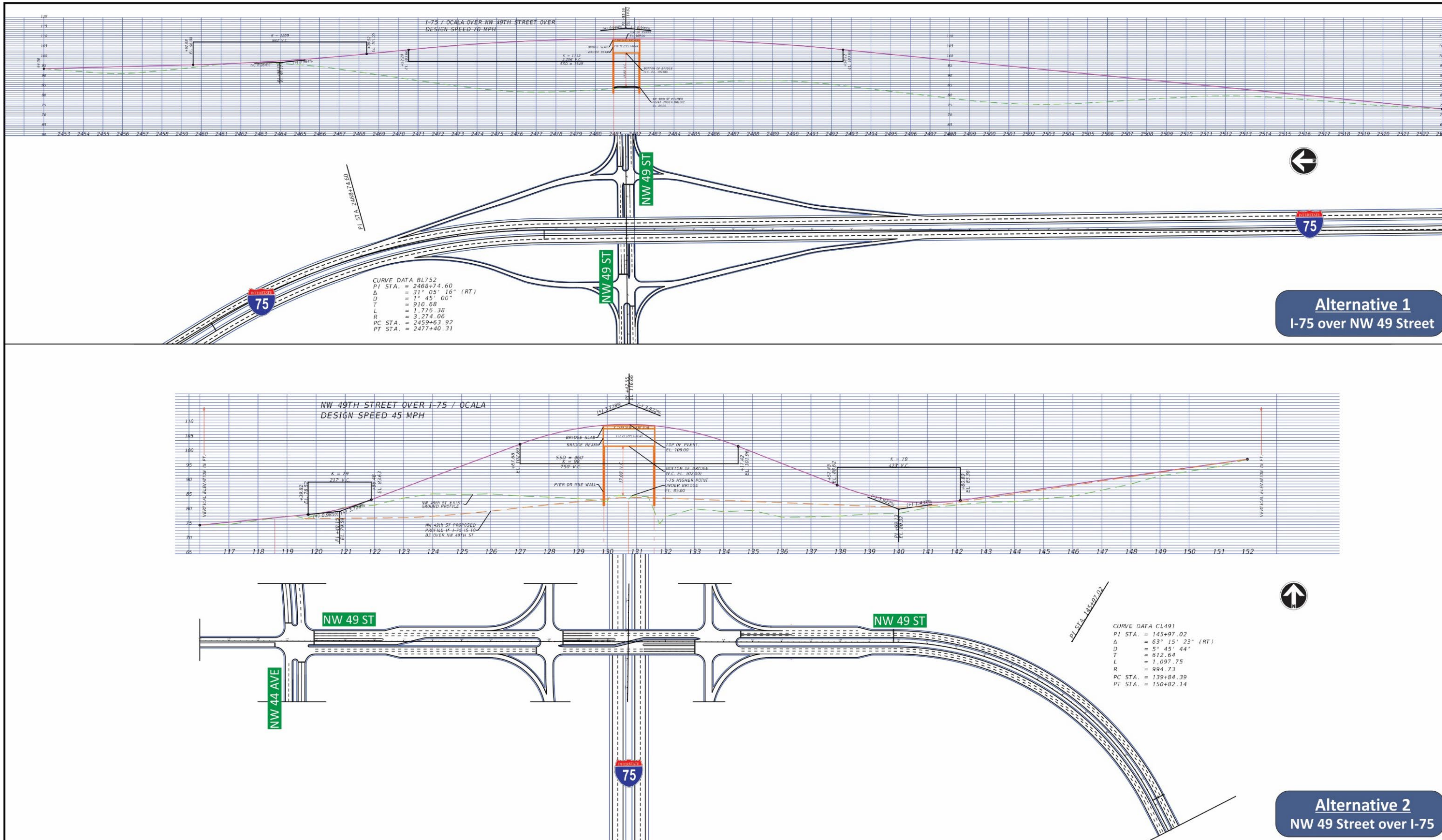


Figure 3- Alternatives 1 and 2 – Plan and Profile



1.2 Economic Considerations

As part of evaluating the proposed components of the two alternatives, the level of benefits was derived and compared to the cost of implementing each of the two competing improvements, thus calculating a benefit cost (B/C) ratio. The B/C analysis measures the user benefits from highway improvements versus the highway cost required to produce those benefits (see upper left hand portion of **Figure 4**). The objective is to select the most efficient transportation improvement plan. All ratios equal to or greater than 1 are considered viable. The higher the ratio, the more desirable the alternative is.

In order to calculate the user costs all relevant alternative data must first be obtained. **Table 1** illustrates the basic, facility data associated with each of the two competing alternatives.

Table 1 - Facility Data

Alternative	Description	Length (mile)	Lanes	Geometry		Remarks
				Horizontal Curve	Vertical Curve	
1	I-75 over NW 49 St.	1.155	Dual 3 lane I-75 bridges	See **Fig. 4-5** (top)	See **Fig. 4-5** (top)	The cost and benefits of this alternative reflect the provision of an elevated I-75 facility plus an at-grade NW 49 St. connection
2	NW 49 St. over I-75	0.663	4 lane NW 49 St. Bridge	See **Fig. 4-5** (bottom)	See **Fig. 4-5** (bottom)	The cost and benefits of this alternative reflect the provision of an elevated NW 49 St. over an at-grade (existing) I-75 facility. Maintenance of Traffic (MOT) Benefits

The Traffic Data necessary was tabulated as part of the projects recent IJR for all three years under analysis 2025 (opening year), 2035 (mid year), 2045 (design year). The data for all other interim years was interpolated between the three analysis years. In order to do so the Basic Section Costs along with the stopping and idling costs must be obtained (see **Formula below**).

The Basic Section Costs are determined as a function of the Average Travel Speed and Delay. Also, the segment lengths under consideration are the distances traveled under each corresponding alternative (see **Table 2**).

$$\text{Highway user cost} = HU = (B \times L) + D$$

Where:

B = Basic Section Cost – determined from nomograph obtained from

AASHTO Manual.

L = Segment length (see **Table 2**, Facility Data).

D = Additional unit time and running costs caused by delays, determined from nomograph obtained from AASHTO Manual

The user cost of each alternative is then obtained. This cost is in turn used to calculate the annual benefit.

Once all the benefits have been analyzed the different construction and right-of-way costs between the alternatives is obtained. Then all of the benefits and costs are converted to present worth and annualized over the service life of the project.

Economic Analysis Assumptions

As shown on **Table 2**, the assumption used in the economic analysis are broken down into two distinct categories.

Table 2 - Economic Analysis Assumptions

Category	Assumptions	Source
Parameters	1. Speeds	Average of speeds within the study segments
	2. Volumes & Capacity Data	IJR
	3. Rates: Varies between 4% & 7%; i=4% (recommended by FDOT) and i=7% (recommended for Federal Programs)	i=4% (FDOT-Rdwy-Safety Bulletin 14-12) i=7% (OMB –Circular A-94)
Cost	1. Prices	Revised Departmental Guidance: Valuation of Travel Time in Economic Analysis. February 2003.
	2. Future Fuel Cost	Based on the U.S. Energy Information (EIA) “Motor Gasoline Prices 1990-2011”
	3. Construction Cost	Based on a preliminary estimate
	4. ROW Cost: \$100K/acre + \$50K for 50% of impacted parcels for contingencies	City of Ocala (ROW office)

Economic Analysis Results

Figure 3 illustrates the results of the economic analysis between the two competing alternatives. These results are obtained by applying the formula shown below.

The Benefit Cost comparison of Alternative 1 versus Alternative 2 is as follows:

$$B/C_{(1\text{-}2)} = \frac{\text{Benefit of Alternative 1} - \text{Benefit of Alternative 2}}{\text{Cost of Alternative 1} - \text{Cost of Alternative 2}}$$

for i = 4%

$$B/C_{(1\text{-}2)} = \frac{\$21{,}445{,}899 - \$21{,}552{,}543}{\$1{,}703{,}150 - \$727{,}170} = \frac{\$106{,}644}{\$975{,}980} = 0.11$$

for i = 5%

$$B/C_{(1\text{-}2)} = \frac{\$21{,}316{,}632 - \$21{,}423{,}791}{\$1{,}868{,}018 - \$800{,}539} = \frac{\$107{,}159}{\$1{,}067{,}479} = 0.10$$

for i = 7%

$$B/C_{(1\text{-}2)} = \frac{\$21{,}135{,}187 - \$21{,}243{,}689}{\$2{,}201{,}397 - \$949{,}596} = \frac{\$108{,}502}{\$1{,}251{,}801} = 0.09$$

According to the results obtained, from an economic perspective, Alternative 2 is vastly superior to Alternative 1 since it yields very comparable benefits at a much lower implementation cost. However, as previously stated there are other important considerations beyond the strictly economic perspective including MOT that might justify the provision of the grade separated option. These considerations are further discussed next.

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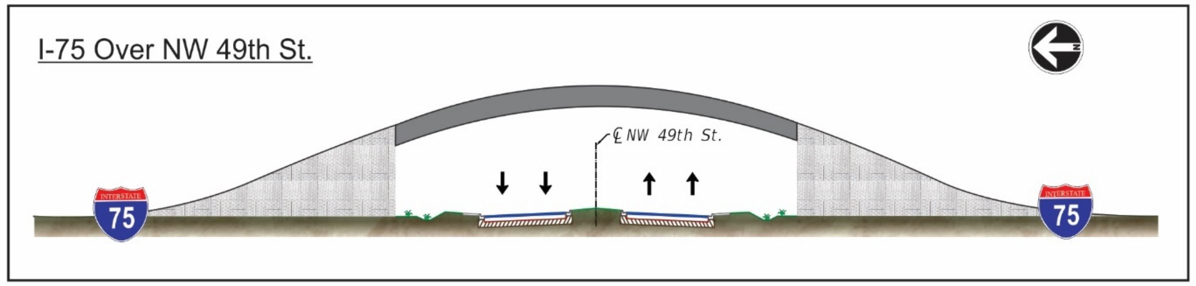
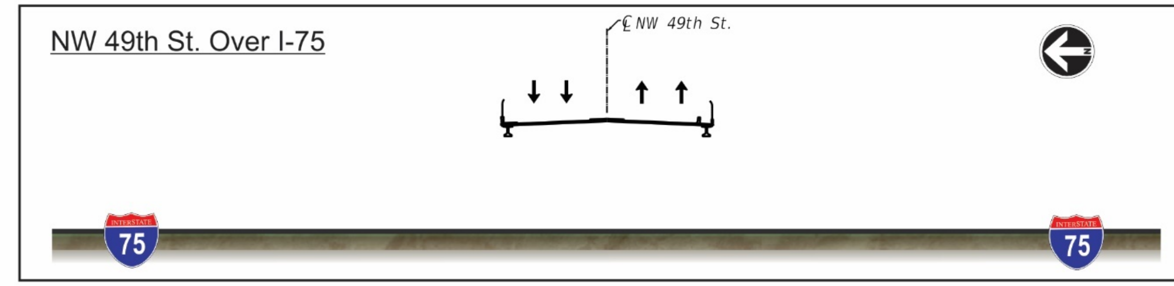
Figure 3 - Benefit-Cost Analysis Results





Alternative 1

Basic Section Cost

I-75 over NW 49 Street

Year	Present Worth i=4%	Present Worth i=5%	Present Worth i=7%
2025	$ 12,785,311	$ 12,785,311	$ 12,785,311
2026	$ 12,740,036	$ 12,618,702	$ 12,382,839
2027	$ 12,679,330	$ 12,438,969	$ 11,978,307
2028	$ 12,604,447	$ 12,247,739	$ 11,573,707
2029	$ 12,516,569	$ 12,046,516	$ 11,170,781
2030	$ 12,416,804	$ 11,836,684	$ 10,771,040
2031	$ 12,306,199	$ 11,619,519	$ 10,375,793
2032	$ 12,185,733	$ 11,396,197	$ 9,986,162
2033	$ 12,056,329	$ 11,167,795	$ 9,603,103
2034	$ 11,918,854	$ 10,935,304	$ 9,227,425
2035	$ 11,774,118	$ 10,699,631	$ 8,859,802
2036	$ 11,699,687	$ 10,530,735	$ 8,556,959
2037	$ 11,613,565	$ 10,353,663	$ 8,255,821
2038	$ 11,516,760	$ 10,169,576	$ 7,957,463
2039	$ 11,410,221	$ 9,979,542	$ 7,662,808
2040	$ 11,294,842	$ 9,784,548	$ 7,372,649
2041	$ 11,171,458	$ 9,585,494	$ 7,087,660
2042	$ 11,040,857	$ 9,383,211	$ 6,808,404
2043	$ 10,903,777	$ 9,178,457	$ 6,535,353
2044	$ 10,760,909	$ 8,971,927	$ 6,268,890
2045	$ 10,612,900	$ 8,764,253	$ 6,009,320
Total	$ 248,008,707	$ 226,493,772	$ 191,229,596

NW 49 Street At Grade

Year	Present Worth i=4%	Present Worth i=5%	Present Worth i=7%
2025	$ 1,643,219	$ 1,643,219	$ 1,643,219
2026	$ 1,724,489	$ 1,708,065	$ 1,676,139
2027	$ 1,797,077	$ 1,763,010	$ 1,697,719
2028	$ 1,861,530	$ 1,808,848	$ 1,709,302
2029	$ 1,918,367	$ 1,846,324	$ 1,712,103
2030	$ 1,968,078	$ 1,876,128	$ 1,707,222
2031	$ 2,011,127	$ 1,898,907	$ 1,695,653
2032	$ 2,047,953	$ 1,915,263	$ 1,678,290
2033	$ 2,078,972	$ 1,925,755	$ 1,655,942
2034	$ 2,104,575	$ 1,930,904	$ 1,629,335
2035	$ 2,125,133	$ 1,931,197	$ 1,599,123
2036	$ 2,154,648	$ 1,939,370	$ 1,575,874
2037	$ 2,178,749	$ 1,942,386	$ 1,548,823
2038	$ 2,197,808	$ 1,940,717	$ 1,518,567
2039	$ 2,212,178	$ 1,934,803	$ 1,485,641
2040	$ 2,222,192	$ 1,925,051	$ 1,450,524
2041	$ 2,228,163	$ 1,911,840	$ 1,413,644
2042	$ 2,230,388	$ 1,895,523	$ 1,375,381
2043	$ 2,229,145	$ 1,876,424	$ 1,336,074
2044	$ 2,224,698	$ 1,854,846	$ 1,296,023
2045	$ 2,217,296	$ 1,831,068	$ 1,255,495
Total	$43,375,785	$39,299,649	$32,660,093

Alternative 1 Present Worth Totals	
i=4%	$291,384,492
i=5%	$265,793,421
i=7%	$223,889,689

Alternative 2

Basic Section Cost

NW 49 Street over I-75

Year	Present Worth i=4%	Present Worth i=5%	Present Worth i=7%
2025	$ 1,635,631	$ 1,635,631	$ 1,635,631
2026	$ 1,716,836	$ 1,700,486	$ 1,668,701
2027	$ 1,789,376	$ 1,755,455	$ 1,690,444
2028	$ 1,853,796	$ 1,801,333	$ 1,702,200
2029	$ 1,910,614	$ 1,838,861	$ 1,705,183
2030	$ 1,960,318	$ 1,868,731	$ 1,700,491
2031	$ 2,003,373	$ 1,891,586	$ 1,689,115
2032	$ 2,040,216	$ 1,908,027	$ 1,671,949
2033	$ 2,071,262	$ 1,918,612	$ 1,649,801
2034	$ 2,096,901	$ 1,923,863	$ 1,623,394
2035	$ 2,117,504	$ 1,924,264	$ 1,593,382
2036	$ 2,147,176	$ 1,932,645	$ 1,570,409
2037	$ 2,171,433	$ 1,935,864	$ 1,543,623
2038	$ 2,190,648	$ 1,934,395	$ 1,513,620
2039	$ 2,205,173	$ 1,928,676	$ 1,480,937
2040	$ 2,215,340	$ 1,919,115	$ 1,446,052
2041	$ 2,221,463	$ 1,906,091	$ 1,409,393
2042	$ 2,223,837	$ 1,889,956	$ 1,371,341
2043	$ 2,222,743	$ 1,871,035	$ 1,332,237
2044	$ 2,218,443	$ 1,849,631	$ 1,292,379
2045	$ 2,211,186	$ 1,826,022	$ 1,252,035.11
Total	$43,223,268	$39,160,279	$ 32,542,315.71

I-75 At Grade

Year	Present Worth i=4%	Present Worth i=5%	Present Worth i=7%
2025	$ 12,890,395	$ 12,890,395	$ 12,890,395
2026	$ 12,841,673	$ 12,719,371	$ 12,481,626
2027	$ 12,777,630	$ 12,535,406	$ 12,071,172
2028	$ 12,699,517	$ 12,340,119	$ 11,661,003
2029	$ 12,608,511	$ 12,135,005	$ 11,252,838
2030	$ 12,505,719	$ 11,921,445	$ 10,848,170
2031	$ 12,392,183	$ 11,700,706	$ 10,448,289
2032	$ 12,268,881	$ 11,473,957	$ 10,054,301
2033	$ 12,136,731	$ 11,242,271	$ 9,667,145
2034	$ 11,996,598	$ 11,006,633	$ 9,287,614
2035	$ 11,849,291	$ 10,767,943	$ 8,916,368
2036	$ 11,772,161	$ 10,595,968	$ 8,609,964
2037	$ 11,683,435	$ 10,415,953	$ 8,305,490
2038	$ 11,584,120	$ 10,229,056	$ 8,004,005
2039	$ 11,475,161	$ 10,036,340	$ 7,706,420
2040	$ 11,357,448	$ 9,838,782	$ 7,413,515
2041	$ 11,231,814	$ 9,637,282	$ 7,125,952
2042	$ 11,099,044	$ 9,432,661	$ 6,844,285
2043	$ 10,959,871	$ 9,225,675	$ 6,568,974
2044	$ 10,814,986	$ 9,017,013	$ 6,300,393
2045	$ 10,665,032	$ 8,807,304	$ 6,038,838
Total	$ 249,610,201	$ 227,969,286	$ 192,496,758

Alternative 2 Present Worth Totals	
i=4%	$292,833,469
i=5%	$267,129,565
i=7%	$225,039,074

Benefit*

Present Worth Benefit Alternative 1 vs. Alternative 2	
i=4%	$1,448,997
i=5%	$1,336,144
i=7%	$1,149,385

Interest	Cost Recovery Factor	Annual Benefit x Cost Recovery Factor
i=4%	0.0736	$106,645
i=5%	0.0802	$107,159
i=7%	0.0944	$108,502

B/C Ratio		
i=4%	i=5%	i=7%
0.11	0.10	0.09

* Difference in disbenefits (Basic Section Cost) between Alternatives 1 and 2

+ Difference in Total Implementation Annual Costs between Alternatives 1 and 2

Result: Low benefit cost ratio clearly illustrates that Alternative 2 is vastly superior to Alternative 1.

Implementation Costs (Alternative 1)

Type	Cost	Life	Cost Recovery Factor i=4%	Cost Recovery Factor i=5%	Cost Recovery Factor i=7%
Construction	$22,440,184	20	0.0736	0.0802	0.0944
Right of Way	$1,166,340	60	0.0442	0.0528	0.0712

Type	Alt. 1 Implementation Annual Costs i=4%	i=5%	i=7%
Construction	$1,651,598	$1,806,435	$2,118,353
Right of Way	$51,552	$61,583	$7,832
Total	$1,703,150	$1,868,018	$2,201,397

Cost+

Annual Cost Alternative 1 vs. Alternative 2	
i=4%	$975,980
i=5%	$1,067,478
i=7%	$1,251,801

Type	Alt. 2 Implementation Annual Costs i=4%	i=5%	i=7%
Construction	$675,618	$738,957	$866,553
Right of Way	$51,552	$61,583	$83,043
Total	$727,170	$800,539	$949,596

Implementation Costs (Alternative 2)

Type	Cost	Life	Cost Recovery Factor i=4%	Cost Recovery Factor i=5%	Cost Recovery Factor i=7%
Construction	$9,179,586	20	0.0736	0.0802	0.0944
Right of Way	$1,166,340	60	0.0442	0.0528	0.0712

1.3 Other Considerations

Additional important issues were also considered when determining the best grade separation alternative. A brief discussion of these issues follows.

