

PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation
District One

**US 98 (Peace River – Ft Meade) at Bridge No 160064 (John
Singletary Bridge)
From west of Edgewood Drive to east of the
Fort Meade Recreation Area Entrance
Polk County, Florida**

ETDM No.: 14114
Financial Project ID: 434886-1-22-01
Federal Aid Project No.: 1801-006-P

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for project US 98/John Singletary Bridge Project Development and Environment (PD&E) Study in Polk County, Florida, from west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance in Polk County.

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

Date

Aniruddha Gotmare, P.E.
P.E. No. 54801

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with **Scalar Consulting Group Inc.** and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

REPORT: Preliminary Engineering Report
PROJECT: US 98 (Peace River – Ft Meade) at Bridge 160064 (John Singletary Bridge)
LOCATION: Polk County, Florida
FINANCIAL PROJECT ID.: 434886-1-22-01
CLIENT: Florida Department of Transportation – District One
District Environmental Management Office

The following duly authorized engineering business performed the engineering work represented by this report:

Scalar Consulting Group Inc.
4152 W. Blue Heron Boulevard, Suite 119
Riviera Beach, Florida 33404
Telephone: (561) 429-5065
Florida Certificate of Authorization: 29560

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the US 98 (Peace River – Ft Meade) at Bridge No 160064 (John Singletary Bridge) from west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance in Polk County, Florida.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgement and experience.

Name: Aniruddha Gotmare, P.E. Signature: _____

P.E. Number: 54801 Date: _____

TABLE OF CONTENTS

SECTION 1.0 SUMMARY OF PROJECT 1

- 1.1 Project Description 1
- 1.2 Purpose and Need..... 2
- 1.3 Commitments 3
- 1.4 Description of Preferred Alternative 4

SECTION 2.0 EXISTING CONDITIONS..... 6

- 2.1 Typical Sections 6
- 2.2 Existing Roadway Right-of-Way 7
- 2.3 Roadway Classification..... 7
- 2.4 Existing Land Use..... 7
- 2.5 Horizontal and Vertical Alignment..... 8
- 2.6 Lateral Offset and Vertical Clearances 8
- 2.7 Pedestrian and Bicycle Facilities 9
- 2.8 Transit Facilities..... 9
- 2.9 Lighting..... 9
- 2.10 Signalized Intersections..... 9
- 2.11 Posted Speeds 9
- 2.12 Railroads 9
- 2.13 Structural and Operational Conditions of the Pavement..... 10
- 2.14 Drainage 10
 - 2.14.1 Drainage Basins 10
 - 2.14.2 Floodplains/Floodways 11
- 2.15 Existing Traffic Conditions 11

2.15.1 Existing Year Traffic Volumes.....	11
2.15.2 Intersection Analyses	11
2.16 Crash Data	12
2.17 Utilities.....	12
2.18 Access Management.....	13
2.19 Structures	13
2.19.1 National Bridge Inspection Standards (NBIS) Bridge Inspection Report	14
2.19.2 Structural and Geometry Issues	14
2.19.3 Asbestos.....	16
2.20 Contamination	17
SECTION 3.0 PROJECT DESIGN STANDARDS.....	19
3.1 Bridge Loadings.....	19
SECTION 4.0 ALTERNATIVES ANALYSIS	22
4.1 No-Build Alternative	22
4.2 Transportation Systems Management and Operations	22
4.3 Multi-Modal Alternatives	23
4.4 Alternative Evaluations	23
4.4.1 Viable Typical Section	23
4.4.2 Viable Alternatives.....	27
4.4.2.1 Build Alternative 1	27
4.4.2.1.1 Roadway Typical Section.....	27
4.4.2.1.2 Bridge Typical Section	28
4.4.2.1.3 Horizontal and Vertical Alignment.....	28
4.4.2.1.4 Utilities	29
4.4.2.1.5 Bridge Options	29

4.4.2.2	Build Alternative 2	31
4.4.2.2.1	Roadway Typical Section	31
4.4.2.2.2	Bridge Typical Section	32
4.4.2.2.3	Horizontal and Vertical Alignment	33
4.4.2.2.4	Utilities	33
4.4.2.2.5	Bridge Options	34
4.4.2.3	Build Alternative 3	34
4.4.2.3.1	Roadway Typical Section	34
4.4.2.3.2	Bridge Typical Section	35
4.4.2.3.3	Additional Alignment Option	35
4.4.2.3.4	Horizontal and Vertical Alignment	36
4.4.2.3.5	Utilities	37
4.4.2.3.6	Bridge Options	37
4.4.2.3.7	Existing Historic Bridge Coordination	39
4.4.3	Preliminary Drainage Analysis	40
4.4.3.1	Hydraulics	40
4.4.3.2	Stormwater Management	41
4.4.4	Evaluation Matrix	41
4.4.5	Recommended Alternative	41
SECTION 5.0 PUBLIC INVOLVEMENT.....		43
5.1	Local Agency Coordination	43
5.2	Public Kick-off Meeting	45
5.3	Alternatives Public Meeting	45
5.4	Public Hearing	45
SECTION 6.0 DESIGN DETAILS OF PREFERRED ALTERNATIVE.....		46

6.1	Typical Sections	46
6.2	Design Year Traffic Volumes	47
6.2.1	Design Year Intersection Analyses	49
6.3	Variations and Exceptions	50
6.4	Right-of-Way Needs and Relocations.....	50
6.5	Bridge Analysis.....	50
6.6	Access Management	50
6.7	Utility Impacts	51
6.8	Temporary Traffic Control Plan.....	51
6.9	Bicycle and Pedestrian Accommodations.....	53
6.10	Drainage	53
6.10.1	Hydraulics.....	53
6.10.2	Stormwater Management	53
6.11	Horizontal and Vertical Geometry.....	54
6.12	Cost Estimates	54
6.13	Work Program Schedule.....	54
6.14	Value Engineering	55
6.15	Summary of Environmental Impacts.....	55
6.15.1	Cultural	55
6.15.1.1	Historic Resources and Archaeological.....	55
6.15.1.2	Section 4(f).....	56
6.15.2	Natural Resources	57
6.15.2.1	Wetlands and other Surface Waters	57
6.15.2.2	Floodplains.....	57
6.15.2.3	Protected Species and Habitat.....	58

APPENDICES:

APPENDIX A: Signed Typical Section Package

APPENDIX B: 25 Year Life Cost Estimate – Existing Bridge

APPENDIX C: Preferred Alternative Conceptual Plans

APPENDIX D: NBIS Bridge Inspection Report

APPENDIX E: Agency Coordination

APPENDIX F: Programmatic Section 4(f) Evaluation with MOA

LIST OF TABLES

Table 1-1: Preferred Alternative Evaluation Matrix	5
Table 2-1: Existing Right-of-Way Widths	7
Table 2-2: Existing Horizontal Alignment Data	8
Table 2-3: Recommended K, D, T Factors	11
Table 2-4: Existing Unsignalized Intersection Analysis.....	12
Table 2-5: Crash Summary by Crash Type	12
Table 2-6: Existing Utility Owners.....	12
Table 2-7: Existing Access Management.....	13
Table 3-1: Project Design Standards.....	20
Table 4-1: Roadway Typical Section Evaluation Matrix.....	24
Table 4-2: Bridge Typical Section Evaluation Matrix	25
Table 4-3: Build Alternative 1 Horizontal Alignment Data	29
Table 4-4: Build Alternative 1 Vertical Alignment Data	29
Table 4-5: Build Alternative 2 Horizontal Alignment Data	33
Table 4-6: Build Alternative 2 Vertical Alignment Data	33
Table 4-7: Build Alternative 3 Horizontal Alignment Data	36
Table 4-8: Build Alternative 3 Vertical Alignment Data	37
Table 4-9: Summary Matrix for the Alternatives Comparison	42
Table 6-1: Roadway LOS Analysis - Daily Conditions	49
Table 6-2: Roadway LOS Analysis - Peak Hour Directional Conditions	49
Table 6-3: Future Unsignalized Intersection Analysis.....	49
Table 6-4: Parameters of Bridge for Preferred Alternative: FEMA Effective Model	53
Table 6-5: Parameters of Bridge for Preferred Alternative: Calibrated Hydrologic Model.....	53

Table 6-6: Stormwater Management Facilities	54
Table 6-7: Project Cost Estimate	54
Table 6-8 Summary of Species Effects Determinations	58

LIST OF FIGURES

Figure 1-1: Project Location Map.....	2
Figure 2-1: Existing Roadway Typical Section.....	6
Figure 2-2: Existing Bridge Typical Section	7
Figure 2-3: Potential Contamination Sites	18
Figure 4-1: Build Alternative 1 - Roadway Typical Section	27
Figure 4-2: Build Alternative 1 - Bridge Typical Section.....	28
Figure 4-3: Build Alternative 2 - Roadway Typical Section	32
Figure 4-4: Build Alternative 2 - Bridge Typical Section.....	33
Figure 4-5: Build Alternative 3 - Roadway Typical Section	35
Figure 4-6: Build Alternative 3 - Bridge Typical Section.....	36
Figure 4-7: Build Alternative 3 – Existing Bridge to Remain	38
Figure 6-1: Traffic Projections and Level of Service	48
Figure 6-2: Temporary Traffic Control Plan for the Preferred Alternative	52

SECTION 1.0 SUMMARY OF PROJECT

1.1 Project Description

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study to explore options to correct the deficiencies of the existing US 98/John Singletary Bridge (Bridge No. 160064) in Polk County, Florida. The study limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area entrance (MP 1.581), a distance of approximately 0.55 miles (see **Figure 1-1**). The purpose of the PD&E Study is to evaluate the need for the improvements and provide documented engineering and environmental analyses to aid the City of Fort Meade, Polk County, FDOT and the Office of Environmental Management (OEM) in reaching a decision on the location and conceptual design for the proposed modifications to US 98 within the study limits. The study was conducted in order to meet the requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules, and regulations.

US 98 is classified as an Urban Principal Arterial and is on the National Highway System (NHS) from west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance. The existing roadway typical section is a two-lane undivided facility with 12-foot travel lanes (one in each direction) and Type F curb and gutter. The existing John Singletary Bridge (Bridge No. 160064) typical section includes two 10-foot wide travel lanes, a narrow seven-inch curb on the south side, and no shoulders. The overall bridge width is 29 feet with no skew. The existing bridge is classified as functionally obsolete due to its substandard lane widths and shoulder dimensions. There is an existing sidewalk along US 98 that ends west of Washington Avenue and an approximately five-foot raised sidewalk on the north side of the bridge. There are no other existing sidewalks or bicycle lanes along US 98 within the project corridor.

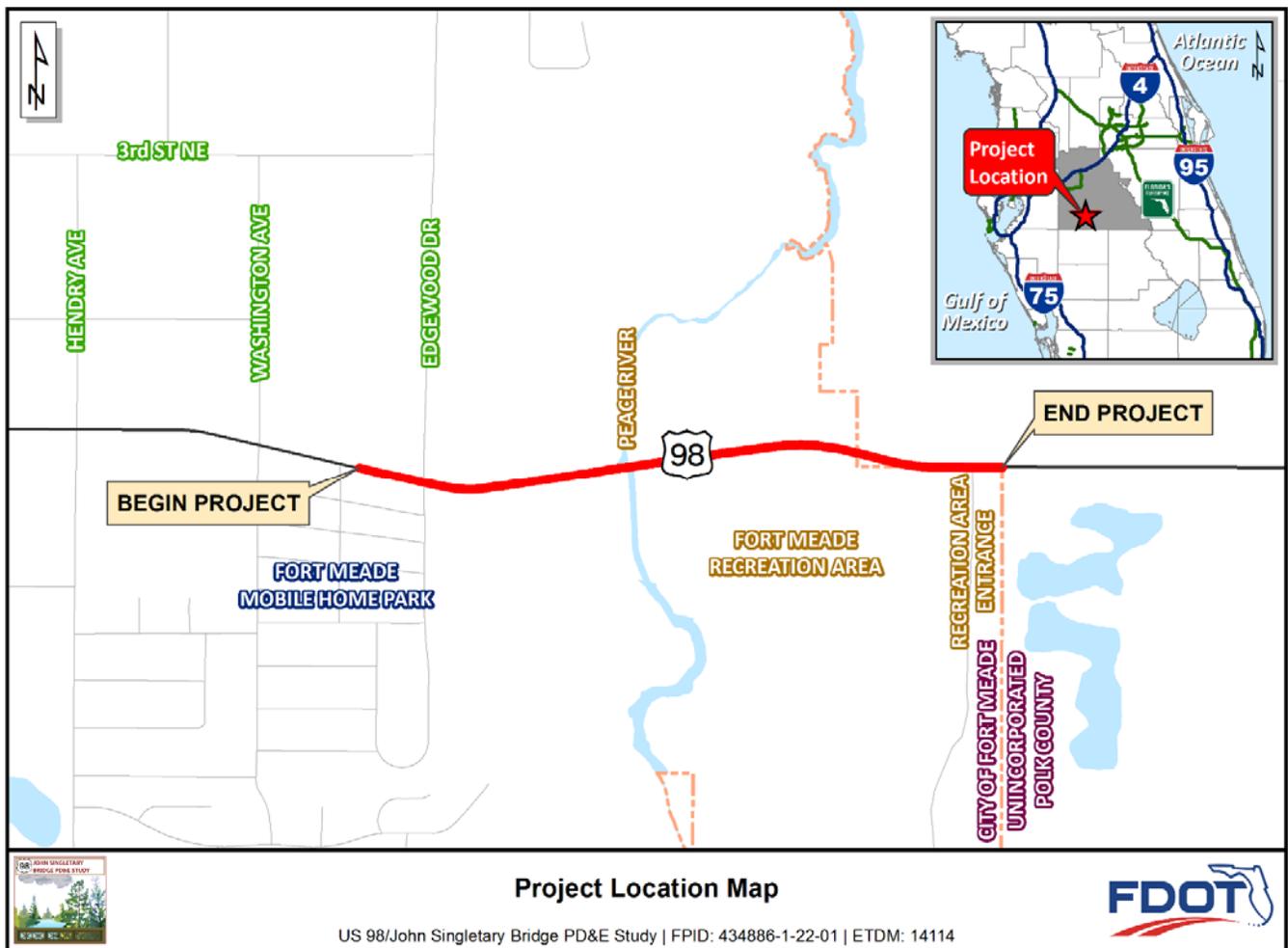


FIGURE 1-1: PROJECT LOCATION MAP

1.2 Purpose and Need

The bridge was constructed in 1931 and has two 10-foot wide travel lanes and a five-foot wide sidewalk on the north side. These dimensions are functionally obsolete. The need for the project is to provide a bridge built to current standards. The purpose of this project is to explore options to correct these identified deficiencies in order to maintain the connection between Downtown Fort Meade to the west and the City of Frostproof to the east, as US 98 serves as the main access road between the two cities. This project is also intended to enhance safety conditions as well as movement/access across the Peace River for motorists, pedestrians, and bicyclists. The need for the project is based on the following primary and secondary criteria:

PRIMARY CRITERIA

STRUCTURAL AND FUNCTIONAL DEFICIENCIES: Improve Structural and Functional Conditions

The US 98/John Singletary Bridge is a concrete girder bridge built in 1931. The existing bridge typical section includes two 10-foot wide travel lanes and a single five-foot wide raised sidewalk located on the north side. There are no shoulders. The 550 foot long bridge is classified as functionally obsolete due to the 10 foot lanes, lack of shoulders, and the location of the railing right next to the traffic lane. The bridge has heavy use with significant truck traffic and is located on the National Highway System (NHS). The eastbound passing vehicles are up against the substandard traffic railing on the south side and westbound passing vehicles are at the edge of the sidewalk on the north side. This creates an undesirable condition for pedestrians using the sidewalk and for bicycles using the bridge, since the side mirrors of the trucks extending over the sidewalk. Based on a structural loading test, the bridge was rated at 31 tons instead of the 36 tons required. According to the load test report, this does not meet current design standards.

SAFETY: Improve Safety Conditions

The crash data obtained from the Florida Department of Transportation Safety Office for the period 2008-2012 indicated there were 5 crashes on the bridge. The accidents are generally comparable in type (i.e., side swipes). A bridge modified or built to required current standards would allow for greater vehicle clearance through wider travel lanes, potentially reducing vehicle to vehicle and vehicle to structure conflicts. Further, the addition of bike lanes and sidewalks built to current standards would buffer pedestrians/bicyclists from vehicles thus modifying/limiting opportunities for conflicts between pedestrians/bicyclists and vehicles.

SECONDARY CRITERIA

MODAL INTERRELATIONSHIPS: Enhance Mobility Options and Multi-Modal Access

The US 98/John Singletary Bridge currently connects residents of Downtown Fort Meade on the west side of the Peace River to the City of Frostproof to the east. The proposed improvements will enhance overall pedestrian/bicycle movement and circulation across the Peace River supporting the goals of Polk County to create a connected, regional pedestrian and bicycle network.

1.3 Commitments

The Department is committed to the following measures to minimize impacts to the human and natural environment:

1. Adhere to all stipulations, I. thru XI., as outlined in the MOA with SHPO for the mitigation of adverse effect to the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440).
2. In accordance with MOA Stipulation II., prior to the salvage of the existing bridge railings and historic commemorative bridge plaque and demolition of the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440), the FDOT will complete documentation in accordance with Historic American Engineering Record (HAER) standards as outlined in the MOA. FDOT shall provide copies as outlined in the MOA.
3. In accordance with MOA Stipulation III., FDOT shall salvage the historic commemorative bridge plaque and existing bridge railings, to the greatest extent possible, for use elsewhere, and a salvage and relocation plan will be developed and approved prior to construction advertisement as outlined in the MOA.
4. In accordance with MOA Stipulation III.D., the FDOT shall ensure that the existing commemorative bridge plaque and railings are removed in a manner that minimizes damage, and that the items are stored in an area protected from human and natural damage until elements can be reused.
5. In accordance with MOA Stipulation IV., during the design and construction phases, the FDOT will assist with the development and funding of a single panel educational exhibit to be provided to appropriate local entities; consider the option to install a Historic Marker to be placed in proximity to the bridge; the draft exhibit and/or Historic Marker text and location will be coordinated with SHPO for review; as per outlined in the MOA.
6. The most recent version of the USFWS' *Standard Protection Measures for the Eastern Indigo Snake* will be adhered to during the construction of the proposed project.

1.4 Description of Preferred Alternative

At the conclusion of the public hearing, environmental studies, and interagency coordination, the Preferred Alternative is Build Alternative 2 and Bridge Option 1, which consists of replacing the existing two-lane John Singletary Bridge (Bridge No. 160064) with a new two-lane bridge that meets current FDOT design standards and accommodates pedestrian and bicycle facilities. The new bridge alignment will be shifted to the south of the existing bridge alignment and tie into the existing roadway alignment east of the Fort Meade Recreation Area entrance. Additional improvements include adding a six-foot wide sidewalk between Washington Avenue and Edgewood Drive to connect the proposed pedestrian improvements with the existing sidewalk that currently ends west of Washington Avenue. This will straighten out the roadway alignment and eliminate the need for a second curve after the bridge. Bridge Option 1 proposes a 12-span bridge with 50'-0" maximum spans for an overall bridge length of 600 feet. The evaluation matrix is shown in **Table 1-1** for the Preferred Alternative. Concept plans for the Preferred Alternative are located in **Appendix C**.

TABLE 1-1: PREFERRED ALTERNATIVE EVALUATION MATRIX

EVALUATION FACTORS	BUILD ALTERNATIVE 2 and Bridge Option 1
RIGHT-OF-WAY (R/W) IMPACTS	
Roadway - Number of parcels impacted and acreage	3 (2.07 ac.)
Ponds - Number of parcels impacted and acreage	1 (1.00 ac.)
Number of potential residential relocations	0
Number of potential business relocations	0
Additional R/W to be acquired (acres)	3.07
COMMUNITY IMPACTS	
Number of public services impacted	0
Number of residences affected by increased noise levels	0
MULTIMODAL ACCOMMODATIONS	
Provides pedestrian facilities? (yes/no)	Yes
Provides bicycle facilities? (yes/no)	Yes
IMPACTS ON CULTURAL/HISTORIC RESOURCES & PARKS	
Number of historic/archeological sites impacted	1
Number of public recreational sites impacted	0
NATURAL ENVIRONMENTAL IMPACTS	
Total wetland impact area (acres)	0.55
Impact to wildlife and habitat	Minimal
FLOODPLAIN ENCROACHMENT	
Area of base floodplain encroachment (acres)	0.90
Area of base floodway encroachment (acres)	0.90
POTENTIAL CONTAMINATION SITES	
Impact to contaminated sites	1
ESTIMATED PROJECT COSTS (SUBJECT TO CHANGE)	
Construction Cost* (millions)	\$11.2
Existing Bridge Demolition	\$644,672
Mitigation Costs:	
Floodplain Rise	\$0
Environmental (incl. permitting costs) for Rise Mitigation	\$0
Existing Bridge	\$0
R/W Acquisition Cost for Roadway	\$172,000
R/W Acquisition Cost for Ponds	\$113,000
Engineering Cost** (15%) (millions)	\$1.8
Construction Engineering and Inspection** (15%) (millions)	\$1.8
Total (millions)	\$15.7

*Based on the FDOT Long Range Estimate (LRE)

**15% of Total for Construction Cost, Existing Bridge Demolition, and R/W Acquisition Cost for Roadway.

SECTION 2.0 EXISTING CONDITIONS

The existing conditions described in this section were derived from a review of multiple data sources as well as additional data that was collected during several field reviews conducted in the early stages of this PD&E study. The existing data is based on FDOT Straight Line Diagrams of Road Inventory (SLDs), FDOT Bridge Inspection Reports, and FDOT drainage maps.

2.1 Typical Sections

The existing roadway typical section is an urban, two-lane undivided roadway with 12-foot wide travel lanes and type F curb and gutter. There are no bicycle lanes or sidewalks. The posted speed limit is 40 mph from Washington Avenue to the west end of the bridge, 35 mph across the bridge, and 45 mph from the east end of the bridge to the Fort Meade Recreation Area entrance. The existing design speed is 35 mph from Washington Avenue to approximately 400 feet east of Edgewood Drive (Sta. 89+00). The design speed then changes to 45 mph to the end of the project. A typical section of the existing roadway is provided on **Figure 2-1**.

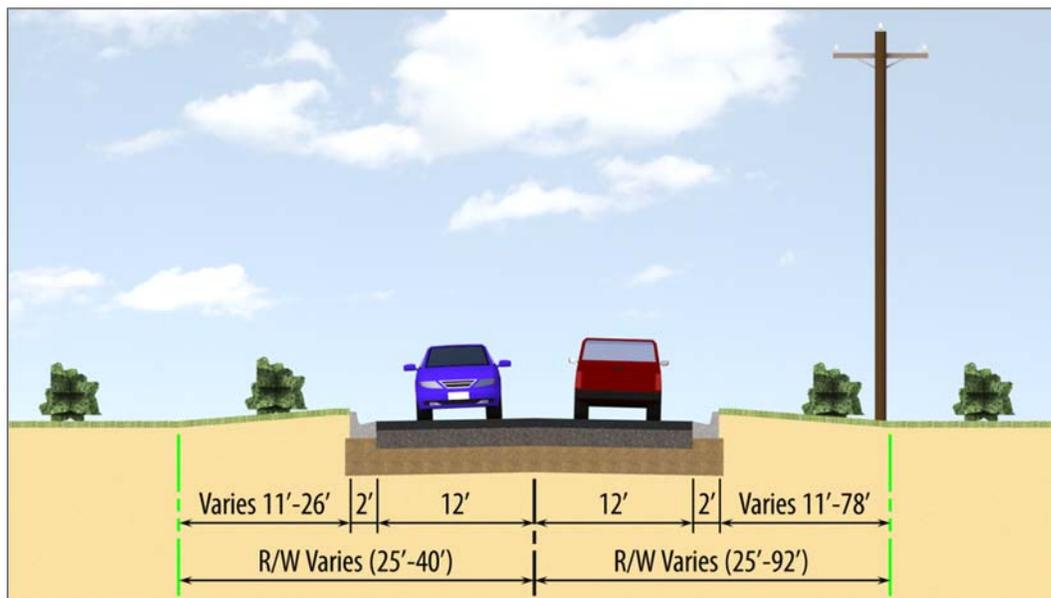


FIGURE 2-1: EXISTING ROADWAY TYPICAL SECTION

The existing bridge typical section includes two 10-foot wide travel lanes, an approximately five-foot wide raised sidewalk located on the north side, and a narrow seven-inch curb on the south side. The overall bridge width is 29 feet with no skew. There are no shoulders and the posted speed limit across the bridge is 35 mph. A typical section of the existing bridge is provided on **Figure 2-2**.

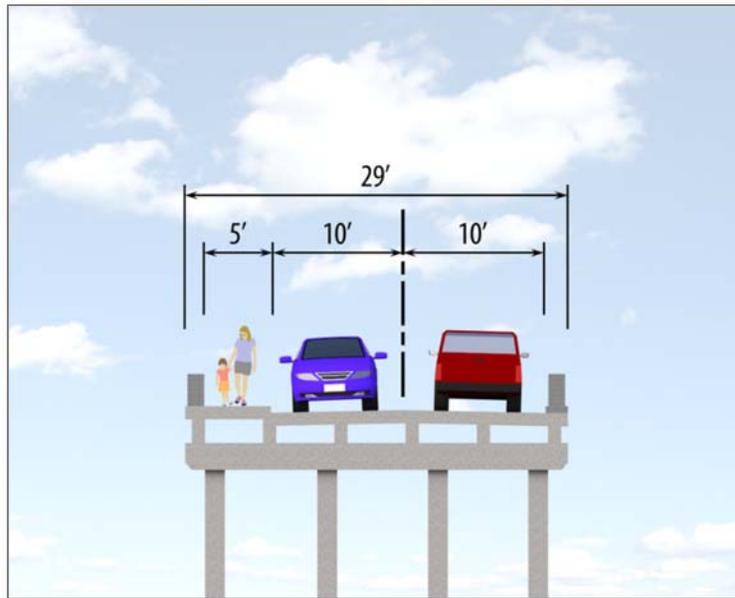


FIGURE 2-2: EXISTING BRIDGE TYPICAL SECTION

2.2 Existing Roadway Right-of-Way

The existing right-of-way (R/W) varies within the project limits and is summarized in **Table 2-1** below. For stationing reference and additional R/W details, refer to the concept plans in **Appendix C**.

TABLE 2-1: EXISTING RIGHT-OF-WAY WIDTHS

STATION RANGE	TOTAL R/W WIDTH
77+50.00 to 84+70.13	50' existing R/W
84+70.13 to 87+14.99	100' to 132' existing R/W
87+14.99 to 92+65.00	58' existing maintained R/W (R/W on the south side of the roadway is very large in this area due to land owned by the FDOT)
92+65.00 to 98+05.00	30' existing bridge R/W
98+05.00 to 109+87.00	54' existing R/W

2.3 Roadway Classification

According to the Straight Line Diagram of Road Inventory, US 98 is classified as an urban principal arterial throughout the limits of the project. The FDOT classifies roadways according to the nature and character of their uses.

2.4 Existing Land Use

The project is located within the City of Fort Meade. The existing land use is mostly single and multi-family residential with a few commercial parcels. There is City owned land, including a

recreation area, along the southern portion of the project. **Figure 6-3** illustrates the existing land uses along the project corridor.

2.5 Horizontal and Vertical Alignment

Table 2-2 provides a summary of the existing horizontal alignment data for the baseline of US 98.

TABLE 2-2: EXISTING HORIZONTAL ALIGNMENT DATA

TANGENT SECTION				CURVE SECTION				
Begin STA.	End STA.	Distance (ft)	Bearing	PC STA.	PT STA.	Length (ft)	Radius (ft)	Superelevation / Design Speed
75+29.02	85+35.76	1,006.73	S 77° 33' 24" E	-	-	-	-	-
-	-	-	-	85+35.76	87+47.84	212.08	572.96	RC / 35 mph
87+47.84	99+70.03	1,222.19	N 81° 14' 08" E	-	-	-	-	-
-	-	-	-	99+70.03	103+19.70	349.67	881.00	2.4% / 45 mph
103+19.70	104+70.10	150.40	S 76° 01' 25" E	-	-	-	-	-
-	-	-	-	104+70.10	107+09.97	239.87	955.00	RC / 45 mph
107+09.97	114+65.33	755.36	N 89° 35' 06" E	-	-	-	-	-

RC = Reverse Crown (+0.02)

All the existing curves along the project have a substandard curve length based on current FDOT design standards (400-ft. min.). All of the existing curves meet current radii and superelevation standards based on the original design.

The existing vertical alignment was gathered for this project using a Digital Terrain Model (DTM), provided by FDOT, from a milling and resurfacing/widening project, done in 2007 (FPID No. 197329-2, Vertical Datum: NGVD 1929), along the project limits. A profile was plotted along the existing baseline of survey and the existing vertical alignment was estimated from this data.

The existing profile from Washington Avenue to Edgewood Drive has an estimated slope around -1%. East of Edgewood Drive, there is an approximately 200-foot crest vertical curve connecting an estimated -1% back grade with an estimated -4.2% ahead grade. This -4.2% grade appears to connect to the existing bridge with a sag vertical curve; this curve could not be estimated based on the DTM data. Directly east of the bridge there is an approximately 160-foot sag vertical curve connecting an estimated -1.8% back grade with an estimated +0.4% ahead grade. Based on this estimated data, the existing vertical curves within the project limits do not appear to meet current design standards.

2.6 Lateral Offset and Vertical Clearances

The existing roadway meets current FDOT lateral offset standards. The bridge over the Peace River (Bridge No. 160064) provides approximately 5.65 feet of clearance over the mean high water level.

2.7 Pedestrian and Bicycle Facilities

There is an existing sidewalk along US 98 on both sides of the roadway that ends west of Washington Avenue and there is an approximately five-foot wide raised sidewalk on the north side of the bridge. There are no other existing sidewalks or bicycle lanes along US 98 within the project corridor. The FDOT is constructing an eight-foot wide trail from Mount Pisgah Road to US 98 (approximately 2.597 miles), called the Peace River Trail project (FPID No. 433561-1-52-01). The trail ends in the Fort Meade Recreation Area. The Peace River Trail project was put out for bids on February 25, 2015.

2.8 Transit Facilities

Route 25 of the Citrus Connection – Polk Transit runs along US 17 and serves as the main connection between Fort Meade and Bartow. This route loops through Fort Meade with a stop at Hendry Avenue and US 98; approximately 0.25 miles west of the western project limit. It then travels west on US 98 away from the project. There are no bus stops located within the project limits.

2.9 Lighting

There is existing roadway lighting along the south side of the roadway that starts west of Edgewood Drive, continues along the south side of the bridge and stops at the east end of the bridge. There is no existing roadway lighting from the bridge to the end of the project limits at the Fort Meade Recreation Area entrance. The FDOT lighting project FPID No. 433376-1-62-01) is adding street lighting on US 98 from US 17 to the Peace River Bridge (approximately 1.141 miles). The project was put out for bids on May 20, 2015. The lighting project overlaps this PD&E Study by approximately 1,536 feet at the beginning of the project.

2.10 Signalized Intersections

There are no signalized intersections within the project limits.

2.11 Posted Speeds

The posted speed limit is 40 mph from Washington Avenue to the west end of the bridge, 35 mph across the bridge, and 45 mph from the east end of the bridge to the Fort Meade Recreation Area entrance.

2.12 Railroads

There are no railroads within the project corridor.

2.13 Structural and Operational Conditions of the Pavement

Based on a review of the pavement condition ratings from FDOT's Comprehensive Pavement Management System (February 2015), the cracking rating of the existing US 98 pavement is 9.5 from MP 0.898 to MP 1.180 and 10.0 from MP 1.180 to 1.487. The ride rating ranges from 7.8 to 8.0. Cracking and ride ratings are based on a scale from 0 to 10, with 10 being the best. Any crack rating or ride rating, at or below 5.4 (speed limits less than or equal to 45 mph) is considered deficient.

2.14 Drainage

The project corridor is located within the Peace River above Bowlegs Creek basin, Water Body Identification Number (WBID) 1623J, which is an Impaired Water Body (IWB), impaired for dissolved oxygen and nutrients. The stormwater runoff generated in the pre-development condition sheet flows from the US 98 roadway into dry roadside conveyance ditches/swales and flows into the Peace River on the east side. On the west side of the Peace River the pre-development condition sheet flows from the US 98 roadway into dry roadside conveyance ditch/swales and collects into a roadside stormdrain system that discharges into the Peace River. The post-development condition will maintain existing drainage patterns but route the water via stormdrain pipes to the pond(s) before discharging to the Peace River.

There are no cross drains within the study boundaries and there are no existing (stormwater management system) permits. Key findings/assumptions used to describe the existing drainage conditions to evaluate the hydraulics of the proposed alternatives are listed below:

- The vertical control datum used was North American Vertical Datum 1988 (NAVD 88).
- Seasonal High Water Table (SHWT) elevations used in the conceptual drainage analysis were based on water depths taken from the Natural Resources Conservation Service (NRCS) soil maps and data.
- The drainage analysis is based on a review of topographic Light Detection and Ranging (LiDAR) information, site investigations and the proposed design improvements.

2.14.1 *Drainage Basins*

Within the project limits the terrain generally slopes towards the Peace River from the east and west sides of the river. Because of the bridge over the Peace River, the project area is broken up into two basins with a common outfall being the Peace River. Basin 1 limits are from the beginning of the project (west of Edgewood Drive) to the western edge of the Peace River Bridge. Basin 2 limits are from the western edge of the Peace River Bridge to the end of project (east of the Fort Meade Recreation Area entrance). Additional drainage details are provided in the *Conceptual Pond Siting Report* (December 2017), prepared under separate cover.

2.14.2 Floodplains/Floodways

The study area can be found on Federal Emergency Management Agency (FEMA) recently revised Flood Insurance Rate Map (FIRM) panels 12105C0 695G and 12105C 0885G. The effective date of these revised maps is December 22, 2016. Peace River is a regulatory floodway, meaning a No-Rise Certification will be required during the Design Phase. The construction of this project will be considered a traverse encroachment on the floodplain and floodway.

2.15 Existing Traffic Conditions

As part of this PD&E Study, a *Final Technical Memorandum Project Traffic Summary* (July 2015), provided under separate cover, was prepared to develop future traffic projections for the opening (2020), mid-design (2030) and design (2040) years along US 98.

2.15.1 Existing Year Traffic Volumes

Based on the Roadway Characteristic Inventory (RCI) data, the posted speed limit along the US 98 corridor between the beginning of the project limits at MP 0.898 to MP 0.913 is 35 mph, between MP 0.913 to MP 1.312 the speed limit is 40 mph, and from MP 1.312 to the end of the project limits at MP 1.500 is 45 mph. To be noted: the RCI data is inconsistent with the posted speed limits verified in the field which are MP 0.898 to MP 1.189 is 40 mph, MP 1.189 to MP 1.292 is 35 mph, and MP 1.292 to MP 1.500 is 45 mph. The recommended K, D, and T factors, shown in **Table 2-3**, are consistent with the values obtained from the FDOT Florida Traffic Online (FTO) (2013) website, for station #160075 (Location: SR 700/US 98 – West of Peace River Bridge, Fort Meade).

TABLE 2-3: RECOMMENDED K, D, T FACTORS

RECOMMENDED VALUES	
Standard K Factor	9.5%
D Factor	55.9%
T _{peak}	6.0%
T ₂₄	10.9%

2.15.2 Intersection Analyses

Four-hour turning movement counts were collected at the intersection of US 98 and Edgewood Drive, and US 98 and the Fort Meade Recreation Area entrance, during the A.M. (7:00 – 9:00 A.M.) and P.M. (4:00 – 6:00 P.M.) peak hours. The intersection operating conditions were determined using HCS 2010 software, which is based on the latest Highway Capacity Manual (HCM) 2010. **Table 2-4** shows that both intersections are currently operating at an acceptable LOS.

TABLE 2-4: EXISTING UNSIGNALIZED INTERSECTION ANALYSIS

INTERSECTION	APPROACH	A.M. PEAK HOUR		P.M. PEAK HOUR	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS
US 98 and Edgewood Drive	Northbound	11.0	B	14.4	B
	Southbound	10.9	B	12.6	B
US 98 and the Fort Meade Recreation Area Entrance	Northbound	11.1	B	11.9	B

2.16 Crash Data

Crash data from a five-year analysis period, 2010 to 2014, was obtained from FDOT. Over the five year period, a total of 13 crashes were reported along US 98 within the project limits (MP 0.798 to MP 1.587). These crashes resulted in four (4) injuries and no fatalities. Both of the sideswipe accidents occurred on the bridge. **Table 2-5** summarizes the annual crash frequency by crash type. The predominant crash type was rear-end (30.5%).

TABLE 2-5: CRASH SUMMARY BY CRASH TYPE

CRASH TYPE	2010	2011	2012	2013	2014	5-YEAR TOTAL	PERCENTAGE
Rear-end	0	0	3	1		4	30.5%
Angle	0	0	1	0		1	8%
Sideswipe	1	0	0	0	1	2	15%
Hit concrete barrier wall	1	0	0	0		1	8%
Animal	0	0	0	0	1	1	8%
All other	0	1	1	1	1	4	30.5%
Total	2	1	5	2	3	13	100%

2.17 Utilities

In order to evaluate potential surface and subsurface utility conflicts associated with the proposed project, base maps were sent to utility providers in accordance with Part 2, Chapter 21 of the FDOT PD&E Manual with a request to provide information on existing and planned utilities. Correspondence and sketches of the existing and planned utilities are included in the project file. **Table 2-6** summarizes utility type, location and name of utility company/owner.

TABLE 2-6: EXISTING UTILITY OWNERS

TYPE	LOCATION	COMPANY/OWNER
Gas	No Conflict	Central Florida Gas
Telephone and fiber optic (above and underground)	North and south side of roadway, north side of bridge	CenturyLink
Overhead electric, street lighting, water and sewer	South side of the roadway and bridge	City of Fort Meade PowerServices (consultant for the City of Fort Meade)
Fiber optic	No Conflict	Comcast
Electric	No Conflict	Peace River Electric
Stream gage	Attached to the south side of the bridge	U.S. Geological Survey

2.18 Access Management

The existing US 98 roadway west of Edgewood Drive is classified by FDOT as Access Classification 6. East of Edgewood Drive to the Fort Meade Recreation Area entrance, US 98 is classified as Access Classification 4. Both classifications are non-restrictive.

For access class 6 roadways the following minimum spacings are applied:

- Signal spacing: 1,320 feet
- Connection spacing: 245 feet (posted speed 45 mph or less)

For access class 4 roadways the following minimum spacings are applied:

- Signal spacing: 2,640 feet
- Connection spacing: 440 feet (posted speed 45 mph or less)

Table 2-7 summarizes the spacing between the existing intersections along the corridor.

TABLE 2-7: EXISTING ACCESS MANAGEMENT

No.	INTERSECTION	MILE POST	APPROX. STATION	EXISTING SPACING (FT)	ACCESS CLASSIFICATION	DEVIATION FROM STANDARD
1	Washington Avenue	0.898	77+51	0	6	0%
2	Florida Avenue	0.966	81+09	358	6	0%
3	Edgewood Drive	1.037	84+72	363	6	0%
4	Fort Meade Recreation Area Entrance	1.487	108+44	2,372	4	0%

2.19 Structures

The existing US 98/John Singletary Bridge accommodates two 10-foot wide travel lanes (one in each direction of traffic), an approximately five-foot wide sidewalk on the north side of the bridge, and a narrow seven-inch curb on the south side. The overall bridge width is 29 feet with no skew. The bridge was built in 1931 (FDOT load test report states 1928) and consists of 22 simply supported spans with a span length of 25 feet each for a total bridge length of 550 feet. The superstructure consists of six concrete beams in each span that supports a 12-inch thick concrete deck with an asphalt overlay. It is unknown whether the concrete deck is composite with the concrete beam. The substructure consists of concrete bent caps supported on four 18-inch square prestressed concrete piles at each bent. The traffic railings are architecturally adorned in a geometric design pattern. Based on the age of the bridge, it is assumed that the bridge was designed for H15 loading. There are no existing plans for the existing bridge.

A Load Test on the bridge was conducted by the FDOT Structures Research Center in October 1991. Based on the load test results, the bridge was given a rating factor above 1.0 for all Florida legal loads and the HS20 design loading. A rating factor of 1.0 or above means that the bridge can safely carry the broad spectrum of trucks that are legally (meet axle weight restrictions) on Florida roads. However, since the load test was completed, there has been documented

continued age-related deterioration in the main load carrying members (deck, beams, bent caps and piles), which could compromise the existing load carrying capacity of the bridge and lead to weight restrictions that would limit heavier truck traffic from crossing the bridge.

2.19.1 National Bridge Inspection Standards (NBIS) Bridge Inspection Report

The National Bridge Inspection Standards (NBIS) Routine Bridge Inspection Report (done on a 24-month cycle) dated August 2015, can be found in **Appendix D**. According to this latest report, since the previous September 2013 inspection, there has been increased raveling and rutting in the deck top asphalt over the intermittent bents, increased missing joint sealant in the deck joints and north sidewalk, new spalls/delaminations with some having exposed steel in the decorative railings, new spalls/delaminations with some having exposed steel in the concrete beams and concrete piles, new and increased vertical cracks in the concrete piles, new delaminations in the pile grout patches, and new vertical and diagonal cracks in the abutment walls radiating from the beam/bearing seats. In addition, there is still visible settlement in the bridge at the north end at Bent 4, which was first observed in 1972, however, it is noted that there has been no change since the September 2013 inspection.

The current National Bridge Inventory (NBI) rating for the Deck, Superstructure and Substructure is a 5 (Fair Condition) in accordance with Tables 58-1, 59-1 and 60-1 of the FDOT Bridge Management System (BMS) Coding Guide.

2.19.2 Structural and Geometry Issues

The bridge was built in 1931 and is, therefore, over 85 years old. Based on FDOT Structures Design Guidelines (SDG) Section 1.1, material selection criteria for durability should meet the 75-year design life requirement established by the Department. Assuming the material used in the construction of the bridge meets today's criteria, the current age of the bridge is still past the design life established by the Department and also the American Association of State Highway and Transportation Officials (AASHTO). Per the latest NBIS inspection report, there is obvious visual signs of age related distress including cracks and spalls in the deck, superstructure and substructure.

US 98 is classified as an urban principal arterial and is on the National Highway System (NHS). The existing bridge is classified as functionally obsolete due to its substandard lane widths and shoulder dimensions. To improve the substandard geometry, consideration was given to converting the existing sidewalk to deck area for vehicular traffic use. To do so, the existing deck would need to be cut back to the outside face of the third beam from the north fascia. The existing traffic would either be detoured or use a single lane on the bridge for two-way traffic. The stability/support of the existing north traffic railing (to remain) is an issue since it would not be tied to the sidewalk during construction and would need to be temporarily supported over the waterway. Further, the structural anchorage of the existing north traffic railing to the new extended deck would require a mechanical or epoxy type anchor system that could damage the age old decorative concrete railing. Further, if the sidewalk is to be converted to deck area for

traffic use, a new traffic railing on the north side is required. If the bridge is not widened, and the improvements are done within the existing footprint, the rehabilitated bridge would still be classified as functionally obsolete as the improvements would not correct the substandard geometry.

If the south side of the bridge is to be retrofitted with a new traffic railing, a portion of the deck, up to at least the outside face of the second beam from the south fascia, would need to be removed to accommodate the construction of the new traffic railing. This would be done after the work is completed on the north side as noted above. Combined with extending the deck area, approximately 40% to 50% of the existing deck area would be replaced.

The existing decorative geometric design traffic railings do not meet current FDOT criteria for new traffic railings since they are not crash tested. Further, the traffic railing height and the size of openings do not conform to current standards. Since the bridge is on a National Highway System (NHS) route, an exception for the substandard railing to leave in place would likely not be granted. Options for upgrading the traffic railing include:

- Placing an approved traffic railing on the traffic side – this option is not feasible since there will be no room to accommodate the desired 12-foot lanes without widening the footprint of the existing bridge.
- Replacing the railing with an approved traffic railing with similar appearance – this option is not practical as the new traffic railing will likely be heavier than the existing railing. Also, a crash tested traffic railing with a similar geometric appearance could not be found. There are no existing plans and therefore the new traffic railing design would be based on unknowns that would need to be verified during construction and potentially create unforeseen constructability issues. The construction would also require a portion of the deck on the south side to be reconstructed for the new south traffic railing. The conversion of the sidewalk to deck on the north side would be designed to accommodate the new north traffic railing.
- Designing a special traffic railing to match the appearance of the existing railing – while this option on the face appears to be feasible, its limitations would be the same as above.

If the bridge is to be used as a shared path, it is recommended to install an approved pedestrian/bicycle railing on the bridge deck to restrict public access to the existing substandard railing.

To convert the existing sidewalk to deck area and replace the traffic railing would require the replacement of approximately 40% to 50% of the deck. The existing traffic would be detoured (approximately 3.7 miles) or use a one-lane two-way traffic pattern across the bridge during construction. Given that the bridge is approximately 550 feet long, a one-lane two-way traffic pattern would likely require 24 hour per day flaggers or automated flagging operation. This would be a safety concern especially at night and cause potential traffic congestion during peak travel times during the day.

Since approximately 40% to 50% of the deck area would be new to meet the project objectives and the NBI rating of the existing deck is only a 5 with noted age-related deficiencies, it is prudent to evaluate replacing the entire deck area. However, bearing in mind that the superstructure and

substructure also have a NBI rating of a 5 (Fair) and noted age related deficiencies and reported settlement, it is not prudent to construct a new deck on an aged and deficient superstructure and substructure.

Given the reported deterioration and repairs to the bridge since the FDOT load test was completed, a new load test would be warranted to re-verify the structural capacity before considering rehabilitation or widening. Per the SDG Figure 7.1.1-1, design inventory and FL 120 permit LRFR rating factors must be greater than or equal to 1.0, or LFR inventory rating greater than or equal to 1.0 along with LFR operating rating greater than or equal to 1.67, to proceed with rehabilitation/widening. Otherwise, options include:

- Applying for a design variation – this will probably not be granted since the bridge is on a NHS route and is currently classified as functionally obsolete.
- Programming the bridge for strengthening – this option is not prudent since the bridge would still have a substandard geometry and would still be classified as functionally obsolete.
- Programming the bridge for replacement – this option is recommended.

Based on all the above, it is recommended that the existing John Singletary Bridge be replaced. In addition, removing any portions of the existing bridge superstructure or substructure and using the remaining structure as part of a proposed phase phased construction is not prudent or recommended. The existing architectural/geometric design traffic railing can be salvaged in pieces and preserved as a monument in a park setting or other means close to the location of the proposed bridge.

2.19.3 Asbestos

A National Emission Standards for Hazardous Air Pollutants (NESHAP) *Asbestos Survey and Screening for Metals-Based Coatings* was conducted for the US 98/John Singletary Bridge structure. The purpose of the survey was to identify and sample suspect Asbestos Containing Materials (ACMs) and screen steel surfaces for suspected metal-based paint and/or protective coatings. The survey was conducted in September 2014 by an Asbestos Hazard Emergency Response Act (AHERA) accredited inspector in general accordance with the sampling protocols established in 40 Code of Federal Regulations (CFR), part 763. A total of 15 bulk samples were collected from five homogeneous areas of suspect ACM.

- No Asbestos Containing Materials were identified as a result of laboratory Polarized Light Microscopy (PLM) tests.
- Steel surfaces with metals-based paints and/or coatings were not identified during bridge inspection. Please note, the “as built” construction plans were requested for the existing bridge structure to review for suspect ACMs and metals-based coatings. The “as built” bridge construction plans were not available as of this writing.

Additional details are provided in the *NESHAP Asbestos Survey and Screening for Metals-Based Coatings Report* provided under separate cover.

2.20 Contamination

Based on a review of Federal, State and local databases, a total of five sites in the project area are identified as potentially contaminated. From data gathered during further records review and site visits, contamination concerns in the immediate vicinity of the proposed alternatives are limited to three sites ranked “low” risk, per the PD&E Manual, Chapter 20 Section 20.2.2.4. The sites ranked “low” risk in the immediate vicinity of the proposed alternatives are the City of Fort Meade Wastewater Treatment Facility located at 201 Edgewood Drive, the City of Fort Meade Outdoor Recreational Redevelopment Area located at Highway 98 East, and the City of Fort Meade Proposed RV Park located at 4227 Highway 98 East. The two remaining sites, located outside the project limits, are also ranked “low” risk. A map of these sites is shown in **Figure 2-3**.

Reviews of all reasonably available information indicates contamination, including documented spills, leaks, soil or groundwater exposure, is not an issue at the time of this investigation, although continued monitoring is required. Field reviews did not result in the identification of potential sources of contamination or other signs of possible contamination that may indicate more assessments, interviews, or investigations are needed at this time. While the sites documented in this report are not expected to be as problematic as sites ranked “medium” or “high”, these sites may warrant a re-investigation prior to R/W acquisition and construction to ensure that contamination incidents have not occurred after the time of this investigation and that these sites continue to be in regulatory compliance. Recommended actions for the sites rated as “low” risk include further records review at the time of R/W acquisition or construction and any further action should be based on the results of this review. Additional details are provided in the *Contamination Screening Evaluation Report* provided under separate cover.

