August 23, 2024

**SR 46 at Richmond Ave Intersection Improvements**

State Road Number: 46

Section Number: 77040-000

County: Seminole

Project Limits: at Richmond Ave

Begin MP/End MP: MP 3.947 to MP 4.363 (0.416 MI)

FM: 453310-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. Existing R/W Map Project Numbers: | 7704-109 (1951): 50-ft LT and RT of CL (Min)  77161 407355-1 (2008): 50-ft RT (typ) & var LT (50-ft min) | | | | |
| 1. Old Construction Project Numbers: | 77040-0109 (1957): MP 1.024 to MP 5.486, New Construction  77040-8503 (1971): MP 1.022 to MP 5.705, Mill & Resurface  77040-3504 (1994): MP 3.808 to MP 5.859, Paved Shoulders  417178-1 (2009): MP 3.848 to MP 16.100, Mill & Resurface  240216-2 (2016): MP 1.022 to MP 3.852, Reconstruction | | | | |
| 1. Additional R/W required? | No. | | | | |
| 1. Level of Community Awareness Plan: | CAP Level 2, road widening. | | | | |
| 1. Agreements required? | No | Yes | | | |
| Yes, including Local Funds. | | | | |
| 1. Are there any bridges within the limits? | No. | | | | |
| 1. Are there any RR Crossings within the project limits or in the vicinity? | No. | | | | |
| 1. Are there any Airports within 10 nautical miles? | Yes. | | | | |
| 1. Storm Water Management jurisdiction: | SJRWMD. | | | | |
| 1. Is the Project within the CCCL *(Coastal Construction Control Line)*? | No. | | | | |
| 1. Existing Utilities:   (per SS1C, as-builts, and field markers) | AT&T Florida  Bright House Networks LLC dba Charter/Spectrum  City of Sanford - Lighting  City of Sanford - Water/Sewer  Florida Power & Light - Distribution  Florida Power & Light - Transmission | | | | |
| 1. Any special MOT concerns? | None. | | | | |
| 1. Any construction concerns? | Anticipated wetland, floodplain, and surface water impacts, see Permitting Scope Items. | | | | |
| 1. Design/Posted/Target Speeds (mph): | Facility | Design Speed | Posted Speed | | Target Speed |
| SR 46 | 60 | 55 | | N/A |
| Richmond Ave | Unk | 35 | | N/A |
| 1. Design Criteria and Context/Access Class: | SHS, FDM (2024), RRR | | | | |
| Facility | Context Classification | | Access Class | |
| SR 46 | C2 “Rural” | | 03 | |
| Richmond Ave | Local Rd | | N/A | |
| 1. Lump Sum or Pay Item? | Pay Item. | | | | |
| 1. Proposed Design Schedule: | 24-30 months, additional time for permitting. | | | | |

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.

# Local Agency Coordination:

Conduct a Stakeholder meeting during the design phase to confirm the proposed scope remains consistent with the expectations set during scoping, close the loop on what will be included in the project and learn of any changes that may have occurred since the Scope’s development.

# Project Location Map: [(Google Maps Link)](https://maps.app.goo.gl/v9jYge67am2V5bBq7)

# MC900239015[1]

**Project Abstract**

Widen to provide a westbound left turn lane to Richmond Ave.

PROJECT LOCATION

# Intent and Nature of Project:

The purpose of the project is to enhance the operation of the intersection in accordance with FDOT Design Manual requirements. The project is based on a request from the FDOT District 5 Safety Office to implement the recommendations of the *Intersection Analysis Safety Study* completed by Inwood Consulting Engineers, Inc, dated July 2023 (Study). Proposed improvements are limited to satisfying the long-term recommendations of the Study. The Engineer is to confirm that the short-term recommendations have been incorporated prior to design, and if not, they are to be added to the Scope of this project.

* The Scope and Plan Sheets are provided to convey the general overall intent of the project and to establish the estimated cost for programming. These documents are not intended to serve as detailed design level directives but are to communicate the project’s primary objectives as approved by District staff. The Engineer is responsible for developing the final design to implement the long-term recommendations of the Study within the constraints of the project budget while meeting the project’s needs.

# Project Description:

* Project is in north central Seminole County, east of the City of Sanford.
* SR 46 is classified as a rural principal arterial and is a designated evacuation route per the Florida Division of Emergency Management. Richmond Ave is a local road.
* The following projects have been identified within the vicinity of this project.

