July 19, 2024

**454209-1:** **SR 44 Resurfacing** **from the Grand Ave Roundabout to Boundary Ave**

State Road Number: 44

Section Number: 79070-000

County: Volusia

Project Limits: From east of the Grand Ave Roundabout to Boundary Ave (begin concrete pavement)

Begin MP/End MP: 2.667 to 4.111 (1.444 MI)

FM: 454209-1

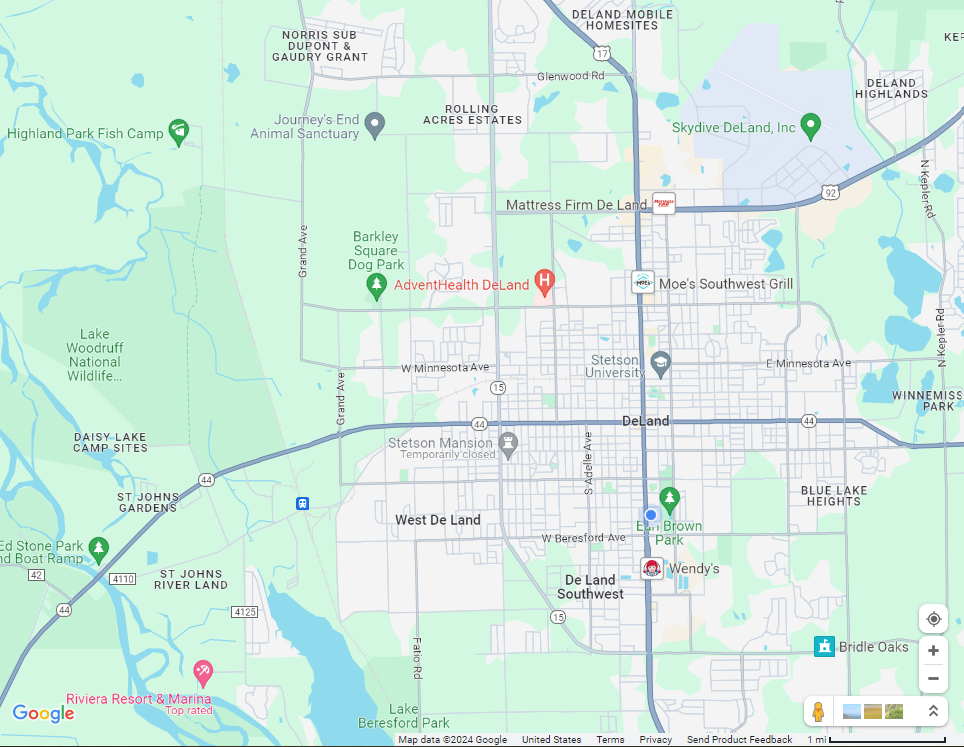
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| --- | --- | --- | --- | --- |
| 1. Existing R/W Map Project Numbers: | 79070-2548 (1998); MP 1.129 to MP 2.622, var 75-ft LT & 125-ft RT  79070-MAINT (1981); MP 3.360 to MP 4.119, var 25-ft LT & RT  7907-109 (1954); MP 4.111 to MP 6.382, var 30-ft LT & RT min  7907 PROJ 4075 & 4076 (1939); MP 0.000 to MP 3.369, var 25-ft LT & RT min | | | |
| 1. Old Construction Project Numbers: | 79000-012 CR 4110 (Old New York Ave)  438980-1 (2020) MP 3.830 to MP 5.123, Widening & Resurfacing  79070-000 (SR 44)  419589-1 (2009) MP 0.000 to MP 4.106, Resurfacing  79070-3554 (1995) MP 0.000 to MP 4.107, Resurfacing  7907-801 (1956) MP 0.004 to MP 3.069, Resurfacing | | | |
| 1. Additional R/W required? | No. | | | |
| 1. Level of Community Awareness Plan: | CAP Level 3, urban resurfacing and intersection modification. | | | |
| 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? | CSX #621300-D | | | |
| 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  CenturyLink/Level 3  CenturyLink/Lumen  City of Deland - Reclaim/ Sewer/ Water  Duke Energy Florida, LLC – Distribution  Duke Energy Florida, LLC – Fiber  Duke Energy Florida, LLC – Transmission  Florida Public Utilities  Lake Beresford Water Association  Uniti Fiber  ZAYO Group (*Extraordinary Circumstances* noted) | | | |
| 1. Any special MOT concerns? | Lane closures to consider RR crossing. | | | |
| 1. Any construction concerns? | Work within the CSX Right of Way. PE and flagging required.  Proximity of construction activities to places of worship may require vibration monitoring. | | | |
| 1. Design/Posted/Target Speeds (mph): | Location (MP) | Design Speed | Posted Speed | Target Speed |
| 2.667 to 3.224  3.224 to 3.361  3.361 to 4.111 | 55  40  40 | 40  40  40 | 40  40  35 |
| 1. Design Criteria and Context Classification:   Design Criteria and Context Classification cont’d | SHS, FDM (2024), RRR | | | |
| Location (MP) | Context Classification | | Access Class |
| 2.667 to 3.448  3.448 to 3.862  3.862 to 4.111 | C3C “Suburban Commercial”  C4 “Urban General”  C4 “Urban General” | | 04  04  06 |
| 1. Lump Sum or Pay Item? | Pay Item. | | | |
| 1. Proposed Design Schedule: | 18-24 Months. | | | |