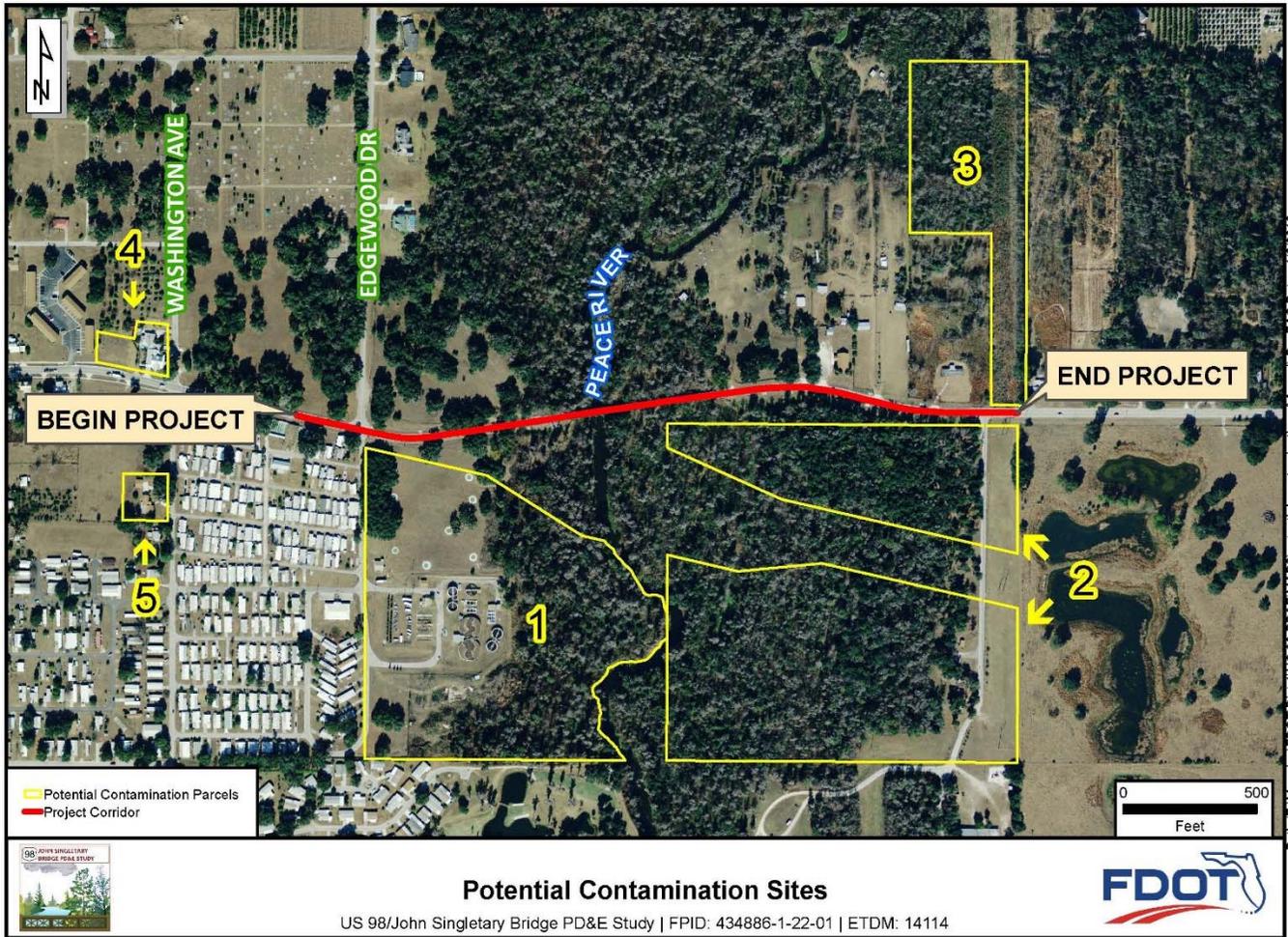


FIGURE 2-3: POTENTIAL CONTAMINATION SITES

- Site 1: City of Fort Meade Wastewater Treatment Facility
- Site 2: Fort Meade Outdoor Recreational Redevelopment Area
- Site 3: Proposed RV Park and Existing Private Wells
- Site 4: Hancock Funeral Home
- Site 5: Private Residence

SECTION 3.0 PROJECT DESIGN STANDARDS

The design criteria utilized in the preliminary design of the alternatives for this project are in conformance with the following publications:

- Plans Preparation Manual (PPM), Florida Department of Transportation, Volumes I and II, 2017
- Manual on Uniform Traffic Studies (MUTS), Federal Highway Administration, 2016
- Florida Pedestrian and Bicycle Strategic Safety Plan, Florida Department of Transportation, 2013
- Drainage Manual, Florida Department of Transportation, 2017
- Structures Manual, Florida Department of Transportation– this manual includes the Structures Design Guidelines (SDG) and the Structures Detailing Manual (SDM), 2017
- Utility Accommodation Manual, Florida Department of Transportation, 2010
- CADD Manual, Florida Department of Transportation, 2016
- ETDM Planning and Programming Manual, Florida Department of Transportation, 2015
- Roadway and Traffic Design Standards, Florida Department of Transportation, July 2016-June 2017
- ADA Compliance Facilities Access for Persons with Disabilities
- Right-of-Way Procedures Manual, Florida Department of Transportation
- Standard Specifications for Road and Bridge Construction, Florida Department of Transportation, January 2017
- Project Development and Environment Manual, Florida Department of Transportation, 2016
- American Association of State and Highway Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications, Customary U.S. Units, 7th Edition
- AASHTO Manual for Bridge Evaluation (MBE), 2nd Edition
- AASHTO Guidelines for Historic Bridge Rehabilitation and Replacement, 1st Edition

The design criteria are shown in **Table 3-1** and are based on an urban principal arterial with a 45 mph design speed. All criteria are subject to change and only current criteria will be used during the final design phase.

3.1 Bridge Loadings

The following loads will be used for the new bridge design:

Dead Load:

- | | | |
|-------------------------------------|---------|---------------------------|
| ○ Reinforced Concrete | 150 pcf | (SDG Table 2.2-1) |
| ○ Traffic Railing (32" F-Shape) | 420 plf | (SDG Table 2.2-1) |
| ○ Concrete Parapet (27" high) | 225 plf | (SDG Table 2.2-1) |
| ○ Pedestrian/Bicycle Bullet Railing | 10 plf | (SDG Table 2.2-1) |
| ○ Future Wearing Surface | 0 psf | (N/A per SDG Table 2.2-1) |

Seismic:

Seismic requirements are exempted only for design spans less than or equal to 75'-0" and simple or continuous span superstructures of any length supported entirely on elastomeric bearings. The proposed superstructures (Florida I-beams or prestressed slab / beam) will be supported on elastomeric bearing pads. The minimum bearing support dimensions shall be as required by the FDOT Structures Manual.

SECTION 4.0 ALTERNATIVES ANALYSIS

The objective of the alternatives analysis process is to identify technically and environmentally sound alternatives that provide a safe transportation facility that meets the purpose and needs of the project, are acceptable to the community, minimize impacts on the environment and that are cost effective. The process results in the selection of a Recommended Alternative, which can be advanced to the design phase. This section summarizes the alternatives considered in the PD&E Study.

4.1 No-Build Alternative

Under the No-Build Alternative, the existing bridge would remain in place. The advantages of the No-Build Alternative include the following:

- The existing historic bridge is preserved.
- No associated design, construction, or R/W costs (other than maintenance).
- No impacts to the public.

The disadvantages of the No-Build Alternative include the following:

- There are obvious visual signs of age related distress including cracks and spalls in the deck, superstructure and substructure that is increasing as evident by newer and increased deficiencies being observed during each subsequent NBIS routine inspections.
- The existing bridge is functionally obsolete due to substandard lane width and shoulder dimensions.
- The observed settlement at Bent 4 still exists.
- The existing decorative geometric design traffic railings do not meet current FDOT criteria.
- Safety is not improved across the bridge.
- Flooding at the eastern bridge approach may still occur during extreme storm events.

4.2 Transportation Systems Management and Operations

The Transportation Systems Management and Operations (TSM&O) Alternative includes those types of activities designed to maximize the use of the existing transportation system. It is a limited construction alternative that uses minor improvements to address the deficiencies identified by the project need. Because the primary purpose of the project is to correct the identified deficiencies of the existing US 98/John Singletary Bridge, only the Build and No-Build Alternatives were considered. The TSM&O Alternative was eliminated because it does not meet the project purpose and need.

4.3 Multi-Modal Alternatives

As noted in Section 2.8, no transit routes exist on US 98 within the project limits; therefore, no multimodal accommodations are specifically planned.

4.4 Alternative Evaluations

4.4.1 *Viable Typical Section*

Several typical sections were evaluated for the roadway corridor and bridge. Evaluation tables were developed in order to compare and evaluate the roadway, **Table 4-1**, and bridge, **Table 4-2**, typical section alternatives.

During a monthly progress meeting, on February 24, 2015, the project team decided to move forward with the proposed roadway typical section that has 12-foot wide travel lanes, seven-foot wide buffered bicycle lanes, a 10-foot wide shared use path on the south side of the roadway and a six-foot wide sidewalk on the north side of the roadway. The proposed bridge typical section will have 12-foot wide travel lanes, eight-foot wide shoulders, a 10-foot wide shared use path (separated by a barrier wall) on the south side of the bridge and a six-foot wide sidewalk (separated by a barrier wall) on the north side of the bridge.

During a progress meeting, on May 26, 2015, the FDOT provided the direction that 11-foot wide travel lanes be used for the roadway and bridge typical sections rather than 12-foot wide travel lanes based upon the new buffered bicycle lane criteria in the Plans Preparation Manual. This change is not represented on the typical sections shown in **Table 4-1** or **Table 4-2** since the evaluation matrix was developed prior to this decision.

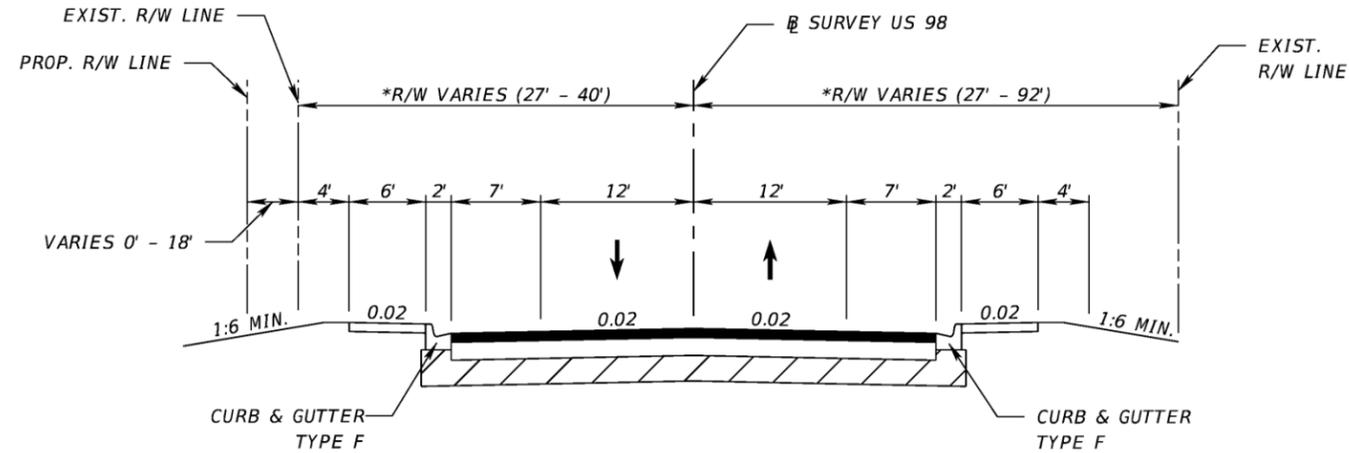
TABLE 4-1: ROADWAY TYPICAL SECTION EVALUATION MATRIX

ROADWAY TYPICAL SECTION ALTERNATIVES

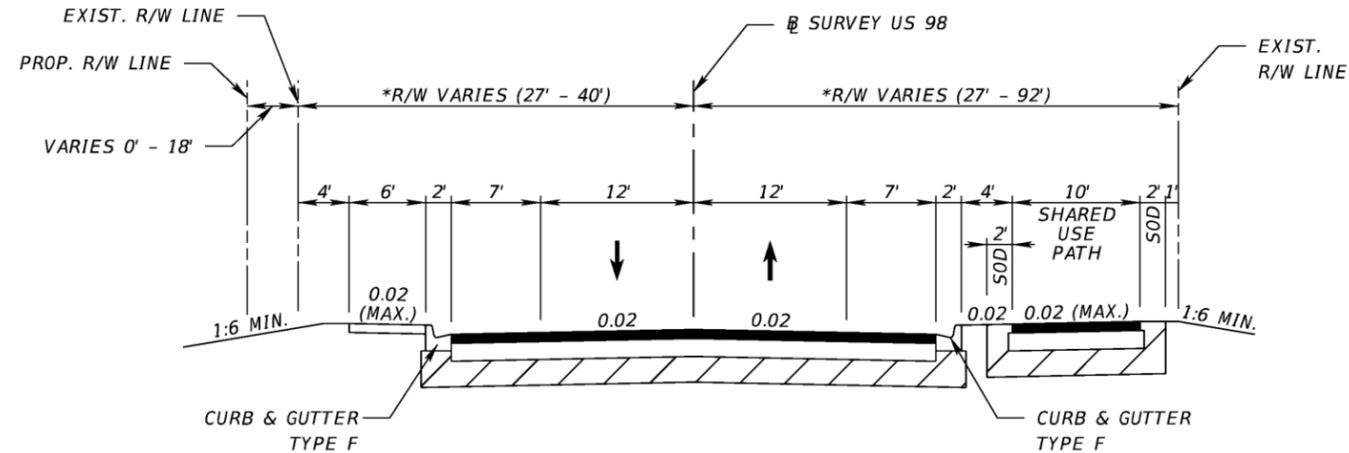
PROS

CONS

SECTION WITH 6' SIDEWALK ON BOTH SIDES OF THE ROADWAY



SECTION WITH SHARED USE PATH ON SOUTH SIDE OF THE ROADWAY



- Provides bicycle lanes and sidewalks on both sides of the roadway
- R/W impacts to adjacent properties on both sides of the roadway

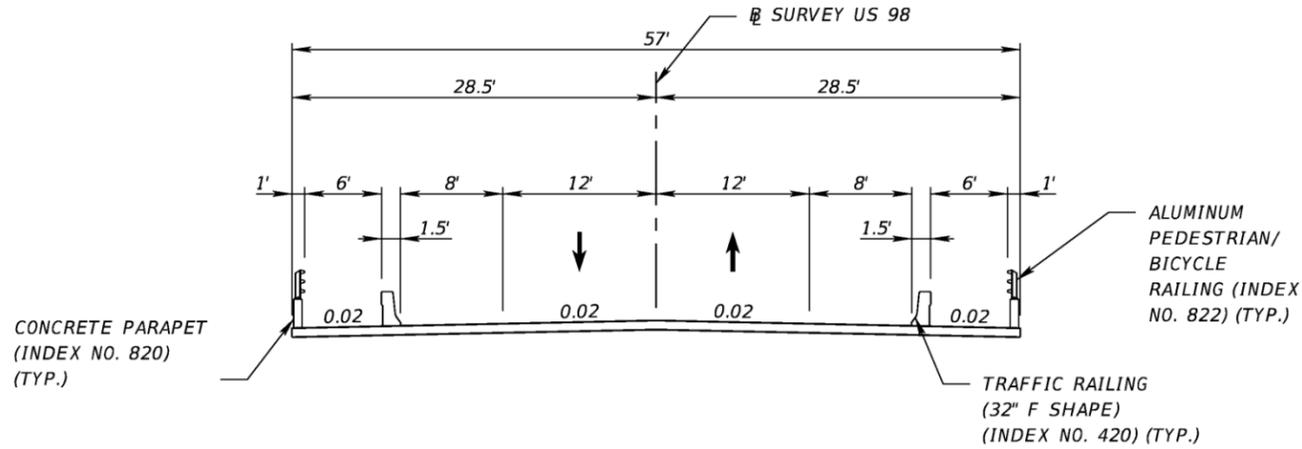
- Provides bicycle lanes and sidewalks on both sides of the roadway
- R/W impacts to adjacent properties
- More impervious area
- Provides shared use path that ties into the trail project
- More maintenance
- May facilitate the use of golf carts on the shared use path

*STATION RANGE	*TOTAL R/W WIDTH
77+50.00 to 84+70.13	50' existing R/W
84+70.13 to 87+14.99	100' to 132' existing R/W
87+14.99 to 92+65.00	58' existing maintained R/W (R/W on the south side of the roadway is very large in this area due to land owned by the FDOT)
92+65.00 to 98+05.00	30' existing bridge R/W
98+05.00 to 109+87.00	54' existing R/W

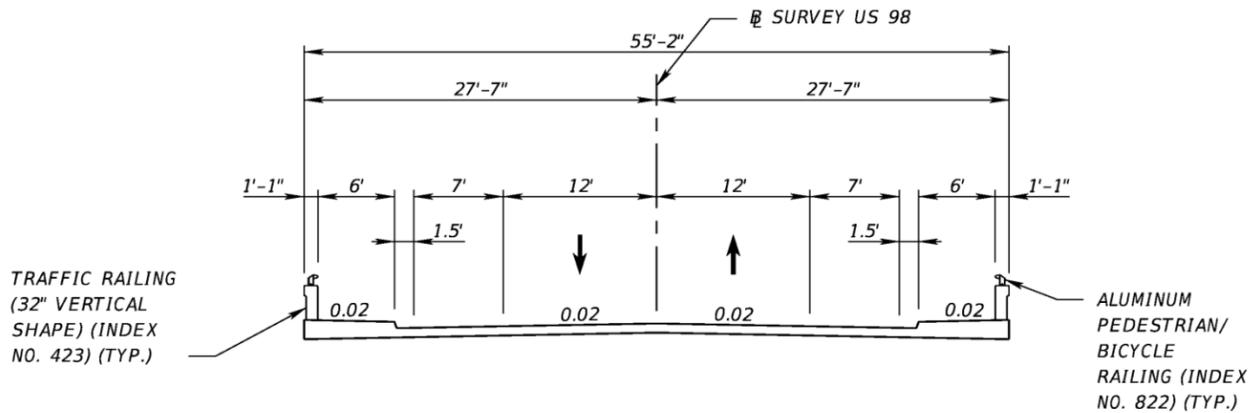
TABLE 4-2: BRIDGE TYPICAL SECTION EVALUATION MATRIX

BRIDGE TYPICAL SECTION ALTERNATIVES

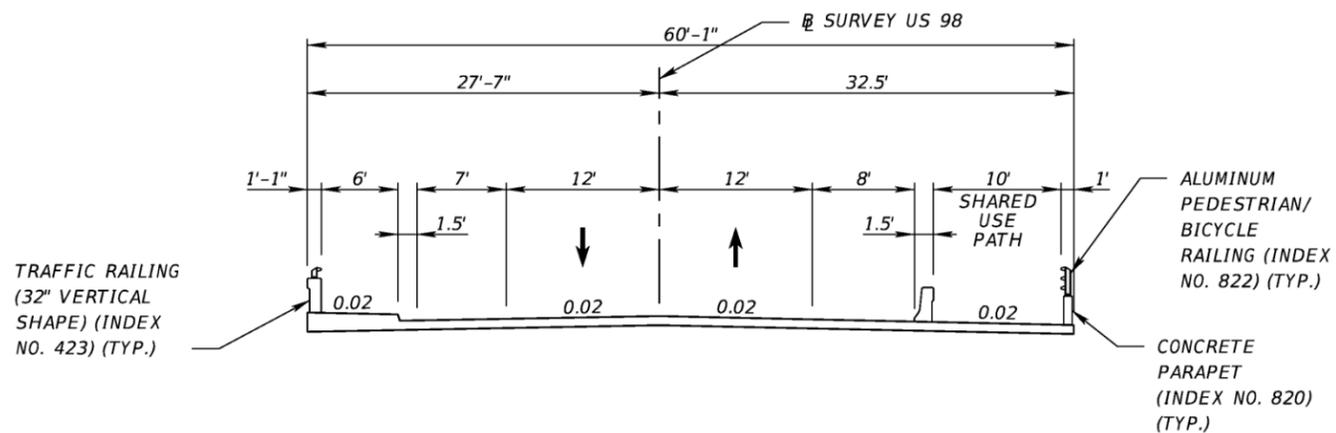
BRIDGE SECTION WITH TRAFFIC RAILING AND SIDEWALK ON BOTH SIDES



BRIDGE SECTION WITHOUT TRAFFIC RAILING AND SIDEWALK ON BOTH SIDES



BRIDGE SECTION WITHOUT TRAFFIC RAILING AND SIDEWALK ON NORTH SIDE AND WITH TRAFFIC RAILING AND 10' WIDE SHARED USE PATH ON SOUTH SIDE



- | PROS | CONS |
|--|--|
| <ul style="list-style-type: none"> ○ Provides bicycle lanes and sidewalks on both sides of the bridge ○ Barrier wall provides a buffer between the bridge and sidewalk | <ul style="list-style-type: none"> ○ R/W impacts to adjacent properties ○ Barrier wall between the bridge and sidewalk is more commonly used in rural areas ○ Roadway to bridge transitions |

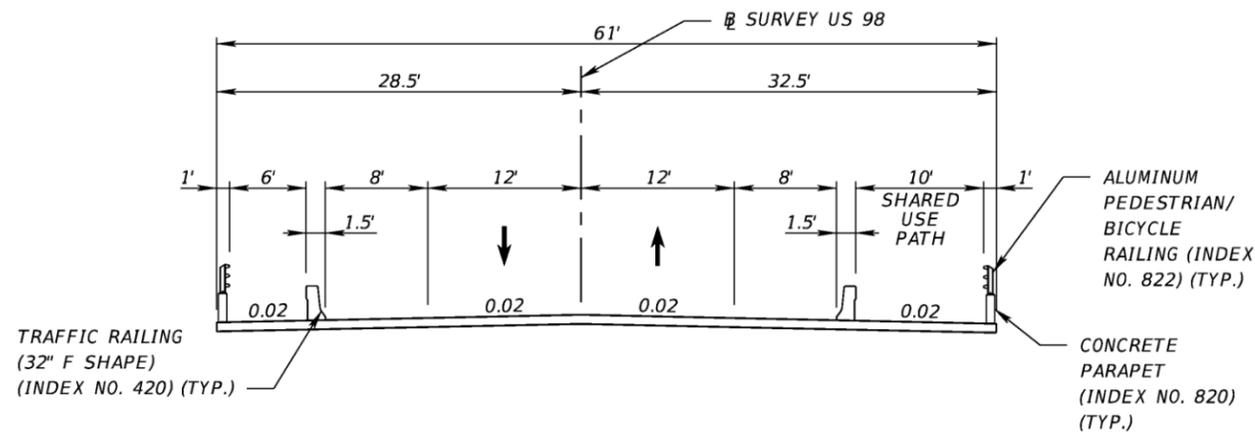
- | | |
|--|--|
| <ul style="list-style-type: none"> ○ Provides bicycle lanes and sidewalks on both sides of the bridge | <ul style="list-style-type: none"> ○ R/W impacts to adjacent properties |
|--|--|

- | | |
|---|---|
| <ul style="list-style-type: none"> ○ Provides bicycle lanes and sidewalks on both sides of the bridge ○ Provides shared use path that ties into the trail project | <ul style="list-style-type: none"> ○ R/W impacts to adjacent properties ○ May facilitate the use of golf carts on the shared use path |
|---|---|

TABLE 4-2: BRIDGE TYPICAL SECTION EVALUATION MATRIX (CONTINUED)

BRIDGE TYPICAL SECTION ALTERNATIVES

BRIDGE SECTION WITH TRAFFIC RAILING AND SIDEWALK ON NORTH SIDE AND WITH TRAFFIC RAILING AND 10' WIDE SHARED USE PATH ON SOUTH SIDE



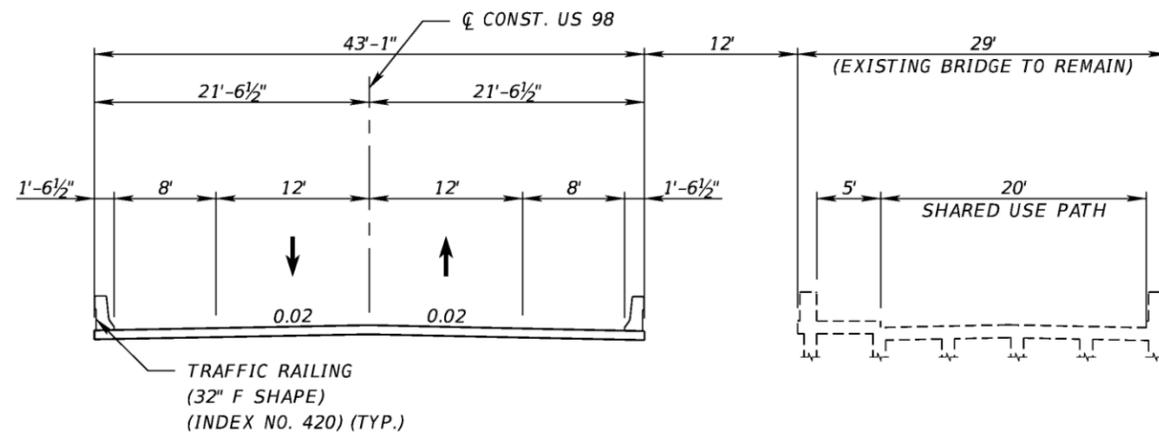
PROS

- Provides bicycle lanes and sidewalks on both sides of the bridge
- Barrier wall provides a buffer between the bridge and sidewalk/shared use path
- Provides shared use path that ties into the trail project

CONS

- R/W impacts to adjacent properties
- May facilitate the use of golf carts on the shared use path

EXISTING BRIDGE TO REMAIN AS SHARED USE PATH, PROPOSED BRIDGE SECTION WITH BIKE LANES AND NO SIDEWALKS



- Provides bicycle lanes on both sides of the bridge
- Keeps the existing bridge as a shared use path that ties into the trail project

- R/W impacts to adjacent properties
- The existing bridge will need to be maintained
- No sidewalks will be present on the proposed bridge; no north side connection between sidewalks
- The proposed bridge will need to be widened in the future to accommodate sidewalks if the existing bridge can no longer be used

4.4.2 Viable Alternatives

4.4.2.1 Build Alternative 1

Build Alternative 1 proposes to replace the existing bridge with a new bridge that meets current FDOT design standards and accommodates pedestrian and bicycle facilities. The new bridge will follow the same alignment of the existing bridge but will be shifted to the north to accommodate the larger bridge footprint. The design speed is 45 mph.

4.4.2.1.1 Roadway Typical Section

The roadway typical section for Build Alternative 1, from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance, is an undivided urban section with two 11-foot wide travel lanes, seven foot wide buffered bicycle lanes, a six foot wide sidewalk on the north side of the road and a 10-foot wide shared use path on the south side of the road, as shown in **Figure 4-1**. The total R/W width needed for this roadway typical section varies with a 50-foot minimum width.

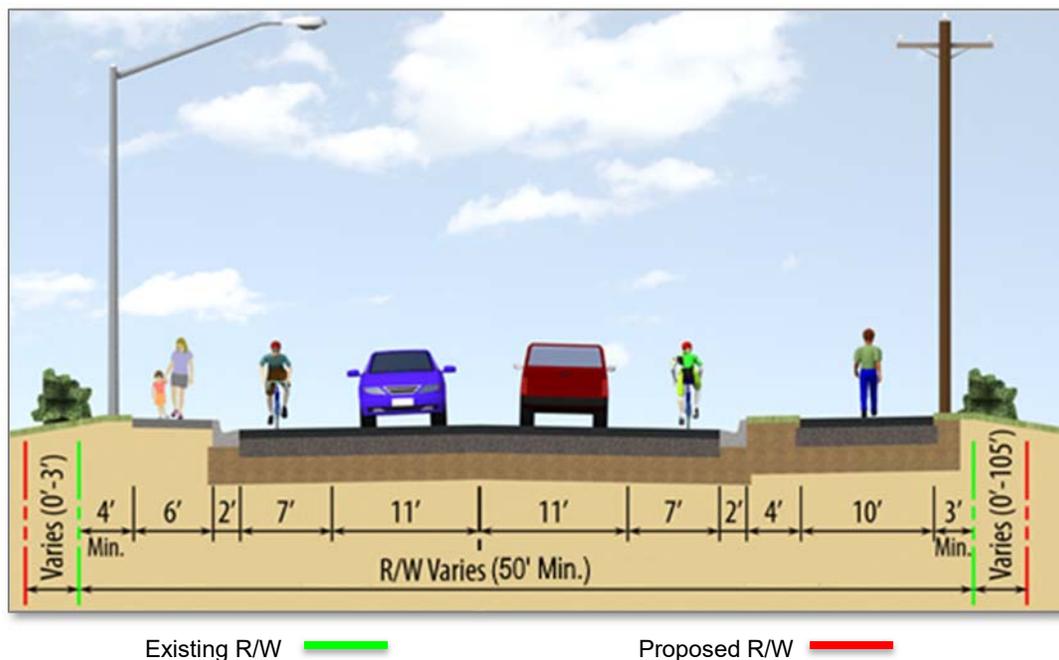


FIGURE 4-1: BUILD ALTERNATIVE 1 - ROADWAY TYPICAL SECTION

In addition to the proposed roadway improvements between Edgewood Drive and the Fort Meade Recreation Area entrance, a six-foot wide sidewalk will be added between Washington

Avenue and Edgewood Drive to connect the proposed pedestrian improvements with the existing sidewalk that currently ends west of Washington Avenue.

A lane width variation will be needed to accommodate 11-foot wide lanes on the roadway and the bridge.

4.4.2.1.2 Bridge Typical Section

The bridge typical section for Build Alternative 1 is undivided with two 11-foot wide travel lanes, eight-foot wide shoulders/buffered bicycle lanes, a six-foot wide sidewalk on the north side of the bridge, and a 10-foot wide shared use path on the south side of the bridge, as shown in **Figure 4-2**. The proposed bridge is 600 feet long with a total bridge width of 59 feet. Traffic railings (FDOT Design Standards Index 420) will separate the sidewalk and shared use path areas from the traffic and bicycle lanes and concrete parapets (FDOT Design Standards Index 820) with aluminum pedestrian/bicycle railings (FDOT Design Standards Index 822) at each fascia. As an option to satisfy any aesthetic requirements of the local community, architecturally adorned pedestrian / bicycle railings designed with similar geometric characteristics of the existing railing can be at the fascia.

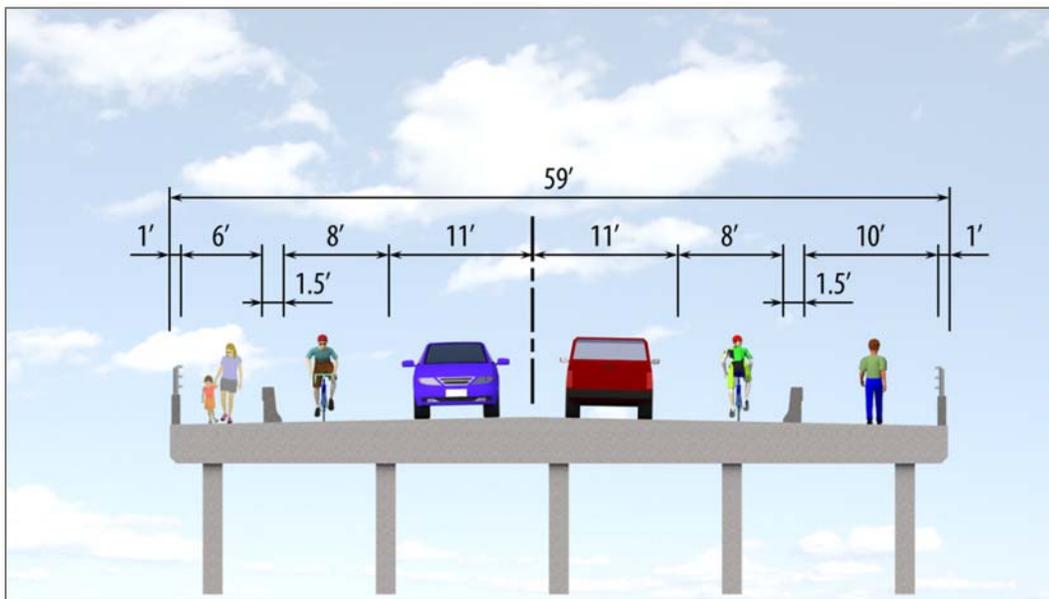


FIGURE 4-2: BUILD ALTERNATIVE 1 - BRIDGE TYPICAL SECTION

4.4.2.1.3 Horizontal and Vertical Alignment

The proposed horizontal alignment for this alternative is parallel to and shifted to the north of the existing alignment. **Table 4-3** provides a summary of the proposed horizontal alignment and

Table 4-4 provides a summary of the proposed vertical alignment for the proposed centerline of US 98.

TABLE 4-3: BUILD ALTERNATIVE 1 HORIZONTAL ALIGNMENT DATA

TANGENT SECTION				CURVE SECTION				
Begin STA.	End STA.	Distance (ft)	Bearing	PC STA.	PT STA.	Length (ft)	Radius (ft)	Superelevation
75+29.02	83+38.64	809.62	S 77° 33' 24" E	-	-	-	-	-
-	-	-	-	83+38.64	87+62.82	424.19	1,146	RC
87+62.82	96+40.07	877.25	N 81° 14' 08" E	-	-	-	-	-
-	-	-	-	96+40.07	103+66.25	726.18	2,095	NC
-	-	-	-	103+66.25	108+77.74	511.49	2,546	NC
108+77.74	114+55.43	577.69	N 89° 35' 06" E	-	-	-	-	-

NC = Normal Crown (-0.02) RC = Reverse Crown (+0.02)

TABLE 4-4: BUILD ALTERNATIVE 1 VERTICAL ALIGNMENT DATA

VPC	VPI	VPT	BACK GRADE (%)	AHEAD GRADE (%)	CURVE LENGTH (FT)
84+03	85+50	86+97	-1.3	-4.3	294
89+09	90+67	92+25	-4.3	-0.3	316
98+51	99+35	100+19	-0.3	-2.0	168
100+44	101+47	102+50	-2.0	0.6	206

Note: The vertical alignment is based on the flat slab bridge alternative.

4.4.2.1.4 Utilities

The above ground utilities within the project limits (telephone, fiber optic, electric, lighting, stream gage) will need to be relocated as a result of this build alternative. Buried utilities (telephone) will also need to be relocated. Utilities are within FDOT R/W and are not reimbursable. The City of Fort Meade is requesting that the proposed bridge accommodate two new utility lines (6-in. water line and 8-in. sewer line) in addition to the existing utilities that are attached to the existing bridge.

4.4.2.1.5 Bridge Options

The span configuration for the proposed bridge for this study was developed in collaboration with the project's Hydraulics Engineer. No geotechnical information was available for consideration. Given that for this alternative the existing bridge will be in place during the first phase of construction of the new bridge, aligning the location of the immediate bents of the proposed bridge with those of the existing bridge is preferred. Based on the bridge hydraulics requirements documented in the *Final Conceptual Bridge Hydraulics Report* (BHR) (December 2017), prepared under separate cover, a span length of 50 or 100 feet and an overall length of 600 feet is recommended.

Bridge Option 1 consists of a 12-span bridge of approximately 50'-0" equal spans for an overall bridge length of 600 feet. The proposed superstructure consists of the simple spans Florida Slab Beams (FSB) per Index D20450 and meeting the requirements of Section 4.4.3(C) of the FDOT Structures Design Guidelines (SDG). The total depth of 21 ½" accounts for a 15" deep beam and a 6 ½" reinforced cast-in-place concrete topping and integral pockets between each adjacent FSB. Storm water runoff from the bridge will be accommodated in the shoulders and collected at the ends of the bridge since typically scuppers are not permitted in this superstructure type. Due to the span length limitations, this superstructure option will have a

high number of substructure units but offer the advantage of being relatively low profile due to the much shallower superstructure depth. The lower superstructure depth minimizes the need to raise the existing vertical profile and reduces the limit of the roadway approach work and backfill requirements at the approaches. Due to the existing topography at the east end, an approximately 12-foot-high retaining wall will be constructed at the east abutment to retain the east approach embankment material. A typical riprap slope protection could be placed in front of the west abutment.

The use of this superstructure option will require permission from Central Office as it is restricted on off-system bridges with a low ADT and AADT per the respective Instructions for Developmental Design Standards (IDDS). In preliminary discussions with Central Office and District One Structures, given the low ADT (even though the percentage of truck volume is high), and the adverse local impacts from significantly raising the vertical profile, the use of the Development Design Standards for the FSB may be allowed for this project if recommended in the approved Bridge Development Report (BDR) which will be prepared during the Design phase of the project. This project has been added to the Central Office internal list as a possible candidate for the use of FSB (Index D20450).

Bridge Option 2 consists of a 6-span bridge with approximately 100'-0" equal spans for an overall bridge length of 600 feet. The proposed superstructure will consist of six - 45" deep Florida I-Beams (FIB 45) with an 8 ½" thick structural deck spaced at approximately 10'-3" spacing with variable overhangs due to the horizontal curvature in the alignment. A nine beam FIB 36 (lesser impact on the vertical profile than the FIB 45) at 6'-6" spacing configuration was also considered and should be developed further during the BDR phase. Using the BDR cost per lineal foot in the tables in Section 9.2.2 of the SDG, the cost for using the nine FIB 36 in each span is approximately 45% higher than for the six FIB 45 in each span, disregarding the differential cost from the increased approach embankment work. The choice between the two should be further explored in more detail during the BDR design phase to include incidental work such as at the approach embankment. Storm water runoff from the bridge can be accommodated using deck scuppers or alternatively in the shoulders and collected at the ends of the bridge. This option will have fewer substructure units due to the lesser number of pile bents but will require the existing vertical profile to be raised over three feet and therefore increase the limits and cost of the approach embankment work at both approaches. Due to the existing topography at the east end, an approximately 15-foot-high retaining wall will be constructed at the east abutment to retaining the approach embankment material. A typical riprap slope protection could be placed in front of the west abutment.

For both Bridge Options 1 and 2, the substructure will consist of 18 inch or 24 inch square prestressed concrete piles, contingent on the environmental classification and coordination with the geotechnical engineer, with a concrete bent cap. Both options would also have the similar or near similar impacts on the surroundings such as the wetlands, noise from pile driving (however Option 2 duration would be less as there would be less piles to drive), maintenance of vehicular and pedestrian traffic, constructability issues, and effect on historical property (existing bridge).

Some constructability issues/concerns include: barge access in the channel for driving piles, vibration and noise to nearby residential structures from the pile driving and approach roadway work, maintained pedestrian access during construction, and providing for phased construction.

Under phased construction, a portion of the new bridge will be built to the north to accommodate at least two lanes for vehicular traffic and sidewalk for pedestrian access while maintaining vehicular and pedestrian traffic on the existing bridge. Once the first phase portion is completed, vehicular and pedestrian traffic would then be shifted to the first phase portion of the new bridge, the existing bridge would be demolished, and the remainder of the new bridge constructed.

4.4.2.2 *Build Alternative 2*

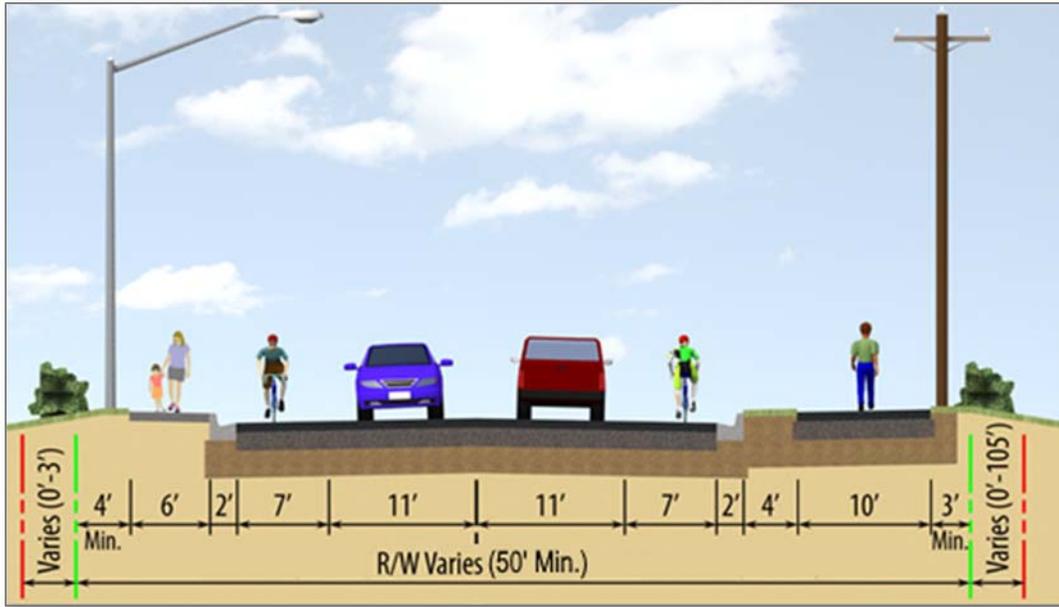
Build Alternative 2 proposes to replace the existing bridge with a new bridge that meets current FDOT design standards and accommodates pedestrian and bicycle facilities. The new bridge alignment will be shifted to the south of the existing bridge alignment and tie into the existing roadway alignment east of the Fort Meade Recreation Area entrance. This will straighten out the roadway alignment and eliminate the need for a second curve after the bridge. The design speed is 45 mph.

4.4.2.2.1 *Roadway Typical Section*

The roadway typical section for Build Alternative 2, from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance, is an undivided urban section with two 11-foot wide travel lanes, seven-foot wide buffered bicycle lanes, a six-foot wide sidewalk on the north side of the road and a 10-foot wide shared use path on the south side of the road, as shown in **Figure 4-3**. The total R/W width needed for this roadway typical section varies with a 50-foot minimum width.

In addition to the proposed roadway improvements between Edgewood Drive and the Fort Meade Recreation Area entrance, a six-foot wide sidewalk will be added between Washington Avenue and Edgewood Drive to connect the proposed pedestrian improvements with the existing sidewalk that currently ends west of Washington Avenue.

A lane width variation will be needed to accommodate 11-foot wide lanes on the roadway and the bridge.



Existing R/W



Proposed R/W



FIGURE 4-3: BUILD ALTERNATIVE 2 - ROADWAY TYPICAL SECTION

4.4.2.2.2 Bridge Typical Section

The bridge typical section for Build Alternative 2 is undivided with two 11-foot wide travel lanes, eight-foot wide shoulders/buffered bicycle lanes, a six-foot wide sidewalk on the north side of the bridge, and a 10-foot wide shared use path on the south side of the bridge, as shown in **Figure 4-4**. The proposed bridge is approximately 600 feet long with a total bridge width of 59 feet. Traffic railings (FDOT Design Standards Index 420) will separate the sidewalk and shared use path areas from the traffic and bicycle lanes and concrete parapets (FDOT Design Standards Index 820) with aluminum pedestrian/bicycle railings (FDOT Design Standards Index 822) at each fascia. As an option to satisfy any aesthetic requirements of the local community, architecturally adorned pedestrian/bicycle railings designed with similar geometric characteristics of the existing railing can be used at the fascia.

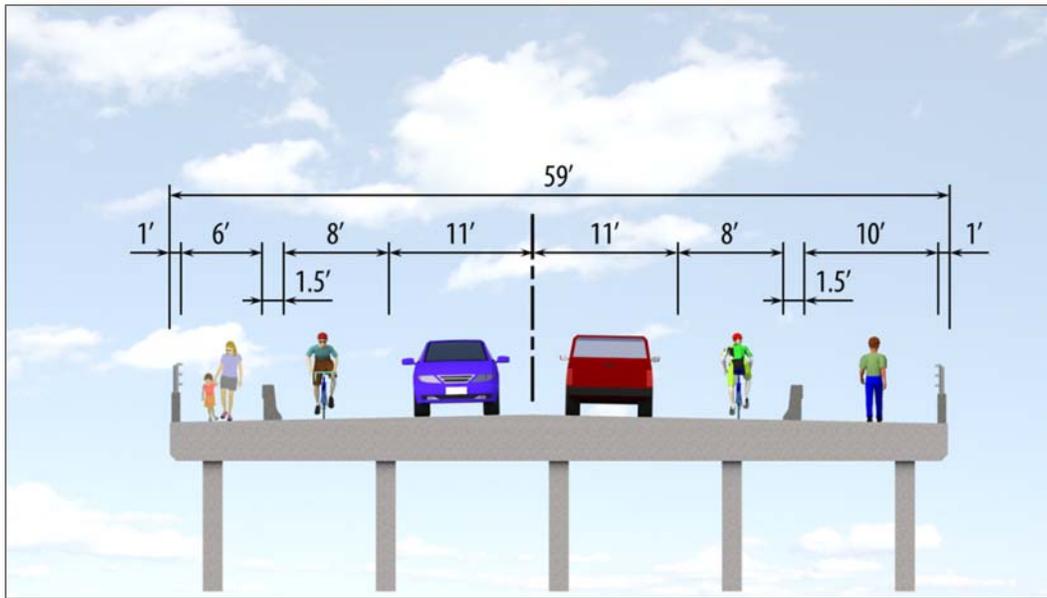


FIGURE 4-4: BUILD ALTERNATIVE 2 - BRIDGE TYPICAL SECTION

4.4.2.2.3 Horizontal and Vertical Alignment

The proposed horizontal alignment for this alternative is shifted to the south of the existing alignment and eliminates the second horizontal curve east of the bridge. **Table 4-5** provides a summary of the proposed horizontal alignment and **Table 4-6** provides a summary of the proposed vertical alignment for the proposed centerline of US 98.

TABLE 4-5: BUILD ALTERNATIVE 2 HORIZONTAL ALIGNMENT DATA

TANGENT SECTION				CURVE SECTION				
Begin STA.	End STA.	Distance (ft)	Bearing	PC STA.	PT STA.	Length (ft)	Radius (ft)	Superelevation
75+29.02	85+08.64	979.62	S 77° 33' 24" E	-	-	-	-	-
-	-	-	-	85+08.64	89+32.83	424.19	1,146	RC
89+32.83	93+71.62	438.79	N 81° 14' 08" E	-	-	-	-	-
-	-	-	-	93+71.62	97+89.13	417.51	2,865	NC
97+89.13	114+49.19	1660.06	N 89° 35' 06" E	-	-	-	-	-

NC = Normal Crown (-0.02) RC = Reverse Crown (+0.02)

TABLE 4-6: BUILD ALTERNATIVE 2 VERTICAL ALIGNMENT DATA

VPC	VPI	VPT	BACK GRADE (%)	AHEAD GRADE (%)	CURVE LENGTH (FT)
83+72	85+59	87+46	-0.8	-4.6	374
88+85	90+55	92+25	-4.6	-0.3	340
104+55	105+23	105+91	-0.3	0.7	136

Note: The vertical alignment is based on the flat slab bridge alternative.

4.4.2.2.4 Utilities

The above ground utilities within the project limits (telephone, fiber optic, electric, lighting, stream gage) will need to be relocated as a result of this build alternative. Buried utilities (telephone) will

also need to be relocated. Utilities are within FDOT R/W and are not reimbursable. The City of Fort Meade is requesting that the proposed bridge accommodate two new utility lines (6-in. water line and 8-in. sewer line) in addition to the existing utilities that are attached to the existing bridge.

4.4.2.2.5 Bridge Options

The span configuration for the proposed bridge for this study was developed in collaboration with the project's Hydraulics Engineer. No geotechnical information was available for consideration. Given that for this alternative the existing bridge will be in place during the first phase of construction of the new bridge, aligning the location of the intermediate bents of the proposed bridge with those of the existing bridge is preferred. Based on the bridge hydraulics requirements documented in the BHR, a span length of 50 or 100 feet and an overall length of 600 feet is recommended.

The proposed bridge options for Build Alternative 2 are the same as Build Alternative 1 Bridge Options 1 and 2; please refer to Build Alternative 1 – Bridge Options, Section 4.4.2.1.5. In addition, constructability issues/concerns will be the same as Build Alternative 1 except the first phase of construction will be to the south of the existing bridge.

4.4.2.3 Build Alternative 3

Build Alternative 3 proposes a new bridge to the north of the existing bridge alignment. The existing bridge will remain in place and be used as a pedestrian facility. The design speed is 45 mph.

4.4.2.3.1 Roadway Typical Section

The roadway typical section for Build Alternative 3, from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance, is an undivided urban section with two 11-foot wide travel lanes, seven-foot wide buffered bicycle lanes, a six-foot wide sidewalk on the north side of the road and a 10-foot wide shared use path on the south side of the road, as shown in **Figure 4-5**. The total R/W width needed for this roadway typical section is 67 feet. A lane width variation will be needed to accommodate 11-foot wide lanes on the roadway and the bridge.