Traffic Service/Operational Considerations

The proposed interchange is projected to generate up to 25,000 daily trips by the design year (2045), with up to 12% (3,000 trips) by heavy trucks with the existing I-75 truck traffic near the project area ranging from 19 to 23%. Although the combination of the high truck density, steeper NW 49 Street profile (Alternative 2), proximity of the NW 44 Avenue intersection and the additional signalized intersections associated with the new interchange could have a negative impact in the future traffic mobility along the NW 49 Street project area, I-75 experiences significantly higher vehicular and truck volumes that could be negatively impacted by a raised profile along I-75.

Safety Issues

An at-grade NW 49 Street profile (Alternative 1) maximizes sight distance and thus enhances safety for vehicles, pedestrians and bicyclists at the local street network and those entering and exiting I-75. This is particularly important due to the close proximity of the NW 49 Street/NW 44 Avenue intersection to the proposed interchange (less than 1,000 feet). NW 44 Avenue is a north-south major urban collector parallel to I-75 serving the generally commercial and residential land uses just west of I-75. It provides a direct connection from SR 326 to the north to US 27 to the south. The proximity of the proposed SB off and SB on ramps to NW 44 Avenue could result in operational issues along NW 49 Street.

In summary, an at-grade NW 49 Street profile would facilitate vehicular operational and weaving maneuvers (especially for heavy trucks), thus providing greater safety.

Multimodal Issues

Sidewalks along both sides of the proposed NW 49 Street extension will be provided within the project limits. Although the required maximum grade of NW 49 Street at the interchange site (see **Figure 3**) does not exceed the maximum ADA grade requirements of 5%, the provision of an overpass along NW 49 Street could be less desirable for pedestrians and bicycle users.

These grades might discourage some potential users especially older/retired and handicapped residents from residential areas just west of the project. It should be noted that the proposed interchange ramps at the site will also represent additional mobility obstacles for crossing pedestrians and bicyclists, potentially forcing them to stop on a gradient. The projected high composition of heavy trucks at the site will likely translate into longer waiting crossing times for pedestrians and bicyclists waiting on a gradient.

Compatibility with Future Plans

An on-going PD&E Study (at the time of this study) is evaluating the widening of I-75 within the study area. In view of this fact all design concepts under consideration must allow for the future expansion of I-75. The provision of an I-75 overpass at NW 49 Street (Alternative 1) would allow a future I-75 widening with minimal or no disruption to NW 49 Street. This option, however, could come at a high cost of the reconstruction of a new facility depending on the alternative selected by the I-75 Widening PD&E Study. On the other hand, Alternative 2 (NW 49 Street over I-75) would require the provision of median piers at I-75 which could conflict with the planned future widening of I-75.

1.4 Benefit-Cost Conclusions and Recommendations

As previously stated, the benefit-cost results (**Figure 3**) show that Alternative 2 is superior to Alternative 1 from an economic perspective. Additionally, the “other considerations” section above discusses some additional considerations including some of the potential drawbacks of each grade separation alternative.

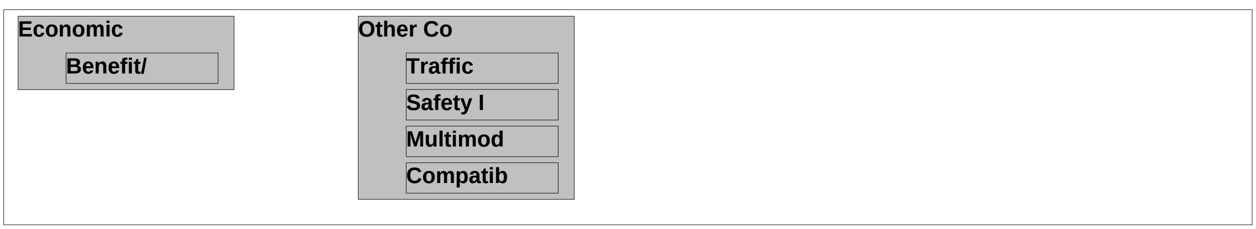
In order to verify the results of the grade separation alternatives analysis, the “economic consideration” factors were evaluated against the “other consideration” factors utilizing the Analytical Hierarchy Process (AHP). The AHP results are included. The results from the AHP alternative evaluation show that Alternative 2 (NW 49 Street over I-75) is indeed the top ranked alternative.

Model Name: Grade Separation I-75

Treeview

- **Goal: Determine Preferred Alternative**
  - **Economic Considerations (L: .770)**
    - **Benefit/Cost**
  - **Other Considerations (L: .230)**
    - **Traffic Service/Operational Considerations (L: .350)**
    - **Safety Issues (L: .300)**
    - **Multimodal Considerations (L: .200)**
    - **Compatibility with Future Plans (L: .150)**

Cluster view



Alternatives

I-75 over NW 49 St	**.411**
NW 49 St over I-75	**.589**

* *Ideal mode*

Data Grid

	Pairwise	Pairwise	Pairwise	Pairwise	Pairwise
Alternative	**Economic Benefit/Cos**	**Other Co Traffic Service/Op Considerati**	**Other Co Safety Issues (L: .300)**	**Other Co Multimodal Considerati (L: .200)**	**Other Co Compatibili with Future Plans**
☑ **I-75 over NW 49**	**.44**	**1.00**	**1.00**	**1.00**	**1.00**
☑ **NW 49 St over**	**1.00**	**.22**	**.22**	**.22**	**.22**

Priority Graphs

Priorities with respect to:

Goal: Determine Preferred Alternati...

Economic Considerations	**.770**	
Other Considerations	**.230**	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Economic Considerations
>Benefit/Cost

I-75 over NW 49 St	.308	
NW 49 St over I-75	.692	

Inconsistency = 0.00
with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Other Considerations

Traffic Service/Operational Considerations	.350
Safety Issues	.300
Multimodal Considerations	.200
Compatibility with Future Plans	.150

Inconsistency = 0.00
with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Other Considerations
>Traffic Service/Operational C...

I-75 over NW 49 St	.818	
NW 49 St over I-75	.182	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Other Considerations
>Safety Issues

I-75 over NW 49 St .818

NW 49 St over I-75 .182

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Other Considerations
>Multimodal Considerations

I-75 over NW 49 St	.818
NW 49 St over I-75	.182

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:

Goal: Determine Preferred Alternative
>Other Considerations
>Compatibility with Future Pla...

I-75 over NW 49 St **.818**
NW 49 St over I-75 **.182**

Inconsistency = 0.00

with 0 missing judgments.

Synthesis: Details

Alts	Level 1	Level 2	Prty
Total I-...			**0.411**
	Total Economic Considerations (L: .770)		**0.246**
	Economic Considerations (L: .770)	Benefit/C...	.24562
	Total Other Considerations (L: .230)		**0.165**
I-75 ov...	Other Considerations (L: .230)	Traffic Se...	.05777
		Safety Iss...	.04952
		Multimod...	.03301
		Compatib...	.02476
Total ...			**0.589**
	Total Economic Considerations (L: .770)		**0.553**
	Economic Considerations (L: .770)	Benefit/C...	.55264
	Total Other Considerations (L: .230)		**0.037**
NW 49...	Other Considerations (L: .230)	Traffic Se...	.01284
		Safety Iss...	.01100
		Multimod...	.00734
		Compatib...	.00550

Appendix D: Right-of-Way Estimate

FDOT DISTRICT FIVE RIGHT OF WAY COST ESTIMATE

CONSIDERED EXEMPT FROM PUBLIC DISCLOSURE UNDER F. S. 119.0711 AND/OR F. S. 337.168

***** THIS DOCUMENT IS A BUDGETARY TOOL AND NOT AN ESTIMATE OF VALUE *****

FM #:	435209-1	**Estimate Reference:**	**DDI Alternative**
County:	Marion	**DATE:**	11/10/20
State Rd.	I-75 (SR 93)	**ESTIMATE TYPE:**	Special
From:	End of NW 49th St	**TO:**	End of NW 35th St

NUMBER OF PARCELS		**NUMBER OF RELOCATEES**	
Business	10	**Business**	1
Residential	4	**Residential**	0
Unimproved	9	**Special**	0
Total	23	**Total**	1

R/W OPERATIONS (PHASE 4B)

1. Appraisal Fees
2. Business Damage CPA Fees
3. Court Reporter And Witness Fees
4. Demolition Contracts
5. Move Cost Estimate Fees
6. Atorney Fees (Outside Counsel) — $6,000 per project
7. Title Search
8. Hazardous Waste Investigations
9. Other - (Including Aerial Photos)
10. Total (Lines 1 through 10)

11. Direct Labor Costs — **R/W SUPPORT COSTS (PHASE 41)**

12. Total Contract Amount — **R/W ACQUISITION CONSULTANT COSTS (PHASE 42)**

R/W LAND COSTS (PHASE 43)

13. Land, Improvements, Severance Damages (excl. billboards)
14. Billboards
15. Subtotal (Line 9 + 10)
16. Admin. Settlements
17. Litigation Awards
18. Business Damages
19. Owner Appraisal Fees
20. Owner CPA Fees
21. Defendant Attorney Fees
22. Other Condemnation Costs
23. Other Costs (With No Factors)
24. Subtotal (Lines 12 through 19)
25. Total (Lines 9 through 20) — **TOTAL PHASE 43**

RELOCATION COSTS (PHASE 45)

Replacement Housing Costs:

26. Owner
27. Tenant (No entry)

Move Costs:

28. Residential
29. Non-Residential
30. Landlord
31. Non-Categorized Relocation and Move Cost Settlements
32. Total (Lines 26 through 31) — **TOTAL PHASE 45**

TOTAL - ALL PHASES **$45,681,000**

FDOT DISTRICT FIVE R/W COST ESTIMATE

CONSIDERED EXEMPT FROM PUBLIC DISCLOSURE UNDER F. S. 119.0711 AND/OR F. S. 337.168 * THIS DOCUMENT IS A BUDGETARY TOOL AND NOT AN ESTIMATE OF VALUE *****

FM #: 435209-1 **Estimate Reference:** DDI Alternative

ESTIMATED BY: Nick Truncone DATE: 11/10/2020

REVIEWED BY: WJM DATE: 11/10/2020

ESTIMATE TYPE: Special

CONFIDENCE LEVEL

The Confidence Level for this Cost Estimate is:

D - Fair level of confidence – Much of the needed data is lacking. Parcels may not be individually identified. A lack of project information as well as market data typifies this confidence level. Data lacking may include maps, sales, or adequate listing information. Time allowed to develop the estimate is not adequate to overcome these as well as other obstacles necessary to produce a more reliable estimate.

PROJECT SPECIFIC COMMENTS

This is a Special Estimate for the DDI Alternative configuration. This estimate totals $45,681,000 for 23 parcels.

Materials used for this estimate include aerial maps and parcel impact spreadsheets that were provided by the PM on 10/28/20. Miscellaneous on-line services and listing property owners were contacted for specific R/W land and improvement costs (see Market Data Worksheet for summary).

	$ Amount	Percentage
Change from Last Est.:	N/A	N/A
Last Estimate:	Mile - Scope	

		% of Change
RWMS Reason for Change:		
RWMS Reason for Change:		

Reviewed by:

Project Manager: ____________________ Date: __________

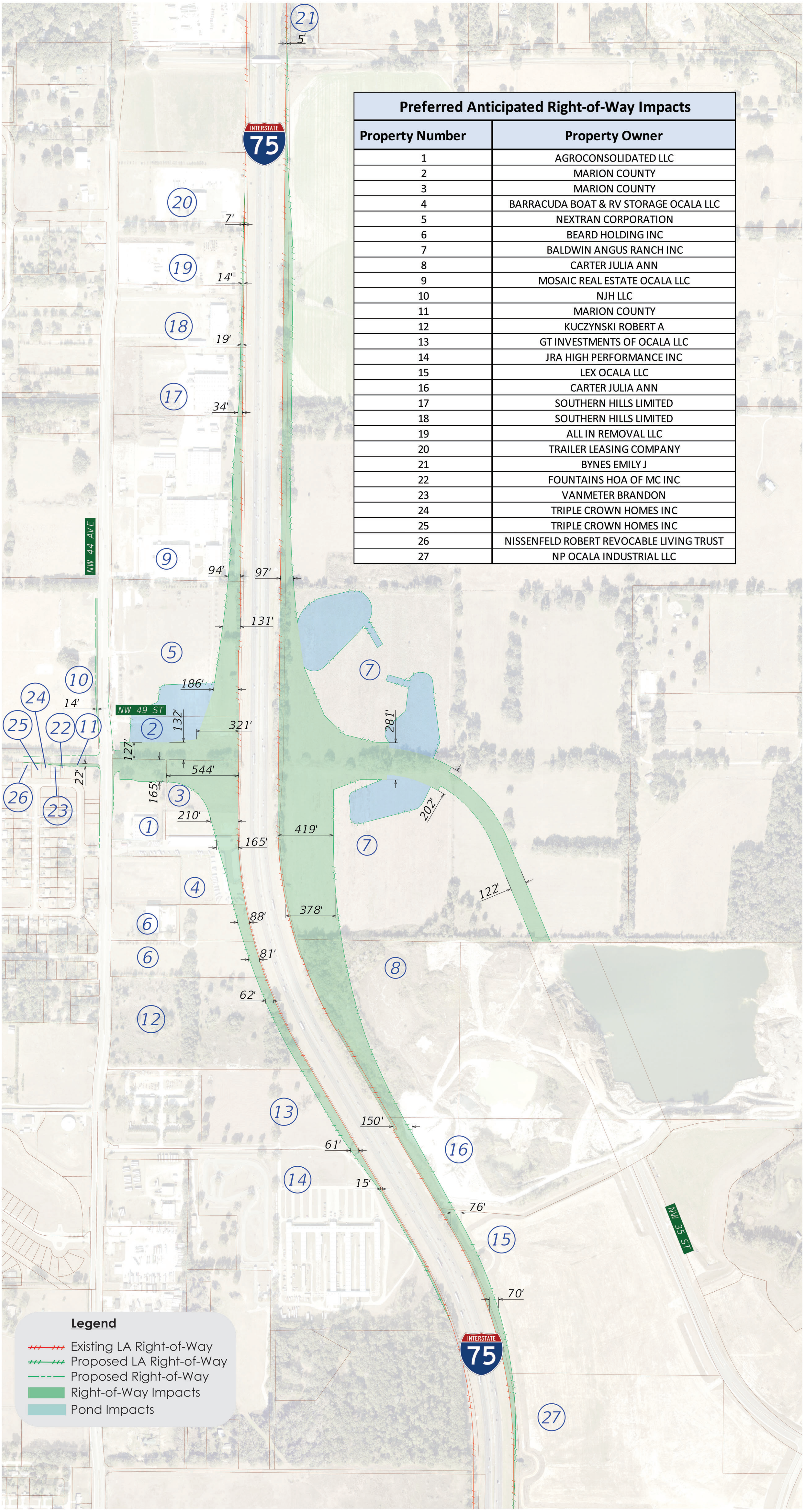
Print Name: Amy Windom

cc: Working File

THIS DOCUMENT IS NOT AN APPRAISAL

This estimate is not nor are any components thereof considered an appraisal. This document has been prepared solely for the internal use of the Florida Department of Transportation for budgeting and scheduling purposes. It does not nor is it intended to meet the development and reporting requirements of the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal foundation.

I-75 (S.R. 93) at NW 49th Street PD&E Study - Right of Way Impacts



Preferred Anticipated Right-of-Way Impacts

Property Number	Property Owner
1	AGROCONSOLIDATED LLC
2	MARION COUNTY
3	MARION COUNTY
4	BARRACUDA BOAT & RV STORAGE OCALA LLC
5	NEXTRAN CORPORATION
6	BEARD HOLDING INC
7	BALDWIN ANGUS RANCH INC
8	CARTER JULIA ANN
9	MOSAIC REAL ESTATE OCALA LLC
10	NJH LLC
11	MARION COUNTY
12	KUCZYNSKI ROBERT A
13	GT INVESTMENTS OF OCALA LLC
14	JRA HIGH PERFORMANCE INC
15	LEX OCALA LLC
16	CARTER JULIA ANN
17	SOUTHERN HILLS LIMITED
18	SOUTHERN HILLS LIMITED
19	ALL IN REMOVAL LLC
20	TRAILER LEASING COMPANY
21	BYNES EMILY J
22	FOUNTAINS HOA OF MC INC
23	VANMETER BRANDON
24	TRIPLE CROWN HOMES INC
25	TRIPLE CROWN HOMES INC
26	NISSENFELD ROBERT REVOCABLE LIVING TRUST
27	NP OCALA INDUSTRIAL LLC

Appendix E: Cost Estimate

Date: 10/2/2020 3:05:22 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report
By Component

Project: 435209-1-22-01 **Letting Date:** 08/2024

Description: I-75(SR 93) AT NW 49TH ST FROM END OF NW 49TH ST TO END OF NW 35TH ST

District: 05 **County:** 36 MARION

Project Manager: HJG-MET

Version 6
Project Grand Total **$40,075,822.21**
Description: DDI with Ponds

EARTHWORK COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
110-1-1	CLEARING & GRUBBING	43.90	AC	$12,537.88	$550,413.06
120-6	EMBANKMENT	1,033,095.42	CY	$9.52	$9,839,375.50
	Earthwork Component Total				$10,389,788.55

ROADWAY COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
160-4	TYPE B STABILIZATION	120,385.18	SY	$4.55	$548,143.81
285-709	OPTIONAL BASE,BASE GROUP 09	82,059.92	SY	$15.07	$1,236,800.48
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	249.05	TN	$109.86	$27,360.63
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	6,230.85	TN	$107.00	$666,700.95
334-1-54	SUPERPAVE ASPH CONC, TRAF D, PG76-22	6,791.05	TN	$105.00	$713,060.25
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,646.31	TN	$153.00	$251,885.43
337-7-45	ASPH CONC FC,TRAFFIC D,FC-12.5,PG 76-22	3,021.02	TN	$98.00	$296,059.96
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	124.52	TN	$126.35	$15,733.10
544-75-1	CRASH CUSHION	4.00	EA	$19,966.00	$79,864.00
706-1-1	RAISED PAVMT MARK, TYPE B W/O FINAL SURF	14.00	EA	$10.82	$151.48
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	561.00	EA	$4.50	$2,524.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	12.42	GM	$1,108.47	$13,767.21
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.22	GM	$507.00	$1,632.54

710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	8.00	EA	$57.00	$456.00
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	16.00	EA	$31.00	$496.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	4.00	EA	$168.25	$673.00
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	22.00	EA	$70.00	$1,540.00
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	2.09	GM	$4,200.00	$8,778.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.40	GM	$1,285.00	$3,084.00
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	0.13	GM	$7,000.00	$910.00
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.96	GM	$4,600.00	$9,016.00
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	1.32	GM	$4,500.00	$5,940.00

