

**February 2024**



**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 447435-1-52-01**

**SR 540 from East of Jim Keene Boulevard to West of SR 620**

**Polk County, Florida**



**Candidate Project RRR Scope**

February 5, 2024

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

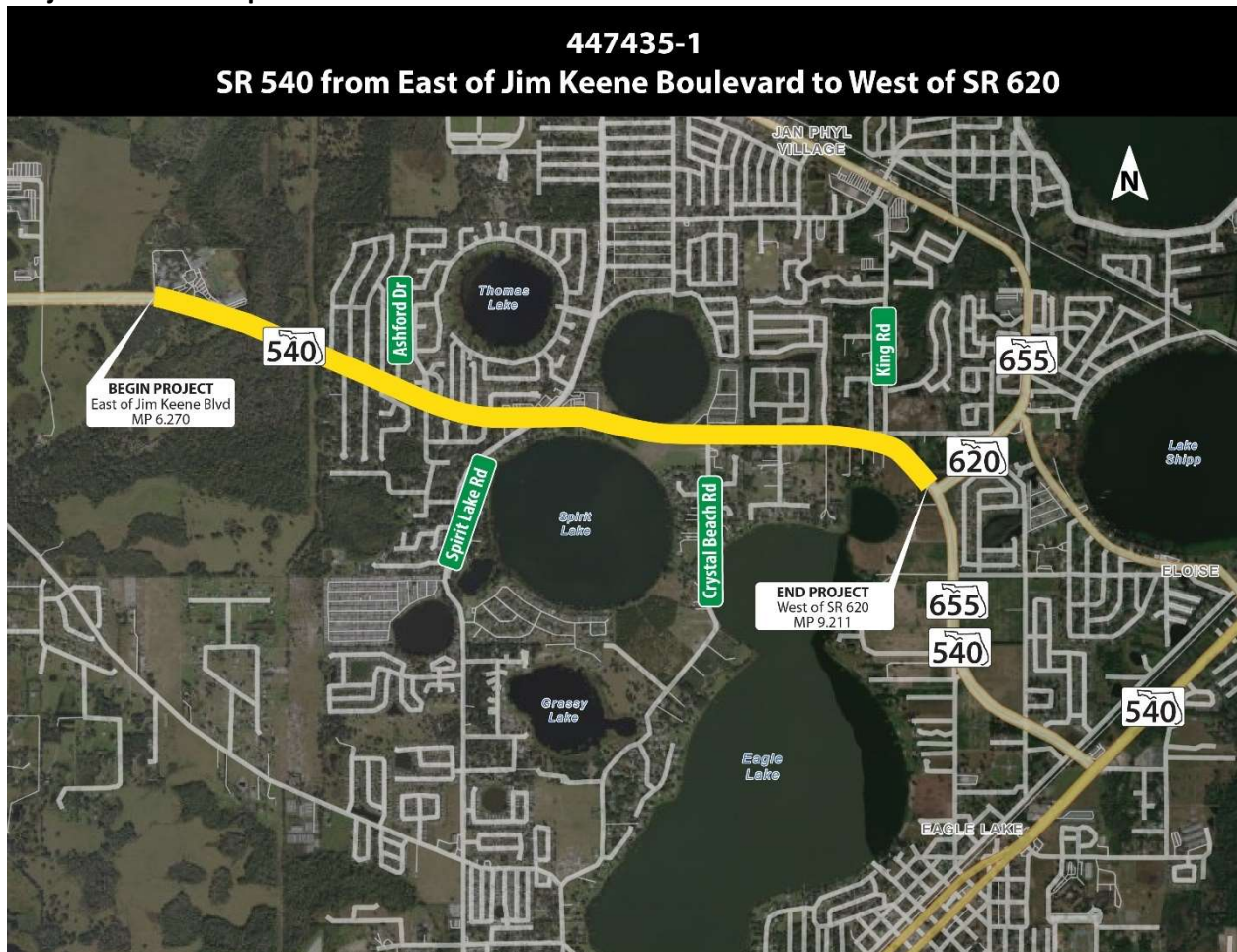
**RE: SR 540 from East of Jim Keene Boulevard to West of SR 620 TECHNICAL SCOPE**

State Road Number: SR 540  
 Section Number: 16119000  
 County: Polk County  
 Project Limits: SR 540 from East of Jim Keene Boulevard to West of SR 620  
 Begin MP/End MP: 6.270 to 9.211  
 Project Length: 2.945 miles  
 FPID No.: 447435-1  
 Work Mix: 0012 (Resurfacing)

1. Existing R/W Map Project Numbers:	16118-2503 (128 feet); 16842-2601
2. Old Construction Project Numbers:	197475-1 (1999) Add Lanes and Recon MP 5.091 to MP 8.812
3. Adjacent Projects:	451478 (2028) RRR MP 9.211 to MP 9.259 (also includes work on 16120 and 16121) 439439-1 RRR (2020) MP 3.424-6.266 197472-1 New Construction 16120 (1998) MP 0.000 to MP 1.108 (realigned as 16119)
4. Additional R/W Required?	No
5. Level of Community Awareness Plan:	Level 1
6. Are there any bridges within the limits?	No
7. Are there any RR Crossings within the project limits or in the vicinity?	No
8. Are there any Airports within 5-miles?	No
9. Storm Water Management Jurisdiction:	Southwest Florida WMD
10. AADT:	27,000 AADT (2023); Truck %=6.9
11. Are there any old houses or buildings adjacent to the project?	No
12. Number of Existing Utilities:	10 Utilities: Fiberlight – Fiber; C/O Auburndale – Water, Sewer; Charter Comm – Cable, Fiber, CATV; FPL – Gas; Fla Gas Trans – Gas; Gulfstream – Natural Gas; Frontier – CATV, Comm Lines; Level 3 – Fiber; Polk County Utilities – Water, Sewer; TECO – Electric, Fiber
13. Any Special MOT concerns?	No
14. Any Construction concerns?	No
15. Posted/Design Speed Limits:	Design Speed: 50 mph Posted Speed 50 mph (MP 6.266 to 8.785) 60 mph (MP 8.875 to 9.211)
16. SIS Facility?/Context Classification:	No / C2, C3R – Rural, Suburban

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 is responsible for verifying all items in the scope and shall review the project for conformance with all applicable criteria and standards. The Design Project Manager shall be notified of any proposed deviations from the scope. The Design Project Manager shall coordinate the proposed deviations with the scoping team and the District Roadway Design Engineer for approval.

