

**December 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 454941-1-52-01**

**SR 544 from SR 600 (US 92) to W of 8th Street NW (US 17)**

**Polk County, Florida**



## Candidate Project RRR Scope

December 17, 2024

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

**RE: SR 544 from SR 600 (US 92) to W of 8th St NW (US 17) TECHNICAL SCOPE**

State Road Number: SR 544  
 Section Number: 16140000  
 County: Polk County  
 Project Limits: SR 544 from SR 600 (US 92) to W of 8<sup>th</sup> St NW (US 17)  
 Begin MP/End MP: 0.016 NB/0.031 SB to 3.176  
 Exception limits: N/A  
 Section Equation: N/A  
 Project Length: 3.160 miles  
 FPID No.: 454941-1  
 Work Mix: 0012 (Resurfacing)

1. Existing R/W Map Project Numbers:	614-104 (1951); 80 feet minimum 16140-2501 (1962); varies 16140-2503 (1968); 114 feet minimum 16140-2508 (1985); varies
2. Old Construction Project Numbers:	196915-2 RRR (2009) MP 0.000 to MP 1.365 196915-3 RRR (2009) MP 1.365 to MP 3.156
3. Proposed Projects:	446535-1 SW (2026) MP 0.644 to MP 1.636 450875-1 SR555 US17 RRR (2029) MP 0.434, MP 0.497, MP 29.132, MP 32.824 447874-1 Safety (2024) MP 3.000 to MP 3.224 440844-1 POP (2029) MP 3.210 to MP 11.647
4. Adjacent Projects:	435075-1 SR 600 US 92 RRR (2016) MP 9.235 to MP 11.103 450875-1 SR555 US17 RRR (2029) MP 0.434, MP 0.497, MP 29.132, MP 32.824 447874-1 Safety (2024) MP 3.000 to MP 3.224 440844-1 POP (2029) MP 3.210 to MP 11.647 447877-1 Median Mod (2023) MP 3.351 to MP 3.693 440273-1 PD&E MP 3.681 to MP 11.647 440273-2 Add Lanes Recon (CA) MP 3.693 to MP 7.284 197298-2 RRR (2005) MP 3.213 to MP 3.666 197677-1 Inter (1998) MP 2.151 to MP 3.151
5. Additional R/W Required?	No
6. Level of Community Awareness Plan:	Level 1
7. Are there any bridges within the limits?	Yes, BR #16-0136 (MP 1.890 to MP 1.902)
8. Are there any RR Crossings within the project limits or in the vicinity?	No
9. Are there any Airports within 5-miles?	Yes, Winter Haven Regional Airport & FBO

10. Storm Water Management Jurisdiction:	Southwest Florida WMD
11. AADT:	34,100 AADT (2024); Truck % = 10.0
12. Are there any old houses or buildings adjacent to the project?	No
13. Number of Existing Utilities:	15 Utilities: ATT; Centurylink; Charter Communications; City of Auburndale; City of Winter Haven; Cogent Communications; Duke Energy; Fla Gas Trans; Florida Public Utility; Frontier; Lumen; Summit Broadband; Tampa Electric Company; Teco Fiber; Zayo Group
14. Any Special MOT concerns?	No
15. Any Construction concerns?	No
16. Posted/Design Speed Limits:	Posted/Target Speed = 45 mph Design Speed = 45 mph
17. SIS Facility? / Context Classification:	No / C3C

The purpose of candidate project scope is to support the development of a long-range estimate (LRE) within the 5-year work program. There is 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. 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:**



## Project Abstract

Milling and resurfacing SR 544 from SR 600 (US 92) to W of 8th St NW (US 17).

### 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 2022 Pavement Condition Survey. Additional improvements to this roadway shall adhere to the standards set forth in the 2024 FDOT Design Manual (FDM).

### Project Description:

- This is a RRR project. Mill and resurface existing roadway, turn lanes, driveways, and side street connections.
- The project begins at SR 699 (US 92) on SR 544 at MP 0.016 NB / 0.031 SB then proceeds east 3.160 miles to west of 8th Street NW at MP 3.176.
- The context and target speed meetings were held on July 7, 2023. It was requested to change the existing posted speed from 35 mph to 45 mph from 9<sup>th</sup> Street NE at MP 3.124 to 8<sup>th</sup> Street NW (US 17) at MP 3.176 and leave the posted speed to remain at 45 mph for the remainder of the project limits. The target speed was set to match the posted speed at 45 mph.
- Typical section description:
  - Six lane divided roadway with 12-ft travel lanes; 22-ft raised median with type F curb and gutter; existing type F curb and gutter on the outside of the roadway and a 5-6 ft sidewalk on the south (RT) side.
  - The existing right of way (ROW) for this section of SR 544 is 114-ft minimum.

### Project limits:

The proposed limits of the project are as follows: Begin the project at SR 600 (US 92) 0.016 NB / 0.031 SB to W of 8th Street NW MP 3.176 for a total length of 3.160 miles.



SR 544 at SR 693 (US-92) looking southeast.  
Begin Project - MP 0.016



SR 544 at 8<sup>th</sup> St NW (US 17) looking west.  
End Project - MP 3.176

### Roadway Scope Items:

- The 2024 FDOT Design Manual (FDM), Florida Department of Transportation (FDOT) FY2024-25 Standard Plans for Road and Bridge Construction (Standard Plans), as well as the 2024 Flexible Pavement Design Manual (FPDM) was used to develop this scope report.
- The existing roadway components include vehicular, pedestrian, and transit elements within the corridor limits. Transit and pedestrian elements will be itemized under multi-modal transportation scope items.
- A Pavement Condition Assessment had not been completed by the FDOT at the time of this report. The pavement is in fair condition based on available information. It is recommended that flexible pavement be used for rehabilitation.

- FDOT is to perform the Pavement Coring Report and provide ESAL calculations as well as Resilient Modulus 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.
- This proposed SR 544 RRR project segment was resurfaced within the same limits for the existing typical sections under the following FPID numbers:
  - 196915-2 RRR, MP 0.000 to MP 1.365 (FY 2009).
  - 196915-3 RRR, MP 1.365 to MP 3.156 (FY 2009).
  - 197677-1 RRR, MP 2.151 to MP 3.151 (FY 1998).

**Mainline Milling and Resurfacing:**

- For budget purposes, the mainline through lanes and turn lanes are assumed to 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).

**Side Street Milling and Resurfacing:**

- For budget purposes, the side streets are recommended to be milled 1½" and resurfaced with 1½" 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, right of way, or existing pavement joint, whichever is greater.

**Keyhole Widening:**

- There are five (5) existing right turn lanes within the project limits. There are no existing bike lanes for this curb and gutter section of the roadway. Due to constraints including right-of-way, it is not feasible to add keyholes at this time.
- Keyhole lanes are required in accordance with FDM Chapter 223.1, section 223.2.1.3 so a variation will be needed.

**Concrete Traffic Separators / Median:**

- There are existing concrete traffic separators adjacent to left turn lanes throughout the project limits. The separators are to remain in place but should be evaluated for condition. Damaged traffic separator should be evaluated for repair and presented to the District Roadway Engineer for approval. The LRE does not include contingency budget for this element.

**Curb and Gutter:**

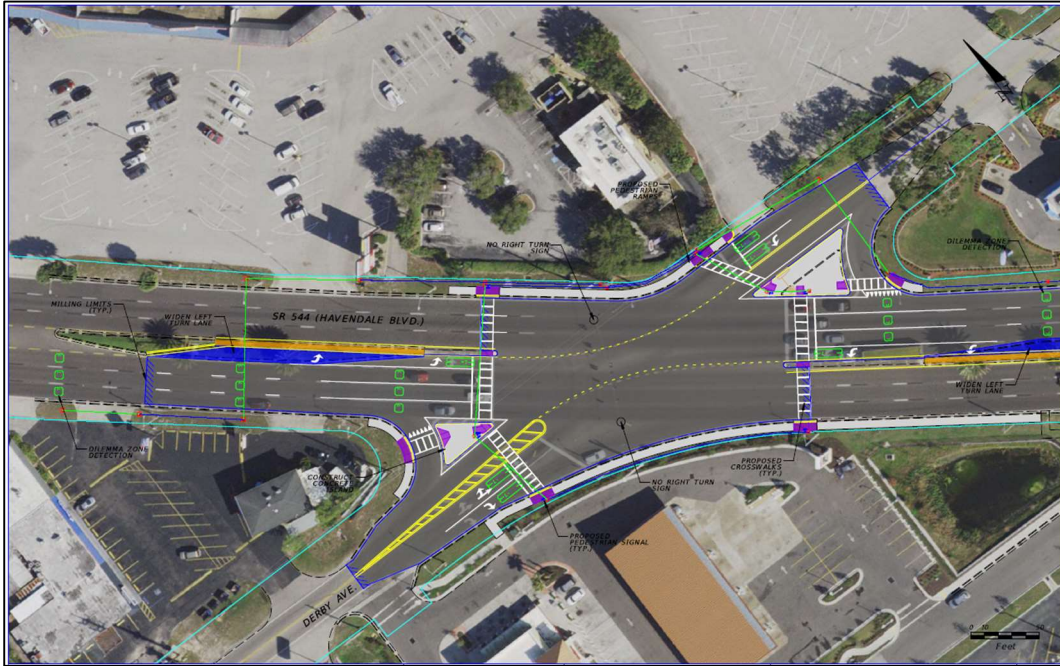
- The existing curb and gutter is to remain in place but should be evaluated for condition. Any curb and gutter needing repair should be presented to the District Roadway Engineer for approval. The LRE does not include contingency budget for this element.
- All existing curb ramps will need to be evaluated for compliance with Florida Design Manual 222 and Standard Plans index 522-002. Any curb ramps which do not meet ADA standards will need to be upgraded to meet FDM 222 and index 522-002. Provide detectable warnings at all side street intersection curb ramps.

**Roadway Guardrail:**

- There is existing guardrail on the approaches to bridge #160136 (MP 1.890 to MP 1.902). The approximate length is 200-feet eastbound and 200-feet westbound (400-feet total).
- For budget purposes the LRE includes replacement costs of 400-feet of guardrail, 2 bridge anchorages, and 2 end treatments. Design will need to evaluate the guardrail to verify if it is up to date for current standards.

**Derby Rd intersection improvements:**

- Derby Rd intersection improvements previously proposed under FPID 449655-1 Safety Project are currently being included in this project. The LRE includes the budget for improvements in the concept layout below. Please refer to the Intersection Safety Study dated October 27, 2020, included in the project directory backup information for more details.



**Charlotte Rd intersection improvements:**

- Traffic Operations has requested the turn lane improvements previously proposed under the Intersection Safety Study dated September 14, 2020 be included in this project. The LRE includes the budget for improvements in the concept layout below. Please refer to the Intersection Safety Study included in the project directory backup information for more details.



**Horizontal Curves/Superelevation:**

- There are five (5) horizontal curves within the project limits. The following curve information was obtained from the Straight-Line Diagram (SLD) and as-built plans available at the time of this report. The existing superelevation rates w/corresponding design speeds are per the as-built plans (FPID 196915-2 and 196915-3).

