Florida's Turnpike (SR 91)

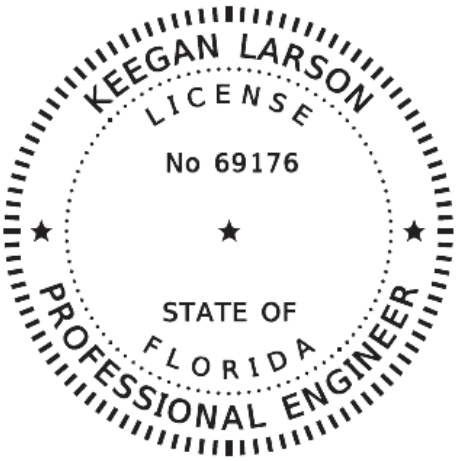
Exception Report
Lane Width

Financial Project ID:
411406-1, 411406-4

Turnpike Widening From South of Osceola Parkway to Beachline Expressway

Osceola and Orange Counties
(92471) and (75470)

Turnpike Design Engineer: Patrick Muench, P.E.
GEC Project Manager: Bob Alderman, P.E.



This item has been electronically signed and sealed by Keegan Larson, P.E. on May 19, 2016 using a Digital Signature.

Keegan Larson 2016.05.19 16:56:48 -04'00'

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

The official record of this sheet is the electronic file signed and sealed under rule 61G15-23.004 F.A.C.

Keegan Larson, P.E.
Wantman Group, Inc.
2035 Vista Parkway
West Palm Beach, FL 33411
Cert No. 6091
Vendor No. 65-0271367

To: Patrick Muench, P.E. Date: January 11, 2016
Turnpike Design Engineer

Financial Project ID: 411406-1-52-01 and 411406-4-52-01 New Const. (X) RRR ( )

Federal Aid Number: N/A

Project Name: Turnpike Widening from South of Osceola Parkway to Beachline Expressway.

State Road Number: S.R. 91 Co./Sec./Sub. Osceola (92471) and Orange (75470)

Begin Project MP: 247.770 (39.372 Osceola) End Project MP: 255.499 (6.049 Orange)

Full Federal Oversight: Yes ( ) No (X)

Request for Design Exception (X), Design Variation ( ) (For Design Exception or Variations Requiring Central Office Approval)

Re-submittal: Yes ( ) No ( ) Original Ref# _____ - ____ - _____

Requested for the following element(s):

( ) Design Speed	(X) Lane Widths	( ) Shoulder Widths	( ) Bridge Widths
( ) Structural Capacity	( ) Vertical Clearance	( ) Grades	( ) Cross Slope
( ) Superelevation	( ) Horizontal Alignment	( ) Vertical Alignment	( ) Stopping Sight Distance
( ) Horizontal Clearance	( ) Other		

The Florida's Turnpike (SR 91) within Orange County (75470) and Osceola County (92471) is in need of widening. There are two Financial Project IDs for this project: 411406-1 and 411406-4. The specific limits for this project are the northbound and southbound lanes from M.P. 247.770 to M.P. 255.499. A project location map is located in Appendix A. This project will consist of the widening and/or reconstruction of Florida's Turnpike from Osceola Parkway to the Beachline Expressway. Within this 8-lane section of the Turnpike, the northbound and southbound directions each will consist of two 12-foot express lanes separated from two 12-foot general purpose toll lanes by a 4-foot buffer with express lane markers. Other improvements associated with this project include the construction of three ramps at the Turnpike/SR 417 interchange. These ramps include Ramp A2 (northbound Turnpike to westbound SR 417), Ramp C2 (southbound Turnpike to eastbound SR 417), and Ramp D1 (southbound Turnpike to westbound SR 417). Improvements associated with this project also include the reconstruction and/or widening of the Osceola Parkway and Orlando South Interchange exit/entry ramps.

Florida Department of Transportation design criteria states that for urban freeways, the minimum lane width shall be 12' wide (FDOT 2015 PPM Vol. 1 Table 2.1.1). AASHTO's 2004 Edition of "A Policy on Geometric Design of Highways and Streets" states that through traffic lanes on freeways should be 12' wide (2004 AASHTO Pg. 504). AASHTO's 2005 Edition of "A Policy on Design Standards Interstate System" states that all traffic lanes shall be at least 12' wide (2005 AASHTO IS Pg. 3).

A Design Exception is being requested to allow the Turnpike northbound and southbound express lane widths under the existing Wetherbee Road bridge (Existing Bridge No. 754094) to be reduced to a minimum of 11.5'. This lane width reduction along with a 2' reduction in the buffer will provide an outside shoulder width between 10' and 11'. The two inside express lanes in each direction will have lane widths less than 12' for approximately 900' until the constricting existing bridge is passed. The two general purpose toll lanes in each direction will maintain a full 12' lane width the entire length of the project.

