

**February 2026**



**Florida Department of Transportation – District One**

# **Technical Scope and LRE**

**Technical Scope, Scope Analysis for Social and Environmental  
Issues, and Long Range Estimate (LRE) for**

**FPID 456237-1-52-01**

**(SR 45 (US 41) from 10<sup>th</sup> St. W. to 17<sup>th</sup> St. W./Memphis Road**

**Manatee County, Florida**



**Candidate Project RRR Scope**

February 9, 2026

To: Lavenia Toole, PE  
 From: Felicia Pannell, PE

**RE: SR 45 (US 41) from 10<sup>th</sup> St. W. to 17<sup>th</sup> St. W./Memphis Rd. TECHNICAL SCOPE**

State Road Number: SR 45  
 Section Number: 13010000, 13010001, 13020000, 13030000  
 County: Manatee County  
 Project Limits: US 41/USB 41 (SR 45) from 10<sup>th</sup> St. W. to 17th St. W./Memphis Rd.  
 Begin MP/End MP: 0.000 to 1.379 (13010001),  
 8.878 to 9.498 (13010000),  
 0.000 to 0.508 (13030000),  
 0.000 to 0.573 (SR 43/US 301 - 13020000)  
 Section Equation: 7.552 (13010000) = 0.000 (13010001), 1.379 (13010001) = 8.878 (13010000),  
 9.498 (13010000) = 0.000 (13030000) = 0.000 (13020000)  
 Project Length: 3.080 miles  
 FPID No.: 456237-1  
 Work Mix: 0012 (Resurfacing)  
 Criteria: Current Manuals and Design Standards for 25/26

1. Existing R/W Map Project Numbers:	13010-2518(1980), 13010-2521 (1980), 1301 (1948), 13010-2531 (1987/1994), 13010-2524(1987), 1302-519(1930), 1313-103(1956)
2. Old Construction Project Numbers:	195977-1 (1998) Recon MP 9.022-9.483 13010 195895-1 (1965) Recon MP 0.000-9.498 13010 195878-1 (1978) Signals MP 6.500-9.300 13010 435349-1 (2018) Bike Path/Trail MP 0.482-1.235 13010001 435038-2 (2022) Bridge Rehab MP 0.480-1.204 13010001 196069-1 RRR (2000) MP 0.019-3.901 13020 421740-1 Traffic OPs (2007) MP 0.009-0.105 13020 429094-1 (2013) POP MP9.378-9.498_0.000-0.483(13030) 195906-1 (1995) Landscape MP 0.000-9.782 13030 436682-1 (2019) Rail Safety Project MP 0.108-0.573 13020
3. Adjacent Projects:	Off RCI-MP 7.552-8.878 (Realigned to 13010001 MP 0.000-1.379) 451024-1 (dropped) MP 0.015-0.573 13020 - covered under 436682-1 451025-1 RRR (2028) MP 6.298-7.552 13010 (no scope yet) 438062-1 RRR (2019) MP 0.573-3.855 13020

	447379-1 US 41 RRR (2024); 429094-1 (2013) POP MP9.378-9.498 (13010), 0.000-0.483 (13030) 195902-1 (2004) Recon MP 0-9.782 13030 195902-2 (2004) RRR MP 0.508-1.830 13030
4. Proposed projects within the same limits (such as safety, sidewalk or drainage projects):	444904-1 (2027) Safety MP 0.041-0.229
5. Additional R/W Required?	No
6. Level of Community Awareness Plan:	Level 1
7. Are there any bridges within the limits?	Yes; BR #130132 (MP 0.480 to MP 1.204)
8. Are there any RR Crossings within the project limits or in the vicinity?	Yes; RR# 624725-C Crossing, RR# 624614-K
9. Are there any Airports within 5-miles?	No
10. Storm Water Management Jurisdiction:	Southwest Florida WMD
11. AADT (ESAL Data):	40,200 AADT (2025); Truck % = 5.4
12. Are there any old houses or buildings adjacent to the project?	No
13. Number of Existing Utilities:	12 Utilities: Advanced Cable Communications - CATV; Charter - CATV; City of Bradenton – Sewer, Water; City of Palmetto - Sewer, Water; Crown Castle - Fiber; Florida P&L - Electric; Frontier – CATV, Comm Lines; Manatee County – Traffic Lights/Signals, Reclaimed Water, Sewer, Water; MCI -Comm Lines, Fiber; Teco – Gas; Unit - Fiber; Verizon Wireless - Fiber; Zayo Group - Fiber
14. Preliminary MOT Consideration: (Construction Office will supply this)	Construction: Medium level for TTCP. TSM&O: Determined <b>significant</b> based on peak volume and network reliability.
15. Posted/Design/Target Speed Limits	<u>Design Speed =</u> 13010001 35 MPH (MP 0.000 to MP 0.486) 45 MPH (MP 0.486 to MP 1.285) 35 MPH (MP 1.285 to MP 1.379) 13010000: 35 MPH (MP 8.878 to MP 9.498) 13030000: 40 MPH (MP 0.000 to MP 0.508) 13020000: 40 MPH (MP 0.000 to MP 0.573) – SR 43  <u>Target/Posted Speed =</u> 13010001 35 MPH (MP 0.000 to MP 0.486) 45 MPH (MP 0.486 to MP 1.285) 35 MPH (MP 1.285 to MP 1.379) 13010000: 30 MPH (MP 8.878 to MP 9.498) 13030000 30 MPH (MP 0.000 to MP 0.054) 35 MPH (MP 0.054 to MP 0.508)

	13020000 35 MPH (MP 0.000 to MP 0.256) – SR 43 40 MPH (MP 0.256 to MP 0.573) – SR 43
16. SIS Facility? / Context Classification:	No/C4 and C5
17. Access Classification:	7 – BOTH MEDIAN TYPES
18. Resilient Modulus:	26,000 (13010001/13010000)
19. Smoothness Class (To be included on Typical Section Sheets in Design Plans):	Not available currently.
20. List Non-ADA Compliant Curb Ramps Identified by Safety: (All ADA items should be evaluated during design when the field review is conducted).	No RSA and no documented issues currently.
21. Safety Top 20:	Yes
22. State Materials Review for Pav't Design	Yes, concurrence 7/30/25. (See <b>Pav't Description</b> section for further detail)

The purpose of candidate project scope is to support the development of a long-range estimate (LRE) within the 5-year work program. There are a significant amount of planning assumptions made in order to develop and process the LRE. The district design project manager and engineer are responsible for verifying all items in the scope and shall review the project for conformance with all applicable criteria and standards.

**Project Location Map:**



**Project limits:**

The proposed limits of the project begin on USB 41/SR 45 from 10<sup>th</sup> St. W at MP 7.552 (13010000)/MP 0.000 (13010001) and proceeds north to Riverside Dr. at MP 1.379 (13010001)/ MP 8.878 (13010000) for 1.379 miles and continues north past SR 43/10<sup>th</sup> St. W MP 9.498 (13010000) for a total of 2.507 miles. In addition, a segment of the project is along SR 43 (US 301) from USB41/SR 45 at MP 0.000 to turnout at MP 0.573.

**Project Description:**

- This is a RRR project with milling and resurfacing of the existing roadway mainline and any side street connections. Other improvements include
  - Adding crosswalks at the approaches of the signalized intersections where crosswalk do not exists,
  - Reconstructing ramps that are not ADA compliant, and separate curb ramps/crosswalks where viable,
  - Replacing the guardrail, end anchorage, and guardrail transition to rigid barrier along the northbound approaches of the Green Bridge (bridge No. 130132) if needed to meet current FDM and Standard Plans height and design standards,

- Adding where missing and separation of pedestrian buttons on all corners of the signalized intersections,
- Adding left turn phasing/split phasing and lead pedestrian interval at the signalized intersections,
- Update 8 signals for FDM requirements and partial replacement of signal at Manatee Ave due to it being 4 bolts with additional loading for protecting the pedestrians at the right turn and left turn movements,
- Improving the lighting for FDM requirements and at all the signalized intersections when crosswalks being added,
- Updating the bus stop locations with boarding and alignment pads if needed,
- Updating signing and marking at railroad crossing RR# 624725-C Crossing and RR# 624614-K
- Please reference Approved Typical Section Package (TSP) for lane configurations.
- The speed meeting was held on 3/26/25. Keep posted speed as is project target = posted speed.
- The context meeting was held on 4/25/25.
  - Typical 5 (MP 0.105 to MP 0.440 – 13020) the mainline and turn lanes were reduced to 10-ft and 11-ft to provide for 6-ft buffered bike lane.
  - Bridge typical – reduce northbound mainline lanes to 11-ft and increase the outside shoulder from 10-ft to 12-ft. Concern for ghost stripe showing thru with lanes shifted. Requested to contact bridge maintenance to ask for a way to avoid ghost stripe in lane shift.
  - 4/25/25 - email sent to Daniel Buidens to ask questions for shifting lane lines on the bridge. Deck sealer requested from bridge maintenance.
  - 4/30/25 – Approved via email. Make outside shoulder 12' on the bridge. The 2' gained from the 12' lane changing to 11' goes into the outside shoulder.

