

**Maintenance Resurfacing Project Technical Scope**

4/11/2024

**452912-1: SR 434 from Orange County Line of North of Clonts Street**

State Road Numbers: 434  
 Section Number: 77170000  
 County: Seminole  
 Project Limits: Orange Co. Line to North of Clonts St.  
 Begin MP/End MP: 0.000 – 3.170  
 FM: 452912-1

1. Existing R/W Map Project Numbers:	77170-2510 (1999) MP 0.00 to MP 3.41 77170-2507 (1992) MP 0.00 to MP 0.85 77170-2501 (1989) MP 0.00 to MP 0.51	
2. Old Construction Project Numbers:	427897-1 (2013) MP 3.03 to MP 3.16; Sidewalk 240167-2 (2007) MP 0.00 to MP 3.22; Landscaping 240167-1 (2002) MP 0.00 to MP 3.22; Widen/Reconstruct 240228-1 (1999) MP 0.00 to MP 0.15; Miscellaneous 240262-1 (1998) MP 0.56 to MP 0.61; Bridge Repair/Replacement 240207-1 (1994) MP 0.00 to MP 4.01; Resurfacing 240182-1 (1991) MP 1.90 to MP 2.10; Traffic Signals 240142-1 (1990) MP 0.55 to MP 0.65; Bridge Replacement	
3. Additional R/W required?	No	
4. Level of Community Awareness Plan:	CAP Level 1	
5. Agreements required?	<input type="checkbox"/> No	<input type="checkbox"/> Yes
	<input checked="" type="checkbox"/> Coordinate with local agency for FPID 992100-6, 448799-1, existing brick pavers in crosswalks.	
6. Are there any bridges within the limits?	Yes – 770037 (MP 0.556 to MP 0.613)	
7. Are there any RR Crossings within the project limits or in the vicinity?	No	
8. Are there any Airports within 10 nautical miles?	Yes, Orlando Executive Airport and Orlando/Sanford International Airport	
9. Storm Water Management jurisdiction:	SJRWMD	
10. Is the Project within CCCL ( <i>Coastal Construction Control Line</i> )?	No	
11. Existing Utilities per Sunshine One Call:	AT&T/ Distribution BHN/Charter/Spectrum City of Orlando Water Reclamation City of Oviedo Crown Castle NG Duke Energy Embarq Communications Inc. Hometown America Palm Valley Lumen Orange County Public Works Orange County Utilities Seminole County Traffic Engineering Seminole County Smart City Telecom Summit Broadband Teco Peoples Gas-Orlando Uniti Fiber LLC University of Central Florida University of Central Florida Landscape Utilities & Energy Services Verizon / MCI Zayo Group/ Formerly Lightwave, LLC	