Roadway Component Total $3,884,577.31

SHOULDER COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
104-10-3	SEDIMENT BARRIER	69,911.63	LF	$1.65	$115,677.51
104-11	FLOATING TURBIDITY BARRIER	1,030.18	LF	$11.77	$12,125.22
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	1,339.38	LF	$9.03	$12,095.10
104-15	SOIL TRACKING PREVENTION DEVICE	15.00	EA	$2,467.94	$37,019.13
104-18	INLET PROTECTION SYSTEM	61.00	EA	$96.98	$5,915.90
107-1	LITTER REMOVAL	80.26	AC	$34.89	$2,800.20
107-2	MOWING	80.26	AC	$50.64	$4,064.41
285-704	OPTIONAL BASE,BASE GROUP 04	19,175.67	SY	$12.00	$230,108.04
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	1,930.04	TN	$107.00	$206,514.28
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	701.84	TN	$153.00	$107,381.52
520-1-10	CONCRETE CURB & GUTTER, TYPE F	12,125.00	LF	$31.60	$383,160.96
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	7,328.64	SY	$38.00	$278,488.32
570-1-1	PERFORMANCE TURF	35,453.22	SY	$3.00	$106,329.78

Shoulder Component Total $1,501,680.34

MEDIAN COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	10,992.96	LF	$25.50	$280,320.49
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,132.03	LF	$22.87	$25,889.53
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	1,571.85	LF	$42.50	$66,803.63
570-1-1	PERFORMANCE TURF	11,023.44	SY	$2.97	$32,751.27

	Median Component Total				$405,764.92

DRAINAGE COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
110-1-1	CLEARING & GRUBBING	15.00	AC	$12,616.60	$189,249.00
120-1	REGULAR EXCAVATION	180,693.34	CY	$11.96	$2,161,092.34
400-2-2	CONC CLASS II, ENDWALLS	22.26	CY	$1,478.00	$32,900.28
425-1-351	INLETS, CURB, TYPE P-5, <10'	40.00	EA	$4,652.60	$186,103.94
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00	EA	$4,566.95	$9,133.90
425-1-451	INLETS, CURB, TYPE J-5, <10'	13.00	EA	$6,013.29	$78,172.72
425-1-521	INLETS, DT BOT, TYPE C, <10'	8.00	EA	$3,274.22	$26,193.78
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$5,050.00	$10,100.00
425-2-41	MANHOLES, P-7, <10'	8.00	EA	$4,503.22	$36,025.72
425-2-71	MANHOLES, J-7, <10'	6.00	EA	$6,949.46	$41,696.76
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	3,392.00	LF	$91.99	$312,023.20
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,760.00	LF	$86.43	$238,542.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	992.00	LF	$139.96	$138,842.40
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	224.00	LF	$107.87	$24,162.88
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	5,224.00	LF	$189.43	$989,582.72
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	1,200.00	LF	$342.72	$411,268.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	172.00	EA	$1,634.44	$281,123.62
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	6,390.00	LF	$21.24	$135,723.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	6.00	EA	$1,748.96	$10,493.78
570-1-1	PERFORMANCE TURF	75,879.87	SY	$1.63	$123,576.89
	Drainage Component Total				$5,436,008.24

SIGNING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	44.00	AS	$371.18	$16,332.03
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	92.00	AS	$1,228.04	$112,980.08
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	12.00	AS	$3,692.59	$44,311.08
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	4.00	AS	$4,808.38	$19,233.52
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	4.00	AS	$8,584.58	$34,338.32
	Signing Component Total				$227,195.03

LIGHTING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	13,896.48	LF	$9.15	$127,204.66
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	964.35	LF	$20.40	$19,670.44
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	76.00	EA	$712.89	$54,179.42
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	44,788.98	LF	$2.06	$92,365.32
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	34.00	EA	$5,253.63	$178,623.32
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	42.00	EA	$5,070.75	$212,971.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	76.00	EA	$601.05	$45,679.84
	Lighting Component Total				$730,694.50

SIGNALIZATIONS COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,050.00	LF	$9.14	$27,883.50
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	950.00	LF	$20.38	$19,365.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	5.00	PI	$6,091.24	$30,456.20
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	12.00	EA	$762.67	$9,152.04
635-3-11	JUNCTION BOX, FURNISH & INSTALL, AERIAL	48.00	EA	$376.41	$18,067.52
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	$2,661.67	$5,323.34
639-1-122	ELECTRICAL POWER SRV,F&I, UG,PUR CONT	3.00	AS	$2,652.57	$7,957.70
639-2-1	ELECTRICAL SERVICE WIRE, F&I	240.00	LF	$5.19	$1,245.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	12.00	EA	$1,232.91	$14,794.96
649-21-4	STEEL MAST ARM ASSEMBLY, F&I, 40'-30'	4.00	EA	$46,698.68	$186,794.72
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	6.00	EA	$44,580.03	$267,480.18
649-31-103	M/ARM,F&I, WS-150,SING ARM,W/0 LUM-60	3.00	EA	$36,708.50	$110,125.50
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	32.00	AS	$1,054.91	$33,757.04
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	26.00	AS	$593.61	$15,433.98
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	44.00	EA	$316.94	$13,945.48
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	32.00	AS	$975.15	$31,204.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	26.00	EA	$237.92	$6,185.90
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	3.00	AS	$27,988.29	$83,964.86
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	$136.93	$547.72
700-3-302	SIGN PANEL, F&I BM, 12-20 SF	12.00	EA	$1,776.71	$21,320.48
	Signalizations Component Total				$905,005.92

BRIDGES COMPONENT

Bridge Type: Misc/Rehab

EX-Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
DDIBRIDGE	DDI BRIDGE	1.00	1	$5,211,935.00	$5,211,935.00

Bridge No. DDI

	Bridges Component Total	$5,211,935.00

Date: 10/2/2020 3:05:22 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report

By Component

Project: 435209-1-22-01 **Letting Date:** 08/2024

Description: I-75(SR 93) AT NW 49TH ST FROM END OF NW 49TH ST TO END OF NW 35TH ST

District: 05 **County:** 36 MARION

Project Manager: HJG-MET

Version 6 Project Grand Total **$40,075,822.21**

Description: DDI with Ponds

Project Sequences Subtotal					**$28,692,649.81**
102-1	MAINTENANCE OF TRAFFIC	10.00			$2,869,264.98
101-1	MOBILIZATION	10.00			$3,156,191.48
Project Sequences Total					**$34,718,106.27**
Project Unknowns			15.00%		$5,207,715.94
Design/Build			0.00%		$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	$150,000.00	$150,000.00
Project Non-Bid Subtotal					$150,000.00

Version 6 Project Grand Total **$40,075,822.21**

I-75 Interchange PD&E Engineer's Cost Estimate					
ITEM NO.	**ITEM DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL COST**
102-1	MAINTENANCE OF TRAFFIC	LS	1	$76,703.10	$76,703.10
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	8847	$7.90	$69,891.30
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	9062	$24.47	$221,747.14
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF	8	$29.20	$233.60
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS	LF	810	$2.23	$1,806.30
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND,49-96 FIBERS	LF	21259	$2.60	$55,273.40
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	332	$42.86	$14,229.52
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	5	$812.20	$4,061.00
633-3-13	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED CONNECTOR ASSEMBLY	EA	60	$55.00	$3,300.00
633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- FIELD TERMINATED	EA	4	$1,947.50	$7,790.00
*633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURISH & INSTALL	LF	850	$4.27	$3,629.50
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	22	$782.81	$17,221.82
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	12	$1,425.00	$17,100.00
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR OR 36" ROUND COVER SIZE	EA	6	$2,300.00	$13,800.00
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	3050	$5.24	$15,982.00
** 641-3-263	CONCRETE CCTV POLE, FURNISH & INSTALL WITHOUT LOWERING DEVICE, 63'	EA	2	$16,500.00	$33,000.00
* 660-3-42	VEHICLE DETECTION SYSTEM - MICROWAVE, RELOCATE, ABOVE GROUND EQUIPMENT	EA	1	$450.00	$450.00
660-4-11	VEHICLE DETECTION SYSTEM - VIDEO, F&I, CABINET EQUIPMENT	EA	8	$11,083.13	$88,665.04
660-4-12	VEHICLE DETECTION SYSTEM - VIDEO, F&I, ABOVE GROUND EQUIPMENT	EA	8	$6,759.52	$54,076.16
***660-7-11	VEHICLE DETECTION SYSTEM- WRONG WAY FOR EXIT RAMP, 1 OR 2 LANES	EA	2	$23,790.07	$47,580.14
* 676-2-122	ITS CABINET, FURNISH & INSTALL, POLE MOUNT WITH SUNSHIELD, 336S, 24" W X 46" H X 22" D	EA	1	$9,662.99	$9,662.99
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	3	$8,000.00	$24,000.00
682-1-400	ITS CCTV CAMERA, RELOCATE, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1	$2,760.00	$2,760.00
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	4	$2,764.82	$11,059.28
685-1-12	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA	4	$7,317.50	$29,270.00
700-1-12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	4	$995.39	$3,981.56
*700-6-11	HIGHLIGHTED SIGN, F&I GROUND MOUNT- AC POWERED, UP TO 12 SF	AS	4	$4,115.05	$16,460.20
				SUB TOTAL	**$843,734.05**
			MOBILIZATION	10%	**$84,373.40**
			DESIGN	10%	**$84,373.40**
			CEI	15%	**$126,560.11**
			MOC	3%	**$25,312.02**
			CONTINGENCY	10%	**$84,373.40**
				GRAND TOTAL	**$1,248,726.39**

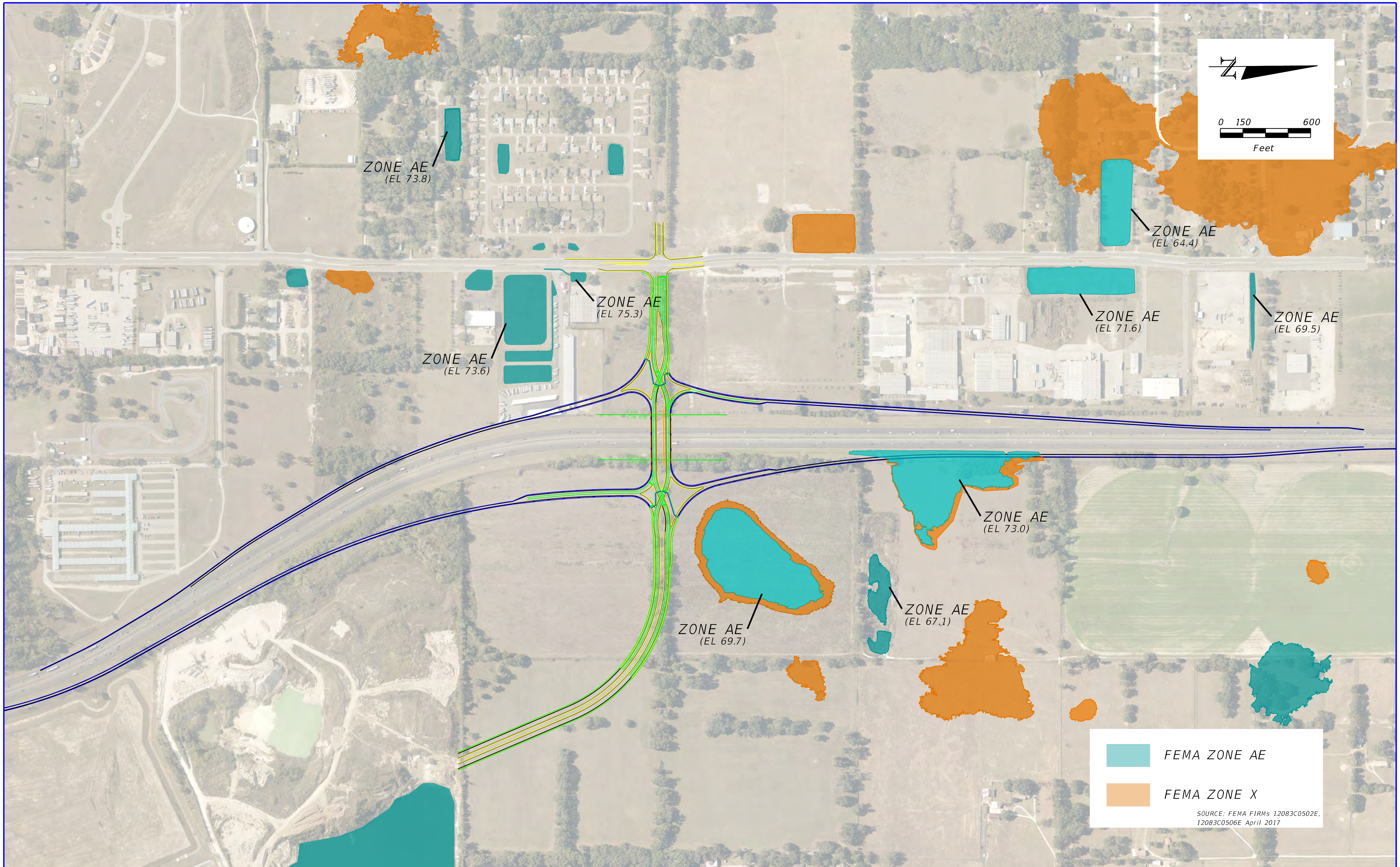
Unit cost per the FDOT Historical Cost - Area 6 (08/01/2019 - 07/31/2020)

* Unit cost per the FDOT Historical Cost - Current 12 Month Moving Statewide Average (08/01/2019 - 07/31/2020)

** Unit cost per the FDOT Historical Cost - Historical 12 Month Moving Statewide Average (01/01/2019 - 12/31/2019)

*** Unit cost per the FDOT Historical Cost - Current 6 Month Moving Statewide Average (02/01/2020 - 07/31/2020)

Appendix F: FEMA Floodplain Map



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING, INC.
13940 S.W. 136 STREET
SUITE 200
MIAMI, FLORIDA 33186
TEL. (305) 235-5098
FAX. (305) 235-5271
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
I-75	MARION	435209-1-22-01

FEMA FLOODPLAIN MAP
FIGURE 5

SHEET NO.

Appendix G: Design Variation Memorandum

Form 122-A

Submittal/Approval Letter

To: Mario Bizzio, P.E.
District or Turnpike Design Engineer

Date: December 9, 2020

Financial Project ID: 435209-1-22-01 New Const. ☑ RRR ☐
Federal Aid Number: ____
Project Name: I-75 (SR 93) Interchange at NW 49 Street PD&E Study
State Road Number: 93 Co./Sec./Sub. 36210000
Begin Project MP: N/A End Project MP: N/A
FHWA Project of Division Interest: Yes ☐ No ☐
Request for: Design Exception ☐ Design Variation ☐ Design Variation Memorandum ☑
Community Aesthetic Feature: Conceptual ☐ Final ☐
Re-submittal: Yes ☐ No ☐ Original Ref# ____ - ____ - ____
Requested for the following element(s):

☐ Design Speed	☐ Lane Width	☐ Shoulder Width	☐ Cross Slope
☐ Design Loading Structural Capacity	☐ Vertical Clearance	☐ Maximum Grade	☐ Stopping Sight Distance
☐ Superelevation	☐ Horizontal Curve Radius	☑ Other Border Width	

I-75/SR 93 at NW 49 Street in Marion County is a limited access state road facility where a new I-75 interchange at NW 49 Street and an extension of NW 49 Street from NW 44 Avenue to NW 35 Avenue is planned. The project location is in a C3C – Suburban Commercial environment due to the agricultural and industrial land uses, with nearby commercial and low-density residential land uses. The design and posted speed for the I-75 on and off ramps is 45 mph. In addition, the posted speed and design speed of NW 49 Street is 45 mph.

Although the project strives to meet the standards as set by FDOT, it's not feasible to provide the minimum border width requirements at the specified locations due to impacts to the public. Therefore, a design variation is required for border width. The proposed conditions meet standards with the exception of the border width from STA 593+80.00 to STA 636+09.37, along the I-75 Southbound off-ramp.

Recommended by:

______ Date 12/09/2020
Name: Carlos Rodriguez, P.E.
Responsible Professional Engineer or Landscape Architect (Lanscape-Only Projects)

Approvals:

DocuSigned by:
Mario Bizzio
1A9E5EF8C1D4B0...
______ Date 1/4/2021 | 10:37 AM EST
Name: Mario Bizzio, P.E.
District or Turnpike Design Engineer

______ Date ______
Name:
District Structures Design Engineer

______ Date ______
Name: Michael Shepard, P.E.
State Roadway Design Engineer

______ Date ______
Name:
State Structures Design Engineer

______ Date ______
Name: Will Watts, P.E.
Chief Engineer

______ Date ______
Name:
FHWA Division Administrator

Design Variation Memorandum

To: Mario Bizzio, P.E.
District Design Engineer

Date: December 9, 2020

Financial Project ID: 435209-1-22-01 New Construction (☒) RRR (☐)
Federal Aid Number: ____________
Project Name: I-75 (SR 93) Interchange at NW 49 Street PD&E Study
State Road Number: 93 Co./Sec./Sub.: 36210000
Begin Project MP: N/A End Project MP: N/A

Requested for the following element(s):

(☐) Lane Width	(☐) Shoulder Width	(☐) Vertical Clearance	(☐) Maximum Grade
(☐) Superelevation	(☐) Horizontal Curve Radius	(☐) Lateral Offset	(☒) Border Width
(☐) Bicycle Lane	(☐) Other ____________		

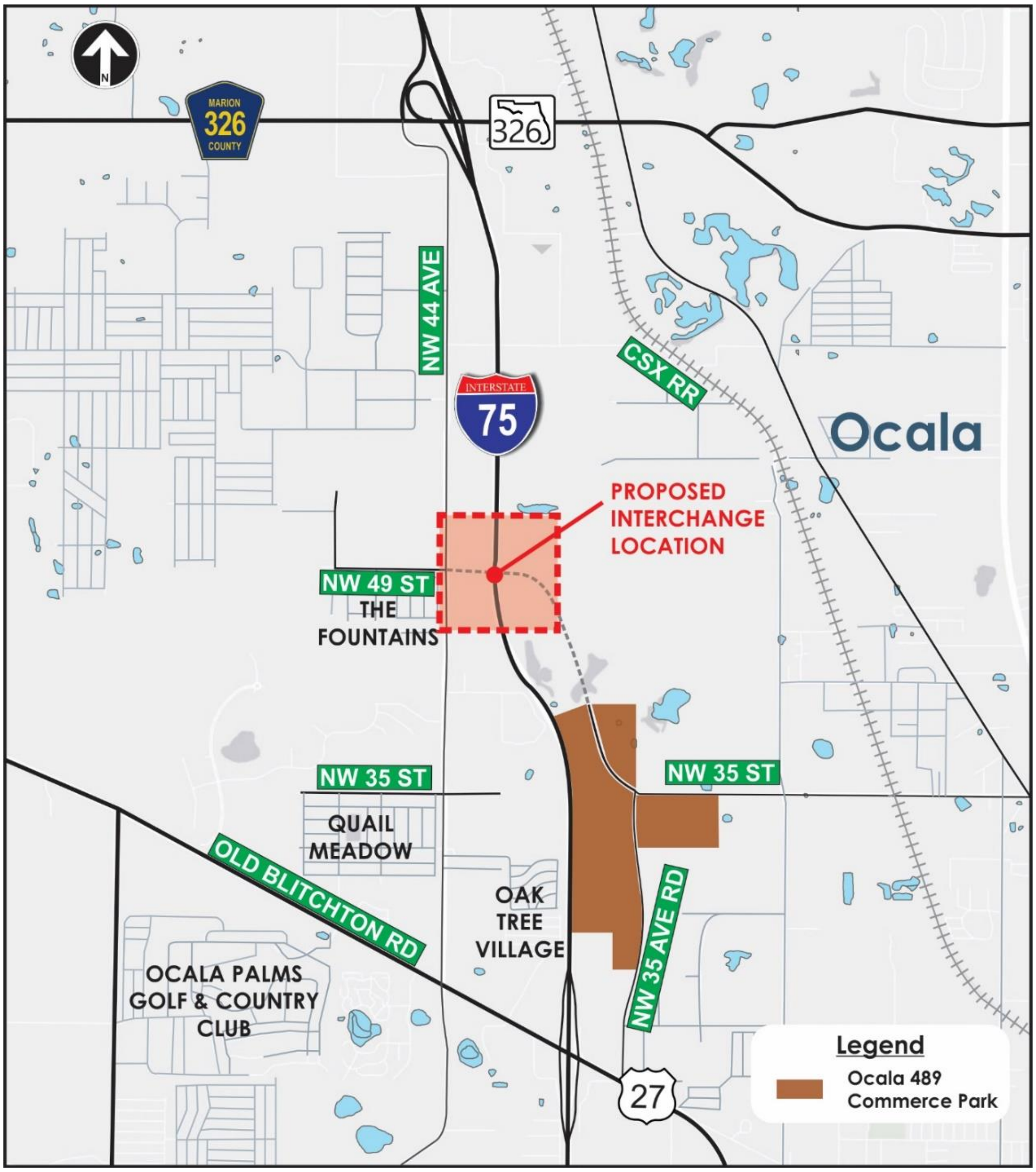
I. Project Description

The Florida Department of Transportation (FDOT) in conjunction with Marion County is conducting a Project Development and Environment (PD&E) Study for a new interchange on Interstate 75 (I-75) at NW 49 Street, located just west of the City of Ocala in Marion County, Florida.

