Bridge Analysis Report

Poinciana Parkway Extension (SR 538)
Project Development and Environment Study
From Poinciana Parkway to CR 532
Osceola and Polk Counties, Florida

CFX Project Number: 599-224

Prepared for:

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

JULY 2019

Prepared by:

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

This Bridge Analysis Report has been prepared as part of the Project Development and Environment (PD&E) Study for the proposed roadway improvements for the Poinciana Parkway Extension. The purpose of this report is to document the structural analysis in support of the preferred alternative. The Poinciana Parkway Extension is a tolled expressway improvement project that includes extending Poinciana Parkway, from the northern end of the existing bridge over the Reedy Creek Mitigation Bank to CR 532 (Osceola Polk Line Road). Project regional and location maps are provided on Figures 1 and 2.

The Poinciana Parkway Extension PD&E Study includes an evaluation of alternatives to extend the existing Poinciana Parkway (SR 538) from the existing bridge over the Reedy Creek Mitigation Bank to CR 532. The project is a proposed tolled 4-lane expressway within approximately 330 feet of right-of-way (ROW). This ROW width provides for future expansion for additional lanes and/or other multi-modal travel options if needed in the future. The project also includes interchanges with other county and state roads, bridges over wetlands in the Reedy Creek Mitigation Bank and South Florida Water Management District (SFWMD) owned/managed Upper Lakes Basin Watershed, as well as bridges over local roads and railroads. Stormwater management facilities are also being considered.
Figure 1: Regional Map
Figure 2: Study Area Map
1.2 PURPOSE AND NEED
The Central Florida Expressway Authority (CFX) Board determined that a phased implementation of an expressway connection from Poinciana Parkway to CR 532 was preferred and should be evaluated. As such, the purpose and need for this study retains the context of both a full expressway connection to I-4 as well as an initial phased expressway connection to CR 532.

1.2.1 PURPOSE
The primary purpose of the Poinciana Parkway Extension is to enhance mobility from I-4 to Cypress Parkway, improve overall traffic operations of the existing highway network within the project study area, and expand regional system linkage in Osceola and Polk Counties. The secondary objectives are to provide transportation infrastructure to support economic growth and provide consistency with local plans and policies.

1.2.2 NEED
The need for the project is to provide system linkage, provide regional connectivity and mobility, meet social and economic needs, provide increased transportation capacity, achieve consistency with transportation plans, and provide for multimodal opportunities.

1.2.2.1 SYSTEM LINKAGE
System linkage is defined as linking two or more existing transportation facilities, types of modal facilities, geographic areas, or regional traffic generators. Poinciana Parkway currently links Marigold Avenue, KOA Street, and Cypress Parkway in Poinciana to US 17/92 in Polk County, near the Osceola County line. No direct limited access connection exists between Poinciana Parkway and I-4. Therefore, no direct connection exists between the Poinciana residential area in Osceola and Polk Counties to major employment centers in the Orlando metropolitan area, or from the limited access Poinciana Parkway to the regional freeway/expressway system. The Poinciana Parkway Extension to CR 532 will improve system linkage.

1.2.2.2 REGIONAL CONNECTIVITY AND MOBILITY
Mobility is the movement of people and goods and the ability to meet transportation demands. One of the regional goals is to provide a direct, limited access connection from Poinciana Parkway to I-4 to decrease travel time associated with delays at signalized and unsignalized intersections on the existing local roadway network. Currently, traffic traveling between Poinciana Parkway and I-4 can use Ronald Reagan Parkway and Lake Wilson Road (or Old Lake Wilson Road or Champions Gate Boulevard) to the CR 532 interchange. An alternate route is to use US 17/92 to CR 532 to the CR 532 interchange. However, all routes experience congestion. In addition, the CR 532 interchange with I-4 experiences significant congestion during the morning and afternoon peak periods. While the Poinciana Parkway Extension as part of this study will not connect to I-4, it will be compatible with a future expressway connection to I-4.