**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 Scopes development.

The Engineer shall coordinate to obtain an agreement with the City of DeLand and Volusia County for maintenance related to proposed improvements, intersection modifications, railroad crossing signal modifications, sidewalk work within the side street Right of Way, etc. Coordinate truck routes and prohibitions for commercial and industrial property access to the south of the CR 4110 (Old New York Ave) intersection.

# Project Location Map: [(Google Maps Link)](https://www.google.com/maps/dir/29.0271526,-81.3446113/29.02792,-81.3201496/@29.0279627,-81.3255676,1548m/data=!3m1!1e3!4m2!4m1!3e0?entry=ttu)

MC900239015[1]

BEGIN PROJECT

**Project Abstract**

Mill and resurface SR 44, provide sidewalk, intersection modification, and other corridor safety improvements.

END PROJECT

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, pedestrian, and functional improvements. The project is based on a request from the FDOT District 5 Pavement Management and Maintenance Office for a RRR review of Roadway 79070-000 from MP 2.466 to MP 4.113. The begin project milling limit has been adjusted from MP 2.466 to MP 2.667 to match the limits of the full depth milling and resurfacing of the FPID: 439392-1 Grand Ave Roundabout project. The end project limit has been adjusted from MP 4.113 to MP 4.111 to match the existing concrete pavement joint. A begin construction limit has been introduced at MP 2.495 to extend the existing sidewalk from the Grand Ave Roundabout to the CR 4110 (Old New York Ave) intersection.

* The Concept and Scope 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 projects primary objectives as approved by District staff. The Engineer is responsible for developing the final design within the constraints of the project budget while meeting the project’s needs.

# Project Description:

* Project is in western Volusia County and within the City of DeLand.
* SR 44 is classified as an urban principal arterial and is a designated segment of the *River of Lakes Heritage Corridor Florida Scenic Highway*. This facility is a designated evacuation route per the Florida Division of Emergency Management.
* The following projects have been identified within the vicinity of this resurfacing project:
  + FPID: 439874-3 River to Sea Loop Sidewalk (Ph 2) Old New York Ave/S Beresford Rd and Grand Ave realignment is currently in design and funded for construction. Right of Way is being acquired locally. The FDOT PM is Aishwarya Sandineni.
  + FPID: 439874-4 River to Sea Loop Trail (Ph 3) from SR 44/Grand Ave to Minnesota Ave is currently in design and funded for construction. Right of Way is being acquired locally. The FDOT PM is Aishwarya Sandineni.
  + FPID: 440787-1 Candidate Traffic Operations project to construct a southbound right turn lane from SR 15A to SR 44. This will introduce a milling and resurfacing exception from MP 3.841 to MP 3.882 into this RRR project. This project is funded for design in FY 2024, construction and Right of Way are not funded; however, the District Secretary has requested Right of Way in FY 2025 and construction in FY 2027. The FDOT PM is Todd Alexander.
  + The SR 44 Visioning Study (no FPID) was initiated by the District to propose pedestrian access from the DeLand Sunrail Station to downtown DeLand. Proposed improvements include a 12-14 ft shared use path on Grand Ave and on the south side of SR 44 from Grand Ave to Woodward Ave, and a 10-ft wide shared use path from Woodward Ave to east of SR 15A/ N Spring Garden Ave. The FDOT PM is Joseph Fontanelli. This Study was paused in Spring 2024 when the District was informed that Volusia County had initiated a similar Study.