The FDOT PM is to confirm the status and proposed improvements, and coordinate project limits prior to advertisement.

* + 240216-4: SR 46 PD&E Study from Lake Mary Blvd to County Rd 426 to convert the existing 2-lane section to a 4-lane divided roadway. The project is not funded for future phases (design, Right of Way, or construction). The FDOT PM is Maria Serrano-Acosta.
  + 452229-1: Districtwide rumble strips bundle 5A from east of Lake Mary Blvd (MP 3.890) to east of Rest Haven Rd (MP 14.865). Construction is anticipated to begin in August 2024. The FDOT PM is Blaire Scheller.

# Typical Sections:

* Per as-built plans, the project includes 2 typical sections.
  + SR 46: 2-lane flush shoulder section with 12-ft travel lanes and 6-ft shoulders (4-ft paved).
    - *The existing 6-ft shoulder (4-ft paved) is to be replaced with a 10-ft shoulder (5-ft paved) for the length of widening.*
  + Richmond Ave: 2-lane flush shoulder local road section with 10-ft travel lanes and 4-ft unpaved shoulder. No changes proposed.
* Per 2023 traffic data:

|  |  |  |  |
| --- | --- | --- | --- |
| **MP** | **TMS Site No.** | **AADT** | **T%** |
| 1.577\* | 770028 | 19,400 | 11.0 |

\*Not within the project limits, data provided for traffic characteristics only.

# Roadway Scope Items:

* 5 pavement designs have been assumed for estimating purposes; 1) milling and resurfacing the travel lanes, 2) pavement widening, 3) new shoulder construction, 4) milling and resurfacing the shoulders, 5) and milling and resurfacing the local road.
* Widen to provide a westbound left turn lane to Richmond Ave by shifting the eastbound edge of travel to avoid impacts to the roadside canal. The proposed typical will provide 12-ft travel lanes, 10-ft shoulders (5-ft paved), shoulder gutter (eastbound), and guardrail (eastbound). The proposed typical will tie down to the existing top of bank to avoid impacts to the canal. Overbuild details are anticipated.
* Ensure the Richmond Ave returns accommodate truck turning movements.
* Provide eastbound guardrail to shield the parallel canal hazard.
  + A Controlled Release Terminal (CRT) guardrail was considered; however, it was not selected due to the return radius, adjacent property access, right of way, CRT proximity to high speed travel lanes in the control zone and intersection crash types.
  + If the Deep Post guardrail option is considered in lieu of providing a minimum 2-feet setback to the slope break point, approval from the District Design Engineer will be required per FDM 215.4.6.2.
* Reconstruct 4 affected driveways to reestablish connection.

# Drainage Scope Items:

* Based on field observations the existing roadside drainage system appears to be functioning properly.
* The roadside ditch on the south side of SR 46 was determined to be a canal hazard and is to be shielded.
* Extend the 3 x 36-in side street cross drain at Richmond Ave so the roadside ditch and associated adverse front slopes are outside the control zone and proposed guardrail approach length of need (LON).
* Extend the 3 x 36-in side street cross drain at the first driveway east of Richmond Ave so the roadside ditch and associated adverse front slopes are outside the proposed guardrail far side approach length of need (LON).
* Note the existing off-site 18-in side drain pipe stub restoration and any proposed pipe stub connections to the 36-in mainline pipes require approval of the District Drainage Engineer.
* The proposed widening will impact the existing roadside drainage. Maintain conveyance and account for the additional impervious area. Limit impacts to ditch and surface waters.

# Utility Scope Items:

* Adjust all valve covers, utility pull boxes, fire hydrants, etc., to be flush with the proposed roadside and roadway pavement as necessary to complete the proposed improvements.
* Quality Level A “QL A” utility information is anticipated. Construction activities that involve underground work within proximity to noted utilities include roadway widening, guardrail, and drainage structures/pipes.
* Above ground utilities are to be located and shown in the plans.
* Any, drainage structures, guardrail, etc. must be Vvh’d, completed, and shown in the plans prior to the Phase II plans ERC submittal as directed by the District Utility Office.

# Multimodal Scope Items:

* The Engineer shall include a project-specific bicyclist temporary traffic control plan.

## Transit:

* There are no transit routes within the project limits.