In addition, the Poinciana Parkway Extension will improve the connection to I-4 via CR 532, which is planned to be widened. The existing CR 532 interchange is also planned to be improved as part of the I-4 Beyond the Ultimate project (the improvement to the interchange could be implemented prior to the I-4 Beyond the Ultimate project).
1.2.2.3 SOCIAL AND ECONOMIC NEEDS

Osceola County has identified opportunities for growth but, without increased connectivity and sufficient capacity, congestion within the study area will increase and result in a lack of economic opportunities for areas such as Poinciana and Osceola County’s South Lake Toho Master Plan. As part of Osceola County’s growth strategy to discourage urban sprawl by focusing on higher intensity and density development within their Urban Growth Boundary, they identified a system of expressways which generally follow their urban growth boundary. These expressways, which include the Poinciana Parkway Extension and the I-4 Connector, will provide connectivity and capacity to support the County’s economic and social needs.

1.2.2.4 CAPACITY CONSTRAINTS

The construction of Poinciana Parkway, from Cypress Parkway to US 17/92, provided a new alternative route for Poinciana residents traveling to and from the north. However, a direct connection to I-4 is not provided and traffic currently uses various routes (i.e., US 17/92, CR 532, Ronald Reagan Parkway, or Lake Wilson Road) to access I-4 at the CR 532/I-4 interchange. Currently, Lake Wilson Road, from Ronald Reagan Parkway to CR 532, operates over capacity. During the morning peak hour, there is severe congestion on eastbound I-4 (from US 27 to just beyond CR 532), westbound CR 532, eastbound Champions Gate Boulevard, and northbound Lake Wilson Road. There is also congestion on Ronald Reagan Parkway, US 17/92, and northbound Old Lake Wilson Road. During the afternoon peak hour, there is severe congestion on westbound I-4 (from SR 417 to just beyond CR 532), southbound Old Lake Wilson Road, and southbound Lake Wilson Road. There is also congestion on CR 532, Champions Gate Boulevard, Ronald Reagan Parkway, and US 17/92. It is anticipated that the Poinciana Parkway Extension will offer another option for drivers and, therefore, provide congestion relief to local roads.

1.2.2.5 CONSISTENCY WITH TRANSPORTATION PLANS

Osceola County’s Comprehensive Plan includes a transportation system developed to respond to planned growth in the County. The Plan incorporates a vision for an integrated, multimodal transportation network that will meet the needs of the County’s growing population. The Poinciana Parkway Extension is included in the County’s Comprehensive Plan as well as the Osceola County Expressway Authority (OCX) Master Plan 2040 (OCX, 2013) as part of a planned limited access, high-speed toll facility identified to serve Osceola County’s urban growth area. The OCX Master Plan has been adopted into the CFX Master Plan. The MetroPlan Orlando 2040 Long Range Transportation Plan (LRTP) includes the Poinciana Parkway Extension as a new 4-lane facility to be constructed by 2030.

1.2.2.6 MULTIMODAL OPPORTUNITIES

CFX has established a multimodal policy to fund or partner on multimodal initiatives where revenue generated from the investment equals the project cost or where toll user benefits are equal to or exceed the project cost. In addition, Osceola County’s Comprehensive Plan calls for an integrated, multimodal transportation network. Opportunities to provide for multimodal improvements were considered as part of the alternatives developed to address the need and purpose for this project.
1.3 DESIGN SPECIFICATIONS AND METHODOLOGY
This Bridge Analysis Report focuses on evaluating the bridge requirements and feasible bridge types for the preferred alternative, as documented in the Preliminary Engineering Report. Bridge typical sections are based on the typical section for the Poinciana Parkway Extension.

Design standards include:
- Florida Department of Transportation (FDOT) Structures Manual dated January 2017
- FDOT Plans Preparation Manual dated January 2017

The design methodology follows the LRFD Method.