In addition to the proposed roadway improvements between Edgewood Drive and the Fort Meade Recreation Area entrance, a six-foot wide sidewalk will be added between Washington Avenue and Edgewood Drive to connect the proposed pedestrian improvements with the existing sidewalk that currently ends west of Washington Avenue.

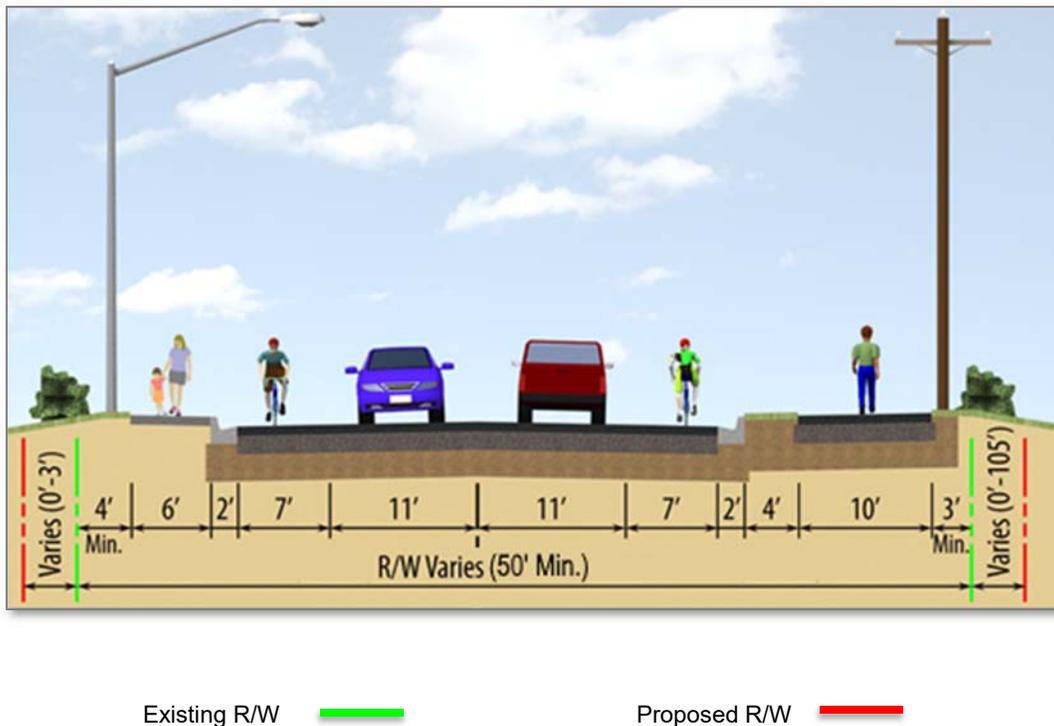


FIGURE 4-5: BUILD ALTERNATIVE 3 - ROADWAY TYPICAL SECTION

4.4.2.3.2 Bridge Typical Section

The bridge typical section for Build Alternative 3 is undivided with two 11-foot wide travel lanes; eight-foot wide paved shoulders that can accommodate bicycles; and six-foot wide sidewalks on each side of the bridge, as shown in **Figure 4-6**. A minimum of 10 feet is proposed between the existing bridge and proposed bridge to allow room for construction. The proposed bridge is approximately 600 feet long with a total bridge width of 55 feet. Traffic railings (FDOT Design Standards Index 420) will separate the sidewalks from the traffic and paved shoulders and concrete parapets (FDOT Design Standards Index 820) with aluminum pedestrian/bicycle railings (FDOT Design Standards Index 822) at each fascia. As an option to satisfy any aesthetic requirements of the local community, architecturally adorned pedestrian/bicycle railings designed with similar geometric characteristics of the existing railing can be used at the fascia.

4.4.2.3.3 Additional Alignment Option

Building a new bridge to the south of the existing bridge was also considered for this alternative. This option was discarded for the following reasons:

- The Fort Meade Recreation Area is located south of the existing bridge.

- Creates a safety concern for pedestrian connectivity between the City of Fort Meade and the Fort Meade Recreation Area. This would separate the southern community's access to use the existing bridge as a pedestrian facility and the need to cross the road at two different locations.

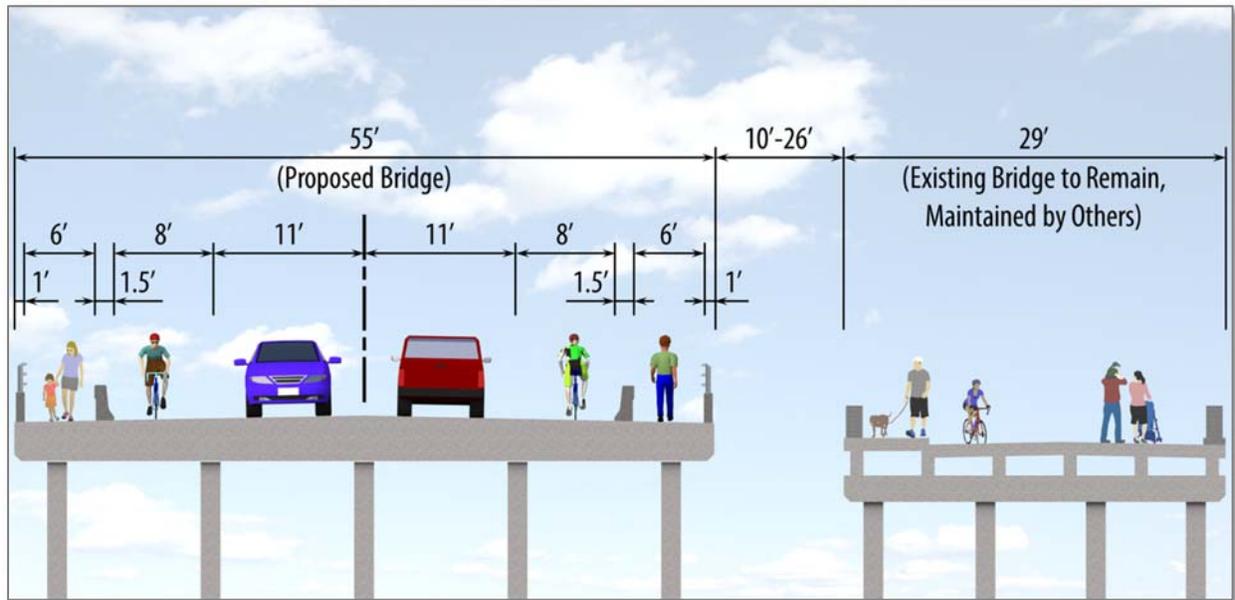


FIGURE 4-6: BUILD ALTERNATIVE 3 - BRIDGE TYPICAL SECTION

4.4.2.3.4 Horizontal and Vertical Alignment

The proposed horizontal alignment for this alternative is parallel to and shifted to the north of the existing alignment. **Table 4-7** provides a summary of the proposed horizontal alignment and **Table 4-8** provides a summary of the proposed vertical alignment for the proposed centerline of US 98.

TABLE 4-7: BUILD ALTERNATIVE 3 HORIZONTAL ALIGNMENT DATA

TANGENT SECTION				CURVE SECTION				
Begin STA.	End STA.	Distance (ft)	Bearing	PC STA.	PT STA.	Length (ft)	Radius (ft)	Superelevation
75+29.02	82+45.80	716.78	S 77° 33' 24" E	-	-	-	-	-
-	-	-	-	82+45.80	86+69.99	424.19	1,146	RC
86+69.99	95+52.14	882.15	N 81° 14' 08" E	-	-	-	-	-
-	-	-	-	95+52.14	103+24.20	772.06	2,095	NC
-	-	-	-	103+24.20	108+91.44	567.25	2,546	NC
108+91.44	114+55.43	563.99	N 89° 35' 06" E	-	-	-	-	-

NC = Normal Crown (-0.02) RC = Reverse Crown (+0.02)

TABLE 4-8: BUILD ALTERNATIVE 3 VERTICAL ALIGNMENT DATA

VPC	VPI	VPT	BACK GRADE (%)	AHEAD GRADE (%)	CURVE LENGTH (FT)
84+00	85+47	86+94	-1.3	-4.3	294
89+04	90+62	92+20	-4.3	-0.3	316
98+50	99+34	100+18	-0.3	-2.0	168
100+43	101+46	102+49	-2.0	0.6	206

Note: The vertical alignment is based on the flat slab bridge alternative.

4.4.2.3.5 Utilities

The above ground utilities on the north side of the project limits (telephone, fiber optic) will need to be relocated as a result of this build alternative. These utilities are within FDOT R/W and are not reimbursable. The City of Fort Meade is requesting that the proposed bridge accommodate two new utility lines (6-in. water line and 8-in. sewer line).

4.4.2.3.6 Bridge Options

The span configuration for the proposed bridge for this study was developed in collaboration with the project's Hydraulics Engineer. No geotechnical information was available for consideration. Given that for this alternative the existing bridge would remain in place, it was important in regard to the potential hydraulic impact, to align the location of the intermediate bents of the proposed bridge with the intermediate bents of the existing bridge. The span lengths of the existing bridge are 25 feet and therefore only multiples of 25 feet were considered for the span configuration of the proposed bridge. However, based on bridge hydraulics requirements in the BHR, no bridge lengths or span arrangements were found to create a no-rise condition for this alternative and the same proposed bridge length and spans as Build Alternatives 1 and 2 are recommended – 50 or 100 feet spans with 600 feet bridge length.

The proposed bridge options for Build Alternative 3 are the same as Build Alternative 1 Bridge Options 1 and 2; please refer to Build Alternative 1 – Bridge Options, Section 4.4.2.1.5.

Since the existing bridge will remain in place and is near the proposed bridge, consideration will be given during the design phase to protect the existing bridge during construction and could require such measures as preforming to minimize vibration during pile driving operations. In addition, having the existing bridge in place and in use during the construction of the proposed bridge will limit crane access to be on the same side as the proposed bridge throughout construction. No phased construction is required since the entire new bridge would be built while maintaining vehicular and pedestrian traffic on the existing bridge. After the new bridge is built, vehicular and pedestrian traffic would be shifted to the new bridge to allow for the rehabilitation of the existing bridge as noted below.

Existing Bridge to Remain

It is intended to rehabilitate the existing bridge and re-purpose it as a shared use path for pedestrian and bicycle use only. Bollards would be installed at the approaches to prevent vehicular access. Also access to existing sidewalk on the north side would be restricted. The proposed rehabilitation of the existing bridge will include:

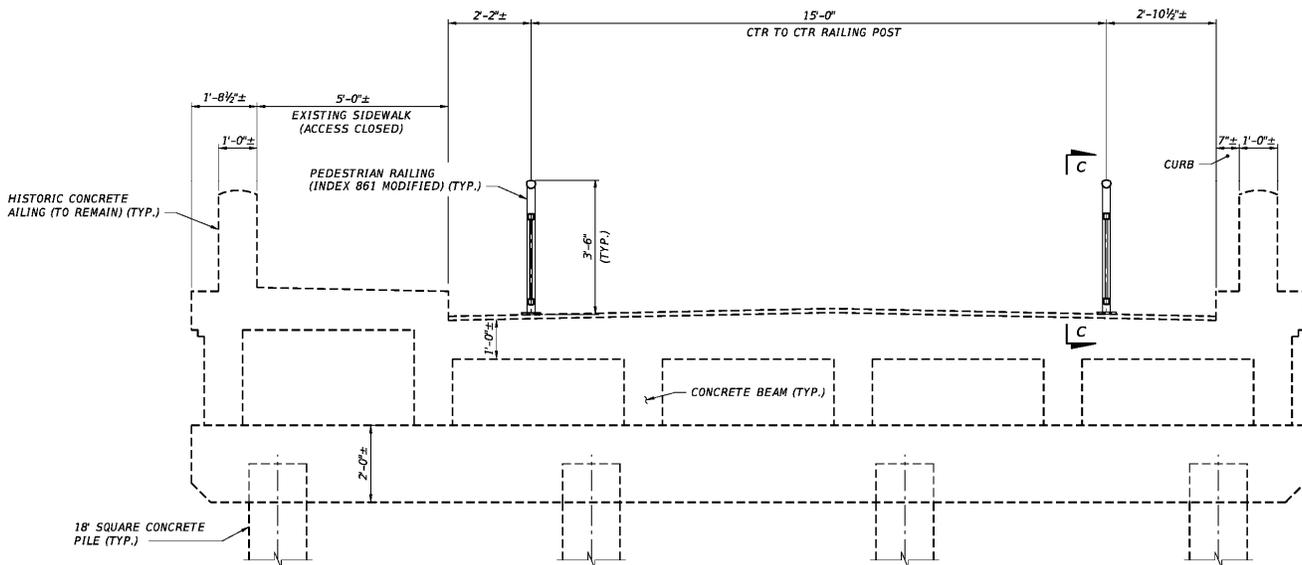


FIGURE 4-7: BUILD ALTERNATIVE 3 – EXISTING BRIDGE TO REMAIN

- Repair spalls, delaminations, and cracks in the historic concrete railing, concrete beams, concrete bent caps and concrete piles.
- Mill and resurface the existing asphalt in the deck top within the limits of the roadway width.
- Clean all exposed surfaces on the top of the north sidewalk, south curb and the concrete railings.
- Provide impressed current cathodic protection for the concrete railing post and beams, and substructure elements.
- Replace the expansion joints in the deck with a poured joint with backer rod per Index 21110.
- Provide 3'-6" high pedestrian railing per FDOT Index 861 modified to include a transparent acrylic in-fill panel. The pedestrian railing will be attached to the existing deck to provide an approximate 15'-0" wide pedestrian/ bicycle pathway over the length of the bridge.
- Provide bollards at the ends of the bridge to prevent access onto the bridge from vehicles and golf carts.
- Provide proper lighting on the top of deck to facilitate use of the bridge during night-time hours.
- Provide park style benches and garbage bins along the top of deck for public use.

4.4.2.3.7 Existing Historic Bridge Coordination

Through coordination with State Historic Preservation Officer (SHPO) and the FDOT Office of Environmental Management (OEM) during the preparation of the *Draft Section 106 Case Study Report* (October 2016, Revised March 2017), prepared under separate cover, they expressed similar views requesting further consideration of impacts associated with keeping the existing bridge, exploring opportunities for locals to provide further input, and options for FDOT to maintain the existing bridge after the new bridge is built. Following these meetings, the viability of pursuing Build Alternative 3 and rehabilitating and retaining the existing John Singletary Bridge was further evaluated. In order to make a determination, it was decided that the following impacts and costs of retaining the existing bridge in addition to the new bridge would be assessed:

- Drainage, Floodplain impacts, FEMA approval, and Rise Mitigation
- Potential Environmental mitigation/permitting risks
- 25-year life cycle cost for bridge maintenance

Drainage and other environmental costs related to maintaining the bridge hinged upon the approval of a rise in the floodplain of the Peace River by FEMA and Polk County. FEMA did not approve the low rise in the floodplain as a “no rise”. Therefore, “rise” mitigation costs including canal dredging, concrete lining, and 25-year maintenance (with 4% inflation per year) would total \$248,548. Polk County confirmed that a small rise in the floodplain (0.05 ft or less) could be considered “no rise” due to model fluctuations, meaning floodplain mitigation may not be required by the Polk County Emergency Management office but they could not confirm that since FEMA will require the mitigation.

Environmental mitigation costs associated with this floodplain rise, assuming FDOT purchased wetland credits in a wetland mitigation bank, were calculated at \$509,000. An additional \$28,000 in costs related to permitting was also estimated for a total of \$537,000 for environmental mitigation and permitting costs. It was noted, however, that justification for a permit to dredge the river would be difficult to obtain as there are feasible alternatives that would not require this mitigation.

The 25 Year Life Cost Estimate was developed estimating the probable cost to rehabilitate the bridge for pedestrian and bicycle use only, provide anticipated maintenance needed to keep the bridge in use for 25 years, and to demolish the bridge at the end of the 25-year period. The estimated cost was based on engineering judgement of probable activities associated with the historical performance with respect to deterioration of similar structure types, the current condition of the bridge, the intended future use of the bridge, and the present age of the bridge. The rehabilitation design included providing a 3'-6" high pedestrian railing with an acrylic in-fill panel attached to the existing deck and providing a 15' pedestrian pathway over the bridge. The estimate considered the cost of preparing the contract documents with the rehabilitation design, completing construction, providing routine maintenance of the bridge over the expected 25-year life, preparing contract documents for interim repairs and completing those repairs, and demolishing the existing bridge in its entirety at the 25-year mark. After conducting this analysis,

it was determined that the estimated total expenditure over the 25-year period, accounting for annual inflation, is approximately \$3,012,000. This did not include Construction Engineering Inspection (CEI) costs that would be about 10% of the construction cost. For additional details, refer to the 25 Year Life Cost Estimate – Existing Bridge in **Appendix B**.

4.4.3 Preliminary Drainage Analysis

A Location Hydraulics Report (LHR) (December 2017), *Conceptual Bridge Hydraulics Report (BHR)* (December 2017), and *Conceptual Pond Siting Report (PSR)* (December 2017) were completed under separate cover. These studies were prepared as part of the PD&E study.

4.4.3.1 Hydraulics

The purpose of the LHR is to address the potential 100-year (base) floodplain encroachments resulting from the roadway and bridge improvements evaluated in this study. The intent is to avoid possible long and short-term adverse impacts associated with the modification of floodplains as a result of development.

The limits of this project are covered by FEMA FIRM Panels 12105C0 695G and 12105C 0885G. The effective date of these revised maps is December 22, 2016. Peace River is a regulatory floodway, meaning a No-Rise Certification from FEMA will be required during the Design Phase. For the purposes of the BHR, the FEMA No-Rise process was not followed, but a no-rise condition was obtained in the proposed alternatives models. The LHR details the floodplain needs for this project.

To meet a no-rise condition, the hydrology of Peace River was analyzed. Three primary sources were used to analyze the hydrology: the FEMA Effective Model of 1979, United States Geological Survey (USGS) Regression, and USGS stream gage data. A calibrated hydrologic model was used to determine low-member elevation for the bridge while the FEMA effective model was used to find a no-rise condition. Note, that the calibrated hydrologic model could also be used to meet a no-rise condition but will require a Conditional Letter of Map Revision (CLOMR) from FEMA. HEC-RAS models were developed to check the hydraulics of the proposed structure.

Two hydraulic alternatives were modeled to produce a no-rise condition. Hydraulic Alternative A lengthened the proposed bridge alternatives and adjusted span lengths until a no-rise condition was achieved for the elevation of the 100-year, base flood storm for the floodway. Hydraulic Alternative B widens the channel downstream of the bridge to meet a no-rise condition. Hydraulic Alternative B was determined to be unfeasible due to the permitting challenges associated with it. This alternative was the only alternative which allowed a no-rise within Build Alternative 3. As such, Build Alternative 3 was deemed infeasible from a hydraulic perspective. Build Alternative 2 was then chosen as the Recommended Alternative and the recommendations of Hydraulic Alternative A are given in the BHR.

4.4.3.2 Stormwater Management

The purpose of the PSR is to discuss the stormwater management plan for the project. The report identifies alternative pond locations, discusses R/W requirements, and documents possible environmental impacts associated with the alternative pond sites. The project area is broken up into two basins with a common outfall being the Peace River.

As summarized in Table 1-1 of the PSR, the directly connected impervious area for Build Alternative 3 totals 4.2 acres including the impervious area from the existing bridge. Build Alternatives 1 and 2 have approximately 2.0 acres of directly connected impervious area. Therefore, Build Alternative 3 was chosen to analyze pond alternatives because this alternative utilized the greatest amount of pavement, thus requiring the largest pond sites. Two pond alternatives were developed. Pond Alternative 1 requires the use of two pond sites. Pond Alternative 2 only requires the use of one pond site at either basin location.

4.4.4 Evaluation Matrix

An evaluation matrix, as shown in **Table 4-9**, was developed to help summarize and compare the potential impacts and costs associated with each alternative.

4.4.5 Recommended Alternative

After the Alternatives Public Meeting on November 12, 2015 and continued interagency coordination it was determined to eliminate Alternatives 1 and 3 from further consideration. As a result, Alternative 2 with Bridge Option 1 was presented as the Recommended Alternative at the public hearing on May 18, 2017. At the conclusion of the Public Hearing, environmental studies and interagency coordination, Alternative 2 with Bridge Option 1 has been selected as the Preferred Alternative to be carried forward for more detailed analysis.

The design details of the Preferred Alternative are discussed in **Section 6.0**.

TABLE 4-9: SUMMARY MATRIX FOR THE ALTERNATIVES COMPARISON

EVALUATION FACTORS	ALTERNATIVES			
	No-Build	Build		
		Alternative 1	Alternative 2	Alternative 3
RIGHT-OF-WAY (R/W) IMPACTS				
Roadway - Number of parcels impacted and acreage	0	9 (1.32 ac.)	3 (2.07 ac.)	11 (2.32 ac.)
Ponds - Number of parcels impacted and acreage	0	1 (1.00 ac.)	1 (1.00 ac.)	1 (1.00 ac.)
Number of potential residential relocations	0	0	0	0
Number of potential business relocations	0	0	0	0
Additional R/W to be acquired (acres)	0	2.32	3.07	3.32
COMMUNITY IMPACTS				
Number of public services impacted	0	0	0	0
Number of residences affected by increased noise levels	0	0	0	0
MULTIMODAL ACCOMMODATIONS				
Provides pedestrian facilities? (yes/no)	No	Yes	Yes	Yes
Provides bicycle facilities? (yes/no)	No	Yes	Yes	Yes
IMPACTS ON CULTURAL/HISTORIC RESOURCES & PARKS				
Number of historic/archeological sites impacted	0	1	1	0
Number of public recreational sites impacted	0	0	0	0
NATURAL ENVIRONMENTAL IMPACTS				
Total wetland impact area (acres)	0	0.07	0.55	2.84*
Impact to wildlife and habitat	None	Minimal	Minimal	Minimal
FLOODPLAIN ENCROACHMENT				
Area of base floodplain encroachment (acres)	0	0.90	0.90	0.90
Area of base floodway encroachment (acres)	0	0.90	0.90	0.90
POTENTIAL CONTAMINATION SITES				
Impact to contaminated sites	0	1	1	1
ESTIMATED PROJECT COSTS (SUBJECT TO CHANGE)				
Construction Cost (millions)	-	\$11.40	\$11.20	\$10.90
Existing Bridge Demolition	-	\$644,672	\$644,672	\$0
Mitigation Costs:				
Floodplain Rise		\$0	\$0	\$248,548**
Environmental (incl. permitting costs) for Rise Mitigation		\$0	\$0	\$537,000
Existing Bridge Rehabilitation and Maintenance		\$0	\$0	\$1,916,491***
R/W Acquisition Cost for Roadway	-	\$355,000	\$172,000	\$407,000
R/W Acquisition Cost for Ponds	-	\$113,000	\$113,000	\$113,000
Engineering Cost (15%) (millions)^	-	\$1.8	\$1.8	\$1.7
Construction Engineering and Inspection (15%) (millions)^	-	\$1.8	\$1.8	\$1.7
Total (millions)	-	\$16.2	\$15.7	\$18.6

*Includes 2.8 acres of wetland impacts for floodplain rise mitigation.

**Includes canal dredging, concrete lining, and 25-year maintenance.

***Includes rehabilitation, yearly maintenance over 25 years, and demolition at the 25-year mark. Due to inflation, this cost will be approximately \$3,012,000 in 25 years. See Appendix B for detailed cost analysis.

^15% of Total for Construction, Existing Bridge Demolition, and R/W Acquisition Cost for Roadway.

SECTION 5.0 PUBLIC INVOLVEMENT

A Public Involvement Program (PIP) (December 2014) was prepared and approved in December 2014. This plan details the public involvement approach for the project. The Comments and Coordination Report, prepared under separate cover, fully documents the public and stakeholder involvement conducted for this project. Below is a summary of the key public involvement activities.

5.1 Local Agency Coordination

Throughout the project, coordination has been ongoing with local government entities including the City of Fort Meade, Fort Meade Chamber of Commerce, Fort Meade Historical Society, Polk County Transportation Planning Organization (TPO), Polk County and Polk County Historical Society at key milestones in the study.

April 15, 2015 – Agency Project Update Meeting

The project team met with City Fort Meade staff as well as a representative from the Fort Meade Historical Society, Fort Meade Chamber of Commerce, and a City Commissioner to give an update on the project and discuss the proposed alternatives for the project and existing bridge maintenance. The FDOT Project Manager discussed that if a new bridge is built, the FDOT would not maintain the existing bridge. If the existing bridge were to remain in place, it would be the responsibility of another agency to maintain it. The City of Fort Meade and Fort Meade Historical Society representatives present at this meeting concluded that it would be unlikely that they could maintain the existing bridge. Existing bridge railing mitigation options were also discussed. The Fort Meade City Planner suggested that the existing bridge railings be relocated into the Fort Meade Recreation Area as a decorative feature.

August 13, 2015 – Meeting with the Fort Meade Historical Society

The project team met with members of the Fort Meade Historical Society to discuss the project and obtain any feedback and/or questions. At this meeting, the three roadway alternatives were presented and discussed as well as a detailed explanation of the historic nature of the John Singletary Bridge and the Section 106 process. Most Historical Society members were in favor of keeping the existing bridge as a pedestrian bridge however, mitigation options for the bridge railings were discussed. The Historical Society expressed interest in finding a third party to maintain the bridge and requested an approximate maintenance cost.

September 3, 2015 – Meeting with the Polk County Transportation Planning Organization (TPO)

The project team met with TPO staff to discuss the project and obtain any feedback and/or questions. At this meeting, the three roadway alternatives were presented and discussed as well as the historic nature of the John Singletary Bridge. The TPO said they would not be interested in maintaining the existing bridge.

September 29, 2015 – Meeting with the Fort Meade Chamber of Commerce

The project team met with members of the Fort Meade Chamber of Commerce to discuss the project and obtain any feedback and/or questions. At this meeting, the three roadway alternatives were presented and discussed as well as a detailed explanation of the historic nature of the John Singletary Bridge, Section 106 process, and existing bridge maintenance. Most Chamber members were in favor of keeping the existing bridge as a pedestrian bridge. They also inquired whether decorative railings could be considered on the proposed bridge.

March 8, 2016 – Presentation to the Fort Meade City Commission

The project team gave a presentation to the Fort Meade City Commission to discuss the different build alternatives and also to discuss if the City would be willing to maintain the existing bridge. There was consensus among the Commission that the City does not want to maintain the existing bridge and they preferred Build Alternative 2. The City would like the historic bridge railings and John Singletary Bridge plaque to be preserved as part of the mitigation for the existing bridge.

March 23, 2016 – Meeting with Polk County

The project team met with members of Polk County to give an update on the project. Part of the discussion was centered on whether the County would like to maintain the existing bridge. The County expressed that they do not want to take over responsibility for the existing bridge. Another topic discussed was the County R/W adjacent to US 98 at the east end of the bridge that is impacted by the project. FDOT and County R/W staff agreed that a land swap could be worked out for this property.

May 19, 2016 – Meeting with Polk County Historical Society

The project team met with members of the Polk County Historical Society to discuss the project. At this meeting, the three roadway alternatives were presented and discussed as well as a detailed explanation of the historic nature of the John Singletary Bridge, the Section 106 process, and existing bridge maintenance. While discussing mitigation efforts, the Historical Society expressed interest in creating an outdoor exhibit along the bicycle path or moving a piece of the existing bridge railing into the History Center as an exhibit.

March 7, 2017 – Meeting with the Fort Meade Historical Society

The project team met with members of the Fort Meade Historical Society to discuss the current status of the project. Build Alternative 2 with Bridge Option 1 was presented as the proposed Recommended Alternative. Additional analysis, that was conducted per the State Historic Preservation Officer (SHPO) and the Environmental Management Office (EMO) requests to reevaluate Build Alternative 3, was discussed and it was explained why Build Alternative 3 was not feasible. Potential mitigation options were discussed including salvaging the bridge railings and plaque and relocating them to the Historical Society, Polk County History Center, or the Fort Meade Recreation Area. FDOT committed to continuing to coordinate with the locals, including

the Historical Society, during the design phase to work out details for the mitigation options discussed.

5.2 Public Kick-off Meeting

A Public Kick-off Meeting was held on January 27, 2015, at the Fort Meade Mobile Home Park Activity Center in Fort Meade, to provide an opportunity for the public to acquaint themselves with and comment on the project. A total of 62 people signed in at the meeting, including four Elected Officials and four agency staff. Project information handouts were provided in English and Spanish. All attendees were given the opportunity to provide comments at the meeting or within the 10-day comment period. Seven comment forms were received at the meeting and four additional comment forms/emails were received during the 10-day comment period following the meeting. Comments included concerns for safety while traveling on the bridge due to narrow lanes; the lack of pedestrian facilities and bicycle lanes on the bridge; and not being able to attend future meetings based upon the proposed schedule because they are seasonal residents. Comments also included suggestions such as use of the existing bridge as a pedestrian facility and the placement of a sidewalk and bike path on the south side of the bridge. All of the comments received were taken into consideration in the development of the alternatives.

5.3 Alternatives Public Meeting

An Alternatives Public Meeting was held on November 12, 2015, at the Fort Meade Mobile Home Park Activity Center in Fort Meade, to present the proposed bridge alternatives under consideration along with other project information. A total of 44 people signed in at the meeting, including one elected official. Project information handouts were provided in English and Spanish. All attendees were given the opportunity to provide written comments at the meeting or within the 10-day comment period. Fifteen comments were received at the meeting and two comments were received during the 10-day comment period following the meeting. Many of the comments stated a preference for specific alternative including Alternative 2 (2); Alternative 3 (12) and included suggestions and concerns such as safety while traveling on the bridge due to narrow lanes; the lack of pedestrian facilities and bicycle lanes on the bridge; and not in favor of the City or other agency assuming responsibility for the existing bridge.

5.4 Public Hearing

A Public Hearing was held on May 18, 2017, at the Fort Meade Mobile Home Park Activity Center in Fort Meade, to present the Recommended Alternative and the project findings. A total of 31 people signed in at the public hearing, including three agency members. During the public testimony period, two citizens gave oral statements. One comment was received at the hearing and no additional comments were received during the 10-day comment period following the hearing, ending on May 29, 2017. The comment received stated that building a new bridge is a good idea however over \$1 million in engineering costs seems excessive. The *Public Hearing Transcript Certification* (May 2017) package with the public hearing transcript is included in the *Comments and Coordination Report*.

SECTION 6.0 DESIGN DETAILS OF PREFERRED ALTERNATIVE

Based on the evaluation of the alternatives described in Section 4.0, Build Alternative 2 and Bridge Option 1 is recommended by FDOT as the Preferred Alternative. The Preferred Alternative proposes to replace the existing bridge with a new bridge that meets current FDOT design standards and accommodates pedestrian and bicycle facilities. This alternative was selected because of public acceptance, lower cost, and minimal right-of-way (R/W) impacts. The Preferred Alternative is illustrated on the concept plans contained in **Appendix C**.

6.1 Typical Sections

The signed typical sections are provided in **Appendix A** in the approved *Typical Section Package* (September 2015).

The proposed roadway typical section is an undivided urban typical section with two 11-foot wide travel lanes, seven-foot wide buffered bicycle lanes, a six-foot wide sidewalk on the north side of the road and a 10-foot wide shared use path on the south side of the road. This typical section has variable borders and a 45 mph design speed to be constructed within a minimum of 50 feet of R/W, as shown in **Figure 6-1**.

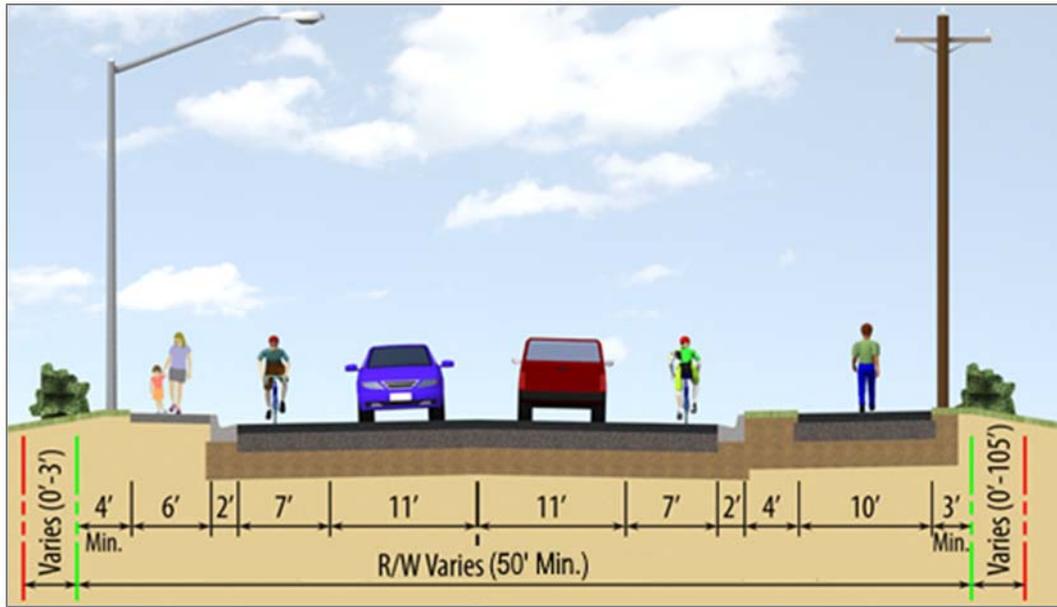


FIGURE 6-1: PREFERRED ALTERNATIVE ROADWAY TYPICAL SECTION

The proposed bridge typical section is undivided with two 11-foot wide travel lanes; eight-foot wide outside shoulders paved shoulders that can accommodate bicycles; a six-foot wide sidewalk on the north side of the bridge; and a 10-foot wide shared use path on the south side

of the bridge. Traffic railings will separate the sidewalk and shared use path from the traffic and the paved should, as shown in **Figure 6-2**.

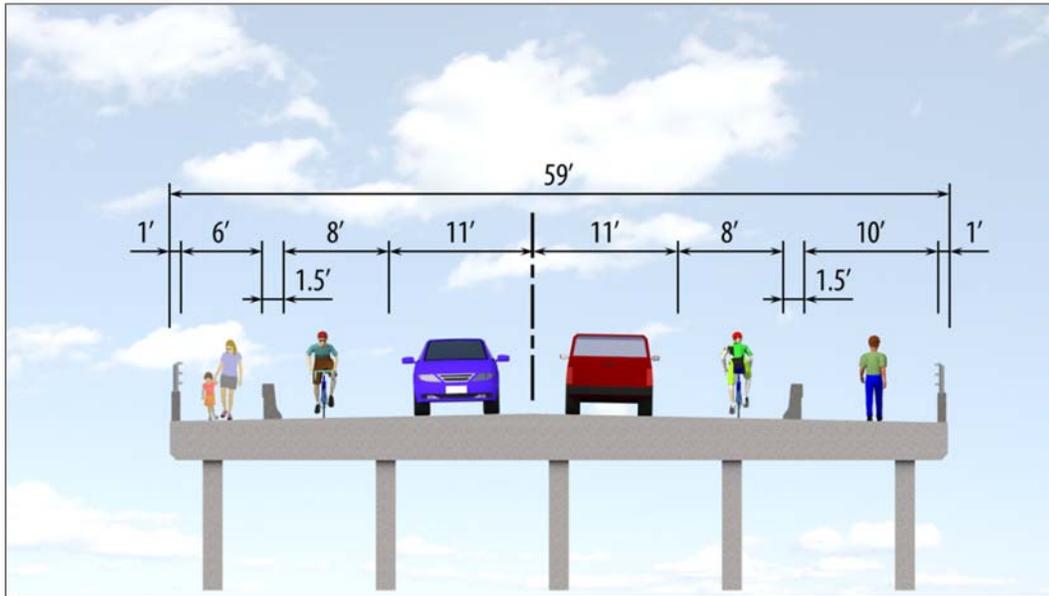


Figure 6-2: Preferred Alternative Bridge Typical Section

6.2 Design Year Traffic Volumes

The growth rates obtained from the Trends Analysis, the Polk County Transportation Planning Organization (TPO) Model, and the Bureau of Economic and Business Research (BEBR) population estimates were compared in order to develop the recommended growth rate for the study corridor. Based on the comparison of the three methodologies examined, an annual growth rate of 4.07% is recommended. This is derived from the existing 2013 AADT from the applicable FTO station and the 2035 Polk County TPO Model, for the development of future traffic forecasts along the US 98/John Singletary Bridge corridor.

Based on the *Final Technical Memorandum Project Traffic Summary* (July 2015), prepared under separate cover, the Annual Average Daily Traffic (AADT) volumes for the current, opening, and design year are as follows:

- Current Year (2013) – 4,800 AADT
- Opening Year (2020) – 6,200 AADT
- Design Year (2040) – 10,000 AADT

Figure 6-1, **Table 6-1**, and **Table 6-2** show the level of service analysis for US 98 during the daily and peak hour peak direction conditions. From the tables, US 98 is anticipated to operate at an acceptable level of service (LOS) through the design year (2040) under daily and peak hour peak direction conditions.

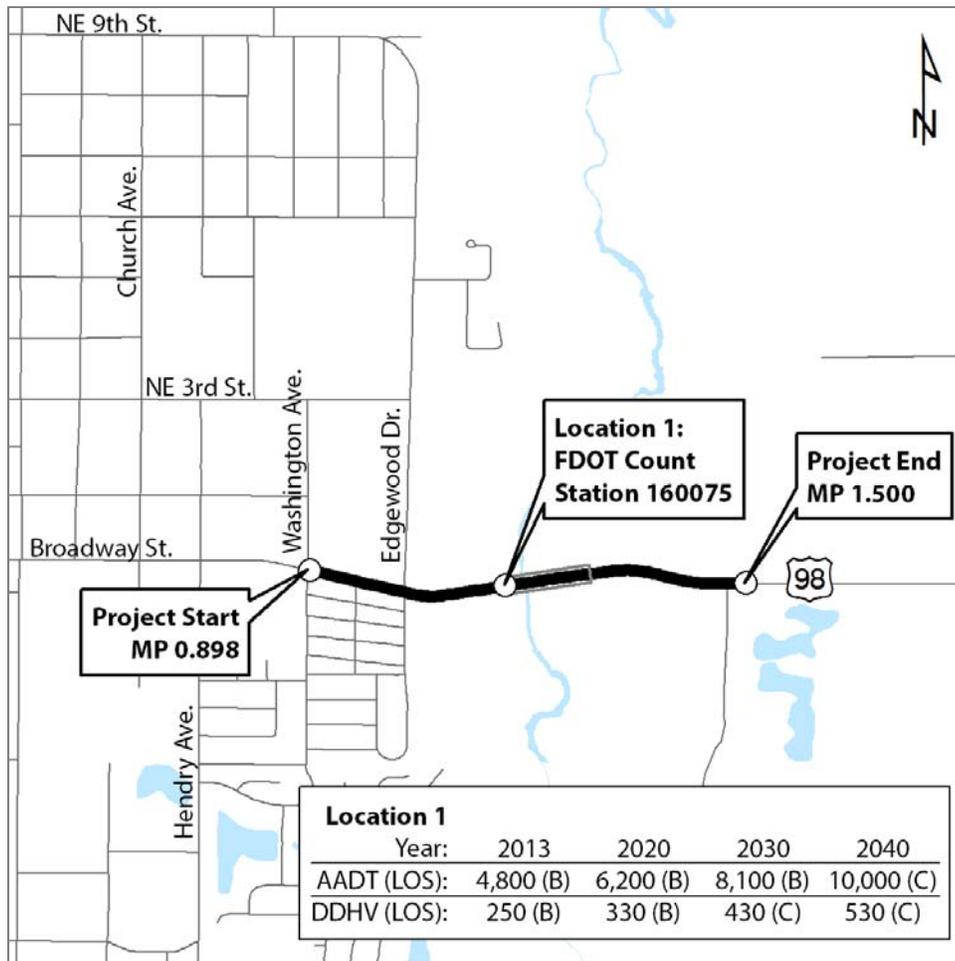


FIGURE 6-1: TRAFFIC PROJECTIONS AND LEVEL OF SERVICE

TABLE 6-1: ROADWAY LOS ANALYSIS - DAILY CONDITIONS

ROADWAY ID	ROADWAY	2013 EXISTING CONDITION			
		NO. LANES	CAPACITY	AADT	LOS
16040000	US 98, West of Peace River Bridge	2	24,200	4,800	B
		2020 OPENING YEAR CONDITION			
		NO. LANES	CAPACITY	AADT	LOS
		2	24,200	6,200	B
		2030 MID-DESIGN YEAR CONDITION			
		NO. LANES	CAPACITY	AADT	LOS
		2	24,200	8,100	B
		2040 DESIGN YEAR CONDITION			
NO. LANES	CAPACITY	AADT	LOS		
2	24,200	10,000	C		

TABLE 6-2: ROADWAY LOS ANALYSIS - PEAK HOUR DIRECTIONAL CONDITIONS

ROADWAY ID	ROADWAY	2013 EXISTING CONDITION			
		NO. LANES	CAPACITY	DDHV	LOS
16040000	US 98, West of Peace River Bridge	1	1,190	250	B
		2020 OPENING YEAR CONDITION			
		NO. LANES	CAPACITY	DDHV	LOS
		1	1,190	330	B
		2030 MID-DESIGN YEAR CONDITION			
		NO. LANES	CAPACITY	DDHV	LOS
		1	1,190	430	C
		2040 DESIGN YEAR CONDITION			
NO. LANES	CAPACITY	DDHV	LOS		
1	1,190	530	C		

DDHV - Directional Design Hour Volumes

6.2.1 Design Year Intersection Analyses

The design year (2040) turning movement volumes were projected by applying the recommended growth rate of 4.07% to the existing year (2015) turning movement counts. The intersections of US 98 at Edgewood Drive and the Fort Meade Recreation Area entrance are anticipated to operate at an acceptable LOS through the design year (2040). No improvements are proposed for these intersections. **Table 6-3** summarizes the design year 2040 intersection delay/LOS information for the minor street approaches. Refer to Section 2.15.2 for existing intersection layout conditions.

TABLE 6-3: FUTURE UNSIGNALIZED INTERSECTION ANALYSIS

INTERSECTION	APPROACH	A.M. PEAK HOUR		P.M. PEAK HOUR	
		DELAY (SEC/VEH)	LOS	DELAY (SEC/VEH)	LOS
US 98 and Edgewood Drive	Northbound	14.1	B	28.4	D
	Southbound	14.3	B	28.8	D
US 98 and the Fort Meade Recreation Area Entrance	Northbound	13.6	B	18.7	C

6.3 Variations and Exceptions

A lane width variation will be needed to accommodate 11-foot wide lanes on the roadway and the bridge. Refer to **Table 3-1** for current lane width criteria. No design exceptions are anticipated.

6.4 Right-of-Way Needs and Relocations

Additional R/W will be required from City owned land and County R/W as well as from one private property as illustrated within the concept plans provided in **Appendix C**. The total amount of roadway R/W needed is 2.07 acres. The total approximate R/W needed for pond sites is 1 acre. No residential or business relocations are anticipated.

6.5 Bridge Analysis

The proposed bridge, Bridge Option 1, will consist of 12 equal spans of 50'-0" for an overall bridge length of 600 feet. The proposed superstructure will consist of the simple span Florida Slab Beams (FSB) per Index D20450 and meeting the requirements of Section 4.4.3(C) of the FDOT Structures Design Guidelines (SDG). The total depth of 21 ½" accounts for a 15" deep beam and a 6 ½" reinforced cast-in-place concrete topping and integral pockets between each adjacent FSB. Storm water runoff from the bridge will be accommodated in the shoulders and collected at the ends of the bridge since typically scuppers are not permitted in this superstructure type. Due to the existing topography at the east end, an approximately 12-foot-high retaining wall will be constructed at the east abutment to retain the east approach embankment material. A typical riprap slope protection will be placed in front of the west abutment.

The use of this superstructure option will require permission from Central Office as it is restricted for use on off-system bridges with a low ADT and AADT per the respective Instructions for Developmental Design Standards (IDDS). In preliminary discussions with Central Office and District One Structures, given the low ADT (even though the percentage of truck volume is high), and the adverse local impacts from significantly raising the vertical profile, the use of the Development Design Standards for the FSB may be allowed for this project if recommended in the approved Bridge Development Report (BDR). This project has been added to Central Office internal list as a possible candidate for the use of FSB (Index D20450).

The substructure will consist of 18-inch or 24-inch square prestressed concrete piles, contingent on the environmental classification and coordination with the geotechnical engineer, with a concrete bent cap.

6.6 Access Management

Access management, classes 4 and 6, will remain the same. Refer to Section 2.18 for existing access management conditions.

6.7 Utility Impacts

The above ground utilities within the project limits (telephone, fiber optic, electric, lighting, stream gage) will need to be relocated as a result of the proposed improvements. Buried utilities (telephone) will also need to be relocated. Utilities are within FDOT R/W and are not reimbursable. The City of Fort Meade is requesting that the proposed bridge accommodate two new utility lines (6-in. water line and 8-in. sewer line) in addition to the existing utilities that are attached to the existing bridge.

6.8 Temporary Traffic Control Plan

Bridge construction can be accommodated using a three-phase traffic control plan, as illustrated on **Figure 6-2**. During Phase I construction, existing vehicular and pedestrian traffic will be maintained on the existing bridge while a portion of the proposed bridge is being built to the south of the existing bridge to accommodate at least two lanes of vehicular traffic and sidewalk for pedestrian access.

During Phase II construction, traffic will be diverted onto the portion of the proposed bridge that has been built and the existing bridge will be demolished.

During Phase III construction, the remainder of the proposed bridge will be built, and the lanes configured for the final layout.

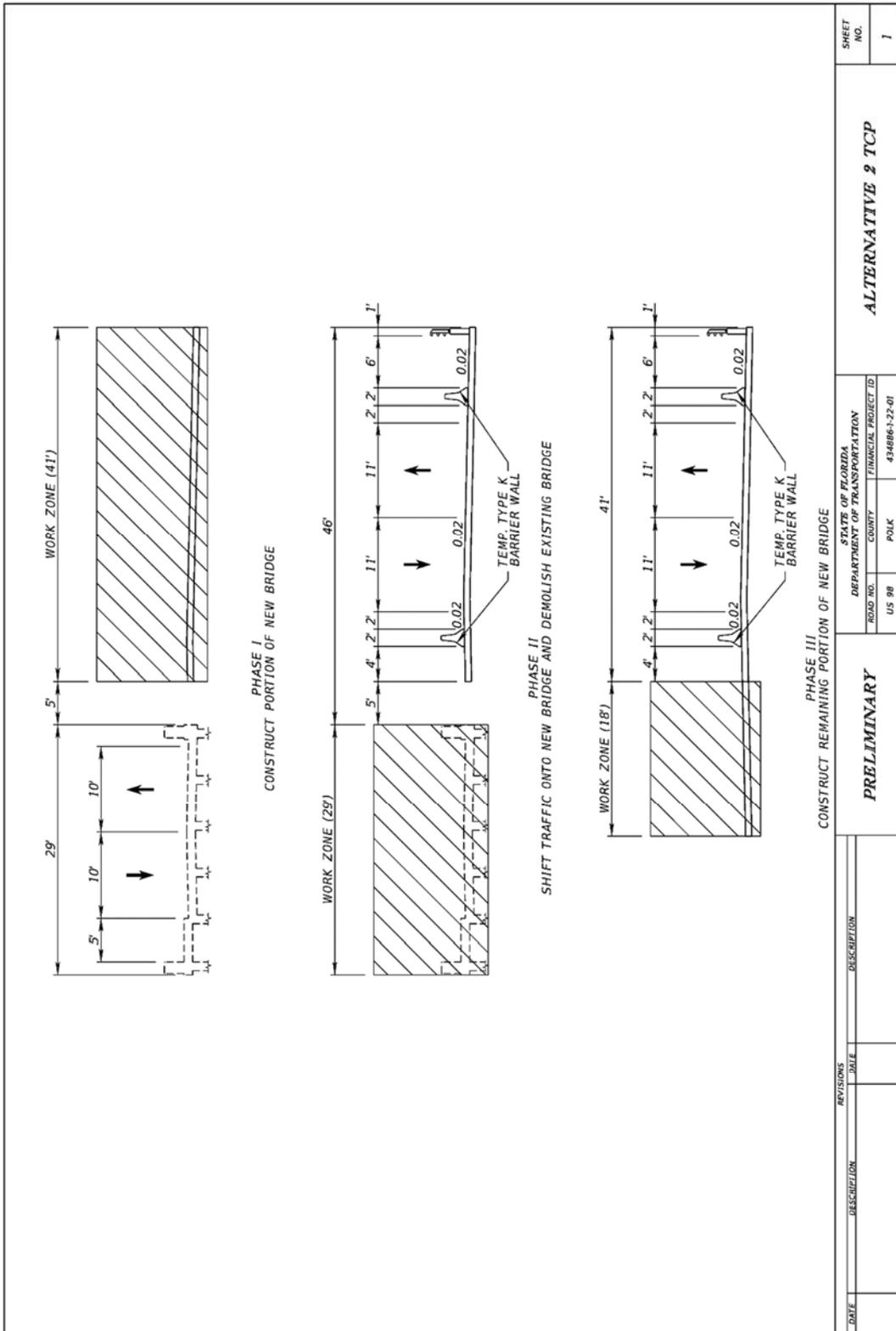


FIGURE 6-2: TEMPORARY TRAFFIC CONTROL PLAN FOR THE PREFERRED ALTERNATIVE

6.9 Bicycle and Pedestrian Accommodations

Seven-foot wide buffered bicycle lanes are proposed on each side of the roadway and eight-foot wide paved shoulders that can accommodate bicycles are proposed on each side of the bridge. A six-foot wide sidewalk is proposed along the north side of the roadway and bridge and a ten-foot wide shared use path is proposed along the south side of the roadway and bridge. Details are provided within the typical section package located in **Appendix A**.