Curve No.	DS	PC SLD MP	PT SLD MP	Degree of Curvature/ Deflection Angle	Radius (ft)	As-Built SE (e)	FDM SE (e)
1	45	0.272	0.419	1°00'00" Δ =13°19'12"	5,729.58'	NC	NC
2	45	1.518	1.653	2°00'00" Δ =27°58'00"	2,864.79'	NC	NC
3	45	2.339	2.466	4°00'00" Δ =26°43'03"	1,432.39'	NC	RC
4	45	2.613	2.752	3°00'00" Δ =21°51'53"	1,909.86'	NC	RC
5	45	2.848	3.027	0°30'00" Δ =4°42'56"	11,549.16'	NC	NC

- The superelevation rates in the FDM, Table 210.9.2, shows Curves 3 and 4 to not meet criteria. Per the FDM Chapter 210, Section 210.9.2, if the existing superelevation rates are within 0.5% of the superelevation rates in Table 210.9.2, superelevation rate correction is not required. However, if there are any crashes within the last 5 years that are attributed to superelevation, correct the superelevation rates to the new construction values provided in Table 210.9.2.
- 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 will be required if consideration is given to keep the existing deficiency.

**Access Management:**

- Determine the disposition of side streets and driveways with access management during the design phase.

**Turnout/Driveway Milling and Resurfacing:**

- Asphalt driveways: For budget purposes, the LRE assumes driveways be milled 1½" and resurfaced with 1½" FC-12.5 (Traffic C, PG 76-22). If driveway turnouts require replacement, reconstruct with asphalt using minimum of 25-foot (maximum 35-foot) radial connections per the FDM Section 214 and the Standard Plans Index 330-001. If driveways are found to need replacement, they are to be presented to the District Roadway Engineer for approval and to seek funding.
- Concrete driveways: The LRE does not include a budget for replacement of these driveways. If driveways are found to need replacement, they are to be presented to the District Roadway Engineer for approval and to seek funding.
- Unpaved driveways: The cost for reconstructing these driveways is not included in the LRE.

## **Multi-Modal transportation Scope Items:**

### **Concrete Sidewalk:**

- There is existing 6-foot concrete sidewalk along much of the south (RT) side of the roadway from the beginning of the project to First Street. There is approximately 1.34 miles of gap in the existing sidewalk along the south side of the roadway. Future sidewalk project FPID 446535-1 will construct sidewalk along the south side for 0.992 mile from Lake Blue Drive at MP 0.644 to west of 26th Street at MP 1.636. The proposed design should provide approximately 0.350 mile of additional sidewalk to fill in the remaining gap along the south side from Melton Avenue at MP 0.140 to west of 42nd Street at MP 0.490. This will provide continuous sidewalk along the south side from US 92 to First Street. Quantities for the additional sidewalk are included in the LRE as a separate sequence.
- The existing concrete sidewalk should be evaluated for condition. Any sidewalk not meeting ADA compliance should be considered for repair or replacement.
- All existing connections between sidewalk and side street or driveway crossings will need to be evaluated for compliance with Florida Design Manual 222 and Standard Plans index 522-002. Any connections which do not comply with ADA standards will need to be upgraded to meet FDM 222 and index 522-002.
- Any existing concrete sidewalk needing repair should be presented to the District Roadway Engineer for approval. The LRE does not include contingency budget for this element.

### **Transit:**

- A desk-top review of Google Earth found nineteen (19) transit stops along this section of SR 544. The status of these stops should be verified with Citrus Connection.
- Coordination with the District Transit Office as well as Citrus Connection is recommended to identify whether any of these transit stops are to be upgraded. Consideration should be given to upgrading the stops with boarding and alighting pads as needed. The LRE includes quantities for adding boarding and alighting pads at the stops without them.

### **Design Variation/Exception:**

- A design variation will be required for no bicycle facility/Keyhole per Section 223 of the FDM.
- If the 0.350 mile of additional sidewalk is not constructed under this project to fill in the gap along the south side from Melton Avenue at MP 0.140 to west of 42nd Street at MP 0.490, a design variation will be required per Section 222 of the FDM.
- Potential variation for left turn storage length for intersection at Charlotte Rd.
- Possible design variations may be needed for cross slope correction and superelevation if the survey determines that the criteria is not met.

### **Drainage Scope Items:**

The existing drainage consists of an open system with ditch conveyance of roadway runoff and a closed system with curb and gutter conveyance. There are a few areas within the project that have a conveyance ditch behind the sidewalk. The project generally consists of milling and resurfacing and safety improvements. There are (5) five right turn lanes within the project limits which do not have keyholes. Since this section is curb and gutter with no bike lanes, keyholes will not be constructed at this time. There is a roadway patch in front of a curb inlet that needs to be investigated. Where applicable, sidewalk ADA issues will be corrected. There are no other apparent drainage issues, however, include a rainy day visit to determine the drainage facilities are functioning correctly and curb profiles have positive drainage.



- MP 0.06 LT – RTL No Keyhole



- MP 0.20 LT – Patching in front of Existing Curb Inlet



**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. 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 anticipated to be exempt from WMD permitting under FAC 62-330.051 (4)(c), as it is limited to pavement resurfacing and safety modifications, if so, a permit exemption request may be needed.

**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 at guardrail and multi-post signs as needed.
- SUE may be needed for foundations (signals, lighting signs).

**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), FDOT Speed Zoning Manual, and/or Manual on Uniform Traffic Control Devices (MUTCD) for guidelines. Also, replace damaged signs as needed.
- Ensure that STOP, ONE WAY, and/or DIVIDED HIGHWAY signing at all non-signalized side streets meet current design criteria shown in the FDM Chapter 230, Sects. 230.6.3 and 230.6.4, and the MUTCD.
- Consider adding retroreflective strips to warning and regulatory signs within the project. If considered, coordination is required with District Traffic Operations Engineer for installation of these strips.
- There are (7) seven traffic signals within the project limits and (2) two traffic signals just outside of the limits where the loops will be impacted by the milling operation. None of these have existing advance street name (ASN) signs. This is likely due to the very limited right of way throughout the project limits. Review each location to determine if ASN signs can be placed as currently shown in Chapter 2.37 of the TEM and “Condition A” of Table 2c-4 of the MUTCD for guidelines.
- There is one existing two-post guide signs within the project (see photos following). This sign is for the Chain of Lakes Baseball Stadium, and is on the west approach to the traffic signal at US 17. Replace this sign with an updated sign with the logo “Chain of Lakes Park” as this is the current name of the park. Also, consider installing the new sign on a single-post cantilever if possible.



- There are two existing sets of overhead guide signs structures in the project that are assumed to remain. The sign panels should be evaluated during the design phase for replacement.





**Pavement Marking Scope Items:**

- Restripe roadway per current Standard Plans, FDM, and MUTCD.
- Use special emphasis/preformed thermoplastic (24”) for all crosswalks at signalized intersections.
- Use permanent tape for markings on concrete bridge surfaces.
- Replace all markings not otherwise noted in this report with standard thermoplastic.
- Where appropriate, ensure double yellow pavement markings for side streets are a minimum 100’ in length. See index 711-001, Sheet 7 of the Standard Plans. Where needed, refurbish double yellow where needed to achieve the 100’ length.
- A safety recommendation has been made to include optical pavement markings for curves in the project. Review recommendation at the time of preliminary design and incorporate these markings if available. In the interim, additional 12” White thermoplastic has been included for estimating purposes.

**Object Marker and Delineator Scope Items:**

- Evaluate the condition of all existing object markers within the project. Replace if required.
- Consider adding Type 1 object markers on opposite shoulder of SR 544 adjacent to the ONE WAY sign where paved side street(s) terminate at this point. See Exhibit 230-12 in Section 230 of the FDM.
- Replace delineators in the median/separator noses where needed. See Index 711-001 of the Standard Plans for guidelines.

**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.
- Upgrades of existing vehicle detection methods based on current Maintaining Agency requirements.
- Approved replacement of existing signal structures. Signal structures displaying characteristics that lead to a high probability of replacement.
- Approved requests from District TSM&O for ITS related improvements or additions.

Existing traffic signal related features not meeting this criteria will not be included in the scope.

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, District One’s Maintaining Agency requirements guidelines and Structures Design Manual.

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

**Signal location 1:**

SR 544 (Havendale Blvd.)  
at SR 600 / US 92 (Magnolia Ave.)  
MP: 0.000  
Sig ID: 600

**Signal location 2:**

SR 544 (Havendale Blvd.)  
at 26<sup>th</sup> St / Idylwild Sr NW  
MP: 1.636  
Sig ID: 730

**Signal location 2:**

SR 544 (Havendale Blvd.)  
at Derby Rd.  
MP: 0.345  
Sig ID: 726

**Signal location 7:**

SR 544 (Havendale Blvd.)  
at 21<sup>st</sup> St. NW  
MP: 2.144  
Sig ID: 731

**Signal location 3:**

SR 544 (Havendale Blvd.)  
at Charlotte Rd. / 42<sup>nd</sup> St.  
MP: 0.517  
Sig ID: 727

**Signal location 8:**

SR 544 (Havendale Blvd.)  
at 11<sup>th</sup> St. / Shopping Center Ent.  
MP: 2.989  
Sig ID: 732

**Signal location 4:**

SR 544 (Havendale Blvd.)  
at Jersey Rd. / Lake Dr NW  
MP: 0.947  
Sig ID: 728

**Signal location 9:**

SR 544 (Havendale Blvd.)  
at SR 555 / US 17 (8<sup>th</sup> St. NW)  
MP: 3.193  
Sig ID: 636

**Signal location 5:**

SR 544 (Havendale Blvd.)  
at 34<sup>th</sup> St. NW  
MP: 1.086  
Sig ID: 729

**Signal location 1:**

SR 544 (Havendale Blvd.)  
at SR 600 / US 92 (Magnolia Ave.)

**District Safety recommendations:**

- None provided.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.

**Additional scoping recommendations:**

**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.

**Vehicle detection:**

- Loops will be damaged during milling operations; replace as necessary. See the Signalization Plans under FPID 196915-2.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.

**Photo / signal location 1:**



**Signal location 2:**

SR 544 (Havendale Blvd.)  
at Derby Rd.

**District Safety recommendations:**

- Signal replacement.
- For mainline protected / permissive left turns, change 5-section heads to 4-section heads and add an additional 3 section heads for the mainline through movements.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Intersection Safety Study impacts:**

The intersection Safety Study dated October 27, 2020 (previously known as FPID 49655-1) proposes the following:

- Install flexible retroreflective backplates to all the existing signals (all approaches).
- On SR 544 (Havendale Blvd), shift the existing outside EB and WB 3-section through signal heads to be positioned over the approaching lane lines per the previous resurfacing plans (196915-2-52-01). The inside through heads are 2-way heads and appear to be positioned properly. Evaluate and shift if needed.
- Due to the skew of intersection, install Blank Out Signs (BOS) with “No Right-Turn on Red” adjacent to the far-right signal head for the EB and WB Derby Ave approaches.
- Install pedestrian signals and crosswalks at each quadrant.
- Install dilemma zone detection loops for the SR 544 (Havendale Blvd) through lane approaches to the signal.
- Re-evaluate the signal timings.