1.4 LOCATION OF STRUCTURES
Figure 3 illustrates a Bridge Key Map for the preferred alternative. Each bridge proposed for this project is numbered sequentially from west to east. Appendix A includes plan and elevation sheets of the proposed bridges.
Figure 3 - Bridge Key Map
2.0 BRIDGES

The project corridor extends from the terminus of the existing Poinciana Parkway to CR 532. A total of 13 bridges are proposed along this corridor. Of the 13 proposed bridges, two of the bridges have long spans and are recommended to be composed of steel plate girder superstructures. The remaining 11 bridges have short or medium spans and are recommended to be composed of prestressed Florida-I or AASHTO Type II concrete beam superstructures. Along the corridor, all but two of the bridges are single span. The two bridges that are multi-span traverse a wetland, so the recommended substructure is intermediate bents founded on driven pile.

Possible foundation types for the bridges along the corridor include 18-inch and 24-inch square prestressed concrete piles, steel H-piles, and steel pipe piles. While large portions of the project are not located around residential or commercial structures, several bridges are within a 1,000-foot radius of these structures. For those bridges, selection of the foundation system should give significant consideration to systems that reduce the potential for vibration and noise impacts. Therefore, low displacement piling, such as steel H-piles and steel pipe piles may be more suitable for bridges within proximity of existing structures. Low displacement piles require lower impact hammer energy levels and thus create lower noise and vibration levels during installation.
2.1 POINCIANA PARKWAY EB OFF-RAMP OVER CSX RAILROAD

Bridge 1 is a single lane ramp structure carrying traffic from eastbound (EB) Poinciana Parkway to US 17/92 over CSX Railroad. A separate mainline structure is located adjacent to this structure with the roadway splitting on the begin approach slab. The mainline bridge and the adjacent ramp bridge will share a single end bent at the beginning of the bridge. The single span, skewed bridge has an approximate required overall length of 116 feet. Based on span length, prestressed concrete Florida-I 45 beams is the recommended beam type for this span.

The proposed bridge width is 29’-8” with one 15-foot lane, a 6-foot median, and a 6-foot outside shoulder. The bridge typical section is displayed on Figure 4.

Figure 4: Bridge 1

Both end bents are anticipated to be pile bents. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.
2.2 POINCIANA PARKWAY EB OVER CSX RAILROAD

Bridge 2 is a two-lane structure carrying EB mainline traffic over CSX Railroad. A separate ramp structure is located adjacent to this structure with the roadway splitting on the begin approach slab. The mainline bridge and the adjacent ramp bridge will share a single end bent at the beginning of the bridge. This skewed bridge has an approximate required overall length of 115 feet and is a single span structure. Based on the span length, prestressed concrete Florida-I-45 beams is the recommended beam type for this span.

The proposed bridge width is 44’-8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 5.

Figure 5: Bridge 2

Both end bents are anticipated to be pile bents. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.
2.3 POINCIANA PARKWAY WB OVER CSX RAILROAD

Bridge 3 is a three-lane structure carrying westbound (WB) mainline traffic and WB ramp traffic from US 17/92 over CSX Railroad. The skewed bridge has an approximate required overall length of 117 feet and is a single span structure. Based on the span length, prestressed concrete Florida-I 45 beams is the recommended beam type for this span.

The proposed bridge width varies from 58’–8 ½” to 60’–10 ½” with three 12-foot lanes, a 6-foot median shoulder, a 12-foot outside shoulder, and a gore that varies from 0’–0” to 1’–0”. The bridge typical section is displayed on Figure 6.

Figure 6: Bridge 3

Both end bents are anticipated to be pile bents. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.
2.4 POINCIANA PARKWAY EB OFF-RAMP OVER OLD TAMPA HIGHWAY

Bridge 4 is a single lane ramp structure carrying traffic from EB Poinciana Parkway to US 17/92. The single span, skewed bridge, has an approximate required overall length of 89 feet. Based on span length, prestressed concrete Florida-I 36 beams is the recommended beam type for this span.

The proposed bridge width is 29’–8” with one 15-foot lane, a 6-foot median, and a 6-foot outside shoulder. The bridge typical section is displayed on Figure 7.

