

# SR 267/Bloxham Cutoff Road Shared-Use Trail Feasibility Study

September 2023

# Table of Contents

Introduction .....	1
Existing Conditions .....	1
Existing Transportation Conditions .....	3
Existing Typical Section .....	6
Intersections .....	7
Driveways .....	8
Signal Four Analytics Crash Data .....	10
Right-of-Way .....	11
Physical Obstructions .....	13
Bridge Structures .....	18
Wakulla Springs State Park Service Road .....	20
Environmental Characteristics .....	20
Flood Zones & Wetlands .....	20
Strategic Habitat Conservation Areas & Rare Species Habitat .....	23
Cultural Resources .....	23
Network Connectivity .....	27
Trailhead .....	29
Existing Projects .....	30
SR 267 (Bloxham Cutoff Rd) – FPID: 432550-2-32-01 .....	30
Edward Ball Wakulla Springs State Park Alternate Multi-Use Trail Route Study .....	30
Design Criteria .....	32
Intersection Concepts .....	34
Side Street Crossing – Type 1 .....	34
Side Street/Driveway Crossing – Type 2 .....	34
Midblock Crossing .....	34
Typical Section .....	35
Design Recommendations .....	35
Trail Width & Separation .....	35
Meandering Design .....	35
Alternatives Analysis .....	35
Alternative 1: Park Service Road/North Side of SR 267 .....	35
Alternative 2: Park Service Road/South Side of SR 267 .....	36
Alternative 3: Park Service Road/North Side of SR 267 (Off-System) .....	36

Alternative 4: Park Service Road/South Side of SR 267 (Off-System) .....	36
Trail Evaluation Matrix .....	42
Public Engagement .....	43
Recommended Alternative.....	44
Next Steps.....	44

## APPENDICES

- A. Aerial Maps
- B. Parcel Ownership
- C. Environmental Maps
- D. Resurfacing Plan
- E. Wakulla Springs Management Plan
- F. Public Meeting Comments and Sign-in-Sheets

## TABLES

Table 1: Data Collection .....	1
Table 2: Historical Traffic Counts .....	3
Table 3: Intersections Along SR 267.....	7
Table 4: Driveways Along SR 267 .....	8
Table 5: Five-Year Crash Data.....	10
Table 6: Utility/Agency Owners (UAOs) Along SR 267 .....	16
Table 7: Design Criteria.....	32
Table 8: Evaluation Matrix.....	42

## FIGURES

Figure 1: Project Location Map.....	2
Figure 2: Historical AADT (SR 267 - FDOT Station 590228).....	3
Figure 3: Historical AADT (Shadeville Road – FDOT Station 590100) .....	4
Figure 4: Maximum Speed Limits .....	5
Figure 5: Drafted Existing Typical Section of SR 267 .....	6
Figure 6: Picture of Existing Typical Section of SR 267 .....	7
Figure 7: Driveways.....	9
Figure 8: Reconfigured Intersection: SR-267/Shadeville Road/Old Woodville Road .....	11
Figure 9: Adjacent Public Lands.....	12
Figure 10: SR 267 – Cross Drain with Headwall .....	13
Figure 11: SR 267 – Cross Drains.....	13
Figure 12: Intersection Drainage Structures (Summerwood Drive) .....	14
Figure 13: Intersection Drainage Structures (Sharonwood Drive) .....	14
Figure 14: Driveway Drainage Structures.....	15
Figure 15: Fiber & Water (Fire Hydrant).....	15
Figure 16: Overhead Electric Distribution Lines (Poles) .....	16
Figure 17: Physical Obstructions - Overhead Electric Poles, Drainage Structures .....	17
Figure 18: McBride Slough Bridge from Roadway.....	18
Figure 19: McBride Slough Bridge from Waterway.....	18

**Figure 20: Bridges** ..... 19

**Figure 21: Wakulla Springs Service Road** ..... 20

**Figure 22: FEMA Floodplain**..... 21

**Figure 23: Wetlands**..... 22

**Figure 24: Strategic Habitat Conservation Areas**..... 24

**Figure 25: Rare Species Habitat Conservation Priorities** ..... 25

**Figure 26: Cultural Resources** ..... 26

**Figure 27: Paved, Unpaved and Paddling Trails** ..... 28

**Figure 28: Rosa Shingles Trailhead**..... 29

**Figure 29: Horse Trailer Parking Area** ..... 29

**Figure 30: Wakulla Park Drive – Conceptual Roadway Section** ..... 31

**Figure 31: Unit Management Plan (UMP) - Conceptual Land Use Plan** ..... 31

**Figure 32: Example of Two-Lane Rural Arterial Midblock Crossing** ..... 34

**Figure 33: Typical Section**..... 35

**Figure 34: Alternative 1: Park Service Road/North Side of SR 267** ..... 37

**Figure 35: Alternative 2: Park Service Road/South Side of SR 267** ..... 38

**Figure 36: Alternative 3: Park Service Road/North Side of SR 267 (Off System)**..... 39

**Figure 37: Alternative 4: Park Service Road/South Side of SR 267 (Off System)**..... 40

**Figure 38: Entrance to Wakulla Springs State Park Service Road from SR 267** ..... 41

**Figure 39: Public Meeting Pictures** ..... 43

## Introduction

The SR 267/Bloxham Cutoff Road (SR 267) Shared-Use Trail Feasibility Study evaluated a proposed shared-use trail envisioned to connect Edward Ball Wakulla Springs State Park with the St. Marks Trail. The proposed connector route is approximately 4.78 miles in length and is included as an identified need in both the Capital City-to-the-Sea Trail Plan and the Wakulla County Bicycle, Pedestrian, and Blueways Master Plan. The trail is needed to connect Edward Ball Wakulla Springs State Park with the St. Marks Trail as they are both popular community amenities used for recreation and outdoor activities. See **Figure 1: Project Location Map**.