I-75 (SR 93) is a major north-south interstate highway extending from Miami, Florida on the south to Sault Sainte Marie, Michigan in the north. I-75 is the second longest north-south facility in the country (after I-95) traversing six different states. Within the project area, I-75 generally borders the City of Ocala, seat of Marion County in north central Florida. The greater Ocala area has recently experienced one of the highest growth rates in the country for a city its size, and the Marion County Comprehensive Plan outlines a vision to enhance the livability of its residents and promote economic growth in the region. In this vein, the County has designated approximately 3000 acres adjacent to I-75 as a future commerce park. The Ocala 489, located in this area has been established as a “Florida Enterprise Zone” and is composed of a recently constructed FedEx Ground Distribution Hub, Chewy distribution center, an AutoZone distribution center designated as a CSX Select Site, the Florida Crossroads Logistics Center a Red Rock Development, and the remaining undeveloped sites. Development in this area will result in traffic volume increases along I-75 and the entire local roadway network.

Figure 1 depicts the project vicinity. There are two existing I-75 interchanges within the project vicinity. The I-75/US 27 interchange is located approximately 2 miles south of the proposed interchange and the I-75/SR 326 interchange, approximately 2 miles to the north. An Interchange Justification Report (IJR) completed in May 2016 concluded that the existing I-75 interchange ramp movements and intersections at US 27 and at SR 326 are expected to operate at failing levels of service by 2035. A new I-75 interchange at NW 49 Street (approximately midway between the two existing interchanges) is proposed to relieve congestion on the adjacent interchanges. The western limit of this project is NW 44 Avenue (west of I-75) and the eastern limit is the future NW 35 Street extension to the northern end of limerock pit (Magnum Materials Mine), just southeast of the new proposed interchange (Phase 2B). It should be noted that this proposed NW 35 Street extension (Phase 2B) connection will be constructed by the County and is funded for construction in 2021, so it will be completed prior to the interchange being constructed.

Figure 1 – Project Location



II. Description of Design Variation

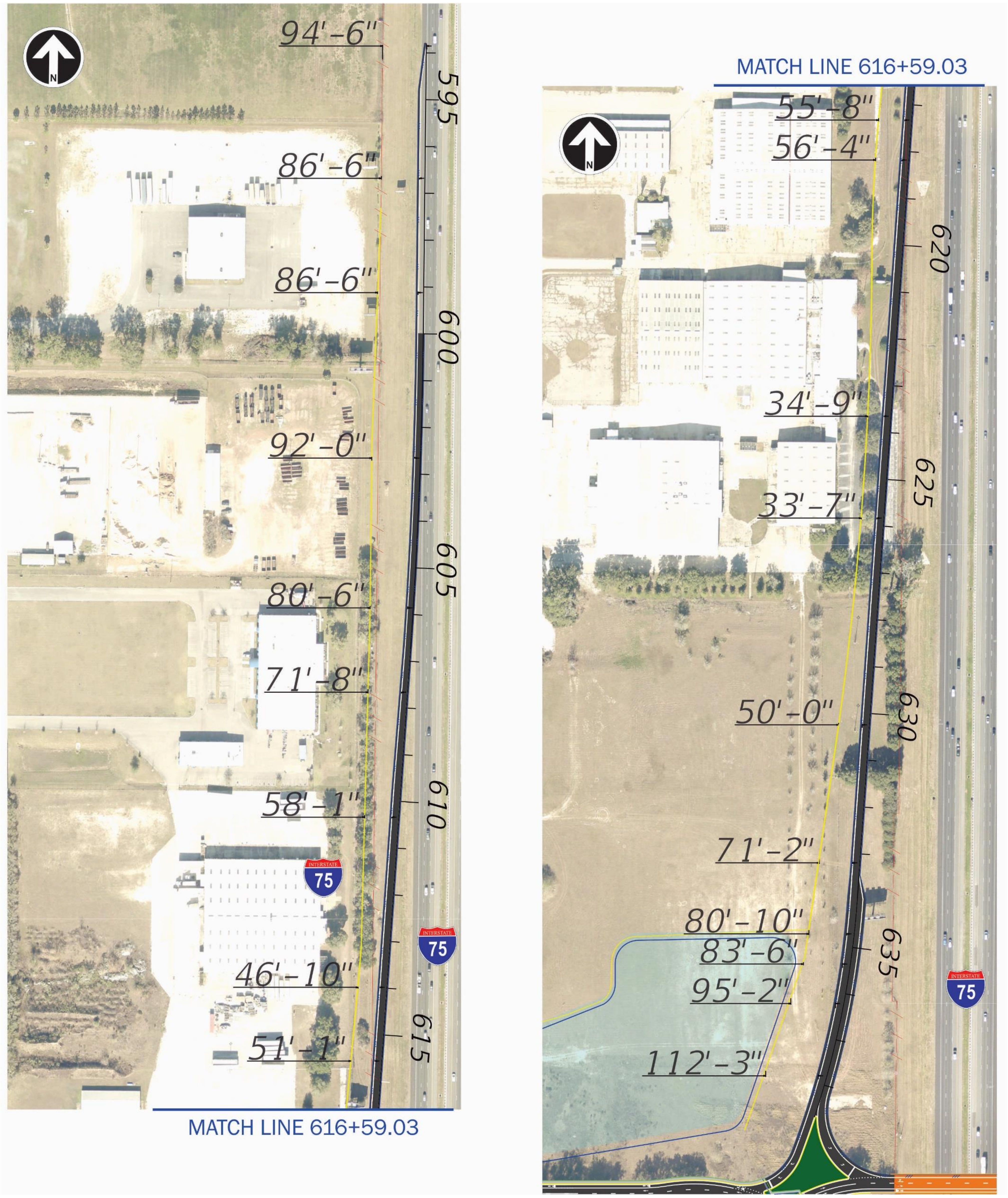
Due to the close proximity of the commercial properties along NW 44 Avenue on the Northwest side of the proposed interchange, the project will not meet the required border width at one location along the proposed I-75 Southbound off-ramp and a Design Variation for border width is being requested.

Table 1 includes a summary of the location that does not meet the border width standards and thus a border width variance is needed (see **Figure 2**).

Table 1 - *Summary of Substandard Border Width*

Location	Begin Station	End Station	Length (FT)	Side	Proposed Border Width Range (FT)
1	593+80.00	636+09.37	4,229.37	RT	33.33 to 94

Figure 2 – Border Width Variance Location



III. Design Criteria

FDOT:

According to section 211.6 of the 2020 FDOT Design Manual, the required border width is 94-feet, which is measured from the outside edge of traveled way to the R/W line. This width may be reduced in the area of a crossroad terminal, as long as the design meets the requirements for clear zone, lateral offsets, drainage, and maintenance access.

Fencing, or in special cases, walls or barriers are to contain LA Facilities. These treatments are to be continuous and appropriate for each location. Treatment height and type may vary under special conditions. The treatment is typically placed near the LA R/W line, but location may be adjusted based on site-specific conditions (e.g., ponds, trees, bridges). Placement information and additional data is provided in Standard Plans, Indexes 550-001, 550-002, and 550-004.

AASHTO:

According to page 8-5 of the 2011 AASHTO "*A Policy on Geometric Design of Streets and Highway*", the typical range in border widths of outer separations is 80 to 150 feet wide but much narrower widths may be used in urban areas if retaining walls are employed.

IV. Proposed Criteria

The proposed criteria are to provide a border width that falls below FDOT criteria at the one location that is shown on **Table 1**. The proposed conditions will meet the minimum required border width of 94-feet for a limited access facility along the entire I-75 interchange ramps and section of NW 49th Street with the exception of this area where it proposed to be a minimum of 33.33-feet.

V. Justification

1. Design Variation Analysis

Border width services functional, safety and aesthetic purposes. The border width accommodates (1) roadside design components such as signing, drainage features, guardrail, fencing and clear zone, (2) the construction and maintenance of the facility and (3) permitted public utilities. The available border width at the locations shown in Table 1 do not meet the minimum 94 feet criteria required by FDOT for a limited access facility.

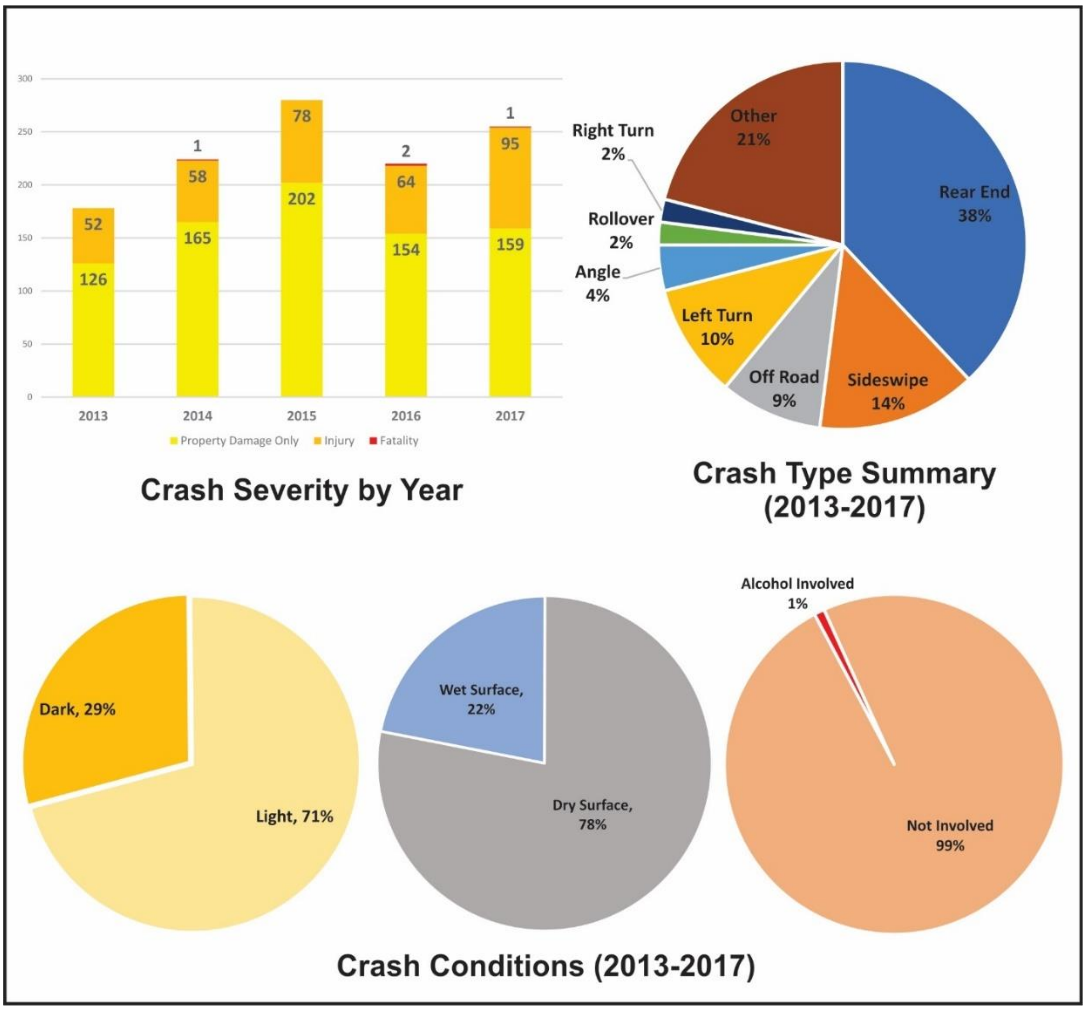
In order to provide the required border width, this additional right-of-way would result in costly property condemnation which would negatively impact the public and local economy. There would be potentially significant costs for building improvements, parking lots for business and overall renovations to the adjacent business. This is in addition to the negative socio-economic impacts associated with attempting to provide the required border width.

The overall design of the proposed project will enhance the safety of the traveling public, without having any negative impacts on surrounding area. The design variation requested will not have a detrimental impact on the traffic safety.

2. **Crash History and Analysis**

A safety analysis was conducted for existing conditions utilizing crash data recorded within the project's area of influence between years 2013 and 2017. Crash data was obtained for a five-year period from January 1, 2013 through December 31, 2017. The crash data was obtained from the Florida Department of Transportation (FDOT) Crash Analysis Reporting (CAR) online database and the Signal Four Analytics application. **Figure 2** summarizes the crash characteristics, including the severity, type and various crash conditions of the cumulative data recorded within the Area of Interest (AOI). There were 1,157 crashes recorded within the AOI during the five-year period. It should be noted that there was a noticeable increase in annual crashes in years 2014 and 2015; but the corresponding AADTs did not increase significantly to support such a change. In view of this, a detailed safety study is recommended for this area, which is beyond the scope of this project. Additional detailed information is included in the Interchange Justification Report.

Figure 2 Summary of Crash Characteristics



3. Benefit/Cost Analysis

The additional expense cannot be justified as there are no crash types that are associated with substandard border width. The benefit cost analysis would result in a B/C ratio of zero (no benefit). Providing the required border width will not enhance the safety or operational characteristics of this facility Therefore, the presented argument supports keeping the proposed roadside border width.

VI. Conclusion and Recommendation

I-75/SR 93 at NW 49 Street in Marion County is a limited access state road facility where a new I-75 interchange at NW 49 Street and an extension of NW 49 Street from NW 44 Avenue to NW 35 Avenue is planned. The project location is in a C3C – Suburban Commercial environment due to the agricultural and industrial land uses, with nearby commercial and low-density residential land uses. The design and posted speed for the I-75 on and off ramps is 45 mph. In addition, the posted speed and design speed of NW 49 Street is 45 mph.

Although the project strives to meet the standards as set by FDOT, it's not feasible to provide the minimum border width requirements at the specified locations due to impacts to the public. Therefore, a design variation is required for border width. The proposed conditions meet standards with the exception of the border width from STA 593+80.00 to STA 636+09.37, along the I-75 Southbound off-ramp.

Recommended by:

Date 12/09/2020

Carlos Rodriguez, P.E.
P.E. No. 72638
Metric Engineering, Inc.
13940 SW 136 Street
Miami, Florida 33186

carlos rodriguez

Digitally signed by carlos rodriguez
Date: 2020.12.09 19:47:43 -05'00'

Attachments:
Typical Section Package
Design Criteria
Roadway Conceptual Plan
Summary of Crash Analysis
Construction Cost Estimate
RW Impacts

ATTACHMENT 1

TYPICAL SECTION PACKAGE

STATE OF FLORIDA

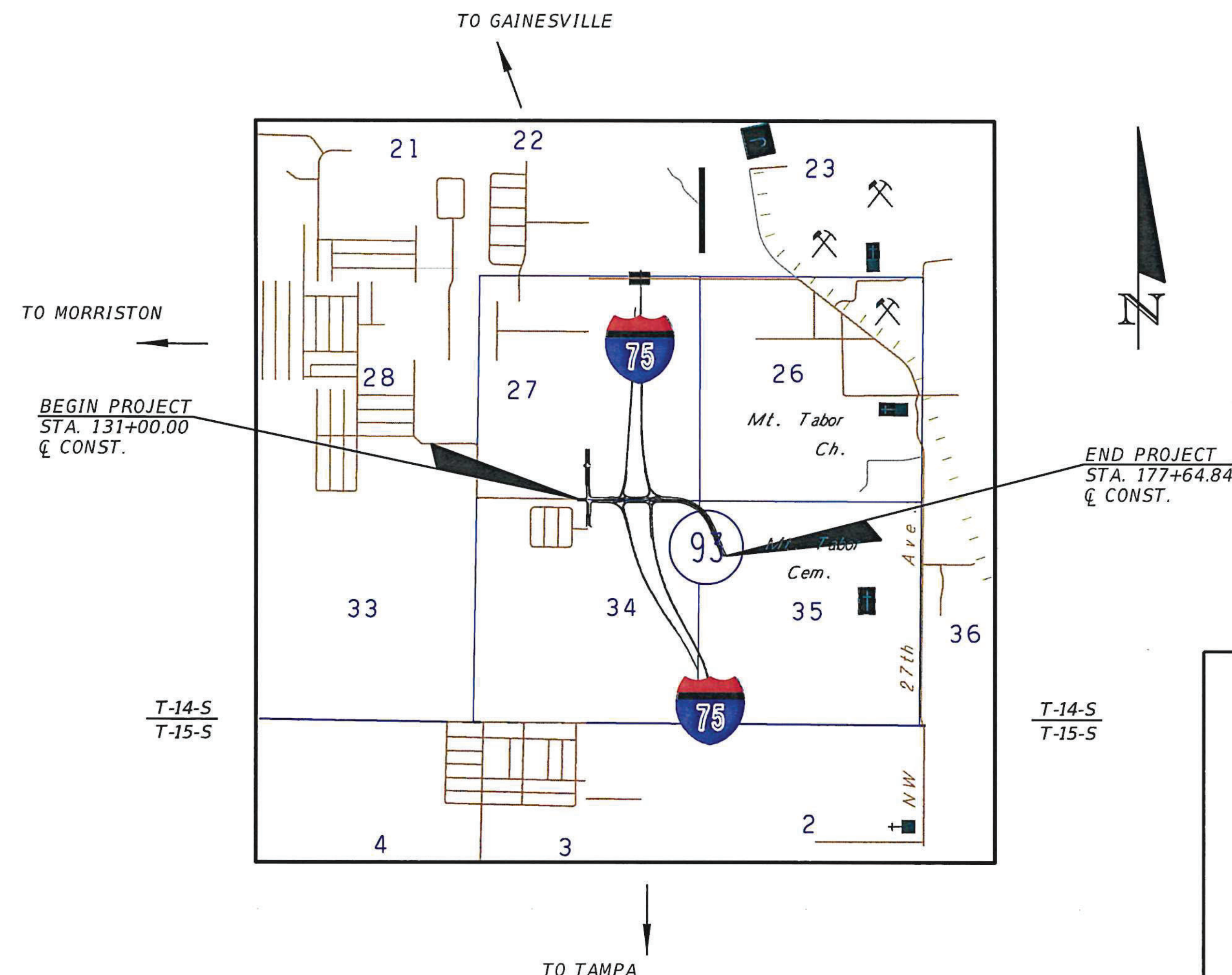
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 435209-1-22-01

MARION COUNTY (14242)