Requested by:

Keegan Larson 2016.05.19 16:56:17 -04'00'

_____ Date _____

Keegan Larson, P.E.
Responsible Professional Engineer

Approvals:

Patrick M Muench Digitally signed by Patrick M Muench DN: c=US, o=IdenTrust ACES Business Representative, ou=FDOT - TURNPIKE, cn=Patrick M Muench, 0.9.2342.19200300.100.1.1=A01097C00000145504DA516B000838C8 Date: 2016.06.01 08:45:40 -04'00'

_____ Date June 1, 2016

Patrick Muench, P.E.
Turnpike Design Engineer

N/A _____ Date _____
Turnpike Structures Design Engineer

N/A _____ Date _____
State Roadway Design Engineer

N/A _____ Date _____
State Structures Design Engineer

N/A _____ Date _____
State Chief Engineer

N/A _____ Date _____
FHWA Division Administrator

TABLE OF APPENDICES

PROJECT DESCRIPTION

The Florida's Turnpike (SR 91) within Orange County (75470) and Osceola County (92471) is in need of widening. There are two Financial Project IDs for this project: 411406-1 and 411406-4. The specific limits for this project are the northbound and southbound lanes from M.P. 247.770 to M.P. 255.499. A project location map is located in Appendix A. This project will consist of the widening and/or reconstruction of Florida's Turnpike from Osceola Parkway to the Beachline Expressway. Within this 8-lane section of the Turnpike, the northbound and southbound directions each will consist of two 12' express lanes separated from two 12' general purpose toll lanes by a 4' buffer with express lane markers. Other improvements associated with this project include the construction of three ramps at the Turnpike/SR 417 interchange. These ramps include Ramp A2 (northbound Turnpike to westbound SR 417), Ramp C2 (southbound Turnpike to eastbound SR 417), and Ramp D1 (southbound Turnpike to westbound SR 417). Improvements associated with this project also include the reconstruction and/or widening of the Osceola Parkway and Orlando South Interchange exit/entry ramps. The project is currently scheduled for final sign and sealed, production ready plans in June 2016 with no perceived obstacles.

EXISTING CONDITIONS

Within the project limits, the Florida's Turnpike is a four-lane divided limited access facility. The existing typical section includes four 12' wide travel lanes (two in each direction) divided by a 40' wide median. The median shoulder is 8' wide (4' paved) and the outside shoulder is 12' wide (10' paved). The Shoulder Warning Device (SWD) is a ground-in rumble strip. Double-faced guardrail is installed just outside the southbound median shoulder. The existing Wetherbee Road bridge (Existing Bridge No. 754094) has a total width from the face of the outside pier to the face of the inside (median) pier of 75'-8" in both the northbound and southbound direction. This existing under bridge width is not suitable to accommodate the required width for the proposed typical section and is not to be increased as the bridge is not included for improvements under this project. The horizontal clearance to the recently constructed Wetherbee Bridge immediately south of the constricting bridge does provide adequate horizontal clearance.

PROPOSED DESIGN

The proposed eight lane section of two 12' express lanes separated from two 12' general purpose toll lanes by a 4' buffer with 12' inside and outside paved shoulders creates a total width greater than the existing width of 75'-8" allowed by the existing bridge. Based on these conditions, the inside express lane widths will need to be constricted in order to preserve the existing Wetherbee Road bridge structure without reducing the shoulder widths less than 10'. In order to provide sufficient space for an emergency vehicle to bypass congested travel lanes in the event of a crash it is not desirable to reduce the shoulder widths below 10'. Both the inside and outside shoulder widths will need to be reduced within this section to accommodate the additional pier protection and an 8" column strengthening collar, but will remain greater than 10'. The proposed typical section under Wetherbee Road bridge (see Appendix C) is composed of two 11.5' express lanes with a 2' buffer and two 12' general purpose toll lanes in each direction. The inside and outside shoulder widths are all between 10' and 11' and have been included as a design exception in a separate report.

MINIMUM DESIGN CRITERIA

Florida Department of Transportation design criteria states that for urban freeways, the minimum lane width shall be 12' wide (FDOT 2015 PPM Vol. 1 Table 2.1.1). AASHTO's 2004 Edition of "A Policy on Geometric Design of Highways and Streets" states that through traffic lanes on freeways should be 12' wide (2004 AASHTO Pg. 504). AASHTO's 2005 Edition of "A Policy on Design Standards Interstate System" states that all traffic lanes shall be at least 12' wide (2005 AASHTO IS Pg. 3).

PROPOSED CRITERIA

A design exception is being requested for the acceptance of the reduction of lane widths at the following Turnpike mainline locations. Northbound and southbound Turnpike mainline under Wetherbee Road bridge from STA 2196+30.00 to STA 2205+30.00. The proposed minimum lane widths at these locations are shown in the table below.

Location	Number of Proposed Lanes	PPM	AASHTO	Minimum Proposed
Turnpike Northbound from STA. 2196+30 to STA.2205+30	2 Express Lanes	12’	12’	11.5’
Turnpike Southbound from STA. 2196+30 to STA.2205+30	2 Express Lanes	12’	12’	11.5’

The above station ranges include the transition lengths required to reduce the proposed lanes from 12’ to 11.5’. The transitions occur over 300’ at a deflection angle of 100:1 (approximately 0º35’0”). See Appendix D for the complete depiction of the geometry of the lane width exception.