## Existing Conditions

An existing conditions assessment was conducted in fall of 2022 and the spring of 2023. This included a desktop analysis and preliminary mapping of existing environmental and physical conditions in the project study area. Information was collected and analyzed to determine the shared-use trail feasibility, as shown in **Table 1**. This data is contained in **Appendix A** and **Appendix B** in large-format images as well as mapbooks.

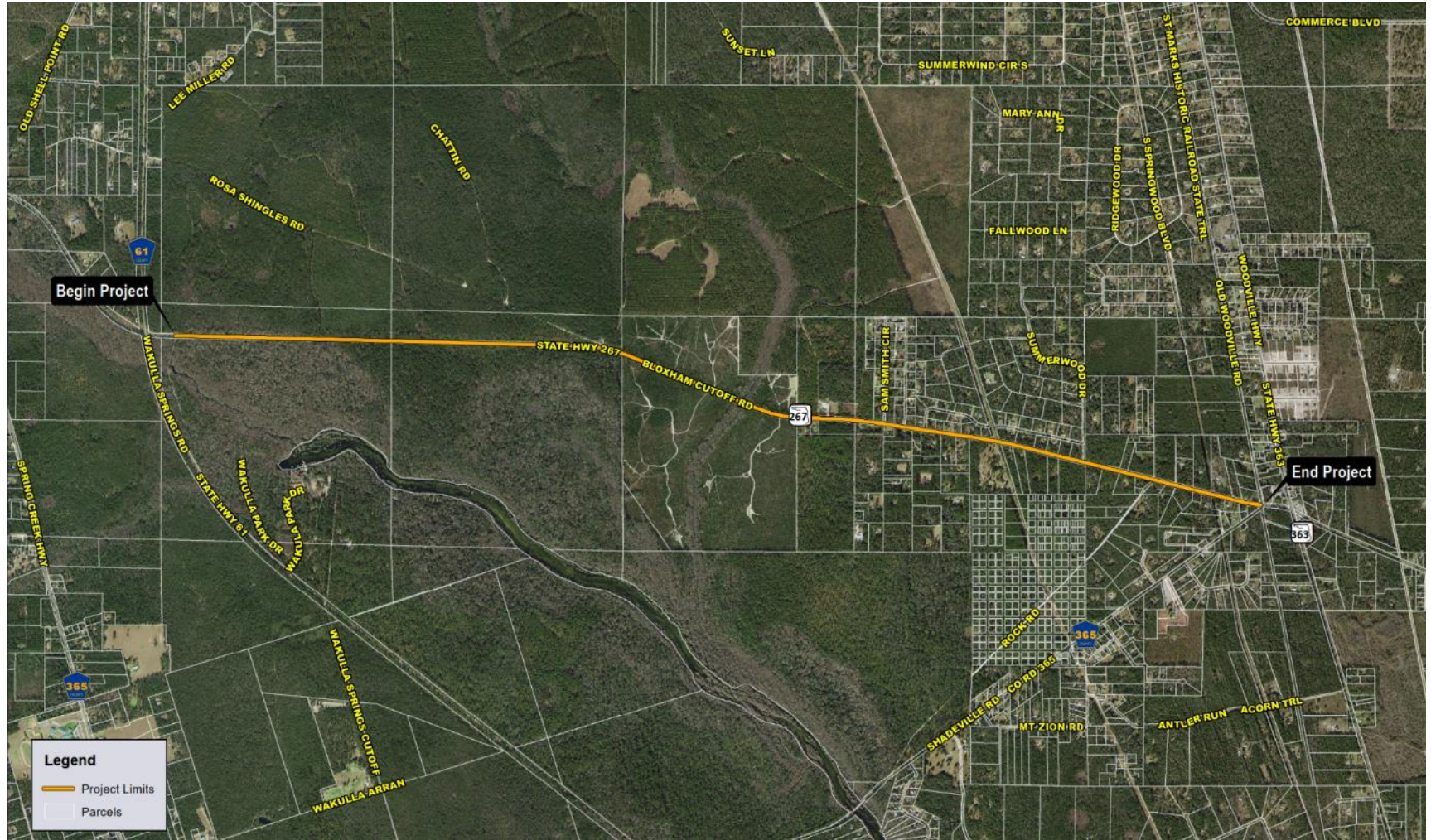
**Table 1: Data Collection**

Data/Graphic	Source	Year
Aerial Mapbook	FDOT	2022
Public Lands	Florida Natural Areas Inventory (FNAI)	June 2022
Adjacent Parcel Ownership Mapbook	Wakulla County Property Appraiser	August 2022
Rare Species Habitat	FNAI CLIP 4.0	August 2022
Priority Natural Communities	FNAI CLIP 4.0	August 2022
Strategic Habitat Conservation Area	FNAI CLIP 4.0	August 2022
Biodiversity	FNAI CLIP 4.0	August 2022
FEMA Floodplain	FEMA	August 2022
Cultural resources	Florida Division of Historic Resources	August 2022
Bridges	USDOT	Dec. 2020
Posted Speed	FDOT	2022
Wetlands	USFWS National Wetlands Inventory	2023
Trails Data	FDEP Office of Greenways and Trails	2022
Intersections/ Driveway Locations	Google Earth (Field Verification)	2023
Physical Obstructions	FDOT Resurfacing Plans (90%)	2023