6.10 Drainage

6.10.1 Hydraulics

For the Preferred Alternative, a no-rise condition is expected for Peace River for the bridge lengths and span lengths shown in the following tables.

TABLE 6-4: PARAMETERS OF BRIDGE FOR PREFERRED ALTERNATIVE: FEMA EFFECTIVE MODEL

Bridge Length (ft.)	Number of Spans	Span Length (ft.)
675	18	37.5
630	15	42
600	12	50
600	6	100
550	11	50

TABLE 6-5: PARAMETERS OF BRIDGE FOR PREFERRED ALTERNATIVE: CALIBRATED HYDROLOGIC MODEL

Bridge Length (ft.)	Number of Spans	Span Length (ft.)
600	16	37.5
600	12	50
600	6	100
550	11	50

6.10.2 Stormwater Management

Pond Alternative 2, which allows for the option of either SMF 1-2 or SMF 2-2 to be used, was determined to be the preferred option because it meets the presumptive treatment criteria, nutrient loading criteria, and water quantity requirements and will be the least expensive option because only one pond is required. SMF 1-2 is housed within the existing FDOT R/W. **Table 6-6** lists the two stormwater facility options.

The proposed stormwater facilities will include, at a minimum, the quantity requirements for water quality impacts as required by the SWFWMD and will be designed to meet state water quality and quantity requirements, and best management practices will be utilized during construction. In accordance with Part 2, Chapter 11 of the FDOT PD&E Manual, a *Water Quality Impact Evaluation* (WQIE) (April 2017) was prepared under separate cover for the project.

Therefore, the Preferred Alternative is expected to have no significant impact on water quality and quantity.

TABLE 6-6: STORMWATER MANAGEMENT FACILITIES

Basin	Pond Alternative	Pond Size (acres)
1 or 2	SMF 1-2	0.90
1 or 2	SMF 2-2	1.2

6.11 Horizontal and Vertical Geometry

The proposed horizontal alignment for this alternative is shifted to the south of the existing alignment and eliminates the second horizontal curve east of the bridge. **Table 4-5** provides a summary of the proposed horizontal alignment and **Table 4-6** provides a summary of the proposed vertical alignment for the proposed centerline of US 98.

6.12 Cost Estimates

The project costs estimated for the Preferred Alternative are summarized in **Table 6-7**. The cost for construction engineering and inspection was estimated at 15% of the total construction cost.

TABLE 6-7: PROJECT COST ESTIMATE

PROJECT PHASES	PREFERRED ALTERNATIVE
ESTIMATED PROJECT COSTS (SUBJECT TO CHANGE)	
Construction Cost (millions)	\$11.2
Existing Bridge Demolition	\$644,672
Mitigation Costs:	
Floodplain Rise	\$0
Environmental (incl. permitting costs) for Rise Mitigation	\$0
Existing Bridge	\$0
R/W Acquisition Cost for Roadway	\$172,000
R/W Acquisition Cost for Ponds	\$113,000
Engineering Cost (15%) (millions)	\$1.8
Construction Engineering and Inspection (15%) (millions)	\$1.8
Total (millions)	\$15.7

6.13 Work Program Schedule

The design phase for this project is currently scheduled for Fiscal Year (FY) 2018. Right-of-way is currently funded for FY 2021. Construction is not currently funded.

6.14 Value Engineering

A Value Engineering Study was not conducted for this PD&E Study.

6.15 Summary of Environmental Impacts

This section documents the potential environmental impacts for the Preferred Alternative. The project was screened for review through Environmental Screening Tool (EST) as part of the Efficient Transportation Decision Making (ETDM) Programming Screen phase (ETDM #14114) and no major issues or disputes were noted by the regulatory agencies. The *Programming Screen Summary Report*, prepared under separate cover, was published on March 13, 2015 and re-published on May 3, 2017 with the approved Class of Action (COA).

6.15.1 Cultural

6.15.1.1 Historic Resources and Archaeological

A Cultural Resource Assessment Survey (CRAS) was conducted in accordance with requirements set forth in the National Historic Preservation Act of 1966, as amended, and Chapter 267, F.S. The investigations were carried out in conformity with Part 2, Chapter 12 (recently renumbered to Chapter 8) (Archaeological and Historical Resources) of the FDOT PD&E Manual and the standards contained in the Florida Division of Historical Resources' (FDHR) Cultural Resource Management Standards and Operations Manual (FDHR 2003; FDOT 1999). In addition, the survey met the specifications set forth in Chapter 1A-46, Florida Administrative Code (FAC).

The CRAS included background research and a field survey, including review of the Florida Master Site File (FMSF) and NRHP. The assessment indicated that six historic resources (50 years of age or older) are within the Area of Potential Effect (APE) for the project. The previously recorded F. M. Yearwood House (8PO239) is not unique for Fort Meade and has received non-historic additions that have compromised its historic integrity; therefore, it is not considered eligible for the NRHP either individually or as part of a historic district. The historical/architectural field survey resulted in the identification of four newly recorded resources: two historic buildings (8PO7964 and 8PO7965); one linear resource (US 98, 8PO7966); and one resource group (Fort Meade City Mobile Home Park, 8PO7967). All of these resources represent commonly occurring types of architecture and/or engineering for the locale, and none is associated with significant historical events or persons. Therefore, none of these are eligible for listing in the NRHP either individually or as a historic district. One previously recorded resource, the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440), was determined eligible for the NRHP by the SHPO as part of the recent update to The Historic Highway Bridges of Florida (ACI 2012).

The review of the FMSF and the NRHP indicated that 14 previously recorded archaeological sites have been recorded within one mile of the APE, none are within the APE. The archaeological site location predictive model for the region indicated a variable potential for

archaeological sites within the study corridor. As a result of this survey, no archaeological sites were discovered.

The *CRAS* report (January 2015), prepared under separate cover, documenting the findings was submitted to the Federal Highway Administration (FHWA) on January 12, 2015 for review and transmittal to the SHPO. FHWA concurred with the findings and found the *CRAS* complete and sufficient on January 20, 2015. FHWA transmitted the *CRAS* report to the SHPO, who concurred with the findings and found the report complete and sufficient on February 18, 2015 (letter in **Appendix E**). A *Draft Section 106 Case Study Report* (October 2016, revised March 2017), prepared under separate cover, was submitted to the SHPO who found the report complete and sufficient and concurred with the finding that the project would have *an adverse effect* on the bridge on April 11, 2017 (**Appendix E**).

Pursuant to the provisions of Section 106 of the National Historic Preservation Act (36 CFR 800) a *Memorandum of Agreement* (MOA) (**Appendix F**) has been prepared and coordinated with the SHPO and OEM to document the proposed mitigation and stipulations to resolve the adverse effect to the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440). In addition, FDOT has coordinated with the Advisory Council on Historic Preservation (ACHP) and in their letter dated November 29, 2017 (**Appendix E**) they indicated that their participation is not needed and that the final MOA and related documentation would need to be filed with the ACHP at the conclusion of the consultation process. The MOA was signed by FDOT District One on January 4, 2018; FDOT OEM on January 10, 2018; and the SHPO on January 24, 2018. The mitigation measures and stipulations included in the MOA are discussed in the commitments section (Section 1.3) and are not repeated here.

The *CRAS Update Technical Memorandum for Alternative Pond Sites and Recommended Roadway Alternative* (January 2018), prepared under separate cover, was submitted to SHPO who concurred with the findings and found the *CRAS Update Technical Memorandum* complete and sufficient on February 15, 2018 (**Appendix E**).

6.15.1.2 Section 4(f)

The project was examined for potential Section 4(f) resources in accordance with Section 4(f) of the Department of Transportation Act of 1966 (Title 49, U.S.C., Section 1653 (f), amended and recodified in Title 49, U.S.C. Section 303, in 1983). A Section 4(f) *Determination of Applicability* (July 2016) (DOA) was prepared under separate cover for the following four potential Section 4(f) recreational resources: Rusty Greens Golf Course, vacant City owned land (south side of US 98 adjacent to the bridge), Fort Meade Recreation Area and the Peace River Paddling Trail. The Section 4(f) *DOA* was submitted to FHWA and in an email response dated August 9, 2016 (**Appendix E**), FHWA agreed with the determination that the vacant City owned land is not a Section 4(f) resource and the remaining three resources are Section 4(f) resources; although the project will cross over the Peace River Paddling Trail, any occupancy of this resource will be so temporary and minimal in nature as to qualify as a Section 4(f) exception under 23 CFR 774.13(d); and concurred with FDOT's recommendation that the project, as currently proposed will not have a transportation "use" of Section 4(f) recreational properties as defined in 23 CFR 774. Additional information is available in the Section 4(f) *DOA*.

The John Singletary Bridge (Bridge No. 160064; 8PO5440) falls under the historical category for Section 4(f). As part of the Section 4(f) process, various build alternatives, as well as avoidance and minimization alternatives were evaluated to determine that there are no feasible or prudent alternatives to the “use” of the historic John Singletary Bridge (Bridge No. 160064; 8PO5440). The Preferred Alternative will result in the demolition of the existing bridge and the construction of a new bridge to the south.

The *Programmatic Section 4(f) Evaluation* (February 2018), with required documentation including the executed *Memorandum of Agreement* (MOA) with the SHPO resolving adverse effects to the bridge, was submitted to OEM and their approval was received on February 12, 2018 (**Appendix F**). The mitigation measures and stipulations included in the MOA are discussed in the commitments section (Section 1.3) and are not repeated here.

6.15.2 Natural Resources

6.15.2.1 Wetlands and other Surface Waters

In accordance with *Executive Order 11990, Protection of Wetlands, dated May 23, 1977, US Department of Transportation Order 56601.A, Preservation of the Nation’s Wetlands, dated August 24, 1978, and FDOT’s PD&E Manual, Part 2, Chapter 9, Wetlands and Surface Waters, a Natural Resources Evaluation* (NRE) (October 2017) was prepared under separate cover as part of this project. The purpose of this evaluation was to assure the protection, preservation, and enhancement of wetlands to the fullest extent practicable.

The Preferred Alternative will result in a total of 1.36 acres of direct wetland impact, including 0.55 acres of fill impacts and 0.81 acres of shading impacts. The removal of the existing bridge will allow re-vegetation of approximately 0.37 acre of wetlands. The final area of wetland impacts will be determined during the design and permitting phase of the project. Secondary impacts will also be assessed at this time. A UMAM analysis was performed to determine an estimate to the functional loss due to wetland impacts from the proposed Preferred Alternative. The direct impacts are anticipated to result in 0.70 units of functional loss. Additional functional loss may be required by the permitting agencies for other potential impact types (e.g. secondary and/or shading).

6.15.2.2 Floodplains

According to the Federal Emergency Management Agency (FEMA) recently revised Flood Insurance Rate Map (FIRM) panels 12105C0 695G and 12105C 0885G (December 22, 2016), the majority of the US 98 project has encroachments into the 100-year floodplain Zone AE and the regulatory floodway. The Peace River is a regulatory floodway, meaning a No-Rise Certification will be required during the Design Phase. In addition, per coordination with the Polk County Floodplain Manager, a Conditional Letter of Map Revision (CLOMR) will also be required during the Design phase. The construction of this project will be considered a traverse encroachment on the floodplain and floodway. Total floodplain encroachment is 0.90 acres and

total floodway encroachment is 0.90 acres. Additional information regarding floodplains and the floodway can be found in the LHR and BHR.

6.15.2.3 Protected Species and Habitat

A *Natural Resources Evaluation* (NRE) (October 2017) report was prepared under separate cover as part of consultation required under Section 7 of the Endangered Species Act of 1973, as amended, and per the requirements of Part 2, Chapter 16 of the FDOT PD&E Manual. Field evaluations of the study area were conducted by project biologists within habitats with the potential to support either listed/protected plant or wildlife species on January 14, 2015. The evaluation included coordination with the U.S. Fish and Wildlife Service (FWS), the Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Natural Areas Inventory (FNAI). **Table 1** below summarizes the effect determination for each of these species as a result of the proposed project based on the FDOT findings and commitments to offset potential impacts. The Preferred Alternative will not adversely modify any federally-designated critical habitat as none exists in the project vicinity. Potential impacts to listed species and their habitats are described in more detail in the NRE. The NRE was submitted to the FWS and FWC on November 29, 2017. The concurrence letters from FWS, dated January 31, 2018 and FWC, dated December 27, 2017 are located in **Appendix E**.

TABLE 6-8 SUMMARY OF SPECIES EFFECTS DETERMINATIONS

Effect Determination	Species
<i>"No Effect"</i>	<u>Federally-Listed Wildlife</u>
	<ul style="list-style-type: none"> <li style="margin-left: 40px;">Sand skink <li style="margin-left: 40px;">Blue-tailed mole skink <li style="margin-left: 20px;">Florida grasshopper sparrow <li style="margin-left: 40px;">Florida scrub jay <li style="margin-left: 20px;">Red-cockaded woodpecker <li style="margin-left: 40px;">Everglade snail kite
	<u>Federally-Listed Plants</u>
	<ul style="list-style-type: none"> <li style="margin-left: 40px;">Florida bonamia <li style="margin-left: 40px;">Pygmy fringe-tree <li style="margin-left: 40px;">Pigeon wings <li style="margin-left: 20px;">Short-leaved rosemary <li style="margin-left: 20px;">Avon Park harebells <li style="margin-left: 40px;">Scrub mint <li style="margin-left: 40px;">Scrub buckwheat <li style="margin-left: 20px;">Highlands scrub hypericum <li style="margin-left: 40px;">Scrub blazingstar <li style="margin-left: 40px;">Scrub lupine <li style="margin-left: 20px;">Britton's beargrass <li style="margin-left: 20px;">Papery whitlow-wort <li style="margin-left: 20px;">Lewton's polygala <li style="margin-left: 40px;">Wireweed <li style="margin-left: 40px;">Sandlace <li style="margin-left: 40px;">Scrub plum <li style="margin-left: 20px;">Wide-leaf warea <li style="margin-left: 20px;">Carter's mustard <li style="margin-left: 20px;">Florida ziziphus
	<i>Continued on next page</i>

Effect Determination	Species
<p><i>“May Affect, Not Likely to Adversely Affect”</i></p>	<p><u>Federally-Listed Wildlife</u> Eastern indigo snake Wood stork Audubon’s crested caracara Florida panther</p>
<p><i>“No Adverse Effect Anticipated”</i></p>	<p><u>State-Listed Wildlife</u> Gopher tortoise Little blue heron Tricolored heron Southeastern American kestrel Florida sandhill crane Roseate spoonbill</p> <p><u>State-Listed Plants</u> Chapman’s sedge Needle root orchid Umbrella star orchid Angular fruit milkvine Yellow anistree Southern twayblade Cardinal flower Florida spiny-pod Plume polypody fern Comb polypody fern Southern tubercled orchid Hand fern Leafless beaked ladies’-tresses Mouse’s ear; shade betony Toothed lattice-vein fern Northern needleleaf Cardinal airplant Giant airplant</p>

SECTION 7.0 LIST OF TECHNICAL REPORTS

The purpose of the PD&E study is to evaluate engineering and environmental data and document information that will aid Polk County and the Florida Department of Transportation Office of Environmental Management (OEM) in determining the type, preliminary design and location of the proposed improvements. The study was conducted in order to meet the requirements of the NEPA and other related federal and state laws, rules, and regulations. The technical reports completed during this study are listed below.

Technical Reports	Dated
Comments and Coordination Report	Not completed
Public Hearing Transcript	June 2017
Public Involvement Program	December 2014
Engineering	
NESHAP Asbestos Survey and Screening for Metals-Based Coatings	June 2015
Final Location Hydraulics Report	December 2017
Final Conceptual Pond Siting Report	December 2017
Final Conceptual Bridge Hydraulic Report	December 2017
Final Technical Memorandum Project Traffic Summary	July 2015
Environmental	
Type 2 Categorical Exclusion	April 2018
Programming Screen Summary Report	May 2017
Contamination Screening Evaluation Report	June 2017
Cultural Resource Assessment Survey (CRAS)	January 2015
CRAS Update Technical Memorandum for Alternative Pond Sites and Recommended Roadway Alternative	January 2018
Section 4(f) Determination of Applicability	July 2016
Natural Resources Evaluation	October 2017
Section 106 Case Study Report	March 2017
Programmatic Section 4(f) Evaluation	February 2018
Noise Study Memorandum	March 2016
Water Quality Impact Evaluation	April 2017

APPENDIX A

SIGNED TYPICAL SECTION PACKAGE

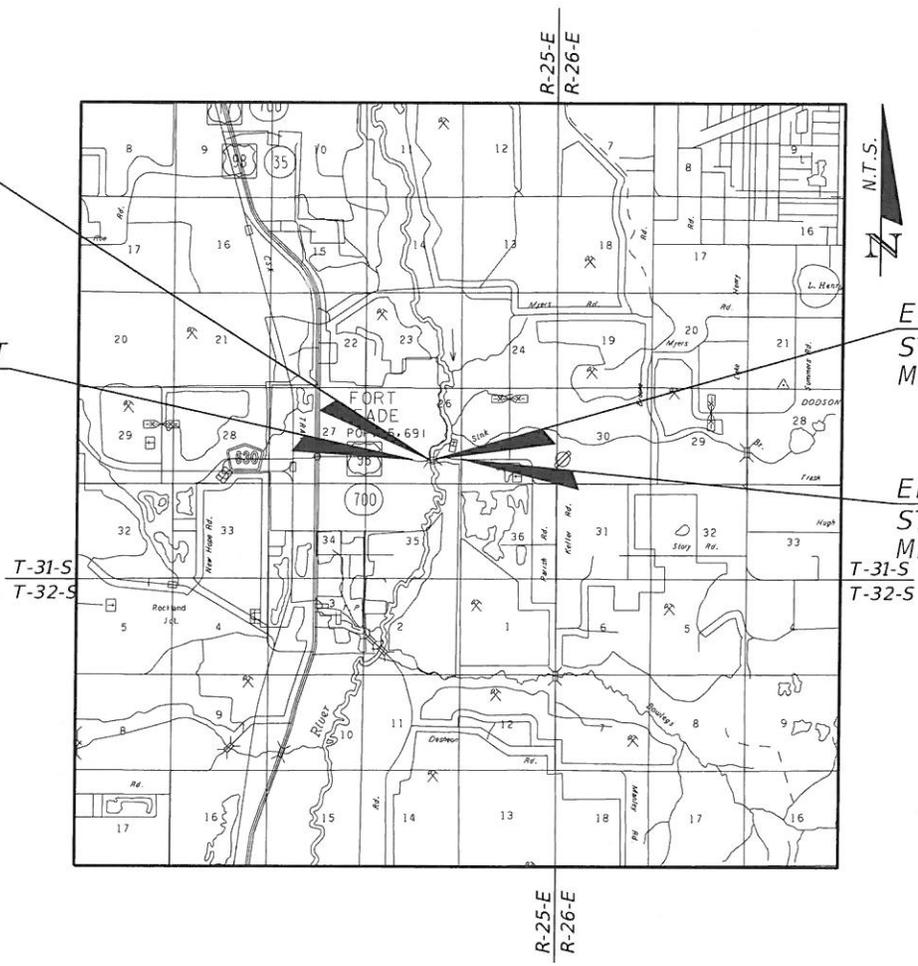
TYPICAL SECTION PACKAGE

BEGIN BRIDGE
 STA. 92+60.00
 MP 1.189

BEGIN PROJECT
 STA. 83+00.00
 MP 1.030

END BRIDGE
 STA. 98+07.00
 MP 1.292

END PROJECT
 STA. 109+00.00
 MP 1.510



ANIRUDDHA GOTMARE, P.E.
 P.E. LICENSE NUMBER 54801
 SCALAR CONSULTING GROUP INC.
 4152 W. BLUE HERON BOULEVARD, SUITE 119
 RIVIERA BEACH, FLORIDA 33404
 CERTIFICATE OF AUTHORIZATION 29560

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 98	POLK	434886-1-22-01

LOCATION MAP

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 434886-1-22-01 COUNTY (SECTION) POLK (16040000)

PROJECT DESCRIPTION US 98/JOHN SINGLETARY BRIDGE FROM WEST OF EDGEWOOD DRIVE TO EAST OF THE FORT MEADE RECREATION AREA ENTRANCE

PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION

- RURAL
 URBAN
 FREEWAY/EXPWY. MAJOR COLL.
 PRINCIPAL ART. MINOR COLL.
 MINOR ART. LOCAL

HIGHWAY SYSTEM

- | | | |
|-------------------------------------|-------------------------------------|-----------------------------------|
| Yes | No | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | NATIONAL HIGHWAY SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FLORIDA INTRASTATE HIGHWAY SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | STRATEGIC INTERMODAL SYSTEM |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | STATE HIGHWAY SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | OFF STATE HIGHWAY SYSTEM |

ACCESS CLASSIFICATION

- 1 - FREEWAY
 2 - RESTRICTIVE w/Service Roads
 3 - RESTRICTIVE w/660 ft. Connection Spacing
 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing (MP 1.037 TO MP 1.510)
 5 - RESTRICTIVE w/440 ft. Connection Spacing
 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing (MP 1.030 TO MP 1.037)
 7 - BOTH MEDIAN TYPES

TRAFFIC

	YEAR	AADT		
CURRENT	<u>2013</u>	<u>4,800</u>		
OPENING	<u>2020</u>	<u>6,200</u>		
DESIGN	<u>2040</u>	<u>10,000</u>		
			DISTRIBUTION	
DESIGN SPEED	<u>45 MPH</u>		K	9.5%
POSTED SPEED	<u>45 MPH</u>		D	55.9%
			T 24	10.9%

CRITERIA

- NEW CONSTRUCTION / RECONSTRUCTION
 RRR INTERSTATE / FREEWAY
 RRR NON-INTERSTATE / FREEWAY
 TDLC / NEW CONSTRUCTION / RECONSTRUCTION
 TDLC / RRR
 MANUAL OF UNIFORM MINIMUM STANDARDS (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY SYSTEM ONLY)

DESIGN SPEED APPROVALS

 _____ DISTRICT DESIGN ENGINEER	<u>9-14-15</u> _____ DATE
 _____ DISTRICT TRAFFIC OPERATIONS ENGINEER	<u>09/14/15</u> _____ DATE

LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:

LANE WIDTH VARIATION
 PER PPM VOLUME 1, TABLE 2.1.1, NOTE 1, 12 FOOT WIDE TRAVEL LANES ARE REQUIRED FOR AN UNDIVIDED URBAN ARTERIAL

LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:

US 98/JOHN SINGLETARY BRIDGE OVER THE PEACE RIVER (BRIDGE NO. 160064)

LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:

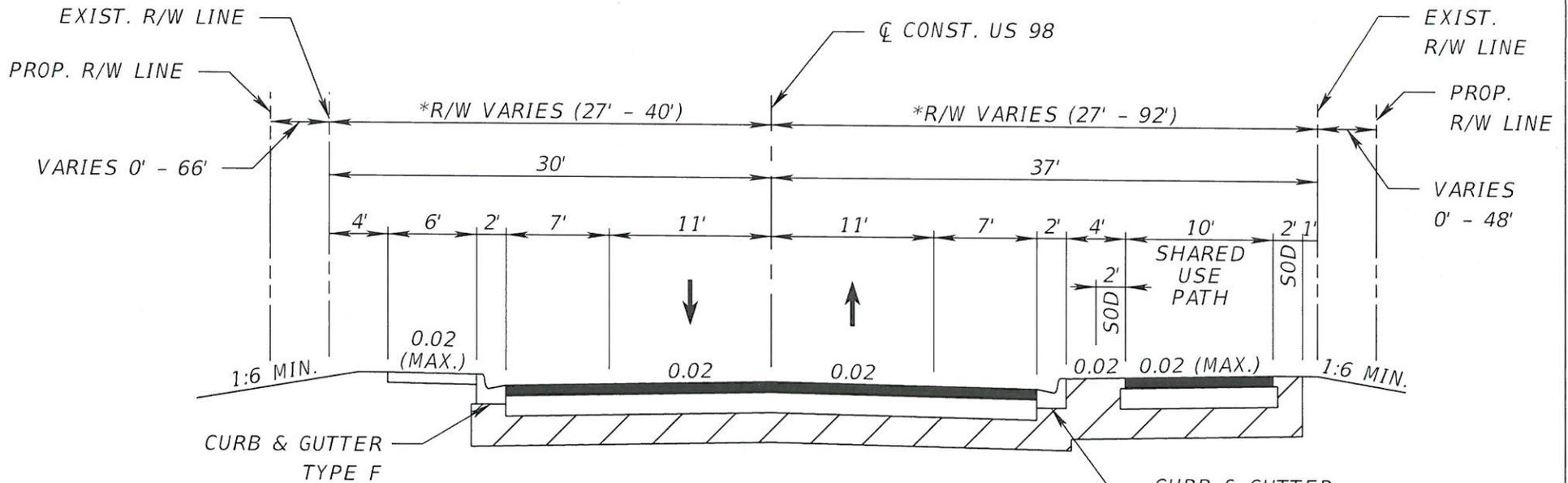
CENTURYLINK
 CITY OF FORT MEADE
 POWERSERVICES

LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 434886-1-22-01 FEDERAL AID PROJECT NO. 1801-006-P COUNTY NAME POLK
 SECTION NO. 16040000 ROAD DESIGNATION US 98/SR 700 LIMITS/MILEPOST MP 1.030 TO MP 1.510
 PROJECT DESCRIPTION US 98/JOHN SINGLETARY BRIDGE FROM WEST OF EDGEWOOD DRIVE TO EAST OF THE FORT MEADE RECREATION AREA ENTRANCE

PROPOSED ROADWAY TYPICAL SECTION



*STATION RANGE	*TOTAL EXISTING R/W WIDTH
77+50.00 TO 84+70.13	50' EXIST. R/W
84+70.13 TO 87+14.99	100' TO 132' EXIST. R/W
87+14.99 TO 92+65.00	58' EXIST. MAINTAINED R/W
98+05.00 TO 109+87.00	54' EXIST. MAINTAINED R/W

STA. 83+00.00 TO STA. 92+60.00
 STA. 98+07.00 TO STA. 109+00.00
 DESIGN SPEED = 45 MPH

N.T.S.

FDOT CONCURRENCE

William A. Hartmann 9/14/2015
 William A. Hartmann, P.E. Date
 FDOT District Project Development Engineer

FDOT CONCURRENCE

L.K. Nandam 09/14/15
 L.K. Nandam, P.E. Date
 FDOT District Traffic Operations Engineer

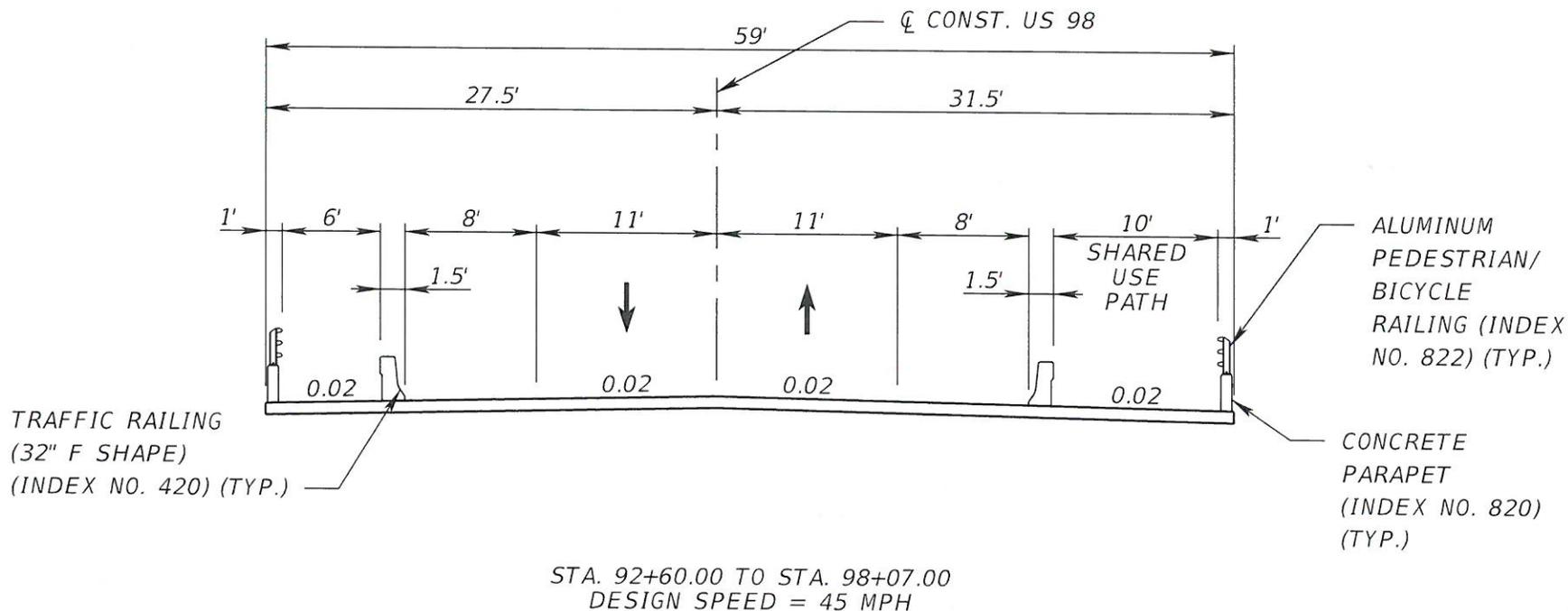
FDOT CONCURRENCE

B.A. Masing 9-14-15
 Bernie A. Masing, P.E. Date
 FDOT District Design Engineer

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 434886-1-22-01 FEDERAL AID PROJECT NO. 1801-006-P COUNTY NAME POLK
 SECTION NO. 16040000 ROAD DESIGNATION US 98/SR 700 LIMITS/MILEPOST MP 1.030 TO MP 1.510
 PROJECT DESCRIPTION US 98/JOHN SINGLETARY BRIDGE FROM WEST OF EDGEWOOD DRIVE TO EAST OF THE FORT MEADE RECREATION AREA ENTRANCE

PROPOSED BRIDGE TYPICAL SECTION (EXISTING BRIDGE TO BE REMOVED OPTION)



N.T.S.

FDOT CONCURRENCE

FDOT CONCURRENCE

FDOT CONCURRENCE

William A. Hartmann 9/14/2015

William A. Hartmann, P.E. Date
 FDOT District Project Development Engineer

L. N. Nandam

L.K. Nandam, P.E. Date
 FDOT District Traffic Operations Engineer

09/14/15

AGDT
 9-14-15

B. A. Masing

Bernie A. Masing, P.E.
 FDOT District Design Engineer

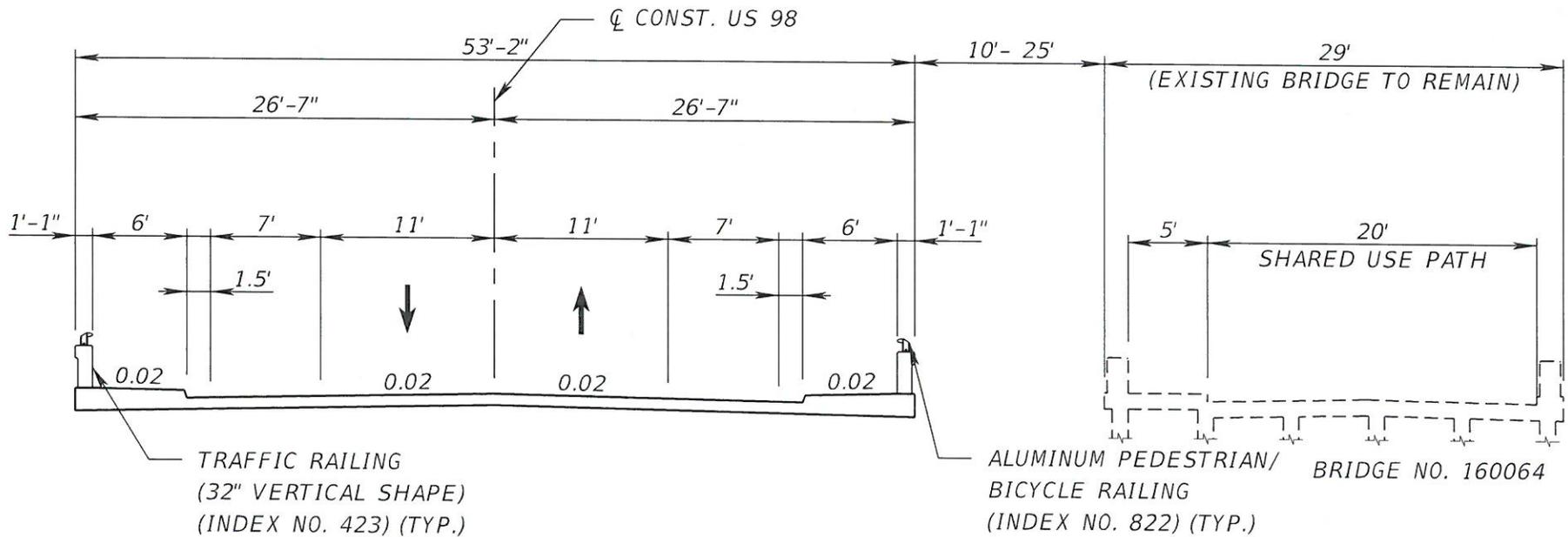
9-14-15

Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 434886-1-22-01 FEDERAL AID PROJECT NO. 1801-006-P COUNTY NAME POLK
 SECTION NO. 16040000 ROAD DESIGNATION US 98/SR 700 LIMITS/MILEPOST MP 1.030 TO MP 1.510
 PROJECT DESCRIPTION US 98/JOHN SINGLETARY BRIDGE FROM WEST OF EDGEWOOD DRIVE TO EAST OF THE FORT MEADE RECREATION AREA ENTRANCE

PROPOSED BRIDGE TYPICAL SECTION (EXISTING BRIDGE TO REMAIN OPTION)



STA. 92+60.00 TO STA. 98+07.00
 DESIGN SPEED = 45 MPH

N.T.S.

FDOT CONCURRENCE

FDOT CONCURRENCE

FDOT CONCURRENCE

William A. Hartmann 9/14/2015
 William A. Hartmann, P.E. Date
 FDOT District Project Development Engineer

L.K. Nandam 09/14/15
 L.K. Nandam, P.E. Date
 FDOT District Traffic Operations Engineer

ADJ. 9-14-15 *B.A. Masing* 9-14-15
 Bernie A. Masing, P.E. Date
 FDOT District Design Engineer

APPENDIX B

25 YEAR LIFE COST ESTIMATE – EXISTING BRIDGE

DRAFT

25 YEAR LIFE COST ESTIMATE – EXISTING BRIDGE

US 98/John Singletary Bridge
Project Development and Environment (PD&E) Study

From west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance
MP 1.030 to MP 1.581
Polk County, Florida

Financial Project ID No. 434886-1-22-01
Federal Aid Project No. 1801-006-P
Efficient Transportation Decision Making (ETDM) No. 14114

December 2016

Prepared for:
Florida Department of Transportation, District 1



Submitted By:
Infrastructure Engineers, Inc.
251 St. Johns Bluff Road South, Suite 103
Jacksonville, Florida 322246

TABLE OF CONTENTS

1.0	SUMMARY	2
2.0	EXISTING BRIDGE	3
3.0	25 YEAR LIFE COST ESTIMATE	4
4.0	COST ANALYSIS.....	9

LIST OF FIGURES

- Figure 1 – Plan - Pedestrian Railing Layout
- Figure 2 – Typical Section @ Bridge Ends
- Figure 3 – Typical Section & In-Fill Panel Details

APPENDICES

- APPENDIX A:** Engineer’s Cost Estimate – Rehabilitation for Pedestrian Use
- APPENDIX B:** Engineer’s Cost Estimate – Routine Maintenance (Yearly)
- APPENDIX C:** Engineer’s Cost Estimate – Interim Rehabilitation @ 12-Year
- APPENDIX D:** Engineer’s Cost Estimate – Bridge Demolition @ 25-Year
- APPENDIX E:** Engineer’s Cost Estimate – Cost Analysis

1.0 SUMMARY

The Florida Department of Transportation (FDOT), District One, is currently conducting a Project Development and Environment (PD&E) Study that proposes to improve the substandard geometry and functional deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area Entrance (MP 1.581). The purpose of the PD&E Study is to evaluate engineering and environmental data and document information that will aid in determining the type, preliminary design, and location of the proposed modifications. The study will meet the requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules and regulations. The goal of the study is to develop a proposed “best-fit” bridge improvement that is technically sound, environmentally sensitive and publicly acceptable with minimal community impacts.

This project will examine potential alternatives, including rehabilitation, repair and replacement, to correct the identified deficiencies and maintain the connection between Downtown Fort Meade to the west and the City of Frostproof to the east, as US 98 serves as the main access road between the two cities. Overall, the project is expected to enhance access across the Peace River and safety conditions for motorists, pedestrians, and bicyclists.

As part of the evaluation of Build Alternative 3 referenced in the Preliminary Engineering Report (PER), the Department has requested an estimate of probable cost to keep the existing John Singletary Bridge in place by rehabilitating the bridge to address the current deficiencies, maintain it over a 25-year period, and demolish the bridge at the end of the 25-year period. As noted in the PER, Build Alternative 3 proposes a new bridge to the north of the existing bridge alignment while the existing bridge remains in place and re-purposed as a pedestrian facility.

The estimated year of expenditure cost rounded to the nearest \$1,000 for each year between 2017 and 2042, considering associated cost for design services, construction services and maintenance services, is outlined in the Appendix and summarized below:

2017 – Design Services for Bridge Rehabilitation for Pedestrian/Bicycle Use.....	\$84,000
2018 - Construction Services for Bridge Rehabilitation for Pedestrian/Bicycle Use.....	\$574,000
2019 to 2027 – Bridge Maintenance (yearly).....	\$18,000 to \$22,000
2028 – Design Services for Bridge Rehabilitation.....	\$57,000
2029 - Construction Services for Bridge Rehabilitation.....	\$257,000
2030 to 2041 - Bridge Maintenance (yearly).....	\$25,000 to \$36,000
2042 – Bridge Demolition.....	\$1,505,000

The estimated total expenditure over the 25-year period is approximately \$3,012,000.

2.0 EXISTING BRIDGE

The existing US 98/John Singletary Bridge (Bridge No. 160064) is located over the Peace River (MP 1.189 to 1.292) within the City of Fort Meade. The existing bridge typical section includes two 10-foot wide travel lanes, a 5-foot wide raised sidewalk located on the north side, and a narrow 7-inch curb on the south side. The overall bridge width is 29 feet with no skew.

The bridge was built in 1931 (load test report says 1928) and consists of 22 simply supported spans with a span length of 25 feet each for a total bridge length of 550 feet. The superstructure consists of six concrete beams in each span that supports a 12-inch thick concrete deck with an asphalt overlay. It is unknown whether the concrete deck is composite with the concrete beam. The substructure consists of concrete bent caps supported on four 18-inch square concrete piles at each bent. The concrete traffic railings are architecturally adorned in a geometric design pattern. Based on the age of the bridge, it is surmised that the bridge was designed for H15 loading. There are no existing plans for the existing bridge.

A Load Test on the bridge was conducted by the FDOT Structures Research Center in October 1991. Based on the load test results, the bridge was given a rating factor above 1.0 for all Florida legal loads and the HS20 design loading. A rating factor of 1.0 or above means that the bridge can safely carry the broad spectrum of trucks that are legally (meet axle weight restrictions) on Florida roads. However, since the load test was completed, there has been documented continued age-related deterioration in the main load carrying members (deck, beams, bent caps and piles), which could compromise the load carrying capacity of the bridge and lead to weight restrictions that would limit heavier truck traffic from crossing the bridge. Given the much lesser loading on the bridge from restricting its future use to pedestrian and bicycle only, the existing load carrying capacity is adequate.

The latest National Bridge Inspection Standards (NBIS) inspection was conducted in August 2015. Since the load test in 1991, there have been several spall and crack repairs to the structure. Several of the past spall repairs are now reported to be delaminating. In addition to numerous spalls with exposed reinforcing steel throughout the superstructure and substructure, there is visible settlement in the bridge at the north end at Bent 4, which was first observed in 1972. The inspection report states that there has been no change since the September 2011 NBIS inspection. The report also lists the NBI rating for the Deck, Superstructure and Substructure as a 5 (Fair Condition) in accordance with Tables 58-1, 59-1 and 60-1 of the FDOT Bridge Management System (BMS) Coding Guide. The bridge has a sufficiency rating of 63.9 and a health index of 89.65.

3.0 25 YEAR LIFE COST ESTIMATE

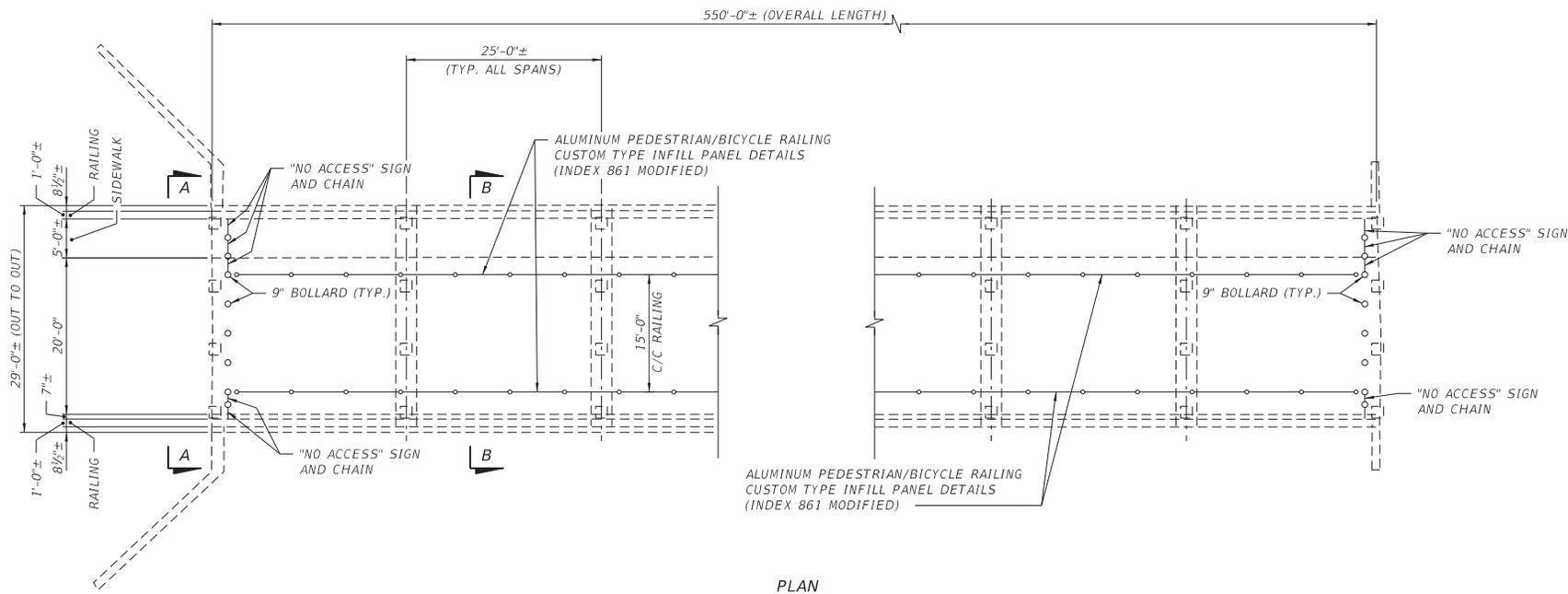
Per request from FDOT, we have estimated the probable cost to (1) rehabilitate the existing John Singletary Bridge for pedestrian and bicycle use only -see Figures 1 to 3, (2) provide anticipated maintenance needed to keep the bridge in use for 25 years, and (3) demolish the bridge at the end of the 25-year period. The estimated cost is based on engineering judgement of probable activities associated with the historical performance with respect to deterioration of similar structure types, the current condition of the bridge, the intended future use of the bridge, and the present age of the bridge. The following activities are considered in the estimated cost.

- 1) Prepare Contract Documents to re-purpose the existing John Singletary Bridge to pedestrian and bicycle use only. The rehabilitation design will include:
 - a. Repair spalls, delaminations, and cracks in the concrete railing, concrete beams, concrete caps and concrete bent columns.
 - b. Mill and resurface the existing asphalt within the limits of the roadway width.
 - c. Clean all exposed surfaces on the top of the north sidewalk, south curb and the concrete railings.
 - d. Provide impressed current cathodic protection for the concrete railing post and beams, and substructure.
 - e. Replace expansion joints in the deck.
 - f. Provide 3'-6" high pedestrian railing per FDOT Index 861 modified to include an acrylic in-fill panel. The pedestrian railing will be attached to the existing deck to provide an approximate 15'-0" wide pedestrian pathway over the length of the bridge.
 - g. Provide bollards at the ends of the bridge to prevent access unto the bridge from vehicles and golf carts.
 - h. Provide proper lighting on the top of deck to facilitate use of the bridge during nighttime hours.
 - i. Provide park style benches and garbage bins along the top of deck for public use.
- 2) Complete the construction per the Contract Documents noted in (1) above.
- 3) Provide routine maintenance of the bridge over the expected 25-year life. Maintenance activities include:
 - a. Litter/ garbage removal.
 - b. Sweep the top of deck areas of accumulated debris.
 - c. Clean the pedestrian railing acrylic panels and replace any damaged panels.
 - d. Replace blown bulbs or damaged luminaires.
- 4) Prepare Contract Documents for interim repairs at approximately the 12-year mark to include:
 - a. Repair spalls, delaminations, and cracks in the concrete railing, concrete beams, concrete caps and concrete bent columns.

- b. Mill and resurface the existing asphalt within the limits of the roadway width.
 - c. Replace expansion joints in the deck.
- 5) Complete the construction per the Contract Documents noted in (4) above.
 - 6) Demolish the existing bridge in its entirety at the 25-year mark.

The following activities or circumstances are not considered in our evaluation of the estimated cost:

- 1) Damage to the bridge requiring emergency or additional repairs due to natural disasters such as hurricanes, flooding, etc.
- 2) Acts of vandalism such as theft of the pedestrian railing acrylic panels and aluminum components.
- 3) Graffiti removal and control.
- 4) Tort liability insurance, if needed, due to public use of the bridge.
- 5) Pavement markings on the top of deck designating any exclusive use by bikes or pedestrians.
- 6) Approach work for a trail leading up to and away from the bridge.
- 7) Cost associated with use of the bridge for festivals or other community activities. It is assumed that any such events using the bridge will offset any associated cost.