- Currently, there is no existing computerized traffic signal system equipment within the limits of this project. Coordinate with the maintaining agency for verification and to determine if any additional infrastructure is within the area.

**Additional scoping recommendations:**

**Structural support:**

- Per FDM 232.9, diagonal signal spans are only to be used for flashing beacon installations. The existing span wire was found to be deficient against current standards for wind loading with no additional loading.
- This scope proposes to add load to the span structure. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered since the existing signal span structure is found to be deficient.

**Controller and cabinet:**

- Should the existing signal structures be found deficient, replacement of controller and cabinet is also recommended. 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. Coordinate UPS placement and mounting preferences with the maintaining agency. NEMA / ATC standard controllers are required.

**Signal head assemblies:**

- Should the existing span wire signal be replaced, replacement of the existing signal heads is recommended. Based on MUTCD chapter 4, section 4D.11, it is recommended to add one additional 3-section one-way signal head to the mainline through movements approaches. 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 4-section heads be introduced as part of the SOP, consideration should be given to placing FTP-85-13 signs adjacent to the 4-section heads.
- Install Blank Out Signs (BOS) with “No Right-Turn on Red” adjacent to the far-right signal head for the EB and WB Derby Ave approaches.
- To ensure retro reflectivity and size requirements are met (MUTCD 2A.08 & 2B.03), recommend replacement of all regulatory overhead signs.

**Internally illuminated street name signs:**

- 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:**

- For stop bar and mainline multiple point vehicle detection, it is recommended to utilize inductive loop detection.
- System loops exist within the project limits for data collection at the signalized intersections. The signalized intersections are scoped to receive multiple point detection loops. As with system loops, multiple point detection loops (typically the rear loops) can be utilized to provide data such as occupancy and volume. It is recommended that in lieu of replacing system loops, multiple point detection loops be utilized to provide occupancy and volume data.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Power source and service type:**

- It is recommended that with an addition of a new controller and cabinet, a new power service assembly be added. Coordinate service type with maintaining agency (flat rate or metered).

**Pedestrian assemblies and detection:**

- With the recommended replacement of the structures and controller / cabinet, it is also recommended to provide new ADA compliant pedestrian facilities. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Photo / signal location 2:**



**Signal location 3:**

SR 544 (Havendale Blvd.)  
at Charlotte Rd. / 42nd St.

**District Safety recommendations:**

- Signal replacement.
- Recommends a traffic or timing study be considered for changing the phasing to convert existing mainline protected / permissive left turn phasing to protected phasing. Should there be no phasing change, change 5-section heads to 4-section heads and add an additional 3 section heads for the mainline through movements.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU)

**Intersection Safety Study impacts:**

The intersection Safety Study dated September 14, 2020 proposes the following:

- Install flexible retroreflective backplates to all the existing signals (all approaches).
- Install dilemma zone detection loops for the SR 544 (Havendale Blvd) through lane approaches to the signal.
- Re-evaluate the signal timings.

- Currently, there is no existing computerized traffic signal system equipment within the limits of this project. Coordinate with the maintaining agency for verification and to determine if any additional infrastructure is within the area.

**Additional scoping recommendations:**

**Structural support:**

- This scope proposes to add load to the span structure. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered since the existing signal box span structure will most likely be found deficient.

**Controller and cabinet:**

- Should the existing signal structures be found deficient, replacement of controller and cabinet is also recommended. 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. Coordinate UPS placement and mounting preferences with the maintaining agency. NEMA / ATC standard controllers are required.

**Signal head assemblies:**

- Should the existing span wire signal be replaced, replacement of the existing signal heads is recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain, and in an effort to help reduce load, consideration should be given for the use of flexible backplates (TEM section 3.9).
- 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 4-section heads be introduced as part of the SOP, consideration should be given to placing FTP-85-13 signs adjacent to the 4-section heads.
- To ensure retro reflectivity and size requirements are met (MUTCD 2A.08 & 2B.03), recommend replacement of all regulatory overhead signs.

**Vehicle detection:**

- For stop bar and mainline multiple point vehicle detection, it is recommended to utilize inductive loop detection.
- System loops exist within the project limits for data collection at the signalized intersections. The signalized intersections are scoped to receive multiple point detection loops. As with system loops, multiple point detection loops (typically the rear loops) can be utilized to provide data such as occupancy and volume. It is recommended that in lieu of replacing system loops, multiple point detection loops be utilized to provide occupancy and volume data.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Power source and service type:**

- It is recommended that with an addition of a new controller and cabinet, a new power service assembly be added. Coordinate service type with maintaining agency (flat rate or metered).



**Pedestrian assemblies and detection:**

- With the recommended replacement of the structures and controller / cabinet, it is also recommended to provide new ADA compliant pedestrian facilities. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Photo / signal location 3:**



**Signal location 4:**

SR 544 (Havendale Blvd.)  
at Jersey Rd.

**District Safety recommendations:**

- Signal replacement.
- Recommends a traffic or timing study be considered for changing the phasing to convert existing mainline protected / permissive left turn phasing to protected phasing. Should there be no phasing change, change 5-section heads to 4-section heads and add an additional 3 section heads for the mainline through movements.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Proposed or other project impacts:**

FPID 446535-1 sidewalk improvement project proposes the following:

- Proposes radial return reduction at the SE return at Jersey Rd. / Lake Dr. NW.
- Proposes new ped assemblies on the NW and SE returns.
- Proposes controller UPS.

Note: Given that the signal improvements recommended in 449655-1 have yet to be constructed, this scope assumes all recommended signal improvements will be in place at the time of design.

**Additional scoping recommendations:**

**Structural support:**

- This scope proposes to add load to the span structure. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered since the existing signal box span structure will most likely be found deficient.

**Controller and cabinet:**

- Should the existing signal structures be found deficient, replacement of controller and cabinet is also recommended. 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. Coordinate UPS placement and mounting preferences with the maintaining agency. NEMA / ATC standard controllers are required.

**Signal head assemblies:**

- Should the existing span wire signal be replaced, replacement of the existing signal heads is recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain, and in an effort to help reduce load, consideration should be given for the use of flexible backplates (TEM section 3.9).
- 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:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.
- To ensure retro reflectivity and size requirements are met (MUTCD 2A.08 & 2B.03), recommend replacement of all regulatory overhead signs.

**Internally illuminated street name signs:**

- 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:**

- For stop bar and mainline multiple point vehicle detection, it is recommended to utilize inductive loop detection.
- System loops exist within the project limits for data collection at the signalized intersections. The signalized intersections are scoped to receive multiple point detection loops. As with system loops, multiple point detection loops (typically the rear loops) can be utilized to provide data such as occupancy and volume. It is recommended that in lieu of replacing system loops, multiple point detection loops be utilized to provide occupancy and volume data.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Power source and service type:**

- It is recommended that with an addition of a new controller and cabinet, a new power service assembly be added. Coordinate service type with maintaining agency (flat rate or metered).

**Pedestrian assemblies and detection:**

- With the recommended replacement of the structures and controller / cabinet, it is also recommended to provide new ADA compliant pedestrian facilities. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Photo / signal location 4:**



**Signal location 5:**

SR 544 (Havendale Blvd.)  
at 34th St. NW

**District Safety recommendations:**

- None provided.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Proposed or other project impacts:**

FPID 446535-1 (To be let FY 28 before 450884-1) sidewalk improvement project proposes the following:

- Proposed radial return reduction at the SE return at 34th St. NW.
- Proposes new ped assemblies on the NW and SE returns.
- Proposes controller UPS.

Note: Given that the signal improvements recommended in 449655-1 have yet to be constructed, this scope assumes all recommended signal improvements will be in place at the time of design.

**Additional scoping recommendations:**

**Structural support:**

- Proposed load modifications are anticipated for the existing mast arms. Per FDM 261.8.1, a condition evaluation is required when there are modifications without load increase (flexible backplates, etc.). Per FDM 261.8.2, a structural analysis will be required if the assembly is subject to additional loading (rigid backplates, additional heads etc.).

**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.

**Signal head assemblies:**

- Recommend adding flexible backplates to all existing signal heads.
- Review and coordinate the planned SOP with TSM&O and replace 5-section heads with 4-section heads where appropriate.

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.

**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. Replace as necessary. Add multiple point detection zone loops.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Photo / signal location 5:**



**Signal location 6:**

SR 544 (Havendale Blvd.)  
at 26th St. NW / Idylwild Dr. NW

**District Safety recommendations:**

- None provided.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Additional scoping recommendations:**

**Structural support:**

- The existing mast arm support structures 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 arm. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered if the existing signal structure(s) are found to be deficient. Coordinate painted mast arm policy with District TSM&O and with the maintaining agency.

**Controller and cabinet:**

- Should the existing signal structures be found deficient, replacement of controller and cabinet is also recommended. 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. Coordinate UPS placement and mounting preferences with the maintaining agency. NEMA / ATC standard controllers are required.

**Signal head assemblies:**

- Should the existing the 4-bolt mast arm located on the NE return be replaced, replacement of the existing signal heads is recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain, and in an effort to help reduce load, consideration should be given for the use of flexible backplates (TEM section 3.9).
- 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 4-section heads be introduced as part of the SOP, consideration should be given to placing FTP-85-13 signs adjacent to the 4-section heads.
- To ensure retro reflectivity and size requirements are met (MUTCD 2A.08 & 2B.03), recommend replacement of all regulatory overhead signs.

**Internally illuminated street name signs:**

- 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:**

- For stop bar and mainline multiple point vehicle detection, it is recommended to utilize inductive loop detection.
- System loops exist within the project limits for data collection at the signalized intersections. The signalized intersections are scoped to receive multiple point detection loops. As with system loops, multiple point detection loops (typically the rear loops) can be utilized to provide data such as occupancy and volume. It is recommended that in lieu of replacing system loops, multiple point detection loops be utilized to provide occupancy and volume data.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Power source and service type:**

- It is recommended that with an addition of a new controller and cabinet, a new power service assembly be added. Coordinate service type with maintaining agency (flat rate or metered).

**Pedestrian assemblies and detection:**

- With the recommended replacement of the structures and controller / cabinet, it is also recommended to provide new ADA compliant pedestrian facilities. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Photo / signal location 6:**



**Signal location 7:**

SR 544 (Havendale Blvd.)  
at 21st St. NW

**District Safety recommendations:**

- Add additional 3-section heads for the westbound mainline through movement.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Additional scoping recommendations:**

**Structural support:**

- This scope proposes to add load to the span structure. Follow condition evaluation and structural analysis guidance provided in FDM 261.8. Replacement shall be considered since the existing signal box span structure will most likely be found deficient.

**Controller and cabinet:**

- Should the existing signal structures be found deficient, replacement of controller and cabinet is also recommended. 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. Coordinate UPS placement and mounting preferences with the maintaining agency. NEMA / ATC standard controllers are required.

**Signal head assemblies:**

- Should the existing span wire signal be replaced, replacement of the existing signal heads is recommended. Per FDM 232.1.5, provide backplates with retroreflective borders for all overhead signal heads. Should the structure remain, and in an effort to help reduce load, consideration should be given for the use of flexible backplates (TEM section 3.9).
- 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:**

- Recommend coordination with District Traffic Operations to determine if any current safety related issues warrant the addition of movement prohibition or lane control regulatory signs.
- Should 4-section heads be introduced as part of the SOP, consideration should be given to placing FTP-85-13 signs adjacent to the 4-section heads.