In addition, the project team conducted three field reviews to confirm desktop analysis and ground truth data. Field reviews were conducted on the following dates with the project team:

- September 2, 2022
- December 2, 2022
- April 20, 2023

Figure 1: Project Location Map



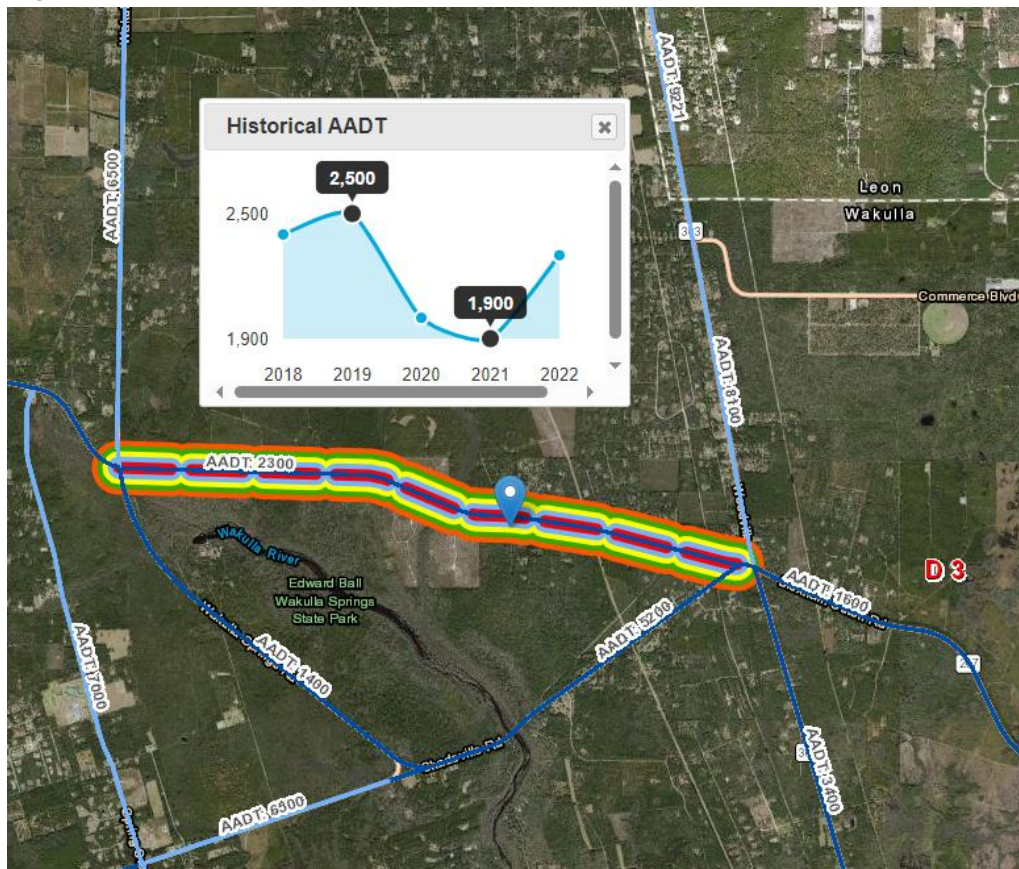
## EXISTING TRANSPORTATION CONDITIONS

SR 267 is a two-lane east-west rural major collector between SR 61/Wakulla Springs Road and SR 363/Woodville Highway. No turn lanes are present along this roadway segment. Traffic volumes have fluctuated over the past six years (2018-2022) based on available data obtained from Florida Department of Transportation’s (FDOT) Florida Online (2022) Web Application. FDOT traffic count stations were reviewed to understand recent traffic growth trends. Both locations (FDOT stations 590228 and 590100) show a slight decrease in Average Annual Daily Traffic (AADT) from 2018 to 2021 and then an increase in 2022. The truck traffic is approximately 15% of total traffic. The historical AADT for these count stations are provided in **Table 2** and the locations are shown in **Figure 2** and **Figure 3**, which also include the historical AADT in a graphical format.