I-75 (SR 93) INTERCHANGE AT NW 49TH ST



APPROVED BY:

carlos rodriguez

Digitally signed by carlos rodriguez
Date: 2021.02.11 16:47:58 -05'00'

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

TYPICAL SECTION PACKAGE

SHEET NO	SHEET DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION NO. 01
3	TYPICAL SECTION NO. 02
4	TYPICAL SECTION NO. 03

TYPICAL SECTION CONCURRENCE

NW 49 STREET

Jeffrey P Cicerello for

Digitally signed by: Jeffrey P Cicerello for
DN: CN = Jeffrey P Cicerello for email = jeffrey.cicerello@dot.state.fl.us C = US O = Florida Department of Transportation OU = District 5 Design Office
Date: 2021.02.12 17:07:04 -05'00'

FDOT DISTRICT DESIGN ENGINEER

Gary Skofronick

FDOT DISTRICT STRUCTURES DESIGN ENGINEER

FHWA TRANSPORTATION ENGINEER

2/11/2021

MARION COUNTY ENGINEER

DESIGN SPEED AND POSTED SPEED CONCURRENCE:

NW 49 STREET

James S Stroz

Digitally signed by James S Stroz
Date: 2021.02.12 14:55:53 -05'00'

FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER

Jeffrey P Cicerello for

Digitally signed by: Jeffrey P Cicerello for
DN: CN = Jeffrey P Cicerello for email = jeffrey.cicerello@dot.state.fl.us C = US O = Florida Department of Transportation OU = District 5 Design Office
Date: 2021.02.12 17:06:26 -05'00'

FDOT DISTRICT DESIGN ENGINEER

2/11/2021

MARION COUNTY ENGINEER

CONTEXT CLASSIFICATION CONCURRENCE:

Kellie Smith

Digitally signed by: Kellie Smith
DN: CN = Kellie Smith email = kellie.smith@dot.state.fl.us C = US
Date: 2021.02.16 07:00:52 -05'00'

FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

SHEET NO.
1

10/1/2020 10:45:54 PM

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) N/A : L.A. FACILITY
(X) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) FREEWAY/EXPWY.
(X) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

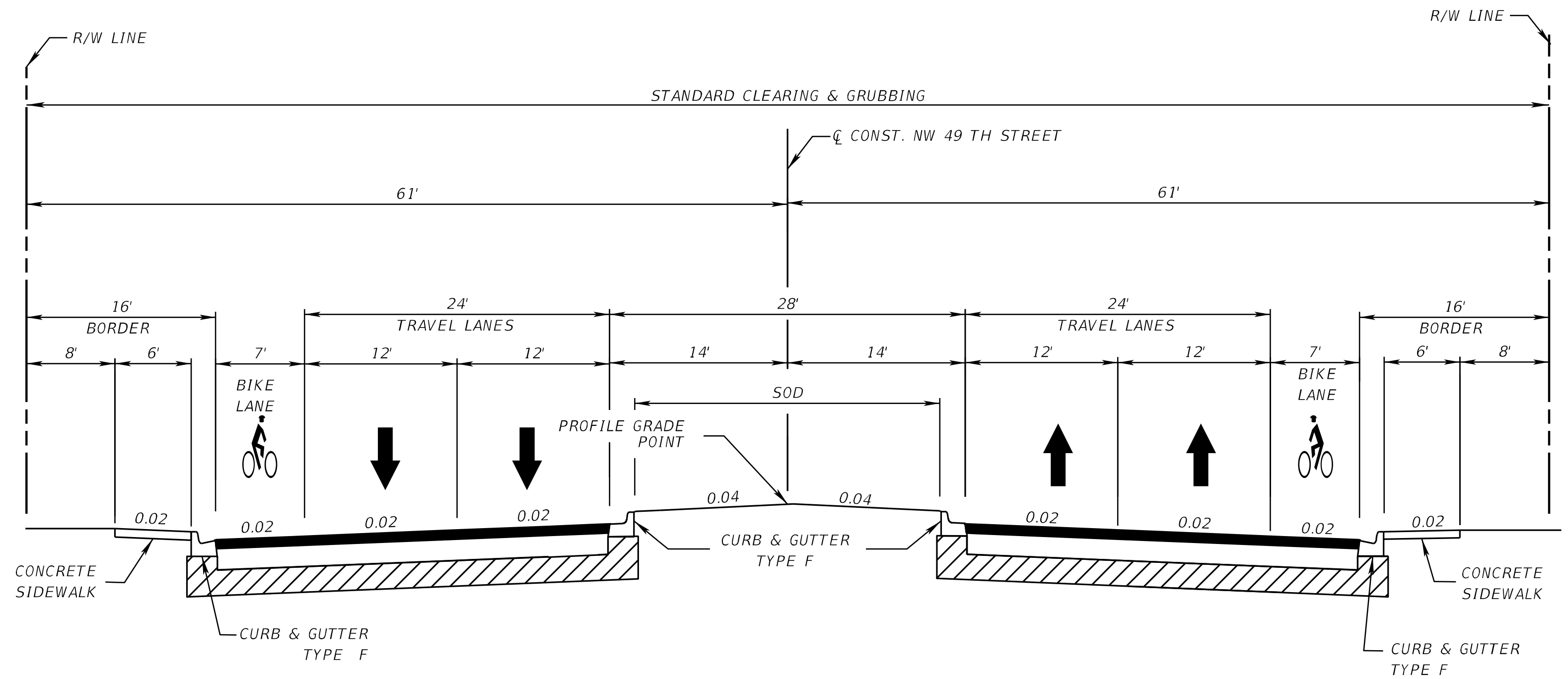
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

TYPICAL SECTION No. 1



DESIGN SPEED = 45 MPH
NW 49 ST URBAN TYPICAL SECTION WITH CURB & GUTTER

℄ CONST. STA. 131+00.00 TO STA. 147+15.31
℄ CONST. STA. 150+30.31 TO STA. 177+64.84

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 14900
ESTIMATED DESIGN YEAR = 2045 AADT = 21500
K = 9% D = 63.5% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	2

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) N/A : L.A. FACILITY
(X) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) FREEWAY/EXPWY.
(X) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

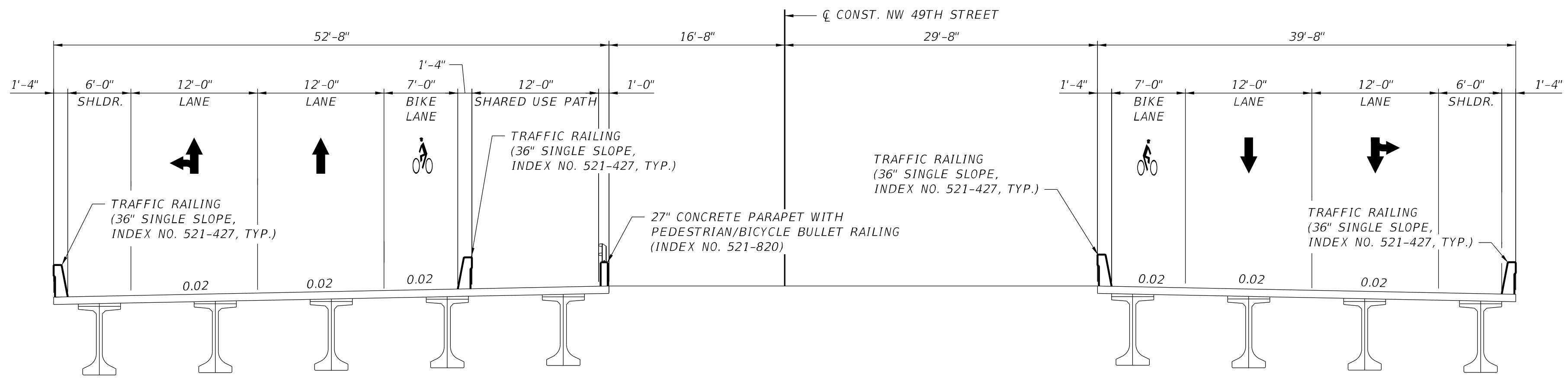
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

TYPICAL SECTION No. 2



DESIGN SPEED = 45 MPH
NW 49 ST STRUCTURES TYPICAL SECTION

℄ CONST. STA. 147+15.31 TO STA. 150+30.31

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 14900
ESTIMATED DESIGN YEAR = 2045 AADT = 21500
K = 9% D = 63.5% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	3

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
(X) N/A : L.A. FACILITY
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

(X) INTERSTATE
( ) FREEWAY/EXPWY.
( ) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

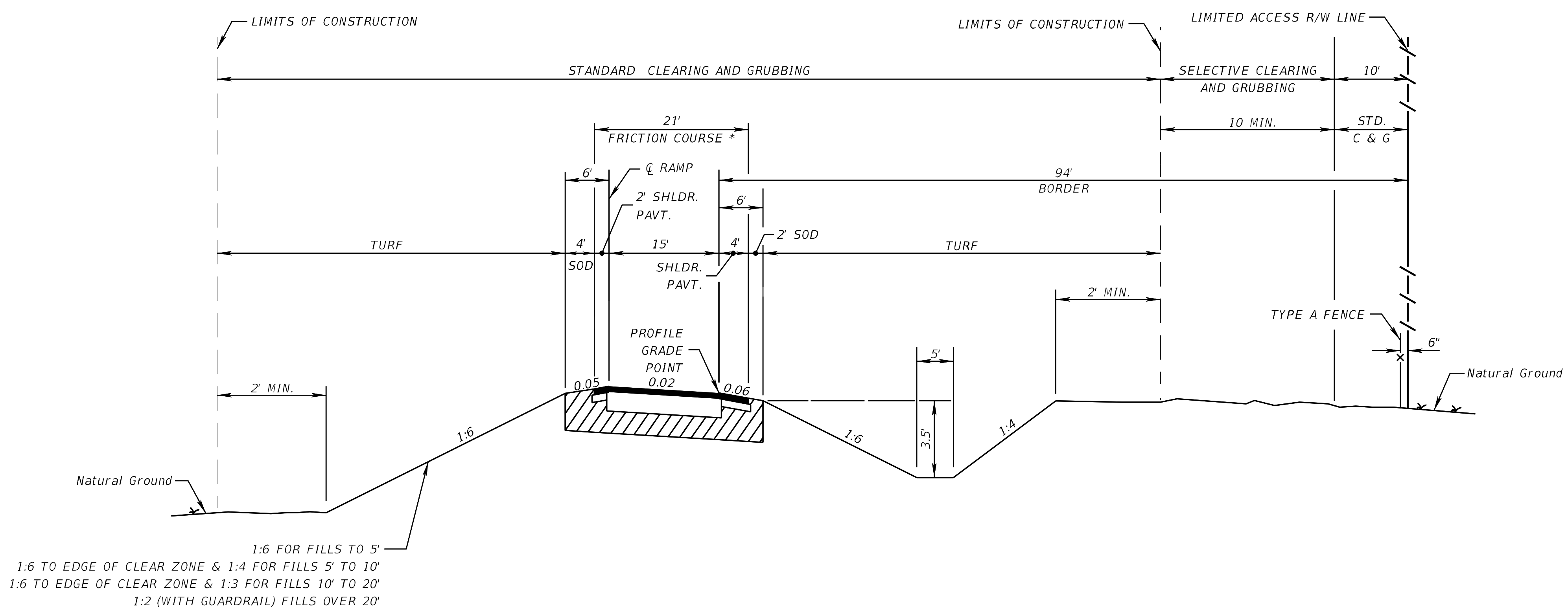
DESIGN VARIATIONS

BORDER WIDTH

DESIGN EXCEPTIONS

N/A

TYPICAL SECTION No. 3



DESIGN SPEED = 45 MPH
ONE LANE RAMP TYPICAL SECTION

I-75 SOUTHBOUND OFF-RAMP ℄ CONST. STA. 600+00.00 TO STA. 640+00.00
I-75 SOUTHBOUND ON-RAMP ℄ CONST. STA. 700+00.00 TO STA. 745+87.90
I-75 NORTHBOUND OFF-RAMP ℄ CONST. STA. 400+00.00 TO STA. 445+42.50
I-75 NORTHBOUND ON-RAMP ℄ CONST. STA. 500+00.00 TO STA. 546+87.20

TRAFFIC DATA

CURRENT YEAR = 2015 AADT = N/A
ESTIMATED OPENING YEAR = 2025 AADT = 6400
ESTIMATED DESIGN YEAR = 2045 AADT = 9200
K = 9% D = 1% T = 24% (24 HOUR)
DESIGN HOUR T = 12%
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

FINANCIAL PROJECT ID	SHEET NO.
435209-1-22-01	4

ATTACHMENT 2

DESIGN CRITERIA

On resurfacing projects where paved or usable shoulder widths are less than 10 feet, do one of the following:

- Provide shoulder modifications to allow for acceptable ESU usage, or
- Identify a future project that will provide the required shoulder modifications.

Locate median barrier in accordance with ***FDM 215***. When possible, do not locate median barrier adjacent to the shoulder identified for ESU evacuation.

See ***FDM 240.1.1*** for ESU requirements during construction.

211.4.7 Use of Curb

Type F Curb may be used in areas with design speeds 45 mph or less. Type E Curb may be used in areas with design speeds 55 mph or less. This applies to both median and outside shoulder locations. All curb is prohibited in areas with design speeds greater than 55 mph.

211.4.7.1 Existing Curb

There are infrequent sections of curbed roadways in combination with guardrail on LA Facilities. When there is no crash history associated with these applications, the curb may remain when approved by the District Design Engineer (DDE). Approval by DDE is documented through the development of the Typical Section Package.

211.5 Roadside Slopes

Side slopes within the clear zone are typically 1:6 or flatter. When site conditions require the use of steeper slopes, refer to new construction criteria included in ***FDM 215***.

211.6 Border Width

For new construction the required border width is 94-feet, which is measured from the outside edge of traveled way to the R/W line. This width may be reduced in the area of a crossroad terminal, as long as the design meets the requirements for clear zone, lateral offsets, drainage, and maintenance access.

Fencing, or in special cases, walls or barriers are to contain LA Facilities. These treatments are to be continuous and appropriate for each location. Treatment height and type may vary under special conditions. The treatment is typically placed at or near the LA R/W line, but location may be adjusted based on site-specific conditions (e.g., ponds, trees, bridges). Placement information and additional data is provided in ***Standard Plans*, Indexes 550-001**, ***550-002***, and ***550-004***.

211.6.1 Border Width on Reconstruction & Resurfacing Projects

For reconstruction and resurfacing projects where additional R/W will not be acquired, a Design Variation is not required when the following minimum border width is met:

(1) The border width accommodates:

  (a) Roadside design components such as signing, drainage features, guardrail, fencing and clear zone

  (b) The construction and maintenance of the facility

  (c) Permitted public utilities

(2) Along ramps and mainline lanes where roadside barriers are used and thus clear zone is not applicable, the minimum border width from the back of a barrier or retaining wall must be 10 feet if maintenance vehicles have sufficient access from public R/W that is contiguous and unimpeded to the facility.

(3) If the maintenance access is not continuous along a barrier or wall, and thus maintenance vehicles and equipment would need to turn around, then a sufficient turnaround area must be provided that is acceptable and approved by Maintenance.

(4) Maintenance accessibility includes the ability for equipment and vehicles to maneuver around obstacles including fences, lights, signs, side slopes and ponds.

211.7 Horizontal Alignment

The centerline (CL) or baseline (BL) of construction defines the horizontal alignment for roadway and bridge construction. The CL or BL construction is a series of tangents connected by horizontal curves established by the Engineer of Record (EOR). CL or BL construction is often the same alignment as the BL of survey.

Horizontal alignment should be consistent with the anticipated operating speed and with environmental, physical, and economic constraints. Design speed is the principal factor controlling horizontal alignment.

Avoid placing horizontal curves, points of intersection (PI) and superelevation transitions within the limits of a structure or approach slabs. Placement of stationing equations within

8.3 RURAL FREEWAYS

Rural freeways are similar in concept to urban ground-level freeways, but the alignment and cross-sectional elements are more generous in design, which is commensurate with higher design speed and the greater right-of-way that generally is available.

Freeways are initially designed to accommodate anticipated traffic growth for a 20-year period and to remain in service for a much longer time. Any cost savings that might potentially be gained by initially constructing for a lesser design period would likely be offset by the high costs, disruption to the environment, and inconvenience to traffic that would accompany later reconstruction of major facilities.

Although level of service B is desirable for rural freeways, level of service C may be appropriate on auxiliary facilities where volumes are unusually high. Rural freeways generally have four through-traffic lanes except on approaches to metropolitan areas where six or more lanes may be provided. Where intersecting highways are classified as collectors and higher, interchanges are usually provided. Local roads may be terminated at the freeway, connected to frontage roads or other local roads for continuity of travel, or carried over or under the freeway by grade separation with or without an interchange.

8.3.1 Alignment and Profile

Rural freeways are generally designed for high-volume and high-speed operation. They should, therefore, have smooth flowing horizontal and vertical alignments with appropriate combinations of flat curvature and gentle grades. Advantage should be taken of favorable topographic conditions to incorporate variable median widths and independent roadway alignments to enhance the aesthetic aspects of freeways. Changing median widths on tangent alignments should be avoided, where practical, so as not to introduce a distorted appearance.

Because there are usually fewer physical constraints in constructing the rural road network than its urban counterpart, rural freeways can usually be constructed near ground level with smooth and relatively flat profiles. The profile of a rural freeway is controlled more by drainage and earthwork considerations and less by the need for frequent grade separations and interchanges. If elevated or depressed sections are needed, the guidelines for urban freeways are appropriate.

Even though the profile may satisfy all the design controls, the finished vertical alignment may appear forced and angular if minimum criteria are used. The designer should check profile designs in long continuous plots to help avoid an undesirable roller-coaster alignment in rolling terrain. The relation of horizontal and vertical alignment should be studied simultaneously to obtain a desirable combination.

Figure 8-1 illustrates a typical ground-level rural freeway with a curvilinear alignment.

ATTACHMENT 3

ROADWAY CONCEPTUAL PLAN

I-75 (S.R. 93) at NW 49th Street PD&E Study - Preferred Alternative Conceptual Plan

ATTACHMENT 4

SUMMARY OF CRASH ANALYSIS

3.8 Safety Analysis

In accordance with the approved MLOU, a safety analysis was conducted for existing conditions utilizing crash data recorded within the IJR AOI between years 2013 and 2017. The AOI encompasses the I-75 mainline between US 27 and SR 326, the I-75 interchanges with US 27 and with SR 326, as well as the following adjacent segments and intersections:

- Intersection of US 27 at NW 44th Avenue
- Intersection of US 27 at NW 35th Avenue Road
- Segment of US 27 from NW 44th Avenue to I-75 southbound ramps
- Segment of US 27 from I-75 northbound ramps to NW 35th Avenue Road
- Segment of SR 326 from one-half mile west to I-75 southbound off-ramp
- Segment of SR 326 from I-75 northbound ramps to one-half mile east
- Segment of NW 44th Avenue from US 27 to NW 49th Street
- Segment of NW 44th Avenue from NW 49th Street to SR 326

Crash data was obtained for a five-year period from January 1, 2013 through December 31, 2017. The crash data was obtained from the FDOT CARS online database; the Signal Four Analytics application was used to obtain off system crash data, as well as a check against the CARS data. The following sections summarize the recorded crash data. Section 3.8.1 includes a summary of intersections within the AOI, and Sections 3.8.2 and 3.8.3 provide a summary of the crashes recorded on ramps and segments within the AOI, respectively. Police crash reports were reviewed for identified crash clusters/patterns. **Figure 3-12** depicts the locations detailed in the following sections.