**Roadway Scope Items:**

- This proposed SR 45 (USB 41) RRR project segment was milled and resurfaced in 2005 within the same begin project limit to the begin bridge # 130132 for the existing typical section under FPID 406754-1-52-01. The SR 45 (USB 41) segment from south of 4<sup>th</sup> St. W. to north of 9<sup>th</sup> St. W. was reconstructed in 1998 to the current typical section under FPID 195977-1-52-01 while the segment from north of 9<sup>th</sup> St. W. to south of 17<sup>th</sup> St. W. (proposed end project limit) was milled and resurfaced under FPID 429094-1-52-01 in 2014.
- The proposed SR 43 (10<sup>th</sup> St. W.) RRR project segment was milled and resurfaced in 2001 within the limits included in this project from SR 45 (USB 41) to the SR 55 (US 301) ramps 13130001 and 13130002.
- The typical section in the as-built plans also calls for the cross slope to match existing. Design should re-evaluate cross slopes and superelevation during the plans preparation period to determine if corrections will be required.
- There will not be any contingency in the LRE budget for any of the concrete items (curb and gutter, sidewalk, separators, etc.). Design will need to evaluate those items (for any repairs or not being ADA compliant) and present the list of items to Kevin Ingle for approval. Once approved, then design will look for funding.
- The RSA recommends increasing the radius at the NE corner of Siesta Drive. Vehicles appear to be driving over the curb at this location. Due to the limited ROW and the gutter being paved, it appears that a 25-ft radius from the face of curb with ramps can be constructed without relocating the existing mast arm in place. This should be evaluated during the design phase. The LRE will

include a cost for this recommendation. The curb return at the NE corner of Siesta Drive will also need to be reconstructed to alleviate the ponding.

**Pavement Description:**

Mainline Milling and Resurfacing:

- For budget purposes, the LRE assumes mainline through lanes, crossovers, turn lanes, SR 55 (US 19) ramp connections, and the major side street turnouts at SR 64 and SR 43 throughout the project limits be milled 3 ½” and resurfaced with 2” SP 12.5 (Traffic C, PG 76-22) and 1 ½” FC-12.5 (Traffic C, PG 76-22).
- The State Material Office has reviewed the LRE pavement design 7/30/25 and has noted that design considers that PG76-22 is not needed for SP layer.

Side Street Milling and Resurfacing:

- There are 38 existing asphalt side streets (excluding the major side streets described in the above) shown on the Straight-Line Diagram. For budget purposes, the side streets are recommended to be milled 1½" and resurfaced with 1½" SP-12.5 (Traffic C, PG 76-22).
- In accordance with the FDM Chapter 214 and the Standard Plans Index 330-001, it is recommended that all side streets be resurfaced to the back of the furthest return, right of way, or existing pavement joint, whichever is greater.

**Keyhole Widening:**

Location	Existing keyhole? (Yes or No)	Recommend adding keyhole? (Yes or No)
SB right turn lane at 8 <sup>th</sup> Avenue W.	No	No
SB right turn lane at SR 64 (Manatee Ave)	NO	No

Note: A keyhole is required in accordance with the FDM Chapter 223.1, section 223.2.1.3. However, there are no existing bicycle lanes along the roadway, and the existing R/W for this roadway is very constrained. For these reasons, widening for keyhole lanes is not recommended. A design variation will be required for the right turn lanes to remain with no keyhole.

**Roadway Guardrail:**

- Design needs to evaluate if replacement of the existing guardrail, end anchorage, and guardrail transition to rigid barrier along the northbound approaches of either end of the Green Bridge (bridge No. 130132) is needed to meet current FDM and Standard Plans height and design standards. For budget purposes, the LRE includes replacement of 198-ft of guardrail and end anchorages/connectors.

**Horizontal Curves/Superelevation:**

- Based on the available as-built plans and SLD information there are two horizontal curves along SR 45 (USB 41), both of which are normal crown superelevation. The first curve is within the Green Bridge 130132 limits along the south end while the second curve is within the roadway approach section north of the end bridge limit. There is also one very flat and two reverse horizontal curves along SR 43 (10<sup>th</sup> St. W) all of which are normal crown superelevation east of 3<sup>rd</sup> Ave. W. and in the vicinity of the SR 55 (US 19/US 301) ramp connections. It is recommended that the design engineer analyze curve data superelevation rates based on the actual field survey to verify minimum criteria is met. A design variation may be required if superelevation is found to not meet criteria and cannot be corrected.

Curve No.	DS	SLD PC MP	SLD PT MP	Degree of Curvature/ Deflection Angle	As-built Radius (ft)	As-built SE (e)	SLD SE (e)	FDM SE (e)
1 (Listed on SLD & As-Builts) (SR -45)	45 mph	0.544	0.760	1°00'00" (AB) △ =11°24'17" LT 1°00'00" (SLD) △ =11°24'17" LT	5729.58	0.020	N/A	NC
2 (Listed on SLD & As-Builts) (SR 45)	45 mph	1.246	1.333	2°00'00" (AB) △ =10°28'43" RT 1°00'00" (SLD) △ =9°14'40" RT	2864.79	0.020	N/A	NC
3 (Listed on As-Builts) (SR 43)	40 mph	0.300	0.376	0°45'50" (AB) △ =3°5'41" RT	7500.00	N/A	N/A	NC
4 (Listed on SLD & As-Builts) (SR 43)	40 mph	0.403	0.477	2°34'47" (AB) △ =7°10'31" LT 2°26'00" (SLD) △ =9°35'00" LT	2221.00	N/A	N/A	NC
5 (Listed on SLD & As-Builts) (SR 43)	40 mph	0.477	0.565	1°02'30" (AB) △ =1°14'59" RT 1°02'00" (SLD) △ =4°49'00" RT	5500.00	N/A	N/A	NC

**Access Management Scope Items:**

- Median changes and evaluation were requested by Access management but it was agreed in the 9/08/25 Technical Review Meeting that this is not the highest priority corridor from the Safety evaluation so those will not be included in tis project.

**Multi-Modal transportation Scope Items:**

- There are no bicycle lane facilities/keyholes within the project SR 45 (US 41) limits. There are limited bicycle lane facilities and no right turn lanes along SR 43 (10<sup>th</sup> Street W) from 6<sup>th</sup> Avenue W. east to the end project limits.
- There are several transit stops within the project limits. Transit has requested to provide boarding and alighting pads at existing transit stops where they do not exist. For budget purposes, the LRE assumes all transit stops to have boarding pads.
- Transit has indicated these are the routes for this project: Route 1/Route 13/Route 201/Route 203.

**Design Variation/Exception:**

- A design variation will be required for:
  - A TWLTL width along SR 43 less than 12-ft at 40 mph per Table 210.2.1 of the FDM.
  - A lane width less than 11-ft at 40 mph per Table 210.2.1 of the FDM.
  - No bicycle facility/keyhole per Section 223 of the FDM.

- Possible design variations may be needed for cross slope correction and superelevation if the survey determines that the criteria is not met.
- A possible variation may be needed for not replacing the overhead signs due to reflectivity (*4P still needs a discussion with Kevin on this one*)

**Drainage Scope Items:**

- Coordinate with maintenance to assist with determining drainage items that need to be included in the construction plans. Maintenance is currently assessing the drainage inlets to determine if depressions are normal wear or if there are underlying issues
  - Manatee Ops has indicated that along Business 41 from the north side of the Green Bridge to 17th St. there are multiple depressions near inlets and manholes throughout these limits. Depression is both north and southbound across from Popis (829 8th Ave W.), a depression SB in front of CVS south of 10th St. West, and another in front of the Old Salt Marine @ 4th St. West.



- There are no other apparent drainage issues; however, include a rainy-day visit to determine whether drainage facilities are functioning correctly and provide positive drainage.

**Permitting**

- This project is anticipated to be exempt from WMD permitting under FAC 62-330.051 (4)(c), as it is limited to pavement resurfacing and safety modifications. A permit exemption request will be needed.

**SUE Items:**

- SUE is anticipated for new signal or lighting foundations.

**Signing Scope Items:**

- All existing signing should be evaluated for possible replacement to ensure signs meet current design criteria for size, placement, and reflectivity. See FDOT Standard Plans, FDOT Design Manual (FDM), Traffic Engineering Manual (TEM), and/or Manual on Uniform Traffic Control Devices (MUTCD) for guidelines.
- There are two existing two-post signs along with twelve cantilever ground-mount signs. All should be evaluated for possible replacement.