Figure 7: Bridge 4

Both end bents are anticipated to be pile bents. The location of the bridge structure is in close proximity to existing structures; therefore, the use of steel H piles or steel pipe piles is recommended at each bent.
2.5 POINCIANA PARKWAY EB OVER OLD TAMPA HIGHWAY

Bridge 5 is a two-lane structure carrying EB mainline traffic over Old Tampa Highway. This skewed bridge has an approximate required overall length of 88 feet and is a single span structure. Based on the span length, prestressed concrete Florida-I 36 beams is the recommended beam type for this span.

The proposed bridge width is 44’–8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 8.

![Figure 8: Bridge 5](image)

Both end bents are anticipated to be pile bents. The location of the bridge structure is in close proximity to existing structures; therefore, the use of steel H piles or steel pipe piles is recommended at each bent.
2.6 POINCIANA PARKWAY WB OVER OLD TAMPA HIGHWAY

Bridge 6 is a two-lane structure carrying WB mainline traffic over Old Tampa Highway. This skewed bridge has an approximate required overall length of 89 feet and is a single span structure. Based on the span length, prestressed concrete Florida-I 36 beams is the recommended beam type for this span.

The proposed bridge width is 44‘–8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 9.

**Figure 9:** Bridge 6

Both end bents are anticipated to be pile bents. The location of the bridge structure is in close proximity to existing structures; therefore, the use of steel H piles or steel pipe piles is recommended at each bent.
2.7 POINCIANA PARKWAY WB ON-RAMP OVER OLD TAMPA HIGHWAY

Bridge 7 is a single lane ramp structure carrying traffic from US 17/92 to WB Poinciana Parkway. The single span, skewed bridge, has an approximate required overall length of 86 feet. Based on span length, prestressed concrete Florida-I 36 beams is the recommended beam type for this span.

The proposed bridge width is 29’–8” with one 15-foot lane, a 6-foot median, and a 6-foot outside shoulder. The bridge typical section is displayed on **Figure 10**.

**Figure 10: Bridge 7**

Both end bents are anticipated to be pile bents. The location of the bridge structure is in close proximity to existing structures; therefore, the use of steel H piles or steel pipe piles is recommended at each bent.
2.8 POINCIANA PARKWAY EB OVER US 17/92

Bridge 8 is a two-lane structure carrying EB mainline traffic over US 17/92. This curved bridge has an approximate required overall length of 263 feet. To accommodate the future typical section of US 17/92, piers cannot be placed in the median of US 17/92. Based on this constraint, a single span bridge is the recommended span arrangement for this structure. Based on the span length, curved steel plate girders with a depth of 8’–9” is the recommended beam type for this span.

The proposed bridge width is 44’–8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 11.

Figure 11: Bridge 8

Both end bents are anticipated to be pile bents. While the location of the proposed structure is in close proximity to an electric substation, the required pile bearing resistance will be large for this structure; therefore, the use of prestressed concrete piling with vibration monitoring is recommended.
2.9 POINCIANA PARKWAY WB OVER US 17/92

Bridge 9 is a two-lane structure carrying WB mainline traffic over Old Tampa Highway. This curved bridge has an approximate required overall length of 261 feet. To accommodate the future typical section of US 17/92, piers cannot be placed in the median of US 17/92. Based on this constraint, a single span bridge is the recommended span arrangement for this structure. Based on the span length, curved steel plate girders with a depth of 8’–9” is the recommended beam type for this span.

The proposed bridge width is 44’–8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 12.