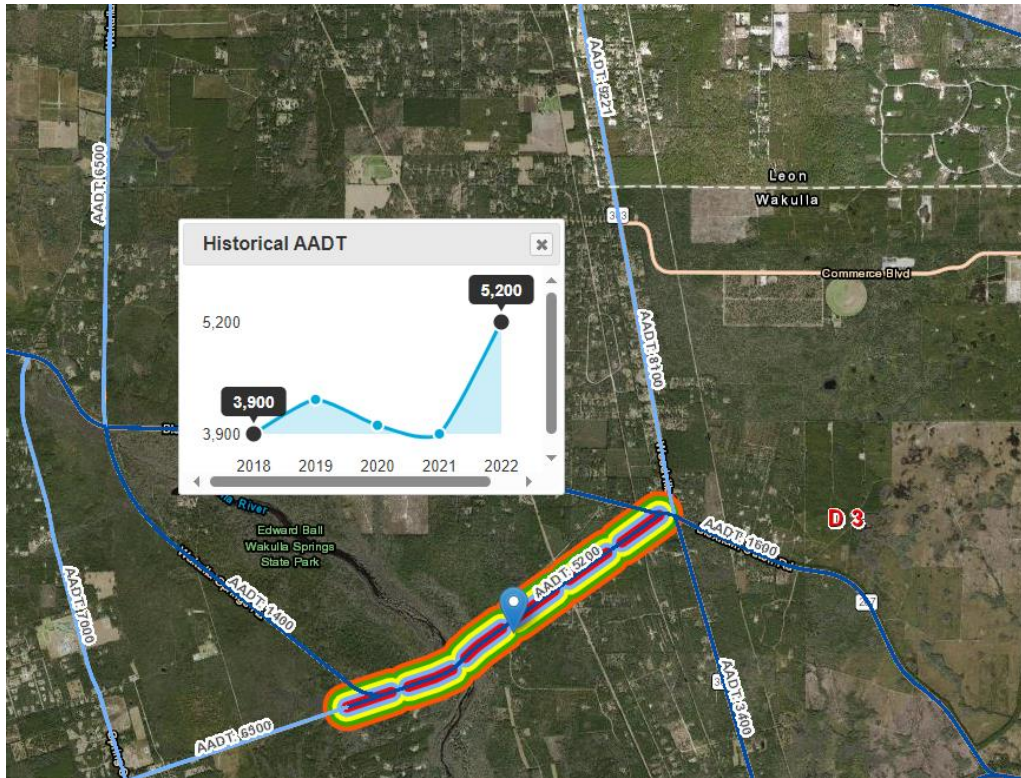
**Table 2: Historical Traffic Counts**

Year	FDOT Station 590228 (SR 267)	FDOT Station 590100 (Shadeville Road)
	AADT	AADT
2018	2,400	3,900
2019	2,500	4,300
2020	2,000	4,000
2021	1,900	3,900
2022	2,300	5,200

**Figure 2: Historical AADT (SR 267 - FDOT Station 590228)**



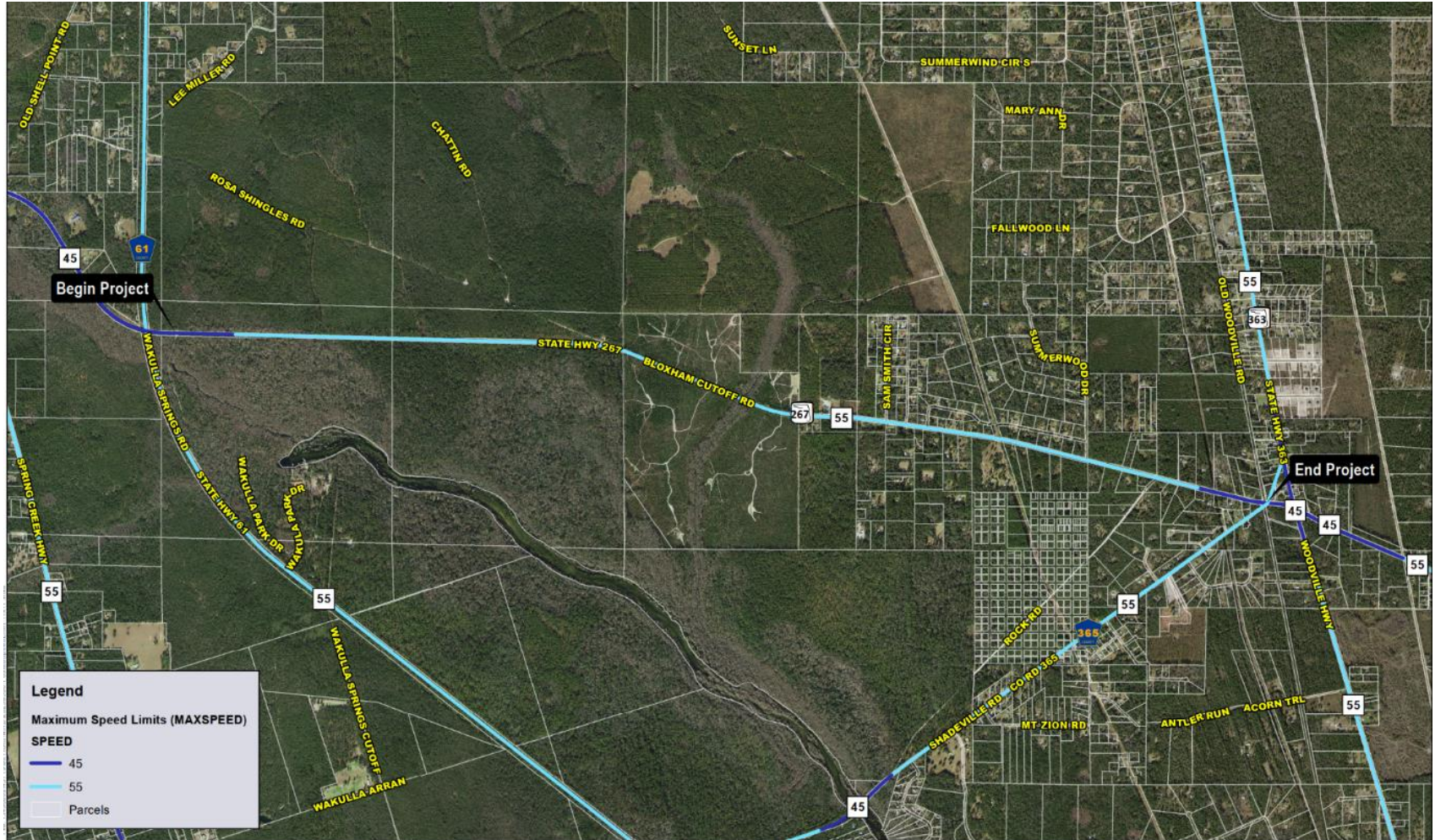
**Figure 3: Historical AADT (Shadeville Road – FGDOT Station 590100)**