**Pavement Marking Scope Items:**

- Replace existing Railroad Dynamic Envelope markings as needed at two crossings within the project.

**Signalization Scope Items:**

Signal scoping items and recommendations are limited to the following:

- Required improvements listed within section 114 of the FDM and RDB 22-01.
- Items specifically recommended by District Safety that advance safety countermeasures.
- Recommended replacement of 5-Section heads with a 4-Section head and add an additional 3-Section head.
- Recommended replacement of 4-bolt existing signal structures that will have additional load being added, shall be replaced with a 6-bolt signal structure.
- Existing support structures should be evaluated for load capacity and signs of distress and replaced if the existing signal structure is found to be deficient.
- Requests from District TSM&O for ITS related improvements or additions. TSM&O requests were removed at the 9/08/25 Technical Review Meeting.

Existing traffic signal related features outside the project limits will not be included in the scope.

Existing field conditions described in this report represent the conditions present at the time of scoping. All traffic signal-related recommendations listed within this scope shall follow the latest design guidelines as outlined in the FDM, Standard Plans, MUTCD, TEM, MUTS and Structures Design Manual.

The following signalized intersections fall within the limits of the begin and end mile posts and or construction limits for this RRR scope:

**Signal Location 1:**

SR 45 (US B 41)  
at 5<sup>th</sup> St W  
MP: 9.078  
Signal ID: 409

**Signal Location 2:**

SR 45 (US B 41)  
at 7<sup>th</sup> St W  
MP: 9.248  
Signal ID: 410

**Signal Location 3:**

SR 45 (US B 41)  
at 10<sup>th</sup> St W (SR 43)  
MP: 9.498  
Signal ID: 411

**Signal Location 4:**

SR 45 (US B 41)  
at 8<sup>th</sup> Ave W  
MP: 0.045  
Signal ID: 412

**Signal Location 5:**

SR 45 (US B 41)  
at 6<sup>th</sup> Ave W (SR 64)  
MP: 0.125  
Signal ID: 413

**Signal Location 6:**

SR 45 (US B 41)  
at Manatee Ave W (SR 64)  
MP: 0.213  
Signal ID: 414

**Signal Location 7:**

SR 45 (US B 41)  
at 3<sup>rd</sup> Ave W  
MP: 0.347  
Signal ID: 415

**Signal Location 8:**

US 301 (Southbound Interchange)  
at 10<sup>th</sup> St W  
MP: 0.573  
Signal ID: 416

**Signal Location 9:**

SR 45 (US B 41)  
at 17<sup>th</sup> St W (Memphis Rd)  
MP: 0.505  
Signal ID: 430

**Maintaining Agency:** Palmetto (Signals 1-4, 8-9) & Bradenton (Signals 5-7)

The following corridor sections fall within the project limits for this RRR scope:

**Corridor Location 1:**

SR 45 (US B 41) Bridge Over Manatee River  
BMP: 8.000  
EMP: 8.878

**Roadway safety audit impacts:**

To be provided at a future date.

**Signal Location 1:**

SR 45 / US 41  
at 5<sup>th</sup> St W

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- No recommendations provided.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.
- Maintain existing video detection equipment.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 2:**

SR 45 (US41)

at 7<sup>th</sup> St W

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.

- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- To facilitate all named roadways, recommend adding internally illuminated signs where appropriate or where they are missing. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 3:**

SR 45 (US41)

at 10<sup>th</sup> St W (SR 43)

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing mast arm support structures residing at this intersection were designed with four bolt connection methods. Historically, this bolt pattern or configuration has proved inadequate against current standards for wind loading. The four-bolt pattern is also indicative that the structure is of an older design and may be nearing the end of its design service life. This scope proposes to add load to the mast arms to reduce the amount of left turn crashes and to protect pedestrians. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered if the existing signal structures are found to be deficient. Coordinate painted mast arm policy with District TSM&O and with the maintaining agency.
- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).
- With the recommendation for new structures, replacement of the existing signal head assemblies is also recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Review and coordinate the planned SOP with TSM&O. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach. Utilize 4-section signal heads with FYA where appropriate for protected / permissive movements.

**Overhead signs:**

- Should an existing the 4-bolt mast arm be replaced, replacement of the existing overhead signage is recommended.
- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- To facilitate all named roadways, recommend adding internally illuminated signs where appropriate or where they are missing. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.
- Should the signal support structures be replaced, provide internally illuminated signs. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA

location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 4:**

SR 45 (US41)

at 8<sup>th</sup> Ave W

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.
- Add 4-Section signal head for northbound and southbound left turns.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and add 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an

approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.

- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- No recommendations provided.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 5:**

SR 45 (US41)

at 6<sup>th</sup> Ave W (SR 64)

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- No recommendations provided.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 6:**

SR 45 (US41)

at Manatee Ave W (SR 64)

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing mast arm support structures residing at this intersection were designed with four bolt connection methods. Historically, this bolt pattern or configuration has proved inadequate against current standards for wind loading. The four-bolt pattern is also indicative that the structure is of an older design and may be nearing the end of its design service life. This scope proposes to add load to the mast arms to reduce the amount of left turn crashes and to protect pedestrians. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered if the existing signal structures are found to be deficient. Coordinate painted mast arm policy with District TSM&O and with the maintaining agency.
- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.

- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).
- With the recommendation for new structures, replacement of the existing signal head assemblies is also recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Review and coordinate the planned SOP with TSM&O. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach. Utilize 4-section signal heads with FYA where appropriate for protected / permissive movements.

**Overhead signs:**

- Should an existing the 4-bolt mast arm be replaced, replacement of the existing overhead signage is recommended.
- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- To facilitate all named roadways, recommend adding internally illuminated signs where appropriate or where they are missing. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.
- Should the signal support structures be replaced, provide internally illuminated signs. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 7:**

SR 45 (US41)

at 3<sup>rd</sup> Ave W

**District Safety recommendations:**

- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- No recommendations provided.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 8:**

US 301 (Southbound Interchange)  
at 10<sup>th</sup> St W

**District Safety recommendations:**

- No recommendations provided.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

**Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

**Signal heads:**

- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).

**Overhead signs:**

- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- To facilitate all named roadways, recommend adding internally illuminated signs where appropriate or where they are missing. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Maintain existing video detection equipment.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Signal Location 9:**

SR 45 (US B 41)

at 17<sup>th</sup> St W (Memphis Rd)

**District Safety recommendations:**

- Separate pedestrian push-buttons at all crossing.
- Add Leading Pedestrian Interval (LPI) controls.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

### **Additional scoping items and recommended design considerations:**

#### **Structural support:**

- The existing mast arm support structures residing at this intersection were designed with four bolt connection methods. Historically, this bolt pattern or configuration has proved inadequate against current standards for wind loading. The four-bolt pattern is also indicative that the structure is of an older design and may be nearing the end of its design service life. This scope proposes to add load to the mast arms to reduce the amount of left turn crashes and to protect pedestrians. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered if the existing signal structures are found to be deficient. Coordinate painted mast arm policy with District TSM&O and with the maintaining agency.
- The existing support structures should be evaluated for load capacity and signs of distress. Evaluate existing mast arm structures in accordance with FDM 261.8. Replacement shall be considered if the existing signal structure is found to be deficient.

#### **Controller and cabinet:**

- District TSM&O is requesting that the controller be upgraded to a NEMA / ATC standard. Should the request be granted, coordinate with the maintaining agency specifications for any sole sourced controller and cabinet related equipment. District One policy is to provide UPS battery backup for all controllers and cabinets. Provide UPS battery backup and coordinate UPS placement and mounting preferences with the maintaining agency.
- District TSM&O is requesting that the existing ethernet switch in the traffic signal cabinet be replaced. Confirm and coordinate equipment compatibility with the Maintaining Agency.

#### **Signal heads:**

- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach and add additional signal heads where necessary. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads.
- Recommend replacing or adding backplates on existing signal head assemblies that have missing, damaged or backplates without reflectorized borders. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain and the addition of backplates negatively affect structural load capacity, consideration should be given for the use of flexible backplates (TEM section 3.9).
- With the recommendation for new structures, replacement of the existing signal head assemblies is also recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Review and coordinate the planned SOP with TSM&O. Follow MUTCD guidance (section 4D.11) for the number of signal faces on an approach. Utilize 4-section signal heads with FYA where appropriate for protected / permissive movements.

#### **Overhead signs:**

- Should an existing the 4-bolt mast arm be replaced, replacement of the existing overhead signage is recommended.
- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- For enhanced pedestrian safety, consider adding overhead mounted R10-15a signs (per TEM 2.44.3) for all approaches.