**Project Location Map:**



**Intent and Nature of Project:**

This is a Resurfacing, Restoration, and Rehabilitation (RRR) project that is intended to extend the service life of the existing roadway. This project was identified as a result of deficient pavement conditions noted in the 2023 Pavement Condition Survey. Additional improvements to this roadway shall adhere to the standards set forth in the 2024 FDOT Design Manual (FDM).

**Project Abstract**

Milling and resurfacing on SR 540 from East of Jim Keene Boulevard to West of SR 620.

**Project Description:**

- The target speed and context meetings were held on March 31, 2023. The typical section was approved at the December 11, 2023 TRM meeting.  
The Target speed was set to the following:
  - MP 6.266 to MP 6.922 - match the posted speed of 50 mph
  - MP 6.922 to MP 8.785 – set to 50 mph which reduces the current 60 mph posted speed
  - MP 8.785 to MP 9.211 - set to 55 mph which reduces the current 60 mph posted speed
- Typical Section Description:
  - **TYP 1** (C2) 0.656 mile (MP 6.266-MP 6.922) = 4-lane divided roadway with 11-ft travel lanes; 4-ft outside offset; 64-ft depressed median with 8-ft inside shoulder (2-ft paved); and outside Type F curb and gutter.
  - **TYP 2** (C2, C3R) 1.863 miles (MP 6.922-MP 8.785) = 4-lane divided roadway with 11-ft travel lanes; 4-ft outside offset; 40-ft to 52-ft depressed median with 8-ft inside shoulder (2-ft paved); outside Type F curb and gutter; and 5-ft sidewalk along both sides.
  - **TYP 3** (C3R) 0.426 mile (MP 8.785-MP 9.211) = 4-lane divided roadway with 11-ft travel lanes; 4-ft outside offset; 52-ft depressed median with 8-ft inside shoulder (2-ft paved); outside Type F curb and gutter; and 5-ft sidewalk along both sides.

**Project limits:**



*Begin Project MP 6.270*



*End Project MP 9.211*

The SR 540 RRR project begins at the pavement joint and where the suburban typical section with C&G on the outsides starts at approximately 1,877 feet east of the Jim Keene Boulevard T-intersection and proceeds east approximately 2.945 miles to just west of SR 620 intersection. There is a need to repair/replace the drainage system from MP 6.266 to MP 8.785 so this section will be flexible reconstruction.

**Roadway Scope Items:**

- The 2024 FDOT Design Manual (FDM), Florida Department of Transportation (FDOT) FY2024-25 Standard Plans for Road and Bridge Construction, as well as the 2024 Flexible Pavement Design Manual (FPDM) was used to develop this scope report.
- The existing roadway components include vehicular and bicyclist elements. Pedestrian and transit elements if any will be itemized under multi-modal transportation scope items.

- A Pavement Condition Assessment had not been completed by the Florida Department of Transportation (FDOT) at the time of this report.
- The FDOT is to perform the Pavement Coring Report, ESAL calculations as well as Resilient Module values for further analysis. The project designer will prepare the Pavement Design Package per FPDM. Any pavement design used in this scope evaluates old as-built information and is used for budget purposes only.
- Based on the available as built information the existing pavement consists of 1" FC-3 friction course, 2½" type S structural course, optional base group 9, and 12" Type B stabilization for the mainline and turn lanes within the proposed SR 540 project limits.
- The drainage pipes need to be repaired/replaced from MP 6.266 to MP 8.785. The roadway estimate for the LRE was to assume the outside lane or lanes and crossings would be reconstructed for the LRE estimate purposes. Design will need to evaluate minimizing this reconstruction once the drainage engineer has determined if the pipes segments can be repaired or replaced.

**Mainline Reconstruction for Drainage Repairs:**

- The mainline outside travel lane (s) and drainage pipe crossings will be reconstructed for the drainage repairs.
- For budget purposes, the LRE assumes 12" of Type B Stabilization with a minimum Optional Base Group 9 (consider the use of Type B-12.5 if required), 3" Type SP structural course (Traffic C, PG 76-22), and 1 ½" FC-12.5 friction course (Traffic C, PG 76-22).

**Mainline and Major Side Street Milling and Resurfacing:**

- For budget purposes, the LRE assumes the mainline and turn lanes 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).
- For the SR 540 at Spirit Lake Rd signalized intersection, it is recommended that it be milled 3 ½" and resurfaced with 2" Type SP 12.5 (Traffic C, PG 76-22) and 1 ½" FC-12.5 (Traffic C, PG 76-22).

**Side Street Milling and Resurfacing**

- It is recommended that minor side streets are to be milled 1 ½" and resurfaced with 1 ½" FC-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 or existing pavement joint, whichever is greater.
- At the time of this report there were no unpaved named side street turnout identified within the proposed project limits.

**Keyhole Widening:**

- There are existing keyholes at the right turn lanes on this project.

**Curb and Gutter:**

- Due to the reconstruction of SR 540 for the drainage replacement some of the existing Type F and Type E curb and gutter on the outsides of the edge of pavement may be reconstructed in accordance with the Standard Plans Index 520-001.

**Lane Balance Evaluation for right turn lane east of Spirit Lake:**

- Design will need to evaluate the lane balance for the area east of Spirit Lake Rd intersection westbound where the left turn lane is added to the inside of the roadway (approximately MP 8.008) but the through outside lane then becomes an exclusive right turn lane. Traffic Operations would like to see this realigned for the through lane to not be the drop lane. This is within the reconstruction area for the drainage repairs so that may assist an inexpensive improvement. There is no budget for this included in the LRE.