REASON DESIGN CRITERIA IS NOT APPROPRIATE

The PPM and AASHTO design criteria of 12’ lane widths does not specifically address facilities with express lanes. Rather it is applicable to an entire freeway facility in which there is no definitive lane designations for varying vehicle types. Since the express lanes are intended for two-axle vehicles and buses only (FDOT Express Lanes Handbook Section 3.3.1), a lane width reduction to the express lanes is less significant than if the lanes were accessible to heavy vehicles as well. Furthermore, by reducing the lane width of the express lanes, the outside shoulder width does not need to be reduced to less than 10’. This provides an adequate outside shoulder refuge area, between 10’ and 11’, for the general purpose toll lanes which service all vehicle types. Also, impacts to traffic operations, specifically free flow speed, are not anticipated as the total length of the reduced lane widths is for such a short segment. Overall it is not feasible to uphold the lane width design criteria in this unique scenario as this would result in either a less than desirable shoulder width adjacent to the general purpose toll lanes or a bridge replacement.

OPERATIONAL IMPACTS

The current Annual Average Daily Traffic (AADT) for the section of roadway is 59,200, with an increase of AADT to 111,000 in 2040 (Design Year).

Traffic Distribution:

- D = 58.1%
- K = 9.5%
- T_{24} = 12.8%

According to the Highway Capacity Manual (HCM Equation 11-1) a reduction in lane width causes a decrease in the free flow speed. However, the lane width reduction occurs for a short segment and is only applied to the lanes in which trucks are not eligible. Therefore the facility’s free flow speed and Level of Service is not expected to be impacted. Similarly, operational impacts on the facility are not expected when taking into account the cumulative effect of this lane width exception combined with the shoulder width exception and the cross slope variation requested in separate reports. The cross slope is not a factor when considering free flow speed, flow rate, or density. Shoulder width is a factor for free flow speed.

However, the reduction is so minimal that according to the HCM a decrease in free flow speed is not anticipated. Therefore the facility's Level of Service is not expected to be impacted by the cumulative effect of these variations and exception.

MITIGATION STRATEGIES

The potential mitigation strategies provided by FHWA for reduced lane widths have been evaluated for this project. A mitigating strategy will be to install shoulder rumble strips and provide adequate lighting to improve the ability for drivers to remain within their lane. Shoulder rumble strips are proposed along the entire corridor within the project limits. Rumble strips provide an audible warning along with a slight vibration within the vehicle that a driver is able to feel. Underdeck bridge lighting will provide the driver with increased visibility of the approaching roadway configuration which will assist them to remain in their lane. Furthermore, standard deflections are utilized through the lane width reduction section which will create a gradual shift that is expected to go seemingly unnoticed by the drivers.

CRASH DATA

Crash data within the project limits has been provided for a five year period from 2009 to 2013. Of the 384 crashes reported within the project limits, 8 (2.08%) occurred within the limits of the lane width exception limits. Of these, the most common crash event was a collision with another vehicle. Environmental conditions were varied, including time of day and the presence of inclement weather. No accidents were fatal. See Appendix D for the detailed crash data occurring within ½ mile of Wetherbee Road. The following table provides an analysis of the location each crash occurred within the lane width exception limits:

Location of Crashes within Lane Width Exception Limits							
Location	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**	**Average (Crashes/Year)**
Median	0	0	0	0	1	1	0.2
Inside Lane	0	4	0	1	0	5	1
Outside Lane	0	1	0	0	0	1	0.2
Right Side Road	0	0	0	0	1	1	0.2
Total	**0**	**5**	**0**	**1**	**2**	**8**	**1.6**

The above table shows that there is not an unusually high number of crashes within the proposed lane width exception limits. There have only been 8 crashes total (1.6 per year). There is no quantitative evidence suggesting that the proposed configuration under Wetherbee Road as outlined in this report would directly cause an increase in crashes. Rather it is anticipated that there will be a greater likelihood of increased crashes by not reducing the lane widths and creating an outside shoulder width less than 10' instead. This claim is supported by the Crash Modification Factors (CMF) obtained from the CMF Clearinghouse database developed by the FHWA:

Lane Width Reduction vs. Shoulder Width Reduction Comparison								
	Inside Shoulder Width	Express Lanes Widths	Buffer Width	GP Lane Widths	Outside Shoulder Width	Clearing house CMF ID	CMF Description	Anticipated Increase in Crashes
Lane Width Reduction	10'-2"	11.5’	2’	12’	10’-3"	5339	Reduce Lane Width from 12' to 11'	1%
Shldr Width Reduction	10'-2"	12’	4’	12’	7’-3"	4817	Reduce Shldr Width from X’ to Y’	8.6%

A value of X = 10’-2” and Y = 7’-2” was used in the equation provided by the CMF ID 4817. A CMF for a lane width reduction of 12’ to 11.5’ was not available so a more conservative value of 12’ to 11’ reduction was used. CMF ID 5339 and CMF ID 4817 were selected as the most applicable CMFs available to the situation under Wetherbee Road. Both values were obtained from a study conducted on rural two-lane highways. There are no CMFs available for multi-lane freeways. Nevertheless, these values suggest that reducing an outside shoulder width by 3’ would create a higher likelihood for crashes than reducing a lane width by 1’.