**Internally illuminated street name signs:**

- To facilitate all named roadways, recommend adding internally illuminated signs where appropriate or where they are missing. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.
- Should the signal support structures be replaced, provide internally illuminated signs. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Inductive loops will be damaged during milling operations, based on the maintaining agency's preferences, it is recommended to continue using inductive loop detection. Add multiple point detection zone loops or replace as necessary.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- Recommend separating pedestrian detector push buttons from shared pedestrian signal detector posts and replacing or relocating pedestrian assemblies that do not meet ADA location requirements. Replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- Timing modifications have been recommended for this intersection for providing leading pedestrian intervals (LPI). Per MUTCD 4E.06, para. 20, consideration should be given to utilizing accessible pedestrian signal detectors (APS).

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting replacement of the controller and cabinet. It will be necessary to upgrade, replace or relocate ITS items. Confirm and coordinate equipment compatibility and reconnection methods with the maintaining agency.

**Corridor Location 1:**

SR 45 (US B 41) Bridge Over Manatee River

BMP: 8.000

EMP: 8.878

**District Safety recommendations:**

- No recommendations provided.

**District TSM&O recommendations:**

- Requests were removed at the 9/08/25 Technical Review Meeting.

**Roadway Safety Audit (RSA) impacts:**

- To be provided at a later date.

**Additional scoping items and recommended design considerations:**

**Structural support:**

- No recommendations provided.

**Controller and cabinet:**

- No recommendations provided.

**Signal heads:**

- No recommendations provided.

**Overhead signs:**

- No recommendations provided.

**Internally illuminated street name signs:**

- No recommendations provided.

**Vehicle detection:**

- No recommendations provided.

**Traffic monitoring and associated technologies:**

- No recommendations provided.

**Pedestrian assemblies and detection:**

- No recommendations provided.

**Emergency preemption:**

- No recommendations provided.

**Power source and service type:**

- No recommendations provided.

**Fiber interconnect: ATMS / TMC communications:**

- District TSM&O is requesting that fiber be added on the SR 45 (US B 41) bridge over the Manatee River. Include ethernet switch, patch panel and related connection hardware at the controller. Confirm and coordinate equipment compatibility with the Maintaining Agency. Should an existing splice vault be further away than an existing fiber pull box, consider utilizing the fiber pull location as a splice point. Remove existing fiber pull box and replace with fiber splice vault. Provide splice tray and conduct splicing operations.

**Lighting Scope Items:**

Lighting scoping items and recommendations are limited to the following criteria:

- Items specifically recommended by District Safety that advance safety countermeasures.
- Ensure lighting at indicated intersections meets FDM 231 guidelines for the intersection, pedestrian crosswalks, and side street approaches.

The locations listed below have been identified as meeting this criterion:

**Intersection Location 1:**

SR 45 (US B 41)  
at 5<sup>th</sup> St W  
MP: 9.078

**Intersection Location 2:**

SR 45 (US B 41)  
at 7<sup>th</sup> St W  
MP: 9.248

**Intersection Location 3:**

SR 45 (US41)  
at 10<sup>th</sup> St W (SR 43)  
MP: 9.498

**Intersection Location 4:**

SR 45 (US41)  
at 8<sup>th</sup> Ave W  
MP: 0.045

**Intersection Location 5:**

SR 45 (US41)  
at 6<sup>th</sup> Ave W (SR 64)  
MP: 0.125

**Intersection Location 6:**

SR 45 (US41)  
at Manatee Ave W (SR 64)  
MP: 0.213

**Intersection Location 7:**

SR 45 (US41)  
at 3<sup>rd</sup> Ave W  
MP: 0.347

**Intersection Location 9:**

SR 45 (US41)  
at 17<sup>th</sup> St W  
MP: 0.505

The locations listed below are within scope and already meet FDM 231 guidelines:

**Intersection Location 8:**

US 301 (Southbound  
Interchange)  
at 10<sup>th</sup> St W  
MP: 0.573

**District Safety recommendations:**

District One Safety Department has identified the intersections listed above as locations where existing lighting features may be insufficient for pedestrian safety and nighttime visibility. Review and analyze the existing lighting features and consider the following recommended countermeasures:

- Update existing lighting infrastructure at the intersections and for each approach leg to current FDOT FDM standards.

**Roadway Safety Audit (RSA) impacts:**

To be provided at a future date.

**Additional scoping items and recommended design considerations:**

The following guidance and recommendations apply for rebuilt intersections as well as areas identified as needing lighting upgrades or retrofit by D1 Safety:

- At locations where lighting improvements are recommended, the existing and proposed intersection lighting should be assessed with a complete lighting analysis to ensure minimum vertical and horizontal illumination values are met. Utilize lighting design criteria based on the latest FDOT FDM, Standard Specifications and Standard Plans for Road and Bridge Construction. Per RDM 16-02 and Standard Spec 992, LED light fixtures shall be used.
- Lighting on each approach leg beyond the intersection limits shall be evaluated and upgraded to meet FDOT FDM standards.
- Existing light poles and/or mast arm-mounted luminaires that are not in optimal locations to adequately illuminate pedestrian crosswalks should be evaluated for potential relocation, removal, or replacement.
- Existing light poles and foundations to remain shall be evaluated for signs of distress in accordance with FDM 261. If found deficient, replacement shall be considered.
- Coordinate luminaire types with the Maintaining Agency. Only light fixtures listed on the Department’s Approved Product List are permitted.
- Replace any existing high pressure sodium (HPS) luminaires with new LED luminaires.
- Replace any traditional luminaires retrofitted with LED lamps with new LED luminaires.

- The luminaire housing color for all new and replacement installations shall match the color of the pole on which they are mounted.
- During the design phase, assess whether new luminaire locations can be powered by extending existing lighting circuits instead of installing a new service point.
- Coordinate any new power source locations and requirements with UAO.
- Coordinate any new lighting locations around existing utilities and with UAO.
- Coordinate with the traffic signal design team regarding any potential shared facilities, such as directional bores, luminaire support structures, and power service poles.
- Coordinate lighting maintenance agreement with the District Maintenance Office and the Maintaining Agency

#### Structural Scope Items:

- Per section 261.8 of the FDM, if we are modifying any of the existing structures an Ancillary Structures Report will need to be provided for all existing sign, signal, lighting, and ITS support structures within the project limits.
- Bridge Joints (130100001):
  - Bridges with asphalt overlay will include joint repair in the scope. Structures Maintenance has provided a spreadsheet and kmz identifying their location.
    - *N/A, no asphalt overlay on this bridge.*
  - For all projects that include bridges that do not have asphalt overlay, design should coordinate with the District Bridge Maintenance office to clarify scope for bridge needs and opportunities for joint replacement while the lane is closed.
    - *Bridge no. 130132 (13010001)*
      - *Request to seal concrete deck and repair damaged expansion joint material. (1455 feet of joints along the bridge, 165 feet need localized repair. Joint replacement is not necessary.)*
      - *Alternatively, per coordination with Daniel Buidens (Engineering Section Manager – District 1 Structures), if there is available budget, maintenance office requests full joint replacement for the joints that currently need repair and for joints that have needed previous repairs, for a total of 13 locations at 93-ft of joint length each. Hence, joint replacement will be needed at the following bents full width:*
        - *End Bent 1, Bents 10, 13, 15, 18, 21, 24, 27, 33, 36, 39, 45, and End Bent 49.*
- MP 0.480 – Bridge 130132:
  - Remove the existing W-beam guardrail transition at the northbound outside approach end of the bridge and replace with the appropriate thrie-beam transition per FDOT Standard Plans Index 536-002, scheme 1 (sheet 27 of 28).
  - No hazard markers appear to be installed at the SB approach end of the bridge.
  - Clean and seal the surface of the bridge deck along the northbound bridge (roadway width) per request from the Structures Maintenance Office with methacrylate sealant. The pay items 413-151 and 413154 have been included in the LRE.
  - Three potential alternatives to consider for the bridge joint repair/rehabilitation:
    - ***Alternative A:*** Repair the localized damaged expansion joint material along the bridge joints and construct the polymer nosing joint header along repaired joint segments (top of polymer nosing to match top of asphalt pavement at end bents only).

- **Alternative B:** If budget allows, remove the expansion/joint seal material and replace with bridge deck expansion joint, poured joint with backer rod along the entire bridge width at the 13 locations of concern and replace polymer nosing joint header at the end bents with approved material.
- **Alternative C:** Given that 13 out of the 17 joint locations along the bridge were recommended for repairs, and if budget allows, remove the expansion/joint seal material and replace with bridge deck expansion joint, poured joint with backer rod along the entire bridge width at all 17 joint locations and replace polymer nosing joint header at the end bents with approved material.
- MP 0.507 – 1-10'x7'x212' CBC (13020000):
  - No changes anticipated.