- To ensure retro reflectivity and size requirements are met (MUTCD 2A.08 & 2B.03), recommend replacement of all regulatory overhead signs.
- As of July 2023, District Safety is planning to span mount “no left turn” signs for each of the 2 driveways on the south side (NB) of SR 544. This movement is not signalized. Future coordination is anticipated between the City, FDOT and property owners for a viable solution for a shared driveway configuration that will allow the NB movement to be signalized.

**Internally illuminated street name signs:**

- 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:**

- For stop bar and mainline multiple point vehicle detection, it is recommended to utilize inductive loop detection.
- System loops exist within the project limits for data collection at the signalized intersections. The signalized intersections are scoped to receive multiple point detection loops. As with system loops, multiple point detection loops (typically the rear loops) can be utilized to provide data such as occupancy and volume. It is recommended that in lieu of replacing system loops, multiple point detection loops be utilized to provide occupancy and volume data.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.

**Power source and service type:**

- It is recommended that with an addition of a new controller and cabinet, a new power service assembly be added. Coordinate service type with maintaining agency (flat rate or metered).

**Pedestrian assemblies and detection:**

- With the recommended replacement of the structures and controller / cabinet, it is also recommended to provide new ADA compliant pedestrian facilities. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Emergency preemption:**

- Should the span wires be replaced/upgraded, replacement of emergency preemption devices will be necessary.

**Photo / signal location 7:**



**Signal location 8:**

SR 544 (Havendale Blvd.)

at 11th St. / Shopping Center Ent.

**District Safety recommendations:**

- For mainline protected / permissive left turns, change 5-section heads to 4-section heads and add an additional 3 section heads for the mainline through movements.
- Relocate internally illuminated street name signs to the mast arm uprights.

**District TSM&O recommendations:**

- Provide NEMA / ATC standard controller.
- Provide CCTV camera.
- Provide Connected Vehicle (CV) roadside unit (RSU).

**Additional scoping recommendations:****Structural Support:**

- Proposed load modifications are anticipated for the existing mast arms. Per FDM 261.8.1, a condition evaluation is required when there are modifications without load increase (flexible backplates, etc.). Per FDM 261.8.2, a structural analysis will be required if the assembly is subject to additional loading (rigid backplates, additional heads etc.).

**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.

**Signal head assemblies:**

- 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.

**Overhead signs:**

- Consideration should be given to placing FTP-85-13 signs adjacent to any proposed 4-section heads.

**Internally illuminated street name signs:**

- Recommend replacing "in-line", mast arm mounted internally illuminated signs with cantilevered signs attached to the mast arm uprights. This method of presentation will help reduce unnecessary wind loading. Follow TEM and FDM guidelines to ensure appropriate letter and sign sizing. Coordinate sign and mounting preferences with the maintaining agency.

**Vehicle detection:**

- Recommended using existing mast arm mounted, video detection cameras for stop bar detection. For multiple point detection zones, provide loops.

**Traffic monitoring and associated technologies:**

- District TSM&O is requesting a connected vehicle RSU at this location. Should this system be implemented, it is recommended to coordinate this effort with the maintaining agency to determine specifications for any sole sourced or proprietary controller and cabinet related equipment.
- District TSM&O is requesting the addition of a CCTV camera at this location for traffic monitoring. Should the request be granted, coordinate any sole sourced or proprietary equipment preferences with the maintaining agency.



**Pedestrian assemblies and detection:**

- Push button detectors located on the SW return is too close to each other and do not meet separation requirements recommended in the MUTCD and adopted by District One. Any replacement or upgrades of the existing pedestrian assemblies and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- It is recommended that additional ped crossing be added to the north, south and west legs of the intersection. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.
- APS (Accessible Pedestrian Signal) detectors are present at all existing pedestrian crossings to serve pedestrians who are visually impaired. It is recommended that during the design phase these devices be checked for proper functionality. This type of detection shall remain unless directed to the contrary by a combined effort between the FDOT, Light House for the Blind and maintaining agency. Pedestrian assembly and push button locations shall follow ADA, FDOT Standard Plans and MUTCD guidelines.

**Photo / signal location 8:**



**Signal location 9:**

SR 544 (Havendale Blvd.)  
at SR 555 / US 17 (8th St. NW)

**Proposed or other project impacts:**

- Adjacent FY 24 safety project FPID 447874-1 proposes a new mast arm signal structure at this location.

As a result, this project will only scope for stop bar loops that may get damaged.

**Scoping recommendations:**

**Vehicle detection:**

- For stop bar vehicle detection, provide new loops that may get impacted through milling operations. With an existing posted speed of 35mph, no multiple point detection is required.

**Photo / signal location 9:**



**Extension of Polk County’s existing ATMS interconnect network:**

Both the intersection Safety Study dated October 27, 2020 (previously known as FPID 49655-1) and FPID 446535-1 (Sidewalk improvement Proj.) indicate that fiber interconnect was previously requested by TSM&O. The fiber run was requested between Jersey Ave. and 26th St. Subsequently, funding was not made available. For this project (450884-1), District TSM&O has again requested that fiber interconnect be scope and estimated.

Based on conversations with TSM&O, there will be two main sequences estimated for fiber interconnect.

- Seq 1 will be from US 92 to 8th St. NW (US 17).
- Seq 2 will be from Jersey Rd. to 26th St NW.

The sequence 1 fiber run is intended to tie-in to Winter Haven’s existing network at the splice point located at 8th St. NW (US 17).

The sequence 2 fiber run is intended to communicate via existing air card or new cellular modem at 26<sup>th</sup> St. NW.

Should funding not be available for either one of the first two interconnect sequences, then a third sequence option for funding would include connected vehicle, observation and cellular modem devices for communication and data transfer.

**Lighting Scope Items:**

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

- For new or fully reconstructed signalized intersections that fall within roadway context classifications C3 through C6, or at locations with a roadway context classification lower than a C3 that have pedestrian facilities.
- Existing signalized intersections that have been identified by District Safety as having a history of nighttime pedestrian crashes.
- Corridor or sections of corridor that have been identified by District Safety as having a history of nighttime crashes.
- Retrofit existing HPS luminaires to LED (intersection physical limits).
- New or existing mid-block pedestrian crossings.
- Transit locations identified by D1 Modal Development Office.

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

**Intersection location 2:**

SR 544 (Havendale Blvd.)  
At Derby Rd.  
MP: 0.345

**Intersection location 6:**

SR 544 (Havendale Blvd.)  
at 26<sup>th</sup> St. NW / Idylwild Dr. NW  
MP: 1.636

**Intersection location 3:**

SR 544 (Havendale Blvd.)  
at Charlotte Rd. / 42<sup>nd</sup> St.  
MP: 0.517

**Intersection location 7:**

SR 544 (Havendale Blvd.)  
at 21<sup>st</sup> St. NW  
MP: 2.144

**Proposed or other project impacts:**

FPID 446535-1, FY 26, Sidewalk improvement, MP 0.517 to 1.636

Proposes the following lighting upgrades at the intersection locations 4 - SR 544 (Havendale Blvd.) at Jersey Rd. and 5 - SR 544 (Havendale Blvd.) at 34<sup>th</sup> St. NW.:

- Provide supplemental pedestrian level lighting.

447874-1, FY 24, Intersection Safety, MP 2.989 to 3.193

Proposes the following lighting upgrades at the intersection of SR 544 (Havendale Blvd.) at SR 555 / US 17 (8th St. NW):

- Provide supplemental pedestrian level lighting.

**Existing lighting features:**

Lighting within the project's limits include corridor and intersection lighting elements. Corridor lighting is mixed between shared use (power pole mounted) and standard light poles. Luminaires are a mix of HPS and LED.

**District Safety recommendations:**

District One Safety recommends the following:

- Pedestrian level lighting at Derby Rd. (Signal 2)
- Pedestrian level lighting at Charlotte Rd. / 42<sup>nd</sup> Ave. (Signal 3)

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

Intersection locations 2, 3, 6 and 7 has been recommended for full signal replacement. Based on FDOT policy for rebuilt signalized intersections, pedestrian level intersection lighting shall be provided. Review and analyze illuminance from the existing lighting features and consider the following guidance and recommendations which are intended for rebuilt intersections as well as locations.

- During design, 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.
- Within the physical limits of the intersection, retrofit State-owned high-pressure sodium (HPS) luminaires with LED luminaires.
- During the design phase, coordination should take place for efforts related to retrofitting other agency owned standard HPS luminaires to LED. Cost for retrofit will be at the owner's expense.
- During the design phase, it should be determined if new intersection luminaires can be powered by extending the circuits of the existing intersection or corridor lighting infrastructure.
- Coordinate with signal design any potential shared facilities (i.e., directional bores, luminaire support structures, and power service poles).
- Coordinate any new power source locations and requirements with UAO.
- Coordinate lighting maintenance agreement with the District Maintenance Office and the Maintaining Agency.
- Coordinate light fixture types with Maintaining Agency. Only light fixtures that appear on the Departments approved product list are allowed.
- Existing light poles and / or mast arm upright mounted luminaires that are not in locations that are conducive to appropriately illuminate pedestrian crosswalks should be evaluated for relocation, removal or replacement.
- Coordinate with District Utilities and the UAO for any potential overhead power line conflicts. Utilization of conflict light poles may be necessary.

**Geotechnical Scope Items:**

- Geotechnical exploration is needed on this project for signals and lighting.

**Structural Scope Items:**

- MP 1.890 - Bridge 160136: Single (1) span simply-supported prestressed concrete AASHTO Type II girder superstructure (61'-0" span) carrying SR 544 over Havendale Canal. The bridge carries six 12'-0" wide travel lanes (three in each direction), a 12'-10" wide median concrete traffic separator, 1'-6" wide inside shoulders, 1'-6" wide EB and WB outside shoulders, 5'-0" wide raised sidewalks, and two 1'-1" wide vertical face concrete traffic railing barriers along the coping lines. The bridge was originally constructed with 6'-0 1/2" wide concrete safety curbs with continuous post and beam concrete traffic railings along the coping lines. The bridge was retrofitted later by replacing the existing post and beam traffic railings with 32" Vertical Face concrete traffic railing barriers that are connected to the safety curbs by full penetration bolts with nuts and washers on the bottom face of the slabs. The bridge traffic railing barriers have thrie-beam guardrail transitions attached to them at the EB and WB approach ends of the bridge. No guardrail transition is attached to the traffic railing barrier at the trailing ends of the bridge. Hazard markers are installed at the EB and WB approach ends only. The bridge was originally constructed in 1972, and reconstructed in 2009. The bridge was last load rated in 1991 using the Allowable Stress Rating methodology. The posted speed limit is 45 mph. Original As-built Plans and a bridge "Drawings" file are available in the project folder (State Project No. 16140-3503); however, the 2009 plans for the reconstructed bridge traffic railing barriers are not available.