# Typical Sections:

* Per as-built plans, the project includes 2 typical sections.
* The gutter pans have been overlaid with asphalt in the curbed section. Provide provisions to avoid curb damage during milling and resurfacing operations.
  + MP 2.667 to MP 3.361: Two lane flush shoulder section with 11-ft travel lanes and 9-ft shoulders (4-ft paved). Type F curb and gutter with paved gutter pans from MP 3.147 to MP 3.316. The curb gutter pan has been overlaid with asphalt and is included in the width of paved shoulders.
  + MP 3.361 to MP 3.841 and MP 3.882 to MP 4.111: Two lane curb and gutter section with 13.5-ft travel lanes, type F curb and gutter with paved gutter pans, and 5-ft sidewalk. The type F curb gutter pan has been overlaid with asphalt. The paved gutter pans are not included in lane widths from MP 3.361 to MP 3.867 (Woodward Avenue to SR 15A/N Spring Garden Ave).
  + MP 3.841 to MP 3.882: Project exception.
* Per 2023 traffic data:

|  |  |  |  |
| --- | --- | --- | --- |
| **MP** | **TMS Site No.** | **AADT** | **T%** |
| 3.259 | 790274 | 14,200 | 12.9 |
| 4.068 | 790447 | 11,600 | 9.2 |

# Roadway Scope Items:

* A Pavement Condition Assessment will be requested and completed by FDOT. The pavement is in fair to poor condition with moderate longitudinal cracking, moderate rutting, and alligator cracking in the wheel path. 6 pavement designs have been assumed for estimating purposes: 1) milling and resurfacing all pavement surfaces, 2) isolated areas of deeper milling and resurfacing, 3) milling and resurfacing the paved shoulders in the flush shoulder section, 4) pavement widening in the flush shoulder section, 5) new paved shoulders, and 6) friction course milling and resurfacing for pavement markings.
* MPSV data will be requested and incorporated into the Scope when available. Some cross slope correction is anticipated.
* CR 4110 (Old New York Ave)/Hazen Rd (MP 3.108) – Reconfigure the existing intersection to improve the substandard eastbound deflection, reduce the conflicting traffic streams and eliminate the skew of the angled leg by aligning CR 4110 (Old New York Ave) with Hazen Rd at a single point.
  + Increase the length of the westbound left turn lane for the design speed and appropriate queue.
  + Provide a standard lane transition for the westbound left turn. Transition will require widening across the CSX RR and impact the existing crossing signal equipment. Utility poles and large Oak trees will also be impacted.
  + Eliminate the existing NE leg. Remove pavement structure through the base course to facilitate drainage and future landscaping opportunities.
  + Realign south leg approach.
* Over tracking is damaging the return edge of pavement and resulting in edge trenching, exposed base, damaged sidewalk, etc. Review radii to accommodate turning movements.
* Ridgewood Ave (MP 2.856 LT) Construct concrete truck aprons in lieu of asphalt widening as directed by the District Traffic Operations Office.
* Cranor Ave (MP 3.721 LT) NW quadrant only due to Right of Way constraints.
* Loose aggregate and sediment are depositing on the paved shoulder and outside travel lane from the unpaved turnouts at some locations. Construct an additional 5-ft asphalt apron to reduce collection on the paved shoulder. 5 locations have been assumed for estimating purposes.
* Standardize the commercial turnout return and entrance to accommodate the proposed sidewalk across the frontage. Note frequent use by trailered vehicles.
* *Country Store Bait & Tackle* (MP 2.885 LT)

# 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 except as noted.
  + The gutter pan in the curbed section is fully overlaid with asphalt and the curb top is overgrown with vegetation. There are no apparent functional drainage issues.
* MP 2.495 to MP 3.108 LT & RT: Ensure the sidewalk transitions maintain offsite connections and there are no impacts to roadside drainage. 1 drainage structure and 1 MES, and approximately 500-lf of ditch grading are anticipated for estimating purposes.
* CR 4110 (Old New York Ave)/Hazen Rd (MP 3.108): Modify the existing drainage system to accommodate the proposed intersection realignment, turn lane extension and lane transition. 1 side street cross drain, 2 existing curb inlets (1 inlet modification), 1 new drainage structure and approximately 800-lf of ditch grading is anticipated for estimating purposes.