NOTES:

1. SEE FIGURE 2, FOR SECTION A-A.
2. SEE FIGURE 3, FOR SECTION B-B.

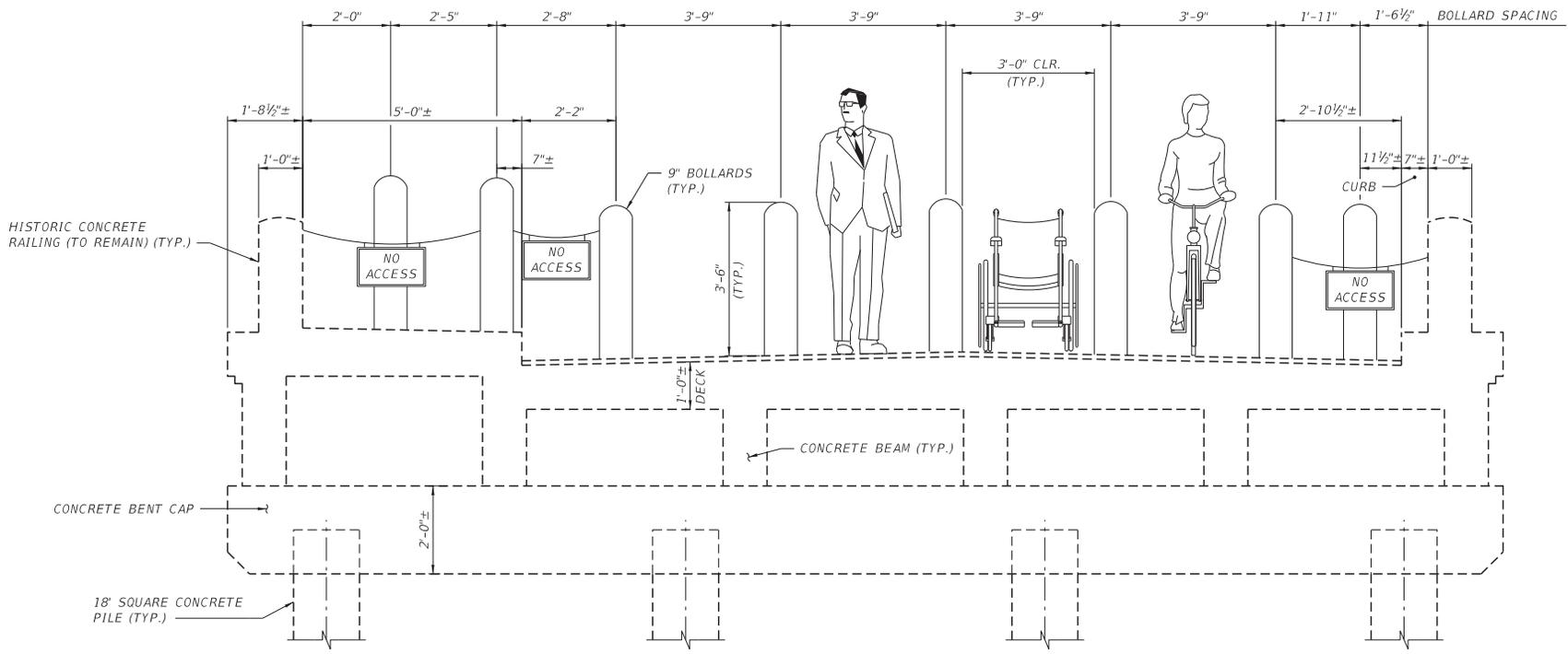
FIGURE 1

REVISIONS						CHRISTOPHER R HOWARD P.E. NO.: 54161 INFRASTRUCTURE ENGINEERS, INC. 2511 ST. JOHNS BLUFF ROAD SOUTH, SUITE 103 JACKSONVILLE, FLORIDA 32246 CERTIFICATE OF AUTHORIZATION NO. 6876	DRAWN BY: JJP CHECKED BY: CRH			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN - PEDESTRIAN RAILING LAYOUT		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.				
						US 98	POLK	434886-1-22-01	US 98 / JOHN SINGLETARY BRIDGE OVER PEACE RIVER						

jppccrill

12/8/2016 3:18:30 PM

Z:\400\2014\14018FL01.00\43488612201\struct\planelev01_existing_plan.dgn

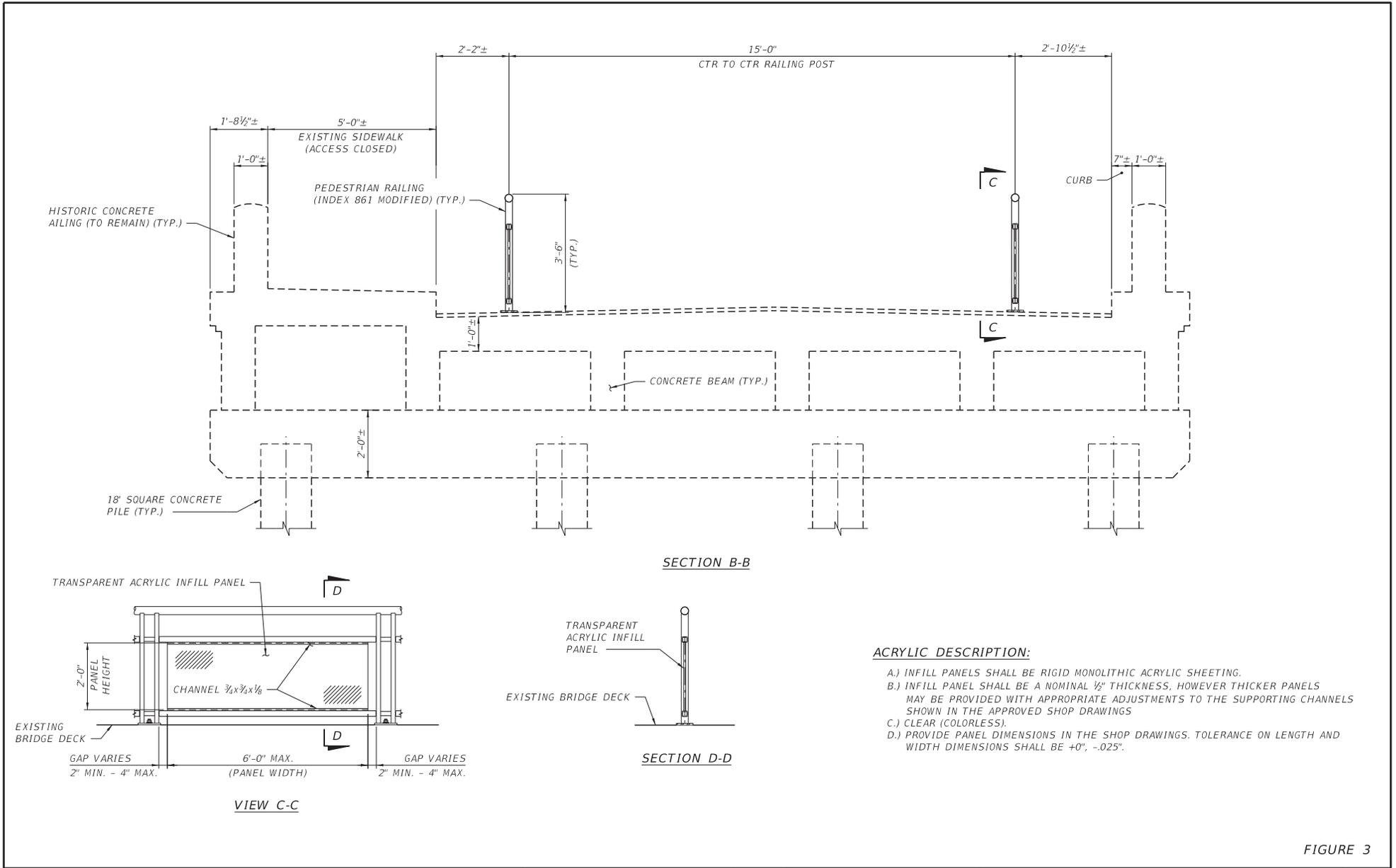


SECTION A-A

NOTE:
 1. CLEARANCE BETWEEN BOLLARDS PER ADA MINIMUM REQUIREMENTS.

FIGURE 2

REVISIONS						CHRISTOPHER R HOWARD P.E. NO.: 54161 INFRASTRUCTURE ENGINEERS, INC. 2511 ST. JOHNS BLUFF ROAD SOUTH, SUITE 103 JACKSONVILLE, FLORIDA 32246 CERTIFICATE OF AUTHORIZATION NO. 6876	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: TYPICAL SECTION (@ BRIDGE ENDS)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
						US 98	POLK	434886-1-22-01	US 98 / JOHN SINGLETARY BRIDGE OVER PEACE RIVER			



ACRYLIC DESCRIPTION:

- A.) INFILL PANELS SHALL BE RIGID MONOLITHIC ACRYLIC SHEETING.
- B.) INFILL PANEL SHALL BE A NOMINAL 1/2" THICKNESS, HOWEVER THICKER PANELS MAY BE PROVIDED WITH APPROPRIATE ADJUSTMENTS TO THE SUPPORTING CHANNELS SHOWN IN THE APPROVED SHOP DRAWINGS
- C.) CLEAR (COLORLESS).
- D.) PROVIDE PANEL DIMENSIONS IN THE SHOP DRAWINGS. TOLERANCE ON LENGTH AND WIDTH DIMENSIONS SHALL BE +0", -.025".

FIGURE 3

REVISIONS					CHRISTOPHER R HOWARD P.E. NO.: 54161 INFRASTRUCTURE ENGINEERS, INC. 2511 ST. JOHNS BLUFF ROAD SOUTH, SUITE 103 JACKSONVILLE, FLORIDA 32246 CERTIFICATE OF AUTHORIZATION NO. 6876	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION AND IN-FILL PANEL DETAILS		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
						US 98	POLK	434886-1-22-01	US 98 / JOHN SINGLETARY BRIDGE OVER PEACE RIVER		

4.0 COST ANALYSIS

The estimated year of expenditure cost for each year between 2017 and 2042 is summarized in the table below. See Appendix E for additional information and detailed analysis.

Year		Present Day Estimated Cost (\$)	Estimated Year of Expenditure Cost (\$)	Rounded Estimated Year of Expenditure Cost (\$)
2017	0	\$ 83,834	\$ 83,834	\$ 84,000
2018	1	\$ 558,896	\$ 573,986	\$ 574,000
2019	2	\$ 16,920	\$ 17,863	\$ 18,000
2020	3	\$ 16,920	\$ 18,328	\$ 18,000
2021	4	\$ 16,920	\$ 18,786	\$ 19,000
2022	5	\$ 16,920	\$ 19,293	\$ 19,000
2023	6	\$ 16,920	\$ 19,833	\$ 20,000
2024	7	\$ 16,920	\$ 20,409	\$ 20,000
2025	8	\$ 16,920	\$ 21,021	\$ 21,000
2026	9	\$ 16,920	\$ 21,673	\$ 22,000
2027	10	\$ 16,920	\$ 22,366	\$ 22,000
2028	11	\$ 43,012	\$ 56,611	\$ 57,000
2029	12	\$ 182,405	\$ 257,292	\$ 257,000
2030	13	\$ 16,920	\$ 24,654	\$ 25,000
2031	14	\$ 16,920	\$ 25,468	\$ 25,000
2032	15	\$ 16,920	\$ 26,308	\$ 26,000
2033	16	\$ 16,920	\$ 27,176	\$ 27,000
2034	17	\$ 16,920	\$ 28,073	\$ 28,000
2035	18	\$ 16,920	\$ 29,000	\$ 29,000
2036	19	\$ 16,920	\$ 29,957	\$ 30,000
2037	20	\$ 16,920	\$ 30,945	\$ 31,000
2038	21	\$ 16,920	\$ 32,028	\$ 32,000
2039	22	\$ 16,920	\$ 33,149	\$ 33,000
2040	23	\$ 16,920	\$ 34,309	\$ 34,000
2041	24	\$ 16,920	\$ 35,510	\$ 36,000
2042	25	\$ 693,024	\$ 1,505,368	\$ 1,505,000
TOTALS		\$ 1,916,491	\$ 3,013,242	\$ 3,012,000

APPENDIX A
ENGINEER'S COST ESTIMATE
REHABILITATION FOR PEDESTRIAN USE

APPENDIX B
ENGINEER'S COST ESTIMATE
ROUTINE MAINTENANCE (YEARLY)

APPENDIX C
ENGINEER'S COST ESTIMATE
INTERIM REHABILITATION @ 12-YEAR

APPENDIX D
ENGINEER'S COST ESTIMATE
BRIDGE DEMOLITION @ 25-YEAR

APPENDIX E
ENGINEER'S COST ESTIMATE
COST ANALYSIS

Year		Initial	Yearly	@ 12-year	@ 25-year	Consultant Design Fee	Subtotal	Cumulative Employment Cost Factor	Cumulative Construction Cost Factor	Grand Total
2017	0	\$ -	\$ -	\$ -	\$ -	\$ 83,834	\$ 83,834	1.00000	1.00000	\$ 83,834
2018	1	\$ 558,896	\$ -	\$ -	\$ -	\$ -	\$ 558,896	1.02300	1.02700	\$ 573,986
2019	2	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.04653	1.05576	\$ 17,863
2020	3	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.07060	1.08321	\$ 18,328
2021	4	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.09522	1.11029	\$ 18,786
2022	5	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.12041	1.14026	\$ 19,293
2023	6	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.14618	1.17219	\$ 19,833
2024	7	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.17254	1.20618	\$ 20,409
2025	8	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.19951	1.24237	\$ 21,021
2026	9	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.22710	1.28088	\$ 21,673
2027	10	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.25533	1.32187	\$ 22,366
2028	11	\$ -	\$ 16,920	\$ -	\$ -	\$ 26,092	\$ 43,012	1.28420	1.36549	\$ 56,611
2029	12	\$ -	\$ 8,460	\$ 173,945	\$ -	\$ -	\$ 182,405	1.31373	1.41055	\$ 257,292
2030	13	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.34395	1.45710	\$ 24,654
2031	14	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.37486	1.50519	\$ 25,468
2032	15	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.40648	1.55486	\$ 26,308
2033	16	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.43883	1.60617	\$ 27,176
2034	17	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.47193	1.65917	\$ 28,073
2035	18	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.50578	1.71393	\$ 29,000
2036	19	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.54041	1.77048	\$ 29,957
2037	20	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.57584	1.82891	\$ 30,945
2038	21	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.61209	1.89292	\$ 32,028
2039	22	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.64916	1.95917	\$ 33,149
2040	23	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.68710	2.02775	\$ 34,309
2041	24	\$ -	\$ 16,920	\$ -	\$ -	\$ -	\$ 16,920	1.72590	2.09872	\$ 35,510
2042	25	\$ -	\$ -	\$ -	\$ 693,024	\$ -	\$ 693,024	1.76559	2.17217	\$ 1,505,368
		\$ 558,896	\$ 380,700	\$ 173,945	\$ 693,024	\$ 109,926	\$ 1,916,491			\$ 3,013,242

Assumptions:

- (1) Year 2029 - only 1/2 the yearly maintenance cost since rehabilitation under construction.
- (2) Assume 2017 is the design year for rehabilitation. Construction done in 2018.

Year		Employment Cost Index	Construction Cost Inflation (1)	Employment Cost Factor	Construction Cost Factor	Cumulative Employment Cost Factor	Cumulative Construction Cost Factor
2017	0	0.0%	0.0%	1.00000	1.00000	1.00000	1.00000
2018	1	2.3%	2.7%	1.02300	1.02700	1.02300	1.02700
2019	2	2.3%	2.8%	1.02300	1.02800	1.04653	1.05576
2020	3	2.3%	2.6%	1.02300	1.02600	1.07060	1.08321
2021	4	2.3%	2.5%	1.02300	1.02500	1.09522	1.11029
2022	5	2.3%	2.7%	1.02300	1.02700	1.12041	1.14026
2023	6	2.3%	2.8%	1.02300	1.02800	1.14618	1.17219
2024	7	2.3%	2.9%	1.02300	1.02900	1.17254	1.20618
2025	8	2.3%	3.0%	1.02300	1.03000	1.19951	1.24237
2026	9	2.3%	3.1%	1.02300	1.03100	1.22710	1.28088
2027	10	2.3%	3.2%	1.02300	1.03200	1.25533	1.32187
2028	11	2.3%	3.3%	1.02300	1.03300	1.28420	1.36549
2029	12	2.3%	3.3%	1.02300	1.03300	1.31373	1.41055
2030	13	2.3%	3.3%	1.02300	1.03300	1.34395	1.45710
2031	14	2.3%	3.3%	1.02300	1.03300	1.37486	1.50519
2032	15	2.3%	3.3%	1.02300	1.03300	1.40648	1.55486
2033	16	2.3%	3.3%	1.02300	1.03300	1.43883	1.60617
2034	17	2.3%	3.3%	1.02300	1.03300	1.47193	1.65917
2035	18	2.3%	3.3%	1.02300	1.03300	1.50578	1.71393
2036	19	2.3%	3.3%	1.02300	1.03300	1.54041	1.77048
2037	20	2.3%	3.3%	1.02300	1.03300	1.57584	1.82891
2038	21	2.3%	3.5%	1.02300	1.03500	1.61209	1.89292
2039	22	2.3%	3.5%	1.02300	1.03500	1.64916	1.95917
2040	23	2.3%	3.5%	1.02300	1.03500	1.68710	2.02775
2041	24	2.3%	3.5%	1.02300	1.03500	1.72590	2.09872
2042	25	2.3%	3.5%	1.02300	1.03500	1.76559	2.17217

Sources:

florida.municipalbonds.com; bonds with maturity date >2040; coupon rate 4.000%-5.500%; yield 1.470%-5.168%

bls.gov; "Compensation costs up 0.6% from June 2016 to Sept 2016 and up 2.3% over the year"

(1) FDOT Transportation Cost Reports - Inflation Factors (assumed 3.5% for years after 2037)



FLORIDA DEPARTMENT OF TRANSPORTATION

TRANSPORTATION COSTS REPORTS

Inflation Factors

This "Transportation Costs" report is one of a series of reports issued by the Office of Policy Planning. It provides information on inflation factors and other indices that may be used to convert Present Day Costs (PDC) to Year Of Expenditure costs (YOE) or vice versa. This report is updated annually when the factors are posted within the FDOT Work Program Instructions.

Please note that the methodology for Inflationary adjustments relating to specific transportation projects should be addressed with the district office where the project will be located. For general use or non-specific areas, the guidelines provided herein may be used for inflationary adjustments.

Construction Cost Inflation Factors

The table on the next page includes the inflation factors and present day cost (PDC) multipliers that are applied to the Department's Work Program for highway construction costs expressed in Fiscal Year 2017 dollars.

Other Transportation Cost Inflation Factors

Other indices may be used to adjust project costs for other transportation modes or non-construction components of costs. Examples are as follows:

The Consumer Price Index (CPI, also retail price index) is a weighted average of prices of a specified set of products and services purchased by wage earners in urban areas. As such, it provides one measure of inflation. The CPI is a fixed quantity price index and a reasonable cost-of-living index.

The Employment Cost Index (ECI) is based on the National Compensation Survey. It measures quarterly changes in compensation costs, which include wages, salaries, and other employer costs for civilian workers (nonfarm private industry and state and local government).

The monthly series, Producer Price Index for Other Non-residential Construction, is available from the Bureau of Labor Statistics (BLS). It is not exclusively a highway construction index, but it is the best available national estimate of changes in highway costs from month to month.

This report is one in a series on transportation costs. The latest version of this and other reports are available at <http://www.dot.state.fl.us/planning/policy/costs/default.asp>



**FLORIDA DEPARTMENT OF
TRANSPORTATION**

TRANSPORTATION COSTS REPORTS

**Work Program
Highway Construction Cost Inflation Factors**

Fiscal Year	Inflation Factor	PDC Multiplier
2017	Base	1.000
2018	2.7%	1.027
2019	2.8%	1.056
2020	2.6%	1.083
2021	2.5%	1.110
2022	2.7%	1.140
2023	2.8%	1.172
2024	2.9%	1.206
2025	3.0%	1.242
2026	3.1%	1.281
2027	3.2%	1.322
2028	3.3%	1.365
2029	3.3%	1.410
2030	3.3%	1.457
2031	3.3%	1.505
2032	3.3%	1.555
2033	3.3%	1.606
2034	3.3%	1.659
2035	3.3%	1714
2036	3.3%	1.770
2037	3.3%	1.829
Source: Office of Work Program and Budget, (Fiscal Year 2017 is July 1, 2016 to June 30, 2017)		

Advisory Inflation Factors For Previous Years

Another "Transportation Costs" report covers highway construction cost inflation for previous years. "Advisory Inflation Factors For Previous Years (1987-2015) provides Present Day Cost (PDC) multipliers that enable project cost estimates from previous years to be updated to FY 2015. This report is updated about once a year. For the table and text providing this information, please go to <http://www.dot.state.fl.us/planning/policy/costs/RetroCostInflation.pdf>.

This report is one in a series on transportation costs. The latest version of this and other reports are available at <http://www.dot.state.fl.us/planning/policy/costs/default.asp>

APPENDIX C

PREFERRED ALTERNATIVE CONCEPTUAL PLANS



CURVE DATA CL ALT22
 PI STA. = 87+23.19
 Δ = 21° 12' 28" (LT)
 D = 4° 59' 59"
 T = 214.55
 L = 424.19
 R = 1,146.00
 PC STA. = 85+08.64
 PT STA. = 89+32.83
 e = RC

LEGEND	
	EXISTING R/W
	PROPOSED R/W
	PARCEL LINES
	TO BE REMOVED AND SODDED

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

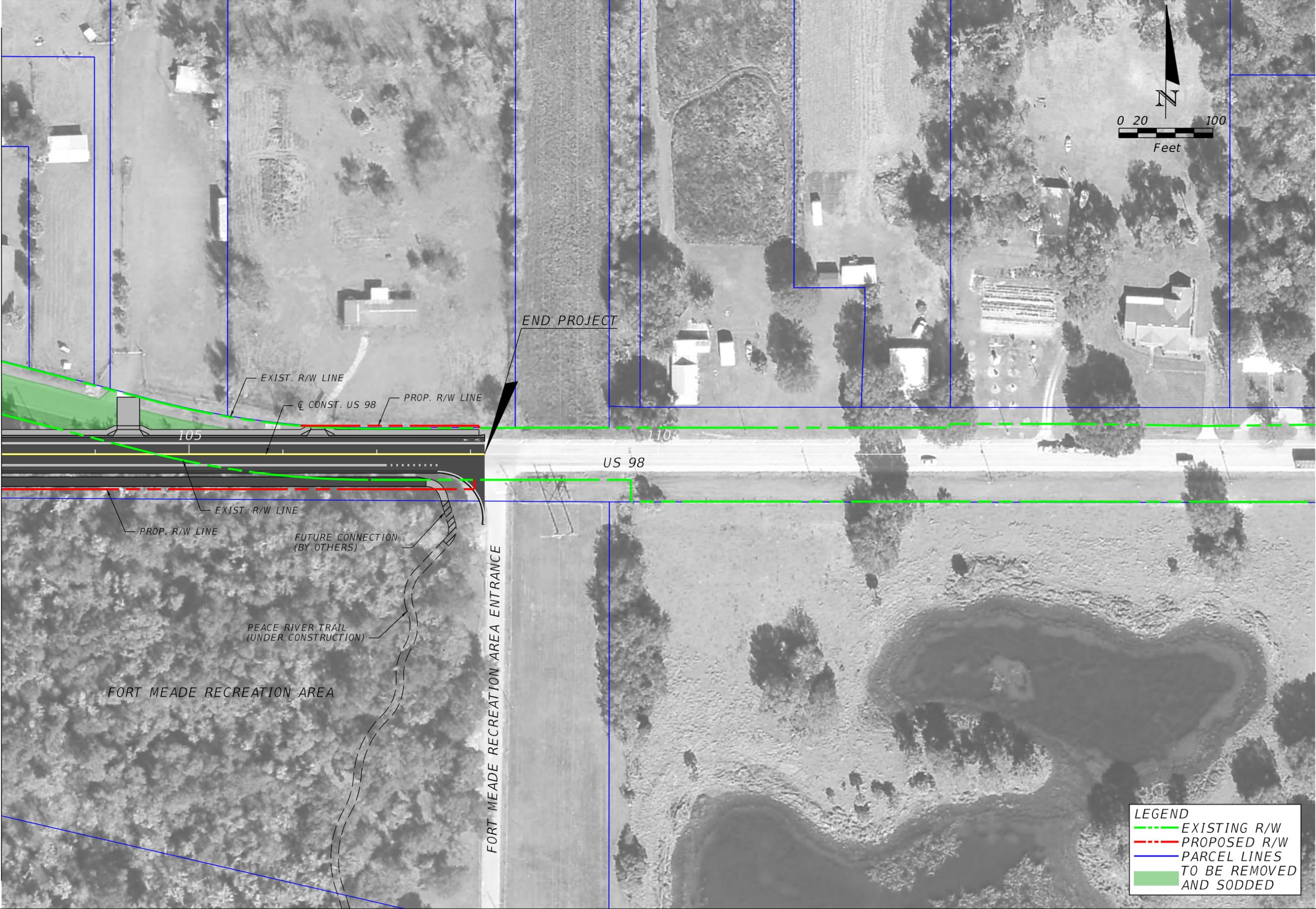
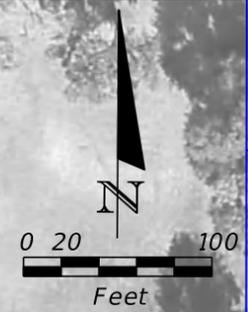
PRELIMINARY

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 98	POLK	434886-1-22-01

**CONCEPT PLAN
ALTERNATIVE 2**

SHEET NO.
2-1

MATCH LINE STA. 103+00.00



LEGEND	
	EXISTING R/W
	PROPOSED R/W
	PARCEL LINES
	TO BE REMOVED AND SODDED

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

PRELIMINARY

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 98	POLK	434886-1-22-01

**CONCEPT PLAN
ALTERNATIVE 2**

SHEET NO.
2-3

APPENDIX D

NBIS BRIDGE INSPECTION REPORT



BRIDGE INSPECTION REPORT

PREPARED FOR: FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE OWNER: FLORIDA DEPARTMENT OF TRANSPORTATION

ICA

INSPECTED BY:

KCA

BRIDGE NO. 160064

CONTENTS OF REPORT

INSPECTION DATE: 08/10/2015

Pontis Report

UW Inspection Report

CIDR

* Fracture Critical Data

Scour Elevation (Profile)

* Load Rating Analysis Summary

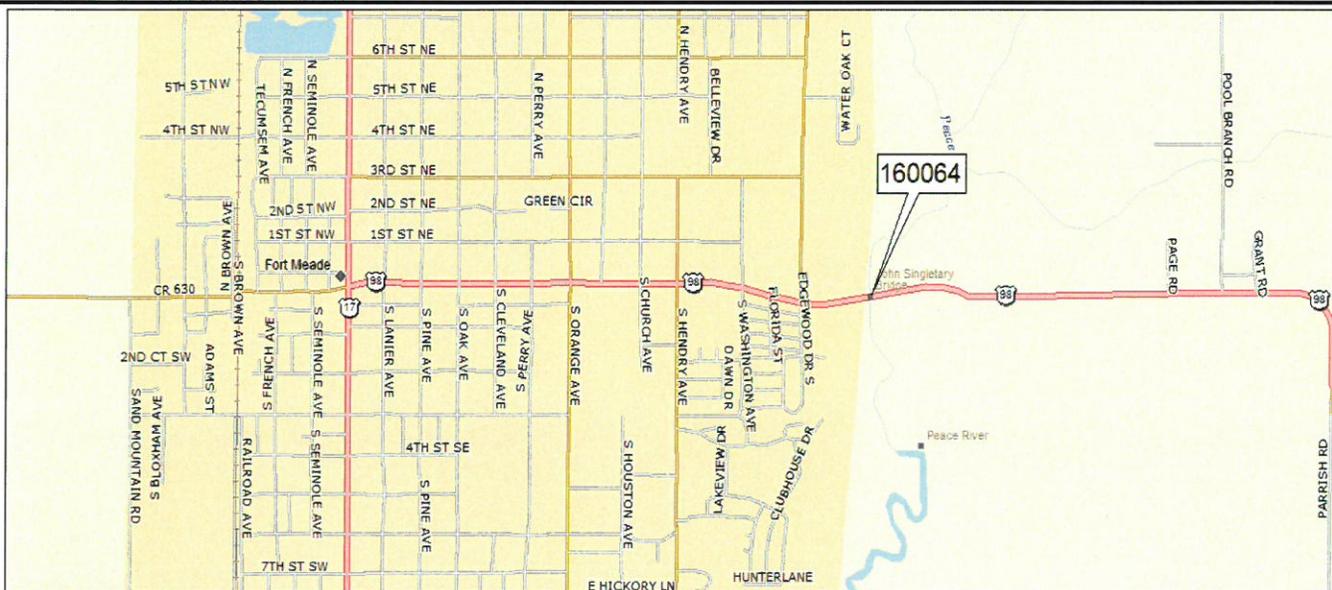
* Addendum (Element Notes & Photos/Sketches)

*This section is not included in this report.

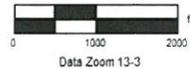


US-98 (SR-700) over Peace River

1.1 MI. East of US-17



Data use subject to license.
© DeLorme, DeLorme Street Atlas USA © 2012
www.delorme.com



FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 1 OF 35
INSPECTION DATE: 8/10/2015 DSVU

BY: Kisinger Campo & Associates Corp. STRUCTURE NAME: JOHN SINGLETARY BRIDGE
OWNER: 1 State Highway Agency YEAR BUILT: 1931
MAINTAINED BY: 1 State Highway Agency SECTION NO.: 16 040 000
STRUCTURE TYPE: 1 Reinforced Concrete - 02 Stringer/Girder MP: 1.189
LOCATION: 1.1 MI East of US-17 ROUTE: 00098
SERVICE TYPE ON: 5 Highway-pedestrian FACILITY CARRIED: US-98 SR-700
SERV TYPE UND: 5 Waterway FEATURE INTERSECTED: PEACE RIVER

FUNCTIONALLY OBSOLETE STRUCTURALLY DEFICIENT

TYPE OF INSPECTION: Regular NBI

DATE FIELD INSPECTION WAS PERFORMED: ABOVE WATER: 08/10/2015 UNDERWATER: 8/13/2015

SUFFICIENCY RATING: 63.9
HEALTH INDEX: 89.65

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 3 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 13/3 Unp Conc Deck/AC Ovl 15922 sf. ELEM CATEGORY: Decks/Slabs

CONDITION STATE (5)	DESCRIPTION	QUANTITY
2	Repaired areas and/or potholes or impending potholes and/or raveling or rutting exist. Their combined area is more than 2% but less than 10% of the total deck area.	15922 sf.

ELEMENT INSPECTION NOTES:

Note: Due to the age and repair history of this bridge, the Deck NBI Item 58 rating is coded a 5.

CS2 = The south face of the deck edge has vertical/diagonal cracks up to 1/16in. wide over Bents 6, 20 and 22.

The deck top asphalt over all intermittent bents has upheaved with potholes and associated raveling and rutting up to 7ft. x 1ft. x 1in. – INCREASE.

Bay 15-5 has a 20in. long piece of exposed rebar due to insufficient concrete cover adjacent to Bent 15.

Span 21 right fascia at Bent 22 has a delamination 2ft. x 1ft.

There are moderate to heavy buildup of mud dauber nests on the deck underside throughout the structure – INCREASE. Refer to photo 1. P3WO

PREVIOUS RECOMMENDED CORRECTIVE ACTION:

Remove mud dauber nests from the superstructure elements all spans. 78MH

CORRECTIVE ACTION EVALUATION:

The corrective action noted above has not been completed. A recommendation will be repeated in this report.

ELEMENT/ENV: 301/3 Pourable Joint Seal 666 lf. ELEM CATEGORY: Joints

CONDITION STATE (3)	DESCRIPTION	QUANTITY
2	Minor adhesion and/or cohesion failures may be present. Signs of seepage along the joint may be present. Joint may be slightly impacted with debris. Minor spalls in the deck and/or headers may be present adjacent to the joint.	413 lf.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)**

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 4 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 301/3	Pourable Joint Seal	666 lf.	ELEM CATEGORY: Joints
CONDITION STATE (3)	DESCRIPTION	QUANTITY	
3	Major adhesion and/or cohesion failures may be present. Signs or observance of leakage along the joint may be present. Joint may be heavily impacted with debris and/or stones. Major spalls may be present in the deck and/or header adjacent to the joint.	253 lf.	

ELEMENT INSPECTION NOTES:

Note: The pourable joint seal in the travel lanes is not visible due to an asphalt overlay.

CS2 = The pourable joint seals in the north sidewalk have several areas with missing sealant and moderate to heavy adhesion loss and packed with dirt – INCREASE.

CS3 = The joint is missing or 100% deteriorated where asphalt is missing/pothole with associated raveling/rutting asphalt intermittently throughout the joints - INCREASE. Refer to photo 2. P3WO

PREVIOUS RECOMMENDED CORRECTIVE ACTION:

Repair 23lf. of deteriorated pourable joint sealant intermittently throughout. 23LF.

CORRECTIVE ACTION EVALUATION:

The corrective action noted above has been completed. However, due to the recurrence of deficiencies noted, this recommendation will be repeated in this report.

ELEMENT/ENV: 331/3	Conc Bridge Railing	1102 lf.	ELEM CATEGORY: Railing
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without effect on strength and/or serviceability.	898 lf.	
2	Minor cracks, surface scaling or spalls may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.	180 lf.	

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM**

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 5 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 DECKS

ELEMENT/ENV: 331/3 Conc Bridge Railing 1102 lf. ELEM CATEGORY: Railing

CONDITION STATE (4)	DESCRIPTION	QUANTITY
3	Some delaminations and/or spalls may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	24 lf.

ELEMENT INSPECTION NOTES:

CS2 = Several of the bridge rail posts and decorative bridge rail panels have spalls up to 1ft. x 5in. x 1in.

The top rail of both bridge rails have several transverse/vertical cracks up to 1/32in. wide.

The last post on the right over Abutment 23 has a 12in. x 5in. x 1in. spall – NEW.

CS3 = The top face of intermittent bridge post tops have protruding steel up to 1/32in. due to lack of cover. Refer to photo 3.

Panel 21-2 and 21-3 have four areas up to 12in. x 3in. x 1in. spalls/delaminations with exposed steel at the left cross bracing and associated up to 1/32in. wide cracks intermittently throughout – NEW. Refer to photo 4. P3WO

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)**

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 6 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 SUPERSTRUCTURE

ELEMENT/ENV: 110/3 R/Conc Open Girder 3307 lf. ELEM CATEGORY: Superstructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	3304 lf.
3	Some delaminations and/or spalls may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	3 lf.

ELEMENT INSPECTION NOTES:

Note: Due to structure age, impact due to settlement, and repair history, the Superstructure NBI Item 59 rating is coded a 5.

CS1 = There are mud dauber nests buildup on the concrete beams intermittently throughout. Refer to Element 13 Unp Conc Deck/AC Ovl for related comments and photo 1.

CS3 = There is a 9in. long x 8in. wide delamination in the bottom face of Beam 2-6 at Bent 2. Refer to photo 5.

There is a 6in. x 4in. x 1in. spall/delamination with exposed steel in the bottom face of Beam 8-6, 5ft. west of Bent 9 cap. Refer to photo 6.

There is a 12in. x 4in. x 1in. spall/delamination with exposed steel in the bottom face of Beam 9-6, 5ft. west of Bent 10 cap – NEW.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 7 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 205/3 R/Conc Column 84 ea. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	74 ea.
2	Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.	7 ea.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 8 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 205/3 R/Conc Column 84 ea. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
3	Some delaminations, moderate cracks, spalls and/or scaling may be present and some reinforcing may be exposed. Corrosion of rebar may be present but loss of section is incidental and does not significantly affect the strength and/or serviceability of either the element or the bridge.	3 ea.

ELEMENT INSPECTION NOTES:

Note: Due to settlement history and structure repair history, the Substructure NBI Item 60 rating is coded a 5.

CS1 = There is visible settlement in the bridge rail at the north end of Bent 4. This settlement was first recorded in the 1972 inspection report as a 1-1/2in. dip in the bridge rail at Bent 4. During that inspection, a stringline was stretched from the top of the north bridge rail post at Bent 3 to the top of the north post over Bent 5. There was 1-7/8in. gap between the stringline and top of the bridge rail post over Bent 4. No change has been noted since the previous inspection dated 9/22/11.

CS2 = Pile 13-2 east face at the cap has a 7in. x 6in. x 1/2in. spall.

Pile 22-3 has a horizontal crack in the north, west and south faces up to 1/32in. wide at the cap – INCREASE.

CS3 = Pile 3-1 has a 6in. x 4in. delamination at the cap in all four faces.

Pile 10-3 south and east faces has two delaminations up to 12in. x 8in., 6ft. below the cap – NEW. Refer to photo 7.

The following was noted by the underwater inspectors:

CS2 = Pile 4-1 has a 6ft. 5in. long x 1/16in. wide vertical crack in the north face adjacent to the northwest corner and extending up from a grout repair – INCREASE.

Pile 4-2 south face has a 22in. long x 1/64in. wide horizontal crack extending into west face, 6ft. below the cap – NEW.

Pile 7-1 northeast corner at mudline has an 8in. x 4in. x 1in. spall.

Pile 9-1 north face has an 18in. x 12in. area of missing grout, exposing 1/4in. scale damage at the groundline – NEW.

Pile 11-1 southeast and northeast corners has a 6in. x 24in. delaminated grout at the groundline – NEW.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 9 OF 35
INSPECTION DATE: 8/10/2015 DSVU

CS3 = Pile 2-4 northeast corner has a 24in. x 2in. delamination in pile grout patch associated with 1/16in. wide crack, 5ft. 6in. below the cap – NEW.

Pile 2-4 west face have formed boards attached – NEW.

ELEMENT/ENV: 215/3 R/Conc Abutment 82 lf. ELEM CATEGORY: Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	43 lf.
2	Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.	39 lf.

ELEMENT INSPECTION NOTES:

CS1 = Abutment 1 cap top exterior left side at the southwest wingwall transition has a 6in. x 4in. repair.

Abutment 1 bearing under Beam 1-2 has a 1ft. x 1ft. repair.

Abutment 23 under Beam 22-1 has a 18in. x 1ft. repair.

Abutment 23 under Beam 22-6 has a 1ft. x 10in. repair.

CS2 = There are vertical and diagonal cracks up to 1/16in. wide, which radiate from the beam seats on the abutment walls.

CORRECTIVE ACTION TAKEN:

Although not previously recommended for corrective action, the spalls/delaminations have been repaired at both abutments.

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 10 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 234/3	R/Conc Cap	607 lf.	ELEM CATEGORY: Substructure
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	607 lf.	

ELEMENT INSPECTION NOTES:

CS1 = Several of the repair areas on the bent caps have cracks up to 1/64in. wide.

The bent caps have repairs up to 2ft. 6in. x 1ft. at the following locations:

- Bent 5 cap, east face, under Beams 5-3, and 5-4.
- Bent 6 cap, east face under Beams 6-3, 6-4 and 6-6.
- Bent 7 cap, east face, under Beams 7-1, and 7-3.
- Bent 8 cap, east face, under Beams 8-1, and 8-6.
- Bent 9 cap, east face, under Beam 9-6.
- Bent 10 cap, east face, under Beams 10-3, 10-5, and 10-6.
- Bent 11 cap, east face, under Beams 11-2, 11-3, and 11-4.
- Bent 11 cap, west face, under Beam 10-3.
- Bent 12 cap, east face, under Beams 12-3, 12-4, and 12-6.
- Bent 14 cap, east face, under Beams 14-2, 14-4, and 14-5.
- Bent 15 cap, east face, under Beams 15-1, 15-3, 15-4 and 15-6.
- Bent 16 cap, east face, under Beams 16-2 16-4, 16-5, and 16-6.
- Bent 17 cap, east face, under Beams 17-1, 17-2, 17-3, and 17-5.
- Bent 18 cap, east face, under Beams 18-1, 18-2 18-3, and 18-6.
- Bent 19 cap, east face, under Beams 19-2 19-3, 19-4, and 19-5.
- Bent 20 cap, east face, under Beams 20-1, 20-2, 20-3, 20-4, and 20-5.
- Bent 21 cap, east face, under Beams 21-2, 21-3, 21-5, and 21-6.

CORRECTIVE ACTION TAKEN:

Although not previously recommended for corrective action, the delaminations have been repaired at all bent caps.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 11 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 CHANNEL

ELEMENT/ENV: 290/3 Channel		1 ea.	ELEM CATEGORY: Channel
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
2	Bank protection is in need of minor repairs, bank may be beginning to slump, minor stream bed movement may be evident or debris may be present.	1 ea.	

ELEMENT INSPECTION NOTES:

The following was noted by the underwater inspectors:

CS2 = There is an accumulation of heavy vegetation and debris from the groundline extending up at the Bent 5 around Piles 5-1 and 5-2 and Bent 6 and around Pile 6-1 along the north side of the structure; however, it is not affecting the flow – INCREASE. Refer to photo 8.

There is drift throughout the channel – NEW.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)**

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 12 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 SMART FLAG

ELEMENT/ENV: 360/3 Settlement SmFlag 1 ea. ELEM CATEGORY: Smart Flags

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	Some of the bridge supporting elements are showing signs of visible settlement or rotation but due to earlier repairs as indicated by other signs, the settlement appears to have stabilized.	1 ea.

ELEMENT INSPECTION NOTES:

CS1 = There is visible settlement in the bridge rail at the north end of Bent 4. This settlement was first recorded in the 1972 inspection report as a 1-1/2in. dip in the bridge rail at Bent 4. (During that inspection, a stringline was stretched from the top of the north bridge rail post at Bent 3 to the top of the north post over Bent 5. There was 1-7/8in. gap between the stringline and top of the bridge rail post over Bent 4. No change since the previous inspection dated 9/22/11). Refer to Element 205 R/Conc Column for related comments. Settlement has stabilized.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 13 OF 35
INSPECTION DATE: 8/10/2015 DSVU

All Elements

UNIT: 0 MISCELLANEOUS

ELEMENT/ENV: 475/3 R/Conc Walls		92 lf.	ELEM CATEGORY: Other Elements
CONDITION STATE (4)	DESCRIPTION	QUANTITY	
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.	79 lf.	
2	Minor cracks and spalls may be present but there is no exposed reinforcing or surface evidence of rebar corrosion. Open joints may be prevalent.	13 lf.	

ELEMENT INSPECTION NOTES:

CS2 = The southwest, northeast and southeast wingwalls have full height vertical cracks up to 1/16in. wide.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)**

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 14 OF 35
INSPECTION DATE: 8/10/2015 DSVU

Smart Flag Summary

UNIT: 0 SMART FLAG

ELEMENT/ENV: 360/3 Settlement SmFlag 1 ea. ELEM CATEGORY: Smart Flags

CONDITION STATE (3)	DESCRIPTION	QUANTITY
1	Some of the bridge supporting elements are showing signs of visible settlement or rotation but due to earlier repairs as indicated by other signs, the settlement appears to have stabilized.	1

ELEMENT INSPECTION NOTES:

CS1 = There is visible settlement in the bridge rail at the north end of Bent 4. This settlement was first recorded in the 1972 inspection report as a 1-1/2in. dip in the bridge rail at Bent 4. (During that inspection, a stringline was stretched from the top of the north bridge rail post at Bent 3 to the top of the north post over Bent 5. There was 1-7/8in. gap between the stringline and top of the bridge rail post over Bent 4. No change since the previous inspection dated 9/22/11). Refer to Element 205 R/Conc Column for related comments. Settlement has stabilized.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 15 OF 35
INSPECTION DATE: 8/10/2015 DSVU

Inspector Recommendations

UNIT: 0 DECKS

ELEMENT/ENV:13/3 Unp Conc Deck/AC Ovl		ELEM CATEGORY: Decks/Slabs
CONDITION STATE (5)		Priority
2	15922 sf.	3

WORK ORDER RECOMMENDATION:

Remove mud dauber nests from deck and superstructure elements on all spans. 80MH

ELEMENT/ENV:301/3 Pourable Joint Seal		ELEM CATEGORY: Joints
CONDITION STATE (3)		Priority
3	253 lf.	3

WORK ORDER RECOMMENDATION:

Repair missing deteriorated joint sealant intermittently throughout joints 253LF

Structure Notes

TRAFFIC RESTRICTION: Based on the load rating analysis dated 8/31/92, this structure does not require posting. This structure is not posted.

Structure inventoried from west to east.

There is no structure to the west of Bridge No. 160064 and Bridge No. 160065 is to the east of this Bridge No. 160064.

Asphalt thickness = 2-1/2in.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)**

**BRIDGE ID: 160064
DISTRICT: 01 Bartow**

**PAGE: 16 OF 35
INSPECTION DATE: 8/10/2015 DSVU**

INSPECTION NOTES: DSVU 8/10/2015

Sufficiency Rating Calculation Accepted by KNKCARL-P at 2015-09-15 13:43:20

LOAD CAPACITY EVALUATION:

The findings of this inspection reveal no reason to warrant a new analysis; therefore, the current load rating analysis results still govern.

NON-STRUCTURAL ITEMS:

APPROACH SIDEWALKS:

There is a 3/4in. elevation difference at the northwest approach sidewalk/bridge sidewalk transition. Refer to photo 9.

The following elements were inspected underwater by the divers:

205 R/Conc Column - Bents 2 through 22 each with four 18in. piles

215 R/Conc Abutment

290 Channel

475 R/Conc Walls

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 17 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 1 - Elements 13 Unp Conc Deck/AC Ovl & 110 R/Conc Open Girder

Typical mud dauber nests on the deck underside and beams throughout the structure (Span 1 underside shown)

WORK ORDER RECOMMENDATION:

P3WO: Remove mud dauber nests from deck and superstructure elements on all spans. 80MH

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 18 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 2 - Element 301 Pourable Joint Seal

Deteriorated pourable joint sealant in Lane 1 (Bent 16 joint shown)

WORK ORDER RECOMMENDATION:

P3WO: Repair missing-deteriorated sealant intemittently throughout joints. 235LF

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 19 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 3 - Element 331 Conc Bridge Railing

Typical exposed steel in bridge post top (Post 1-1 left shown)

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 20 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 4 - Element 331 Conc Bridge Railing

Typical spalls/delaminations with exposed steel at the left cross bracing (Panels 21-2 shown)

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 21 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 5 - Element 110 R/Conc Open Girder

Delamination bottom face of Beam 2-6 at Bent 2

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 22 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 6 - Element 110 R/Conc Open Girder

Spall/delamination with exposed steel in the bottom face of Beam 8-6, 5ft. west of Bent 9 cap

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 23 OF 35
INSPECTION DATE: 8/10/2015 DSVU

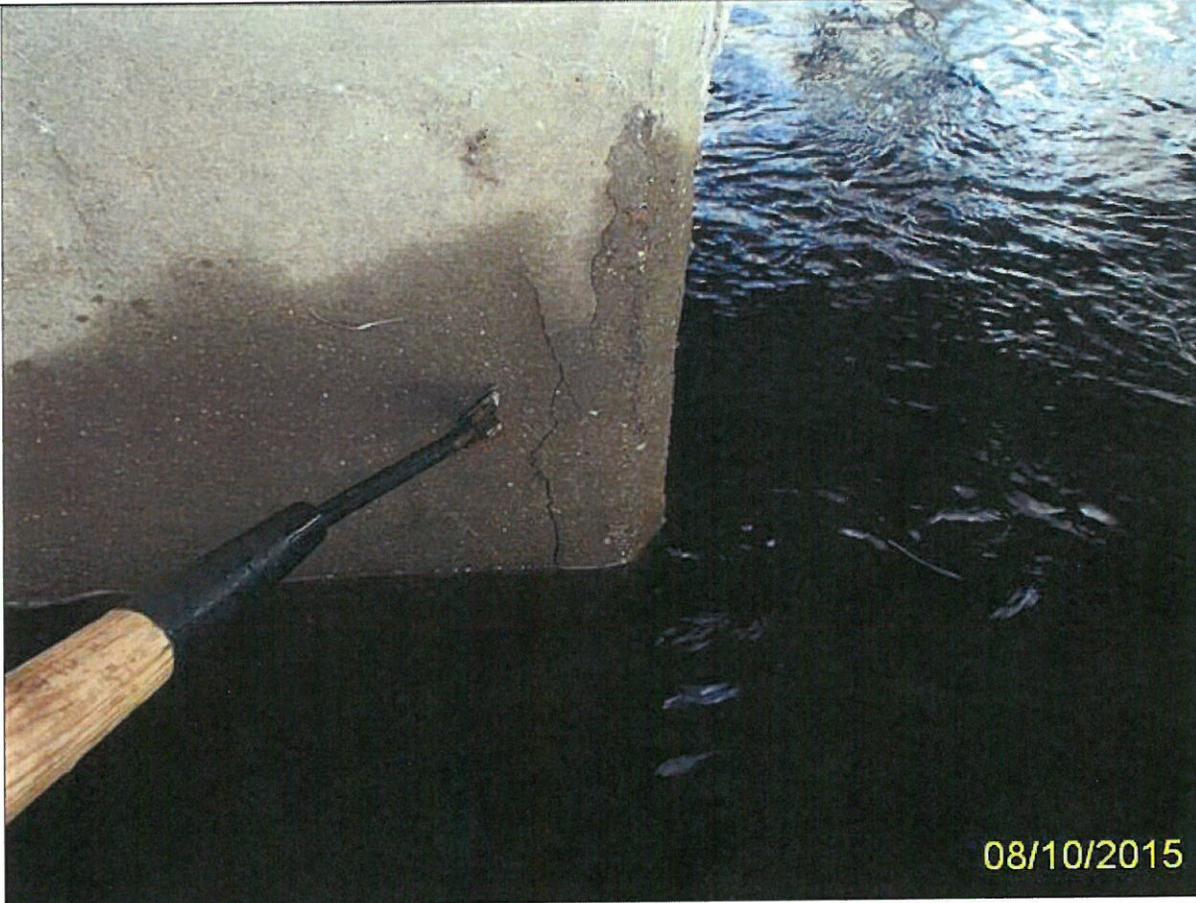


Photo 7 - Element 205 R/Conc Column

Delamination in south face of Pile 10-3, 6ft. below the cap

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 24 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 8 - Element 290 Channel

Vegetation and debris at Bent 5 along the north side

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

REPORT ID: INSP005 (condensed)

PRINTED: 09/17/2015

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 25 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 9 - Inspection Notes

Elevation difference at the northwest approach sidewalk/bridge sidewalk transition

REPAIR RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
 BRIDGE MANAGEMENT SYSTEM
 Inspection/CID Report with PDF attachment(s)
 COMPREHENSIVE

REPORT ID: INVT001A
 Structure ID: 160064

Page 26 of 35
 09/17/2015

DATE PRINTED:

Description

Structure Unit Identification

Bridge/Unit Key: 160064 0
 Structure Name: JOHN SINGLETARY BRIDGE
 Description: MAIN SPAN 1
 Type: M Main

Roadway Identification:

NBI Structure No (8) 160064
 Position/Prefix (5) Route On Structure
 Kind Hwy (Rte Prefix) 2 U.S. Numbered Hwy
 Design Level of Service 1 Mainline
 Route Number/Suffix 00098/ 0 N/A (NBI)
 Feature Intersect (6) PEACE RIVER
 Critical Facility Not Defense-crit
 Facility Carried (7) US-98 SR-700
 Mile Point (11) 1.189
 Latitude (16) 027d45'06.0" Long (17) 081d46'55.0"

Roadway Traffic and Accidents

Lanes (28) 2 Medians 0 Speed 40 mph
 ADT Class ADT Class 3
 Recent ADT (29) 4800 Year (30) 2014
 Future ADT (114) 8328 Year (115) 2036
 Truck % ADT (109) 11
 Detour Length (19) 3.7 mi
 Detour Speed 35 mph
 Accident Count -1 Rate -1

Roadway Classification

Nat. Hwy Sys (104) 1 On the NHS
 National base Net (12) On Base Network
 LRS Inventory Rte (13a) 16 040 000 Sub Rte (13b) 00
 Functional Class (26) 02 Rural Other Princ
 On Federal Aid System Y
 Defense Hwy (100) 0 Not a STRAHNET hwy
 Direction of Traffic (102) 2 2-way traffic
 Emergency

Roadway Clearances

Vertical (10) 99.99 ft Appr. Road (32) 20
 Horiz. (47) 25.8 ft Roadway (51) 20 ft
 Truck Network (110) 0 Not part of natl netwo
 Toll Facility (20) 3 On free road
 Fed. Lands Hwy (105) 0 N/A (NBI)
 School Bus Route
 Transit Route

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 27 of 35
DATE PRINTED: 09/17/2015

Structure Identification

Admin Area Polk
District (2) D1 - Bartow
County (3) (16)Polk
Place Code (4) Fort Meade
Location (9) 1.1 MI East of US-17
Border Br St/Reg (98) Not Applicable (P) Share 0 %
Border Struct No (99)
FIPS State/Region (1) 12 Florida Region 4-Atlanta
NBIS Bridge Len (112) Meets NBI Length
Parallel Structure (101) No || bridge exists
Temp. Structure (103) Not Applicable (P)
Maint. Resp. (21) 1 State Highway Agency
Owner (22) 1 State Highway Agency
Historic Signif. (37) 3 Possibly eligible for

Structure Type and Material

Curb/Sidewalk (50): Left 4.9 ft Right 0 ft
Bridge Median (33): 0 No median
Main Span Material (43A): 1 Reinforced Concrete
Appr Span Material (44A): Not Applicable
Main Span Design (43B): 02 Stringer/Girder
Appr Span Design (44B): Not Applicable

Geometrics

Spans in Main Unit (45) 22
Approach Spans (46) 0
Length of Max Span (48) 24.9 ft
Structure Length (49) 550.9 ft
Total Length 550.9 ft
Deck Area 15922 sqft
Structure Flared (35) 0 No flare

Age and Service

Year Built (27) 1931
Year Reconstructed (106) 0
Type of Service On (42a) 5 Highway-pedestrian
Under (42b) 5 Waterway
Fracture Critical Details Not Applicable

Deck Type and Material

Deck Width (52): 28.9
Skew (34): 0
Deck Type (107): 1 Concrete-Cast-in-Place
Surface (108): 6 Bituminous
Membrane: 0 None
Deck Protection: None

Appraisal

Structure Appraisal

Open/Posted/Closed (41) A Open, no restriction
Deck Geometry (68) 2 Intolerable - Replace
Underclearances (69) N Not applicable (NBI)
Approach Alignment (72) 8-No Speed Red thru Curv
Bridge Railings (36a) 0 Substandard
Transitions (36b) 1 Meets Standards
Approach Guardrail (36c) 1 Meets Standards
Approach Guardrail ends (36d) 1 Meets Standards
Scour Critical (113) 8 Stable Above Footing

Minimum Vertical Clearance

Over Structure (53) 99.99 ft
Under (reference) (54a) N Feature not hwy or RR
Under (54b) 0 ft

Load Rating

Design Load (31) 1 M 9 (H 10)
Rating Date 8/31/1992 Initials SDW
Posting (70) 5 At/Above Legal Loads

Navigation Data

Navigation Control (38) Permit Not Required
Nav Vertical Clr (39) 0 ft
Nav Horizontal Clr (40) 0 ft
Min Vert Lift Clr (116) 0 ft
Pier Protection (111) Not Applicable (P)

NBI Condition Rating

Sufficiency Rating 63.9
Health Index 89.65
Structural Eval (67) 5 Above Min Tolerable
Deficiency Functionally Obsolete

Minimum Lateral Underclearance

Reference (55a) N Feature not hwy or RR
Right Side (55b) 0 ft
Left Side (56) 0 ft

Operating Type (63) 4 Load Testing
Operating rating (64) 50 tons Alternate -1
Inventory Type (65) 4 Load Testing
Inventory Rating (66) 31 tons Alternate -1
Alt Meth -1

Schedule

Current Inspection

Inspection Date: 08/10/2015
Inspector: KNKCAST-P - Timothy Sweeney
Bridge Group: E1N92
Primary Type: Regular NBI
Review Required:

Next Inspection Date Scheduled

NBI: 8/10/2017
Element: 08/10/2017
Fracture Critical:
Underwater: 08/10/2017
Other/Special:

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 28 of 35
09/17/2015

DATE PRINTED:

Schedule Cont.