**Horizontal Curves/Superelevation:**

- There are four (4) existing superelevated curves with the following information based on the available widening as built plans under FPID 197475-1-52-01 constructed in 1999-2000. It should be noted that the existing posted speed limit of 50 mph and 55 mph from east of Spirit Lake Road to the end project will be maintained and therefore this roadway segment should be considered a high-speed corridor and several of the design elements should be corrected/alterd to the current design criteria. The project designer should analyze the curve data e-factor to verify it meets the required criteria per the January FDM 210.9, and the American Association of State Highways and Transportation Officials (AASHTO).:

Curve No.	DS	PC MP	PT MP	Degree of Curvature/ Deflection Angle	Radius (ft)	SE (e)	FDM SE (e)
1	50	6.270	6.647	1°15'00"	4584	NC	0.026
2	50	7.298	7.610	1°30'00"	3820	NC	0.031
3	50	7.896	8.030	2°30'00"	2292	0.029	0.049
4	50	8.094	8.263	2°00'00"	2865	0.025	0.040

**Speed Management Measures:**

- Traffic Operations has asked that design evaluate if there are any cost effective speed management ideas that could be incorporated. These are to be evaluated by the design engineer with FDOT traffic operations during design. If approved, then FDOT will need to see if it can be prioritized for funding. There is no budget for this included in the LRE.

**Mailboxes:**

- At the time of this report and within the project limits there are eight (8) mailboxes that should be impacted by the construction. For budget purposes, the LRE does not contain any contingency budget for mailboxes to be replaced. If the engineer finds any of these that need to be replaced, they will need to coordinate with the District Design Engineer for approval.

**Access Management:**

- Determine the disposition of side streets and driveways with access management during the design phase. This scope assumes worst case scenario for the purposes of LRE.

**Turnout/Driveway:**

- Asphalt driveways: At the time of this report, there are two (2) existing asphalt driveways within the project limits that should be milled and resurfaced. Asphalt driveways are recommended to be milled at 1 ½" and resurfaced with 1 ½" FC-12.5 (Traffic C, PG 76-22). It is recommended that all asphalt driveways be resurfaced to the back of the furthest return or to the edge of the existing pavement joint, whichever is greater. Follow the minimum and maximum width recommendations as outlined in the FDM, Chapter 114 and the Standard Plans, Index 330-001.

- Concrete driveways: At the time of this report, there are twenty-three (23) existing flared concrete driveway turnouts that vary in width and location and should be evaluated by the designer during the design phase. Any repairs/reconstruction should be made in accordance with the Americans with Disabilities Act (ADA), the FDM 114 and the Standard Plans Index 522-003.
- Unpaved driveways: At the time of this report there was no dirt, grass or gravel driveways within the project limits that are recommended to be reconstructed.

**Multi-Modal transportation Scope Items:**

- No sidewalks are provided or are proposed along the SR 540 roadway corridor from the begin project MP 6.270 to approximately MP 6.922.
- From approximately MP 6.922 to MP 7.882 (east of the Spirit Lake Road intersection) existing 6-foot-wide sidewalks are provided on both sides of the roadway and directly behind the existing Type F C&G. Whereas from approximately MP 7.882 to the end of project, existing 5-foot-wide sidewalks with a sod strip between it and the existing Type F C&G.
- New detectable warning devices should be constructed in accordance with the Americans with Disabilities Act (ADA), the Standard Plans Index 522-003.
- Consideration for reconstructing ADA ramps and detectable warning devices to current standards and potentially provide a more linear direction for pedestrian crossings at various pedestrian crossing locations that should be evaluated by the designer during the design phase of the project. These locations will need to be presented to the District Roadway Engineer for approval and funding. The LRE does not include a contingency budget for these elements.
- At the time of this report, there were no bus stops identified within the proposed SR 540 project limits.

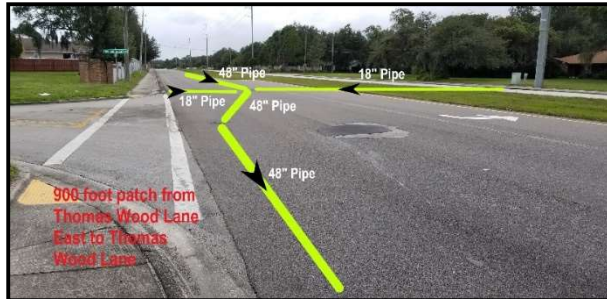
**Design Variation/Exception:**

- Variations
  - Design Speed < 55 MPH for C2
  - Lane Width < 12-ft for greater than 50 mph
  - Outside Type F C&G with posted speed 55 mph
  - Outside offset less than 6.5-ft
  - Superelevation if it is deemed appropriate to leave it as is.