## Scope Analysis for Social and Environmental Issues

<b>FPID No:</b>	456237-1	<b>County:</b>	Manatee	<b>City:</b>	Bradenton
<b>Project Limits:</b>	<b>SR 45 (US 41) from 10<sup>th</sup> Street W to 17<sup>th</sup> Street W (Memphis Road)</b>				
<b>Section:</b>	13010-000 / 13010-001 / 13020-000 / 13030-000	<b>Length of Project:</b>	0.620 / 1.379 / 0.573 / 0.508		
<b>Begin MP:</b>	8.878 / 0.000 0.000 / 0.000	<b>End MP:</b>	9.498 / 1.379 0.573 / 0.508		
<b>Scope:</b>	Resurfacing, Restoration, and Rehabilitation (RRR)				
<b>Review Date:</b>	6/30/2025 – B. Feagle	<b>Anticipated NEPA COA:</b>	Type 1 CE / NMSA		

### Potential Cost or Schedule Impacts

**Social:** 9% of the population is designated as limited English proficiency (LEP); therefore, translation services must be provided through verbal interpretation and written translation of vital documents.

**Archaeological and Historical Resources:** Two National Register of Historic Places (NRHP) listed historic sites are located within the project limits. The project will be reviewed during the design phase for involvement with archaeological and historical resources.

**Section 4(f):** Due to the proximity of NRHP-listed resources and other recreational and protected areas, a Section 4(f) evaluation is anticipated.

**Section 6(f):** Due to the proximity of a Land Water and Conservation Fund (LWCF) property, Acquisition and Restoration Council (ARC) coordination may be required.

**Essential Fish Habitat:** Should the project include in-water work, coordination with the National Marine Fisheries Service (NMFS) regarding essential fish habitat (EFH) is anticipated.

**Bald eagle:** Due to the proximity of a nest, design-phase field review is recommended.

**West Indian manatee:** Should the project include in-water work or modifications to culverts, drains, inlets, and pipes, the *Standard Manatee Conditions for In-Water Activities* must be followed.

**Sea Turtles:** Should the project include in-water work, coordination with NMFS regarding sea turtles is anticipated.

**Special Designation:** Coordination with the District Scenic Highway Coordinator must occur as the project crosses the Gulf to Coast Scenic Highway.

### Social and Economic Resources

**Social:** The minority population accounts for 60% of the population of the area with 28% of the population residing below poverty level.

**Land Use Changes:** The current land use consists of commercial and services, bays and estuaries, and high-density residential areas; the project is not expected to result in land use changes.

**Mobility:** The project contains 11 bus transit routes and is not expected to affect mobility.

**Community Cohesion:** The project area contains the City of Palmetto City Hall, Manatee County Property Appraiser, Bradenton US Post Office, Bradenton Fire Department Station 1, Manatee Chamber of Commerce, VFW Post, Manatee County Judicial Center, Manatee Aquarium, South Florida Museum, three parks, six religious centers, two group care facilities, and three migrant camps. The project is not expected to affect community services or cohesion.

**Relocation Potential:** Right-of-way is not required; therefore, relocations are not anticipated.

**Farmlands:** While farmlands of unique importance are present, the project is not subject to the provisions of the *Farmland Protection Policy Act of 1981* as it is located in the Sarasota-Bradenton urbanized area.

## Cultural Resources

**Archaeological and Historical Resources:** A preliminary review of the Florida Master Site File (FMSF) records revealed three resource groups that have not been evaluated, 63 historic structures, and 171 structures in the area were built prior to 1970.

Two sites are listed on the NHRP including the Palmetto Armory (MA01804) and Palmetto Historic District (MA00644). Of the 63 historic structures, the VFW Post #2488 Building (MA01804) is eligible for listing on the NRHP and the remaining 62 have not been evaluated.

The project will be reviewed during the Design Phase for involvement with archaeological and historical resources; coordination with the State Historic Preservation Officer (SHPO) will be required.

**Recreational and Protected Areas:** The Riverside Park, a LWCF property, is located at the northern end of the Manatee River bridge. The project area also contains three other parks and two trails.

## Natural Resources

**Wetlands and Other Surface Waters:** Minor wetland areas appear to be present in the project area.

**Essential Fish Habitat:** EFH is present within the project area.

**Floodplains:** 30% of the project is located within the 100-year floodplain (Zones AE and VE).

**Sole Source Aquifer:** The project area is not associated with a sole source aquifer.

**Wild and Scenic Rivers:** No Wild and Scenic Rivers are identified within the project area.

**Coastal Barrier Resources:** No Coastal Barrier Resource Act (CBRA) areas are within the project area.

**Protected Species and Habitat:** The project area was reviewed for potential impacts to wildlife and habitat resources, including federal and state protected species in accordance with Section 7 of the Endangered Species Act (ESA, 1973), as amended, and Chapter 68A-27 Florida Administrative Code (FAC).

The anticipated determinations of effects utilized applicable species keys and the 2024 FDOT *Programmatic Approach for Minor Transportation Activities* for landscaping (B3); replacement of signs, signals or lighting (B4); drainage repair or improvements (B7); minor bridge maintenance (B9); resurfacing pavement (B12), and vegetation management (B14). Note: the review below does not account for in-water work.

Species survey, elevated review, coordination, or consultation is expected for the following species:

**Bald eagle:** Bald eagle nest MN077 is located within 660' of the project area.

**Critical Habitat:** The Manatee River is critical habitat for the west Indian manatee and green sea turtle.

Due to the lack of suitable habitat and prior occurrences, the project is expected to result in a determination of *no effect/no adverse effect* and no further coordination is expected for the following species:

### **Federal Species**

- American crocodile
- Crested caracara
- Eastern black rail
- Eastern indigo snake
- Everglade snail kite
- Florida grasshopper sparrow
- Florida scrub-jay
- Piping plover
- Red-cockaded woodpecker
- Rufa red knot
- Wood stork

### **State or Non-Listed Species**

- Florida sandhill crane
- Florida burrowing owl
- Wading birds (reddish egret, little blue heron, roseate spoonbill, tricolored heron)
- Imperiled Beach Nesting Birds (American oystercatcher, snowy plover, black skimmer, least tern)
- Florida pine snake
- Gopher tortoise
- Florida black bear

### Physical Resources

**Noise:** The project meets the criteria for a Type III project established in 23 CFR 772; therefore, analysis of highway traffic noise is not required.

**Air Quality:** As this project will not impact traffic volumes, no changes to air quality are anticipated.

**Contamination:** The project buffer area includes brownfield areas, dry cleaning sites, hazardous waste facilities, institutional controls registry sites, off-site contamination notices, petroleum contamination monitoring sites, storage tank contamination monitoring sites, wastewater facilities, and biomedical waste sites. The project will be reviewed for contamination during the Design Phase; it is anticipated a Contamination Technical Memorandum will be prepared and Level 2 testing may be required.

**Utilities and Railroads:** The project area includes transmission power lines and an electric substation.

**Navigation:** The project crosses the Manatee River, a navigable waterway.

# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 456237-1-52-01

**Letting Date:** 07/2028

**Description:** SR 45 (US 41) FROM 10TH ST W TO 17TH ST W/MEMPHIS RD

**District:** 01      **County:** 13 MANATEE      **Market Area:** 10      **Units:** English

**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 1.308 MI

**Project Manager:** NEM-LAT-4P

**Version 6-P Project Grand Total**

**\$11,956,148.04**

**Description:** January 2026 Markup to add sealant from Version 5P-2/9/26

**Sequence:** 1 RSD - Resurfacing, Divided

**Net Length:** 1.379 MI  
7,281 LF

**Description:** POP - Typical 1 - MP 0.000 to MP 1.379 (13010001) - 4 lane divided urban

### ROADWAY COMPONENT

**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	38,832.64 SY	\$4.88	\$189,503.28
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	4,271.59 TN	\$194.28	\$829,884.51
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	3,203.69 TN	\$196.75	\$630,326.01

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	558.00 EA	\$4.69	\$2,617.02
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	5.52 GM	\$1,577.67	\$8,708.74
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.76 GM	\$583.92	\$1,611.62
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	5.52 GM	\$5,881.74	\$32,467.20

711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	2.76 GM	\$2,200.08	\$6,072.22
711-16-201	THERMOPLASTIC, STD- OTH, YELLOW, SOLID, 6"	5.52 GM	\$5,998.48	\$33,111.61
<b>Roadway Component Total</b>				\$1,734,302.21
<hr/>				
<b>Sequence 1 Total</b>				\$1,734,302.21
<hr/>				

Sequence: 2 RSD - Resurfacing, Divided

Net Length: 0.620 MI  
3,274 LF

Description: POP - Typical 2 - MP 8.878 to MP 9.498 (13010) - 4 lane undivided

**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	22.00 / 22.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	16,004.27 SY	\$4.88	\$78,100.84
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	1,760.47 TN	\$194.28	\$342,024.11
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,320.35 TN	\$196.75	\$259,778.86