**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**  
500-foot Project Buffer Area

<b>FPID No:</b>	454941-1	<b>County:</b>	Polk	<b>City:</b>	Auburndale
<b>Project Limits:</b>	State Road (SR) 544 / Havendale Boulevard from SR 600 (US 92) to west of 8 <sup>th</sup> Street NW (US 17)				
<b>Section:</b>	16140-000	<b>Length of Project:</b>	3.160		
<b>Begin Milepost:</b>	0.016	<b>End Milepost:</b>	3.176		
<b>Scope:</b>	Resurfacing, Restoration, and Rehabilitation (RRR) with 0.6-mile of new sidewalk connection on the west end				
<b>Review Date:</b>	6/7/2024 – L. Paulsen	<b>Anticipated NEPA COA:</b>	Type 1 CE		

**Elements with Potential Cost/Schedule Impacts**

- **Cultural:** Cultural/historical evaluation and State Historic Preservation Officer (SHPO) coordination will be necessary.
- **Section 4(f):** Due to the proximity of potential Section 4(f) resources, coordination with the District Environmental Management Office (DEMO) and Official(s) with Jurisdiction may be necessary.
- **Floodplain:** Project activities must not adversely impact (fill) floodplain storage.
- **Sand and blue-tailed mole skink:** Skink coverboard surveys will be necessary between March 1<sup>st</sup> and May 15<sup>th</sup>. If evidence of skinks is found during the surveys, the project is expected to result in a determination of *may affect* and consultation with the US Fish and Wildlife Service (USFWS) will be necessary.
- **Gopher tortoise:** Design-phase coordination and review is required. If a burrow is located within 25 feet of construction, a relocation permit or exclusionary silt fencing is required.
- **Eastern indigo snake:** The most recent version of the *Standard Protection Measures for the Eastern Indigo Snake* must be followed during site preparation and construction.
- **Noise:** The FDOT *Standard Specifications for Road and Bridge Construction* should be utilized to control noise and/or vibration impacts.
- **Contamination:** Level 1 evaluation of potential contamination facilities may be needed in conjunction with project plans development; Level 2 testing may also be required.

***Social and Economic***

**Land Use**

- The five major land uses within the project buffer area include commercial and services, medium-density residential, high-density residential, transportation, and institutional.
- No impacts to land use are anticipated as the proposed work is expected to occur within the existing right-of-way.

**Social**

- The project buffer area has 482 households with a population of 1,376 people.
- The median household income is \$40,928 with 17.08% of the population below poverty level. The median household income of the project area is lower than the median household income for Polk County (\$60,901).

- The minority population makes up 51.02% of the total population of the area with 173 claimed people with a “Hispanic or Latino of Any Race” ethnicity. There is a limited English proficiency (LEP) population of 27 people (2.09%).
- Housing within the project buffer area consist of single-family (59%), multi-family (29%), and mobile home (12%) units that are owner-occupied (50%), renter-occupied (31%), and vacant (19%).
- Social resources within the project buffer area include the Girls’ Inc of Winter Haven, Moose Family Center 1023 – Winter Haven, Women of the Moose Chapter 1152 – Winter Haven, Lake Hartridge Park & Boat Ramp, Trinity United Methodist Church, First Haitian Church, Abiding Saviour Lutheran Church, Haven Primitive Baptist Church, Champions Church, Jehovah’s Witnesses, Alliance Church, Havendale Christian Church, Garner Elementary School, Spring Haven Retirement Home, Treasures of Life Academy, The Children of the King Enrichment Center, and Achievement Academy.
- Standard Specifications will require maintenance of access to adjacent properties.
- No impacts to social or community resources are anticipated as the proposed work is expected to occur within the existing right-of-way.

#### Relocation Potential

- Residential land use consists of 58.86 acres of medium-density and 41.61 acres of high-density residential areas within the project buffer area.
- No commercial and services properties exist within the project buffer area.
- No impacts to residential or commercial properties are anticipated as the proposed work is expected to occur within the existing right-of-way.

#### Farmlands

- The project buffer area contains 94.98 acres (23.8%) of farmland of unique importance; however, the entire project area is located within the Winter Haven urbanized area.
- This project is not expected to be subject to the provisions of the Farmland Protection Policy Act as project construction is expected to remain within the existing right-of-way.

#### Aesthetic Effects

- The project buffer area contains no aesthetic effects.

#### Economic

- The project buffer area contains no economic resources.

#### Mobility

- The project buffer area contains three bus transit routes.
- No impacts to mobility resources are anticipated as the proposed work is expected to occur within the existing right-of-way.

#### **Cultural**

##### Historic and Archaeological Sites (note: these are the results of a basic screening)

- No project-specific Cultural Resource Assessment Survey has been completed.

- A Florida Master Site File (FMSF) Cemetery, Old Auburndale City Cemetery (Site ID# PO05163) which has not been evaluated by SHPO, is located within the project buffer area.
- The project buffer area contains 18 FMSF historic standing structures including Dino's Drive-In (Site ID# PO08583), which has been determined to be eligible for listing on the NRHP and 17 that have been determined to be ineligible for listing on the NRHP.
- Three FMSF Field Survey Project Boundaries conducted from 1995 to 2021 are located within the project buffer area.
- The project buffer area includes 116 structures that were built before 1970.
- 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 review.

### Recreational and Protected Lands

- The project buffer area includes Inman Park and Lake Hartridge Park & Boat Ramp, owned and operated by the City of Winter Haven and Lake Blue Boat Ramp, owned and operated by Polk County.
- The project buffer area includes the Lake Hartridge Nature Park (04-033-FF4) which is a Florida Forever Acquisition.
- Based on work within the existing right-of-way, no impacts are expected to Section 4(f) resources. However, due to the proximity of potential Section 4(f) resources, coordination with DEMO and Official(s) with Jurisdiction may be necessary. If the project is state funded, the provisions of Section 4(f) do not apply.

### *Natural*

#### Wetlands and Surface Waters

- The project buffer area contains riverine (riverine) and lacustrine (lake) National Wetland Inventory areas.
- The project buffer area contains freshwater marshes 0.79 acres (0.2%) and vegetated non-forested wetlands 0.02 acres (0.01%) and is located within the Southwest Florida Water Management District.
- No impacts to wetlands and surface waters are anticipated as the proposed work is expected to occur within the existing right-of-way.

#### Water Resources

- The project buffer area contains one adopted total maximum daily loads, four water quality data monitoring stations, one lake resource, two waters not attaining standards, seven super act wells, three waterbodies with verified nutrient impairment, and three waterbodies.
- The project buffer area includes interaction with the surficial aquifer system and recharge/greater than 10 area of the Floridian Aquifer.
- No impacts to water resources are anticipated as the proposed work is expected to occur within the existing right-of-way.

## Floodplains

- 7.22 acres of the project buffer area (1.81%) are located within the 100-year floodplain.
- Project activities must not adversely impact (fill) floodplain storage.

## Protected Species and Habitat

- The project is located within the US Fish and Wildlife Service (USFWS) consultation areas for the Audubon's crested caracara, Florida grasshopper sparrow, sand skink, blue-tail mole skink, Florida scrub-jay, snail kite, and Lake Wales ridge plants.
- *Sand and blue-tailed mole skink*: The project areas from the Winter Haven Moose Lodge entrance to 21<sup>st</sup> Street NW and from 15<sup>th</sup> Court NW to 12<sup>th</sup> Street NW contain suitable soils for sand and blue-tailed mole skink within the right-of-way. Some soils appear to be bare and may retain a natural profile in these areas. Skink coverboard surveys will be necessary between March 1<sup>st</sup> and May 15<sup>th</sup>. If evidence of skinks is found during the surveys, the project is expected to result in a determination of *may affect* and consultation with USFWS will be necessary.
- *Gopher tortoise and eastern indigo snake*: There is suitable habitat present for the gopher tortoise, eastern indigo snake, and commensal species. Design-phase coordination and review for gopher tortoises is recommended. If a burrow is located within 25 feet of construction, a relocation permit or exclusionary silt fencing is required. Per the FDOT *Programmatic Approach for Minor Transportation Activities*, since eastern indigo snakes have the potential to occur, the most recent version of the *Standard Protection Measures for the Eastern Indigo Snake* must be followed during site preparation and construction.
- *Audubon's crested caracara*: The project area does not appear to contain suitable habitat for this species and is expected to result in a determination of *no effect* for Audubon's crested caracara.
- *Florida grasshopper sparrow*: The project area does not contain suitable habitat and the project is expected to result in a determination of *no effect* for the Florida grasshopper sparrow.
- *Florida scrub-jay*: The project area does not appear to contain suitable habitat for this species and is expected to result in a determination of *no effect* for the Florida scrub-jay.
- *Snail kite*: The project area does not appear to contain suitable habitat for this species and is expected to result in a determination of *no effect* for the snail kite.
- *Wood stork*: The project is located within the 18.6-mile core foraging area of three wood stork colonies: *Lone Palm, Lake Somerset, and Mulberry Northeast*. There is no suitable foraging habitat and the project is not within 0.47 miles of an active colony; therefore, this project is expected to result in a determination of *no effect* determination for the wood stork.
- The project is located within the Greater Charlotte Harbor Ecosystem Management Area.
- The project is located within the occasional black bear range.
- Adverse impacts to listed or protected species are not anticipated.

## Coastal and Marine

- The project buffer area contains no coastal and marine resources.



## ***Physical***

### Noise

- The project buffer area contains potential noise and vibration sensitive sites including Girls' Inc of Winter Haven, Moose Family Center 1023 – Winter Haven, Women of the Moose Chapter 1152 – Winter Haven, Cobb Grand 10 Cinemas, Family Physicians of Winter Haven, William Sterling O.D., Prime Care Chiropractic Centers, P.A., Inman Park, Lake Blue Boat Ramp, Lake Hartridge Park & Boat Ramp, Trinity United Methodist Church, First Haitian Church, Abiding Saviour Lutheran Church, Haven Primitive Baptist Church, Champions Church, Jehovah's Witnesses, Alliance Church, Havendale Christian Church, Garner Elementary School, Spring Haven Retirement Home, Treasures of Life Academy, The Children of the King Enrichment Center, and Achievement Academy.
- No impacts to noise or vibration sensitive sites are anticipated; however, the FDOT *Standard Specifications for Road and Bridge Construction* should be utilized to control noise and/or vibration impacts.

### Air Quality

- This portion of Polk County has not been designated as nonattainment or maintenance for ozone, carbon monoxide, particulate matter, or any of the National Ambient Air Quality Standards (NAAQS) in accordance with the Clean Air Act.

### Contamination

- The project buffer area contains 13 biomedical waste facilities, two dry cleaning program sites, three environmental restoration integrated cleanup sites, one institutional controls registry site, 10 National Pollutant Discharge Elimination System (NPDES) stormwater facilities and activities, 11 off-site contamination notices, 13 hazardous waste facilities, 3 NPDES stormwater permits, 20 petroleum contamination monitoring sites, 27 storage tank contamination monitoring, one subsidence incident reports for the State of Florida, 15 super act risk sources, 37 NPDES, one EPA Regulated Air Emissions Facility, and 14 EPA Resource Conservation and Recovery Act regulated facilities.
- The project is located within the Strickland Property brownfield area.
- Level 1 evaluation of potential contamination facilities may be needed in conjunction with project plans development; Level 2 testing may also be required.