The posted speed limit along SR 267 is 45 mph at both the east and west end of the project corridor as it approaches Woodville Highway and Wakulla Springs Road, respectively. The remainder of the project corridor has a posted speed limit of 55 mph. See **Figure 4: Maximum Speed Limits**.



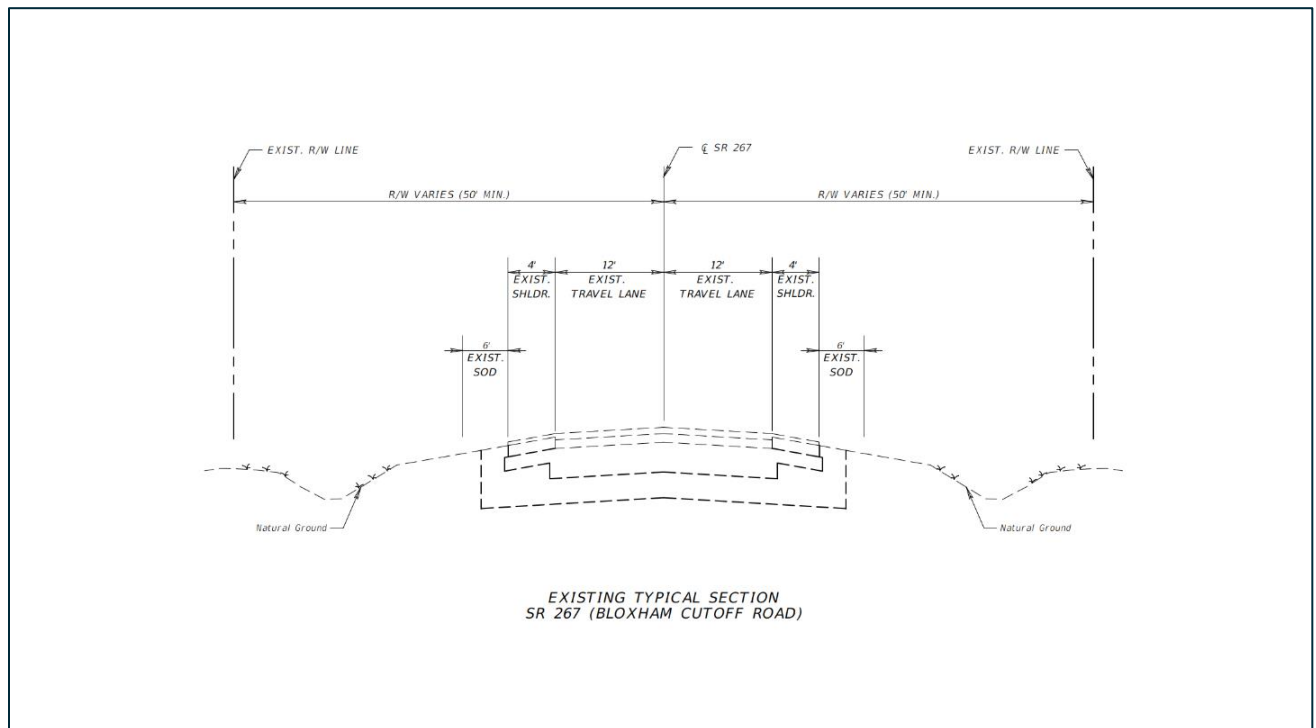
Figure 4: Maximum Speed Limits



### Existing Typical Section

The existing typical section consists of two (2) 12 ft. travel lanes and a four (4) ft. wide paved shoulder on each side. There is six (6) ft. sod treatment on each shoulder for a total of 10 ft. shoulder on both sides. The project corridor includes natural ditches on both sides of the roadway for stormwater treatment. No retention/detention ponds exist within the project limits. There is approximately 50 ft. of FDOT Right-of-Way from the centerline of the roadway on both sides, for a total of 100 ft of Right-of-Way. There are currently no other modes of transportation, such as bus routes or sidewalks, within the project limits. See **Figures 5 and 6** below which show the existing SR-267 Typical Section and a roadway photograph of the existing typical section.

**Figure 5: Drafted Existing Typical Section of SR 267**



**Figure 6: Picture of Existing Typical Section of SR 267**



**Intersections**

Along SR 267, several unsignalized roadway intersections are present and are potential challenges to the shared-use trail users. Each of these intersecting streets were reviewed during the project team’s field reviews. Signal Four Analytics data is maintained by the University of Florida GeoPlan Center and includes crash records provided by the Department of Highway Safety & Motor Vehicles (DSHMV). Crash data from Signal Four Analytics was reviewed for each of these intersections to identify potential challenges for each of the different trail alternatives. **Table 3** lists each of the intersections along the proposed segment of SR 267. Further analysis of these intersections will be required in future phases to determine a suitable path configuration and design needs.

**Table 3: Intersections Along SR 267**

Intersection
Wakulla Park Drive
Rosa Shingles Road
Old Nails Road (West)
Sam Smith Circle (West)
Sam Smith Circle (East)
Old Nails Road (East)
Sharonwood Drive
Canopy Lane
Summerwood Drive
Page Oliver Road / Rock Road
Old Woodville Road / Shadeville Road

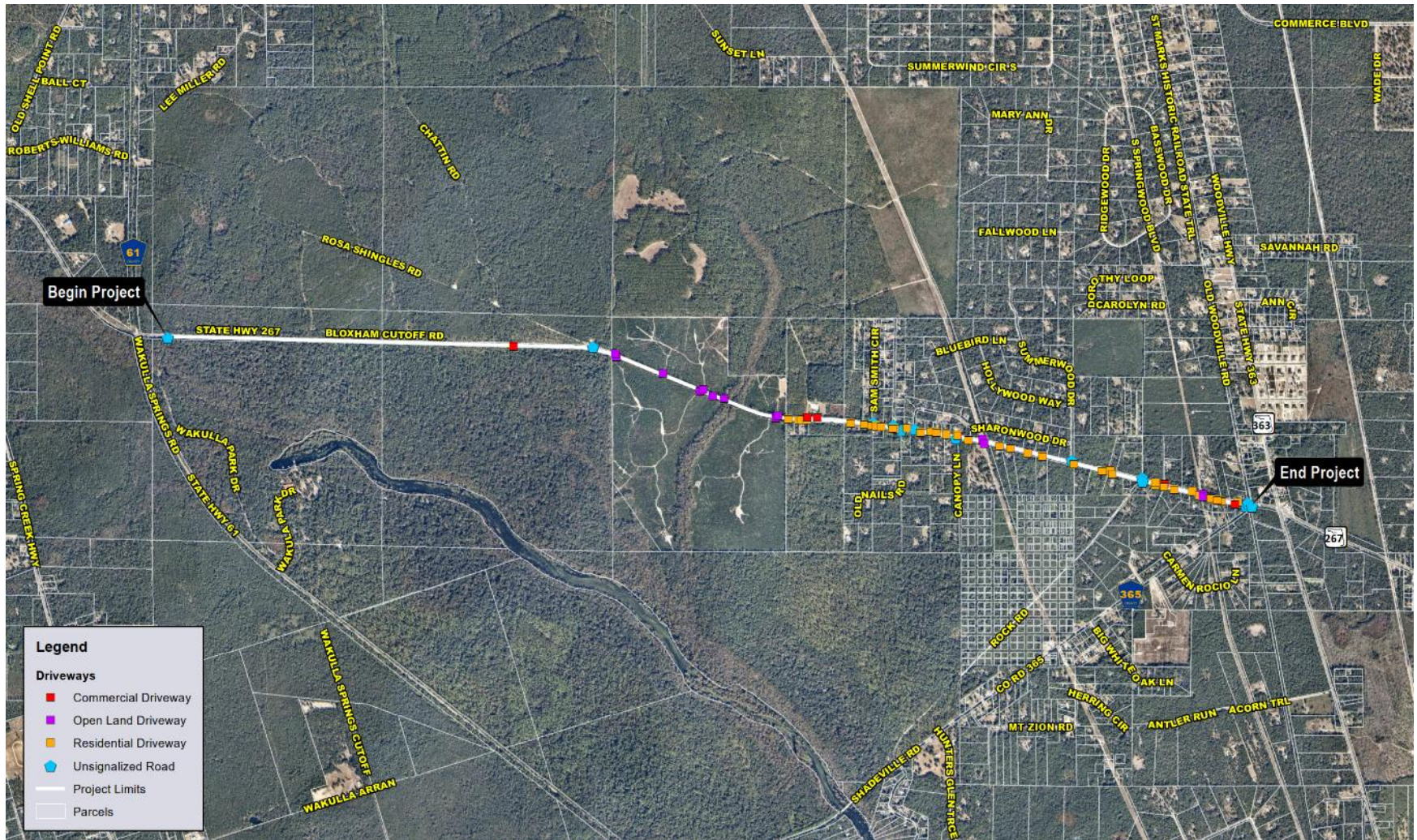
**Driveways**

A desktop and field review were conducted to determine the number and location of driveways present along this segment of SR 267. The number and type of driveways are summarized in **Table 4**. Driveways were sorted into four categories: open land, residential, commercial, and unsignalized roadways. See **Figure 7** showing all existing intersections and driveways along the project corridor.