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	251.00 EA	\$4.69	\$1,177.19
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.48 GM	\$1,577.67	\$3,912.62
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.24 GM	\$583.92	\$724.06
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.48 GM	\$5,881.74	\$14,586.72
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.24 GM	\$2,200.08	\$2,728.10
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	2.48 GM	\$5,998.48	\$14,876.23

**Roadway Component Total** \$717,908.73

**MEDIAN COMPONENT**

**User Input Data**

Description	Value
Total Median Width	11.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	5.50 / 5.50
Paved Median Shoulder Width L/R	5.50 / 5.50
Structural Spread Rate	220
Friction Course Spread Rate	165

Total Width (T) / 8" Overlap (O) T  
 Rumble Strips 1/2 No. of Sides 0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	4,001.07	SY	\$4.88	\$19,525.22
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	440.12	TN	\$194.28	\$85,506.51
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	330.09	TN	\$196.75	\$64,945.21
<b>Median Component Total</b>					\$169,976.94

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**Sequence 2 Total** \$887,885.67

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Sequence: 3 RSD - Resurfacing, Divided

Net Length: 0.508 MI  
2,682 LF

Description: POP - Typical 3 - MP 0.000 to MP 0.508 (13010) - 4 lane undivided

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**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	14,305.28 SY	\$4.88	\$69,809.77
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	1,573.58 TN	\$194.28	\$305,715.12
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,180.19 TN	\$196.75	\$232,202.38

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	206.00 EA	\$4.69	\$966.14
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.03 GM	\$1,577.67	\$3,202.67
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.02 GM	\$583.92	\$595.60
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.03 GM	\$5,881.74	\$11,939.93
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.02 GM	\$2,200.08	\$2,244.08
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	2.03 GM	\$5,998.48	\$12,176.91

**Roadway Component Total** \$638,852.60

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**Sequence 3 Total** \$638,852.60

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Sequence: 4 RSD - Resurfacing, Divided

Net Length: 0.105 MI  
554 LF

Description: POP - Typical 4 - MP 0.000 to MP 0.105 (13020) - 3 lane undivided

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**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	3
Roadway Pavement Width L/R	24.00 / 12.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	2,217.60 SY	\$4.88	\$10,821.89
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	243.94 TN	\$194.28	\$47,392.66
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	182.95 TN	\$196.75	\$35,995.41

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	28.00 EA	\$4.69	\$131.32
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.42 GM	\$1,577.67	\$662.62
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.10 GM	\$583.92	\$58.39
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.42 GM	\$5,881.74	\$2,470.33
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.10 GM	\$2,200.08	\$220.01
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	0.42 GM	\$5,998.48	\$2,519.36

**Roadway Component Total** \$100,271.99

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**Sequence 4 Total** \$100,271.99

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Sequence: 5 RSD - Resurfacing, Divided

Net Length: 0.335 MI  
1,769 LF

Description: POP - Typical 5 - MP 0.105 to 0.440 (13020) - 4 lane undivided

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**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 17.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	8,844.00 SY	\$4.88	\$43,158.72
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	972.84 TN	\$194.28	\$189,003.36
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	729.63 TN	\$196.75	\$143,554.70

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	6
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	136.00 EA	\$4.69	\$637.84
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.01 GM	\$1,577.67	\$3,171.12
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.67 GM	\$583.92	\$391.23
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.01 GM	\$5,881.74	\$11,822.30
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.67 GM	\$2,200.08	\$1,474.05
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	2.01 GM	\$5,998.48	\$12,056.94

**Roadway Component Total** \$405,270.26

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**Sequence 5 Total** \$405,270.26

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Sequence: 6 RSD - Resurfacing, Divided

Net Length: 0.133 MI  
702 LF

Description: POP - Typical 6 - MP 0.440 to MP 0.573 (13020) - 4 lane divided

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**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	29.00 / 29.00
Structural Spread Rate	220
Friction Course Spread Rate	165

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	4,525.55 SY	\$4.88	\$22,084.68
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	497.81 TN	\$194.28	\$96,714.53
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	373.36 TN	\$196.75	\$73,458.58

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	6
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	54.00 EA	\$4.69	\$253.26
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.80 GM	\$1,577.67	\$1,262.14
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.27 GM	\$583.92	\$157.66
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.80 GM	\$5,881.74	\$4,705.39
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	0.27 GM	\$2,200.08	\$594.02
711-16-201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	0.80 GM	\$5,998.48	\$4,798.78

**Roadway Component Total** \$204,029.04

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**Sequence 6 Total** \$204,029.04

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Sequence: 7 MIS - Miscellaneous Construction

Net Length: 1.308 MI  
6,906 LF

Description: POP - loops, pavement markings, items not included in Typical Section sequences

**ROADWAY COMPONENT**

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH <b>Comment:</b> mainline aux and turn lane	3,965.87	SY	\$4.88	\$19,353.45
327-70-6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH <b>Comment:</b> Milling turn lanes, side streets and driveways with RW	4,763.66	SY	\$4.72	\$22,484.48
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	436.25	TN	\$194.28	\$84,754.65
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	327.18	TN	\$196.75	\$64,372.66
527-2	DETECTABLE WARNINGS	2,175.00	SF	\$37.14	\$80,779.50
705-10-2	OBJECT MARKER, TYPE 2	20.00	EA	\$112.90	\$2,258.00
705-11-1	DELINEATOR, FLEXIBLE TUBULAR	10.00	EA	\$111.62	\$1,116.20
706-1-3	RAISED PAVMT MARK, TYPE B	2,350.00	EA	\$4.69	\$11,021.50
710-12-290	PAINTED PAVT MARK,DUR,YELLOW,ISLAND NOSE	100.00	SF	\$5.17	\$517.00
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	1.00	LS	\$24,961.84	\$24,961.84
711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	6,812.00	LF	\$3.88	\$26,430.56
711-11-124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	240.00	LF	\$6.08	\$1,459.20
711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	2,062.00	LF	\$8.01	\$16,516.62
711-11-141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	1.59	GM	\$2,793.66	\$4,441.92
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	34.00	EA	\$190.57	\$6,479.38
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	76.00	EA	\$89.39	\$6,793.64
711-11-224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	1,000.00	LF	\$5.71	\$5,710.00
711-11-241	THERMOPLASTIC,STD,YELLOW,DOT / GUIDE, 6"	0.39	GM	\$2,923.88	\$1,140.31
711-14-125	THERMOPLASTIC, PREFORM, WHITE, SOLID,24"	4,290.00	LF	\$17.34	\$74,388.60
711-14-160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	14.00	EA	\$220.29	\$3,084.06
711-14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	14.00	EA	\$113.37	\$1,587.18
711-14-191	THERMOPLASTIC, PREF, WHITE C, RR DYN ENV	370.00	LF	\$4.48	\$1,657.60
711-14-193	THERMOPLASTIC, PREF, WHITE C, RR DYN ENV	200.00	LF	\$8.70	\$1,740.00
711-14-194	THERMOPLASTIC, PREF, WHITE C, RR DYN ENV	640.00	LF	\$29.50	\$18,880.00
711-16-102	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 8"	0.10	GM	\$7,227.58	\$722.76
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.05	GM	\$2,373.71	\$118.69

713-103-101	PERMANENT TAPE, WHITE,SOLID,6" CONC BR	1.44 GM	\$30,367.86	\$43,729.72
713-103-141	PERMANENT TAPE, WHITE,SKIP/D,6" FOR CONC	1.44 GM	\$11,887.88	\$17,118.55
713-103-201	PERMANENT TAPE, YELLOW,SOLID,6" CONC BR	1.44 GM	\$30,863.17	\$44,442.96
713-103-341	PERMANENT TAPE, BLACK,6-10,6" FOR CONC	1.44 GM	\$11,727.85	\$16,888.10
<b>Roadway Component Total</b>				<b>\$604,949.14</b>

**SHOULDER COMPONENT**

**User Input Data**

**Description** **Value**

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	25,893.12 LF	\$2.72	\$70,429.29
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$4,260.49	\$8,520.98
104-18	INLET PROTECTION SYSTEM	124.00 EA	\$179.54	\$22,262.96
107-1	LITTER REMOVAL	0.45 AC	\$1,478.89	\$665.50
107-2	MOWING	0.45 AC	\$1,383.81	\$622.71
570-1-2	PERFORMANCE TURF, SOD	2,157.76 SY	\$7.86	\$16,959.99
<b>Shoulder Component Total</b>				<b>\$119,461.43</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

**Description** **Value**  
 Type Miscellaneous  
 Multiplier 1  
 Description Loops - all intersections

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
660-2-106	LOOP ASSEMBLY, F&I, TYPE F <b>Comment:</b> includes all 9 signals	73.00 AS	\$2,651.63	\$193,568.99
<b>Signalizations Component Total</b>				<b>\$193,568.99</b>