**Inspection Types
Performed**

NBI Element Fracture Critical Underwater Other Special

Inspection Intervals

Required (92)

Frequency (92)

Last Date (93)

Inspection Resources

Fracture Critical	<input type="checkbox"/>	mos		Crew Hours	10
Underwater	<input checked="" type="checkbox"/>	24 mos	08/13/2015	Flagger Hours	0
Other Special	<input type="checkbox"/>	mos		Helper Hours	0
NBI		24 mos (91)	08/10/2015 (90)	Snooper Hours	0
				Special Crew Hours	3
				Special Equip Hours	0

Custom

General Bridge Information

Parallel Bridge Seq
Channel Depth 7.7 ft
Radio Frequency -1
Phone Number (000) 000-0001
Exception Date
Exception Type Unknown
Accepted By Construction 01/01/1931
Warranty Expiration 00/00/0000

Bridge Rail 1 Other
Bridge Rail 2 Not applicable-No rail
Electrical Devices No electric service
Culvert Type Not applicable
Maintenance Yard 190-Bartow Ops
FIHS ON / OFF No Routes on FIHS
Previous Structure
2nd Previous Structure
Replacement Structure

Bridge Load Rating Information

HS20 Govr. Span Length 24.9 ft
L-Rating Origination Field Measurements
Load Rating Date 08/31/1992
Method Calculation Others
Load Dist. Factor 0
Impact Factor 30
Design Method Unknown
Design Measure English
Recommend SU Posting 99 tons
Recommend C Posting 99 tons
Recommend ST Posting 99 tons
Gov FB Span 0 ft
Gov FB Spacing 0 ft
FB HS20 Rating 0 tons
FB SU4 Rating 0 tons
FB Present N
FB INV Rating Factor 0
FB OPR Rating Factor 0
FB FL 120 0 tons

Single Unit Truck 2 Axles 35.2 tons
Single Unit Truck 3 Axles 38.6 tons
Single Unit Truck 4 Axles 37.8 tons
Combination Unit Truck 3 Axles 52.1 tons
Combination Unit Truck 4 Axles 46.8 tons
Combination Unit Truck 5 Axles 54.2 tons
Truck Trailer 5 Axles 59.2 tons
Posting Weight 99 tons
Actual SU Posting 99 tons
Actual C Posting 99 tons
Actual ST Posting 99 tons
FL 120 Long Gov Span -1 tons
FL 120 Trans -1 tons
Single Axle Trans -1 tons
Tandem Axle Trans -1 tons
Wing Span -1 ft
Web to Web Span -1 ft
HS20 OPR Rating Max Span 50 tons
FL120 Long Max Span -1 tons

Bridge Scour and Storm Information

Pile Driving Record Some pile driving recrds
Foundation Type Foundation details
Mode of Flow Riverine
Rating Scour Eval Low Risk - Medium
Highest Scour Eval Phase II completed

Scour Recommended I No recommendation
Scour Recommended II No recommendation
Scour Recommended III No recommendation
Scour Elevation 0 ft
Action Elevation 0 ft
Storm Frequency 100

Condition

NBI Rating

Channel (61) 7 Minor Damage
Deck (58) 5 Fair
Superstructure (59) 5 Fair
Substructure (60) 5 Fair

Culvert (62) N/A (NBI)
Waterway (71) 8 Equal Desirable
Unrepaired Spalls -1 sq.ft.
Review Required

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 29 of 35
DATE PRINTED: 09/17/2015

Elements

Inspection Date: 8/10/2015DSVU

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	13/3	Unp Conc Deck/AC Ovl	0	.	15922	100.	0	.	0	.	0	.	15922 sf.

Notes Note: Due to the age and repair history of this bridge, the Deck NBI Item 58 rating is coded a 5.

CS2 = The south face of the deck edge has vertical/diagonal cracks up to 1/16in. wide over Bents 6, 20 and 22.

The deck top asphalt over all intermittent bents has upheaved with potholes and associated raveling and rutting up to 7ft. x 1ft. x 1in. – INCREASE.

Bay 15-5 has a 20in. long piece of exposed rebar due to insufficient concrete cover adjacent to Bent 15.

Span 21 right fascia at Bent 22 has a delamination 2ft. x 1ft.

There are moderate to heavy buildup of mud dauber nests on the deck underside throughout the structure – INCREASE. Refer to photo 1. P3WO

PREVIOUS RECOMMENDED CORRECTIVE ACTION:
Remove mud dauber nests from the superstructure elements all spans. 78MH

CORRECTIVE ACTION EVALUATION:
The corrective action noted above has not been completed. A recommendation will be repeated in this report.

0	301/3	Pourable Joint Seal	0	.	413	62.01	253	37.99	0	.	0	.	666 lf.
---	-------	---------------------	---	---	-----	-------	-----	-------	---	---	---	---	---------

Notes Note: The pourable joint seal in the travel lanes is not visible due to an asphalt overlay.

CS2 = The pourable joint seals in the north sidewalk have several areas with missing sealant and moderate to heavy adhesion loss and packed with dirt – INCREASE.

CS3 = The joint is missing or 100% deteriorated where asphalt is missing/pothole with associated raveling/rutting asphalt intermittently throughout the joints - INCREASE. Refer to photo 2. P3WO

PREVIOUS RECOMMENDED CORRECTIVE ACTION:
Repair 23lf. of deteriorated pourable joint sealant intermittently throughout. 23LF.

CORRECTIVE ACTION EVALUATION:
The corrective action noted above has been completed. However, due to the recurrence of deficiencies noted, this recommendation will be repeated in this report.

0	331/3	Conc Bridge Railing	898	81.49	180	16.33	24	2.18	0	.	0	.	1102 lf.
---	-------	---------------------	-----	-------	-----	-------	----	------	---	---	---	---	----------

Notes CS2 = Several of the bridge rail posts and decorative bridge rail panels have spalls up to 1ft. x 5in. x 1in.

The top rail of both bridge rails have several transverse/vertical cracks up to 1/32in. wide.

The last post on the right over Abutment 23 has a 12in. x 5in. x 1in. spall – NEW.

CS3 = The top face of intermittent bridge post tops have protruding steel up to 1/32in. due to lack of cover. Refer to photo 3.

Panel 21-2 and 21-3 have four areas up to 12in. x 3in. x 1in. spalls/delaminations with exposed steel at the left cross bracing and associated up to 1/32in. wide cracks intermittently throughout – NEW. Refer to photo 4. P3WO

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 30 of 35
DATE PRINTED: 09/17/2015

Elements

Inspection Date: 8/10/2015DSVU

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	110/3	R/Conc Open Girder	3304	99.91	0	.	3	.09	0	.	0	.	3307 lf.

Notes Note: Due to structure age, impact due to settlement, and repair history, the Superstructure NBI Item 59 rating is coded a 5.

CS1 = There are mud dauber nests buildup on the concrete beams intermittently throughout. Refer to Element 13 Unp Conc Deck/AC Ovl for related comments and photo 1.

CS3 = There is a 9in. long x 8in. wide delamination in the bottom face of Beam 2-6 at Bent 2. Refer to photo 5.

There is a 6in. x 4in. x 1in. spall/delamination with exposed steel in the bottom face of Beam 8-6, 5ft. west of Bent 9 cap. Refer to photo 6.

There is a 12in. x 4in. x 1in. spall/delamination with exposed steel in the bottom face of Beam 9-6, 5ft. west of Bent 10 cap – NEW.

0	205/3	R/Conc Column	74	88.1	7	8.33	3	3.57	0	.	0	.	84 ea.
---	-------	---------------	----	------	---	------	---	------	---	---	---	---	--------

Notes Note: Due to settlement history and structure repair history, the Substructure NBI Item 60 rating is coded a 5.

CS1 = There is visible settlement in the bridge rail at the north end of Bent 4. This settlement was first recorded in the 1972 inspection report as a 1-1/2in. dip in the bridge rail at Bent 4. During that inspection, a stringline was stretched from the top of the north bridge rail post at Bent 3 to the top of the north post over Bent 5. There was 1-7/8in. gap between the stringline and top of the bridge rail post over Bent 4. No change has been noted since the previous inspection dated 9/22/11.

CS2 = Pile 13-2 east face at the cap has a 7in. x 6in. x 1/2in. spall.

Pile 22-3 has a horizontal crack in the north, west and south faces up to 1/32in. wide at the cap – INCREASE.

CS3 = Pile 3-1 has a 6in. x 4in. delamination at the cap in all four faces.

Pile 10-3 south and east faces has two delaminations up to 12in. x 8in., 6ft. below the cap – NEW. Refer to photo 7.

The following was noted by the underwater inspectors:

CS2 = Pile 4-1 has a 6ft. 5in. long x 1/16in. wide vertical crack in the north face adjacent to the northwest corner and extending up from a grout repair – INCREASE.

Pile 4-2 south face has a 22in. long x 1/64in. wide horizontal crack extending into west face, 6ft. below the cap – NEW.

Pile 7-1 northeast corner at mudline has an 8in. x 4in. x 1in. spall.

Pile 9-1 north face has an 18in. x 12in. area of missing grout, exposing 1/4in. scale damage at the groundline – NEW.

Pile 11-1 southeast and northeast corners has a 6in. x 24in. delaminated grout at the groundline – NEW.

CS3 = Pile 2-4 northeast corner has a 24in. x 2in. delamination in pile grout patch associated with 1/16in. wide crack, 5ft. 6in. below the cap – NEW.

Pile 2-4 west face have formed boards attached – NEW.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 31 of 35
DATE PRINTED: 09/17/2015

Elements

Inspection Date: 8/10/2015 DSVU

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	215/3	R/Conc Abutment	43	52.44	39	47.56	0	.	0	.	0	.	82 lf.

Notes CS1 = Abutment 1 cap top exterior left side at the southwest wingwall transition has a 6in. x 4in. repair.

Abutment 1 bearing under Beam 1-2 has a 1ft. x 1ft. repair.

Abutment 23 under Beam 22-1 has a 18in. x 1ft. repair.

Abutment 23 under Beam 22-6 has a 1ft. x 10in. repair.

CS2 = There are vertical and diagonal cracks up to 1/16in. wide, which radiate from the beam seats on the abutment walls.

CORRECTIVE ACTION TAKEN:

Although not previously recommended for corrective action, the spalls/delaminations have been repaired at both abutments.

0	234/3	R/Conc Cap	607	100.	0	.	0	.	0	.	0	.	607 lf.
---	-------	------------	-----	------	---	---	---	---	---	---	---	---	---------

Notes CS1 = Several of the repair areas on the bent caps have cracks up to 1/64in. wide.

The bent caps have repairs up to 2ft. 6in. x 1ft. at the following locations:

- Bent 5 cap, east face, under Beams 5-3, and 5-4.
- Bent 6 cap, east face under Beams 6-3, 6-4 and 6-6.
- Bent 7 cap, east face, under Beams 7-1, and 7-3.
- Bent 8 cap, east face, under Beams 8-1, and 8-6.
- Bent 9 cap, east face, under Beam 9-6.
- Bent 10 cap, east face, under Beams 10-3, 10-5, and 10-6.
- Bent 11 cap, east face, under Beams 11-2, 11-3, and 11-4.
- Bent 11 cap, west face, under Beam 10-3.
- Bent 12 cap, east face, under Beams 12-3, 12-4, and 12-6.
- Bent 14 cap, east face, under Beams 14-2, 14-4, and 14-5.
- Bent 15 cap, east face, under Beams 15-1, 15-3, 15-4 and 15-6.
- Bent 16 cap, east face, under Beams 16-2 16-4, 16-5, and 16-6.
- Bent 17 cap, east face, under Beams 17-1, 17-2, 17-3, and 17-5.
- Bent 18 cap, east face, under Beams 18-1, 18-2 18-3, and 18-6.
- Bent 19 cap, east face, under Beams 19-2 19-3, 19-4, and 19-5.
- Bent 20 cap, east face, under Beams 20-1, 20-2, 20-3, 20-4, and 20-5.
- Bent 21 cap, east face, under Beams 21-2, 21-3, 21-5, and 21-6.

CORRECTIVE ACTION TAKEN:

Although not previously recommended for corrective action, the delaminations have been repaired at all bent caps.

0	290/3	Channel	0	.	1	100.	0	.	0	.	0	.	1 ea.
---	-------	---------	---	---	---	------	---	---	---	---	---	---	-------

Notes The following was noted by the underwater inspectors:

CS2 = There is an accumulation of heavy vegetation and debris from the groundline extending up at the Bent 5 around Piles 5-1 and 5-2 and Bent 6 and around Pile 6-1 along the north side of the structure; however, it is not affecting the flow – INCREASE. Refer to photo 8.

There is drift throughout the channel – NEW.

0	360/3	Settlement SmFlag	1	100.	0	.	0	.	0	.	0	.	1 ea.
---	-------	-------------------	---	------	---	---	---	---	---	---	---	---	-------

Notes CS1 = There is visible settlement in the bridge rail at the north end of Bent 4. This settlement was first recorded in the 1972 inspection report as a 1-1/2in. dip in the bridge rail at Bent 4. (During that inspection, a stringline was stretched from the top of the north bridge rail post at Bent 3 to the top of the north post over Bent 5. There was 1-7/8in. gap between the stringline and top of the bridge rail post over Bent 4. No change since the previous inspection dated 9/22/11). Refer to Element 205 R/Conc Column for related comments. Settlement has stabilized.

**FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE**

REPORT ID: INVT001A
Structure ID: 160064

Page 32 of 35
DATE PRINTED: 09/17/2015

Elements

Inspection Date: 8/10/2015 DSVU

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	475/3	R/Conc Walls	79	85.7	13	14.3	0	.	0	.	0	.	92 lf.

Notes CS2 = The southwest, northeast and southeast wingwalls have full height vertical cracks up to 1/16in. wide.

Total Number of Elements: 10

Inspection Information

Inspection Date: 08.10.2015

Type: Regular NBI

Inspector: KNKCAST-P - Timothy Sweeney

Inspection Notes: Sufficiency Rating Calculation Accepted by KNKCARL-P at 2015-09-15 13:43:20

LOAD CAPACITY EVALUATION:

The findings of this inspection reveal no reason to warrant a new analysis; therefore, the current load rating analysis results still govern.

NON-STRUCTURAL ITEMS:

APPROACH SIDEWALKS:

There is a 3/4in. elevation difference at the northwest approach sidewalk/bridge sidewalk transition. Refer to photo 9.

The following elements were inspected underwater by the divers:
205 R/Conc Column - Bents 2 through 22 each with four 18in. piles
215 R/Conc Abutment
290 Channel
475 R/Conc Walls

Inspection Date: 09.12.2013

Type: Regular NBI

Inspector: INACTIVE - Clayton St.Clair

Inspection Notes: Sufficiency Rating Calculation Accepted by knicacs-P at 2013-09-18 13:33:27

LOAD CAPACITY EVALUATION:

The load rating dated 08/31/1992 applies to the current condition of this bridge.

APPROACH SIDEWALK:

There is a 3/4in. elevation difference at the northwest approach sidewalk / bridge sidewalk transition - NEW. Refer to Photo 9.

Inspection Date: 09.22.2011

Type: Regular NBI

Inspector: KNICADQ-P - Dion Qualls

Inspection Notes: Sufficiency Rating Calculation Accepted by knicavg-P at 2011-11-15 11:15:00

LOAD CAPACITY EVALUATION:

The load rating dated 08/31/1992 applies to the current condition of this bridge.

The maximum depth was 3.9 ft. at the time of this inspection. However no dive was required, the inspectors were able to perform a complete inspection.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE

REPORT ID: INVT001A
Structure ID: 160064

Page 33 of 35
DATE PRINTED: 09/17/2015

Inspection Information

Inspection Date: 10.28.2009 **Type:** Regular NBI
Inspector: 1213

Inspection Notes: Sufficiency Rating Calculation Accepted by knicawr-P at 2009-11-11 18:23:44

LOAD CAPACITY EVALUATION:
The load rating dated 08/31/1992 applies to the current condition of this bridge.

Inspection Date: 11.15.2007 **Type:** Regular NBI
Inspector: KNVOLTM-P - Thomas McCutcheon

Inspection Notes: Sufficiency Rating Calculation Accepted by kn110ku-P at 2007-11-30 14:05:48

LOAD CAPACITY EVALUATION:
The load rating dated 08/31/1992 applies to the current condition of this bridge.

NONSTRUCTURAL ITEMS:

CORRECTIVE ACTION TAKEN:
The NE approach sidewalk has been repaired.
New guardrails have been installed.

Inspection Date: 11.16.2005 **Type:** Regular NBI
Inspector: KN738AB-P - Anthony Bibelhauser

Inspection Notes: Sufficiency Rating Calculation Accepted by knvolkt-P at 2005-12-15 09:13:38
Sufficiency Rating Calculation Accepted by knvolkt-P at 2005-12-05 14:35:43

LOAD CAPACITY EVALUATION:
The load rating dated 08/31/1992 applies to the current condition of this bridge.

NON-STRUCTURAL ITEMS:

APPROACH SIDEWALKS:
The NE approach sidewalk has a 1ft x 8in x 4in spall with no exposed steel and associated 1/16in wide diagonal crack adjacent to abutment 23. Previously noted under element 13/3 Unp Conc Deck/AC Ovl.

GUARDRAILS:
Several of the timber cushion blocks are heavily deteriorated. Refer to photo 9. REPAIR

Inspection Date: 10.05.2004 **Type:** Special-Nat Disaster Dmg
Inspector: KN738ER-P - Edward Rucks

Inspection Notes: This is a special natural disaster damage report due to Hurricane/Tropical Storm Jeanne. No elements are in this report.

This inspection concentrated on wind damage, scour, and object collision damage due to both wind and current. Hurricane Jeanne entered Florida's east coast as a Category 3 hurricane around 10:00 p.m. September 25, 2004 and exited as a tropical storm on Florida's northern border September 27, 2004. This storm caused flooding and produced high winds.

No storm related damage was noted.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE

REPORT ID: INVT001A
Structure ID: 160064

Page 34 of 35
DATE PRINTED: 09/17/2015

Inspection Information

Inspection Date: 09.09.2004 **Type:** Special-Nat Disaster Dmg
Inspector: 365

Inspection Notes:

This is a special natural disaster damage report due to Hurricane/Tropical Storm Frances. No elements are in this report.

This inspected concentrated on wind damage, scour and object collision damage due to both wind and current. Hurricane Frances was an extremely slow moving Category 4 hurricane that entered Florida's east coast and exited as a tropical storm on Florida's west coast on September 6, 2004. This storm caused flooding and produced high winds.

No storm related damage was noted.

Inspection Date: 08.16.2004 **Type:** Special-Nat Disaster Dmg
Inspector: INACTIVE - Stanley McClurg

Inspection Notes: This is a special natural disaster damage report due to Hurricane Charley. No elements are in this report.

This inspection concentrated on wind damage, scour, and object collision damage due to both wind and current. Hurricane Charley was a fast moving Category 4 hurricane that produced relatively low rainfall, low storm surge at low tide and high winds.

No storm damage was noted.

Inspection Date: 11.12.2003 **Type:** Regular NBI
Inspector: KNVOLSE-P - Steve Eorgan

Inspection Notes: Sufficiency Rating Calculation Accepted by kn110ku-P at 2004-04-08 08:29:01
Sufficiency Rating Calculation Accepted by knvolnd-P at 2003-12-05 16:35:56
KN738SE-P inspection comments -
Structure 160064 -
Date 2003-11-12 -

Inspection Date: 06.13.2002 **Type:** Regular NBI
Inspector: KN738AB-P - Anthony Bibelhauser

Inspection Notes: Sufficiency Rating Calculation Accepted by kn738uk at 6/24/02 13:03:30
KN738AB inspection comments - After verifying the classification of corrosion for bridge 160064 referencing the Dept. of Transportation corrosion survey maps, the environment was changed from 4 to 3 on all elements in this report.
Structure 160064 -
Date 6/13/02 -

Inspection Date: 06.28.2000 **Type:** Regular NBI
Inspector: 315

Inspection Notes: Sufficiency Rating Calculation Accepted by kn738ds at 8/7/00 15:56:51
KN738MB inspection comments -
Structure 160064 -
Date 6/28/00 -
Previous comments > (none)

Inspection Date: 06.01.1998 **Type:** Regular NBI
Inspector: BID

Inspection Notes:

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CID Report with PDF attachment(s)
COMPREHENSIVE

REPORT ID: INVT001A

Structure ID: 160064

Page 35 of 35

DATE PRINTED:

09/17/2015

Structure Notes

TRAFFIC RESTRICTION: Based on the load rating analysis dated 8/31/92, this structure does not require posting. This structure is not posted.

Structure inventoried from west to east.

There is no structure to the west of Bridge No. 160064 and Bridge No. 160065 is to the east of this Bridge No. 160064.

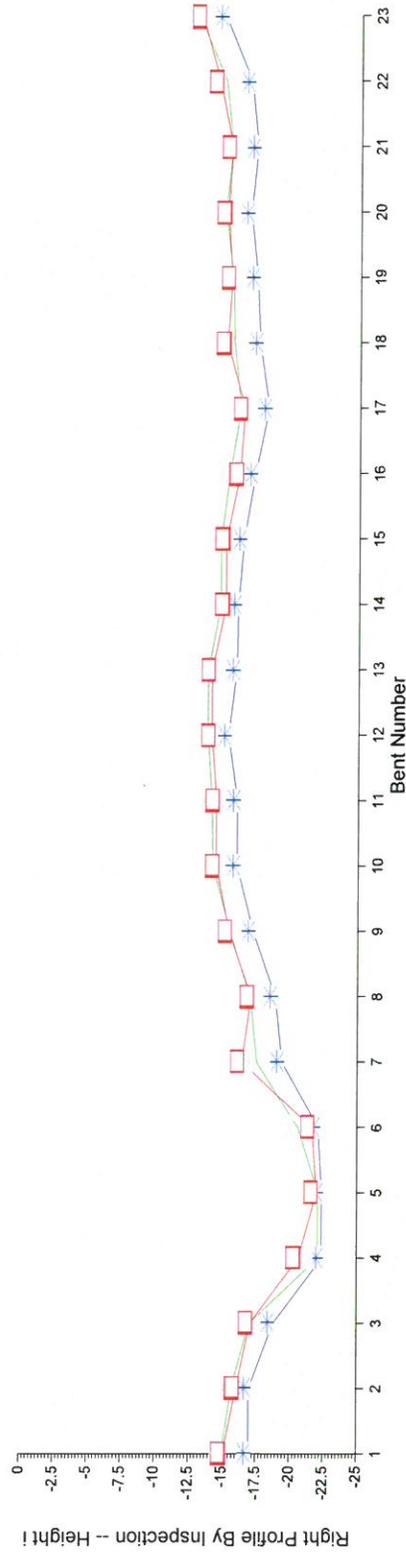
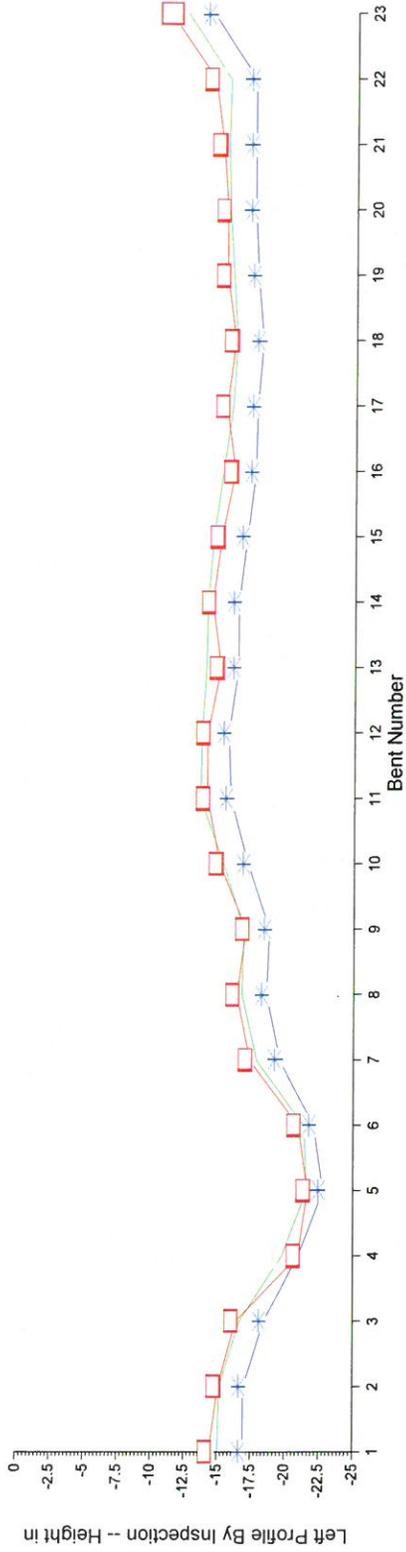
Asphalt thickness = 2-1/2in.

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
 Bridge Profile Report

REPORT ID: INVT016
 Structure #: 160064

DATE PRINTED: 09/17/2015

Page 1 of 4



FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
 Bridge Profile Report

REPORT ID: INVT016
 Structure #: 160064

DATE PRINTED: 09/17/2015
 Page 2 of 4

Profile Data - Numerical Summary

Inspection Date and Key:	DSVU	Bent #	Left Height	Right Height	(All Heights Are In Feet)
08/10/2015		1	15.1	15	
		2	15.2	15.7	
		3	16.7	17	
		4	19.8	22.1	
		5	21.6	22.1	
		6	21.4	20.6	
		7	17.9	17.5	
		8	16.8	17	
		9	16.9	15.5	
		10	15.4	14.2	
		11	13.6	14.1	
		12	13.7	13.8	
		13	14	13.8	
		14	14.1	14.7	
		15	14.5	14.7	
		16	15.2	15.3	
		17	15.9	16.1	
		18	16.2	15.6	
		19	15.9	15.5	
		20	15.6	14.9	
		21	15.5	15.4	
		22	15.6	14.9	
		23	12.4	12.9	

Air Temp: 1

Profile Notes:

Measurements referenced from top of bridge rails.
 Waterline taken at Bent 5: Left and Right = 14.4ft.

Inspection Date and Key: 09/12/2013 SKZK

1	17	17
2	17	17
3	18.5	18.8

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
 Bridge Profile Report

REPORT ID: INVT016
 Structure #: 160064

DATE PRINTED: 09/17/2015

Page 3 of 4

Profile Data - Numerical Summary

Inspection Date and Key:	Bent #	Left Height	Right Height	(All Heights Are In Feet)
09/12/2013 SKZK	4	21	22.4	
	5	22.8	22.4	
	6	22.1	22.1	
	7	19.6	19.4	
	8	18.6	18.9	
	9	18.8	17.2	
	10	17.2	16	
	11	15.9	16	
	12	15.7	15.3	
	13	16.4	15.9	
	14	16.4	16	
	15	17	16.4	
	16	17.6	17.2	
	17	17.7	18.2	
	18	18.1	17.5	
	19	17.7	17.3	
	20	17.5	16.8	
	21	17.5	17.3	
	22	17.5	16.8	
	23	14.3	14.8	

Air Temp: 1

Profile Notes:

Measurements referenced from top of bridgerails.
 Waterline taken at Bent 5: Left 20.3ft. and Right 20.3ft.

Inspection Date and Key: 06/01/1998 STRT
 (Original Inspection)

1	14.44	15.09
2	15.09	16.08
3	16.4	17.06
4	21	20.67
5	21.65	21.98
6	21	21.65

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report

REPORT ID: INVT016
Structure #: 160064

DATE PRINTED: 09/17/2015

Page 4 of 4

Profile Data - Numerical Summary

Bent #	Left Height	Right Height	(All Heights Are In Feet)
7	17.39	16.4	
8	16.4	17.06	
9	17.06	15.42	
10	15.09	14.44	
11	14.11	14.44	
12	14.11	14.11	
13	15.09	14.11	
14	14.44	15.09	
15	15.09	15.09	
16	16.08	16.08	
17	15.42	16.4	
18	16.08	15.09	
19	15.42	15.42	
20	15.42	15.09	
21	15.09	15.42	
22	14.44	14.44	
23	11.15	13.12	

Inspection Date and Key: 06/01/1998 STRT
(Original Inspection)

Air Temp:
Profile Notes:

Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
KISINGER CAMPO & ASSOCIATES, CORP.

NBI Structure ID (8): **160064**

Underwater Date (93): 08/13/15

Structure/Roadway Identification:

District (2): 01
County (3): Polk
Feature Intersected (6): Peace River
Facility Carried (7): US-98 SR-700

Underwater Inspection Details:

Special Crew Hours: 3.0
Max. Depth: 8ft. at Bent 5
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: N/A
Water Type/Marine Growth: Fresh/Tannic /Riverine – Algae

Previous Inspection:

Lead Diver: < 3ft. C.B.I. No.: N/A Inspection Date: N/A

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Coon, Elliott J.	C.B.I. Diver-Inspector	00530/Lead	Dive	
Rozar, James D.	Diver-Inspector		Dive	
Belangia, Korye A.	Diver		Tend	

PILES/COLUMNS

ELEMENT: 205 R/CONCRETE 84: ea.

NOTE: Piles 5-1, 5-2 and 6-1 have heavy vegetation and drift from the groundline up, Piles 5-1 and 5-2 are inaccessible and were not inspected.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	78	Do Nothing
CS-2 See chart for deficiencies.	5	Do Nothing
CS-3 See chart for deficiencies.	1	REAIR

CS	Pile	Location	Type	Comment	Size
3	2-4	NE corner 5ft. 6in. below cap	Delamination in pile/grout	Associated 1/16in. wide crack	24in. H x 2in. W – <i>NEW</i>
		West face		Form boards attached	<i>NEW</i>
2	4-1	North face at NW corner, extending up from grout repair	Vertical crack		6ft. 5in. L x 1/16in. W – <i>INCREASE</i>
2	4-2	South face extending into west face, 6ft. below cap	Horizontal crack		22in. L x 1/64in. W – <i>NEW</i>
2	7-1	NE corner at groundline	Spall		8in. H x 4in. W x 1in. D
2	9-1	North face at groundline	Missing grout exposing 1/4in. scale		18in. H x 12in. W – <i>NEW</i>
2	11-1	SE and NE corners at groundline	Delaminated grout		6in. H x 24in. W – <i>NEW</i>

Cleaning Log: No cleaning due to freshwater environment.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BOLT UNDERWATER SERVICES, INC.

Structure ID: 160094
District: 01 North

Inspection Date: 08/13/15

ABUTMENTS

ELEMENT: 215 R/CONCRETE 41lf.

NOTE: The quantity represents Abutment 23 only; Abutment 1 was dry during inspection.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	41	Do Nothing

CHANNEL

ELEMENT: 290 1: ea.

Condition State:	QTY:	Recommended Feasible Action:
CS-2	1	REPAIR

There is an accumulation of vegetation and debris from the groundline extending up at Bent 5 around Piles 5-1 and 5-2 and Bent 6 around Pile 6-1 on the north side of the structure, not affecting flow – *INCREASE*.

There is drift throughout the channel – *NEW*.

WINGWALLS/RET. WALLS

ELEMENT: 475 R/CONCRETE 46 lf.

NOTE: Quantity represents the NE and SE wingwalls only.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	46	Do Nothing

INSPECTION NOTES: Divers inspected Bents 2 through 22 each with four 18in. concrete piles, Abutment 23, Channel and East Wingwalls.
STRUCTURE NOTES: Structure inventoried west to east.

Photo Log -

- No. 1: Structure ID
- No. 2: South Elevation
- No. 3: Substructure, typical
- No. 4, 5: Pile 2-4 NW corner, delamination with associated crack
- No. 6, 7: Pile 4-1 North face, vertical crack
- No. 8: Bent 5 drift and vegetation
- No. 9, 10: Pile 11-1 SE and NE corner, delaminated grout

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

APPENDIX E

AGENCY COORDINATION

P14073



P14073

Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway
Bartow, FL 33830

JIM BOXOLD
SECRETARY

January 12, 2015

Ms. Cathy Kendall
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, FL 32303

2015 JAN 21 PM 2:28
HISTORIC PRESERVATION

RE: Cultural Resource Assessment Survey
Project Development and Environment (PD&E) Study
US 98/John Singletary Bridge from west of Edgewood Drive to east of the Fort Meade
Recreation Area Entrance
Polk County, Florida
FPID No.: 434886-1-22-01
FAP: 1801-006-P

Dear Ms. Kendall:

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study that proposes to correct the deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area Entrance (MP 1.581). As part of the PD&E study, a Cultural Resource Assessment Survey (CRAS) was prepared to comply with federal and state regulations. For the purpose of the CRAS, the archaeological area of potential effects (APE) was defined as the existing and proposed right-of-way (ROW) of each of the three potential alignments for the bridge and roadway. The historical/architectural APE consists of the archaeological APE and 200 feet (ft) to either side of the existing centerline of US 98, as well as 200 ft to the west of the US 98/Washington Avenue intersection and 200 ft east of the US 98/Ft. Meade Recreation Area Entrance intersection to take into account potential visual impacts of the project.

The purpose of the CRAS was to locate and identify historic or archaeological sites within or immediately adjacent to the APE and to assess the significance of such sites in terms of eligibility for listing in the National Register of Historic Places (NRHP).

Enclosed you will find the CRAS Report. The following documents are attached:

- One bound copy of the CRAS final report and one CD containing a .pdf version of the report (for FHWA); and
- One SHPO package containing an unbound copy of the report, loose FMSF forms (one updated FMSF form and four new FMSF forms for historic resources), a Survey Log, and a CD containing a .pdf version of the report, forms, and log.

The field work was conducted in accordance with the FDOT's PD&E Manual and the research plan and field methodology follows the standards and guidelines of the Florida Division of Historical Resources *Cultural Resource Management Standards and Operational Manual*.

Background research and a review of the Florida Master Site File (FMSF) and the NRHP indicated that 10 archaeological sites have been recorded within one mile of the APE. The archaeological site location predictive model for the region indicated a variable potential for archaeological sites within the study corridor. As a result of this survey, no archaeological sites were discovered.

Historical background research, including a review of the FMSF and NRHP, indicated that two historic structures have been previously recorded within the historical/architectural APE. One resource, the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440), was determined eligible for the NRHP by the Florida State Historic Preservation Officer (SHPO) as part of the recent update to *The Historic Highway Bridges of Florida* (ACI 2012). The second previously recorded resource is the F. M. Yearwood House (8PO239) at 945 East Broadway Street; it has not been evaluated by the SHPO. This Neo-Classical Revival style building is not unique for Fort Meade and has received non-historic additions that have compromised its historic integrity. Therefore, it is not considered eligible for the NRHP either individually or as part of a historic district.

Historical/architectural field survey resulted in the identification of four newly recorded historic resources (50 years of age or older), which include two historic buildings (8PO7964 and 8PO7965), one linear resource (US 98, 8PO7966), and one resource group (Fort Meade City Mobile Home Park, 8PO7967). All of these resources represent commonly occurring types of architecture and/or engineering for the locale, and none is associated with significant historical events or persons. Therefore, it is the opinion of ACI's architectural historian that none of these is eligible for listing in the NRHP either individually or as a historic district.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

Please process the attached report and accompanying documentation and then forward to the SHPO for their concurrence. The second copy of the report is for your files. If you have any questions, or if I may be of assistance, please contact me at (863) 519-2805 or Martin.Horwitz@dot.state.fl.us.

Sincerely,



Martin Horwitz
Environmental Project Manager

Enclosures

cc: William Hartmann, P.E., FDOT
Gwen G. Pipkin, FDOT
Roy Jackson, FDOT
Aniruddha Gotmare, P.E., Scalar
Marion Almy, ACI

Background research and a review of the Florida Master Site File (FMSF) and the NRHP indicated that 10 archaeological sites have been recorded within one mile of the APE. The archaeological site location predictive model for the region indicated a variable potential for archaeological sites within the study corridor. As a result of this survey, no archaeological sites were discovered.

Historical background research, including a review of the FMSF and NRHP, indicated that two historic structures have been previously recorded within the historical/architectural APE. One resource, the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440), was determined eligible for the NRHP by the Florida State Historic Preservation Officer (SHPO) as part of the recent update to *The Historic Highway Bridges of Florida* (ACI 2012). The second previously recorded resource is the F. M. Yearwood House (8PO239) at 945 East Broadway Street; it has not been evaluated by the SHPO. This Neo-Classical Revival style building is not unique for Fort Meade and has received non-historic additions that have compromised its historic integrity. Therefore, it is not considered eligible for the NRHP either individually or as part of a historic district.

Historical/architectural field survey resulted in the identification of four newly recorded historic resources (50 years of age or older), which include two historic buildings (8PO7964 and 8PO7965), one linear resource (US 98, 8PO7966), and one resource group (Fort Meade City Mobile Home Park, 8PO7967). All of these resources represent commonly occurring types of architecture and/or engineering for the locale, and none is associated with significant historical events or persons. Therefore, it is the opinion of ACI's architectural historian that none of these is eligible for listing in the NRHP either individually or as a historic district.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

Please process the attached report and accompanying documentation and then forward to the SHPO for their concurrence. The second copy of the report is for your files. If you have any questions, or if I may be of assistance, please contact me at (863) 519-2805 or Martin.Horwitz@dot.state.fl.us.

Sincerely,



Martin Horwitz
Environmental Project Manager

Enclosures

cc: William Hartmann, P.E., FDOT
Gwen G. Pipkin, FDOT
Roy Jackson, FDOT
Aniruddha Gotmare, P.E., Scalar
Marion Almy, ACI

The FHWA finds the attached Cultural Resources Assessment Survey complete and sufficient and approves/ does not approve the above recommendations and findings. Or, the FHWA finds the attached contains insufficient information.

The FHWA requests the SHPO's opinion on the sufficiency of the attached report and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

FHWA Comments:

This finding is for eligibility. An effects finding will still be needed.

/s/ Cathy Kendall
Ms. Cathy Kendall
Federal Highway Administration

1/20/15
Date

The Florida State Historic Preservation Officer finds the attached Cultural Resources Assessment Survey complete and sufficient and concurs/ does not concur with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2015-269. Or, the SHPO finds the attached contains insufficient information.

SHPO Comments:

Concur w/eligibility determinations, and FHWA Comments regarding effects finding.

/s/ Robert F. Bendus
Mr. Robert F. Bendus
State Historic Preservation Officer
Florida Division of Historical Resources

2/18/15
Date



Florida Department of Transportation

PAUL W. SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

RACHEL D. CONE
INTERIM SECRETARY

March 23, 2017

Dr. Timothy Parsons, Director
Florida Division of Historical Resources
Department of State, R.A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Attention: Transportation Compliance Review Program

**RE: Section 106 Case Study Report –Draft
Project Development and Environment (PD&E) Study
US 98/John Singletary Bridge from west of Edgewood Drive to east of the
Fort Meade Recreation Area Entrance
Polk County, Florida
FPID No.: 434886-1-22-01
FAP No.: 1801-006-P
SHPO/DHR Project File No.: 2015-269**

Dear Dr. Parsons:

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) study that proposes to correct the deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area Entrance (MP 1.581). As part of the PD&E study, a Cultural Resource Assessment Survey (CRAS) was prepared to comply with federal and state regulations. The CRAS was submitted to the Federal Highway Administration (FHWA) for review and coordination with the State Historic Preservation Officer (SHPO) in January 2015. The CRAS identified six historic resources; only one was considered eligible for listing in the National Register of Historic Places (NRHP), the existing John Singletary Bridge over the Peace River (Bridge No. 160064). The bridge was constructed in 1931 and has been previously recorded in the Florida Master Site File (FMSF) as 8PO05440. The bridge was previously determined eligible for the NRHP in 2012 by the SHPO and continued to be eligible as a result of the CRAS. The FHWA and SHPO concurred with the findings of the CRAS on January 20, 2015, and February 28, 2015, respectively.

Enclosed is one (1) copy of the revised Draft Section 106 Case Study Report (October 2016; revised March 2017) for this project. This report has been revised based on the discussion

Dr. Timothy Parsons, Director
Section 106 Case Study Report –Draft
US 98/John Singletary Bridge PD&E Study
Polk County, Florida
FPID No.: 434886-1-22-01
March 23, 2017
Page 2 of 3

during the consultation teleconference among SHPO, FDOT District One and FDOT Office of Environmental Management (OEM) that was held on Friday, November 4, 2016. The report has also been revised to include additional information that FDOT District One collected for Build Alternative 3. Based on the additional engineering and environmental information, Build Alternative 3 is still considered not a practical and feasible alternative. The revisions in the revised Draft Case Study Report primarily include the additional information regarding Build Alternative 3 (in Section 5.1 and Appendix F), changing “Preferred Alternative” to “Recommended Alternative”, providing a description and discussion of effects for the Recommended Alternative, adding information from the November 4, 2016 meeting, and expanding on the Conclusions section.

This Case Study Report documents the alternatives evaluated for the John Singletary Bridge Project and their potential effects on the historic resource. The PD&E Study evaluated three Build Alternatives, a Rehabilitation/Widening alternative, and a No-Build Alternative. The Case Study Report also documents the results of the project’s public involvement process and Section 106 coordination with local interested parties. The evaluation of effects includes a summary for each of the alternatives evaluated, including advantages, disadvantages, additional impacts, and resulting effects.

An evaluation of all five alternatives under consideration indicated that all but the No-Build Alternative (Alternative 5) will have an adverse effect on the NRHP-eligible John Singletary Bridge. Build Alternatives 1 and 2 propose construction of a new bridge and complete demolition of the existing historic bridge which would result in an adverse effect. Build Alternative 3 and the Rehabilitation/Widening Alternative would retain the historic bridge, but both alternatives have significant disadvantages and would ultimately result in an adverse effect. The No-Build Alternative would retain the historic bridge and would have no effect but would not address any of the key issues and deficiencies that have led to this PD&E Study. The No-Build Alternative would also result in continued deterioration of the existing bridge.

Based on design considerations, environmental impacts, right-of-way (ROW) needs, and public involvement as documented in this PD&E Study, the Department has identified Build Alternative 2 as the Recommended Alternative. Although this alternative includes construction of a new bridge and will result in demolition of the historic bridge, this alternative has the least amount of impact to private parcels than the other two Build Alternatives, has fewer environmental impacts, and is less expensive than Build Alternative 1. In addition, Build Alternative 2 allows for a horizontal curve east of the current bridge configuration to be removed and the US 98 roadway alignment would be straightened, leading to improved safety conditions. The City of Fort Meade City Commission and some of the locals have indicated that they prefer Build Alternative 2.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

Dr. Timothy Parsons, Director
Section 106 Case Study Report –Draft
US 98/John Singletary Bridge PD&E Study
Polk County, Florida
FPID No.: 434886-1-22-01
March 23, 2017
Page 3 of 3

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 FHWA and FDOT.

Please review the enclosed revised Draft Case Study Report and provide concurrence that the Recommended Alternative (Build Alternative 2) will have *an adverse effect* on the NRHP-eligible John Singletary Bridge over the Peace River (Bridge No. 160064). Appropriate mitigation will be determined through close consultation with the community, FDOT OEM, and SHPO as FDOT continues with the Section 106 process. The proposed mitigation will be included in a draft Memorandum of Agreement (MOA) that will be distributed for review. A Final Case Study Report will be prepared later to document the outcome of the Section 106 process.

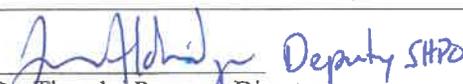
If you have any questions, or if I may be of assistance, please contact me at (863) 519-2375 or Gwen.Pipkin@dot.state.fl.us.