**Table 4: Driveways Along SR 267**

Location	Open Land Driveways	Residential Driveways	Commercial Driveways	Unsignalized Roads
North Side of Bloxham Cutoff Road	7	11	3	7
South Side of Bloxham Cutoff Road	6	31	2	6
Total	13	42	5	13

Figure 7: Driveways



### Signal Four Analytics Crash Data

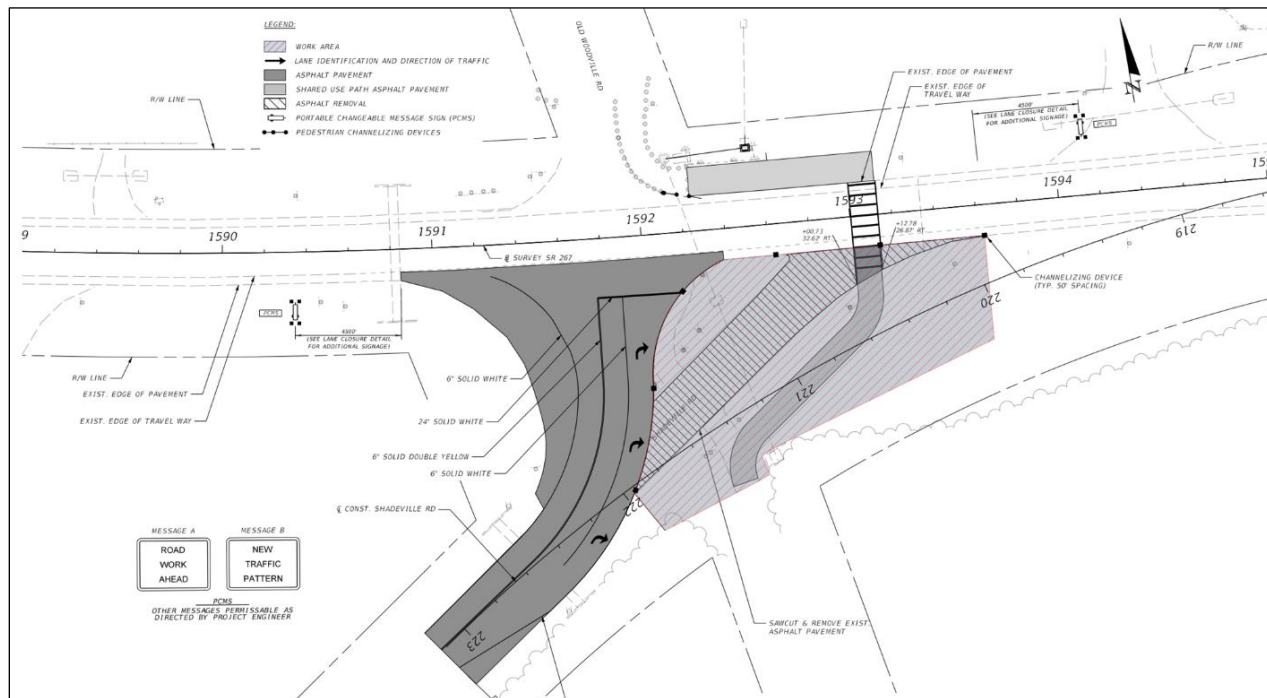
Crash data from the University of Florida's Signal Four Analytics, between 2015 and 2020, was reviewed to determine previous and existing safety conditions along the corridor. The crash data indicated that no existing bicycle or pedestrian crashes have occurred along this segment of SR 267. Vehicle-only crashes occurred along the entire corridor but were mostly concentrated at intersecting streets. The highest concentration of crashes occurred at the intersection of SR 267 and Old Woodville Road/Shadeville Road. The five-year crash data for incidents within 250 ft. of the Old Woodville Road/Shadeville Road intersection were evaluated to account for incidents on SR 267 and are contained in **Table 5**.

**Table 5: Five-Year Crash Data**

Year	Total Crashes	Fatal Crashes	Injury Crashes	Dark Crashes	Wet Crashes	Alc/Drug Crashes
2015	2	0	1	0	1	0
2016	3	0	2	1	1	0
2017	1	0	1	0	0	0
2018	5	0	3	3	0	1
2019	1	0	1	1	0	0
2020	2	0	2	1	0	0
Total	14	0	10	6	2	1
	<b>100%</b>	<b>0%</b>	<b>71%</b>	<b>43%</b>	<b>14%</b>	<b>7%</b>

A separate Intersection Study was prepared as part of the Trail Feasibility Study to evaluate safety issues at the intersection of SR 267/Shadeville Road and Old Woodville Road. The report identified a revised intersection configuration that would reduce conflict points between the St. Marks Trail users and vehicular traffic. Concurrently, FDOT is in the process of designing a resurfacing project that encompasses the project corridor and includes a revised T-configuration at the subject intersection, as well as shifting the SR 267 trail crossing further east. **Figure 8** shows the reconfigured intersection at SR 267/Shadeville Road and Old Woodville Road. FDOT is proposing additional safety improvements at the St. Marks Trail Crossing, as part of the resurfacing project (**Appendix C**), including roadway lighting and installing a Rectangular Rapid Flashing Beacon (RRFB).