**Sequence 7 Total** **\$917,979.56**

Sequence: 8 MIS - Miscellaneous Construction

Net Length: 1.308 MI  
6,906 LF

Description: RRR not included in POP (drainage, signing, curb ramps, guardrail)

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**ROADWAY COMPONENT**

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.02 AC	\$1,650,981.15	\$33,019.62
110-4-10	REMOVAL OF EXIST CONC	1,074.39 SY	\$48.94	\$52,580.65
339-1	MISCELLANEOUS ASPHALT PAVEMENT	3.30 TN	\$602.60	\$1,988.58
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,448.00 LF	\$41.69	\$60,367.12
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	752.61 SY	\$89.73	\$67,531.70
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	198.00 LF	\$26.69	\$5,284.62
536-8-111	GUARDR CONN TO RIGID BA, F&I, APPR N2	2.00 EA	\$2,285.82	\$4,571.64
536-73	GUARDRAIL REMOVAL	198.00 LF	\$2.93	\$580.14
536-85-24	GUARDRAIL END TREATMENT-PARA APP TERM	1.00 EA	\$3,763.63	\$3,763.63
536-85-26	GUARDRAIL END TREATMENT-TYPE CRT	1.00 EA	\$3,152.11	\$3,152.11
<b>Roadway Component Total</b>				<b>\$232,839.81</b>

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**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-361	INLETS, CURB, TYPE P-6, <10'	3.00 EA	\$8,381.95	\$25,145.85
<b>Drainage Component Total</b>				<b>\$25,145.85</b>

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**SIGNING COMPONENT**

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-111	SINGLE COL GRND SIGN AS, F&I GM, <12 SF	137.00 EA	\$615.91	\$84,379.67
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	24.00 EA	\$1,986.79	\$47,682.96
700-1-211	SNGL COL GRND SIGN AS, F&I B TOP, <12 SF	4.00 EA	\$2,614.86	\$10,459.44
700-1-213	SNGL GRND SIGN AS, F&I B TOP, 20.1-30 SF	2.00 EA	\$4,563.54	\$9,127.08
700-1-311	SNGL GRND SIGN AS, F&I B SIDE, <12 SF	6.00 EA	\$3,349.20	\$20,095.20
700-1-500	SINGLE COL GRND SIGN AS, RELOCATE	17.00 EA	\$286.21	\$4,865.57
700-1-600	SINGLE COL GRND SIGN AS, REMOVE	160.00 EA	\$51.64	\$8,262.40
700-1-911	SNGL GRND SIGN AS, F&I CANTI GM, <12SF	1.00 EA	\$3,150.28	\$3,150.28

700-1-912	SNGL GRND SIGN AS, F&I CANTI GM, 12-20	7.00 EA	\$3,306.39	\$23,144.73
700-1-913	SNGL GRND SIGN AS, F&I CANTI GM, 20.1-30	4.00 EA	\$3,768.99	\$15,075.96
700-2-113	MULTI- COLUMN SIGN, F&I GM, 20.1-30 SF	2.00 EA	\$6,238.78	\$12,477.56
700-2-600	MULTI- COLUMN GROUND SIGN, REMOVE	2.00 EA	\$1,307.26	\$2,614.52
700-3-202	SIGN PANEL, F&I OM, 12-20 SF	2.00 EA	\$1,750.47	\$3,500.94
700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF	18.00 EA	\$84.41	\$1,519.38
700-3-602	SIGN PANEL, REMOVE, 12-20 SF	2.00 EA	\$47.75	\$95.50
700-141-902	EHSA, AC POWER, REMOVE EDS - GM	1.00 EA	\$1,406.00	\$1,406.00
700-142-111	EHSA, SOL, GROUND MT, BEACON, <12SF	2.00 EA	\$10,450.99	\$20,901.98
700-142-902	EHSA, SOL POWER, REMOVE - GM	1.00 EA	\$834.41	\$834.41
<b>Signing Component Total</b>				<b>\$269,593.58</b>

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**Sequence 8 Total** **\$527,579.24**

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Sequence: 10 MIS - Miscellaneous Construction

Net Length: 1.308 MI  
6,906 LF

Description: Signal Updates

**SIGNING COMPONENT**

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-3-201	SIGN PANEL, F&I OM, UP TO 12 SF <b>Comment:</b> Manatee Ave W (1)	1.00	EA	\$1,133.78	\$1,133.78
700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF <b>Comment:</b> Manatee Ave W (1)	1.00	EA	\$84.41	\$84.41
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF <b>Comment:</b> 10th St W (4), Manatee Ave W (2), 17th St W (2)	8.00	EA	\$5,633.78	\$45,070.24
700-5-60	INTERNAL ILLUM SIGN, REMOVE <b>Comment:</b> 10th St W (4), Manatee Ave W (1), 17th St W (2)	7.00	EA	\$330.97	\$2,316.79
<b>Signing Component Total</b>					<b>\$48,605.22</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	5th St W

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
611-1-1	ITSFM SUBSURFACE DOCUMENTATION- PROJ LEN	3.08	MI	\$3,494.29	\$10,762.41
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERS	1.00	EA	\$2,968.81	\$2,968.81
630-2-11	CONDUIT, F& I, OPEN TRENCH	30.00	LF	\$18.32	\$549.60
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$30.54	\$6,108.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,563.65	\$1,563.65
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	3.00	EA	\$1,176.81	\$3,530.43
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$3,029.20	\$24,233.60
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	2.00	EA	\$535.09	\$1,070.18
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	1.00	AS	\$2,144.17	\$2,144.17
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	1.00	AS	\$2,418.57	\$2,418.57
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	1.00	AS	\$305.03	\$305.03
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	2.00	EA	\$970.38	\$1,940.76

653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$1,072.44	\$8,579.52
653-1-60	PEDESTRIAN SIGNAL, REMOVE	8.00 AS	\$157.18	\$1,257.44
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$523.92	\$4,191.36
665-1-60	PEDESTRIAN DETECTOR, REMOVE	8.00 EA	\$83.92	\$671.36

### Signalization 2

<b>Description</b>		<b>Value</b>
Type		Miscellaneous
Multiplier		1
Description	7th St W	

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	270.00	LF	\$30.54	\$8,245.80
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,563.65	\$1,563.65
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	4.00	EA	\$1,176.81	\$4,707.24
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$3,029.20	\$24,233.60
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	1.00	EA	\$535.09	\$535.09
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	1.00	AS	\$2,144.17	\$2,144.17
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00	AS	\$2,418.57	\$4,837.14
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	1.00	AS	\$305.03	\$305.03
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	2.00	EA	\$970.38	\$1,940.76
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$1,072.44	\$8,579.52
653-1-60	PEDESTRIAN SIGNAL, REMOVE	8.00	AS	\$157.18	\$1,257.44
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$523.92	\$4,191.36
665-1-60	PEDESTRIAN DETECTOR, REMOVE	8.00	EA	\$83.92	\$671.36

### Signalization 3

<b>Description</b>		<b>Value</b>
Type		Miscellaneous
Multiplier		1
Description	10th St W	

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	50.00	LF	\$18.32	\$916.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	240.00	LF	\$30.54	\$7,329.60
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,563.65	\$1,563.65

635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	4.00 EA	\$1,176.81	\$4,707.24
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00 EA	\$3,029.20	\$24,233.60
649-21-3	STEEL MAST ARM ASSEMBLY, F&I, 40'	2.00 EA	\$83,991.92	\$167,983.84
649-21-6	STEEL MAST ARM ASSEMBLY, F&I, 50'	2.00 EA	\$78,577.32	\$157,154.64
649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE	4.00 EA	\$21,697.06	\$86,788.24
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	8.00 AS	\$2,144.17	\$17,153.36
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	4.00 AS	\$2,418.57	\$9,674.28
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	8.00 AS	\$305.03	\$2,440.24
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	10.00 EA	\$970.38	\$9,703.80
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$1,072.44	\$8,579.52
653-1-60	PEDESTRIAN SIGNAL, REMOVE	8.00 AS	\$157.18	\$1,257.44
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$523.92	\$4,191.36
665-1-60	PEDESTRIAN DETECTOR, REMOVE	8.00 EA	\$83.92	\$671.36

#### Signalization 4

##### Description

Type

Multiplier

Description

8th Ave W

##### Value

Miscellaneous

1

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	50.00	LF	\$18.32	\$916.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$30.54	\$7,635.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	4.00 EA		\$1,176.81	\$4,707.24
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00 EA		\$3,029.20	\$24,233.60
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	4.00 EA		\$535.09	\$2,140.36
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	2.00 AS		\$2,144.17	\$4,288.34
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00 AS		\$2,418.57	\$4,837.14
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	2.00 AS		\$305.03	\$610.06
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	4.00 EA		\$970.38	\$3,881.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS		\$1,072.44	\$8,579.52
653-1-60	PEDESTRIAN SIGNAL, REMOVE	8.00 AS		\$157.18	\$1,257.44
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA		\$523.92	\$4,191.36
665-1-60	PEDESTRIAN DETECTOR, REMOVE	8.00 EA		\$83.92	\$671.36