Sincerely,


Gwen G. Pipkin
Environmental Administrator

Enclosures

cc: William Hartmann, P.E., FDOT
Katasha Cornwall, FDOT OEM
Aniruddha Gotmare, P.E. Scalar
Rebecca Spain Schwarz, Atkins
Vivianne Cross, FDOT
Roy Jackson, FDOT OEM
Kimberly Warren, RKK
Marion Almy, ACI

The Florida State Historic Preservation Officer (SHPO)/Florida Division of Historical Resources (FDHR) finds the attached Section 106 Case Study Report complete and sufficient and <input checked="" type="checkbox"/> concurs/ <input type="checkbox"/> does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number <u>2015-269B</u> . Or, the SHPO/FDHR finds the attached report contains _____ insufficient information.	
SHPO/FDHR Comments: _____ _____ _____	
 Dr. Timothy Parsons, Director Florida Division of Historical Resources and State Historic Preservation Officer	Date <u>4/11/2017</u>

For



Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830-3809

MIKE DEW
SECRETARY

January 23, 2018

Timothy Parsons, Ph.D., Director
Division of Historical Resources
State Historic Preservation Officer
Department of State, R.A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

2018 JAN 25 A 9:42

Attention: Ms. Alyssa McManus, Transportation Compliance Review Program

RE: Cultural Resource Assessment Survey (CRAS) Update Technical Memorandum for Alternative Pond Sites and Recommended Roadway Alternative US 98/John Singletary Bridge Project Development and Environment (PD&E) Study From west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance Polk County, Florida Financial Project ID No.: 434886-1-22-01 FAP No.: 1801-006-P SHPO/DHR Project File No.: 2015-269

Dear Dr. Parsons:

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) study that proposes to correct the deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area Entrance (MP 1.581). As part of the PD&E study, a *Cultural Resource Assessment Survey* (CRAS) Report was prepared to comply with federal and state regulations. The CRAS Report was submitted to the Federal Highway Administration (FHWA) for review and coordination with the State Historic Preservation Officer (SHPO) in January 2015. The FHWA and SHPO concurred with the findings of the CRAS on January 20, 2015, and February 28, 2015, respectively. After the original CRAS Report was prepared, alternative pond sites were identified.

Dr. Timothy Parsons, Director
CRAS Update Technical Memorandum – Alternative Pond Sites and Recommended Roadway Alternative
US 98/John Singletary Bridge PD&E Study
Polk County, Florida
FPID No.: 434886-1-22-01
January 23, 2018
Page 2 of 3

Enclosed is one (1) copy of the *CRAS Update Technical Memorandum for Alternative Pond Sites and Recommended Roadway Alternative* (January 2018) for this project. Also enclosed is one Survey Log Sheet. This is an update to the original CRAS prepared in 2014-15 for the PD&E Study. The purpose of the CRAS update was to survey areas that had not previously been field surveyed, to locate and identify any cultural resources within the project area of potential effects (APE) and to assess their significance in terms of eligibility for listing in the *National Register of Historic Places* (NRHP). The archaeological APE is defined as the area contained within the three alternative pond sites and the right-of-way (ROW) foot print of the recommended roadway alternative. The historical APE includes the archaeological APE and properties immediately adjacent.

This CRAS update was initiated to comply with Section 106 of the *National Historic Preservation Act* of 1966, as amended by Public Law 89-665; the *Archaeological and Historic Preservation Act*, as amended by Public Law 93-291; Executive Order 11593; and Chapter 267, *Florida Statutes*. All work was carried out in conformity with Part 2, Chapter 8 (“Archaeological and Historical Resources”) of the FDOT’s *PD&E Manual* (June 2017 revision), and the Florida Division of Historical Resources’ (FDHR) standards contained in the *Cultural Resource Management Standards and Operational Manual*, as well as with the provisions contained in the Chapter 1A-46, *Florida Administrative Code*.

Archaeological background research revealed that although 14 previously recorded archaeological sites have been recorded within one mile, none are within the APE and field survey resulted in negative results. Historic/architectural background research, including a review of the Florida Master Site Files (FMSF) and NRHP, indicated that three historic resources have been previously recorded within the historical/architectural APE. One resource, the John Singletary Bridge (FDOT Bridge No. 160064; 8PO05440), was determined eligible for the NRHP by the Florida State Historic Preservation Officer (SHPO) as part of the recent update to *The Historic Highway Bridges of Florida* (ACI 2012) and again in the PD&E CRAS (ACI 2015). The second and third resources include one linear resource (US 98, 8PO07966), and one resource group (Fort Meade City Mobile Home Park, 8PO07967) and are not considered eligible for listing in the NRHP. These historic resources are discussed in detail in the PD&E CRAS Report (ACI 2015).

The archaeological investigations consisted of surface reconnaissance combined with systematic and judgmental subsurface testing within the APE. A total of 34 shovel tests was excavated within the APE (22 for this update and 12 during the 2015 PD&E Study CRAS). None produced cultural materials. As a result of the historical/architectural field survey, no previously unrecorded historic resources were recorded.

This information is being provided in accordance with the provisions of the *National Historic Preservation Act* of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

Dr. Timothy Parsons, Director
CRAS Update Technical Memorandum – Alternative Pond Sites and Recommended Roadway Alternative
US 98/John Singletary Bridge PD&E Study
Polk County, Florida
FPID No.: 434886-1-22-01
January 23, 2018
Page 3 of 3

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 FHWA and FDOT.

I am requesting your review of the enclosed CRAS Update and concurrence with our finding that the three pond alternative sites and the recommended roadway alternative will have no involvement with archaeological sites and historic resources except for the NRHP-eligible John Singletary Bridge over the Peace River (Bridge No. 160064). Appropriate mitigation has been identified through close consultation with the community, FDOT, Office of Environmental Management (OEM), and SHPO to mitigate the proposed project's *adverse effect* to the historic bridge. A Memorandum of Agreement (MOA) documenting the proposed mitigation is currently being executed by all consulting parties.

If you have any questions, or if I may be of assistance, please contact me at (863) 519-2375 or Gwen.Pipkin@dot.state.fl.us.

Sincerely,

William A. Hartmann (PROJECT MANAGER)
For

Gwen Pipkin
Environmental Manager

Enclosures

cc: Matthew Marino, FDOT OEM
William Hartmann, P.E., FDOT
Vivianne Cross, FDOT
Kimberly Warren, RKK
Aniruddha Gotmare, P.E. Scalar
Rebecca Spain Schwarz, Atkins
Marion Almy, ACI

The Florida State Historic Preservation Officer (SHPO)/Florida Division of Historical Resources (FDHR) finds the attached Cultural Resource Assessment Survey Update Technical Memorandum complete and sufficient and concurs/ does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number 2018-421. Or, the SHPO/FDHR finds the attached document contains _____ insufficient information.

SHPO/FDHR Comments:

Dr. Timothy Parsons Deputy SHPO
For
Dr. Timothy Parsons, Director
Florida Division of Historical Resources
and State Historic Preservation Officer

2-15-2018
Date



Preserving America's Heritage

November 29, 2017

Ms. Gwen G. Pipkin
Environmental Manager
Florida Department of Transportation
801 North Broadway
Bartow, FL 33830

Ref: *Proposed Replacement of the US 98/John Singletary Bridge over the Peace River
City of Fort Meade, Polk County, Florida*

Dear Ms. Pipkin:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Florida State Historic Preservation Officer (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Ms. MaryAnn Naber at (202) 517-0218 or via email at mnaber@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

gwen.pipkin@dot.state.fl.us



From: Kendall, Cathy (FHWA) [<mailto:Cathy.Kendall@dot.gov>]

Sent: Tuesday, August 09, 2016 6:05 PM

To: Pipkin, Gwen G

Cc: Yousef, Mahmmud; Cunill, Benito (FHWA)

Subject: 434886- US 98 John Singletary Bridge 4(f)

FHWA has reviewed the Section 4(f) Determination of Applicability for the non-historical properties addressed in the July 2016 report and concurs with the FDOT findings as follows:

- The City owned Rusty Greens Golf Course is a Section 4(f) protected recreational resource;
- The Ft. Meade Recreation Area is a Section 4(f) protected recreational resource;
- The Peace River Paddling Trail is a Section 4(f) protected recreational resource;
- The City vacant parcel is **not** a Section 4(f) protected recreational resource.

FHWA also concurs that as proposed at this time, the US 98/John Singletary Bridge Project will not use property from the Rusty Greens Golf Course or Fort Meade Recreational Area, and although the project will cross over the Peace River Paddling Trail, it is FDOT's intent to document that any occupancy of this resource will be so temporary and minimal in nature as to qualify as a Section 4(f) exception under 23 CFR 774.13(d). FHWA therefore concurs with FDOT's recommendation that the project, as currently proposed, will not have a transportation "use" of Section 4(f) recreational properties as defined in 23 CFR 774.

We look forward to receiving the documentation regarding the temporary nature of any impacts to Peace River Paddling Trail as part of the NEPA Study to complete this finding.

Cathy Kendall, AICP
Senior Environmental Specialist
FHWA - FL, PR and VI
3500 Financial Plaza, Suite 400
Tallahassee, FL 32312
(850) 553-2225
cathy.kendall@dot.gov

FDO

Florida Department of

801 N Broad
Bartow, FL

RICK SCOTT
GOVERNOR

November 29, 2017

Mr. John Wrublik
United States Fish and Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960
john_wrublik@fws.gov



U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960
772-562-3909 Fax 772-562-4288

FWS Log No. 2014-CPA-0096

The U.S. Fish and Wildlife Service has reviewed the information provided and finds that the proposed action is not likely to adversely affect any federally listed species or designated critical habitat protected by the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et. seq.). A record of this consultation is on file at the South Florida Ecological Service Office.

This fulfills the requirements of section 7 of the Act and further action is not required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.


Roxanna Hinzman, Field Supervisor

1/31/2018
Date

RE: Natural Resources Evaluation
US 98 John Singletary Bridge from west of Edgewood Drive
to east of the Fort Meade Recreation Area Entrance
Project Development & Environment Study
Financial Project ID No. 434886-1-22-01
Polk County, Florida

Dear Mr. Wrublik,

Please find enclosed the Natural Resources Evaluation (NRE) prepared for the above-referenced project. The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to address the deficiencies of the existing US 98/John Singletary Bridge (#160064) over the Peace River, east of Fort Meade in Polk County, Florida. The limits of the project are from west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance. The total project length is approximately 0.55 mile. The purpose of the PD&E study is to provide documented information necessary for FDOT to reach a decision on the type, design, and location of improvements; as well as to assess the project's potential impacts to natural resources within the project study area. The proposed improvements are necessary to improve bridge structural and functional conditions, improve safety for the travelling public and enhance mobility options and multi-modal access.

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding (MOU) dated December 14, 2016 and executed by the Federal Highway Administration and FDOT. This NRE is being submitted to the federal and state resource agencies with jurisdiction over wetlands and listed/protected species.

The NRE assesses potential effects of the proposed roadway improvements on wetlands, surface waters and other surface waters and state and federal listed species and their respective habitats. The evaluation includes field inspections by qualified biologists, literature and database reviews, and coordination with natural resource agencies. Details on the study methodologies and results are provided in the NRE.

As a result of the evaluation, the FDOT has concluded that implementation of the recommended alternative (Alternative 2) will result in unavoidable impacts to wetlands. The proposed bridge is anticipated to result in 0.55 acre of fill impact and 0.81 acre of shading impacts. However, removal of the existing bridge will allow re-vegetation of approximately 0.37 acre of wetlands beneath the existing bridge. In accordance with federal and state requirements, the full range of mitigation options were considered in developing this project, including impact avoidance, minimization, restoration, enhancement, and creation. This NRE presents conceptual mitigation alternatives, as appropriate, for unavoidable wetland impacts.

As a result of the data collection effort, field reviews, and agency coordination, the FDOT has determined that the project will have the following effects determinations for the following species:

Effect Determination	Species
No Effect	<p><u>Federally-Listed Wildlife</u></p> <ul style="list-style-type: none"> <li style="text-align: right;">Sand skink <li style="text-align: right;">Blue-tailed mole skink <li style="text-align: right;">Florida grasshopper sparrow <li style="text-align: right;">Florida scrub jay <li style="text-align: right;">Red-cockaded woodpecker <li style="text-align: right;">Everglade snail kite <p><u>Federally-Listed Plants</u></p> <ul style="list-style-type: none"> <li style="text-align: right;">Florida bonamia <li style="text-align: right;">Pygmy fringe-tree <li style="text-align: right;">Pigeon wings <li style="text-align: right;">Short-leaved rosemary <li style="text-align: right;">Avon Park harebells <li style="text-align: right;">Scrub mint <li style="text-align: right;">Scrub buckwheat <li style="text-align: right;">Highlands scrub hypericum <li style="text-align: right;">Scrub blazingstar <li style="text-align: right;">Scrub lupine <li style="text-align: right;">Britton's beargrass <li style="text-align: right;">Papery whitlow-wort <li style="text-align: right;">Lewton's polygala <li style="text-align: right;">Wireweed <li style="text-align: right;">Scrub plum <li style="text-align: right;">Wide-leaf warea <li style="text-align: right;">Carter's mustard <li style="text-align: right;">Florida ziziphus <p style="text-align: center;"><i>Continued next page</i></p>

<p>May Affect, Not Likely to Adversely Affect</p>	<p><u>Federally-Listed Wildlife</u> Eastern indigo snake Wood stork Audubon's crested caracara Florida panther</p>
<p>No Adverse Effect Anticipated</p>	<p><u>State-Listed Wildlife</u> Gopher tortoise Little blue heron Tricolored heron Southeastern American kestrel Florida sandhill crane</p>
<p>No Adverse Effect Anticipated</p>	<p><u>State-Listed Plants</u> Chapman's sedge Needle root orchid Umbrella star orchid Angular fruit milkvine Yellow anistree Southern twayblade Cardinal flower Florida spiny-pod Plume polypody fern Comb polypody fern Southern tubercled orchid Hand fern Leafless beaked ladies'-tresses Mouse's ear; shade betony Toothed lattice-vein fern Northern needleleaf Cardinal airplant Giant airplant</p>

The recommended alternative will not adversely modify any federally-designated critical habitat as none exists in the project vicinity.

The FDOT appreciates the USFWS' involvement with this project. As this project is using Federal funds and in accordance with the MOU previously discussed, the FDOT requests to initiate informal consultation for the aforementioned federally-listed species pursuant to Section 7 of the Endangered Species Act, as amended. The FDOT respectfully requests your review comments or written letter of concurrence with the findings and effect determinations presented in the NRE within 30 days. If you have any questions or require additional information, please contact me at 863.519.2375 or gwen.pipkin@dot.state.fl.us.

Sincerely,



Gwen G. Pipkin
 Environmental Manager
 FDOT, District One



Florida Fish and Wildlife Conservation Commission

Commissioners

Bo Rivard
Chairman
Panama City

Richard Hanas
Oviedo

Gary Nicklaus
Jupiter

Sonya Rood
St. Augustine

Michael W. Sole
Tequesta

Robert A. Spottswood
Key West

Brian Yablonski
Tallahassee

Executive Staff

Eric Sutton
Executive Director

Jennifer Fitzwater
Chief of Staff

Managing fish and wildlife resources for their long-term well-being and the benefit of people.

Office of the
Executive Director
Eric Sutton
Executive Director

(850) 487-3796
(850) 921-5786

620 South Meridian Street
Tallahassee, Florida
32399-1600
Voice: (850) 488-4676

Hearing/speech-impaired:
(800) 955-8771 (T)
(800) 955-8770 (V)

MyFWC.com

December 27, 2017

Gwen Pipkin
Environmental Manager
Florida Department of Transportation (FDOT), District 1
801 North Broadway
Bartow, FL 33830
Gwen.Pipkin@dot.state.fl.us

Re: US 98 John Singletary Bridge, Polk County, Natural Resources Evaluation Report

Dear Ms. Pipkin:

Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the Natural Resources Evaluation Report (NRE) for the US Highway 98 (US 98) John Singletary Bridge over the Peace River in Polk County. The NRE was prepared as part of the Project Development and Environment Study for the proposed project. We have previously reviewed this project as ETDM Programming Screen #14114, first in March 2014 and again in November 2014 after the plans were revised. The following comments and recommendations are provided for your consideration in accordance with Chapter 379, Florida Statutes and Rule 68A-27, Florida Administrative Code (F.A.C.).

Project Description

The project involves the replacement of the US 98 John Singletary Bridge over the Peace River east of Fort Meade. The limits of the project are from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance, a distance of approximately 0.55 mile. The new bridge would be constructed just south of the existing bridge, with 0.55 acre of fill impact and 0.81 acre of shading impact to the forested floodplain wetlands. Removal of the existing bridge will allow revegetation of approximately 0.37 acre of wetlands. Compensatory mitigation for this project would be completed using mitigation banks and any other mitigation options that satisfy state and federal requirements.

Potentially Affected Resources

The NRE evaluated potential project impacts to 15 wildlife species classified under the Endangered Species Act as Federally Endangered (FE) or Threatened (FT), or by the State of Florida as Threatened (ST). Listed species were evaluated based on range and potential appropriate habitat or because the project is within a U.S. Fish and Wildlife Service (USFWS) Consultation Area. Included were: sand skink (*Neoseps reynoldsi*, FT), blue-tailed mole skink (*Eumeces egregius lividus*, FT), Eastern indigo snake (*Drymarchon corais couperi*, FT), Audubon's crested caracara (*Polyborus plancus audubonii*, FT), Everglade snail kite (*Rostrhamus sociabilis plumbeus*, FE), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*, FE), wood stork (*Mycteria americana*, FT), red-cockaded woodpecker (*Picoides borealis*, FE), Florida scrub jay (*Aphelocoma coerulescens*, FT), Florida panther (*Puma concolor coryi*, FE), gopher tortoise (*Gopherus polyphemus*, ST), Southeastern American kestrel (*Falco sparverius paulus*, ST), Florida sandhill crane (*Antigone canadensis pratensis*, ST), little blue heron (*Egretta caerulea*, ST), and tri-colored heron (*Egretta tricolor*, ST).

Other species evaluated include: the bald eagle (*Haliaeetus leucocephalus*), which was delisted by state and federal agencies, but remains protected under state rule in Section 68A-16.002,

F.A.C. and by the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d); and the osprey (*Pandion haliaetus*), which is also protected under the federal Migratory Bird Treaty Act and in Chapter 68A-27, F.A.C., for the Monroe County population only.

Not included in the evaluation was the roseate spoonbill (*Platalea ajaja*, ST), which frequently forages in freshwater wetlands and could possibly utilize habitats in the project area. We would anticipate that project effects on this species would be similar to the other listed wading birds identified above.

FDOT project biologists made a finding of “may affect, but is not likely to adversely affect” for the Audubon’s crested caracara, wood stork, Florida panther, and Eastern indigo snake; and a finding of “no effect” for the other federally-listed species, due to a lack of appropriate habitat. All state-listed species were given a finding of “no adverse effect anticipated”. With inclusion of the implementation measures and commitments included in this NRE, we agree with the proposed determinations.

Comments and Recommendations

We support the project implementation measures and commitments for protected species, which include the following.

1. The FDOT will perform updated wildlife and vegetative surveys for the species discussed in this report and any other species that become listed and have the potential to occur in the project area. These will be conducted during the project design phase to ascertain the involvement, if any, of listed or managed species.
2. Consultation with both the USFWS and the FWC will occur as necessary during the project design phase to address updated project design, impacts, and mitigation.
3. Impacts to suitable foraging habitat for the federally-protected wood stork will be mitigated through the purchase of credits from a USFWS-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by the FDOT and the USFWS.
4. Should protected plant species be located within the project impact area during the design and permitting phase, coordination will be initiated with the Florida Department of Agriculture and Consumer Services or other appropriate agency to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction.
5. Should gopher tortoise burrows be located within the project area, the FDOT will avoid burrows in accordance with FWC regulations. For burrows that cannot be avoided during construction, the FDOT will apply for a gopher tortoise relocation permit from the FWC.
6. The FDOT will resurvey the project limits for the presence of bald eagle nests prior to construction commencement. If a bald eagle nest is identified within the 660-foot construction buffer zone of the project area, the FDOT will coordinate with the USFWS as applicable to secure all necessary approvals regarding this species prior to constructing the project.
7. The FDOT will resurvey the project limits for the presence of active osprey nests prior to construction commencement. If an active osprey nest is identified within the project

area, the FDOT will coordinate with the FWC as applicable to secure all necessary approvals regarding this species prior to constructing the project.

8. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed using mitigation banks and any other mitigation options that satisfy state and federal requirements.
9. During the construction phase of the project, the FDOT will implement the Standard Specifications for Road and Bridge Construction and other best management practices to avoid, where possible, and otherwise minimize, adverse impacts to wetlands and water quality within the project limits to the maximum extent practicable.
10. The most recent version of the USFWS' Standard Protection Measures for the Eastern Indigo Snake will be adhered to during the construction of the proposed project.

We appreciate the opportunity to review the NRE for the US 98 John Singletary Bridge project in Polk County. If you need further assistance, please contact our office by email at FWCConservationPlanningServices@MyFWC.com. If you have specific technical questions, contact Brian Barnett at (772) 579-9746 or email brian.barnett@MyFWC.com.

Sincerely,



Jennifer D. Goff, Director
Office of Conservation Planning Services

jdg/bb
ENV 1-13-2
John Singletary Bridge NRE_34463_122717

APPENDIX F

PROGRAMMATIC SECTION 4(F) WITH MOA

PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL FOR FDOT PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES

Project Name:	<u>US 98/John Singletary Bridge from west of Edgewood Drive to east of the Fort Meade Recreation Area Entrance</u>		
FM#:	<u>434886-1-22-01</u>	ETDM#:	<u>14114</u>
FAP#:	<u>1801-006-P</u>		
Project Review Date:	<u>1/29/2018</u>		
FDOT District:	<u>1</u>		
County(ies):	Polk		

I. Description of Project Scope/ Purpose and Need Statement

US 98 is classified as an urban principal arterial and serves as the main connector between the City of Fort Meade and the City of Frostproof. This project proposes to correct the deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project extend from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance. The project will replace the bridge over the Peace River to resolve certain structural deficiencies of the existing John Singletary Bridge, which is deemed functionally obsolete due to its substandard lane width and lack of shoulders. The project intends to correct these identified deficiencies and maintain the connection between downtown Fort Meade to the west and community recreational assets to the east. In order to meet the purpose and need of this project, FDOT must address and resolve certain deficiencies of the existing John Singletary Bridge by replacing or repairing the existing functionally obsolete bridge while maintaining two traffic lanes and a pedestrian crossing.

II. Detailed explanation of how the Section 4(f) property will be used:

The Recommended Alternative (Build Alternative 2) proposes to replace the structurally deficient and functionally obsolete existing bridge with a new bridge that meets current FDOT design standards and accommodates pedestrian facilities. The replacement will require the demolition of the existing historic John Singletary Bridge for construction of the new bridge and thus constitutes a "use" of an NRHP-eligible historic property.

III. Applicability Criteria of the Programmatic

- Yes No The bridge will be replaced or rehabilitated with Federal Funds
- Yes No The project will require the "use" of a historic bridge which is on or eligible for listing on the National Register of Historic Places (NRHP).
- Yes No The bridge is NOT a National Historic Landmark (NHL).

IV. Identify additional Section 4(f) properties in the project area

Are there any additional Section 4(f) properties in the project area? Yes No

Fort Meade Recreation Area

Comments: The will be no use of this resource within the meaning of Section 4(f).

Are impacts to other protected Section 4(f) resources greater than *de minimis*? Yes No

Explain:

V. Alternatives Considered/Findings

No Build Alternative (Check all that apply)

- Structural Deficiencies**

PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL FOR FDOT PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES

The No Build Alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.

Functional/Geometric Deficiencies

The No Build Alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.

Justification

The No-Build Alternative does not fulfill the purpose and need of the subject undertaking. While it maintains the existing historic bridge, it does not address the long-term transportation needs of the local community and it does not address the physical deterioration, obsolescence, and safety concerns that the historic bridge presents. The combination of increased traffic volume and further physical deterioration would only increase safety concerns.

Recommendation (Mandatory)

This alternative is determined to fail the Section 4(f) prudent and feasible standard and not recommended.

Alternative: Build on New Location (parallel construction/conversion to one-way pair)

Structural Deficiencies

The New Location alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.

Functional/Geometric Deficiencies

The New Location alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.

Justification

Build Alternative 3 proposes the construction of a new bridge to the north of the existing bridge alignment. The historic John Singletary Bridge would remain in place and be used as a pedestrian crossing; however, the historic bridge would need to be transferred to another entity to own and maintain as FDOT would not be responsible for upkeep of the historic bridge after a new bridge is constructed. FDOT has consulted with local agencies but none are interested in accepting this responsibility. Build Alternative 3 would also result in significant drainage and environmental impacts and would require routine dredging and ongoing permitting at considerable expense. This alternative would impact ten privately owned parcels and one County owned parcel resulting in the ROW acquisition of approximately 2.32 acres. Approximately 0.04 acres of wetlands would be impacted by this alternative. Although this alternative would have less of an adverse effect on the historic bridge than demolition would, the new bridge would be constructed in such close proximity to the historic bridge that the setting would be altered. Even if the proposed new bridge used similar materials or design elements in order to be compatible with the historic bridge, the modern bridge would be notably newer and larger and could detract from the rural setting in which the historic bridge currently sits. In addition, the viewshed of the Peace River and surrounding vegetation looking north from the historic bridge would be impacted. Due to the increased environmental impact and almost \$3.8 million in additional costs needed to rehabilitate the existing John Singletary Bridge as a pedestrian bridge over a span of approximately 25 years, it was determined that the Build Alternative 3 would not be a practical and feasible alternative for FDOT to pursue.

Recommendation (Mandatory)

This alternative is determined to fail the Section 4(f) prudent and feasible standard and not recommended.

**PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL FOR FDOT
PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES**

Alternative: Rehabilitation of Historic Bridge without Affecting the Integrity of the Bridge

Structural Deficiencies

The Rehabilitation alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.

Functional/Geometric Deficiencies

The Rehabilitation alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.

Justification

The Rehabilitation/Widening Alternative (Alternative 4) would rehabilitate/reconstruct the existing John Singletary Bridge to current FDOT safety and design standards, which would include lane widening, bridge widening, and the replacement of bridge railings. However, this alternative was ultimately dropped from consideration because it does not address the physical deterioration, obsolescence, and safety concerns that the historic bridge presents. In addition, it would not be prudent to construct an entirely new deck on an aged and deficient superstructure and substructure, and it could potentially exacerbate traffic issues during construction. In addition, this alternative would require a new crash tested railing, and the historic John Singletary Bridge would be stripped of its character-defining features due to widening and railing replacement, which could potentially negate its NRHP-eligibility. Lastly, the historic viewshed would be irreparably altered.

Recommendation (Mandatory)

This alternative is determined to fail the Section 4(f) prudent and feasible standard and not recommended.

Alternative: Replacement

Structural Deficiencies

The Replacement alternative corrects the situation that causes the bridge to be considered structurally deficient or significantly deteriorated.

Functional/Geometric Deficiencies

The Replacement alternative corrects the situation that causes the bridge to be considered functionally/geometrically deficient

Justification

Build Alternative 2 proposes to replace the existing bridge with a new bridge that meets current FDOT design and safety standards and accommodates pedestrian facilities. The new bridge alignment will be shifted to the south of the existing bridge alignment and tie into the existing roadway alignment east of the Fort Meade Recreation Area entrance. This will straighten out the roadway alignment and eliminate the need for a second curve after the bridge. Build Alternative 2 is recommended as it has the least amount of environmental impacts, provides a safer route for motorists and pedestrians, meets the needs of the project, and is cost effective.

Recommendation (Mandatory)

This alternative is determined to meet the Section 4(f) prudent and feasible standard and is recommended.

VI. Measures to Minimize Harm

PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL FOR FDOT PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES

Verify that the project includes all possible planning to minimize harm.

- For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements;
- For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, the FDOT ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge;
- For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge; and
- For bridges that are adversely affected, agreement among the SHPO, ACHP (if participating) and FDOT is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project. This programmatic Section 4(f) evaluation does not apply to projects where such an agreement cannot be reached.

VII Mitigation Commitment

Describe and attach the mitigation agreed to in consultation with SHPO and other consulting parties.

A Memorandum of Agreement (MOA) has been executed and is attached that outlines the stipulations. FDOT will complete documentation in accordance with HAER standards and salvage the existing commemorative bridge plaque and bridge railings, to the greatest extent possible, for use elsewhere. A Salvage and Relocation Plan will be developed and approved prior to construction advertisement.

VIII Documentation

The following **MUST** be attached to this checklist to ensure proper documentation of the Historic Bridge Programmatic Section 4(f):

1. Brief project description
2. Eligibility Determination of Historic Bridge
3. Historic Bridge Report
4. A detailed map of the Section 4(f) property including:
 - a. Current and proposed ROW
 - b. Property Boundaries
5. Photographs of the bridge detailing conditions cited in alternatives analysis
6. Executed Memorandum of Agreement resolving adverse effects or signed concurrence letter from the Florida SHPO
7. Any letters with consulting parties
8. Detour Map (as needed)

IX Summary and Approval

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 FHWA and FDOT.

The proposed project meets all the applicable criteria set forth in the Programmatic Section 4(f) Evaluation and Approval requirements for FHWA funded projects which necessitate the use of Historic Bridges (see [Section 4\(f\) Reference Resources Page](#)). All alternatives set forth in the subject programmatic were fully evaluated and the findings made are clearly applicable to this project. There are no feasible and prudent alternatives to the use of the historic bridge; and

**PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL FOR FDOT
PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES**

The project includes all possible planning to minimize harm to the historic property. FDOT will include the measures to minimize harm as environmental commitments as part of the NEPA Document for the proposed project.

X Approved Signatures

District: I have reviewed this evaluation and all attached documentation and confirm that the proposed project meets the requirements of 23 CFR 774 for a Historic Bridge Programmatic Section 4(f) finding.

Signature: Kimberly Warren : 2/8/2018
Preparer Date

Signature: Gwen G. Pipkin 2/8/2018
Environmental Manager, or designee Date

OEM Concurrence: Based upon the above considerations, this a Use of Historic Bridge Programmatic Section 4(f) satisfies the requirements of 23 CFR 774.

Signature:  2/12/18
Director of OEM, or designee Date

1. Brief Project Description

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study of the US 98/John Singletary Bridge in Polk County, Florida. The John Singletary Bridge carries US 98 over the Peace River in the City of Fort Meade. The project limits are from west of Edgewood Drive to east of the Fort Meade Recreation Area entrance. The purpose and need of the US 98/John Singletary Bridge project is to maintain a safe crossing over the Peace River by replacing or repairing the existing functionally obsolete bridge while maintaining two traffic lanes and a pedestrian crossing. The existing John Singletary Bridge over the Peace River (FDOT Bridge No. 160064; Florida Master Site File No. 8PO05440) was constructed in 1931 and is a well-preserved example of a concrete T-Beam bridge with cast-concrete railings featuring geometric designs that retains the historic significance, physical integrity, and qualities for which it was found eligible for listing in the NRHP.

In accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended, and the implementing regulations 36 CFR 800, a Section 106 Case Study Report (October 2016, Revised March 2017) was prepared to document the potential effects (primary and secondary) of the proposed undertaking on the NRHP-eligible John Singletary Bridge. An evaluation of all five alternatives under consideration for the John Singletary Bridge project, which include three Build Alternatives, a Rehabilitation/Widening Alternative, and a No-Build alternative, indicated that all but the No-Build Alternative will have an adverse effect on the NRHP-eligible John Singletary Bridge (8PO05440). The State Historic Preservation Officer (SHPO) reviewed the report and concurred with these findings on April 11, 2017.

The Recommended Alternative (Build Alternative 2) proposes to replace the existing bridge with a new bridge that meets current FDOT design standards and accommodates pedestrian facilities and requires the demolition of the existing historic bridge for construction of the new bridge. As Build Alternative 2 necessitates the demolition of the John Singletary Bridge and thus constitutes a “use” of an NRHP-eligible historic property, this Programmatic Section 4(f) Evaluation has been prepared to demonstrate that there are no feasible and prudent alternatives to the use of the historic bridge structure to be replaced with Federal funds and that the project includes all possible planning to minimize harm resulting from such use.

2. Eligibility Determination of Historic Bridge

P14073



P14073

Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway
Bartow, FL 33830

JIM BOXOLD
SECRETARY

January 12, 2015

Ms. Cathy Kendall
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, FL 32303

2015 JAN 21 PM 2:28
HISTORIC PRESERVATION

RE: Cultural Resource Assessment Survey
Project Development and Environment (PD&E) Study
US 98/John Singletary Bridge from west of Edgewood Drive to east of the Fort Meade
Recreation Area Entrance
Polk County, Florida
FPID No.: 434886-1-22-01
FAP: 1801-006-P

Dear Ms. Kendall:

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study that proposes to correct the deficiencies of the existing US 98/John Singletary Bridge in Polk County. The limits of the project are from west of Edgewood Drive (MP 1.030) to east of the Fort Meade Recreation Area Entrance (MP 1.581). As part of the PD&E study, a Cultural Resource Assessment Survey (CRAS) was prepared to comply with federal and state regulations. For the purpose of the CRAS, the archaeological area of potential effects (APE) was defined as the existing and proposed right-of-way (ROW) of each of the three potential alignments for the bridge and roadway. The historical/architectural APE consists of the archaeological APE and 200 feet (ft) to either side of the existing centerline of US 98, as well as 200 ft to the west of the US 98/Washington Avenue intersection and 200 ft east of the US 98/Ft. Meade Recreation Area Entrance intersection to take into account potential visual impacts of the project.

The purpose of the CRAS was to locate and identify historic or archaeological sites within or immediately adjacent to the APE and to assess the significance of such sites in terms of eligibility for listing in the National Register of Historic Places (NRHP).

Enclosed you will find the CRAS Report. The following documents are attached:

- One bound copy of the CRAS final report and one CD containing a .pdf version of the report (for FHWA); and
- One SHPO package containing an unbound copy of the report, loose FMSF forms (one updated FMSF form and four new FMSF forms for historic resources), a Survey Log, and a CD containing a .pdf version of the report, forms, and log.

The field work was conducted in accordance with the FDOT's PD&E Manual and the research plan and field methodology follows the standards and guidelines of the Florida Division of Historical Resources *Cultural Resource Management Standards and Operational Manual*.

Background research and a review of the Florida Master Site File (FMSF) and the NRHP indicated that 10 archaeological sites have been recorded within one mile of the APE. The archaeological site location predictive model for the region indicated a variable potential for archaeological sites within the study corridor. As a result of this survey, no archaeological sites were discovered.

Historical background research, including a review of the FMSF and NRHP, indicated that two historic structures have been previously recorded within the historical/architectural APE. One resource, the John Singletary Bridge (FDOT Bridge No. 160064; 8PO5440), was determined eligible for the NRHP by the Florida State Historic Preservation Officer (SHPO) as part of the recent update to *The Historic Highway Bridges of Florida* (ACI 2012). The second previously recorded resource is the F. M. Yearwood House (8PO239) at 945 East Broadway Street; it has not been evaluated by the SHPO. This Neo-Classical Revival style building is not unique for Fort Meade and has received non-historic additions that have compromised its historic integrity. Therefore, it is not considered eligible for the NRHP either individually or as part of a historic district.

Historical/architectural field survey resulted in the identification of four newly recorded historic resources (50 years of age or older), which include two historic buildings (8PO7964 and 8PO7965), one linear resource (US 98, 8PO7966), and one resource group (Fort Meade City Mobile Home Park, 8PO7967). All of these resources represent commonly occurring types of architecture and/or engineering for the locale, and none is associated with significant historical events or persons. Therefore, it is the opinion of ACI's architectural historian that none of these is eligible for listing in the NRHP either individually or as a historic district.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

Please process the attached report and accompanying documentation and then forward to the SHPO for their concurrence. The second copy of the report is for your files. If you have any questions, or if I may be of assistance, please contact me at (863) 519-2805 or Martin.Horwitz@dot.state.fl.us.

Sincerely,



Martin Horwitz
Environmental Project Manager

Enclosures

cc: William Hartmann, P.E., FDOT
Gwen G. Pipkin, FDOT
Roy Jackson, FDOT
Aniruddha Gotmare, P.E., Scalar
Marion Almy, ACI

The FHWA finds the attached Cultural Resources Assessment Survey complete and sufficient and approves/ does not approve the above recommendations and findings. Or, the FHWA finds the attached contains insufficient information.

The FHWA requests the SHPO's opinion on the sufficiency of the attached report and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

FHWA Comments:

This finding is for eligibility. An effects finding will still be needed.

/s/ Cathy Kendall
Ms. Cathy Kendall
Federal Highway Administration

1/20/15
Date

The Florida State Historic Preservation Officer finds the attached Cultural Resources Assessment Survey complete and sufficient and concurs/ does not concur with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2015-269. Or, the SHPO finds the attached contains insufficient information.

SHPO Comments:

Concur w/eligibility determinations, and FHWA Comments regarding effects finding.

/s/ Robert F. Bendus
Mr. Robert F. Bendus
State Historic Preservation Officer
Florida Division of Historical Resources

2/18/15
Date

3. Historic Bridge Report

See the attached Section 3.0 and Appendix B from the Section 106 Case Study Report (October 2016, Revised March 2017)

3.0 EXISTING SIGNIFICANT HISTORICAL RESOURCES

As a result of the PD&E Study CRAS, one NRHP-eligible significant historic resource was identified within the APE, the John Singletary Bridge (8PO05440). The aforementioned CRAS was reviewed and accepted by the FHWA on January 20, 2015 and the SHPO concurred on February 18, 2015. A copy of the concurrence letter is included in **Appendix A**, and a copy of the Florida Master Site File (FMSF) form created for the John Singletary Bridge is included in **Appendix B**. The bridge was built in 1931 to provide a crossing over the Peace River and is a well-preserved example of a concrete T-Beam bridge with cast-concrete railings featuring geometric designs (FMSF 2016). The bridge has 22 spans for a total length of 550 feet. It was determined eligible for listing in the NRHP by the SHPO as part of the recent update to *The Historic Highway Bridges of Florida* (ACI 2012) and confirmed again as a result of the PD&E Study CRAS conducted in 2014 (ACI 2015). It is considered NRHP-eligible under National Register Criterion C for its engineering and architecture because it is an “early example of its type, and distinguished by its decorative geometric-design railings” in a neoclassical pattern (ACI 2012). The NRHP boundary is limited to the bridge structure and does not include the approaches on either side. The bridge was named by the Polk County Commission after John O. Singletary, who served as Commissioner of the Second District between 1927 and 1931. A plaque honoring Mr. Singletary abuts the western limit of the bridge on the south side of US 98 (**Photo 3.1**). The bridge has not been altered since the submittal of the PD&E Study CRAS in 2015 and thus retains the historic significance, physical integrity, and qualities for which it was found eligible for listing in the NRHP by the Florida SHPO (**Photo 3.2**).



PHOTO 3.1: COMMEMORATIVE PLAQUE, LOOKING EAST (2014).



PHOTO 3.2: JOHN SINGLETARY BRIDGE OVER THE PEACE RIVER (8PO05440), LOOKING EAST (2014).

APPENDIX B
JOHN SINGLETARY BRIDGE FMSF FORM (8PO05440)



PO5440

FLORIDA DEPARTMENT *of* STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

James Christian, P.E.
Division Administrator
Federal Highway Administration
Florida Division
545 John Knox Road, Suite 200
Tallahassee, FL 32303

February 5, 2014

ATTN: Mr. Benito Cunill

RE: DHR Project File No.: 2013-5826
Project: *The Historic Highway Bridges of Florida*

Dear Mr. Christian:

This office reviewed the referenced report in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties*.

In 2010 the Florida Department of Transportation completed its statewide survey of historic bridges. The final survey was provided to this office for review in 2013. Concurrently in 2012, The Advisory Council on Historic Preservation (ACHP) and the Federal Highway Administration (FHWA) published a Program Comment that relieved FHWA from assessing the impacts of proposed projects on post -1945 concrete and steel bridges (Federal Register, Vol. 77, No. 222). This Program Comment has resulted in a large number of bridges in Florida being exempted from review under Section 106.

The 2010 survey of historic bridges resulted in the identification of 166 significant bridges (FHWA Attachment 2). The survey also recommended that 244 bridges did not meet the eligibility requirement for listing in the National Register of Historic Places (NRHP). Some of the 244 identified non-eligible bridges are exempted from review as a result of the Program Comment agreement between ACHP and FHWA.

This office concurs with the determinations of eligibility for the 166 significant bridges identified in Attachment 2. However, at the present time this office is not prepared to concur on the recommendation for those bridges which were recommended as being not eligible for the NRHP.

Division of Historical Resources

R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399
850.245.6300 • 850.245.6436 (Fax) flheritage.com

Promoting Florida's History and Culture VivaFlorida.org



VIVA FLORIDA.



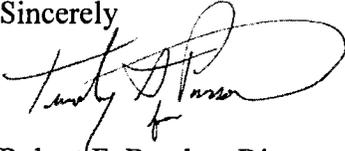
www.flheritage.com

Mr. James Christian
DHR No.: 2013-5826
February 5, 2014
Page 2

This office looks forward to consulting on a Programmatic Agreement with your agency that will identify and plan for the preservation of significant bridges. At that time this office would be willing to concur on determinations of non-eligibility.

If you have any questions, please contact Ginny Jones, Transportation Compliance Architectural Historian, by email at Ginny.Jones@dos.myflorida.com, or by telephone at 850.245.6333.

Sincerely



Robert F. Bendus, Director
Division of Historical Resources
& State Historic Preservation Officer

PC: Roy Jackson, FDOT CEMO, Tallahassee

Enclosure:

FHWA Attachment 2: List of Bridges Recommended as Significant Historic Highway Bridges

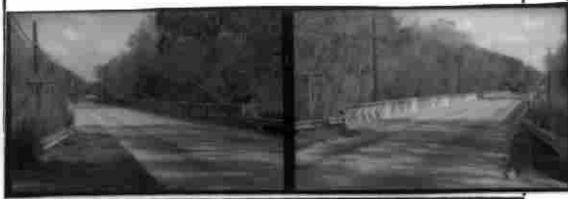
P00540

FLORIDA HISTORIC BRIDGE SURVEY--INVENTORY FORM

PRIMARY DATA

Historic Name John Singletary Bridge
Current Name
FDOT Structure Number 160064
FDOT District One
County Polk
City or Town (in/near) Fort Meade
Route Carried U.S. 98
Feature Crossed Peace River
USGS Quad Map Name

PHOTOGRAPH



Roll Frme 36 28A to

Roll Frme 36 33A to

Color Slides Yes x No

SURVEY No. 3801

UTM Coordinates

Zone
E Range
N Township
E Section
N

Prepared by the Center for Historic Preservation and Technology, Texas Tech University. Date of survey: Summer 1989.

DESCRIPTIVE DATA

Bridge Type concrete girder
Number of Spans 22 Total length 551'
Main Spans Number 22 Type girder Length 25' each Width 29'
Roadway Width 20'
Approach Spans Number 0 Type Length Width
Roadway Width
Superstructure Materials concrete
Substructure Type girder/pier Material concrete
Overall Condition Good x Fair Poor Deteriorated
Architectural Features
Decorative Details railings
Setting Rural x Suburban Urban Residential
Commercial Industrial Other
Alterations Yes No x When Extent

HISTORICAL DATA

Date 1931 Original location Yes x No
In Use Yes x No
National Register listed Yes No x
Located within a historic district Yes No x
Florida Master Site File Number
Original owner Florida Department of Transportation
Present owner Florida Department of Transportation
Designer/Engineer
Fabricator
Builder
Contractor
Information Sources
FDOT Structure Inventory and Appraisal Form Yes x No
Bridge Plate Yes x No

Bridge No. 160064

Polk County

Assessment

The John Singletary Bridge over the Peace River is a twenty-two span, 551-foot concrete girder structure located on US 98, a major east-west artery. Its name derives from a Polk County commissioner who served in office around the time of the bridge's construction in 1930-1931.

Standard in most of its engineering features, the bridge does have an unusual concrete railing, an ornate geometrical design with a vertically divided "X" pattern. Similar treatments appear on a few major bridges of the 1920s, among them the Victory Bridge over the Apalachicola River near Chattahoochee. This structure possesses some regional importance on a principal roadway, but otherwise is limited in merit.

Bibliography

Engineering News-Record. 98 (June 30, 1927): 49.

Bridge No. 160064

Polk County

Assessment

The John Singletary Bridge over the Peace River is a twenty-two span, 551-foot concrete girder structure located on US 98, a major east-west artery. Its name derives from a Polk County commissioner who served in office around the time of the bridge's construction in 1930-1931.

Standard in most of its engineering features, the bridge does have an unusual concrete railing, an ornate geometrical design with a vertically divided "X" pattern. Similar treatments appear on a few major bridges of the 1920s, among them the Victory Bridge over the Apalachicola River near Chattahoochee. This structure possesses some regional importance on a principal roadway, but otherwise is limited in merit.

Bibliography

Engineering News-Record. 98 (June 30, 1927): 49.

P005440

NUMERICAL EVALUATION OF FLORIDA HIGHWAY BRIDGES

Bridge Number 160064

County Polk

I. Date of Construction (250 points maximum)

- 1. Pre-1920 construction 250 points
- 2. 1921-1930 construction 225 points
- 3. 1931-1940 construction 150 points X
- 4. 1941-1950 construction 100 points
- 5. 1951 to present 0 points
- Subtotal 150

II. Length of Bridge (100 points maximum)

- A. Overall length--250 feet or more 25 points X
- B. Length of main span
 - 1. 150 feet or more 75 points
 - 2. 100 to 149 feet 50 points
 - 3. 50 to 99 feet 25 points
- Subtotal 25

III. Bridge type (250 points maximum)

- A. Fixed Bridges
 - 1. Concrete Through-Arch 250 points
 - 2. Concrete Deck-Arch 200 points
 - 3. Steel Through-Truss 200 points
 - 4. Steel Pony-Truss 150 points
 - 5. Steel Deck-Truss 150 points
 - 6. Suspension Bridge 250 points
 - Subtotal 0
- B. Movable Bridges
 - 1. Vertical lift 250 points
 - 2. Swing bridge 200 points
 - 3. Bascule bridge 150 points
 - Subtotal 0

IV. Integrity (100 points maximum)

- A. Structural Integrity
 - 1. Original condition 75 points X
 - 2. Minor alterations 40 points
 - 3. Major alterations 0 points
 - Subtotal 75
- B. Location and Setting
 - 1. Original setting 25 points X
 - 2. Changed setting or location 15 points
 - Subtotal 25

V. Historical Significance (300 points maximum)

- A. Technical Significance (200 points maximum)
 - 1. Notable builder/contractor 50 points
 - Known builder/contractor 25 points
 - 2. Notable designer/engineer 50 points
 - Known designer/engineer 25 points
 - 3. Innovative design 30 points
 - 4. Engineering challenge 30 points
 - 5. Uniqueness in Florida 40 points
 - Subtotal 0
- B. Cultural Significance (100 points maximum)
 - 1. Historical association with a major historical figure/event 20 points
 - 2. Architectural features 20 points X
 - 3. Within a National Register Historic District 20 points
 - Within an acknowledged or recognizable historical section of a city or town 10 points
 - 4. Historical importance
 - a. National level 40 points
 - b. State level 30 points
 - c. Regional level (within Florida) 20 points X
 - d. Local level 10 points
 - Subtotal 40

OVERALL TOTAL FOR BRIDGE 315

Original
 Update



HISTORICAL BRIDGE FORM

FLORIDA MASTER SITE FILE

Version 4.0 1/07

Consult Guide to the Historical Bridge Form for detailed instructions

Site #8 PO05440
Field Date 2-10-2014
Form Date 1-27-2015
Recorder # 6
FDOT Bridge # 160064

Bridge Name(s) John Singletary Bridge Multiple Listing (DHR only) _____
Project Name John Singletary Bridge PD&E Study Survey # (DHR only) 21486
Ownership: private-profit private-nonprofit private-individual private-nonspecific city county state federal Native American foreign unknown

LOCATION & MAPPING

Route(s) Carried/Feature(s) Crossed U.S. 98
USGS 7.5 Map Name HOMELAND USGS Date 1952 Plat or Other Map _____
City/Town (within 3 miles) Fort Meade In City Limits? yes no unknown County Polk
Township 31S Range 25E Section 26 ¼ section: NW SW SE NE Irregular-name: _____
Township _____ Range _____ Section _____ ¼ section: NW SW SE NE
Landgrant _____ Tax Parcel # None
UTM Coordinates: Zone 16 17 Easting 422939 Northing 3069938
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Year Built 1931 approximately year listed or earlier year listed or later
Still in use? yes no restricted use (describe) _____
Prior Fords, Ferries, or Bridges at this Location Unknown

Bridge Use: original and current with dates (standard descriptions: auto, railway, pedestrian, fishing pier, abandoned) Two-lane automobile still retaining its original configuration.

Ownership history State of Florida (1931 - present)

Designers/Engineers _____

Builders/Contractors _____

Text of Plaque or Inscription John Singletary Bridge, Named in Honor of John O. Singletary, Commissioner 2nd District 1927-1931 By Action Board of County Commissioners, Polk County, Florida February 13, 1931.

Narrative History (How did bridge come to be built? How was it financed?, etc.) Tee-Beam concrete bridge constructed in 1931 to bridge the Peace River in Fort Meade, Polk County, Florida.

DESCRIPTION

GENERAL

Overall Bridge Design 1. Tee Beam 2. _____

Overall Condition excellent good fair deteriorated ruinous

Style and Decorative Details Concrete Tee Beam bridge with decorative cast-concrete railings featuring geometric-designs.