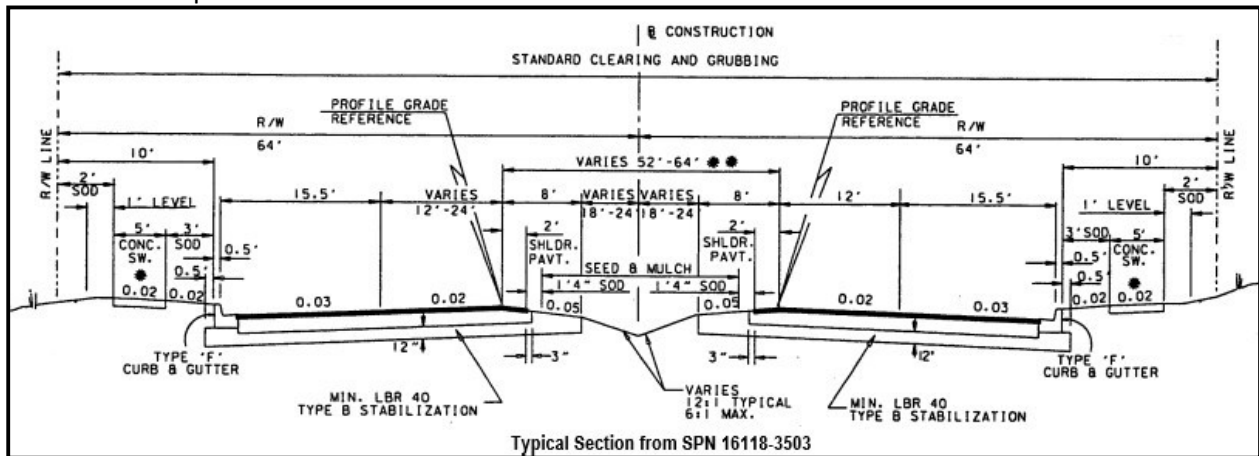
**Drainage Scope Items:**

The existing drainage consists of a closed system with curb inlets for conveyance of roadway runoff. The project generally consists of reconstructing the roadway and replacing the existing drainage system throughout the limits of the project. No proposed stormwater management facilities or floodplain compensation are expected. The existing stormwater management facilities will remain and continue to be the outfall for the new storm drain system. This project currently has a dual system between east of Brandy Chase Boulevard and St. Paul Drive. This was designed to separate offsite runoff from onsite runoff. At the time of the design of this project the Southwest Florida Water Management District (SWFWMD) required that they be separated or the offsite area would have to be treated as well. Since then House Bill 599 (2012), enacted as Chapter 2012 174, Laws of Florida, amended Chapter 373, F.S. to create provision Section 373.413(6) allows FDOT projects to accept offsite without treating it. This may be an issue to revisit during the reconstruction of the roadway and replacement of the existing storm drain system within the dual system area. There are portions on the storm drain system that extend approximately 700 feet north and south of SR 540 on to Spirit Lake Road. This will also be considered as

part of the project. It is to be noted that the north portion of Spirit Lake Road currently has a 6" Type II underdrain system on both sides of the road approximately up to Live Oak Lane. This system will need to be replaced as well. Based on State Project Number 16118-3503 the limits of underdrain on SR 540 are from Sta. 958+50 to Sta. 963+60 and Sta. 997+00 to Sta. 1002+50, both sides. On Spirit Lake Road it is from Sta. 201+10 to Sta. 206+45, both sides. There are various locations along SR 540 that have roadway patches inline with the storm drain system indicating pipe failure as determined by FDOT Maintenance demonstrating the need for full reconstruction and replacement of all storm drain mainlines and laterals.



The existing stormwater management facility (SMF) was designed to treat the first one inch of runoff from the project right-of-way. Therefore any additional impervious area added due to the reconstruction has been accounted for as long as it is within the existing right-of-way, which was approximately 64 feet each side of the centerline of construction. This is based on the Typical Section for State Project Number 16118-3503 which is depicted below. If there is need for additional right-of-way, additional treatment calculation and pond modification will be needed.



Within the project limits there are 6 cross drains that convey offsite through the project corridor. These cross drains appear to be functioning adequately and should need no replacement. They should require some preliminary investigation during design to determine their structural status.

There are no apparent drainage issues with the existing storm drain runoff capture, however, include a rainy day visit to determine existing drainage facilities are functioning sufficiently as designed.

**Permitting/Environmental Scope Items:**

- Coordinate with FDOT for determination of Environmental Permits for review and concurrence during the design process, considering the below descriptions of work and conditions;



- Conduct an on-site environmental assessment including wetland delineation.
- Records indicate that rare species or suitable habitat may exist within or near the project limits. Design phase species review for sand skink, bald eagle, and gopher tortoise are anticipated. For additional information please see the attached Scope Analysis for Social and Environment Issues.
- This project is anticipated to exceed one acre of soil disturbing activities and will require NPDES coverage under the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities.
- This project is currently permitted by SWFWMD under permit 4316126.000. Preliminary contact with SWFWMD indicates that no permit or modification would be required since this reconstruction is a replacement in kind.

#### Utility Scope Items:

- Utility coordination will be required to determine if adjustments are necessary to ensure there are no conflicts with the proposed construction.
- SUE is anticipated for this project.

#### Signing:

- All existing signing should be evaluated for possible replacement to ensure signs meet current design criteria for size, placement, and reflectivity.
- There are existing flashing SCHOOL ENTRANCE signs with advisory speed panels on both approaches to the traffic signal at All Saints Academy (see photo below). Evaluate condition of each set of sign assemblies and replace if needed. Each set of signs is powered via AC from concrete service pedestals located adjacent to the signs. Consider replacing with solar-powered sign assemblies and removing existing service pedestal and electrical power service connections.



- Install ONE WAY and DIVIDED HIGHWAY signs where appropriate in the project as shown in Chapter 230 of the FDOT Design Manual (FDM), Exhibit 230-4.
- Add ONE WAY signs (R6-3R) in the medians opposite side streets and business driveways that do not have median openings.
- There are no existing advance street name signs for the traffic signal at Spirit Lake Rd. Recommend installation of these signs (if right-of-way permits) in accordance with directions shown in Section 2.37 of the TEM and "Condition A" of the Table 2C-4 of the MUTCD. **Due to limited right-of-way, consider using single-column cantilever signs with reduced lettering size.**

### **Pavement Markings/Delineators/Object Markers:**

- Restripe roadway per current Standard Plans and MUTCD.
- Although speed limits through the project allow for use of Audible and Vibratory Treatment (AVT), these can only be placed on portions of the flush median shoulders. There is curb and gutter on the outside edges of pavement throughout the entire project. Use sinusoidal ground-in rumble strips on median shoulders where appropriate.
- Restripe crosswalks at the signalized intersection at Spirit Lake Rd. and across channelized turn lanes with preformed special emphasis markings.
- Stripe/restripe crosswalks across non-signalized side streets and asphalt driveways where sidewalk exists. These should be standard thermoplastic, six feet (6') in width, inside to inside.
- Evaluate condition of existing delineators within project and replace as needed. Replace all yellow/green delineators on median/separator noses with yellow/yellow delineators per Index 711-001 of the Standard Plans.
- Evaluate condition of existing object markers through the project and replace as needed.