Each of the following sections will provide a comparison of the 5-year average actual crash rate for each facility against the statewide 5-year average crash rate on a similar facility, based on characteristics such as number of lanes, divided/undivided, number of legs at an intersection, freeway, arterial, collector, etc.

The equation for actual crash rates of an intersection is

$$R = \frac{1{,}000{,}000 \text{ x C}}{365 \text{ x N x V}}$$

Where:

R = Crash rate for the intersection expressed as crashes per million entering vehicles (MEV).
C = Total number of intersection crashes in the study period.
N = Number of years of data.
V = Traffic volumes entering the intersection daily (source: FTI 5-year Historical AADT Reports).

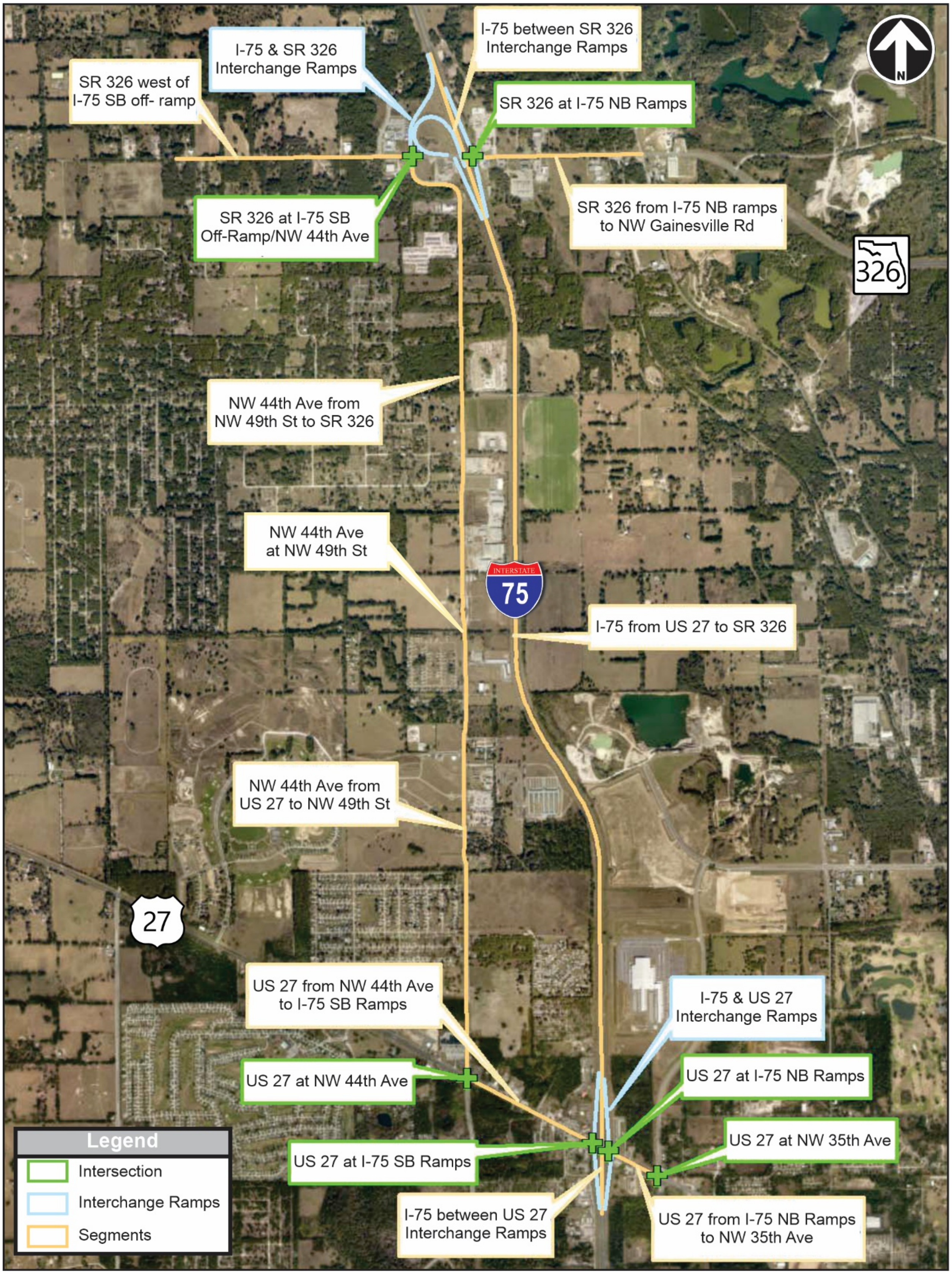


Figure 3-12: Existing Crash Analysis Location Legend

The equation for actual crash rates of a segment or on a ramp is:

$$R = \frac{1{,}000{,}000 \text{ x C}}{365 \text{ x N x V x L}}$$

Where:

R = Crash rate for the road segment expressed as crashes per million vehicle-miles of travel (MVMT).
C = Total number of crashes in the study period.
N = Number of years of data.
V = Number of vehicles per day (both directions); obtained from FTI 5-year Historical AADT Reports.
L = Length of the roadway segment in miles.

Crash rate calculation worksheets are provided in **Appendix D.**

District 5 intersection and segment High Crash Locations for the period from 2013 to 2017 were also obtained from the FDOT CARS online database. The data was filtered to only include locations within Marion County; and then to only include intersections and segments corresponding to roadway section numbers going thru the study area. It should be noted that although the High Crash Locations are districtwide, actual crash rates are compared to statewide average crash rates per MEV or MVMT, for corresponding similar facilities. The resultant locations are further discussed in this section; detailed data is provided in **Appendix D.**

3.8.1 Intersections

Six intersections were included in the existing conditions analysis, including two at each existing interchange ramp within the AOI. The crash severity and type recorded for each of the six intersections within the AOI during the five-year period, are summarized in **Table 3-11** and crash rates provided in **Table 3-12**; 2013-2017 statewide average crash rate data is provided in **Appendix D.**

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Table 3-14: Intersection Crash Summaries

Location	Crash Severity & Type		2013	2014	2015	2016	2017	Total
US 27 & NW 44th Ave		*Overall*	*9*	*9*	*11*	*7*	*10*	***46***
	Severity	Injury	6	5	3	4	6	**24**
		Property Damage Only	3	4	8	3	4	**22**
	Crash Type	Rear End	3	5	6	5	7	**26**
		Left Turn	2	2	1	2	2	**9**
		Angle	0	2	1	0	0	**3**
		Off Road	1	0	1	0	0	**2**
		Other	3	0	2	0	1	**6**
US 27 at I-75 SB ramps		*Overall*	*2*	*3*	*5*	*6*	*11*	***27***
	Severity	Injury	1	1	4	1	4	**11**
		Property Damage Only	1	2	1	5	7	**16**
	Crash Type	Rear End	1	2	1	2	6	**12**
		Left Turn	1	1	4	1	4	**11**
		Other	0	0	0	3	1	**4**
US 27 at I-75 NB ramps		*Overall*	*6*	*6*	*10*	*4*	*4*	***30***
	Severity	Injury	3	4	5	0	2	**14**
		Property Damage Only	3	2	5	4	2	**16**
	Crash Type	Rear End	2	2	4	2	1	**11**
		Left Turn	1	1	2	0	1	**5**
		Other	3	3	4	2	2	**14**
US 27 at NW 35th Avenue Road		*Overall*	*3*	*4*	*10*	*7*	*14*	***38***
	Severity	Injury	0	2	2	3	9	**16**
		Property Damage Only	3	2	8	4	5	**22**
	Crash Type	Rear End	1	2	5	4	8	**20**
		Left Turn	0	1	2	0	2	**5**
		Other	2	1	3	3	4	**13**
NW 44th Avenue/I-75 SB off-ramp at SR 326		*Overall*	*6*	*4*	*7*	*2*	*12*	***31***
	Severity	Injury	2	0	2	1	4	**9**
		Property Damage Only	4	4	5	1	8	**22**
	Crash Type	Rear End	3	1	4	1	9	**18**
		Left Turn	2	2	1	1	1	**7**
		Sideswipe	1	0	2	0	0	**3**
		Other	0	1	0	0	2	**3**
SR 326 at I-75 NB ramps		*Overall*	*21*	*15*	*14*	*5*	*7*	***62***
	Severity	Injury	7	3	5	1	4	**20**
		Property Damage Only	14	12	9	4	3	**42**
	Crash Type	Rear End	10	13	8	0	0	**31**
		Sideswipe	3	0	2	1	1	**7**
		Left Turn	5	1	1	2	2	**11**
		Other	3	1	3	2	4	**13**
NW 44th Avenue at NW 49th Street		*Overall*	*0*	*1*	*0*	*1*	*1*	***3***
	Severity	Injury	0	1	0	1	1	**3**
		Property Damage Only	0	0	0	0	0	**0**
	Crash Type	Head On	0	1	0	0	0	**1**
		Right Turn	0	0	0	1	0	**1**
		Other	0	0	0	0	1	**1**

Table 3-15: 5-Year (2013-2017) Intersection Crash Rates

Intersection		Total Crashes	5-Year AADT[1]	Annual Crash Frequency	Crash Rate (per MEV)[2]	Statewide 5YR Avg Crash Rate
US 27	NW 44th Avenue	46	131,200	9.2	0.96	0.533
	I-75 SB ramps	27	106,300	5.4	0.70	0.623
	I-75 NB ramps	30	136,400	6.0	0.60	0.623
	NW 35th Avenue Road	38	123,900	7.6	0.84	0.623
SR 326	I-75 SB off-ramp/NW 44th Avenue	31	139,200	6.2	0.61	0.623
	I-75 NB ramps	62	150,100	12.4	1.13	0.623
NW 44th Ave	NW 49th Street	3	36,800	0.6	0.22	0.419

[1] *AADT entering intersection*
[2] *Corresponding AADTs obtained from 2017 FTI Historical AADT Reports*

US 27 at NW 44th Avenue

A total of 46 crashes were recorded at the intersection of US 27 at NW 44th Avenue during the five-year period. Based on the AADT on US 27 and NW 44th Avenue during the five-year period, 9.2 crashes per year represents a rate of approximately 0.96 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Paved* intersections was approximately 0.533; showing that actual crashes for this location were substantially higher than average. US 27 at NW 44th Avenue is reflected as a districtwide high crash intersection location.

Of the 24 injury crashes recorded at the intersection of US 27 and NW 44th Avenue, 12 were rear end crashes, eight were left turn crashes, and three were angle crashes. According to crash data, four of the left turn crashes were between a through vehicle and a vehicle turning left during the permitted phase at the traffic signal.

US 27 at I-75 Southbound Ramps

A total of 27 crashes were recorded at the intersection of US 27 and the I-75 southbound ramps during the five-year period. Based on the AADT on US 27 and on the I-75 southbound off-ramp during the five-year period, 5.4 crashes per year represents a rate of approximately 0.70 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623, showing that actual crashes for this location were higher than average. US 27 at the I-75 southbound ramps is reflected as a districtwide high crash intersection location.

Of the 11 injury crashes recorded at the intersection of US 27 and the I-75 southbound ramps, six were left turn crashes. Five of the left turn crashes were between an eastbound through vehicle and a westbound vehicle turning left during the permitted phase at the traffic signal.

US 27 at I-75 Northbound Ramps

A total of 30 crashes were recorded at the intersection of US 27 and the I-75 northbound ramps during the five-year period. Based on the AADT of US 27 and the I-75 northbound off-ramp during the five-year period, 6.0 crashes per year represents a rate of approximately 0.60 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were slightly lower than average. However, US 27 at the I-75 northbound ramps is reflected as a districtwide high crash intersection location.

Of the 30 crashes recorded at the intersection of US 27 and the I-75 northbound ramps, 14 resulted in at least one injury. Eight of the injury crashes were rear end crashes and two were left turn crashes. Among the crash types classified as 'Other' at this location are two angle crashes, three off road crashes, one right turn crash, one sideswipe crash, and one pedestrian crash.

US 27 at NW 35th Avenue Road

A total of 38 crashes were recorded at the intersection of US 27 and NW 35th Avenue Road during the five-year period. Based on the AADT of US 27 and NW 35th Avenue Road during the five-year period, 7.6 crashes per year represents a rate of approximately 0.84 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were higher than average. However, it is not reflected as a districtwide high crash intersection location; possibly due to the reconfiguration of the intersection occurring within the 2013 – 2017 period.

Of the 38 crashes recorded at the intersection of US 27 and NW 35th Avenue Road, 16 resulted in at least one injury. Nine of the injury crashes were rear end crashes and two were left turn crashes.

SR 326 at I-75 Southbound Off-Ramp/NW 44th Avenue

A total of 31 crashes were recorded at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue during the five-year period. Based on the AADT of SR 326, the I-75 southbound off-ramp, and NW 44th Avenue, 6.2 crashes per year represents a rate of approximately 0.61 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were slightly lower than average. However, this intersection is reflected as a districtwide high crash location.

Nine of the 26 crashes at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue resulted in at least one injury. Seven of the nine injury crashes recorded at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue were rear end crashes and one was a left turn crash. Six of the 17 total rear end crashes were in the westbound direction.

SR 326 at I-75 Northbound Ramps

A total of 62 crashes were recorded at the intersection of SR 326 and the I-75 northbound ramps during the five-year period. Based on the AADT of SR 326 and the I-75 northbound off-ramp, 12.4 crashes per year represents a rate of approximately 1.13 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623. With this intersection having a crash rate significantly higher than that of similar intersections; it should be noted that in 2016, an auxiliary lane was added to the northbound off-ramp; showing that actual crashes for this location were significantly higher than average. SR 326 at the I-75 northbound ramps is reflected as a districtwide high crash intersection location.

Approximately 90 percent (27 crashes) of the rear end crashes recorded at the intersection of SR 326 and the I-75 northbound ramp involved two northbound vehicles on the I-75 off-ramp. This crash type represents almost half of the recorded injury crashes. Among the crash types classified as ‘Other’ at this location are four right turn crashes, one angle crash, and three off road crashes.

NW 44th Avenue at NW 49th Street

A total of 3 crashes were recorded at the intersection of NW 44th Avenue and NW 49th Street during the five-year period. Based on the AADT of NW 44th Avenue and NW 49th Street during the five-year period, 0.6 crashes per year represents a rate of approximately 0.22 crashes per MEV. The 2017 five-year average crash rate per MEV for similar Urban 4-5 Lane 2-Way Raised intersections was approximately 0.419; showing that actual crashes for this location were significantly lower than average.

All three (3) of the crashes recorded resulted in injury. One (1) of the crashes was head on and one (1) of the crashes was a right turn.

3.8.2 Interchange Ramps

The I-75 at US 27 interchange is a standard diamond interchange, featuring four ramps. The I-75 and SR 326 interchange is a modified diamond interchange with a single "cloverleaf" ramp for westbound SR 326 traffic entering I-75 southbound. The crash severity and type recorded for the interchange ramp during the five-year period are summarized in **Table 3-13** with crash rates provided in **Table 3-14.**

Table 3-16: Interchange Ramp Crash Summaries

Location	Crash Severity & Type		Year					Total
			2013	2014	2015	2016	2017	
I-75 at US 27 Interchange ramps		*Overall*	*2*	*1*	*3*	*3*	*5*	***14***
	Severity	Fatality	0	0	0	0	0	**0**
		Injury	2	0	0	2	2	**6**
		Property Damage Only	0	1	3	1	3	**8**
	Crash Type	Rollover	2	0	0	0	0	**2**
		Sideswipe	0	0	1	1	0	**2**
		Rear End	0	0	1	2	2	**5**
		Other	0	1	1	0	3	**5**
I-75 at SR 326 Interchange ramps		*Overall*	*5*	*6*	*4*	*12*	*19*	***46***
	Severity	Fatality	0	0	0	0	1	**1**
		Injury	3	2	1	4	6	**16**
		Property Damage Only	2	4	3	8	12	**29**
	Crash Type	Rollover	3	3	3	0	0	**9**
		Sideswipe	0	0	0	3	3	**6**
		Right Turn	0	1	0	0	1	**2**
		Off Road	1	1	0	3	1	**6**
		Other	1	1	1	6	14	**23**

.

Table 3-17: 5-Year (2013-2017) Individual Ramp Crash Rates

Location	Length (mi)	Total Crashes	5-Year AADT	Annual Crash Frequency	Crash Rate (per MVMT)[2]
I-75 NB to US 27	0.26	4	31,500	0.8	1.34
I-75 NB from US 27	0.31	2	10,350	0.4	1.71
I-75 SB to US 27	0.30	6	11,900	1.2	4.60
I-75 SB from US 27	0.30	2	33,100	0.4	0.55
I-75 SB to SR 326	0.44	12	21,200	2.4	3.52
I-75 NB to SR 326	0.25	25	50,500	5.0	5.43
I-75 NB from SR 326	0.28	0[3]	19,200	0.0	0.00
I-75 SB from SR 326 EB	0.46	3	17,400	0.6	1.03
I-75 SB from SR 326 WB	0.29	6	32,100	1.2	1.77

[1]No statewide 5-year average crash rate for ramps provided in CARS
[2]Corresponding AADTs obtained from 2017 FTI Historical AADT Reports
[3]Zero crashes verified

I-75 at US 27 Interchange

A total of 14 crashes were recorded on the ramps and merge/diverge areas at the I-75 at US 27 interchange during the five-year period (not including the intersections at ramp termini). There were six injury crashes. Two were rollovers by northbound vehicles on the northbound I-75 on-ramp and one involving a bicyclist being struck while crossing the northbound on-ramp. Based on the AADT reported for the ramps, the calculated crash rates for the northbound off/on ramps were 1.34 and 1.71 crashes per MVMT; with 4.60 and 0.55 for the southbound off/on ramps, respectively, during the five-year period. Calculation details are provided in **Appendix D**.

I-75 at SR 326 Interchange

A total of 46 crashes were recorded on the ramps and merge/diverge areas at the I-75 at SR 326 interchange during the five-year period (not including the intersections at ramp termini).

The I-75 southbound off-ramp to SR 326 had 12 recorded crashes during the five-year period (3.52 crashes per MVMT), eight of which were rollover crashes. Five of the rollover crashes resulted in injuries to one or more persons involved in the crash. Five of the rollover crashes occurred under dark conditions and two occurred on a wet road surface. Detailed analysis of the adjacent interchanges is beyond the scope of this IJR; therefore, further study by the Department for possible causes and potential mitigation of the rollover crashes is recommended.

The I-75 southbound on-ramp from SR 326 eastbound had three recorded crashes during the five-year period, zero resulting in injury (1.03 crashes per MVMT). Two of the crashes were related to vehicles exiting the driveway immediately adjacent to the on-ramp diverge on SR 326.

The I-75 southbound on-ramp from SR 326 westbound had six recorded crashes during the five-year period, two resulting in injury (1.77 crashes per MVMT). Four of the crashes involved a same direction sideswipe and one was a rear end crash at the merge onto I-75.

The I-75 northbound off-ramp to SR 326 had 25 recorded crashes during the five-year period (5.43 crashes per MVMT), One being a rollover crash that resulted in an injury. These crashes are in addition to those recorded at the signalized intersection with SR 326.

Although crashes occurred at the ramp terminal, there were no recorded crashes during the five-year period for the I-75 northbound on-ramp from SR 326.

3.8.3 Segments

The segments evaluated for the existing conditions analysis include the segments of I-75 between ramps at each study interchange, the 3.7-mile segment of I-75 between the two interchanges, the segment of US 27 and SR 326 from the I-75 ramps to the nearest signalized intersection in either direction (or a half-mile segment, if no signalized intersection is within the AOI), and two segments of NW 44th Avenue. The crash severity and type recorded for the segments during the five-year period are summarized in **Table 3-15** with crash rates provided in **Table 3-16**; 2013-2017 statewide average crash rate data is provided in **Appendix D.**

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Table 3-18: Segment Crash Summaries

Location	Crash Severity & Type		2013	2014	2015	2016	2017	Total
I-75 btwn US 27 Ramps		*Overall*	*15*	*26*	*11*	*11*	*6*	***69***
	Severity	Injury	4	4	4	3	2	**17**
		Property Damage Only	11	22	7	8	4	**52**
	Crash Type	Rear End	4	14	8	6	3	**35**
		Off Road	7	6	3	2	1	**19**
		Sideswipe	3	3	0	2	0	**8**
		Other	1	3	0	1	2	**7**
I-75 from US 27 to SR 326		*Overall*	*55*	*81*	*111*	*82*	*82*	***411***
	Severity	Fatal	0	0	0	1	0	**1**
		Injury	9	21	29	20	23	**102**
		Property Damage Only	46	60	82	61	59	**308**
	Crash Type	Rear End	22	40	45	28	40	**175**
		Off Road	12	16	18	20	17	**83**
		Sideswipe	10	14	23	15	14	**76**
		Rollover	3	3	6	6	3	**21**
		Other	8	8	19	13	8	**56**
I-75 btwn SR 326 Ramps		*Overall*	*11*	*19*	*22*	*24*	*33*	***109***
	Severity	Injury	2	5	5	7	11	**30**
		Property Damage Only	9	14	17	17	22	**79**
	Crash Type	Rear End	2	6	11	11	16	**46**
		Sideswipe	4	5	2	10	6	**27**
		Off Road	3	4	4	1	3	**15**
		Rollover	2	0	2	0	0	**4**
		Other	0	4	3	2	8	**17**
US 27 from NW 44th Avenue to I-75 SB Ramps		*Overall*	*14*	*14*	*25*	*11*	*9*	***73***
	Severity	Fatal	0	0	0	1	0	**1**
		Injury	6	3	7	4	3	**23**
		Property Damage Only	8	11	18	6	6	**49**
	Crash Type	Rear End	5	4	11	2	5	**27**
		Left Turn	3	4	4	4	1	**16**
		Sideswipe	1	1	3	2	1	**8**
		Angle	2	2	3	0	1	**8**
		Other	3	3	4	3	1	**14**
US 27 from I-75 NB to NW 35th Avenue Road		*Overall*	*4*	*4*	*1*	*1*	*0*	***10***
	Severity	Injury	1	0	1	1	0	**3**
		Property Damage Only	3	4	0	0	0	**7**
	Crash Types	Rear End	1	0	0	0	0	**1**
		Sideswipe	0	2	0	0	0	**2**
		Other	3	2	1	1	0	**7**

(continued on next page)

Table 3-15: Segment Crash Summaries *(continued)*

Location	Crash Severity & Type		2013	2014	2015	2016	2017	Total
SR 326 W of I-75		*Overall*	*3*	*2*	*2*	*1*	*6*	***14***
	Severity	Injury	0	1	0	1	3	**5**
		Property Damage Only	3	1	2	0	3	**9**
	Crash Type	Rear End	1	1	1	0	2	**5**
		Left Turn	1	1	0	1	4	**7**
		Other	1	0	1	0	0	**2**
SR 326 east of I-75 NB ramps		*Overall*	*11*	*23*	*35*	*35*	*28*	***132***
	Severity	Fatality	0	1	0	0	0	**1**
		Injury	3	4	7	9	12	**35**
		Property Damage Only	8	18	28	26	16	**96**
	Crash Type	Rear End	3	3	2	7	8	**23**
		Off Road	1	0	0	0	1	**2**
		Sideswipe	4	9	10	5	5	**33**
		Rollover	0	0	1	0	0	**1**
		Other	3	11	22	23	14	**73**
NW 44th Avenue south of NW 49th Street		*Overall*	*7*	*3*	*8*	*6*	*5*	***29***
	Severity	Injury	2	1	3	1	3	**10**
		Property Damage Only	5	2	5	5	2	**19**
	Crash Type	Off Road	3	2	2	2	0	**9**
		Rear End	1	0	1	0	1	**3**
		Left Turn	1	0	0	1	0	**2**
		Angle	1	0	3	0	2	**6**
		Other	1	1	2	3	2	**9**
NW 44th Avenue north of NW 49th Street		*Overall*	*4*	*3*	*1*	*2*	*4*	***14***
	Severity	Injury	1	1	0	1	1	**4**
		Property Damage Only	3	2	1	1	3	**10**
	Crash Type	Off Road	2	0	1	0	2	**5**
		Rear End	0	2	0	0	1	**3**
		Left Turn	1	0	0	0	1	**2**
		Other	1	1	0	2	0	**4**

Table 3-19: 5-Year (2013-2017) Segment Crash Rates

Roadway	Segment Limits	Length (mi)	Total Crashes	5-Year AADT	Annual Crash Frequency	Crash Rate (per MVMT)[1]	Statewide 5YR Avg Crash Rate
I-75	between US 27 ramps	0.70	69	170,800	13.8	1.58	0.976
	US 27 to SR 326	3.70	411	333,500	82.2	0.91	0.976
	between SR 326 ramps	0.70	109	129,500	21.8	3.29	0.976
US 27	NW 44th Avenue to I-75 SB ramps	0.57	73	94,400	14.6	3.72	5.884
	I-75 NB ramps to NW 35th Ave Rd	0.25	10	104,900	2.0	1.04	3.364
SR 326	1/2 mile west of SB ramps	0.50	14	99,600	2.8	0.77	3.364
	NB ramps to 1/2 mile east	0.68	132	99,600	26.4	5.34	5.884
NW 44th Avenue	US 27 to NW 49th Street	1.85	29	36,800	5.8	1.17	3.364
	NW 49th Street to SR 326	2.13	14	36,800	2.8	0.49	3.654

[1]*Corresponding AADTs obtained from 2017 FTI Historical AADT Reports*

I-75 between US 27 Ramps

A total of 69 crashes were recorded on the 0.70-mile segment of I-75 between the US 27 interchange ramps during the five-year period. Based on the AADT of I-75 during this period, 13.8 crashes per year represents a rate of approximately 1.58 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were significantly higher than average. I-75 between the US 27 interchange ramps is reflected as a districtwide high crash segment location.

Rear end crashes accounted for 11 of the 17 injury crashes on this segment. Approximately two-thirds (22 crashes) of the 35 total rear end crashes were between southbound vehicles. More than half (43 crashes) of the recorded crashes on this segment occurred between 1:00 and 6:00 PM.

I-75 from US 27 to SR 326

A total of 411 crashes were recorded on the 3.70-mile segment of I-75 between US 27 and SR 326 during the five-year period. Based on the AADT of I-75 during the five-year period, 82.2 crashes per year represents a rate of approximately 0.91 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were slightly lower than average. However, I-75 between the US 27 and SR 326 is reflected as a districtwide high crash segment location.

Of the injury crashes, 45 percent were rear end crashes. Forty-three percent of total crashes were rear end and 15 percent were sideswipe crashes. The directionality of crashes included 55 percent occurring on the northbound lanes and 45 percent on the southbound lanes.

Approximately 35 percent of crashes occurred under dark conditions (including dawn and dusk) and 24 percent of crashes occurred with wet surface conditions. Of the 56 crashes classified as 'Other' at this location, 50 percent (23 crashes) involved a vehicle striking debris or lost cargo on the interstate.

I-75 between SR 326 Ramps

A total of 109 crashes were recorded on the 0.70-mile segment of I-75 between the SR 326 interchange ramps during the five-year period. Based on the AADT of I-75 during this period, 21.8 crashes per year represents a rate of approximately 3.29 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were significantly higher than average. I-75 between the SR 326 interchange ramps is reflected as a districtwide high crash segment location.

The highest crash type recorded on this segment of I-75 between SR 326 ramps was rear end with 46 crashes, 26 sideswipe and 15 off-road crashes. Approximately two-thirds of the recorded crashes occurred in the southbound lanes during the five-year period.

US 27 from NW 44th Avenue to I-75 Southbound Ramps

A total of 72 crashes were recorded on the 0.57-mile segment of US 27 between NW 44th Avenue and the I-75 southbound ramps during the five-year period. Based on the AADT of US 27 during this period, 14.6 crashes per year represents a rate of approximately 3.72 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with raised median was approximately 5.884 crashes per MVMT; showing that actual crashes for this location were lower than average. However, US 27 between NW 44th Avenue and the I-75 southbound ramps is reflected as a districtwide high crash segment location.

Ten of the injury crashes were rear end and six were left turn. Approximately 41 percent of the recorded crashes during the five-year period occurred under dark conditions (including dawn and dusk) and 25 percent occurred with wet surface conditions.

US 27 from I-75 Northbound Ramps to NW 35th Avenue Road

A total of 10 crashes were recorded on the 0.25-mile segment of US 27 between the I-75 northbound ramps and NW 35th Avenue Road during the five-year period. Based on the AADT of US 27 during the five-year period, two crashes per year represents a rate of approximately 1.04 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with raised median was approximately 3.364 crashes per MVMT; showing that actual crashes for this location were lower than average.

Five of the ten crashes were recorded on Short Forms by the Ocala Police Department, with limited information. The other five crashes included two sideswipe crashes, one rear end crash, and one angle crash.

SR 326 one-half mile west of I-75

A total of 14 crashes were recorded on SR 326 on the half-mile segment west of the I-75 southbound off-ramp. Based on the AADT of SR 326 during the five-year period, 2.8 crashes per year represent a rate of approximately 0.77 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with raised median was approximately 3.364 crashes per MVMT and for an urban two-lane undivided arterial was approximately 3.1 crashes per MVMT; showing that actual crashes for this location were slightly higher than average.

SR 326 from I-75 Northbound Ramps to one-half mile East

A total of 132 crashes were recorded on the 0.68-mile segment of SR 326 from the I-75 northbound ramps to one-half mile east. Based on the AADT of SR 326 during the five-year period, 26.4 crashes per year represent a rate of approximately 5.34 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with paved median was approximately 5.884 crashes per MVMT; showing that actual crashes for this location were lower than average.

The only fatal crash within the AOI occurred on this segment of SR 326, when a westbound vehicle struck an intoxicated pedestrian who was improperly walking in the roadway.

Fourteen of the 35 injury crashes were left turn crashes and 12 were rear end crashes. Approximately 15 percent of crashes occurred under dark conditions (including dawn and dusk) and approximately 14 percent of the crashes occurred with wet surface conditions.

NW 44th Avenue from US 27 to NW 49th Street

A total of 29 crashes were recorded on the 1.85-mile segment of NW 44th Avenue between US 27 and NW 49th Street. Based on the AADT of NW 44th Avenue during the five-year period, 5.8 crashes per year represent a rate of approximately 1.17 crashes per MVMT. The average crash rate in 2017 for an urban four-lane collector with raised median was approximately 3.364 crashes per MVMT; showing that actual crashes for this location were lower than average.

Approximately 31 percent of the recorded crashes occurred under dark conditions and 14 percent occurred with wet surface conditions.

NW 44th Avenue from NW 49th Street to SR 326

A total of 17 crashes were recorded on the 2.13-mile segment of NW 44th Avenue between NW 49th Street and SR 326. Based on the AADT of NW 44th Avenue during the five-year period, 2.8 crashes per year represent a rate of approximately 0.49 crashes per MVMT. The average crash rate in 2017 for an urban four-lane collector with raised median was approximately 3.654 crashes per MVMT; showing that actual crashes for this location were significantly lower than average.

Approximately 35 percent of the recorded crashes occurred under dark conditions (including dawn and dusk) and 12 percent occurred with wet surface conditions.

3.8.4 Overall Summary

Overall, 1,157 crashes were recorded within the AOI during the five-year period. **Figures 3-13** through **3-15** summarize the crash severity, crash types, and various crash conditions of the cumulative data recorded within the AOI. There was a noticeable increase in annual crashes in years 2014 and 2015; however, there was not a proportionate change in AADTs to suggest these increases were directly correlated to increased exposure. Therefore, a detailed safety study is recommended for this area, which is beyond the scope of this IJR. Corresponding crash data tables for the five-year evaluation period are provided in **Appendix D**.

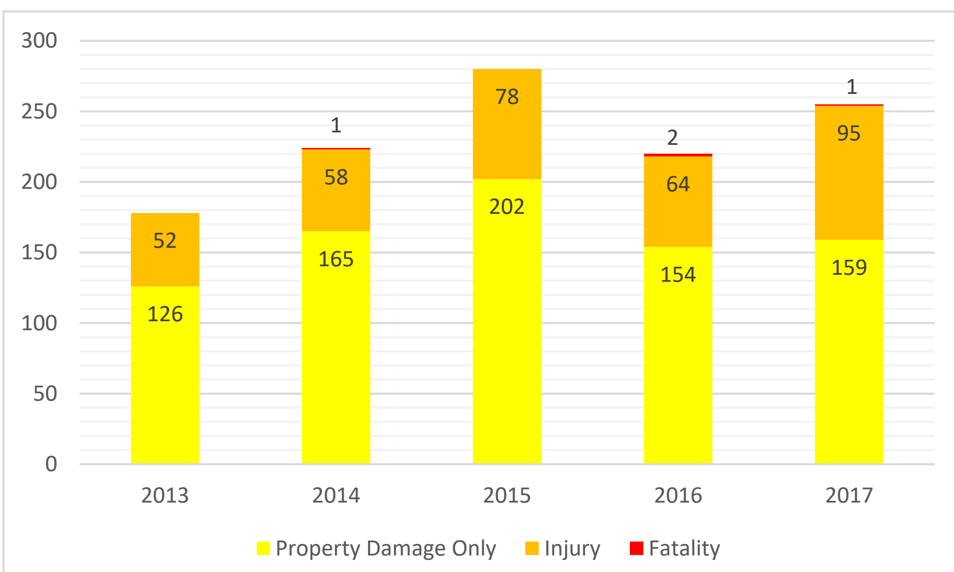


Figure 3-13: Crash Severity by Year

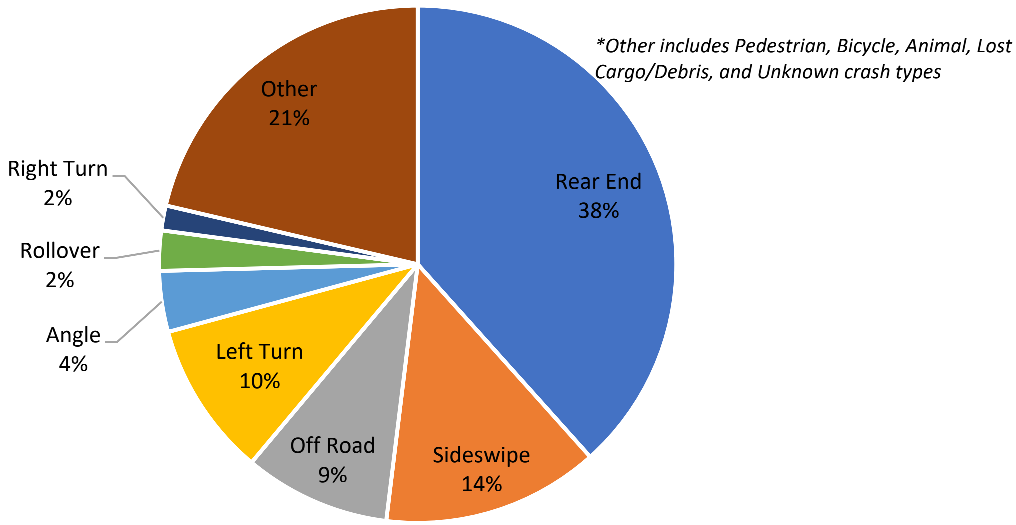


Figure 3-14: Crash Type Summary (2013-2017)

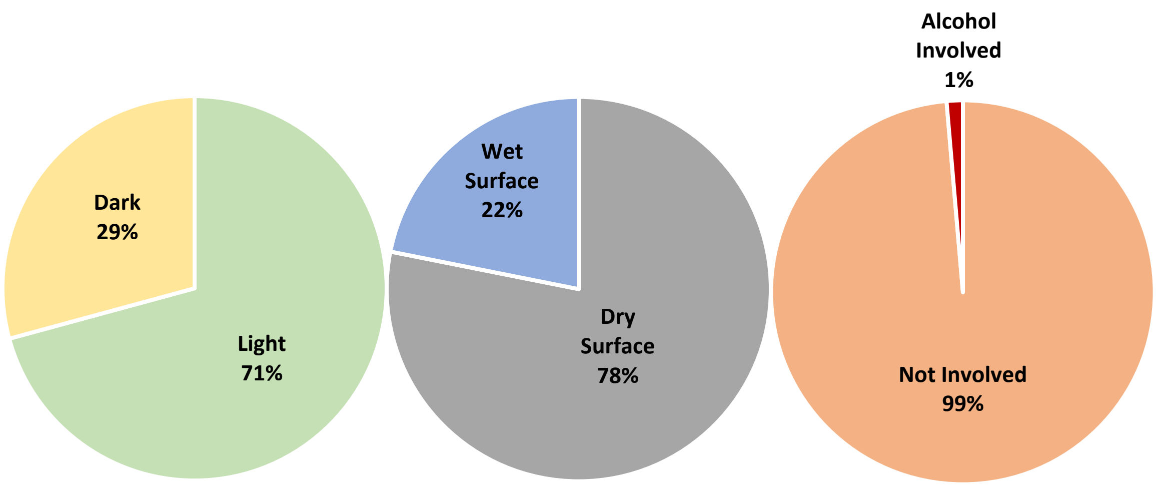


Figure 3-15: Crash Conditions (2013-2017)

ATTACHMENT 5

CONSTRUCTION COST ESTIMATE

DESIGN VARIATION FOR

BORDER WIDTH

Financial Project ID.: 435209-1-22-01

Date: 10/2/2020 3:05:22 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report

By Component

Project: 435209-1-22-01 **Letting Date:** 08/2024

Description: I-75(SR 93) AT NW 49TH ST FROM END OF NW 49TH ST TO END OF NW 35TH ST

District: 05 **County:** 36 MARION

Project Manager: HJG-MET

Version 6
Project Grand Total **$40,075,822.21**
Description: DDI with Ponds

EARTHWORK COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
110-1-1	CLEARING & GRUBBING	43.90	AC	$12,537.88	$550,413.06
120-6	EMBANKMENT	1,033,095.42	CY	$9.52	$9,839,375.50
	Earthwork Component Total				$10,389,788.55

ROADWAY COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
160-4	TYPE B STABILIZATION	120,385.18	SY	$4.55	$548,143.81
285-709	OPTIONAL BASE,BASE GROUP 09	82,059.92	SY	$15.07	$1,236,800.48
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	249.05	TN	$109.86	$27,360.63
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	6,230.85	TN	$107.00	$666,700.95
334-1-54	SUPERPAVE ASPH CONC, TRAF D, PG76-22	6,791.05	TN	$105.00	$713,060.25
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,646.31	TN	$153.00	$251,885.43
337-7-45	ASPH CONC FC,TRAFFIC D,FC-12.5,PG 76-22	3,021.02	TN	$98.00	$296,059.96
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	124.52	TN	$126.35	$15,733.10
544-75-1	CRASH CUSHION	4.00	EA	$19,966.00	$79,864.00
706-1-1	RAISED PAVMT MARK, TYPE B W/O FINAL SURF	14.00	EA	$10.82	$151.48
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	561.00	EA	$4.50	$2,524.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	12.42	GM	$1,108.47	$13,767.21
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.22	GM	$507.00	$1,632.54

710-11-160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	8.00	EA	$57.00	$456.00
710-11-170	PAINTED PAVT MARK,STD,WHITE, ARROWS	16.00	EA	$31.00	$496.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	4.00	EA	$168.25	$673.00
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	22.00	EA	$70.00	$1,540.00
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	2.09	GM	$4,200.00	$8,778.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.40	GM	$1,285.00	$3,084.00
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	0.13	GM	$7,000.00	$910.00
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.96	GM	$4,600.00	$9,016.00
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	1.32	GM	$4,500.00	$5,940.00