Figure 12: Bridge 9

Both end bents are anticipated to be pile bents. While the location of the proposed structure is in close proximity to an electric substation, the required pile bearing resistance will be large for this structure; therefore, the use of prestressed concrete piling with vibration monitoring is recommended.
2.10 POINCIANA PARKWAY EB OVER REEDY CREEK MITIGATION BANK AND UPPER LAKES BASIN WATERSHED

Bridge 10 is mainly a two-lane structure carrying EB mainline traffic over wetlands in the Reedy Creek Mitigation Bank and Upper Lakes Basin Watershed. The bridge has an approximate required overall length of 4,504 feet and is comprised of 36 spans. The west end of the bridge is a split structure where an on-ramp from US 17/92 to Poinciana Parkway separates from the mainline. Spans 1 through 9 accommodate the gore and vary in width from 44’–8” to 75’–2” for the mainline section and vary from 29’–8” to 75’–2” along the ramp portion of the bridge. The section is composed of two 12-foot lanes, one 12-foot lane that transitions to a 15-foot lane, a 6-foot median shoulder, and a 12-foot outside shoulder that transitions to a 6-foot outside shoulder. Additionally, as the ramp and mainline separate, an additional 12-foot mainline outside shoulder and a 6-foot ramp median shoulder are provided. Spans 10 through 12 are a 56’–8” wide, three-lane structure with three 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. Spans 13 through 15 transition from a three-lane to a two-lane structure and vary in width from 44’–8” to 56’–8” with a 6-foot median shoulder, two 12-foot lanes, one 12-foot lane that transitions to 0’–0” and a 12-foot outside shoulder. Spans 16 through 36 are a 44’–8” wide, two-lane structure with a 6-foot median shoulder, two 12-foot lanes, and a 12-foot outside shoulder. The first 15 spans vary in length from 95 feet to 128 feet. Spans 16 through 36 are a constant length of 125’–10”. Based on the span length, the recommended beam type for Span 1 along the mainline is prestressed concrete Florida-I 36” beams. For Spans 2 through 36 along the mainline and Span 1 along the ramp, based on span length, the recommended beam type is prestressed concrete Florida-I 54” beams. Since the structure is not accessible by the public, aesthetics are not a priority. At the intermediate bent where the beam depth changes, a screen-wall can be constructed to shield the beam depth from view. The bridge typical sections are displayed on Figures 13-15.
Figure 13: Bridge 10, Spans 1-9 (Spans 1-4 Shown, Spans 5-9 Similar)

Figure 14: Bridge 10, Spans 10-15 (Span 11 shown, Span 10 and Spans 12-15 similar)
The end bents and intermediate piers are anticipated to be pile bents. This substructure alternative is the least disruptive to the mitigation bank. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.

To minimize impacts to the mitigation bank, the recommended span type facilitates top down construction methodology. The first span is constructed from embankment, and each subsequent span is constructed from a previously constructed span.
2.11 POINCIANA PARKWAY WB OVER REEDY CREEK MITIGATION BANK AND UPPER LAKES BASIN WATERSHED

Bridge 11 is mainly a two-lane structure carrying WB mainline traffic over wetlands in the Reedy Creek Mitigation Bank and Upper Lakes Basin Watershed. The bridge has an approximate required overall length of 4,469 feet and is comprised of 36 spans. The west end of the bridge is a split structure where an off-ramp from WB Poinciana Parkway to US 17/92 separates from the mainline. Spans 1 through 5 accommodate the gore and vary in width from 44’–8” to 75’–3” for the mainline section and vary from 29’–8” to 75’–3” along the ramp portion of the bridge. The section is composed of two 12-foot lanes, one 12-foot lane that transitions to a 15-foot lane, a 6-foot median shoulder, and a 12-foot outside shoulder that transitions to a 6-foot outside shoulder. Additionally, as the ramp and mainline separate, an additional 12-foot mainline outside shoulder and a 6-foot ramp median shoulder are provided. Spans 6 through 9 are a 56’–8” wide, three-lane structure with three 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. Spans 10 through 12 transition from a three-lane to a two-lane structure and vary in width from 44’–8” to 56’–8” with a 6-foot median shoulder, two 12-foot lanes, one 12-foot lane that transitions to 0’–0” and a 10-foot outside shoulder. Spans 13 through 36 are a 44’–8” wide, two-lane structure with a 6-foot median shoulder, two 12-foot lanes, and a 12-foot outside shoulder. The first 15 spans vary in length from 86 feet to 127 feet. Spans 16 through 36 are a constant length of 125’–10”. Based on the span length the recommended beam type for Spans 1 and 2 is prestressed concrete Florida-I 36” beams. For Spans 3 through 36, based on span length, the recommended beam type is prestressed concrete Florida-I 54” beams. Since the structure is not accessible by the public, aesthetics are not a priority. At the intermediate bent where the beam depth changes, a screen-wall can be constructed to shield the beam depth change from view. The bridge typical sections are displayed on Figures 16-18.
Figure 16: Bridge 11, Spans 1-5 (Spans 1-2 Shown, Spans 3-5 Similar)