# Utility Scope Items:

* Adjust all valve covers, utility pull boxes, fire hydrants, utility manholes, etc. to be flush with proposed sidewalk, ramps, roadside, and roadway pavement as necessary to complete the proposed improvements.
  + Note ZAYO Group has been identified as having Extraordinary Circumstances per FS 556.105(8)(a).
  + Impacts to any City of DeLand facilities may require a UWHC agreement. Engineer to determine need during design and coordinate with the District if impacts are unavoidable.
* Quality Level A “QL A” utility information is anticipated. Construction activities that involve underground work within proximity to noted utilities include road widening, drainage structures, light poles, and sidewalk.
* The Engineer is to confirm and show utility poles on all applicable plan sheets for the purpose of utility coordination. Impacts are anticipated.
* Any proposed drainage features, rail crossing signal structures, etc. must be Vvh’d, completed, and shown in the plans prior to the Phase II plans ERC submittal.
* Utility poles are noted to be within the clear zone; however, there is not an associated documented crash history. The poles are located near or at the apparent FDOT Right of Way. The Engineer is to re-evaluate the crash data during the design phase and address relocation need during utility coordination if warranted.

# Multimodal Scope Items:

## The Engineer shall include a project-specific pedestrian/bicyclist temporary traffic control plan.

## Transit:

* There are no public transportation routes within the project limits.

## Bicycles:

* Bicycle accommodations are inconsistent throughout the corridor. The 4-ft paved shoulder serves as the bicycle lane in the flush shoulder section. In the curbed section, the paved gutter pan does not provide sufficient width for bicyclists. There is insufficient available pavement width to accommodate a bicycle lane.
  + Bicyclist pavement markings are present west of the begin project limit.

Pedestrians:

* There is inconsistent sidewalk coverage on the corridor. There is complete sidewalk coverage within the FDOT Right of Way from SR 15A/N Spring Garden Ave (MP 3.867) to the end project (MP 4.111)
  + Reconstruct existing curb ramps that do not comply with minimum ADA criteria and ensure all ramps have detectable warning surfaces (DWS). For estimating purposes, 5 existing ramps require reconstruction and an additional 15 with missing or damaged DWS’s have been assumed.
  + The existing sidewalk on SR 44 between Woodward Ave (MP 3.361) and SR 15A/N Spring Garden Ave (MP 3.687) is primarily outside the apparent FDOT Right of Way. The FDOT Right of Way Office does not support the use of developer sidewalk without acquiring an Easement to access and maintain. Right of Way acquisition is not a component of this project. The existing sidewalk is to remain without connection.
* Construct sidewalk on the north side of the road beginning at Grand Ave (MP 2.495) and on the south side beginning at MP 2.725 to provide connectivity between Grand Ave and CR 4110 (Old New York Ave)/Hazen Rd (MP 3.108 LT & MP 3.150 RT). The Concept depicts the sidewalk at the back of Right of Way; however, the Engineer is to determine the alignment.
  + The *Villages at Pelham Square-East Village* development is permitted and proposing sidewalk on the southern side of SR 44 between MP 2.466 to MP 2.725 RT.

# 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.

# 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:

* A structural design and analysis will be required for the proposed strain pole signal at the CR 4110 (Old New York Ave)/ Hazen Rd intersection if recommended by the Signal Warrant Analysis.
* Sensitive business operations are in proximity to anticipated construction activities and are to be reviewed for vibration monitoring requirements per FDM 117 and FDOT Specification 108.

# 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. 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.
  + Reestablish the Railroad Dynamic Envelope pavement markings.
  + Complete a No Passing Zone analysis based on the 2-lane undivided section.

## Signals

* The Engineer is to complete a Signal Warrant Analysis and Intersection Control Evaluation (ICE) at the CR 4110 (Old New York Ave)/ Hazen Rd intersection realignment (MP 3.108) as directed by the District Traffic Operations Office.
* Strain poles are assumed in the LRE for estimating purposes; however, are not shown on the Concept. It is assumed that the strain pole geometry can be configured to avoid Right of Way impacts while meeting clear zone offset requirements.
* Design documentation will be required if a diagonal configuration is necessary to avoid Right of Way impacts. This is not included in the Design Documentation Scope Items. Acquisition is not a component of this project.
* Consider adjacent RR crossing.
* CSX #621300-D (MP 3.074) – Provide pedestrian railroad crossing arm assemblies. Road widening will impact existing rail crossing signal equipment. Coordinate with the District Rail Coordinator.
* There is 1 existing signalized intersection that is within the project exception limits. Work is limited to restoring disturbed detection if impacted by milling and resurfacing operations. This signal is anticipated to be reconstructed under FPID: 440787-1 currently in design.