## Bicycles:

* The existing 4-ft paved shoulders serve as the bicycle facility. Proposed 5-ft minimum paved shoulders in areas of widening.

Pedestrians:

* There is no sidewalk. No changes are proposed.

# 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.
* Surface waters were noted within the project limits and are to be identified by an environmental assessment. Surface water (upland cut) impacts and required mitigation should be anticipated. Permitting through the SJRWMD and USACE will be required. Approximately 0.12 AC of impacts have been identified.
  + If this project does not meet the qualifications for a Nationwide Permit and requires an individual permit from the USACE then the class of action may be elevated to a limited Type 2 Categorical Exclusion. The proposed project schedule of 24-30 months is to account for this.
  + The apparent wetland lines and approximate surface water lines shown on the Concept are from the Florida Geographic Data Library and as-built plans for FPID: 240216-2 respectively and are provided for informational purposes only.

# 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 contamination assessment is required for the project. The level of documentation required will be dependent on the contamination sites in the area, scope of work proposed, and previous assessments conducted. Coordinate with the District Contamination Impact Coordinator to determine project needs.
* 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:

* No work.

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

## 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 and coordinate with the District Design Office for any changes to existing signing. 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.
* Relocate existing City of Sanford decorative wayfinding sign impacted by widening.
* Existing signage is cluttered with some signs obstructing downstream signs.

## Signals

* No work.

## Intelligent Transportation Systems (ITS)

* 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))

# Lighting Scope Items:

* Existing lighting is a single utility-pole mounted luminaire in the SE quadrant of the Richmond Ave intersection. No work.

# Landscaping Scope Items:

* No work.

# Survey Scope Items:

Design Survey

* Provide 3D Topographic Survey for the areas and locations of proposed improvements.  Total survey area will be determined by the Engineer based on their needs for design.
  + Survey should include all above ground surface features, including, but not limited to valve covers, overhead utilities, meter boxes, manholes, etc.
  + Include items identified by the environmental assessment.
  + Include drainage structures and nearest connecting structures shall be detailed within the survey areas only, unless otherwise instructed.
* Provide quality level “A” (QL A) Sub-surface Utility Engineering (SUE) and survey thereof for the areas and locations of proposed improvements.  Total SUE limits will be determined by the Engineer based on the limits of disturbance.
  + Vvh’s are anticipated. Coordinate with the Engineer for anticipated number of Vvh’s required for the project.
* Obtain Level 3 Survey for the project limits which includes pavement widening, roadside drainage modifications and side street cross drain extension.

Right of Way Mapping

* Establish the existing Right of Way for the areas and locations of proposed improvements based upon the best available evidence. The level of effort for this task is to be based on the proposed design and nature of the corridor.
* Establish a computed survey baseline (baselines if needed) and provide to the Engineer for their plans. Stationing should be adjusted to be different than any historic alignment, as it should not be misconstrued as a retracement of the existing alignment.

# Office of Right of Way Scope Items:

* No work.

# Geotechnical and Pavement Scope Items:

* Perform and obtain the necessary geotechnical information as directed by the Geotechnical Office.
* Soil borings to support roadway widening.

# 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.

* Design Variation Memorandum
  + *Lateral Offset* – Widening will shift the westbound edge of travel to approximately 23-ft of the existing FPL transmission poles at the apparent Right of Way which are to remain. Per FDM 215.2.2, the minimum lateral offset to aboveground utilities is 36-ft for Ds = 60 mph.
* Design Variation
  + None.
* Design Exception
  + None.

# Additional Items Considered During Scoping:

* The Study proposed a reduced return radius of 25-ft with an 8-ft CRT; however, per the Seminole County and City of Sanford Future Land Use Maps, the parcels on Richmond Ave are identified as “High Intensity Planned Development-Airport” and “Airport Industry & Commerce” respectively. Future truck traffic should be anticipated, and SR 46 provides interstate access to I-95, therefore intersection returns deviate from the Study to accommodate turning trucks.
* The current C2 “Rural” context classification does not require sidewalk unless demand for use is demonstrated. There were no pedestrians observed during field reviews, there is no worn path on the unpaved shoulder, there are limited generators/attractors, and there are Right of Way and environmental constraints; therefore, sidewalk was not included in this project.
* The guardrail approach terminal at the King’s Landing turnout was approved through the FDOT driveway connection permitting process and modification is not to be included in this project per discussions with the District Safety Office.