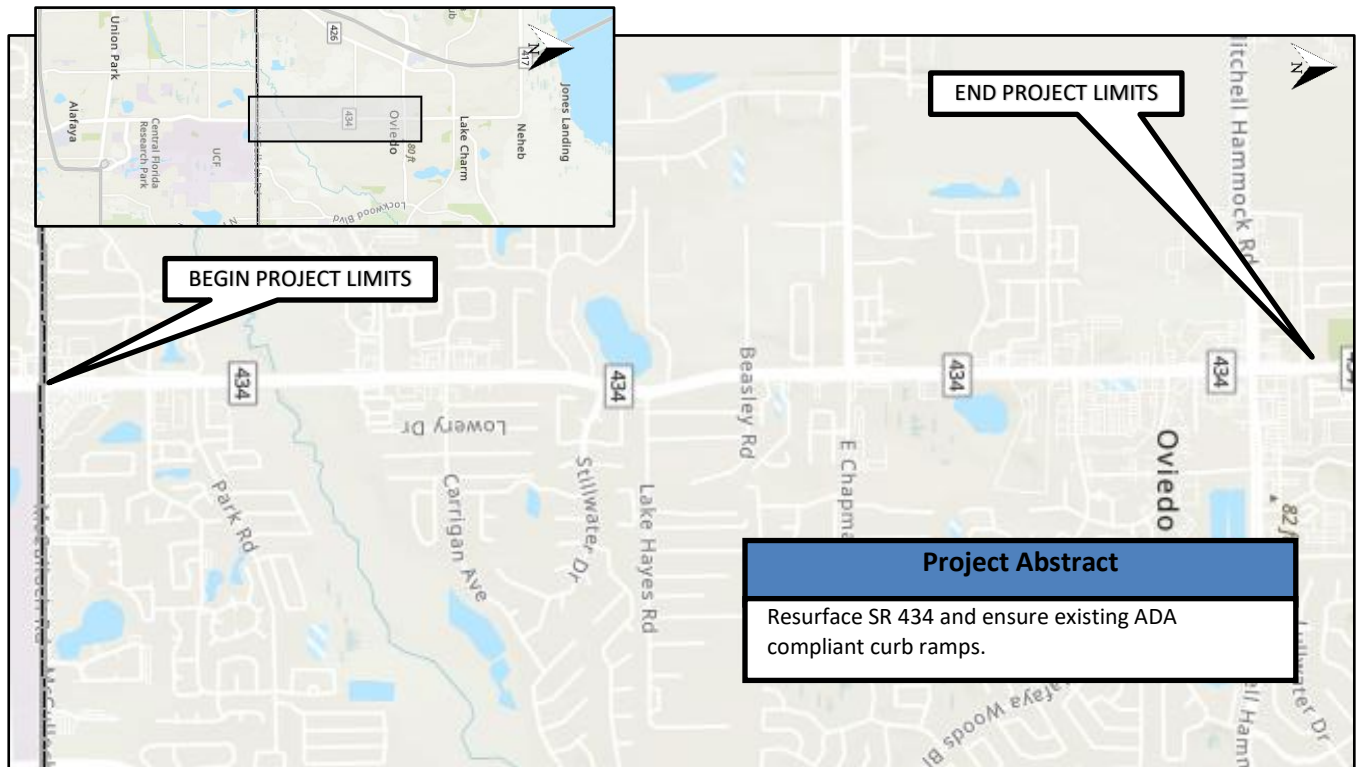
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12. Any special MOT concerns?	Yes, heavy directional traffic and special events at UCF campus.			
13. Any construction concerns?	No			
14. Posted/Design Speed Limits (mph): Design Speed Source: As-Builts (FPID 240167-1-52-01) <i>*TS will not be achievable on this project.</i>	<u>MP Range</u> 0.000 – 0.200 0.200 – 2.582 2.582 – 3.170	<u>Design</u> 45 mph 45 mph 45 mph	<u>Posted</u> 45 mph 50 mph 45 mph	<u>Target*</u> 40 mph 45 mph 45 mph
15. Design Criteria and Highway System: Source: RCI Database (Updated March 2023)	SHS, FDM (2023), RRR, SIS			
	<u>Facility</u>		<u>Context Classification</u>	
	0.00 – 1.377		C3C	
	1.377 – 2.025		C3R	
	2.025 – 3.170		C3C	
16. Lump Sum or Pay Item?	Pay Item			
17. Proposed Design Schedule:	18-24 months			

#### Agreements Required:

Coordinate with the City of Oviedo regarding impacts to the existing aesthetic brick pavers in pedestrian crosswalks.

#### Project Location Map:



The Consultant is responsible for verifying all items in the proposed scope and shall review the project for conformance with all applicable criteria and standards.

#### Intent and Nature of Project:

The purpose of this project is milling and resurfacing to restore the functional condition of the pavement on SR 434 from the Orange County Line to north of Clonts Street. This maintenance resurfacing project also includes reconstruction curb ramps to be ADA compliant and signing & pavement markings.

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### Project Description:

- Project is located along SR 434 (also identified as Alafaya Trail from MP 0.00 to MP 3.028 and S Central Avenue from MP 3.028 to MP 3.948), from the Orange County Line to just north of Clonts Street, in the City of Oviedo, Florida within Seminole County.
- SR 434 is classified as an urban principal arterial and has Access Classification 03.
- The Tentative Work Program indicates the following efforts may be active within the immediate project vicinity:
  - 435526-1: SR 434 (Alafaya Trail) at Corporate Boulevard; Intersection improvement
  - 448799-1: SR 434 from Centaurus Drive to Seminole County Line; Resurfacing
  - 992100-6: Alafaya Trail (SR 434) at Dalton Drive Median Modifications
    - This project includes converting the median opening at Dalton Drive from full to directional. Feedback received in April of 2023 has prompted the Department to reevaluate proposed safety improvements; there is not currently an approved design.