Tender Station Description None present

Alterations: Dates and Descriptions None

DHR USE ONLY		OFFICIAL EVALUATION	DHR USE ONLY	
NR List Date	SHPO - Appears to meet criteria for NR listing: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> insufficient info		Date	<u>1/27/2015</u> Init. <u>AMM</u>
<input type="checkbox"/> Owner Objection	KEEPER - Determined eligible: <input type="checkbox"/> yes <input type="checkbox"/> no		Date	_____
	NR Criteria for Evaluation: <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d (see National Register Bulletin 15, p. 2)			

DESCRIPTION (continued)

SUPERSTRUCTURE

Spans: Number 22 Total Length(ft) 551
 Main Spans: Number 22 Length(ft) 25 Width(ft) 29 Roadway width(ft) 20
 Main Span Design Tee Beam
 Main Span Materials 1. Concrete 2. _____
 Approach Spans: Number 0 Length(ft) _____ Width(ft) _____ Roadway width(ft) _____
 Approach Span Design _____
 Approach Span Materials 1. _____ 2. _____
 Deck Materials 1. Concrete 2. Asphalt

SUBSTRUCTURE

Abutment Materials 1. Concrete 2. _____
 Abutment Description Retaining Backwalls
 Pier Materials 1. Concrete 2. _____
 Pier Description Square Piers

RESEARCH METHODS (check all that apply)

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> FDOT database search | <input type="checkbox"/> Fla. Archives / photo collection | <input type="checkbox"/> newspaper files | <input type="checkbox"/> informal archaeological inspection |
| <input type="checkbox"/> HABS/HAER record search | <input type="checkbox"/> property appraiser / tax records | <input type="checkbox"/> city directory | <input type="checkbox"/> formal archaeological survey |
| <input checked="" type="checkbox"/> FMSF record search (sites/surveys) | <input type="checkbox"/> library research | <input type="checkbox"/> Public Lands Survey (DEP) | <input checked="" type="checkbox"/> cultural resource survey |
| <input type="checkbox"/> Other methods (specify) _____ | | | |

Bibliographic References (give FMSF manuscript # if relevant, use separate sheet if needed) Update Historic Highway Bridges of Florida, on file, Archaeological Consultants Inc, 2010; SHPO Concurrence letter for The Historic Highway Bridges of Florida (ACI 2010), letter dated 2/5/2014, on file, ACI and Tallahassee.

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? yes no insufficient information
 Potentially eligible as contributor to a National Register district? yes no insufficient information
 Explanation of Evaluation (required, use separate sheet if needed) This bridge was recommended as eligible for listing in the NRHP as part of the 2010 update of the Historic Highway Bridges of Florida. It is an early example of its type, and distinguished by its decorative geometric-design railings (ACI 2010; SHPO 2014).
 Area(s) of historical significance (See National Register Bulletin 15, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
 1. Architecture 3. _____ 5. _____
 2. Engineering 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field & analysis notes, photos, plans, other important documents

1) Document type <u>All materials at one location</u>	Maintaining organization <u>Archaeological Consultants Inc</u>
Document description <u>Field notes and photographs</u>	File or accession #'s <u>P14073</u>
2) Document type _____	Maintaining organization _____
Document description _____	File or accession #'s _____

RECORDER INFORMATION

Recorder Name Patricia Slovinac / Jorge Danta Affiliation Archaeological Consultants Inc
 Recorder Contact Information 8110 Blaikie Court, Suite A, Sarasota, Florida 34240
 (address / phone / fax / e-mail)

Required Attachments

- ① USGS 7.5' TOPO MAP WITH BRIDGE LOCATION MARKED
 - ② PHOTO OF BRIDGE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
- If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.



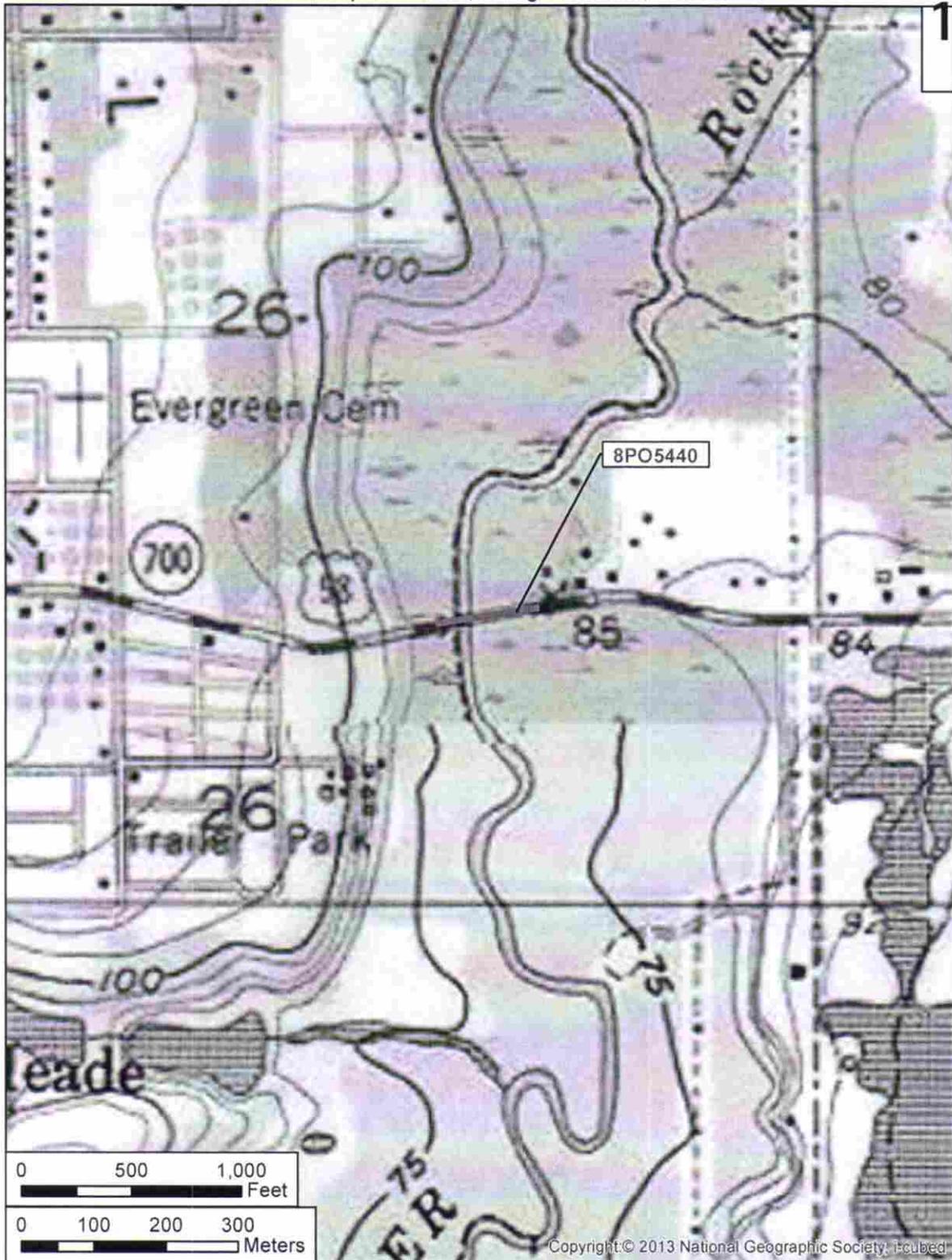
HISTORIC BRIDGE FORM

Site # 8PO05440

USGS

Homeland

Township 31 South, Range 25 East, Section 26





PHOTOGRAPH



AERIAL MAP





PHOTOGRAPHS

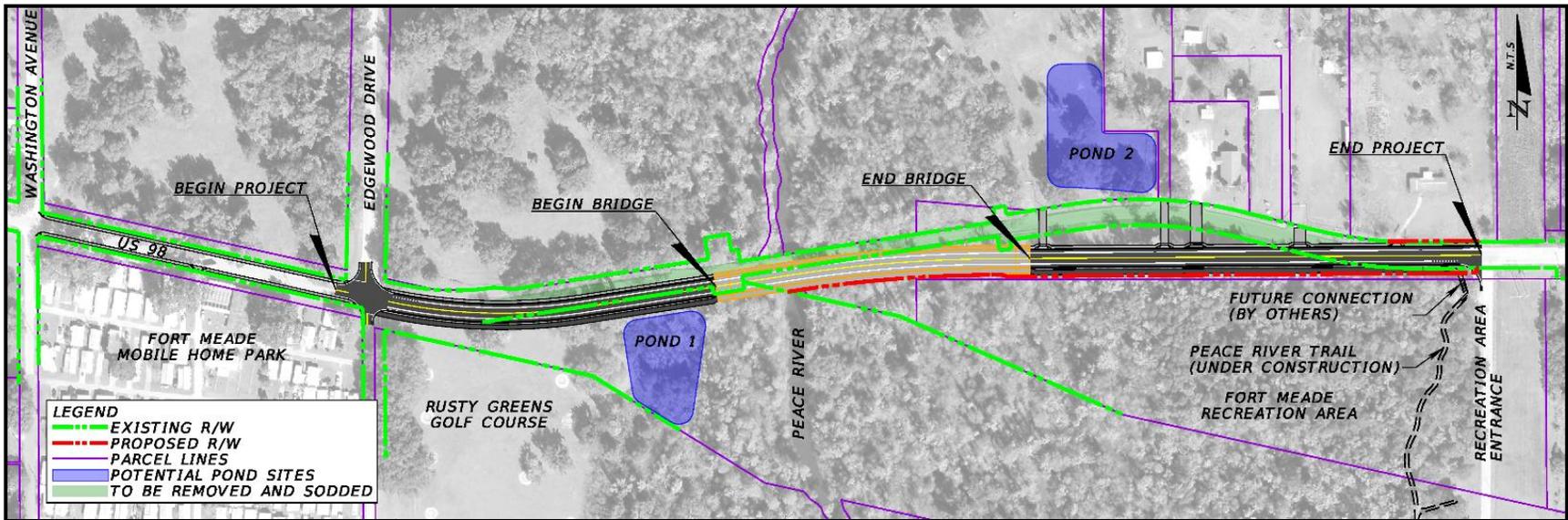




PHOTOGRAPHS



4. A detailed map of the Section 4(f) property including:
 - a. Current and proposed ROW
 - b. Property Boundaries



Concept Plan, Build Alternative 2: Existing Bridge Removed, New Bridge Shifted South

5. Photographs of the bridge detailing conditions cited in alternatives analysis

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 17 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 1 - Elements 13 Unp Conc Deck/AC Ovl & 110 R/Conc Open Girder

Typical mud dauber nests on the deck underside and beams throughout the structure (Span 1 underside shown)

WORK ORDER RECOMMENDATION:

P3WO: Remove mud dauber nests from deck and superstructure elements on all spans. 80MH

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 18 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 2 - Element 301 Pourable Joint Seal

Deteriorated pourable joint sealant in Lane 1 (Bent 16 joint shown)

WORK ORDER RECOMMENDATION:

P3WO: Repair missing-deteriorated sealant intemittently throughout joints. 235LF

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 19 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 3 - Element 331 Conc Bridge Railing

Typical exposed steel in bridge post top (Post 1-1 left shown)

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 20 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 4 - Element 331 Conc Bridge Railing

Typical spalls/delaminations with exposed steel at the left cross bracing (Panels 21-2 shown)

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 21 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 5 - Element 110 R/Conc Open Girder

Delamination bottom face of Beam 2-6 at Bent 2

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 22 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 6 - Element 110 R/Conc Open Girder

Spall/delamination with exposed steel in the bottom face of Beam 8-6, 5ft. west of Bent 9 cap

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 23 OF 35
INSPECTION DATE: 8/10/2015 DSVU

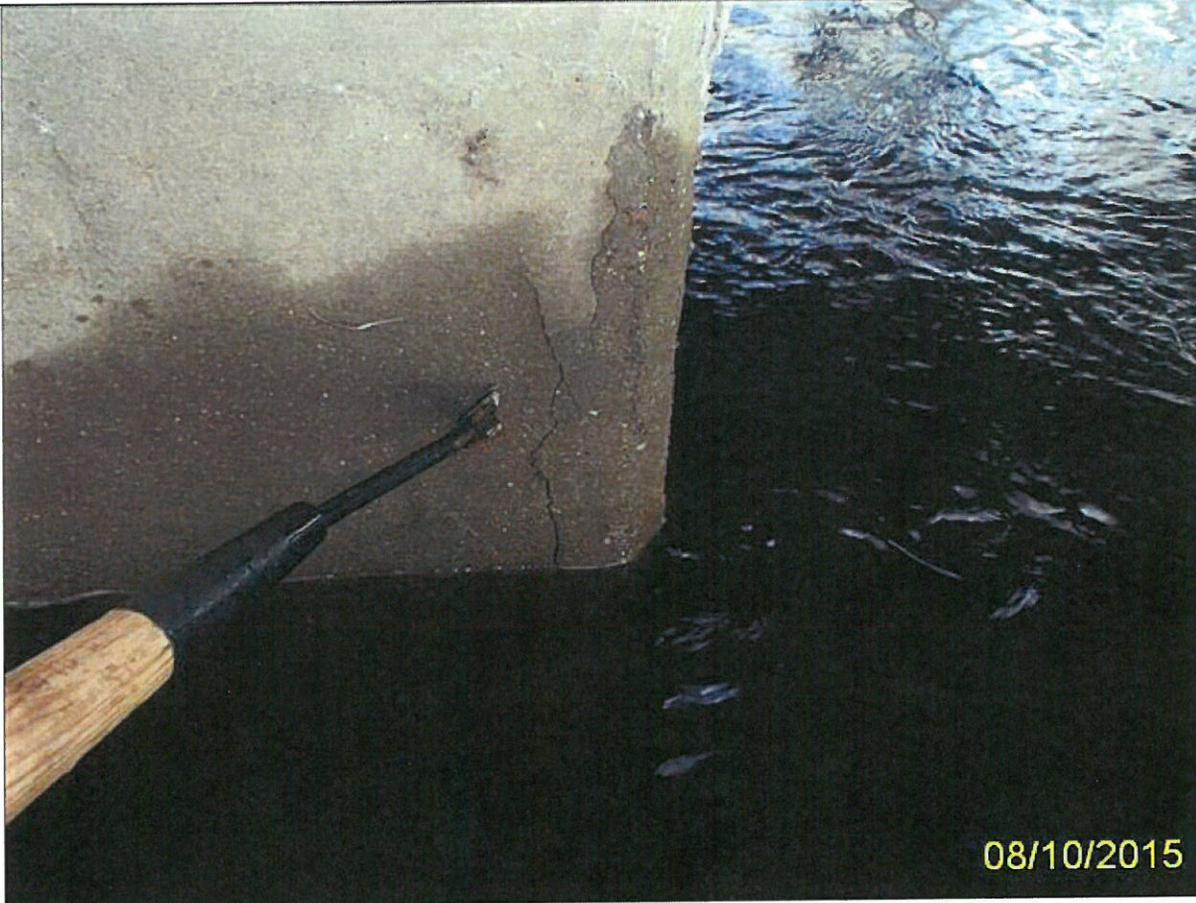


Photo 7 - Element 205 R/Conc Column

Delamination in south face of Pile 10-3, 6ft. below the cap

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 24 OF 35
INSPECTION DATE: 8/10/2015 DSVU

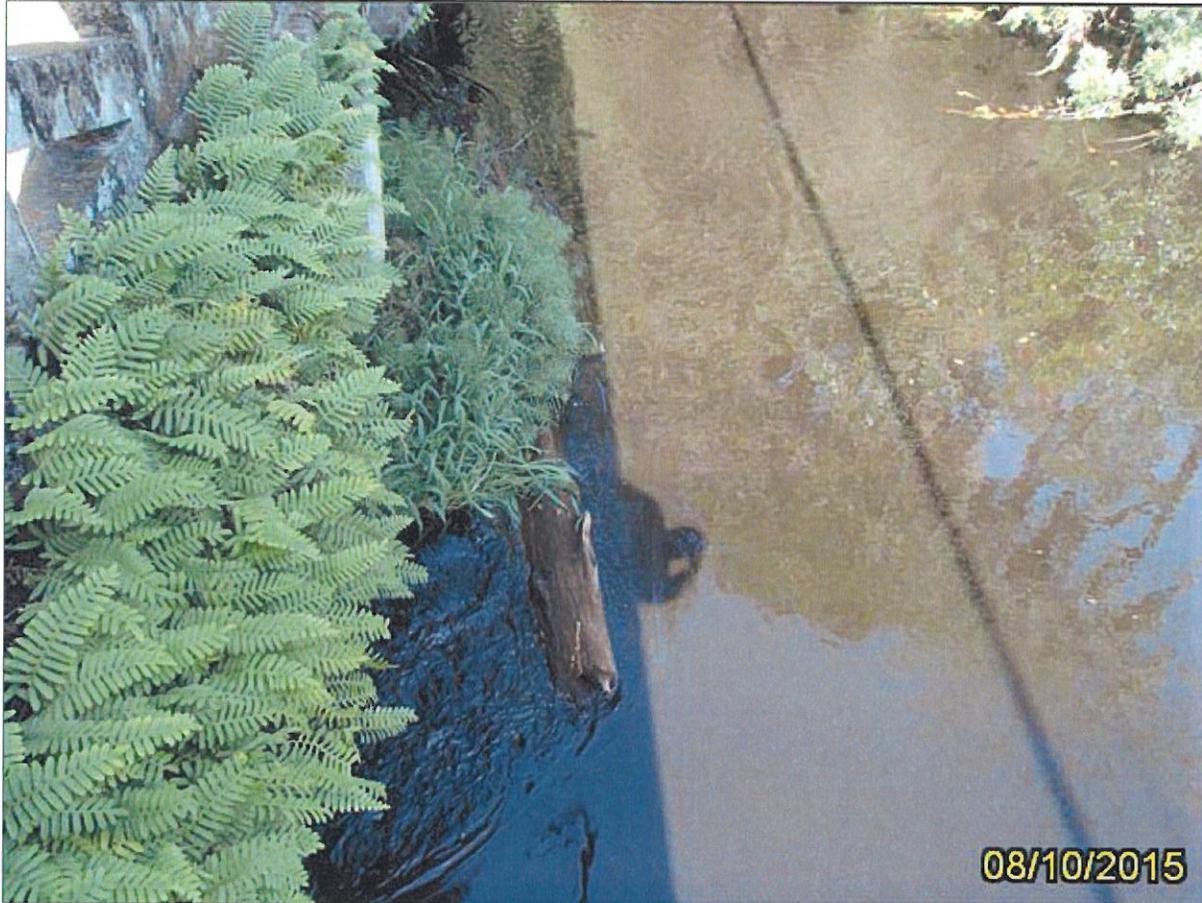


Photo 8 - Element 290 Channel

Vegetation and debris at Bent 5 along the north side

WORK ORDER RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

REPORT ID: INSP005 (condensed)

PRINTED: 09/17/2015

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM

Inspection/CID Report with PDF attachment(s)

BRIDGE ID: 160064
DISTRICT: 01 Bartow

PAGE: 25 OF 35
INSPECTION DATE: 8/10/2015 DSVU



Photo 9 - Inspection Notes

Elevation difference at the northwest approach sidewalk/bridge sidewalk transition

REPAIR RECOMMENDATION:
None

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

6. Executed Memorandum of Agreement

**MEMORANDUM OF AGREEMENT
BETWEEN THE FLORIDA DEPARTMENT OF TRANSPORTATION AND
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE US 98/JOHN SINGLETARY BRIDGE PROJECT
(FDOT BRIDGE NO. 160064) OVER THE PEACE RIVER,
POLK COUNTY, FLORIDA**

WHEREAS, the environmental review, consultation, and other actions required by applicable federal environmental laws for this undertaking are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding (the NEPA MOU) dated December 14, 2016 and executed by the Federal Highway Administration (FHWA) and FDOT; and

WHEREAS, the U.S. Department of Transportation, FHWA and FDOT propose to provide financial assistance for the US 98/John Singletary Bridge Project over the Peace River, Federal Aid Project Number (No.) 1801-006-P and Financial Project Identification Number 434886-1-22-01 (the undertaking); and

WHEREAS, this undertaking was initiated by FDOT in partnership with FHWA and is now assigned to FDOT as the lead federal agency in accordance with the provisions of the NEPA MOU; and

WHEREAS, the undertaking consists of replacing the existing two-lane John Singletary Bridge (FDOT Bridge No. 160064 and Florida Master Site File No. 8PO5440), a significant historic property eligible for listing in the National Register of Historic Places (NRHP), with a new two-lane bridge thereby requiring removal of the existing, historic John Singletary Bridge; and

WHEREAS, FDOT has established the Area of Potential Effects (APE) to historic properties for the undertaking as 200 feet (ft.) to either side of the existing centerline of US 98, 200 ft. to the west of the US 98/Washington Avenue intersection, and 200 ft. east of the US 98/Fort Meade Recreation Area Entrance intersection. This APE includes the proposed right of way for the undertaking and the adjoining areas where project effects could be reasonably foreseen (see Exhibit A for the APE and the proposed alignment for the undertaking). Background research and historic resources survey was carried out for the entire APE while archaeological testing was undertaken only for the portion of the APE where ground disturbing activities are anticipated such as in the proposed right of way; and

WHEREAS, the FDOT has consulted with the Florida State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S. Code § 470(f) (NHPA)) and has determined that the undertaking will have an adverse effect on the John Singletary Bridge; and

WHEREAS, FDOT District One has participated in the consultation for the undertaking and on its effects on historic properties, and has been invited to sign this agreement as a concurring party; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1) FDOT has notified the Advisory Council on Historic Preservation (ACHP) of its effect determination with specified documentation and the ACHP has been afforded the opportunity to comment and to participate. The ACHP has chosen *not to* participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and

WHEREAS, the public and local interested parties have been afforded the opportunity to express their opinion regarding the effects of this undertaking on historic properties; and

NOW, THEREFORE, FDOT and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

FDOT shall ensure that the following measures are carried out:

I. Design and Construction of the Project

- A. The proposed new two-lane bridge will be constructed as identified in Exhibit B.
- B. The design of the proposed new bridge will include an accommodation for a portion of the planned Peace River Trail along this segment of US 98 to provide trail linkages to the existing trail, located east of the Peace River, and to a future proposed segment of the trail, located west of the Peace River.
- C. Should there be changes to the proposed undertaking which may alter the effects of the undertaking on historic properties, FDOT will notify and reinitiate consultation with the SHPO in accordance with Stipulation IX of this Agreement.

II. Documentation of the John Singletary Bridge

- A. Prior to the salvage of the existing railings and historic commemorative bridge plaque and demolition of the John Singletary Bridge, FDOT shall perform the following documentation in accordance with Historic American Engineering Record (HAER) standards:
 - 1. Drawings—As existing plans are not available, sketch plans depicting existing conditions shall be prepared.
 - 2. Photographs—Photographs with large-format negatives of context and views from all sides of the bridge and approaches; roadway and deck views, and noteworthy features and details. All negatives and prints will be processed to meet archival standards. One photograph of a principal elevation shall include a scale.

3. Written Data—Report with narrative description of the bridge, summary of significance, and historical context.
- B. FDOT shall coordinate with the U.S. Department of the Interior, National Park Service (NPS) Southeast Regional Office prior to starting the HAER documentation to confirm the appropriate level of documentation, standards, requirements, and coordination process. FDOT shall provide draft HAER documentation (non-archival format, electronic version) to the NPS and SHPO for concurrent review. Both agencies shall have 30 days, after receipt of the draft documentation, for review, as per Stipulation VII.
 - C. FDOT shall make requested edits and provide final copies of the HAER documentation, completed in accordance with Stipulation II.A, as follows:
 1. An archival copy to the NPS Southeast Regional Office for review and approval prior to salvage and demolition of the structure; per HAER guidelines; and
 2. An archival copy and an electronic copy to the Florida SHPO for inclusion in the FMSF; and
 3. Non-archival copies and electronic copies to the Fort Meade Historical Society and Polk County Historical Society.

III. Salvage of Existing Bridge Plaque and Railings

- A. Through consultation, it has been determined that it is not feasible to rehabilitate and retain the John Singletary Bridge in its existing location, and it is not feasible to relocate the bridge structure. As mitigation, FDOT has committed to the above documentation in addition to salvaging the existing commemorative bridge plaque and railings, to the greatest extent possible, for use elsewhere, as identified in a proposed Salvage and Relocation Plan that will be prepared during project development, as described in Stipulation III.B.
- B. Through the Section 106 consultation, representatives from the City of Fort Meade, the Fort Meade Historical Society, and the Polk County Historical Society, have determined that they would prefer the existing bridge railings and commemorative bridge plaque to be salvaged and reused near the John Singletary Bridge or elsewhere in the community (i.e. at the Fort Meade Recreation Area, at the Polk County History Center, and/or on the grounds of the Fort Meade Historical Society Museum). FDOT District One shall continue to coordinate with local interested parties and stakeholders, such as the City of Fort Meade, the Fort Meade Historical Society, the Polk County Historical Society and Polk County during project development, as appropriate, to develop a proposed Salvage and Relocation Plan to outline the process for salvaging and relocating the commemorative bridge plaque railing (such as, but not limited to, where, when and how). The plan will include:

1. measures to determine the feasibility of salvaging and relocating the railings,
 2. the appropriateness of any proposed new locations (sites) for the plaque and railings,
 3. methods for removing and storing the railings, and
 4. timeframes for completing the tasks.
- C. The proposed Salvage and Relocation Plan shall be developed and approved prior to advertising for construction. FDOT will afford the SHPO 30 days to review and comment on the proposed Salvage and Relocation Plan, as per Stipulation VII. FDOT will take the SHPO's comments into account in reaching a final decision regarding the plan.
- D. The FDOT shall ensure that the existing commemorative bridge plaque and railings are removed in a manner that minimizes damage, and that the items are stored in an area protected from human and natural damage until elements can be reused.
- E. FDOT may demolish the bridge after completing the HAER documentation outlined in Stipulation II and after salvaging the existing commemorative bridge plaque and railings, as outlined in the proposed Salvage and Relocation Plan described in Stipulation III.B.
- F. After FDOT has relocated the bridge railings as agreed to during continued coordination described in Stipulations III.B and III.D, FDOT may dispose of the remaining salvaged railing sections without further coordination or approval as noted in the proposed Salvage and Relocation Plan.

IV. Public Education

FDOT will assist with the development and funding of a single panel educational exhibit to be provided to appropriate local entities (such as the City of Fort Meade, Fort Meade Historical Society, Polk County History Center, and one or two other agencies/organizations), for installation at their discretion. The exhibit will provide a historic account of the bridge and its connection with Mr. John Singletary to educate the public. The text and graphics on the single panel will be prepared based on continued coordination with local interested parties and stakeholders during the project's design and construction phases. During this continued coordination, FDOT will also consider the option to install a Historic Marker to be placed in proximity to the bridge location. The draft exhibit and/or Historic Marker text and location will be coordinated with the SHPO for review, as described in Stipulation VII.

V. MOA Documentation

- A. The FDOT shall prepare an Annual Report documenting actions carried out pursuant to this MOA. The reporting period shall be the fiscal year from July 1st to June 30th. The Annual Report shall be distributed to the consulting parties to this MOA for review as per Stipulation VII. The Annual Report shall address issues and describe actions and accomplishments over the past year, including, as applicable:
- status of mitigation activities;
 - any issues that are affecting or may affect the ability of the FDOT to continue to meet the terms of this MOA; and
 - any disputes and objections received, and how they were resolved.
- B. A final document will be prepared to summarize the implementation of the MOA after all stipulations have been fulfilled. This document will be submitted to the FDOT Office of Environmental Management (OEM) and SHPO for their files within six (6) months after completion of all MOA stipulations.

VI. Post Review Discoveries

In accordance with *36 C.F.R. § 800.13*, FDOT will take the following actions if a post-review discovery is made:

- A. If previously unidentified historic properties are discovered, or if the potential to affect previously identified historic properties changes after FDOT has completed their appropriate reviews under this Agreement, but before construction has started, FDOT shall reinitiate consultation under Section 106 and Chapter 267, F.S.
- B. If previously unidentified historic properties are discovered during construction or if unanticipated impacts to known or previously unidentified historic properties occur during construction, the following procedures shall be followed:
1. All construction-related activity in the vicinity of the discovery shall stop and the contractor shall immediately notify the FDOT Project Manager and District Environmental Administrator of the discovery. Necessary security measures will be taken to protect the discovery as appropriate.
 2. FDOT will notify the SHPO of the discovery and invite them to accompany FDOT staff (or consultants) to the location within forty-eight (48) hours of the discovery.
 3. FDOT will immediately notify any Indian tribe that might attach religious and cultural significance to the affected property within forty-eight (48) hours of the discovery.
 4. FDOT shall consult with the SHPO/THPO and appropriate consulting parties to document and evaluate the project effects and the need, if any, for

further investigation within forty-eight (48) hours of the SHPO/THPO receipts of notification.

5. If FDOT determines that the discovery does not warrant further investigation, FDOT will provide written notification to the SHPO outlining FDOT's reasons and requesting their concurrence within two (2) business days of the visit to the discovery location. The SHPO/THPO and Indian tribes will have two (2) business days after receipt to respond. If no comments are received within this period, concurrence will be assumed, and project construction may resume.
6. If FDOT determines that the site warrants further investigation, a scope of work will be developed within forty-eight (48) hours of the site visit. The scope of work will be submitted to the SHPO and, as appropriate, the tribes. The SHPO/THPO and tribes will have two (2) business days after receipt to review and comment. If no comments are received within this period, concurrence will be assumed and work will be implemented in accordance with the scope. If comments are received, FDOT shall take them into account and carry out the scope of work. Upon completion and acceptance of the work, construction may proceed as planned. A report of the investigations will be completed within the time frame established by the scope of work and copies provided to all consulting parties. Should any party object to the proposed work plan or results, FDOT will proceed in accordance with Stipulation IX.
7. When the discovery consists of human remains, graves, or grave-associated artifacts or other properties that federally recognized tribes with ancestral ties to Florida may ascribe with a traditional cultural or religious significance, FDOT-OEM will notify the tribes. FDOT will comply with Section 1.6 of the current version of the FDOT *Standard Specifications for Road and Bridge Construction* and the procedures for inadvertent discovery of human remains contained in Section 872.05, F.S. and Rule 1A-44 of the Florida Administrative Code.

VII. Review Stipulation

Following the submission of any report or other document to any consulting party pursuant to this Agreement, the reviewing party shall have 30 days to respond. If FDOT has received no response to the proposed report, plan, or other document within 30 days following SHPO (and/or whoever else is reviewing) receipt of complete documentation, FDOT will presume concurrence with the plan or document. In cases where there is an objection to one of these submittals, FDOT shall address the objection in accordance with Stipulation IX.

VIII. Professional Qualifications

All architectural history work carried out pursuant to this Agreement shall be conducted by, or under the direct supervision of, a person or persons meeting the Secretary of the Interior's Professional Qualifications Standards for Architectural History (62 FR 33708 – 33723, June 20, 1997) and all archaeological work shall be carried out by, or under the direct supervision of, a person or persons meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology (62 FR 33708 – 33723, June 20, 1997).

IX. Dispute Resolution

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the FDOT's OEM shall consult with such party to resolve the objection. If OEM determines that such objection cannot be resolved, OEM will do the following:

- A. Forward all documentation relevant to the dispute, including FDOT's proposed resolution, to the ACHP. The ACHP shall provide FDOT with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FDOT shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. OEM will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FDOT may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FDOT shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FDOT's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

X. Amendments

This MOA may be amended when such an amendment is agreed to in writing by all signatories to this agreement. Any signatory party to this MOA may request that it be amended, whereupon the signatory parties will consult in accordance with CFR Part 800.6 to consider such an amendment. All parties must signify their acceptance of the proposed changes to the MOA in writing within 30 days of their receipt. This MOA shall only be amended by a written instrument executed by all the parties. The amendment will be effective on the date of signature of the last party to sign the amendment. When no

consensus can be reached, any signatory party may terminate the MOA upon written notification to the other signatories.

XI. Termination

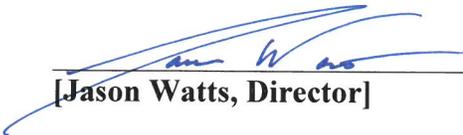
If the terms of this agreement have not been implemented by December 31, 2028, this agreement shall be revisited to determine if it is still applicable. If it is then determined null and void, FDOT shall so notify the parties to this agreement, and if it chooses to continue with the undertaking, shall re-initiate review of the undertaking in accordance with 36 CFR Part 800.

The effective date of this MOA will be the date of the last signature. The signatory parties agree this MOA shall continue in full force until it is amended or terminated, as provided in Stipulations X and XI, respectively.

Execution of this MOA by the FDOT and the SHPO and implementation of its terms provides evidence that the FDOT has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment, and has satisfied the requirements of Section 106 of the National Historic Preservation Act [16 U.S.C. 470(f)], and any amendments thereto.

SIGNATORIES:

Florida Department of Transportation, Office of Environmental Management

 Date: 4/10/18
[Jason Watts, Director]

Florida State Historic Preservation Officer

 Date: 4/24/2018
[Dr. Timothy Parsons]

Florida Department of Transportation, District One

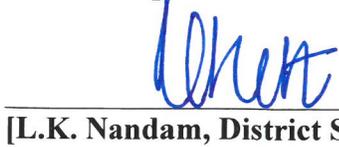
 Date: 01/04/18
[L.K. Nandam, District Secretary]

EXHIBIT A: PREFERRED BRIDGE ALIGNMENT AND PROJECT APE

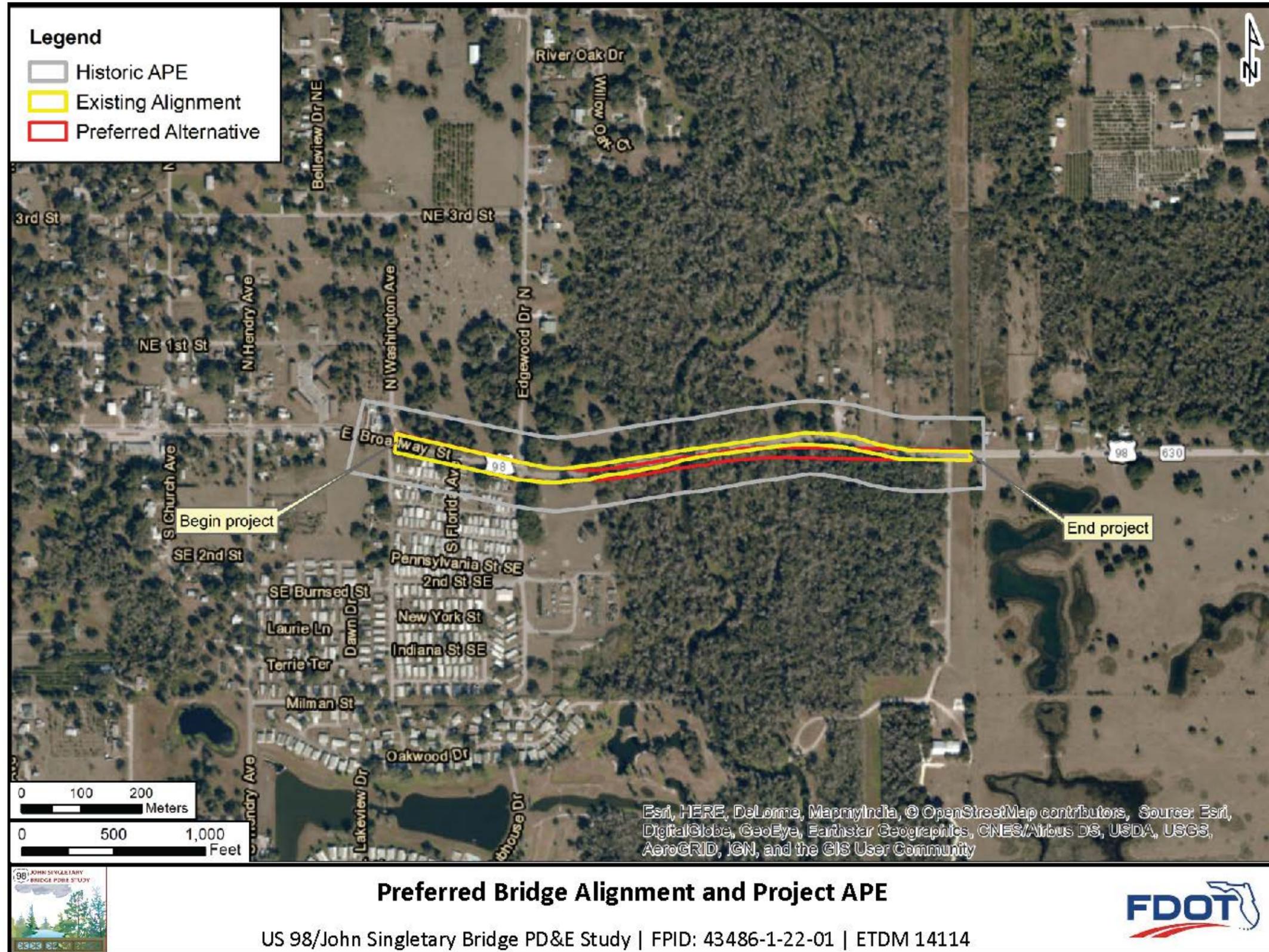
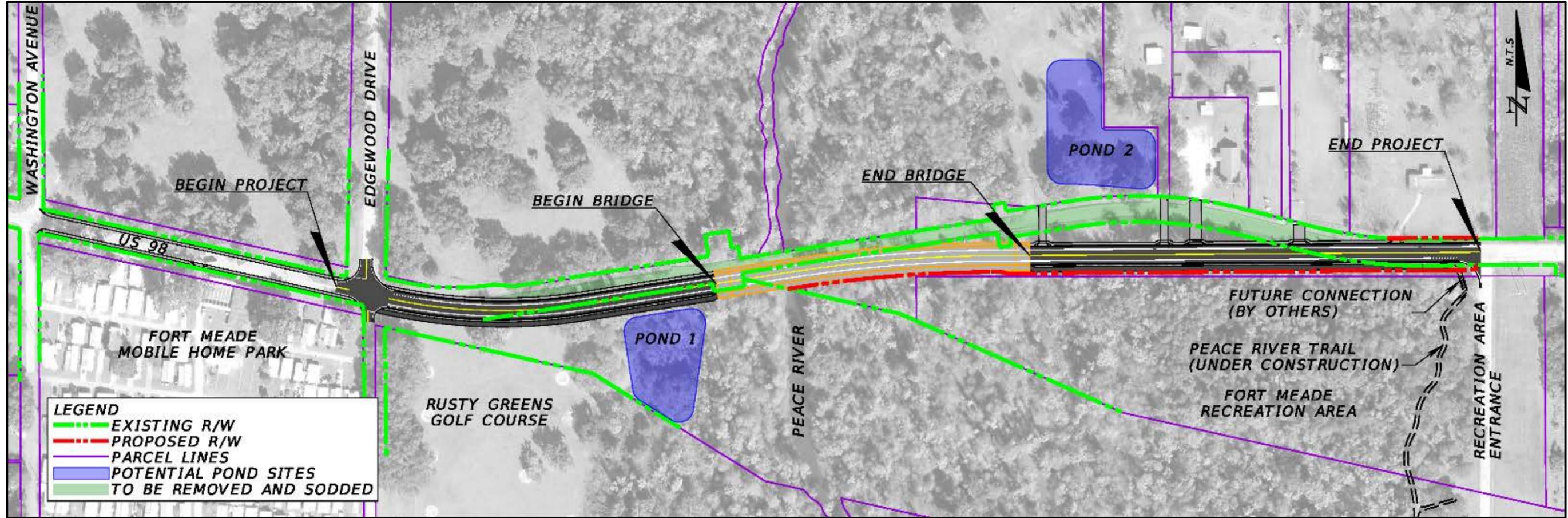
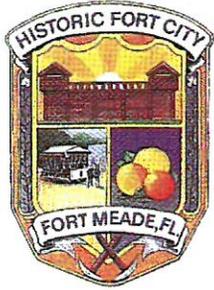


EXHIBIT B: PREFERRED ALTERNATIVE (BUILD ALTERNATIVE 2)



7. Letters with consulting parties



City of Fort Meade

8 West Broadway Avenue • P.O. Box 856
Fort Meade, Florida 33841-0856
863.285.1100 • 863.285.1124
www.cityoffortmeade.com

April 7, 2016

Ms. Mary Cook, P.E.
Project Engineer
SCALAR, Consulting Group, Inc.
4152 W. Blue Heron Boulevard, Suite 119
Riviera Beach, Florida 33404

Re: Singletary Bridge Project (US 98)

Dear Ms. Cook,

The Fort Meade City Commission would like to thank you, Mr. Bill Hartman and Ms. Gwen Pipkin, representing FDOT, at the March 8, 2016 City Commission Meeting to review the options to replace or reuse the John Singletary Bridge.

The City Commission is not willing to take on the maintenance of the existing bridge upon the completion of a new bridge, and prefer option #2 (remove existing bridge and build a new bridge on the south side, straightening out the curve in the road and impacting only 2 parcels) as the new alignment for this structure. Also, relocate the railings and add a plaque for Mr. Singletary to the entrance of the Fort Meade Recreation Park in remembrance of the historic bridge.

On behalf of the Fort Meade City Commission and citizens, I would like to thank you for your assistance with the replacement of this substandard structure.

Sincerely,

Mr. James Watts
City of Fort Meade Mayor

Cc City Commissioners
Mr. Bill Hartman FDOT
Ms. Gwen Pipkin FDOT

Jay M. Jarvis, P.E.
Director

Board of County Commissioners

3000 Sheffield Road
Winter Haven, FL 33880



PHONE: 863-535-2200
FAX: 863-534-7339
www.polk-county.net

ROADS & DRAINAGE DIVISION

May 6, 2016

William A. ("Bill") Hartmann, P.E.
Project Development Manager
Florida Department of Transportation (FDOT) District One (Bartow)
P.O. Box 1249
Bartow, FL 33831

RE: John Singletary Bridge- FPID No. 434886-1

Dear Mr. Hartmann,

County staff met with you and FDOT staff on March 23, 2016 to discuss the above subject project. During that discussion FDOT inquired about the County's interest in maintaining the existing bridge after the project was completed. Staff deferred a response to that inquiry until such time that it could be vetted through the County Manager's Office.

County staff has discussed the above inquiry with the County Manager's Office; and due to current budget constraints and other needs in the County; I am writing this letter to inform the FDOT that the County will NOT be able to maintain the existing bridge.

Please contact me at (863) 535-2200 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jay M. Jarvis", is written over a light blue horizontal line.

Jay M. Jarvis, Director

Cc: William D. Beasley, Deputy County Manager

100 E. Main Street
Bartow, Florida 33830



PHONE: 863-534-4386

FAX: 863-534-4387

www.polkhistorycenter.org

RECEIVED
5/20/2016
WJ

May 19, 2016

Mr. William A. Hartmann, P.E.
Project Development Manager
State of Florida, Department of Transportation
801 North Broadway
Bartow, FL 33830

Dear Bill:

Thank you for meeting with me today to review the John Singletary Bridge Study. As we discussed, the John Singletary Bridge is of significant historical importance to Polk County's early transportation history.

I appreciate the opportunity for input about the project, and look forward to continued discussion about commemorating the history of the Bridge.

Kind regards,

A handwritten signature in cursive script that reads "Myrtice".

Myrtice Young
Historic Preservation Manager



FORT MEADE HISTORICAL SOCIETY

*1 Tecumseh Avenue ** Post Office Box 1021*

Fort Meade, Florida 33841

863-285-7474

To whom it may concern

Re: John Singletary Bridge

Meeting with the Historical Society of fort Meade and the FDOT on July 28 2016.

We were ask to put on paper what we want. Most of the members want something close to the following.

- The old bridge left intact with lighting like it was in the 1930s.
- A parking area at Edgewood Dr.SE and Hwy 98, with a paved drive to the old bridge. The entrance to the bridge to be blocked to vehicle traffic except for golf carts, bicycles and locked openings for services vehicles only.
- East end of bridge the same as West end except connecting paths to the walking trail and the entrance road to the park.
- When presented to the City or Historical Society the old bridge is to be cleaned and repaved.
- Remember this bridge is a very unique and of Historical design.

We understand that one of the problems with keeping the old bridge is no one wants to maintain the old bridge. We believe that someone can work that out if they are willing to save this historic structure.

One idea that was approached was this, and no one had ever heard of such a simple solution as this.

Let's say that it will cost \$1,300,000 to move the old bridge rail and set it up in the park this is an option that the FDOT said that would work. Instead take %75 of that and put it in a mutual fund trust, to have perpetual care of the old bridge. That would make us happy and save the State of Florida \$350,000

Thanks

Don Marchman President

Ray Acuff Vice President

Cc: Aniruddha Gotmare P.E.

Cc: Gwen G. Pipkin

Cc: Marion M. Almy RPA

Cc: Mary Cook



Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

JIM BOXOLD
SECRETARY

October 31, 2016

Don Marchman, President
Roy Acuff, Vice President
Fort Meade Historical Society
1 Tecumseh Avenue
Post Office Box 1021
Fort Meade, FL 33841

**RE: Project Development and Environment (PD&E) Study
US 98/John Singletary Bridge from west of Edgewood Drive to east of the
Fort Meade Recreation Area Entrance, Polk County, Florida
FPID No.: 434886-1-22-01; FAP No.: 1801-006-P**

Dear Mr. Marchman and Mr. Acuff:

The Florida Department of Transportation (FDOT), District One, thanks you for your recent letter (received by email on August 11, 2016) listing your wishes regarding the existing US 98/John Singletary Bridge in Fort Meade. We acknowledge and understand your request to keep the existing bridge once a new bridge is built; however, there are several reasons why the Department cannot at this time commit to maintaining the existing bridge in place.

FDOT has met and consulted with both the City of Ft. Meade and Polk County on the issue of the existing bridge. Both have expressed that their preference is not to keep the bridge in place due to the liability and responsibility for it in the future. This has been relayed to FDOT via official correspondence and at the City Commission.

As for your suggestion of allowing the bridge to remain in place, and putting the mitigation funds in a mutual fund trust account, please note that if the decision was made to allow the bridge to remain in place, there would be no money available for mitigation related to the demolition.

The FDOT, in consultation with the State Historic Preservation Officer (SHPO), is currently evaluating options regarding the disposition of the historic bridge through the Federal Section 106 process. As part of this process, we will continue to include the Fort Meade Historical Society and other interested agencies throughout the PD&E Study and will maintain an ongoing dialog as we discuss the project effects and potential mitigation. We will be scheduling meetings in the near future to discuss these issues.

Don Marchman, President
Ray Acuff, Vice President
US 98/John Singletary Bridge PD&E Study
Polk County, Florida
FPID No.: 434886-1-22-01
October 31, 2016
Page 2 of 2

If you have any questions, or if I may be of assistance, please contact me at (863) 519-2293 or william.hartmann@dot.state.fl.us.

Sincerely,

A handwritten signature in black ink that reads "William A. Hartmann". The signature is written in a cursive style and is underlined.

William A. Hartmann, P.E.
Project Development Manager

cc: Gwen Pipkin, FDOT
Roy Jackson, FDOT OEM
Aniruddha Gotmare, P.E. Scalar
Marion Almy, ACI
Kimberly Warren, RKK
Fred Hilliard, City Manager, City of Fort Meade
Jay M. Jarvis, P.E., Director, Polk County
Myrtice Young, Historic Preservation Manager, Polk Co. Historical Society

Priscilla W. Perry
3975 Old Bowling Green Road
Fort Meade, Florida 33841
863/285-8406
pwp1144@aol.com

August 9, 2016

Mary Cook, Project Manager
SCALAR Consulting Group

RE: John Singletary Bridge
Florida Department of Transportation

TO WHOM IT MAY CONCERN:

As requested, this letter is being presented in favor of salvaging the historic John Singletary Bridge located on US Hwy 98 E.

Realizing all the pros and cons presented and discussed at the July community meeting held at the Historic Society of Fort Meade museum, I would like to add my thoughts for consideration of the Bridge.

1. It is paramount that traffic safety be in place on US Hwy 98 E concerning the layout of the highway.
2. A new bridge to the north of the existing Bridge is preferred.
3. The Bridge is historic to the area and recognized by those with authority to certify it so.
4. The Bridge is unsafe for vehicle traffic. However, the Bridge could be considered as a passive park for foot traffic. An investigation would be necessary to study understructure and safety for such a project.
5. A passive park would also provide a safe walkway across Peace River to the new foot path in the current Fort Meade Recreation Area.
6. All accept that maintenance would not be on the shoulders of FDOT. After canvassing the community in a broader manner, the future could be better mapped out to set up a local trust or approved tax for maintenance. Maintenance is certainly the deciding factor for the future of the Bridge remaining in place.
7. The last option is to remove portions of the Bridge to place at the entrance to the current Fort Meade Recreation Area east of the existing Bridge.



Preserving America's Heritage

November 29, 2017

Ms. Gwen G. Pipkin
Environmental Manager
Florida Department of Transportation
801 North Broadway
Bartow, FL 33830

Ref: *Proposed Replacement of the US 98/John Singletary Bridge over the Peace River
City of Fort Meade, Polk County, Florida*

Dear Ms. Pipkin:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Florida State Historic Preservation Officer (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Ms. MaryAnn Naber at (202) 517-0218 or via email at mnaber@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov