

October 3, 2023

**453545-1: SR 9 (I-95) Resurfacing from the Brevard County Line to south of SR 442**

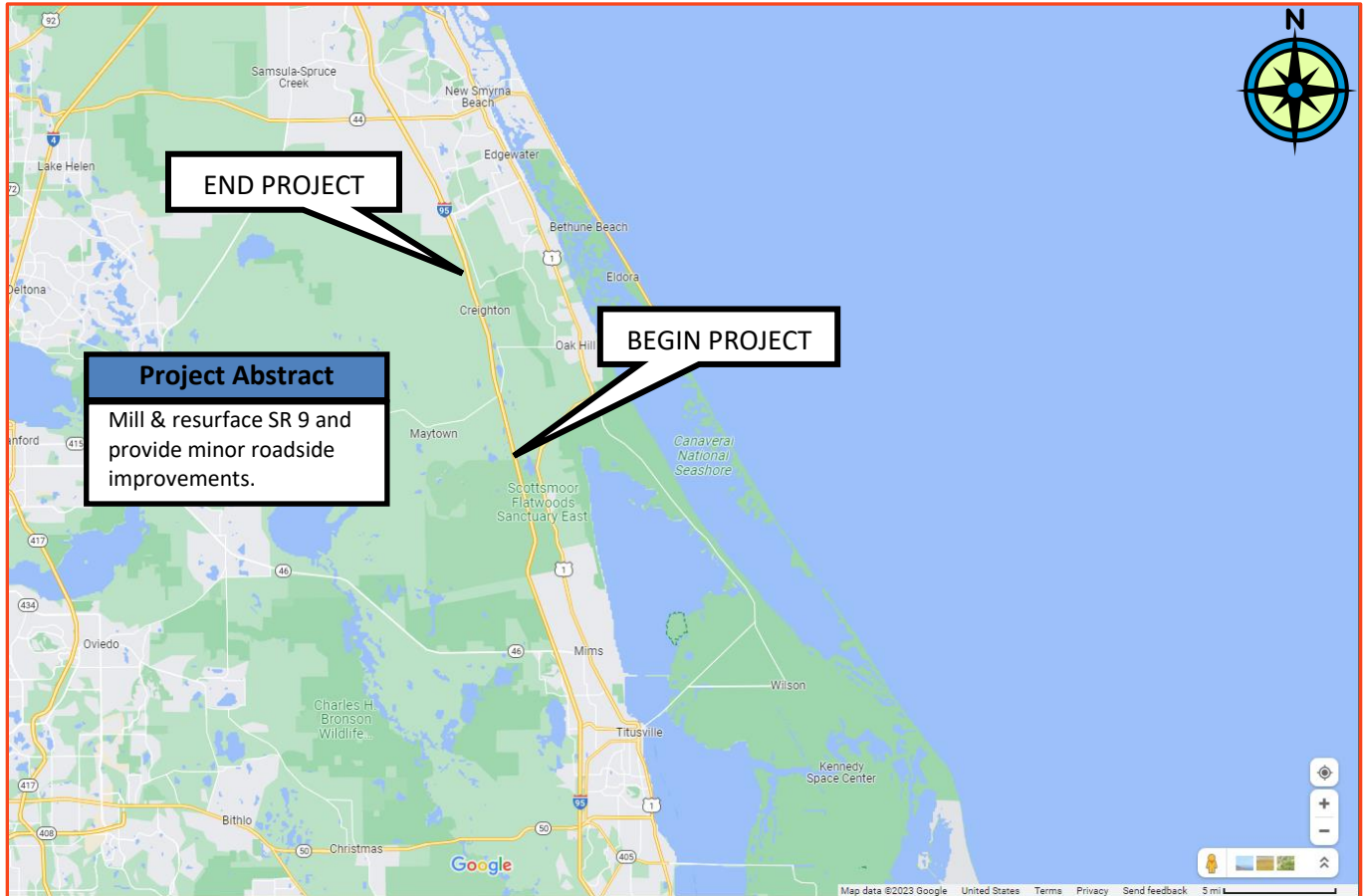
State Road Number: 9  
 Section Number: 79002-000  
 County: Volusia  
 Project Limits: From the Brevard County Line to south of SR 442  
 Begin MP/End MP: 0.000 to 8.049 (8.049 MI)  
 FM: 453545-1

1. Existing R/W Map Project Numbers:	406869-4 (2009) MP 0.000 to MP 16.437, var (150-ft-175-ft) LT & RT 79002-2406 (1966) MP 0.000 to MP 7.502, 150-ft (typ.) LT & RT			
2. Old Construction Project Numbers:	406869-8 (2017) MP 0.000 to MP 16.896, Widening 79002-3406 (1968) MP 0.000 to MP 7.502, New Construction			
3. Additional R/W required?	No.			
4. Level of Community Awareness Plan:	Level 4, interstate resurfacing.			
5. Agreements required?	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes	
	<input type="checkbox"/> Yes, including Local Funds.			
6. Are there any bridges within the limits?	790058 SB SR 9 over Maytown Road, 21ft-1in VC (406869-8) 790059 NB SR 9 over Maytown Road, 21ft-1in VC (406869-8)			
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.			
9. Storm Water Management jurisdiction:	SJRWMD.			
10. Is the Project within the CCCL ( <i>Coastal Construction Control Line</i> )?	No.			
11. Existing Utilities: (Per SS1C, as-builts, and field markers) *Per the District Utility Office.	*AT&T Florida *City of Edgewater – Sewer/Water Florida Power & Light – Distribution *Florida Power & Light – Transmission			
12. Any special MOT concerns?	Lane closures to consider Emergency Shoulder Use (ESU) designated facility and hurricane season.			
13. Any construction concerns?	No.			
14. Design/Posted/Target Speed (mph):	Location (MP)	Design Speed	Posted Speed	Target Speed
	0.000 to 8.049	70	70	N/A
15. Design Criteria and Context Classification:	FIHS, NHS, SIS, FDM (2023)			
	Location (MP)	Context Classification		
	0.000 to 8.049	LA "Limited Access"		
16. Lump Sum or Pay Item?	Pay Item.			
17. Proposed Design Schedule:	18-24 Months.			

**Agreements Required:**

None.

Project Location Map: [\(Google Maps Link\)](#)



The Engineer 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 the project is to rehabilitate the asphalt pavement to extend the service life of the existing roadway, including necessary roadside improvements, in accordance with FDOT Design Manual Section 114. The nature of the project is asphalt resurfacing and associated safety and functional improvements. The project is based on a request from FDOT District 5 Pavement Management and Maintenance for a RRR review of Roadway 70002-000 from MP 0.000 to MP 8.000. The project limits were extended to MP 8.049 to include the entirety of the horizontal curve.

- The Concept and Scope are provided to convey the general overall intent of the project and are not intended to serve as detailed design level directives.

**Project Description:**

- Project is in southern Volusia County, between Mims and Edgewater.
- SR 9 is classified as a rural principal arterial interstate from MP 0.000 to MP 8.049.
- The facility is designated as an evacuation route per the Florida Division of Emergency Management and is an Emergency Shoulder Use (ESU) roadway per the FDOT Emergency Management Office.
- The following project has been identified within the vicinity of this resurfacing project:
  - 446826-1: I-95 at Maytown Rd interchange is in the PD&E phase through 2026 and is not currently funded for design or construction. The FDOT PM is Stephen Browning.
  - 450226-1: I-95 over Maytown Rd bridge deck rehabilitation is funded for preliminary engineering and construction in 2025 and 2026, respectively. The FDOT PM is Jonathan Jastremsky.
  - 450594-1: SR 9 (I-95) Candidate resurfacing project from SR 46 to Southbound Rest Area in Brevard County.

### Typical Sections:

- Per as-built plans, the project includes 2 typical sections:
  - MP 0.000 to MP 3.563; 6-lane divided flush shoulder section with six 12-ft lanes (three per direction), 12-ft outside (10-ft paved) shoulders, 12-ft inside (10-ft paved) shoulders separated by a 40-ft depressed median.
  - MP 3.563 to MP 8.049; 6-lane divided flush shoulder section with six 12-ft lanes (three per direction), 12-ft outside (10-ft paved) shoulders, 12-ft inside (10-ft paved) shoulders separated by a variable width (126-ft max.) depressed median.
- Per 2022 traffic data: 34,500 AADT, T= 12.0% from the Brevard County Line to south of SR 442.

### Roadway Scope Items:

- A Pavement Condition Assessment will be requested and completed by FDOT. Existing pavement was observed to generally be in fair condition with occasional patches, infrequent raveling, and moderate alligator cracking in the outside lanes. Four pavement designs have been assumed for estimating purposes: 1) milling and resurfacing the travel lanes, 2) milling and resurfacing the shoulders/crossovers, 3) milling and resurfacing at the bridge approach, and 4) isolated areas of deeper rehabilitation.
- MPSV data has been requested and will be incorporated into the scope when available. For LRE purposes 10% cross slope correction and superelevation correction is anticipated.
- Evaluate the existing roadway guardrail for conformance to current Standards and design criteria; reset and replace as needed to correct deficiencies. Guardrail meeting the 2013 Design Standards is to remain. For LRE purposes 10% of the double-sided guardrail and 15% of the single-sided guardrail was assumed to be reset.
  - Backslope adjacent to the outside guardrail is failing and impacting guardrail geometry. Reconstruct guardrail and restore backslope. Provide permanent erosion control measures if warranted.
    - MP 2.950 RT
    - MP 3.030 RT
  - MP 5.140 to MP 5.178 LT & RT: Existing guardrail was placed 26.5-ft from the edge of travel. The guardrail was placed to protect roadway users from a culvert and water hazard outside of the clear zone, located approximately 36.5-ft from the edge of travel. The existing guardrail does not provide sufficient length of need to provide adequate protection and is to be removed.
- Evaluate the condition of the 10-ft wildlife fence along the project corridor and replace segments of fence if it determined to be damaged, missing, or in poor condition. For LRE purposes 1% of the fence was assumed to be replaced.
- MP 3.025 to MP 3.300 LT: A well-defined unauthorized vehicle access path exists from the shoulder of southbound SR 9 to Maytown Rd. Restore the Right of Way and provide preventative measures to prohibit continued use.

### Drainage Scope Items:

- The primary goal for improvements along this corridor is to utilize the existing drainage system where feasible.
  - Based on field observations the existing drainage system appears to be functioning properly.
- MP 7.725 LT & RT: The existing dual 36-in pipe drainage headwalls fall within the 36-ft clear zone, 29.5-ft (LT) and 30-ft (RT) from the edge of travel and are to be modified. Remove the existing headwalls, extend the structures, and reconstruct a new headwall to provide adequate clearance. There is one crash within the 5-year crash analysis period that could be attributed to the headwall location.
- A Hydroplaning Risk Analysis will be required at the locations listed below; however, it is recommended that a hydroplaning risk analysis for the entire project corridor is conducted due to the existing vertical geometry and the large number of crashes that occurred in wet weather conditions that could be attributed to hydroplaning within the 5-year crash analysis period:
  - MP 3.585 to MP 3.838: Horizontal Curve, 2 or more wet weather crashes in 5 years.

## Candidate RRR with Safety Improvements Project Technical Scope

- MP 5.559 to MP 5.769: Horizontal Curve, 2 or more wet weather crashes in 5 years.
- MP 7.816 to MP 8.049: Horizontal curve, 5 wet weather crashes in 5 years.

### Utility Scope Items:

- Utility coordination will be required to determine adjustments so there are no conflicts with the proposed construction.
- Quality Level A “QL A” utility information is anticipated. Construction activities that involve underground work within proximity to noted utilities include guardrail and drainage work.

### Multimodal Scope Items:

#### Transit:

- None.

#### Bicycles:

- None.

#### Pedestrians:

- None.

### 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 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.
  - Wetlands were noted adjacent to and within the Right of Way and may be impacted. The apparent wetland lines shown on the Concept are from the Florida Geographic Data Library and are for informational purposes only.
  - There are floodplains within and adjacent to the project. The current scope of work anticipates floodplain impacts and coordination with the FDOT Environmental Permits Office will be necessary for evaluation to determine if additional documentation must be provided.

### 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.
  - No known contamination sites have been identified within proximity of this project.
- 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.

### Structural Scope Items:

- None.

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

- Perform crash analysis at MP 3.003 (Maytown Rd Bridge) and provide mitigation recommendations. Wet weather crashes were noted at the bridge approaches; evaluation of the roadway geometry and cross slope transition at the overpass bridges to be considered.

### Signing and Pavement Markings

- Signing and pavement markings shall be completed for the project limits. Inventory all signing including evaluation for compliance with all applicable criteria. Any existing signs that conflict with the proposed signs or pavement markings, and non-compliant signs or pavement markings, are to be addressed in the

plans. Evaluation to include:

- Complete calculations for 6 multi-post sign relocation/installation.

#### Signals

- There are no signalized intersections.
- There are no Traffic Monitoring Sites within the project limits.

#### Intelligent Transportation Systems (ITS)

- Any modifications are to be consistent with the ITS Master Plan. The Engineer:
  - Shall follow the Risk Assessment protocol, including Checklist and Systems Engineering analysis.
  - Shall designate fiber in the plans, determine any conflicts and resolve.
- Additional ITS guidance can be found here:  
[https://www.cflsmartroads.com/projects/technical\\_docs.html#\(Designers\)](https://www.cflsmartroads.com/projects/technical_docs.html#(Designers))
- Existing conduits, fiber optic cable, and power cables runs parallel and along the western side of SR 9 throughout the project limits. All proposed work is to avoid impacts to existing ITS systems when feasible.
- Pole mounted MVDS equipment is present throughout the project corridor. Coordinate disposition with the District Data Collection Manager.

#### **Lighting Scope Items:**

- None.

#### **Landscaping Scope Items:**

- None.

#### **Survey Scope Items:**

- Obtain Design Survey, collecting data for the areas and locations of identified and proposed improvements shown on the Concept. Total survey area will be determined by the Engineer based on the limits of disturbance and any adjustment required.
  - DTM will be needed in areas of anticipated design such as cross slope and superelevation correction, slope work, etc.
  - Locate utilities as Quality Level B “QL B” and surface features including valve covers, meter boxes, manholes, etc. within the limits of survey required. Quality Level A “QL A” utility information is anticipated.
  - Locate existing drainage structures within the limits of survey plus the nearest connecting structure beyond those limits. Pipe sizes, flow lines, material type, etc. are required.
  - Include items identified by the environmental assessment.
  - All existing above ground utility facilities must be designated (Level B) as directed by the District Utility Office.

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

- All scope items are within the apparent Limited Access Right of Way.

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

- FDOT to perform Pavement Coring Report and provide ESAL calculation and Resilient Modulus values.
- Perform and obtain the necessary geotechnical information as directed by the Geotechnical Office.

#### **Design Documentation:**

- The design documentation items noted below are necessary to implement the proposed improvements. The Engineer is responsible for verifying all items in the proposed Scope and design conform with all applicable criteria and standards, including the identification of any required Memoranda, Variations and Exceptions.

Per FDM 211.1.1 the following elements may remain if they meet the AASHTO interstate standards in effect at the time of original design; horizontal alignment, vertical alignment, median width, traveled

way width and shoulder width. Place documentation in PSEE.

- Design Variation Memorandum
  - Lateral Offset- Per FDM Table 215.2.2 and the FDOT Drainage Manual , the minimum lateral offset criteria for drainage headwalls and concrete box culvert end treatments is outside the clear zone. The clear zone for 70 mph design speed limited access facilities is 36-ft from the edge of travel (EOT). The following concrete endwalls fall within the clear zone and are to remain. No crash history is attributed to the endwalls within the 5-year crash analysis period.
    - MP 1.184 LT & RT: 7-ft x 3-ft box culvert, located 30-ft (LT) and 31-ft (RT) from EOT.
    - MP 2.473 LT & RT: 7-ft x 3-ft box culvert, located 31-ft from EOT (both sides).
    - MP 2.700 RT: 36-in pipe, located 34-ft from EOT.
    - MP 2.788 LT: 36-in pipe, located 34.5-ft from EOT.
    - MP 3.312 LT & RT: 42-in pipe, located 34-ft from EOT (both sides).
    - MP 4.991 LT: 2 x 30-in pipes, located 32-ft from EOT.
    - MP 5.270 LT & RT: 2 x 36-in pipes, located 33-ft (LT) and 34-ft (RT) from EOT.
    - MP 7.263 LT & RT: 36-in pipe, located 34-ft from EOT (both sides).
  - Lateral Offset - ITS- Per FDM Table 215.2.2, the minimum lateral offset criteria for ITS poles is outside the clear zone. The clear zone for 70 mph design speed limited access facilities is 36-ft from the edge of travel. The following ITS pole falls within the clear zone and is to remain. No crash history is attributed to the pole within the 5-year crash analysis period.
    - MP 7.422 RT: MVDS pole, located 33-ft from EOT.
  - Vertical Curve K Value- Per FDM Table 211.9.2, the minimum K value for a crest vertical curve and sag vertical curve on a 70 mph design speed interstate highway is 312 and 206, respectively. There are 3 vertical curves at the existing Maytown Road bridge that do not meet this minimum criterion and are to remain. The vertical curves do meet minimum stopping sight distance per AASHTO.
- Design Variation
  - Stopping Sight Distance- Per FDM Table 211.10.1, the minimum stopping sight distance on an interstate with a 70-mph design speed is 780-ft for a grade of 3% or less. SR 9 has deficient stopping sight distances due to vertical curvature at the Maytown Road overpass and is to remain. This vertical curve does meet minimum stopping sight distance per AASHTO.
- Design Exception
  - Superelevation- Per FDM 210.9.2, for high-speed curves, superelevation rates not within the range of derived values from the AASHTO  $e_{\max} = 6\%$  and  $e_{\max} = 12\%$  tables require correction or an Exception to remain. Per FDM Table 210.9.1, and the respective AASHTO Tables, a curve with  $R = 17,178.01$ -ft and  $D_s = 70$  mph, should be in normal crown. The curve from MP 7.816 to MP 8.049 is in reverse crown and the longitudinal profile grade is 0.0% per as-built plans. The Engineer is to evaluate the curve as there is a history of wet weather crashes that could be attributable to the superelevation creating a hydroplaning risk.

**Additional Items Considered During Scoping:**

- None.