**Signalization 5****Description**

Type

Multiplier

Description

6th Ave W

**Value**

Miscellaneous

1

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	60.00	LF	\$18.32	\$1,099.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	240.00	LF	\$30.54	\$7,329.60
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	3.00	EA	\$1,176.81	\$3,530.43
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$3,029.20	\$24,233.60
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	2.00	EA	\$535.09	\$1,070.18
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	1.00	AS	\$2,144.17	\$2,144.17
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	1.00	AS	\$2,418.57	\$2,418.57
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	1.00	AS	\$305.03	\$305.03
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	8.00	EA	\$970.38	\$7,763.04
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$1,072.44	\$8,579.52
653-1-60	PEDESTRIAN SIGNAL, REMOVE	8.00	AS	\$157.18	\$1,257.44
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$523.92	\$4,191.36
665-1-60	PEDESTRIAN DETECTOR, REMOVE	8.00	EA	\$83.92	\$671.36

**Signalization 6****Description**

Type

Multiplier

Description

Manatee Ave W

**Value**

Miscellaneous

1

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	60.00	LF	\$18.32	\$1,099.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	240.00	LF	\$30.54	\$7,329.60
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	3.00	EA	\$1,176.81	\$3,530.43
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	4.00	EA	\$3,029.20	\$12,116.80
649-21-6	STEEL MAST ARM ASSEMBLY, F&I, 50'	1.00	EA	\$78,577.32	\$78,577.32
649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE	1.00	EA	\$21,697.06	\$21,697.06
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	2.00	AS	\$2,144.17	\$4,288.34

650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	1.00 AS	\$2,418.57	\$2,418.57
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	2.00 AS	\$305.03	\$610.06
650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	3.00 EA	\$970.38	\$2,911.14
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	4.00 AS	\$1,072.44	\$4,289.76
653-1-60	PEDESTRIAN SIGNAL, REMOVE	2.00 AS	\$157.18	\$314.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	4.00 EA	\$523.92	\$2,095.68

### Signalization 7

<b>Description</b>	
Type	Miscellaneous
Multiplier	1
Description	3rd Ave W

<b>Value</b>
Miscellaneous
1

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	60.00	LF	\$18.32	\$1,099.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	310.00	LF	\$30.54	\$9,467.40
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	4.00	EA	\$1,176.81	\$4,707.24

### Signalization 8

<b>Description</b>	
Type	Miscellaneous
Multiplier	1
Description	17th St W

<b>Value</b>
Miscellaneous
1

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	120.00	LF	\$18.32	\$2,198.40
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	220.00	LF	\$30.54	\$6,718.80
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$11,693.28	\$11,693.28
635-2-19	PULL & SPLICE BOX,F&I,DIMENSIONS PER UAO	4.00	EA	\$1,176.81	\$4,707.24
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	3.00	EA	\$3,029.20	\$9,087.60
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	5.00	EA	\$535.09	\$2,675.45
649-21-3	STEEL MAST ARM ASSEMBLY, F&I, 40'	1.00	EA	\$83,991.92	\$83,991.92
649-21-6	STEEL MAST ARM ASSEMBLY, F&I, 50'	1.00	EA	\$78,577.32	\$78,577.32
649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE	2.00	EA	\$21,697.06	\$43,394.12
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	5.00	AS	\$2,144.17	\$10,720.85
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	4.00	AS	\$2,418.57	\$9,674.28
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	6.00	AS	\$305.03	\$1,830.18

650-2-102	VEHIC SIGNAL AUX, REP/RETROFIT- F&I, BAC	8.00 EA	\$970.38	\$7,763.04
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	3.00 AS	\$1,072.44	\$3,217.32
653-1-60	PEDESTRIAN SIGNAL, REMOVE	3.00 AS	\$157.18	\$471.54
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	3.00 EA	\$523.92	\$1,571.76
665-1-60	PEDESTRIAN DETECTOR, REMOVE	3.00 EA	\$83.92	\$251.76
682-1-133	ITS CCTV CAMERA, F&I, DOME ENCL-NP.	1.00 EA	\$7,731.77	\$7,731.77
682-1-600	ITS CCTV CAMERA, REMOVE & DISPOSAL	1.00 EA	\$417.97	\$417.97

**Signalizations Component Total**

\$1,297,497.38

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**Sequence 10 Total**

\$1,346,102.60

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Sequence: 11 MIS - Miscellaneous Construction

Net Length: 1.308 MI  
6,906 LF

Description: Signals - Full Replacement

**SIGNING COMPONENT**

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-3-201	SIGN PANEL, F&I OM, UP TO 12 SF <b>Comment:</b> Manatee Ave (2)	2.00 EA	\$1,133.78	\$2,267.56
700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF <b>Comment:</b> Manatee Ave (2)	2.00 EA	\$84.41	\$168.82
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF <b>Comment:</b> 7th St W (4), Manatee Ave W (2), 19th St W (2)	8.00 EA	\$5,633.78	\$45,070.24
700-5-60	INTERNAL ILLUM SIGN, REMOVE <b>Comment:</b> Manatee Ave (1)	1.00 EA	\$330.97	\$330.97
<b>Signing Component Total</b>				<b>\$47,837.59</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 3**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	10th St W

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH <b>Comment:</b> 10th St W	100.00 LF	\$18.32	\$1,832.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE <b>Comment:</b> 10th St W	130.00 LF	\$30.54	\$3,970.20
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL <b>Comment:</b> 10th St W	1.00 PI	\$11,693.28	\$11,693.28

**Signalization 6**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Manatee Ave

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
649-21-8	STEEL MAST ARM ASSEMBLY, F&I, 50'- 40' <b>Comment:</b> Manatee Ave (1)	1.00 EA	\$159,316.41	\$159,316.41
649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE	1.00 EA	\$21,697.06	\$21,697.06
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W <b>Comment:</b> Manatee Ave (5)	5.00 AS	\$2,144.17	\$10,720.85

650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	5.00 AS	\$305.03	\$1,525.15
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<b>Signalizations Component Total</b>				<b>\$210,754.95</b>
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<b>Sequence 11 Total</b>				<b>\$258,592.54</b>
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Sequence: 14 MIS - Miscellaneous Construction

Net Length: 1.379 MI  
7,281 LF

Description: Bridge 130132 Repair - Alternative 3

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**ROADWAY COMPONENT**

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
536-8-122	GUARDRA CONN TO RIGID BA, F&I, APP E3	1.00	EA	\$4,138.02	\$4,138.02
<b>Roadway Component Total</b>					<b>\$4,138.02</b>

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**BRIDGES COMPONENT**

**Bridge X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
458-1-21	BRIDGE DECK EXPANSION JNT, REHAB,POURED	1,581.00	LF	\$82.30	\$130,116.30
458-2	POLYMER NOSING FOR BRIDGE DECK EXPANSION	23.25	CF	\$1,199.89	\$27,897.44
<b>Bridge Total</b>					<b>\$158,013.74</b>
<b>Bridges Component Total</b>					<b>\$158,013.74</b>

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**Sequence 14 Total**

**\$162,151.76**

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Sequence: 15 MIS - Miscellaneous Construction

Net Length: 1,000 MI  
5,280 LF

Description: Sealant

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**BRIDGES COMPONENT**

**Bridge X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
413-151	METHACRYLATE MONOMER	1,513.00 GA	\$77.41	\$117,121.33
413-154	CLEAN & SEAL CONC- PENETR OR METHACR	151,260.00 SF	\$2.07	\$313,108.20
	<b>Bridge Total</b>			\$430,229.53
	<b>Bridges Component Total</b>			\$430,229.53

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**Sequence 15 Total**

\$430,229.53

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# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 456237-1-52-01

**Letting Date:** 07/2028

**Description:** SR 45 (US 41) FROM 10TH ST W TO 17TH ST W/MEMPHIS RD

**District:** 01      **County:** 13 MANATEE      **Market Area:** 10      **Units:** English

**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 1.308 MI

**Project Manager:** NEM-LAT-4P

**Version 6-P Project Grand Total**

**\$11,956,148.04**

**Description:** January 2026 Markup to add sealant from Version 5P-2/9/26

**Resurfacing Lane Mile Cost** **\$978,408.19**

**Project Sequences Subtotal** **\$8,137,322.80**

102-1	Maintenance of Traffic	15.00 %	\$1,220,598.42
101-1	Mobilization	10.00 %	\$935,792.12

**Project Sequences Total** **\$10,293,713.34**

Project Unknowns	15.00 %	\$1,544,057.00
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$118,377.70	\$118,377.70

**Project Non-Bid Subtotal** **\$118,377.70**

**Version 6-P Project Grand Total**

**\$11,956,148.04**