### Infrastructure

- The project buffer area contains one bridge (#160136), three electric power transmission lines, one electric substation, one natural gas pipeline, and one wireless antenna structure locations.
- No impacts to infrastructure are anticipated as the proposed work is expected to occur within the existing right-of-way.

### Navigation

- The project buffer area contains no navigation resources.

### Special Designations

- The project buffer area contains no special designations.

# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 454941-1-52-01

**Letting Date:** 07/2027

**Description:** SR 544 FROM SR 600 (US 92) TO 8TH ST NW (US 17)

**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English  
**Contract Class:** 1   **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 11.155 MI

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

**Version 4-P Project Grand Total**

**\$15,283,879.94**

**Description:** Final TRM Markups per PM from Version 1P - 12/6/24

**Sequence:** 1 MIS - Miscellaneous Construction

**Net Length:** 11.155 MI  
58,898 LF

**Description:** POP (w/loops)

### 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	133,478.40	SY	\$4.08	\$544,591.87
	327-70-6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH	51,528.00	SY	\$4.71	\$242,696.88
	334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	14,682.60	TN	\$177.52	\$2,606,455.15
	337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	15,263.01	TN	\$205.19	\$3,131,817.02
	704-1-3	TUBULAR MARKER, 36" WHITE POST	5.00	EA	\$172.00	\$860.00
	706-1-3	RAISED PAVMT MARK, TYPE B	2,605.00	EA	\$4.53	\$11,800.65
	710-12-290	PAINTED PAVT MARK,DUR,YELLOW,ISLAND NOSE	875.00	SF	\$5.16	\$4,515.00
	710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	1.00	LS	\$42,207.95	\$42,207.95
	711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	6,260.00	LF	\$3.90	\$24,414.00
	711-11-124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	350.00	LF	\$5.58	\$1,953.00
	711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	1,957.00	LF	\$7.32	\$14,325.24
	711-11-141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	0.36	GM	\$2,756.23	\$992.24
	711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	14.00	EA	\$176.45	\$2,470.30
	711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	119.00	EA	\$82.15	\$9,775.85
	711-11-180	THERMOPLASTIC, STD, WHITE, YIELD LINE	36.00	LF	\$22.81	\$821.16
	711-11-224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	175.00	LF	\$5.44	\$952.00
	711-11-241	THERMOPLASTIC,STD,YELLOW,DOT / GUIDE, 6"	1.34	GM	\$2,906.44	\$3,894.63
	711-14-125	THERMOPLASTIC, PREFORM, WHITE, SOLID,24"	3,252.00	LF	\$18.32	\$59,576.64

711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	7.93 GM	\$5,637.79	\$44,707.67
711-16-102	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 8"	0.38 GM	\$7,194.75	\$2,734.00
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	11.10 GM	\$1,815.59	\$20,153.05
711-16-201	THERMOPLASTIC, STD-OTH, YELLOW, SOLID, 6"	5.95 GM	\$5,646.45	\$33,596.38
713-103-101	PERMANENT TAPE, WHITE, SOLID, 6" CONC BR	0.03 GM	\$37,175.92	\$1,115.28
713-103-181	PERM TAPE, WHITE, 10-30 SKIP, 6", FOR CONC	0.03 GM	\$13,474.08	\$404.22
713-103-201	PERMANENT TAPE, YELLOW, SOLID, 6" CONC BR	0.03 GM	\$36,943.13	\$1,108.29
713-103-381	PERM TAPE, BLACK, 10-30 SKIP, 6", FOR CONC	0.03 GM	\$12,437.16	\$373.11

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-12-190	PAINTED PAVEMENT MARKINGS, DURABLE PAINT, YELLOW, ISLAND NOSE	50.00	SF	\$20.00	\$1,000.00
<b>Roadway Component Total</b>					<b>\$6,809,311.59</b>

**SHOULDER COMPONENT**

**User Input Data**

Description	Value
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**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	33,370.00	LF	\$1.82	\$60,733.40
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$3,372.38	\$6,744.76
107-1	LITTER REMOVAL	19.15	AC	\$53.78	\$1,029.89
107-2	MOWING	19.15	AC	\$93.02	\$1,781.33
527-2	DETECTABLE WARNINGS	3,320.00	SF	\$39.56	\$131,339.20
<b>Shoulder Component Total</b>					<b>\$201,628.58</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at SR 600/US 92 (Magnolia Ave)

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	2.00	AS	\$1,342.21	\$2,684.42
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	2.00	AS	\$1,601.15	\$3,202.30

**Signalization 2**

Description	Value
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Type Miscellaneous  
Multiplier 1  
Description SR 544 (Havendale Blvd) at Derby Rd

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	18.00	AS	\$1,342.21	\$24,159.78
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	6.00	AS	\$1,601.15	\$9,606.90

**Signalization 3**

**Description** **Value**  
Type Miscellaneous  
Multiplier 1  
Description SR 544 (Havendale Blvd) at Charlotte Rd/42nd St.

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	18.00	AS	\$1,342.21	\$24,159.78
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	7.00	AS	\$1,601.15	\$11,208.05

**Signalization 4**

**Description** **Value**  
Type Miscellaneous  
Multiplier 1  
Description SR 544 (Havendale Blvd) at Jersey Rd/Lake Dr NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	18.00	AS	\$1,342.21	\$24,159.78
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	4.00	AS	\$1,601.15	\$6,404.60

**Signalization 5**

**Description** **Value**  
Type Miscellaneous  
Multiplier 1  
Description SR 544 (Havendale Blvd) at 34th St. NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	18.00	AS	\$1,342.21	\$24,159.78
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	4.00	AS	\$1,601.15	\$6,404.60

**Signalization 6**

**Description** **Value**  
Type Miscellaneous  
Multiplier 1  
Description SR 544 (Havendale Blvd) at 26th St. NW/Idylwild Dr NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	24.00	AS	\$1,342.21	\$32,213.04

660-2-106 LOOP ASSEMBLY, F&I, TYPE F 4.00 AS \$1,601.15 \$6,404.60

**Signalization 7**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 at 21st St NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	18.00	AS	\$1,342.21	\$24,159.78
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	3.00	AS	\$1,601.15	\$4,803.45

**Signalization 8**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at 11th St/Shopping Center Ent

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	12.00	AS	\$1,342.21	\$16,106.52

**Signalization 9**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at SR 555/US 17 (8th St NW)

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	6.00	AS	\$1,342.21	\$8,053.26
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	1.00	AS	\$1,601.15	\$1,601.15

**Signalizations Component Total** \$229,491.79

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**Sequence 1 Total** \$7,240,431.96

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Sequence: 2 MIS - Miscellaneous Construction

Net Length: 0.000 MI  
1 LF

Description: RRR Items Removed from POP

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**ROADWAY COMPONENT**

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	14.00	TN	\$439.15	\$6,148.10
536-1-0	GUARDRAIL- ROADWAY, GEN/LS TL-2	400.00	LF	\$28.51	\$11,404.00
536-8-122	GUARDRA CONN TO RIGID BA, F&I, APP E3	2.00	EA	\$3,905.39	\$7,810.78
536-73	GUARDRAIL REMOVAL	400.00	LF	\$2.66	\$1,064.00
536-85-24	GUARDRAIL END TREATMENT-PARA APP TERM	2.00	EA	\$3,569.19	\$7,138.38
<b>Roadway Component Total</b>					<b>\$33,565.26</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	104.00	EA	\$586.26	\$60,971.04
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	41.00	EA	\$1,761.98	\$72,241.18
700-1-113	SINGLE COL GRND SIGN AS, F&I GM, 20.1-30	1.00	EA	\$2,341.34	\$2,341.34
700-1-600	SINGLE COL GRND SIGN AS, REMOVE	110.00	EA	\$41.42	\$4,556.20
700-2-600	MULTI- COLUMN GROUND SIGN, REMOVE	1.00	EA	\$1,005.18	\$1,005.18
700-3-205	SIGN PANEL, F&I OM, 51-100 SF	1.00	EA	\$4,518.67	\$4,518.67
700-3-206	SIGN PANEL, F&I OM, 101-200 SF	3.00	EA	\$6,859.14	\$20,577.42
700-3-605	SIGN PANEL, REMOVE, 51-100 SF	1.00	EA	\$688.03	\$688.03
700-3-606	SIGN PANEL, REMOVE, 101-200 SF	3.00	EA	\$540.96	\$1,622.88
700-13-15	RETROREFLECTIVE SIGN STRIP-F&I, 5'	25.00	EA	\$89.64	\$2,241.00
700-142-132	EHSA, SOL, GROUND MT, EDS, 12-20 SF	1.00	EA	\$19,029.62	\$19,029.62
700-142-902	EHSA, SOL POWER, REMOVE - GM	1.00	EA	\$1,232.15	\$1,232.15
705-10-1	OBJECT MARKER, TYPE 1	3.00	EA	\$223.11	\$669.33
705-10-2	OBJECT MARKER, TYPE 2	2.00	EA	\$175.20	\$350.40
705-10-3	OBJECT MARKER, TYPE 3	2.00	EA	\$235.04	\$470.08
705-11-1	DELINEATOR, FLEXIBLE TUBULAR	85.00	EA	\$101.03	\$8,587.55
<b>Signing Component Total</b>					<b>\$201,102.07</b>

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**Sequence 2 Total**

**\$234,667.33**

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Sequence: 3 MIS - Miscellaneous Construction

Net Length: 0.000 MI  
1 LF

Description: Signal RRR Items

**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	3.00	EA	\$838.23	\$2,514.69
700-5-50	INTERNAL ILLUM SIGN, RELOCATE	4.00	EA	\$1,903.47	\$7,613.88
<b>Signing Component Total</b>					<b>\$10,128.57</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at 34th St. NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	360.00	LF	\$21.12	\$7,603.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	750.00	LF	\$37.27	\$27,952.50
632-7-2	SIGNAL CABLE, REPAIR/REPL-FUR & INSTALL	260.00	LF	\$10.15	\$2,639.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	16.00	EA	\$1,492.16	\$23,874.56
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	1.00	AS	\$2,017.29	\$2,017.29
650-1-60	VEH TRAF SIGNAL, REMOVE-POLES TO REMAIN	1.00	AS	\$253.97	\$253.97
650-2-109	VEHIC SIGNAL AUX, REP/RETR F&I, FLEX BAC	9.00	EA	\$448.15	\$4,033.35
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	11.00	EA	\$390.27	\$4,292.97
660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	1.00	EA	\$419.90	\$419.90
660-4-60	VEHICLE DETECTION SYSTEM-VIDEO, REMOVE	3.00	EA	\$581.11	\$1,743.33
671-2-40	TRAFFIC CONTROLLER, MODIFY	1.00	EA	\$2,065.27	\$2,065.27

**Signalization 2**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at 11th St./Shopping Center Ent.

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERS	1.00	EA	\$2,215.04	\$2,215.04
630-2-11	CONDUIT, F& I, OPEN TRENCH	340.00	LF	\$21.12	\$7,180.80
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	680.00	LF	\$37.27	\$25,343.60