### **Signalization Scope Items:**

#### 1) SR 540 at All Saints Academy (MP: 6.442):

- **Structural Support:**
  - The existing signal structural support infrastructure includes a two-point diagonal span with two concrete strain poles.
  - Per FDM 232.9, diagonal signal spans are only to be used for flashing beacon installations. A variation will need to be prepared to leave this signal in place.
- **Controller and cabinet:**
  - The existing controller and cabinet reside on the NW return. An existing UPS system is not observed.
- **Signal head assemblies:**
  - There is a total of five 3-section, 1-way and one 5-section, 1-way signal head assemblies.
- The budget does not include replacing any existing signal head assemblies.
- **Internally illuminated street name signs:**
  - There are no existing internally illuminated signs.
- **Vehicle detection:**
  - Existing vehicle detection consists of inductive loop detection.
  - Inductive loops will be damaged during milling operations. Replace as necessary. Add or replace multiple detection zone loops.
- **Emergency preemption:**
  - There does not appear to be any existing method for emergency preemption.
- **Traffic monitoring:**
  - CCTV cameras for traffic monitoring are not present.
  - CCTV cameras are not recommended at this time.
- There are four existing Polk County Sheriff's Office license plate readers installed on the signal poles. Two are on each of the signal poles.
- **Fiber interconnect:**
  - This intersection is currently not interconnected with any ATMS or with any other signalized intersections.
  - The addition of fiber interconnect is not anticipated.

- **Power source and service type:**
  - Power source for the signal equipment is from an overhead transformer. The meter and disconnect box are attached to the signal pole in the NW return
  - It is recommended that with addition of a new controller and cabinet and signal poles, a new power service assembly be added.
- **Pedestrian assemblies and detection:**
  - There are no pedestrian facilities present.
  - The addition of pedestrian facilities is not anticipated.
- **Photo, signal location 1:**



2) SR 540 at Spirit Lake Rd. (MP: 7.754):

- **Structural Support:**
  - The existing signal structural support infrastructure includes two-point, dual-diagonal spans with four steel strain poles.
  - Per FDM 261.7, diagonal signal spans are only to be used for flashing beacon installations. A variation will need to be prepared to leave this signal in place.
- **Controller and cabinet:**
  - The existing controller and cabinet reside on the NW return. A UPS system is present and is attached “piggyback” to the side of the controller cabinet.
- **Signal head assemblies:**
  - There is a total of thirteen 3-section, 1-way signal head assemblies.
- **Overhead signs:**
  - There is one static street name sign for the northbound approach from Spirit Lake Rd.
- **Internally illuminated street name signs:**
  - There are no existing internally illuminated street name signs.
- **Vehicle detection:**
  - Existing vehicle detection consists of inductive loop detection.
  - Inductive loops will be damaged during milling operations. Replace as necessary. Add or replace multiple detection zone loops.
- **Emergency preemption:**
  - There are existing infrared emergency preemption detectors located on overhead spans.
- **Traffic monitoring:**
  - CCTV cameras for traffic monitoring are not present.

- CCTV cameras are not recommended at this time.
- **Fiber interconnect:**
  - This intersection is currently not interconnected with any ATMS or with any other signalized intersections.
  - The addition of fiber interconnect is not anticipated.
- **Power source and service type:**
  - Power source for the signal equipment is from an overhead transformer. A type P-IIA service pole with an underground feed support the meter and disconnect box.
- **Pedestrian assemblies and detection:**
  - Pedestrian signals and detectors are present at all returns and facilitate pedestrian actuated crossings for three legs of the intersection (north, south, and east).
- **Photo, signal location 2:**



**Lighting Scope Items:**

1) SR 540 at All Saints Academy (MP: 6.442):

- The first intersection at All Saints Academy is a T-intersection with All Saints Academy's main entrance connecting to SR 540. Signal control at the intersection consists of a diagonal span configuration with flashing operation during non-school hours. Lighting for the intersection is non-existent and there is no corridor or roadway lighting in the vicinity.

2) SR 540 at Spirit Lake Rd. (MP: 7.754):

- The second intersection at Spirit Lake Rd., the north side of Spirit Lake Rd. is a four-lane divided roadway while the south side is (by typical) a two-lane undivided roadway. The existing signal control consists of a dual-diagonal span system which controls traffic for all approaches. Intersection lighting is present for all approaches.

3) For both Intersections:

- **Design is to evaluate the lighting but there is presently no budget allocated for this in the LRE. The design engineer will need to present their findings during the design process to FDOT. If approved, then FDOT will need to see if it can be prioritized for funding.**
- District One preference/policy is to illuminate or provide lighting for all signalized intersections.
- 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.
- Analyze existing intersection lighting and ascertain candidacy for reuse, relocate or upgrade.
- Coordinate light fixture types with Maintaining Agency.

- Coordinate with signal design any shared facilities (i.e., directional bores, luminaire support structures, and power service poles).
- A complete lighting analysis is recommended to promote proper placement of luminaires and to ensure minimum vertical and horizontal illumination values are met.
- Power source requirements should be coordinated with UAO.
- Coordinate lighting maintenance agreement with the District Maintenance Office and or the Maintaining Agency.

**Geotechnical Scope Items:**

- Geotechnical exploration is not needed on this project.

**Structural Scope Items:**

- Per section 261.8 of the 2021 FDM, an Ancillary Structures Report shall be provided for all existing overhead and cantilever signs, signals, HMLP lighting and ITS support structures within the project limits.
- MP 6.784 - Box Culvert 1-10'x8'x145' CBC: Single cell 10'x8'x145' reinforced concrete box culvert carrying SR 540 over an unnamed canal 2.451 miles west of SR 620 intersection. As-built plans are not available in the project folder.

**Right-of-Way Scope Items:**

- ROW impacts are not expected on this project.

**Survey Required:**

- Obtain 3D survey prior to beginning design.

### Scope Analysis for Social and Environmental Issues

<b>FPID No:</b>	447435-1	<b>County:</b>	Polk
<b>City:</b>	Winter Haven		
<b>Project Limits:</b>	SR 540 from East of Jim Keene Boulevard to West of Summer Glen Drive		
<b>Section:</b>	16119-000	<b>Length of Project:</b>	2.515
<b>Begin MP:</b>	6.270	<b>End MP:</b>	9.211
<b>Scope:</b>	Resurfacing, Restoration, and Rehabilitation		
<b>Desktop Review Complete:</b>	4/29/2020, B. Feagle; 5/7/2020, K. Scholl		
<b>Field Review Complete:</b>	3/24/2020, B. Feagle		
<b>Anticipated NEPA COA:</b>	Type 1 CE		

#### Elements with Cost/Schedule Impacts

- Cultural/historical evaluation and State Historic Preservation Officer (SHPO) coordination will be necessary.
- An in-depth soil survey is recommended to verify the presence or absence of suitable skink soils. If necessary, a cover board survey is required between March 1<sup>st</sup> and May 15<sup>th</sup>.
- A Design-phase bald eagle field review is recommended.
- A Design-phase field review for gopher tortoises is recommended.