BENEFIT/COST ANALYSIS

A benefit/cost analysis was performed to compare the cost of reconstructing the Wetherbee Road Bridge to provide the full lane widths and shoulder widths against the benefit of potential crash reductions. See Appendix E for the complete B/C analysis. Conservative values were used throughout the analysis. The results of the B/C analysis was a ratio of 0.27. This value indicates that the cost of providing the full lane widths and shoulder widths far outweighs the benefits associated with the improvement.

SUMMARY OF CONCLUSIONS

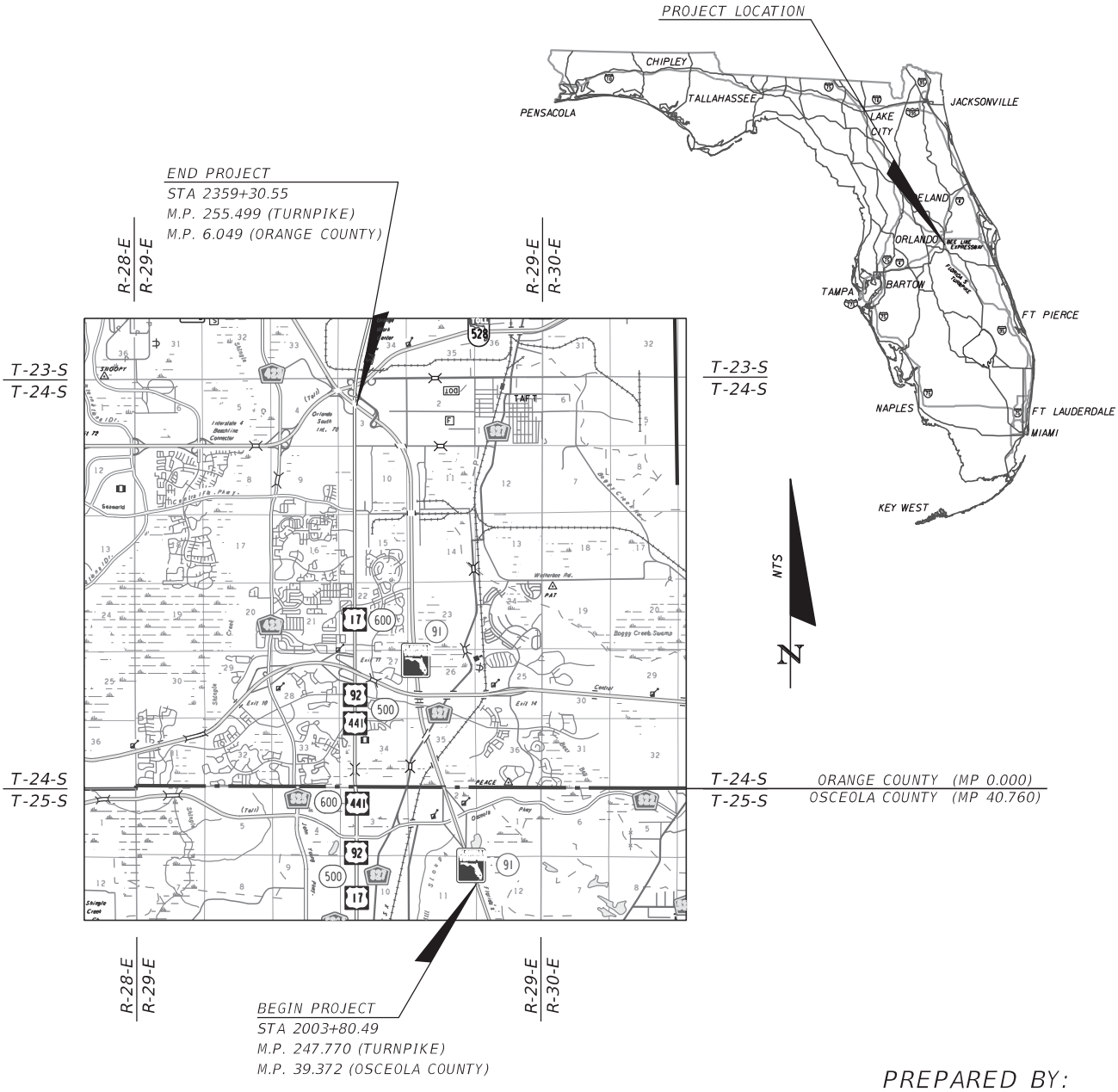
Based on the information evaluated, WGI requests the northbound and southbound express lanes be reduced to 11.5’ as outlined in the Proposed Design section of this report. By reducing the express lane widths, the general purpose toll lanes maintain a full 12’ lane width the entire length of the project. Additionally, the lane width reduction eliminates the need for a shoulder width less than 10’. The crash data does not suggest any history of an unusually high number of crashes within the station limits of the lane width exception. All appropriate pier protection and rumble strips will be installed to mitigate any safety concerns. Drainage will be designed to meet FDOT spread requirements. Shoulder rocking along the median barrier wall will be utilized as deemed appropriate in areas where longitudinal grade is insufficient. WGI does not propose replacing the bridge or providing a shoulder width less than 10’ adjacent to the general purpose toll lanes for the sole purpose of achieving the lane width set forth by the Plans Preparation Manual and AASHTO. In conclusion, WGI requests a design exception be granted for reduced lane widths for the Turnpike mainline express lanes at the specific locations outlined in this report.