632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00 PI	\$1,935.96	\$1,935.96
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00 EA	\$1,492.16	\$29,843.20
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	6.00 EA	\$2,710.13	\$16,260.78
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	3.00 EA	\$323.52	\$970.56
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	2.00 AS	\$1,623.56	\$3,247.12
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00 AS	\$2,017.29	\$4,034.58
650-1-60	VEH TRAF SIGNAL, REMOVE- POLES TO REMAIN	2.00 AS	\$253.97	\$507.94
650-1-70	VEHICULAR TRAFFIC SIGNAL, RELOCATE	4.00 AS	\$1,429.78	\$5,719.12
650-2-109	VEHIC SIGNAL AUX, REP/RETR F&I, FLEX BAC	8.00 EA	\$448.15	\$3,585.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	6.00 AS	\$913.42	\$5,480.52
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	6.00 EA	\$390.27	\$2,341.62
665-1-12	PEDESTRIAN DETECTOR, F&I, ACCESSIBLE	6.00 EA	\$2,533.20	\$15,199.20
671-2-40	TRAFFIC CONTROLLER, MODIFY	1.00 EA	\$2,065.27	\$2,065.27
<b>Signalizations Component Total</b>				<b>\$215,044.50</b>

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**Sequence 3 Total** **\$225,173.07**

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**Sequence:** 4 MIS - Miscellaneous Construction

**Net Length:** 11.155 MI  
58,898 LF

**Description:** Fill Sidewalk Gap South Side

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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>
110-1-1	CLEARING & GRUBBING	0.32	AC	\$97,688.60	\$31,260.35
120-1	REGULAR EXCAVATION	254.20	CY	\$44.64	\$11,347.49
120-6	EMBANKMENT	127.10	CY	\$51.79	\$6,582.51
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	1,525.00	SY	\$104.38	\$159,179.50
570-1-2	PERFORMANCE TURF, SOD	1,095.00	SY	\$6.00	\$6,570.00
<b>Roadway Component Total</b>					<b>\$214,939.85</b>

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**Sequence 4 Total**

**\$214,939.85**

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Sequence: 5 MIS - Miscellaneous Construction

Net Length: 11.155 MI  
58,898 LF

Description: Signal Replacement (26th St NW)(Charlotte Rd/42nd St)(Jersey Rd./Lake Dr)(21st Street)

**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	14.00	EA	\$838.23	\$11,735.22
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF <b>Comment:</b> Sig6 (4)	16.00	EA	\$5,242.86	\$83,885.76
<b>Signing Component Total</b>					<b>\$95,620.98</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 3**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at Charlotte Rd

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	510.00	LF	\$21.12	\$10,771.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	742.00	LF	\$37.27	\$27,654.34
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,935.96	\$1,935.96
634-4-153	SPAN WIRE ASSEM, F&I, TWO PT, BOX/DROP B	1.00	PI	\$10,020.82	\$10,020.82
634-5-1	FIBERGLASS INSULATOR, FURNISH & INSTALL	10.00	LF	\$72.72	\$727.20
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$1,492.16	\$29,843.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$7,395.33	\$7,395.33
639-1-610	ELECTRICAL POWER SRV,REM OHD	1.00	AS	\$639.74	\$639.74
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	\$10.93	\$655.80
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	\$2,085.53	\$2,085.53
641-2-60	PREST CNC POLE, REMOVE	1.00	EA	\$1,006.24	\$1,006.24
641-2-80	PREST CNC POLE, REMOVE COMPLETE	4.00	EA	\$6,447.51	\$25,790.04
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$2,710.13	\$21,681.04
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	7.00	EA	\$323.52	\$2,264.64
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	10.00	AS	\$1,623.56	\$16,235.60
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00	AS	\$2,017.29	\$4,034.58
650-1-19	VEH TRAF SIGNAL,F&I ALUMINUM, 5 S CL 1 W	2.00	AS	\$2,617.47	\$5,234.94

653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$913.42	\$7,307.36
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	12.00 EA	\$390.27	\$4,683.24
660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	1.00 EA	\$419.90	\$419.90
663-1-111	SIGNAL PRIO & PREEMP, F&I, OPT,CAB E	1.00 EA	\$9,426.32	\$9,426.32
663-1-112	SIGNAL PRIO & PREEMP, F&I, OPTICAL,DETEC	4.00 EA	\$3,009.94	\$12,039.76
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$277.98	\$2,223.84
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$50,234.15	\$50,234.15
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00 AS	\$1,130.32	\$1,130.32
685-1-13	UPS, F&I, LINE INTERACTIVE W CAB	1.00 EA	\$10,865.70	\$10,865.70

#### Signalization 4

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at Jersey Rd/Lake Dr. NW

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	582.00	LF	\$21.12	\$12,291.84
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	678.00	LF	\$37.27	\$25,269.06
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,935.96	\$1,935.96
634-4-153	SPAN WIRE ASSEM, F&I, TWO PT, BOX/DROP B	1.00	PI	\$10,020.82	\$10,020.82
634-5-1	FIBERGLASS INSULATOR, FURNISH & INSTALL	20.00	LF	\$72.72	\$1,454.40
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$1,492.16	\$29,843.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$7,395.33	\$7,395.33
639-1-610	ELECTRICAL POWER SRV,REM OHD	1.00	AS	\$639.74	\$639.74
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	\$10.93	\$655.80
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	\$2,085.53	\$2,085.53
641-2-18	PREST CNC POLE,F&I,TYP P-VIII	4.00	EA	\$25,765.80	\$103,063.20
641-2-80	PREST CNC POLE, REMOVE COMPLETE	2.00	EA	\$6,447.51	\$12,895.02
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$2,710.13	\$21,681.04
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	6.00	EA	\$323.52	\$1,941.12
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	10.00	AS	\$1,623.56	\$16,235.60
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00	AS	\$2,017.29	\$4,034.58
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$913.42	\$7,307.36

660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	10.00 EA	\$390.27	\$3,902.70
660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	1.00 EA	\$419.90	\$419.90
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$277.98	\$2,223.84
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$50,234.15	\$50,234.15
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00 AS	\$1,130.32	\$1,130.32
685-1-13	UPS, F&I, LINE INTERACTIVE W CAB	1.00 EA	\$10,865.70	\$10,865.70

**Signalization 6**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 (Havendale Blvd) at 26th St. NW/Idylwild Dr. NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERS	1.00	EA	\$2,215.04	\$2,215.04
630-2-11	CONDUIT, F& I, OPEN TRENCH	600.00	LF	\$21.12	\$12,672.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	685.00	LF	\$37.27	\$25,529.95
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,935.96	\$1,935.96
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	30.00	EA	\$1,492.16	\$44,764.80
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$7,395.33	\$7,395.33
639-1-610	ELECTRICAL POWER SRV,REM OHD	1.00	AS	\$639.74	\$639.74
639-2-1	ELECTRICAL SERVICE WIRE, F&I	100.00	LF	\$10.93	\$1,093.00
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	\$2,085.53	\$2,085.53
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00	EA	\$2,710.13	\$21,681.04
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	6.00	EA	\$323.52	\$1,941.12
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	2.00	EA	\$78,633.13	\$157,266.26
649-21-15	STEEL MAST ARM ASSEMBLY, F&I, 70'	2.00	EA	\$80,602.33	\$161,204.66
649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE	4.00	EA	\$9,397.61	\$37,590.44
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	10.00	AS	\$1,623.56	\$16,235.60
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00	AS	\$2,017.29	\$4,034.58
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$913.42	\$7,307.36
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	13.00	EA	\$390.27	\$5,073.51
660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	1.00	EA	\$419.90	\$419.90
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$277.98	\$2,223.84

670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$50,234.15	\$50,234.15
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00 AS	\$1,130.32	\$1,130.32
685-1-13	UPS, F&I, LINE INTERACTIVE W CAB	1.00 EA	\$10,865.70	\$10,865.70

**Signalization 7**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	SR 544 at 21st St. NW

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERS	1.00	EA	\$2,215.04	\$2,215.04
630-2-11	CONDUIT, F& I, OPEN TRENCH	528.00	LF	\$21.12	\$11,151.36
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	719.00	LF	\$37.27	\$26,797.13
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$1,935.96	\$1,935.96
634-4-153	SPAN WIRE ASSEM, F&I, TWO PT, BOX/DROP B	1.00	PI	\$10,020.82	\$10,020.82
634-5-1	FIBERGLASS INSULATOR, FURNISH & INSTALL	30.00	LF	\$72.72	\$2,181.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$1,492.16	\$29,843.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$7,395.33	\$7,395.33
639-1-610	ELECTRICAL POWER SRV,REM OHD	1.00	AS	\$639.74	\$639.74
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	\$10.93	\$655.80
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	\$2,085.53	\$2,085.53
641-2-18	PREST CNC POLE,F&I,TYP P-VIII	4.00	EA	\$25,765.80	\$103,063.20
641-2-80	PREST CNC POLE, REMOVE COMPLETE	4.00	EA	\$6,447.51	\$25,790.04
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	6.00	EA	\$2,710.13	\$16,260.78
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	3.00	EA	\$323.52	\$970.56
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	8.00	AS	\$1,623.56	\$12,988.48
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00	AS	\$2,017.29	\$4,034.58
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	6.00	AS	\$913.42	\$5,480.52
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	11.00	EA	\$390.27	\$4,292.97
660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	1.00	EA	\$419.90	\$419.90
663-1-111	SIGNAL PRIO & PREEMP, F&I, OPT,CAB E	1.00	EA	\$9,426.32	\$9,426.32
663-1-112	SIGNAL PRIO & PREEMP, F&I, OPTICAL,DETEC	4.00	EA	\$3,009.94	\$12,039.76
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	6.00	EA	\$277.98	\$1,667.88

670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$50,234.15	\$50,234.15
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00 AS	\$1,130.32	\$1,130.32
685-1-13	UPS, F&I, LINE INTERACTIVE W CAB	1.00 EA	\$10,865.70	\$10,865.70

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<b>Signalizations Component Total</b>				\$1,571,834.10
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<b>Sequence 5 Total</b>				\$1,667,455.08
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Sequence: 6 MIS - Miscellaneous Construction

Net Length: 11,155 MI  
58,898 LF

Description: Interconnect Signal US 92 to US 17

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	Signal Location 1 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	20.00	LF	\$21.12	\$422.40
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	20.00	LF	\$4.71	\$94.20
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**Signalization 2**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	Signal Location 2 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	232.00	LF	\$21.12	\$4,899.84
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	232.00	LF	\$4.71	\$1,092.72
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
682-1-133	ITS CCTV CAMERA, F&I, DOME ENCL-NP.	1.00	EA	\$7,778.32	\$7,778.32
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 3**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 3 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	40.00	LF	\$21.12	\$844.80
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	40.00	LF	\$4.71	\$188.40
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 4**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 4 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	20.00	LF	\$21.12	\$422.40
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	20.00	LF	\$4.71	\$94.20
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58