#### Contamination

- The Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) identified the following potential sites for petroleum contamination involvement:

Name	Facility ID	Address
FDOT Censtate Contractors Spill	9802629	Timberline Road and SR 540
MVP Food Store	8624128	3006 SR 540 W
Speedway #8383	8623788	3005 SR 540 W
Circle K #2704879	9804231	1108 Spirit Lake Road
Top Hat Dry Cleaners	9502507	1092 Spirit Lake Road
Publix Supermarket #425	9809941	1090 Spirit Lake Road

- The ETDM EST identified the following potential site for hazardous waste contamination involvement:

Name	Handler ID	Address
CVS Pharmacy #7917	FLR000184861	3005 SR 540 W

- Further Level 1 evaluation of these facilities may be needed in conjunction with project plans development. Level 2 testing may also be required.

### Farmlands

- There are farmland soils mapped within the project area. This project is not subject to the provisions of the Farmland Protection Policy Act of 1981 because project construction is within the existing right-of-way acquired in 1960, before August 4, 1984.

### Floodplain

- A small portion of the project is located within the 100-year floodplain (Zone AE). Project activities must not adversely impact (fill) floodplain storage.

### Historic/Cultural Resources

- No project-specific Cultural Resource Assessment Survey (CRAS) has been completed.
- The following SHPO survey area has been identified along the project corridor:
  - CRAS SR 540 from Thornhill Road to SR 655 and SR 655 Realignment Corridor from US 17 to SR 655 (1991, Survey #2714, McMurray)
- Although the proposed project will occur within the generally-disturbed right-of-way, cultural/historical evaluation and SHPO coordination will be necessary to address the existing historical/cultural resources, any areas outside of the existing right-of-way (if applicable), and other possible resources not able to be identified in the desktop or field review.
- Based on work expected within existing right-of-way, impacts to significant historic/cultural resources are not expected.

### Section 4(f)

- The ETDM EST and field review identified no potential Section 4(f) resources.

### Social Resources

- The ETDM EST and field review identified the following potential social resources within the project area: All Saints' Academy (5001 SR 540), Faith Baptist Church (2140 Crystal Beach Road), Saint Mary's Anglican Church (2200 SR 540), and Trinity Congregational United (1011 SR 540).
- No impacts to social/community resources are anticipated as all the work is expected to occur within the existing right-of-way. Standard Specifications will require maintenance of access to adjacent properties.
- Various buried underground and overhead electric utilities present within/adjacent to the project (utility relocations are possible pending scope development).

### Wetlands

- The project area appears dry with no hydric/hydrophytic plant indicators occur along the project length.
- The project area between All Saint's Academy and Thomas Wood Lane is identified as Wetland Hardwood Forests. The proposed work will take place within the existing right-of-way, which contains existing mowed herbaceous grasses.

- No wetland or surface water impacts are anticipated. Wetland-related permits are not anticipated.

#### Threatened and Endangered Species

- The project is within the following US Fish and Wildlife Service (USFWS) Consultation Areas: Audubon's crested caracara, Florida grasshopper sparrow, Everglade snail kite, Florida scrub-jay, sand skink, and Lake Wales Ridge plants.
- The project is located within USFWS sand/blue-tailed mole skink consultation area (NRCS suitable skink soils present along the entire project length). The field review identified open sandy soils at various locations along the project corridor. An in-depth soil survey is recommended to verify the presence or absence of suitable skink soils. If necessary, a cover board survey is required between March 1<sup>st</sup> and May 15<sup>th</sup>. A Modified Special Provision (MSP) may be recommended to limit contractor activities in areas of known or expected skink activity or the addition of exclusionary fencing and language to the Design plans may be necessary.
- Bald eagle nest PO047 occurs approximately 0.48-mile south of the project corridor, outside of the 660-foot nest protection radii. It was last surveyed and last known active in 2013. It is possible this nest is no longer in this location or may be active in a nearby location. Other bald eagle nests may be located in the general project area. A Design-phase bald eagle field review is recommended.
- Although none were observed during the field review, there is suitable habitat present for the gopher tortoise, eastern indigo snake, and commensal species. A Design-phase field review for gopher tortoises is recommended.
- The project is within the 18.6-mile designated core foraging area of three wood stork colonies (Lone Palm, Lake Somerset, and Mulberry Northeast). No wetland impacts anticipated.
- The field review identified minimal suitable habitat for the Audubon's crested caracara, Florida grasshopper sparrow, Everglades snail kite, and Florida scrub-jay. Surveys for these species are not expected at this time.
- Species review is anticipated to be high (sand skink, bald eagle, and gopher tortoise).
- Adverse impacts to listed/protected species are not anticipated.

#### Permits

- Permits may be possible based on the final scope/design plans developed.



# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 447435-1-52-01

**Letting Date:** 07/2026

**Description:** SR 540 FROM E OF JIM KEENE BLVD TO KING RD

**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English

**Contract Class:** 1 Lump Sum Project: N      **Design/Build:** N      **Project Length:** 2.709 MI

**Project Manager:** NEM-AEB-JSM

**Version 9-P Project Grand Total**

**\$20,187,104.69**

**Description:** 4P update from TRM. Update to SPM for 0.426 mile extension. Percentages (5/5/5) - 2/5/24

**Sequence:** 1 MIS - Miscellaneous Construction

**Net Length:** 2.709 MI  
14,304 LF

**Description:** Roadway & Drainage reconstruction including RRR Items (Signal loops)

### ROADWAY COMPONENT

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
102-3	COMMERCIAL MATL FOR DRIVEWAY MAINT	736.25	CY	\$97.21	\$71,570.86
110-1-1	CLEARING & GRUBBING	8.00	AC	\$47,233.79	\$377,870.32
110-4-10	REMOVAL OF EXIST CONC	12,694.65	SY	\$28.12	\$356,973.56
110-7-1	MAILBOX, F&I SINGLE	12.00	EA	\$261.47	\$3,137.64
120-1	REGULAR EXCAVATION	19,322.13	CY	\$17.25	\$333,306.74
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	9,661.06	CY	\$45.24	\$437,066.35
120-6	EMBANKMENT	5,796.64	CY	\$36.71	\$212,794.65
160-4	TYPE B STABILIZATION	28,983.19	SY	\$14.65	\$424,603.73
285-709	OPTIONAL BASE,BASE GROUP 09	26,175.08	SY	\$20.66	\$540,777.15
327-70-2	MILLING EXIST ASPH PAVT,3 1/2" AVG DEPTH	90,627.56	SY	\$3.65	\$330,790.59
327-70-6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH	6,013.65	SY	\$4.19	\$25,197.19
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	14,168.47	TN	\$174.84	\$2,477,215.29
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	10,132.34	TN	\$191.70	\$1,942,369.58
515-1-2	PIPE HANDRAIL - GUIDERAIL, ALUMINUM	101.00	LF	\$83.93	\$8,476.93
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	9,739.02	SY	\$81.87	\$797,333.57
527-2	DETECTABLE WARNINGS	500.00	SF	\$33.88	\$16,940.00
546-72-3	GROUND-IN RUMBLE STRIPS, 8" SIN	3.49	GM	\$2,313.48	\$8,074.05
550-10-222	FENCING, TYPE B, 5.1-6.0, W/ VINYL COAT	860.00	LF	\$28.49	\$24,501.40
706-1-3	RAISED PAVMT MARK, TYPE B	1,570.00	EA	\$4.20	\$6,594.00
710-11-190	PAINTED PAVT MARK,STD,WHITE, ISLA NOSE	42.00	SF	\$5.13	\$215.46
710-12-290	PAINTED PAVT MARK,DUR,YELLOW,ISLAND NOSE	1,035.00	SF	\$9.50	\$9,832.50
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	1.00	LS	\$29,265.00	\$29,265.00

711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	2,714.00 LF	\$3.32	\$9,010.48
711-11-124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	220.00 LF	\$4.95	\$1,089.00
711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	659.00 LF	\$6.39	\$4,211.01
711-11-141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	1.03 GM	\$2,530.16	\$2,606.06
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	10.00 EA	\$187.98	\$1,879.80
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	85.00 EA	\$76.72	\$6,521.20
711-11-224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	940.00 LF	\$5.10	\$4,794.00
711-11-241	THERMOPLASTIC, STD, YELLOW, DOT / GUIDE, 6"	0.57 GM	\$2,489.44	\$1,418.98
711-14-123	THERMOPLASTIC, PREFORM, WHITE, SOLID, 12"	600.00 LF	\$7.92	\$4,752.00
711-14-125	THERMOPLASTIC, PREFORM, WHITE, SOLID, 24"	550.00 LF	\$16.23	\$8,926.50
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	6.84 GM	\$4,924.85	\$33,685.97
711-16-102	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 8"	0.25 GM	\$6,498.74	\$1,624.69
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	5.81 GM	\$1,510.05	\$8,773.39
711-16-201	THERMOPLASTIC, STD-OTH, YELLOW, SOLID, 6"	5.62 GM	\$4,920.03	\$27,650.57
<b>Roadway Component Total</b>				<b>\$8,551,850.21</b>

### SHOULDER COMPONENT

#### User Input Data

Description		Value		
X-Items				
Pay item	Description	Quantity	Unit Price	Extended Amount
104-7	SEDIMENT BASIN / CONTAINMENT SYSTEM <b>Comment:</b> Drainage	17.00	\$8,209.74	\$139,565.58
104-9	SEDIMENT BASIN / CONTAINMENT SY CLEANOUT <b>Comment:</b> Drainage	17.00	\$3,674.61	\$62,468.37
104-10-3	SEDIMENT BARRIER	87,045.00	\$2.31	\$201,073.95
104-11	FLOATING TURBIDITY BARRIER	400.00	\$12.26	\$4,904.00
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	300.00	\$6.28	\$1,884.00
104-15	SOIL TRACKING PREVENTION DEVICE	4.00	\$2,046.08	\$8,184.32
104-18	INLET PROTECTION SYSTEM	102.00	\$113.88	\$11,615.76
107-1	LITTER REMOVAL	14.28	\$45.57	\$650.74
107-2	MOWING	14.28	\$72.20	\$1,031.02
520-1-7	CONCRETE CURB & GUTTER, TYPE E	13,300.32	\$34.42	\$457,797.01
570-1-1	PERFORMANCE TURF	56,962.90	\$2.59	\$147,533.91
570-1-2	PERFORMANCE TURF, SOD	47,564.68	\$4.21	\$200,247.30

**DRAINAGE COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
425-1-351	INLETS, CURB, TYPE P-5, <10'	43.00	EA	\$7,474.89	\$321,420.27
425-1-361	INLETS, CURB, TYPE P-6, <10'	16.00	EA	\$8,319.84	\$133,117.44
425-1-451	INLETS, CURB, TYPE J-5, <10'	30.00	EA	\$13,359.65	\$400,789.50
425-1-461	INLETS, CURB, TYPE J-6, <10'	12.00	EA	\$10,575.24	\$126,902.88
425-1-521	INLETS, DT BOT, TYPE C, <10'	14.00	EA	\$6,308.59	\$88,320.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	20.00	EA	\$6,537.24	\$130,744.80
425-1-561	INLETS, DT BOT, TYPE F, <10'	5.00	EA	\$6,076.25	\$30,381.25
425-2-41	MANHOLES, P-7, <10'	5.00	EA	\$6,130.30	\$30,651.50
425-2-71	MANHOLES, J-7, <10'	9.00	EA	\$7,633.68	\$68,703.12
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	10,664.00	LF	\$128.09	\$1,365,951.76
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,120.00	LF	\$159.31	\$337,737.20
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	3,600.00	LF	\$223.82	\$805,752.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	1,736.00	LF	\$265.94	\$461,671.84
430-518-100	STRAIGHT CONC ENDW 18", SINGLE, 0 ROUND	2.00	EA	\$3,939.62	\$7,879.24
430-982-125	MITERED END SECT, OPTIONAL RD, 18" CD	6.00	EA	\$3,221.25	\$19,327.50
430-982-129	MITERED END SECT, OPTIONAL RD, 24" CD	2.00	EA	\$4,907.63	\$9,815.26
430-982-133	MITERED END SECT, OPTIONAL RD, 30" CD	1.00	EA	\$4,234.35	\$4,234.35
430-984-125	MITERED END SECT, OPTIONAL RD, 18" SD	1.00	EA	\$2,923.53	\$2,923.53
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	2.00	EA	\$3,096.85	\$6,193.70
570-1-2	PERFORMANCE TURF, SOD	591.00	SY	\$4.21	\$2,488.11