Figure 17: Bridge 11, Spans 6-12 (Span 6-9 shown, spans 10-12 similar)
The end bents and intermediate piers are anticipated to be pile bents. This substructure alternative is the least disruptive to the surrounding area. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.

To minimize impacts to the wetlands, the recommended span type facilitates top down construction methodology. The first span is constructed from embankment, and each subsequent span is constructed from a previously constructed span.
2.12 POINCIANA PARKWAY EB OVER REEDY CREEK MITIGATION BANK ACCESS ROAD (DELMAR LANE)

Bridge 12 is a two-lane structure carrying EB mainline traffic over Reedy Creek Mitigation Bank Access Road (Delmar Lane). This skewed bridge has an approximate required overall length of 52 feet and is a single span structure. Based on the span length, prestressed concrete AASHTO Type II beams is the recommended beam type for this span.

The proposed bridge width is 44’–8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 19.

![Figure 19: Bridge 12](image)

Both end bents are anticipated to be pile bents. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.
2.13 POINCIANA PARKWAY WB OVER REEDY CREEK MITIGATION BANK ACCESS ROAD (DELMAR LANE)

Bridge 13 is a two-lane structure carrying WB mainline traffic over Reedy Creek Mitigation Bank Access Road (Delmar Lane). This skewed bridge has an approximate required overall length of 52 feet and is a single span structure. Based on the span length, prestressed concrete AASHTO Type II beams is the recommended beam type for this span.

The proposed bridge width is 44’-8” with two 12-foot lanes, a 6-foot median shoulder, and a 12-foot outside shoulder. The bridge typical section is displayed on Figure 20.

Figure 20: Bridge 13

Both end bents are anticipated to be pile bents. The location of the bridge structure is not in close proximity to existing structures; therefore, the use of prestressed concrete piling is recommended.

3.0 STRUCTURES SUMMARY AND COST ESTIMATE

The cost estimate for bridge structures is presented herein. The estimated project total bridge cost is $61,437,941. The details of the cost estimate are provided in Table 1.
### Table 1: Bridge Structures Cost Estimate