APPENDIX A: PROJECT LOCATION SHEET

PROJECT LOCATION

FPID NO.'S 411406-1-52-01 AND 411406-4-52-01
TURNPIKE WIDENING FROM SOUTH OF OSCEOLA PARKWWAY TO BEACHLINE EXPRESSWAY

OSCEOLA (92471) AND ORANGE (75470) COUNTIES, FLORIDA



PREPARED FOR:

FLORIDA'S TURNPIKE ENTERPRISE
FLORIDA DEPARTMENT
OF TRANSPORTATION

PREPARED BY:

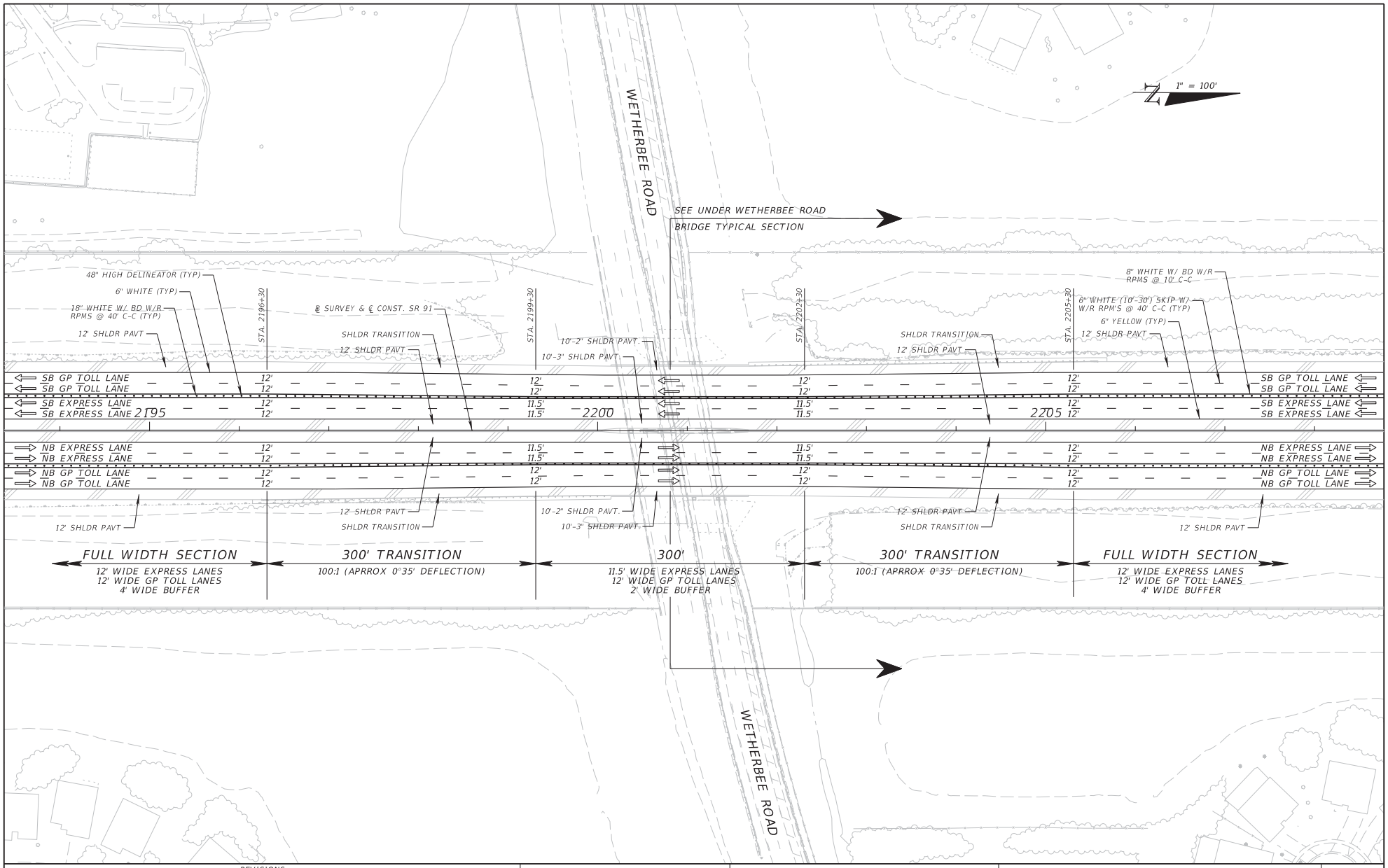
Wantman Group Inc.

2035 Vista Parkway, Suite 100
West Palm Beach, FL 33411
Phone No. 561.687.2220
Fax No. 561.687.1110
E-Mail: Keegan.Larson@wantmangroup.com

Cert No. 6091 - LB No. 7055
Vendor No. 65-0271367

CONSULTANT ENGINEER OF RECORD:
KEEGAN LARSON, P.E.