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| --- | --- |
| **MP 3.867– SR 15A/N Spring Garden Ave (Box Span Strain Pole)** | |
| Detection | Loop detection for EB/WB lanes, NB/SB left turn lanes. NB/SB advance loops. Video detection for EB lane. |
| Backplates | None. |
| Left Turns | Protected-permissive, all approaches. |
| Ped Signals | Existing APS. |
| Lighting | None. |
| Other | Intersection excepted from project; existing conditions noted. |

* There are two Traffic Monitoring Sites within the project limits. Coordinate disposition with the District Data Collection Manager.
  + 790274, PTMS
  + 790447, PTMS

## 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)>

# Lighting Scope Items:

* There is no existing lighting.
* Pending the Signal Warrant Analysis and Intersection Control Evaluation, intersection lighting is recommended at the CR 4110 (Old New York Ave)/ Hazen Rd intersection.

# Landscaping Scope Items:

* None.

# Survey and Mapping Scope Items:

Design Survey

* Provide 3D Topographic Survey for the areas and locations of identified and 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 identified and proposed improvements shown on the Concept. 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 2 Survey for areas where cross slope and superelevation correction is recommended, including the pavement surfaces, unpaved shoulders, and ditch/roadside slopes.

Right of Way Mapping

* Establish the existing Right of Way for the areas and locations of identified and 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:

* Pavement Coring Report and Resilient Modulus values to be provided by the FDOT District Materials Office.
* ESAL calculations to be provided by the FDOT District Planning Office.
* Perform and obtain the necessary geotechnical information as directed by the Geotechnical Office.
  + Soil borings to support roadway widening.
  + Soil borings for the proposed signal at CR 4110 (Old New York Ave)/ Hazen Rd (MP 3.108) if warranted.

# 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.

Crash information was compiled from the raw Signal4 Analytics data and additional analysis, review, evaluation, etc. has not been conducted. This data was included for purposes of context and magnitude for scoping only. The Engineer is responsible for reviewing crash data for conformance to FDM 114 and applicability to required design documentation: Memoranda, Variations and Exceptions.

* Design Variation Memorandum
  + None.
* Design Variation
  + *Bicycle Facilities* – Per FDM 223.1, bicycle facilities are required on all roadways. Bicycle lanes were considered for this project however due to insufficient Right of Way and existing available pavement width it is not practical without the elimination of a travel lane, Right of Way acquisition, or substantial reconstruction of the roadway and drainage systems.
  + *Pedestrian Facilities* – Per FDM 222.1 a design variation is required when pedestrian facilities cannot be provided. There is insufficient available Right of Way to accommodate sidewalk in the curbed section.
* Design Exception
  + None.

# Additional Items Considered During Scoping:

* Filling the sidewalk gaps from CR 4110 (Old New York Ave) to SR 15A/N Spring Garden Ave was considered; however, due to Right of Way constraints it cannot be accommodated.
* The *Villages at Pelham Square-East Village* development (MP 2.466 to MP 2.725 RT) is permitted and proposing two new turnout connections to SR 44, one with a right turn lane. The property will be a mixture of commercial parcels (35,000 sf) on the SR 44 frontage with single family homes (113 units) and townhomes (60 units) behind. FDOT sidewalk will connect to the development proposed sidewalk to complete the connection to Grand Ave.
* The *Andover Ridge* development (MP 3.150 to MP 3.300 RT) is under construction and will have an entrance on CR 4110 (Old New York Ave). The property will include single family homes (46 units).
* Returns at the following 5 intersections are exhibiting damage from over tracking vehicles but cannot be modified due to Right of Way constraints.
* MP 3.361 RT S Woodward Ave
* MP 3.450 RT Hull Ave
* MP 3.721 LT Cranor Ave NE quadrant
* MP 3.773 RT Carlton Ave
* MP 3.851 RT Sheridan Ave
* The apparent Right of Way is in the pavement in the NE quadrant of the CR 4110 (Old New York Ave)/ Hazen Rd (MP 3.108) intersection. Design documentation for the existing condition is not required provided the edge of pavement remains.