### Typical Sections:

- SR 434 is comprised of one typical section within the project limits:
  - Six-lane divided arterial with 22' median, two (2) 12-foot and one (1) 11-foot travel lane in each direction, and 4-foot outside paved shoulders with Type F Curb & Gutter and 5-foot sidewalk on each side of the corridor.
- 2022 Traffic Data from FDOT GIS Open Data Hub:

Mile Post Limits	AADT	K (%)	D (%)	T (%)
0.000 – 2.025	44,000	9.0	51.3	2.3
2.025 – 3.028	41,000	9.0	51.3	2.3
3.028 – 3.948	15,700	9.0	51.3	2.3

### Roadway Scope Items:

- The most recent milling and resurfacing effort was completed in 2002 under FPID 240167-1. Pavement improvements included milling 1.5" of asphalt and resurfacing with 1.5" of FC-6 friction course. A Pavement Condition Assessment has been requested and will be completed by FDOT. By observation, the existing pavement is in fair to poor condition and includes moderate longitudinal cracking and isolated locations of alligator cracking.
- Mill and resurface existing asphalt pavement along SR 434, rehabilitate the roadway sections that are in distress, and restore the final surface. Prepare two pavement designs: 1) milling and resurfacing of travel lanes and turn lanes and 2) deeper milling and resurfacing to alleviate alligator cracking.
- MPSV data was collected February 28, 2020 for SR 434 between MP 0.000 and MP 1.770 and analyzed for cross slope correction. Cross slope correction is not part of this project. See separate MPSV Data Analysis for additional information.

### Drainage Scope Items:

- No drainage work proposed.

### Utility Scope Items:

- Utility coordination will be required to determine if any necessary adjustments are required to avoid conflicts with the proposed construction.
- Adjust all valve covers, utility pull boxes, fire hydrants, and utility manholes to be flush with proposed ramps and roadway pavement as necessary to complete the proposed improvements.

### Multimodal Scope Items:

#### Transit:

- LYNX bus route 434 currently services the SR 434 corridor and has 20 bus stops within the project limits. Coordinate temporary construction relocations with Bus Stop Coordinator Cliff Satter ([csatter@golynx.com](mailto:csatter@golynx.com)).
- The University of Central Florida (UCF) has five bus routes that operate within project limits or immediate vicinity: Northgate Lakes, Knights Circle, Grocery, Riverwind at Alafaya, and Northview. Coordinate temporary construction relocations with Agency Representative.

#### Bicycle facilities:

- No changes to existing bike facilities.

#### Pedestrian facilities:

- Reconstruct existing curb ramps that do not comply with ADA criteria and ensure all ramps have DWS.

#### Railroad Facilities:

- No railroad crossings are located within the project area.

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### Permitting Scope Items:

- Coordinate with FDOT, submitting a permit determination letter to the Environmental Permits Office, Attention District Five Permits Coordinator, for review and concurrence during the design process, considering the below descriptions of work and conditions.
  - This project is not anticipated to exceed one acre of soil disturbing activities and will not require NPDES coverage under the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities.
- Wetlands were noted adjacent to the right-of-way and are not to be impacted.
- There are floodplains adjacent to the project limits. The current scope of work is not anticipated to impact the floodplains.

### Environmental Scope Items

- Complete an environmental assessment:
  - A protected species assessment is required for the project. The level of assessment should be commensurate with the scope of work. The assessment should focus on species applicable to the project area with consideration given to consultation areas, habitats, and known occurrence data.
  - A Cultural Resources Assessment is required and is to be conducted by Cultural Resources Professionals as outlined in 36 CFR Part 61 and set forth in the Professional Qualifications Standards section of the Secretary of the Interior's Standard and Guidelines for Archaeology and Historic Preservation.
  - There are three contamination sites identified within the project limits. If work requiring excavation, dewatering, etc., a Contamination Assessment must be completed and should be coordinated with the FDOT Contamination Impact Coordinator.
    - Fast Lane #4731, 20 E. Mitchell Hammock Road, Site ID #8838050
    - Circle K #2708973, 40 W. Mitchell Hammock Road, Site ID #9103124
    - 7-Eleven #32298, 2000 Alafaya Trail, Site ID # 9700940

### Structural Scope Items:

- Bridge 770037
  - No work proposed.

### Traffic Operations (Includes Signing, Signals, ITS) Scope Items:

#### Signing and Pavement Markings

- Signing and Pavement Marking shall be completed for the proposed improvements. The Engineer will prepare the Inventory all signing within the project limits including evaluation for compliance with FDOT Specifications, FDM, Standard Plans, MUTCD, FHWA, etc. criteria and shall coordinate with the District Design Office for any changes to existing signs. Any existing signs or pavement markings that conflict with the proposed signs or pavement markings or non-compliant signs or pavement markings shall be addressed in the plans.

#### Signals (ITS)

- Signal detection is to be reestablished. Existing detection methods are provided within the table below.
- Engineer shall follow the Risk Assessment protocol, including Checklist and Systems Engineering analysis.
- Engineer to complete the ITS Certification.
- The project includes 7 signalized intersections;

MP 0.000 – McCulloch Rd. (Mast Arms)	
Detection	Video
Backplates	No Existing Backplates.
Left Turns	All Protected
Pedestrian Signals	On Mast Arms and Pedestrian Poles
Other	CCTV Camera, Preemption Devices, Connected Vehicles

MP 0.264- Palm Valley Dr. (Mast Arms)	
Detection	Inductive Loops
Backplates	No Existing Backplates.
Left Turns	NB/SB Protected. EB/WB Permissive
Pedestrian Signals	On Mast Arms

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<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles
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<b>MP 1.008- Carrigan Ave. (Mast Arms)</b>	
<b>Detection</b>	Inductive Loops
<b>Backplates</b>	No Existing Backplates.
<b>Left Turns</b>	NB/SB Protected. EB/WB Permissive
<b>Pedestrian Signals</b>	On Mast Arms
<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles

<b>MP 2.025- Chapman Rd. (Mast Arms)</b>	
<b>Detection</b>	Inductive Loops
<b>Backplates</b>	No Existing Backplates.
<b>Left Turns</b>	NB/SB/EB Protected. WB Protected/Permissive
<b>Pedestrian Signals</b>	On Mast Arms
<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles

<b>MP 2.582- Alafaya Woods Blvd. (Mast Arms)</b>	
<b>Detection</b>	Inductive Loops
<b>Backplates</b>	No Existing Backplates.
<b>Left Turns</b>	All Protected
<b>Pedestrian Signals</b>	On Mast Arms
<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles

<b>MP 2.816- Alexandria Blvd. (Mast Arms)</b>	
<b>Detection</b>	Inductive Loops
<b>Backplates</b>	Existing Backplates
<b>Left Turns</b>	NB/SB Protected. EB/WB Permissive
<b>Pedestrian Signals</b>	On Pedestrian Poles
<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles

<b>MP 3.028- Mitchell Hammock Rd. (Mast Arms)</b>	
<b>Detection</b>	Video
<b>Backplates</b>	No Existing Backplates.
<b>Left Turns</b>	NB/SB Protected. EB/WB Protected/Permissive
<b>Pedestrian Signals</b>	On Mast Arms and Pedestrian Poles
<b>Other</b>	CCTV Camera, Preemption Devices, Connected Vehicles

- Traffic Monitoring Sites within the project limits have been reviewed and the following recommendations coordinated with the Data Collection Manager;

MP	TMS Site No. & Type	Recommendation
<b>1.118</b>	770005; PTMS	Restore detection
<b>2.186</b>	770283; PTMS	Restore detection
<b>3.133</b>	770021; PTMS	Restore detection

- Coordinate any signalization requirements including for lane closures/detours with Maintaining Agency.

#### Lighting Scope Items:

- No work proposed.

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### **Landscaping Scope Items:**

- No work proposed.

### **Survey Scope Items:**

- Obtain Design Survey, collecting data for the areas and locations of proposed work. Total survey area will be determined by the Engineer based on the limits of disturbance.
  - Survey locations in relation to the State Plan Coordinate System.
  - Locate utilities as Quality Level C "QL C" and surface features including valve covers, meter boxes, manholes, etc. within the areas of proposed work.
  - Include items identified by the environmental assessment.

### **Right of Way and Mapping Scope Items:**

- No work proposed.

### **Geotechnical and Pavement Scope Items:**

- Pavement Coring Report and Resilient Modulus values are to be provided by FDOT District Materials Office.
- ESAL calculations to be provided by the FDOT District Planning Office.

### **Design Documentation:**

- POP projects are exempt from Design Variation and Exception documentation other than for ADA curb ramp requirements. If compliance with ADA curb ramp requirements is determined to be technically infeasible within the POP limitations, a Design Variation will be required per FDM 222.2.2.