APPENDIX B: VARIATION LIMTS



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Wantman Group, Inc.
2035 Vista Parkway
West Palm Beach, FL 33411
Certificate of Authorization 6091

EOR: Keegan Larson, P.E.
P.E. License Number: 69176

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 91	ORANGE OSCEOLA	411406-1-52-01 411406-4-52-01

UNDER WETHERBEE ROAD LANE WIDTH EXCEPTION

SHEET NO.

$USER$ $DATE$ $TIME$ $FILE$

APPENDIX C: TYPICAL SECTIONS

PROJECT IDENTIFICATION

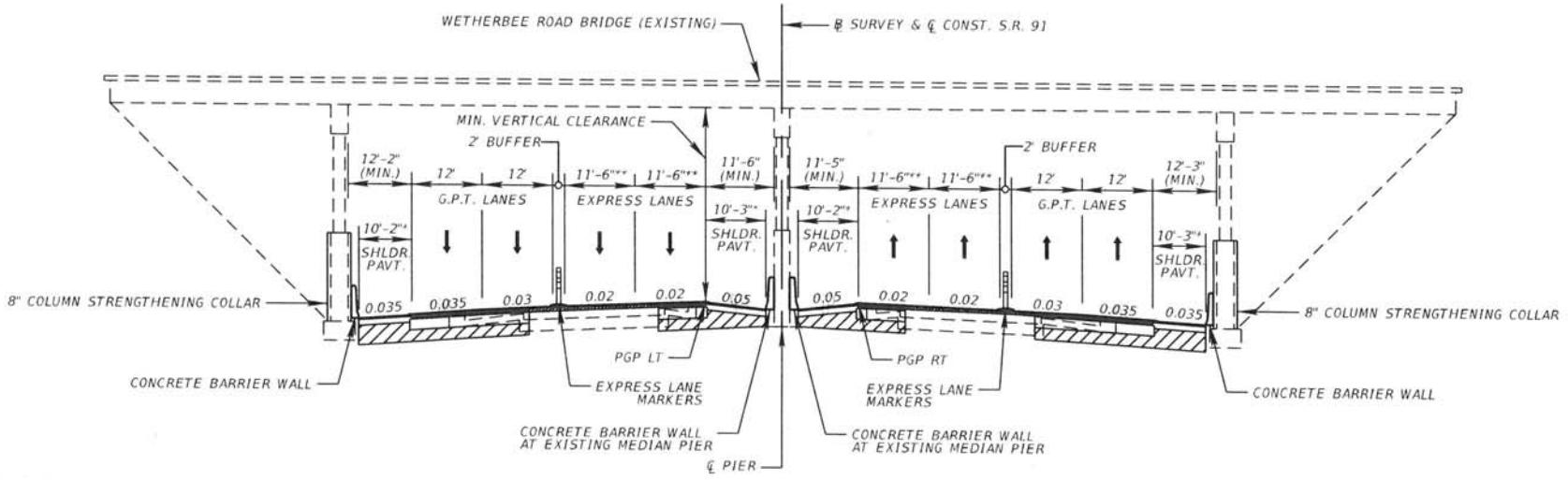
FINANCIAL PROJECT ID 411406-1-52-01 AND 411406-4-52-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME OSCEOLA & ORANGE

SECTION NO. 92471 & 75470 ROAD DESIGNATION S.R. 91 LIMITS/MILEPOST MP 247.770 TO MP 255.499

PROJECT DESCRIPTION TURNPIKE WIDENING FROM SOUTH OF OSCEOLA PARKWAY TO BEACHLINE EXPRESSWAY AND 417 RAMPS

PROPOSED ROADWAY TYPICAL SECTION (15)

MINIMUM EXISTING VERTICAL CLEARANCE OF THE TWO BRIDGES = 16.6'
MINIMUM PROPOSED VERTICAL CLEARANCE OF THE TWO BRIDGES = 16.5'



* SHOULDER WIDTH DESIGN EXCEPTION

** LANE WIDTH DESIGN EXCEPTION

TURNPIKE (SR 91) MAINLINE - UNDER WETHERBEE ROAD BRIDGE

NOTE:

1) G.P.T. = GENERAL PURPOSE TOLL

APPROVED BY: KEEGAN LARSON, P.E.

Keegan Larson 2016.04.06 17:05:19 -04'00'

Engineer Of Record Signature and Date

Date

FDOT CONCURRENCE

PATRICK MUENCH, P.E. Date

Turnpike Enterprise Design Engineer

Corey 3/29/2016 11:48:19 AM c:\pwworking\wgi\corey\dms36967\TYPDRD01.DGN

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

APPENDIX D: CRASH DATA

Turnpike Mainline Crash Data within 1/2 Mile of Wetherbee Road (Lane Width Exception MP Limits: MP 2.962 to MP 3.132)											
Year	Time	Mile Post	Accident Lane	Road Surface	Light Condition	Weather Condition	Alcohol Involved	First Harmful Event	Fatality	Vehicle 1 Direction	Vehicle 2 Direction
2011	857	2.527	Outside Lane	Dry	Daylight	Clear	No	Motor Vehicle in Transport	No	N	N
2009	14:33	2.529	Inside Lane	Dry	Daylight	Cloudy	No	collision w/ MV in transport (sideswipe)	No	N	N
2010	5:11	2.529	Outside Lane	Dry	Dark (no street light)	Clear	No	-	No	-	S
2009	12:26	2.554	Median	Wet	Daylight	Rain	No	not coded	No	N	S
2009	7:40	2.627	Medain	Dry	Dawn	Clear	No	tractor/trailer jackknifed	No	N	-
2010	7:58	2.993	Inside Lane	Dry	Daylight	Clear	No	collision w/ MV in transport (rear end)	No	N	N
2012	217	3.008	Inside Lane	Dry	Dark-Not Lighted	Clear	No	Other Fixed Object	No	S	-
2013	1430	3.039	Median	Dry	Daylight	Cloudy	No	Guardrail Face	No	N	-
2010	15:49	3.049	Inside Lane	Dry	Daylight	Clear	No	collision w/ MV in transport (sideswipe)	No	S	S
2010	17:07	3.049	Inside Lane	Dry	Daylight	Clear	No	other	No	S	S
2010	18:41	3.049	Outside Lane	Dry	Dusk	Clear	No	collision w/ MV in transport (sideswipe)	No	S	S
2010	5:14	3.049	Inside Lane	Dry	Dark (no street light)	Clear	No	collision w/ MV in transport (sideswipe)	No	N	N
2013	1655	3.091	Right-side Road	Dry	Daylight	Clear	No	Overturn/Rollover	No	S	-
2013	1735	3.284	Median	Wet	Daylight	Rain	No	Guardrail Face	No	S	-
2009	15:58	3.37	Median	Dry	Daylight	Clear	No	MV hit guardrail	No	S	-
2010	5:00	3.376	Outside Lane	Wet	Dark (no street light)	Cloudy	No	collision w/ MV in transport (angle)	No	N	N
2012	55	3.527	Inside Lane	Dry	Dark-Not Lighted	Clear	Yes	Motor Vehicle in Transport	No	N	S
2013	1128	3.534	Median	Dry	Daylight	Cloudy	No	Guardrail Face	No	S	-
2012	1345	3.627	Outside Lane	Dry	Daylight	Clear	No	Motor Vehicle in Transport	No	S	S

APPENDIX E: BENEFIT/COST ANALYSIS

Roadway Design
Florida's Transportation Engineers

Rev. 02/2014

Benefit-Cost Analysis

District: **Turnpike** County: **Orange** Date Prepared: 01/11/16

Location: **Turnpike Widening from South of Osceola Parkway to Beachline Expressway**

Section : **75470 & 92471** Beg. Milepost : **247.8** End Milepost : **255.5**
Rdway Type: **Turnpike Urban Divided**

Control Element: **Lane Widths**

There are two Financial Project IDs for this project: 411406-1 and 411406-4. This project will consist of the widening and/or reconstruction of Florida's Turnpike from Osceola Parkway to Beachline Expressway. Within this 8-lane section of the Turnpike, the northbound and southbound directions each will consist of two 12-foot express lanes separated from two 12-foot general purpose toll lanes by a 4-foot buffer with express lane markers.

ANNUAL COST OF IMPROVEMENTS

Type		Cost	Service Life	Capital Recovery Factor		Total
ROW			100	0.0408	$	-
P.E.C.E.I.			15	0.0899	$	-
Structure	$	3,500,000.00	30	0.0578	$	202,300.00
Roadway	$	99,955.51	20	0.0736	$	7,356.73
Drainage			20	0.0736	$	-
Signal			20	0.0736	$	-
Other			20	0.0736	$	-
Sub-Total	$	3,599,955.51			$	209,656.73
				Annual Cost =	$	209,656.73

Total number of crashes =	384
# of correctable crashes, PC =	6
# of years of crash data, YD =	5
PC/YD =	1.20
Crash reduction factor, CRF =	26.47%
CRF x (PC/YD) =	0.32
Cost per crash, CPC =	$180,836.00
Benefit =	$57,441

Primary crash reduction factor (%):	5
FHWA CMF ID 3	
Additional crash reduction factor:	22.6
FHWA CMF ID 5509	
Additional crash reduction factor:	0

BENEFIT/COST RATIO

$$\frac{\text{Benefit}}{\text{Cost}} = \frac{\$57{,}440.75}{\$209{,}656.73} = \mathbf{0.27}$$

CMF ID: 3 was utilized and states that an increase in lane width from 11 ft to 12 ft will result in a 5% reduction in crashes. This CRF was chosen as a conservative approach seeing that the scenario as part of this project consists of a lane width reduction to 11.5 ft. CMF ID 5509 states that increasing the paved outside shoulder width from 10 ft to 12 ft will result in a 22.6% reduction in crashes. The conservative B/C ratio shows that sufficent benefit does not exist to justify the cost of reconstructing the Wetherbee Bridge.

Prepared by: Keegan Larson, P.E.