<table>
<thead>
<tr>
<th>Bridge No.</th>
<th>Bridge Location/Description</th>
<th>Possible Superstructure</th>
<th>Anticipated Type</th>
<th>Min. CL (ft)</th>
<th>Max. Span Length (ft)</th>
<th>Approximate Depth (ft)</th>
<th>Substructure Anticipated Type</th>
<th>No. of Spans</th>
<th>Bridge Length (ft)</th>
<th>Average Bridge Width (ft)</th>
<th>Deck Area (SF)</th>
<th>$/SF</th>
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<td>86</td>
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<td>Steel Plate Girders</td>
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<td>4,523</td>
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<td>7.75</td>
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<td>4,645</td>
<td>312</td>
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<td>10</td>
<td>Poinciana Parkway EB over Reedy Creek Mitigation Bank and Upper Lakes Basin Watershed</td>
<td>AASHTO Prestressed Concrete Beams &amp; Prestressed Concrete Florida-I Beams</td>
<td>N/A</td>
<td>127</td>
<td>4.50</td>
<td>4,500</td>
<td>232,515</td>
<td>36</td>
<td>4,500</td>
<td>118</td>
<td></td>
<td></td>
<td>$27,436,770.00</td>
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<td>11</td>
<td>Poinciana Parkway WB over Reedy Creek Mitigation Bank and Upper Lakes Basin Watershed</td>
<td>AASHTO Prestressed Concrete Beams &amp; Prestressed Concrete Florida-I Beams</td>
<td>N/A</td>
<td>127</td>
<td>4.50</td>
<td>4,534</td>
<td>219,645</td>
<td>36</td>
<td>4,534</td>
<td>118</td>
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<td>$25,918,110.00</td>
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<td>12</td>
<td>Poinciana Parkway EB over Reedy Creek Mitigation Bank Access Road (Delmar Lane)</td>
<td>AASHTO Prestressed Concrete Beams</td>
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<td>52</td>
<td>3.00</td>
<td>52</td>
<td>2,323</td>
<td>1</td>
<td>52</td>
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<td>13</td>
<td>Poinciana Parkway WB over Reedy Creek Mitigation Bank Access Road (Delmar Lane)</td>
<td>AASHTO Prestressed Concrete Beams</td>
<td>N/A</td>
<td>52</td>
<td>3.00</td>
<td>52</td>
<td>2,323</td>
<td>1</td>
<td>52</td>
<td>118</td>
<td></td>
<td></td>
<td>$274,114.00</td>
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Note: Bridge lengths have been rounded up for estimation purposes and may not match the Plan Sheets and Typical Sections.

Total Estimated Bridge Cost = $61,437,941.00
Total Bridge Area (SF) = 508,862
Average Cost/SF = $120.74
APPENDIX A

Plan and Elevation Sheets
BRIDGE NO. 7

**PLAN**

- Begin Approach Slab STA 528+49.40
- Begin Bridge FFBW End Bent 1 STA 528+81.92
- Old Tampa Highway STA 528+81.92
- Ramp A2A
- End Bridge FFBW End Bent 2 STA 529+67.54
- STA 529+67.54 FFBW End Bent 2 End Bridge
- STA 530+00.01

**ELEVATION**

- Top of Barrier
- Top of Deck
- Old Tampa Hwy.
- Approach Slab
- STA 528+81.92 FFBW End Bent 1 Begin Bridge
- STA 529+67.54 FFBW End Bent 2 End Bridge
- 30'-0" (Measured Along Const. Poinciana Parkway)
- 27'-6" Min. Horiz. CLR
- 6'-0" (MEASURED ALONG Const. POINCIANA PARKWAY)
- 5'-0"
- 22'-6" Min. Vert. CLR
- 16'-6" Min.
- 27'-0" Min.
- 22'-6" Min.
- 67'-18"47'
- EXISTING GROUND
- 29'-8"'
- 2'-4"
- 27'-9"'
- 2'-6"
- 15'-6"
- 15'-0"
- 6'-0"
- 1'-4"
- 1'-5"
- STA 528+81.92 FFBW End Bent 1 Begin Bridge
- STA 529+67.54 FFBW End Bent 2 End Bridge
- 30'-0"
NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
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NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 10 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
4,468' 11" (OVERALL BRIDGE LENGTH) (MEASURED ALONG \textit{\textsuperscript{\textdegree} CONST. POINCIANA PARKWAY})

<table>
<thead>
<tr>
<th>PLAN</th>
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<tbody>
<tr>
<td>\textbf{Approach Slab}</td>
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<tr>
<td>\textbf{Top of Barrier}</td>
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<tr>
<td>\textbf{Top of Deck}</td>
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<tr>
<th>ELEVATION</th>
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<tbody>
<tr>
<td>\textbf{Bridge 11}</td>
</tr>
<tr>
<td>\textbf{(Elevation Along Mainline Bridge Right Coping)}</td>
</tr>
</tbody>
</table>

<table>
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<tr>
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<td>DEPARTMENT OF TRANSPORTATION</td>
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<tr>
<td>BRIDGE 11 - PLAN AND ELEVATION (1 OF 10)</td>
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\textit{\textsuperscript{\textdegree}} DEPARTMENT OF TRANSPORTATION
\textit{\textsuperscript{\textdegree}} STATE OF FLORIDA