**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 5**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 5 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	25.00	LF	\$21.12	\$528.00
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	25.00	LF	\$4.71	\$117.75
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 6**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 6 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	160.00	LF	\$21.12	\$3,379.20
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	160.00	LF	\$4.71	\$753.60
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 7**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 7 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	25.00	LF	\$21.12	\$528.00
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	25.00	LF	\$4.71	\$117.75
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 8**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 8 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	25.00	LF	\$21.12	\$528.00
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	25.00	LF	\$4.71	\$117.75
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
641-3-263	CONCRETE CCTV POLE, FUR & INS W/O LOW	1.00	EA	\$43,095.67	\$43,095.67

671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00 EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00 EA	\$4,690.58	\$4,690.58

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
920-681-100	CONNECTED VEHICLE ROAD SIDE UNIT	1.00	EA	\$20,000.00	\$20,000.00

**Signalization 9**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Signal Location 9 interconnect items

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	20.00	LF	\$21.12	\$422.40
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	20.00	LF	\$4.71	\$94.20
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	4.00	EA	\$52.34	\$209.36
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERM	8.00	EA	\$117.02	\$936.16
633-3-14	FIBER OPTIC CONN HDWR, BUFFER TUBE FAN O	1.00	EA	\$118.58	\$118.58
633-3-16	FIBER OPTIC CONN HDWR, PATCH PANEL- FIE	1.00	EA	\$1,945.46	\$1,945.46
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	1.00	EA	\$2,961.59	\$2,961.59
671-2-11	TRAFFIC CONTROLLER, F&I, NEMA	1.00	EA	\$12,881.26	\$12,881.26
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	1.00	EA	\$4,690.58	\$4,690.58
<b>Signalizations Component Total</b>					\$406,325.25

**INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT**

**Description of Work**

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
682-1-133	ITS CCTV CAMERA, F&I, DOME ENCL-NP. <b>Comment:</b> for signals 3,4,5,6,7,8	6.00	EA	\$7,778.32	\$46,669.92
<b>Intelligent Traffic System (ITS) Component Total</b>					\$46,669.92

<b>Sequence 6 Total</b>					\$452,995.17
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Sequence: 7 MIS - Miscellaneous Construction

Net Length: 11,155 MI  
58,898 LF

Description: Lighting (26th St NW)(Charlotte Rd/42nd St.)(21st Street)

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	Lighting

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	3.00	EA	\$2,085.53	\$6,256.59
<b>Signalizations Component Total</b>					<b>\$6,256.59</b>

**LIGHTING COMPONENT**

**Conventional Lighting Subcomponent**

<b>Description</b>	<b>Value</b>
Spacing	MAX

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	415.00	LF	\$21.12	\$8,764.80
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	785.00	LF	\$37.27	\$29,256.95
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	26.00	EA	\$1,492.16	\$38,796.16
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	3.00	AS	\$7,395.33	\$22,185.99
639-2-1	ELECTRICAL SERVICE WIRE, F&I	150.00	LF	\$10.93	\$1,639.50
715-1-12	LIGHTING CONDUCTORS, F&I, INSUL,NO.8-6	4,988.00	LF	\$2.91	\$14,515.08
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	3.00	EA	\$19,162.24	\$57,486.72
715-11-211	LUMINAIRE ,F&I-REP EXIST, RDWY, COBRA H	1.00	EA	\$1,720.42	\$1,720.42
715-61-442	LIGHT POLE CMLPT,STD,F&I, 45'MH,12'ARM L	14.00	EA	\$11,943.79	\$167,213.06
715-68-000	LIGHT POLE COMPLETE, RELOCATE	1.00	EA	\$4,875.00	\$4,875.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	14.00	EA	\$829.83	\$11,617.62
<b>Lighting Component Total</b>					<b>\$358,071.30</b>

**Sequence 7 Total**

**\$364,327.89**

Sequence: 8 MIS - Miscellaneous Construction

Net Length: 11.155 MI  
58,898 LF

Description: Roadway Improvements at Debry Rd (Safety Funded)

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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>
120-6	EMBANKMENT	6.00	CY	\$51.79	\$310.74
160-4	TYPE B STABILIZATION	456.00	SY	\$26.62	\$12,138.72
285-710	OPTIONAL BASE,BASE GROUP 10	429.00	SY	\$27.98	\$12,003.42
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	35.40	TN	\$177.52	\$6,284.21
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	47.20	TN	\$205.19	\$9,684.97
520-1-10	CONCRETE CURB & GUTTER, TYPE F	480.00	LF	\$44.85	\$21,528.00
520-5-41	TRAF SEP CONC-TYPE IV, 4' WIDE	234.00	LF	\$257.71	\$60,304.14
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	397.00	SY	\$87.78	\$34,848.66
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	217.00	SY	\$104.38	\$22,650.46
527-2	DETECTABLE WARNINGS	141.00	SF	\$39.56	\$5,577.96
570-1-2	PERFORMANCE TURF, SOD	395.00	SY	\$6.00	\$2,370.00
<b>Roadway Component Total</b>					<b>\$187,701.28</b>

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**DRAINAGE COMPONENT**

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
425-1-481	INLETS, CURB, TYPE 8, <10'	1.00	EA	\$16,058.55	\$16,058.55
425-2-41	MANHOLES, P-7, <10'	2.00	EA	\$8,281.46	\$16,562.92
430-175-115	PIPE CULV, OPT MATL, ROUND, 15"S/CD	8.00	LF	\$325.10	\$2,600.80
<b>Drainage Component Total</b>					<b>\$35,222.27</b>

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**Sequence 8 Total**

**\$222,923.55**

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Sequence: 9 MIS - Miscellaneous Construction

Net Length: 0.000 MI  
1 LF

Description: Signal Replacement at Derby Rd (Safety Funded)

**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	2.00 EA	\$838.23	\$1,676.46
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF	4.00 EA	\$5,242.86	\$20,971.44
700-141-360	EHSA, AC, OVHD MT, BOS <12SF	2.00 EA	\$7,067.21	\$14,134.42
<b>Signing Component Total</b>				<b>\$36,782.32</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

Description	Value
Type	Miscellaneous
Multiplier	1
Description	

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	757.00 LF	\$21.12	\$15,987.84
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	543.00 LF	\$37.27	\$20,237.61
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$12,218.65	\$12,218.65
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00 PI	\$1,935.96	\$1,935.96
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	26.00 EA	\$1,492.16	\$38,796.16
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$7,395.33	\$7,395.33
639-1-610	ELECTRICAL POWER SRV,REM OHD	1.00 AS	\$639.74	\$639.74
639-2-1	ELECTRICAL SERVICE WIRE, F&I	100.00 LF	\$10.93	\$1,093.00
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00 EA	\$2,085.53	\$2,085.53
641-2-80	PREST CNC POLE, REMOVE COMPLETE	2.00 EA	\$6,447.51	\$12,895.02
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	8.00 EA	\$2,710.13	\$21,681.04
649-21-6	STEEL MAST ARM ASSEMBLY, F&I, 50'	1.00 EA	\$91,396.81	\$91,396.81
649-21-15	STEEL MAST ARM ASSEMBLY, F&I, 70'	1.00 EA	\$80,602.33	\$80,602.33
649-21-25	STEEL MAST ARM ASSEMBLY, F&I, 78'-60'	1.00 EA	\$131,111.81	\$131,111.81
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	10.00 AS	\$1,623.56	\$16,235.60
650-1-16	VEH TRAF SIGNAL,F&I ALUMINUM, 4 S 1 W	2.00 AS	\$2,017.29	\$4,034.58
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$913.42	\$7,307.36
660-1-109	LOOP DETECTOR INDUCTIVE, F&I, TYPE 9	9.00 EA	\$390.27	\$3,512.43

660-1-110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	2.00 EA	\$419.90	\$839.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$277.98	\$2,223.84
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$50,234.15	\$50,234.15
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00 AS	\$1,130.32	\$1,130.32
685-1-13	UPS, F&I, LINE INTERACTIVE W CAB	1.00 EA	\$10,865.70	\$10,865.70
<b>Signalizations Component Total</b>				\$534,460.61
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<b>Sequence 9 Total</b>				\$571,242.93
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Sequence: 10 MIS - Miscellaneous Construction

Net Length: 0.000 MI  
1 LF

Description: Lighting at Derby Rd. (Safety Funded)

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

<b>Description</b>	<b>Value</b>
Type	Miscellaneous
Multiplier	1
Description	

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	\$2,085.53	\$2,085.53
<b>Signalizations Component Total</b>					<b>\$2,085.53</b>

**LIGHTING COMPONENT**

**Conventional Lighting Subcomponent**

<b>Description</b>	<b>Value</b>
Spacing	MAX

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	350.00	LF	\$21.12	\$7,392.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	400.00	LF	\$37.27	\$14,908.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	12.00	EA	\$1,492.16	\$17,905.92
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$7,395.33	\$7,395.33
639-2-1	ELECTRICAL SERVICE WIRE, F&I	50.00	LF	\$10.93	\$546.50
715-1-12	LIGHTING CONDUCTORS, F&I, INSUL,NO.8-6	2,970.00	LF	\$2.91	\$8,642.70
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00	EA	\$19,162.24	\$19,162.24
715-61-442	LIGHT POLE CMPLT,STD,F&I, 45'MH,12'ARM L	6.00	EA	\$11,943.79	\$71,662.74
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$829.83	\$4,978.98
<b>Lighting Component Total</b>					<b>\$152,594.41</b>

**Sequence 10 Total** **\$154,679.94**



Sequence: 11 MIS - Miscellaneous Construction

Net Length: 0.000 MI  
1 LF

Description: Turn Lane Improvements from Study at Charlotte Rd./42nd Street (Operations Request)

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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>
110-1-1	CLEARING & GRUBBING	0.03	AC	\$97,688.60	\$2,930.66
110-4-10	REMOVAL OF EXIST CONC	53.33	SY	\$38.10	\$2,031.87
160-4	TYPE B STABILIZATION	128.00	SY	\$26.62	\$3,407.36
285-710	OPTIONAL BASE,BASE GROUP 10	96.00	SY	\$27.98	\$2,686.08
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	7.92	TN	\$177.52	\$1,405.96
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	7.92	TN	\$205.19	\$1,625.10
520-5-41	TRAF SEP CONC-TYPE IV, 4' WIDE	120.00	LF	\$257.71	\$30,925.20
<b>Roadway Component Total</b>					<b>\$45,012.23</b>

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**Sequence 11 Total**

**\$45,012.23**

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# FDOT Long Range Estimating System - Production

## R3: Project Details by Sequence Report

**Project:** 454941-1-52-01

**Letting Date:** 07/2027

**Description:** SR 544 FROM SR 600 (US 92) TO 8TH ST NW (US 17)

**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English  
**Contract Class:** 1   **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 11.155 MI

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

**Version 4-P Project Grand Total** **\$15,283,879.94**

**Description:** Final TRM Markups per PM from Version 1P - 12/6/24

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

**Project Sequences Subtotal** **\$11,393,849.00**

102-1	Maintenance of Traffic	15.00 %	\$1,709,077.35
101-1	Mobilization	10.00 %	\$1,310,292.64

**Project Sequences Total** **\$14,413,218.99**

Project Unknowns	5.00 %	\$720,660.95
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 4-P Project Grand Total** **\$15,283,879.94**