Roadway Component Total $3,884,577.31

SHOULDER COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
104-10-3	SEDIMENT BARRIER	69,911.63	LF	$1.65	$115,677.51
104-11	FLOATING TURBIDITY BARRIER	1,030.18	LF	$11.77	$12,125.22
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	1,339.38	LF	$9.03	$12,095.10
104-15	SOIL TRACKING PREVENTION DEVICE	15.00	EA	$2,467.94	$37,019.13
104-18	INLET PROTECTION SYSTEM	61.00	EA	$96.98	$5,915.90
107-1	LITTER REMOVAL	80.26	AC	$34.89	$2,800.20
107-2	MOWING	80.26	AC	$50.64	$4,064.41
285-704	OPTIONAL BASE,BASE GROUP 04	19,175.67	SY	$12.00	$230,108.04
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	1,930.04	TN	$107.00	$206,514.28
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	701.84	TN	$153.00	$107,381.52
520-1-10	CONCRETE CURB & GUTTER, TYPE F	12,125.00	LF	$31.60	$383,160.96
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	7,328.64	SY	$38.00	$278,488.32
570-1-1	PERFORMANCE TURF	35,453.22	SY	$3.00	$106,329.78

Shoulder Component Total $1,501,680.34

MEDIAN COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	10,992.96	LF	$25.50	$280,320.49
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,132.03	LF	$22.87	$25,889.53
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	1,571.85	LF	$42.50	$66,803.63
570-1-1	PERFORMANCE TURF	11,023.44	SY	$2.97	$32,751.27

	Median Component Total				$405,764.92

DRAINAGE COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
110-1-1	CLEARING & GRUBBING	15.00	AC	$12,616.60	$189,249.00
120-1	REGULAR EXCAVATION	180,693.34	CY	$11.96	$2,161,092.34
400-2-2	CONC CLASS II, ENDWALLS	22.26	CY	$1,478.00	$32,900.28
425-1-351	INLETS, CURB, TYPE P-5, <10'	40.00	EA	$4,652.60	$186,103.94
425-1-361	INLETS, CURB, TYPE P-6, <10'	2.00	EA	$4,566.95	$9,133.90
425-1-451	INLETS, CURB, TYPE J-5, <10'	13.00	EA	$6,013.29	$78,172.72
425-1-521	INLETS, DT BOT, TYPE C, <10'	8.00	EA	$3,274.22	$26,193.78
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$5,050.00	$10,100.00
425-2-41	MANHOLES, P-7, <10'	8.00	EA	$4,503.22	$36,025.72
425-2-71	MANHOLES, J-7, <10'	6.00	EA	$6,949.46	$41,696.76
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	3,392.00	LF	$91.99	$312,023.20
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,760.00	LF	$86.43	$238,542.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	992.00	LF	$139.96	$138,842.40
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	224.00	LF	$107.87	$24,162.88
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	5,224.00	LF	$189.43	$989,582.72
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	1,200.00	LF	$342.72	$411,268.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	172.00	EA	$1,634.44	$281,123.62
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	6,390.00	LF	$21.24	$135,723.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	6.00	EA	$1,748.96	$10,493.78
570-1-1	PERFORMANCE TURF	75,879.87	SY	$1.63	$123,576.89
	Drainage Component Total				$5,436,008.24

SIGNING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	44.00	AS	$371.18	$16,332.03
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	92.00	AS	$1,228.04	$112,980.08
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	12.00	AS	$3,692.59	$44,311.08
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	4.00	AS	$4,808.38	$19,233.52
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	4.00	AS	$8,584.58	$34,338.32
	Signing Component Total				$227,195.03

LIGHTING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	13,896.48	LF	$9.15	$127,204.66
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	964.35	LF	$20.40	$19,670.44
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	76.00	EA	$712.89	$54,179.42
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	44,788.98	LF	$2.06	$92,365.32
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	34.00	EA	$5,253.63	$178,623.32
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	42.00	EA	$5,070.75	$212,971.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	76.00	EA	$601.05	$45,679.84
	Lighting Component Total				$730,694.50

SIGNALIZATIONS COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,050.00	LF	$9.14	$27,883.50
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	950.00	LF	$20.38	$19,365.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	5.00	PI	$6,091.24	$30,456.20
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	12.00	EA	$762.67	$9,152.04
635-3-11	JUNCTION BOX, FURNISH & INSTALL, AERIAL	48.00	EA	$376.41	$18,067.52
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	$2,661.67	$5,323.34
639-1-122	ELECTRICAL POWER SRV,F&I, UG,PUR CONT	3.00	AS	$2,652.57	$7,957.70
639-2-1	ELECTRICAL SERVICE WIRE, F&I	240.00	LF	$5.19	$1,245.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	12.00	EA	$1,232.91	$14,794.96
649-21-4	STEEL MAST ARM ASSEMBLY, F&I, 40'-30'	4.00	EA	$46,698.68	$186,794.72
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	6.00	EA	$44,580.03	$267,480.18
649-31-103	M/ARM,F&I, WS-150,SING ARM,W/0 LUM-60	3.00	EA	$36,708.50	$110,125.50
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	32.00	AS	$1,054.91	$33,757.04
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	26.00	AS	$593.61	$15,433.98
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	44.00	EA	$316.94	$13,945.48
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	32.00	AS	$975.15	$31,204.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	26.00	EA	$237.92	$6,185.90
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	3.00	AS	$27,988.29	$83,964.86
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	$136.93	$547.72
700-3-302	SIGN PANEL, F&I BM, 12-20 SF	12.00	EA	$1,776.71	$21,320.48
	Signalizations Component Total				$905,005.92

BRIDGES COMPONENT

Bridge Type: Misc/Rehab

EX-Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
DDIBRIDGE	DDI BRIDGE	1.00	1	$5,211,935.00	$5,211,935.00

Bridge No. DDI

	Bridges Component Total	$5,211,935.00

Date: 10/2/2020 3:05:22 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report

By Component

Project: 435209-1-22-01 **Letting Date:** 08/2024

Description: I-75(SR 93) AT NW 49TH ST FROM END OF NW 49TH ST TO END OF NW 35TH ST

District: 05 **County:** 36 MARION

Project Manager: HJG-MET

Version 6 Project Grand Total **$40,075,822.21**

Description: DDI with Ponds

Project Sequences Subtotal					**$28,692,649.81**
102-1	MAINTENANCE OF TRAFFIC	10.00			$2,869,264.98
101-1	MOBILIZATION	10.00			$3,156,191.48
Project Sequences Total					**$34,718,106.27**
Project Unknowns			15.00%		$5,207,715.94
Design/Build			0.00%		$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	$150,000.00	$150,000.00
Project Non-Bid Subtotal					$150,000.00

Version 6 Project Grand Total **$40,075,822.21**

I-75 Interchange PD&E Engineer's Cost Estimate					
ITEM NO.	**ITEM DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL COST**
102-1	MAINTENANCE OF TRAFFIC	LS	1	$76,703.10	$76,703.10
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	8847	$7.90	$69,891.30
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	9062	$24.47	$221,747.14
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF	8	$29.20	$233.60
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS	LF	810	$2.23	$1,806.30
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND,49-96 FIBERS	LF	21259	$2.60	$55,273.40
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	332	$42.86	$14,229.52
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	5	$812.20	$4,061.00
633-3-13	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED CONNECTOR ASSEMBLY	EA	60	$55.00	$3,300.00
633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- FIELD TERMINATED	EA	4	$1,947.50	$7,790.00
*633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURISH & INSTALL	LF	850	$4.27	$3,629.50
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	22	$782.81	$17,221.82
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	12	$1,425.00	$17,100.00
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR OR 36" ROUND COVER SIZE	EA	6	$2,300.00	$13,800.00
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	3050	$5.24	$15,982.00
** 641-3-263	CONCRETE CCTV POLE, FURNISH & INSTALL WITHOUT LOWERING DEVICE, 63'	EA	2	$16,500.00	$33,000.00
* 660-3-42	VEHICLE DETECTION SYSTEM - MICROWAVE, RELOCATE, ABOVE GROUND EQUIPMENT	EA	1	$450.00	$450.00
660-4-11	VEHICLE DETECTION SYSTEM - VIDEO, F&I, CABINET EQUIPMENT	EA	8	$11,083.13	$88,665.04
660-4-12	VEHICLE DETECTION SYSTEM - VIDEO, F&I, ABOVE GROUND EQUIPMENT	EA	8	$6,759.52	$54,076.16
***660-7-11	VEHICLE DETECTION SYSTEM- WRONG WAY FOR EXIT RAMP, 1 OR 2 LANES	EA	2	$23,790.07	$47,580.14
* 676-2-122	ITS CABINET, FURNISH & INSTALL, POLE MOUNT WITH SUNSHIELD, 336S, 24" W X 46" H X 22" D	EA	1	$9,662.99	$9,662.99
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	3	$8,000.00	$24,000.00
682-1-400	ITS CCTV CAMERA, RELOCATE, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1	$2,760.00	$2,760.00
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	4	$2,764.82	$11,059.28
685-1-12	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA	4	$7,317.50	$29,270.00
700-1-12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	4	$995.39	$3,981.56
*700-6-11	HIGHLIGHTED SIGN, F&I GROUND MOUNT- AC POWERED, UP TO 12 SF	AS	4	$4,115.05	$16,460.20
				SUB TOTAL	**$843,734.05**
			MOBILIZATION	10%	**$84,373.40**
			DESIGN	10%	**$84,373.40**
			CEI	15%	**$126,560.11**
			MOC	3%	**$25,312.02**
			CONTINGENCY	10%	**$84,373.40**
				GRAND TOTAL	**$1,248,726.39**

Unit cost per the FDOT Historical Cost - Area 6 (08/01/2019 - 07/31/2020)

* Unit cost per the FDOT Historical Cost - Current 12 Month Moving Statewide Average (08/01/2019 - 07/31/2020)

** Unit cost per the FDOT Historical Cost - Historical 12 Month Moving Statewide Average (01/01/2019 - 12/31/2019)

*** Unit cost per the FDOT Historical Cost - Current 6 Month Moving Statewide Average (02/01/2020 - 07/31/2020)

ATTACHMENT 6

RW IMPACTS

FDOT DISTRICT FIVE RIGHT OF WAY COST ESTIMATE

CONSIDERED EXEMPT FROM PUBLIC DISCLOSURE UNDER F. S. 119.0711 AND/OR F. S. 337.168

***** THIS DOCUMENT IS A BUDGETARY TOOL AND NOT AN ESTIMATE OF VALUE *****

FM #: 435209-1 **Estimate Reference:** **DDI Alternative**

County: Marion **DATE:** 11/10/20

State Rd. I-75 (SR 93) **ESTIMATE TYPE:** Special

From: End of NW 49th St **TO:** End of NW 35th St

NUMBER OF PARCELS			NUMBER OF RELOCATEES	
	Business	10	Business	1
	Residential	4	Residential	0
	Unimproved	9	Special	0
	Total	23	Total	1

R/W OPERATIONS (PHASE 4B)

1. Appraisal Fees
2. Business Damage CPA Fees
3. Court Reporter And Witness Fees
4. Demolition Contracts
5. Move Cost Estimate Fees
6. Atorney Fees (Outside Counsel) — $6,000 per project
7. Title Search
8. Hazardous Waste Investigations
9. Other - (Including Aerial Photos)
10. Total (Lines 1 through 10)

11. Direct Labor Costs — **R/W SUPPORT COSTS (PHASE 41)**

12. Total Contract Amount — **R/W ACQUISITION CONSULTANT COSTS (PHASE 42)**

R/W LAND COSTS (PHASE 43)

13. Land, Improvements, Severance Damages (excl. billboards)
14. Billboards
15. Subtotal (Line 9 + 10)
16. Admin. Settlements
17. Litigation Awards
18. Business Damages
19. Owner Appraisal Fees
20. Owner CPA Fees
21. Defendant Attorney Fees
22. Other Condemnation Costs
23. Other Costs (With No Factors)
24. Subtotal (Lines 12 through 19)
25. Total (Lines 9 through 20) — **TOTAL PHASE 43**

RELOCATION COSTS (PHASE 45)

Replacement Housing Costs:

26. Owner
27. Tenant (No entry)

Move Costs:

28. Residential
29. Non-Residential
30. Landlord
31. Non-Categorized Relocation and Move Cost Settlements
32. Total (Lines 26 through 31) — **TOTAL PHASE 45**

TOTAL - ALL PHASES **$45,681,000**

FDOT DISTRICT FIVE R/W COST ESTIMATE

*** THIS DOCUMENT IS A BUDGETARY TOOL AND NOT AN ESTIMATE OF VALUE *** CONSIDERED EXEMPT FROM PUBLIC DISCLOSURE UNDER F. S. 119.0711 AND/OR F. S. 337.168

FM #: 435209-1 **Estimate Reference:** DDI Alternative

ESTIMATED BY: Nick Truncone DATE: 11/10/2020

REVIEWED BY: WJM DATE: 11/10/2020

ESTIMATE TYPE: Special

CONFIDENCE LEVEL

The Confidence Level for this Cost Estimate is:

D - Fair level of confidence – Much of the needed data is lacking. Parcels may not be individually identified. A lack of project information as well as market data typifies this confidence level. Data lacking may include maps, sales, or adequate listing information. Time allowed to develop the estimate is not adequate to overcome these as well as other obstacles necessary to produce a more reliable estimate.

PROJECT SPECIFIC COMMENTS

This is a Special Estimate for the DDI Alternative configuration. This estimate totals $45,681,000 for 23 parcels.

Materials used for this estimate include aerial maps and parcel impact spreadsheets that were provided by the PM on 10/28/20. Miscellaneous on-line services and listing property owners were contacted for specific R/W land and improvement costs (see Market Data Worksheet for summary).

	$ Amount	Percentage
Change from Last Est.:	N/A	N/A
Last Estimate:	Mile - Scope	

		% of Change
RWMS Reason for Change:		
RWMS Reason for Change:		

Reviewed by:

Project Manager: ______________ Date: ________

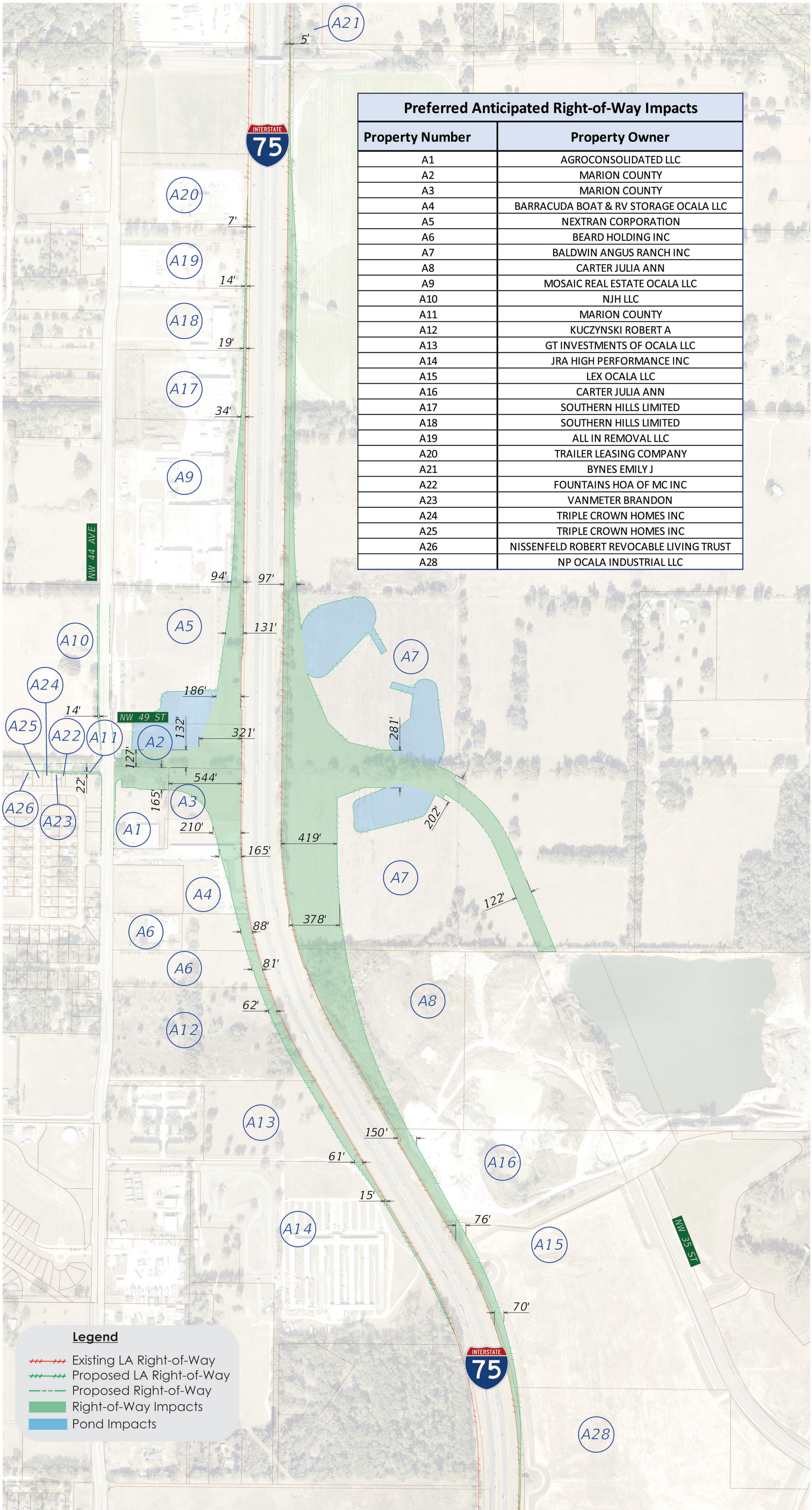
Print Name: Amy Windom

cc: Working File

THIS DOCUMENT IS NOT AN APPRAISAL

This estimate is not nor are any components thereof considered an appraisal. This document has been prepared solely for the internal use of the Florida Department of Transportation for budgeting and scheduling purposes. It does not nor is it intended to meet the development and reporting requirements of the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal foundation.

I-75 (S.R. 93) at NW 49th Street PD&E Study - Right of Way Impacts



Preferred Anticipated Right-of-Way Impacts

Property Number	Property Owner
A1	AGROCONSOLIDATED LLC
A2	MARION COUNTY
A3	MARION COUNTY
A4	BARRACUDA BOAT & RV STORAGE OCALA LLC
A5	NEXTRAN CORPORATION
A6	BEARD HOLDING INC
A7	BALDWIN ANGUS RANCH INC
A8	CARTER JULIA ANN
A9	MOSAIC REAL ESTATE OCALA LLC
A10	NJH LLC
A11	MARION COUNTY
A12	KUCZYNSKI ROBERT A
A13	GT INVESTMENTS OF OCALA LLC
A14	JRA HIGH PERFORMANCE INC
A15	LEX OCALA LLC
A16	CARTER JULIA ANN
A17	SOUTHERN HILLS LIMITED
A18	SOUTHERN HILLS LIMITED
A19	ALL IN REMOVAL LLC
A20	TRAILER LEASING COMPANY
A21	BYNES EMILY J
A22	FOUNTAINS HOA OF MC INC
A23	VANMETER BRANDON
A24	TRIPLE CROWN HOMES INC
A25	TRIPLE CROWN HOMES INC
A26	NISSENFELD ROBERT REVOCABLE LIVING TRUST
A28	NP OCALA INDUSTRIAL LLC