APPENDIX F: FTE CHECKLIST

Request for FTE Design Variations
Checklist

Date: 1/11/2016

District: Florida's Turnpike Enterprise

Project Name: Turnpike Widening from South of Osceola Parkway to Beachline Expressway

Project Section BMP: 247.77 EMP: 255.499

Exemption BMP: N/A EMP: N/A

FM: ☑ New Construction ☐ RRR

Project Description: There are two Financial Project IDs for this project: 411406-1 and 411406-4. This project will consist of the widening and/or reconstruction of Florida's Turnpike from Osceola Parkway to Beachline Expressway. Within this 8-lane section of the Turnpike, th

Requested Control Element(s):

☐ Design Speed*	☑ Lane Width	☐ Shoulder Widths	☐ Bridge Widths*
☐ Structural Capacity*	☐ Vertical Clearance**	☐ Grades	☐ Cross Slopes
☐ Superelevation	☐ Horizontal Alignment	☐ Vertical Alignment	☐ Stopping Sight Distance
☐ Horizontal Clearance**	☐ Side Slope		

***Requires supplementary review (i.e. Planning/Structures/etc)**

****Requires Utility Accommodation Manual (UAM) Exception Submittals**

	Page # / NA
☑ **Submittal/Approval Letter Included (Cover Letter)**	
☑ Short description of project, applicable criteria and reason for variation request	2
☑ Applicable signature fields, names, and titles listed	
☑ **Report Cover**	
☑ Project Title, FPID, signature,date, and seal	1
☑ **Project description**	4
☑ General project information, typical section, begin/end milepost, county section number	
☑ Include Work Mix, To – From, Objectives, Obstacles and Schedule.	4,5
☑ **Description of the variation element and applicable criteria (AASHTO and Department value or standard)**	
☑ Detailed explanation of why the criteria or standard cannot be complied with or is not applicable	
☑ Description of any proposed value for project and why it is appropriate	
☑ **Amount and character of traffic using the facility**	5,6
☑ Description of the anticipated impact on Operations, Adjacent Sections, Level Of Service, Safety, Long and Short Term Effects	
Is the variation ☐ temporary or ☑ permanent?	
☑ Description of the anticipated Cumulative Effects	
☑ **A plan view or aerial photo of the variation location**	11
☑ Showing right of way lines, and property lines of adjacent property.	
☐ **A photo of the area.**	N/A
☑ **Typical section or cross-section of variation location**	13
☑ **The milepost and station location of the exception**	5,15

☐ **Any related work programmed or in future work plans**	N/A
☐ **The Project Schedule Management (PSM) Project Schedule Activities submitted**	N/A
☐ < Phase I ☐ Phase I – Phase II ☐ Phase II – Phase III ☐ Phase III – Phase IV ☐ > Phase IV	
Letting:	
☑ **All mitigating efforts**	6
☐ An explanation of what if any associated existing or future Limitations as a result of public or legal commitments.	
☑ Description and explanation of any practical alternatives, the selected treatment and why.	
☑ **Comments on the most recent 5-year crash history**	6,15
☑ Including all pertinent crash reports	
☑ Is the location of the variation on the High Crash List	
☑ **Description of the anticipated Cost (Social and to the Department – Benefit/Cost)**	7,17
☑ **Summary Conclusions**	7

Summary description of included support documentation such as: N/A

- ☐ Location map or description
- ☐ Typical section
- ☐ Aerial or Photo logs when they best illustrate the element issues
- ☐ Crash History and analysis
- ☐ Plan sheets in the area of the variation elements
- ☐ Profiles in the area of vertical alignment variation elements
- ☐ Tabulation of pole offsets for horizontal clearance variation
- ☐ Applicable Signed and Sealed Engineering Support Documents

For the specified conditions the following additional documentation is required:

For design speed on FIHS/SIS	N/A
☐ Provide typical sections at mid blocks and at intersections.	
For lane width	7
☐ Provide locations of alternative routes that meet criteria	
☑ Proposal for handling drainage	
☐ Proposed signing and pavement markings	
For shoulder width	N/A
☐ Proposal for handling stalled vehicles	
☐ Proposal for handling drainage	
For bridge width	N/A
☐ Plan view of the approaching roadways	
☐ Existing bridge plans (these may be submitted electronically)	
For a bridge with a design inventory load rating less than 1.0	N/A
☐ Written evaluation and recommendation by the Office of Maintenance is required	
☐ Load rating calculations for the affected structure	

For vertical clearance — N/A

- ☐ Locations of alternative routes that meet criteria

For cross-slope — N/A

- ☐ Proposal for handling drainage
- ☐ Details on how the cross slope impacts intersections

For conditions that may adversely affect the roadway's capacity — N/A

- ☐ Provide the comments on compatibility of the design and operation with the adjacent sections
- ☐ Effects on capacity (proposed criteria vs. AASHTO) using an acceptable capacity analysis procedure
- ☐ Calculate reduction for design year, level of service

For superelevation — N/A

- ☐ Provide the side friction factors for the curve for each lane of different cross-slope at the PC of the curve, the point of maximum cross-slope, and the PT of the curve using the following equation.
  $f = (V^2 – 15Re)/(V^2e+15R)$

For areas with crash histories or when a benefit to cost analysis is requested — N/A

- ☐ Provide a time value analysis between the benefit to society quantified in dollars and the costs to society quantified in dollars over the life of the variation.
  - ☐ Roadside Safety Analysis Program (RSAP)
  - ☐ Historical Crash Method (HCM)