4,468' 11" (OVERALL BRIDGE LENGTH) (MEASURED ALONG \textit{\textsuperscript{\textdegree} CONST. POINCIANA PARKWAY})

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<td>\textbf{Top of Barrier}</td>
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\textit{\textsuperscript{\textdegree}} DEPARTMENT OF TRANSPORTATION
\textit{\textsuperscript{\textdegree}} STATE OF FLORIDA
PLAN

4,468'-11" (OVERALL BRIDGE LENGTH) (MEASURED ALONG § CONST. POINCIANA PARKWAY)

ELEVATION
BRIDGE 11

(ELEVATION ALONG MAINLINE BRIDGE RIGN COPING)

NOTE: ELEVATION FOR SPANS (4-6) SHOWN, SPANS (7-35) SIMILAR

BRIDGE NO. 11

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 11 - PLAN AND ELEVATION (2 OF 10)
NOTE: SEE SHEET BRIDGE 11 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 11 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
NOTE: SEE SHEET BRIDGE 11 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
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NOTE: SEE SHEET BRIDGE 11 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.
PLAN

NOTE: SEE SHEET BRIDGE 11 - PLAN AND ELEVATION (2 OF 10) FOR ELEVATION VIEW.

BRIDGE NO. 11
BRIDGE NO. 11

PLAN

4.468'-11" (OVERALL BRIDGE LENGTH)
(MEASURED ALONG \& CONST. POINCIANA PARKWAY)

END BRIDGE
FFBW END BENT 37
STA. 148+89.73

TOP OF DECK
FIB 54

TOP OF BARRIER
FIB 54

TOP OF LEVELING PAD

EXISTING GROUND

4.468'-11" (OVERALL BRIDGE LENGTH)
(MEASURED ALONG \& CONST. POINCIANA PARKWAY)

END BRIDGE
FFBW END BENT 37
STA. 148+89.73

90°0'0"
46'-8"
6'-0"
12'-0"
12'-0"
12'-0"
1'-4"
1'-4"
30'-0"

END APPROACH SLAB
STA. 149+19.73

148+89.73
FFBW END BENT 37
END BRIDGE

END APPROACH SLAB
STA. 149+19.73

148+89.73
FFBW END BENT 37
END BRIDGE

90°0'0"
46'-8"
6'-0"
12'-0"
12'-0"
12'-0"
1'-4"
1'-4"
30'-0"

90°0'0"
46'-8"
6'-0"
12'-0"
12'-0"
12'-0"
1'-4"
1'-4"
30'-0"

Direction of Stationing

REVISIONS

DATE

BY

DESCRIPTION

DATE

BY

DESCRIPTION

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DEPARTMENT OF TRANSPORTATION
STATE OF FLORIDA
Bridge No. 13

**Plan**

- **Begin Bridge**:
  - STA. 156+24.23
  - FFBW End Bent 1
  - STA. 156+24.23

- **End Bridge**:
  - STA. 157+07.12
  - FFBW End Bent 2
  - STA. 157+07.12

**Elevation**

- **Top of Leveling Pad**
- **Existing Ground**
- **ASHTO Type II**
- **10'-6" Min. Vert.Clr.**
- **17'-0"**
- **17'-0" Min. Horiz.Clr.**

**Notations**

- **BEGIN APPROACH SLAB**
  - STA. 155+02.87

- **CLEAR ZONE WIDTH**: 12 ft
- **DESIGN SPEED**: 30 mph
- **DELMAR LANE**: 25 mph

- **MIN. HORIZ. CLR.**
- **MIN. VERT. CLR.**

**Revisions**

- **DATE**: 7/15/2019
- **TIME**: 10:45:14 AM
- **PROJ. NO.**: K:\ORL_TPTO\149800001___PPE PD&E\CADD\struct\B1PlanElev01_13.dgn

**State of Florida**

Department of Transportation

**Bridge 13 - Plan and Elevation**