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
415-1-1	REINF STEEL- ROADWAY	1,429.00	LB	\$1.43	\$2,043.47
425-1-452	INLETS, CURB, TYPE J-5, >10'	8.00	EA	\$10,024.51	\$80,196.08
425-1-462	INLETS, CURB, TYPE J-6, >10'	2.00	EA	\$17,431.84	\$34,863.68
425-1-471	INLETS, CURB, TYPE 7, <10'	1.00	EA	\$10,857.06	\$10,857.06
425-1-501	INLETS, DT BOT, TYPE A, <10'	20.00	EA	\$6,362.13	\$127,242.60
425-1-522	INLETS, DT BOT, TYPE C, >10'	1.00	EA	\$9,433.50	\$9,433.50
425-1-531	INLETS, DT BOT, TYPE C MOD-BACK, <10'	7.00	EA	\$5,885.04	\$41,195.28
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	3,352.00	LF	\$316.77	\$1,061,813.04
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,880.00	LF	\$318.06	\$597,952.80
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	1,888.00	LF	\$402.50	\$759,920.00
430-982-140	MITERED END SECT, OPTIONAL RD, 42" CD	2.00	EA	\$7,150.92	\$14,301.84
430-982-143	MITERED END SECT, OPTIONAL RD, 60" CD	1.00	EA	\$17,307.86	\$17,307.86
440-1-20	UNDERDRAIN, TYPE II	3,221.00	LF	\$46.59	\$150,066.39

440-70	UNDERDRAIN INSPECTION BOX	7.00 EA	\$2,187.08	\$15,309.56
524-2-29	CONC SLOPE PAVT, 4", REINFORCED	116.00 SY	\$148.54	\$17,230.64
530-1-100	RIPRAP, SAND-CEMENT BAGS	10.60 CY	\$791.17	\$8,386.40
530-3-4	RIPRAP, RUBBLE, F&I, DITCH LINING	201.00 TN	\$205.47	\$41,299.47
<b>Drainage Component Total</b>				<b>\$7,344,425.18</b>

### SIGNING COMPONENT

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-60	SINGLE POST SIGN, REMOVE	55.00	AS	\$36.76	\$2,021.80
700-1-111	SINGLE COL GRND SIGN AS, F&I GM, <12 SF	70.00	EA	\$474.29	\$33,200.30
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	21.00	EA	\$1,843.67	\$38,717.07
700-1-113	SINGLE COL GRND SIGN AS, F&I GM, 20.1-30	2.00	EA	\$2,253.04	\$4,506.08
700-1-600	SINGLE COL GRND SIGN AS, REMOVE	65.00	EA	\$34.74	\$2,258.10
700-142-111	EHSA, SOL, GROUND MT, BEACON, <12SF	4.00	EA	\$11,533.17	\$46,132.68
705-10-1	OBJECT MARKER, TYPE 1	6.00	EA	\$181.58	\$1,089.48
705-10-2	OBJECT MARKER, TYPE 2	8.00	EA	\$184.62	\$1,476.96
705-11-1	DELINEATOR, FLEXIBLE TUBULAR	22.00	EA	\$83.35	\$1,833.70
<b>Signing Component Total</b>					<b>\$131,236.17</b>

### SIGNALIZATIONS COMPONENT

#### Signalization 1

Description	Value
Type	Miscellaneous
Multiplier	1
Description	SP&M

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
639-1-620	ELECTRICAL POWER SRV,REM UND	2.00	AS	\$669.88	\$1,339.76
641-2-60	PREST CNC POLE, REMOVE	2.00	EA	\$491.30	\$982.60

#### Signalization 2

Description	Value
Type	Miscellaneous
Multiplier	1
Description	All Saints loops

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	12.00	AS	\$1,071.03	\$12,852.36
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	3.00	AS	\$1,254.60	\$3,763.80

#### Signalization 3

Description	Value
Type	Miscellaneous

Multiplier  
Description

1  
Spirit Lake Rd loops

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	12.00	AS	\$1,071.03	\$12,852.36
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	10.00	AS	\$1,254.60	\$12,546.00

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**Signalizations Component Total** \$44,336.88

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**Sequence 1 Total** \$17,308,804.40

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# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 447435-1-52-01

**Letting Date:** 07/2026

**Description:** SR 540 FROM E OF JIM KEENE BLVD TO KING RD

**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English

**Contract Class:** 1   **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 2.709 MI

**Project Manager:** NEM-AEB-JSM

**Version 9-P Project Grand Total** **\$20,187,104.69**

**Description:** 4P update from TRM. Update to SPM for 0.426 mile extension. Percentages (5/5/5) - 2/5/24

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**Resurfacing Lane Mile Cost** **\$0.00**

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**Project Sequences Subtotal** **\$17,308,804.40**

102-1	Maintenance of Traffic	5.00 %	\$865,440.22
101-1	Mobilization	5.00 %	\$908,712.23

**Project Sequences Total** **\$19,082,956.85**

Project Unknowns	5.00 %	\$954,147.84
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	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal** **\$150,000.00**

**Version 9-P Project Grand Total** **\$20,187,104.69**