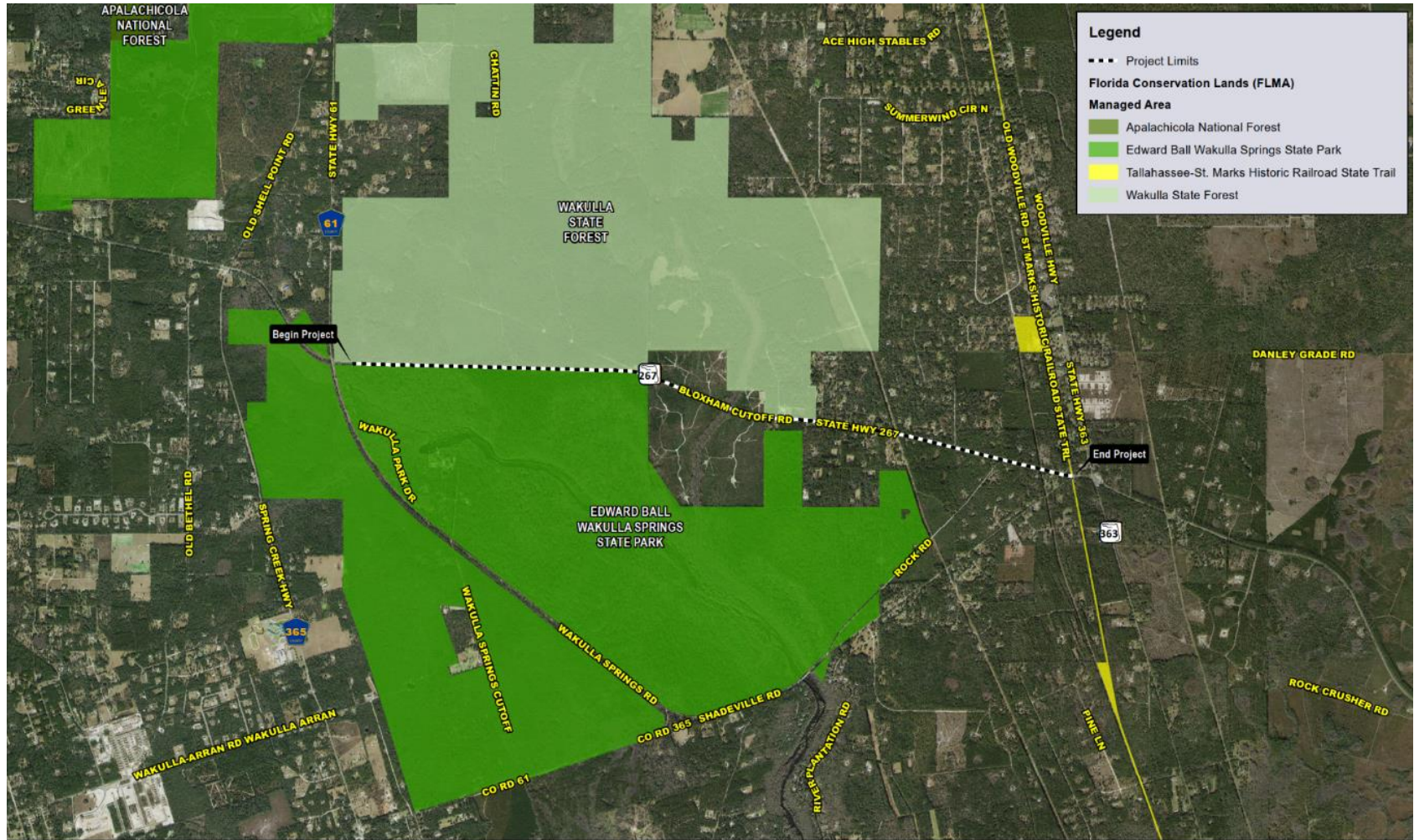
**Figure 8: Reconfigured Intersection: SR-267/Shadeville Road/Old Woodville Road**



### Right-of-Way

SR 267 Right-of-Way was determined using FDOT’s Straight-Line Diagrams (SLDs) and a desktop review of Wakulla County Property Appraiser data from 2022. The Right-of-Way along SR 267 is approximately 100 ft. along the entire length of the corridor or 50 ft. from the centerline of the roadway. Based on desktop and field review, the corridor has sufficient Right-of-Way to accommodate a shared-use trail. It is anticipated Right-of-Way acquisition will not be needed for this project. However, if the shared-use trail is located on public lands, an easement and maintenance agreement may be necessary. **Figure 9** shows the adjacent Public Lands. **Appendix C** includes FDOT’s Resurfacing Plan for the SR 267 corridor.

Figure 9: Adjacent Public Lands





### Physical Obstructions

Along the corridor, there are physical obstructions within the Right-of-Way that may impact the shared-use trail alignment. These obstructions include drainage structures, utility poles, guardrails, fire hydrants, mailboxes and the bridge over McBride Slough. The following is a summary of the known physical obstructions that will need to be considered when evaluating the shared-use trail route options.

Along the SR 267, there are approximately nine (9), 24"-30" RCP cross drains with headwalls or mitered end sections, located perpendicular to SR 267. See **Figures 10 and 11** below.

**Figure 10: SR 267 – Cross Drain with Headwall**



**Figure 11: SR 267 – Cross Drains**



There are approximately five (5), 15"-18" cross drains at roadway intersections parallel to SR 267 including: Wakulla Springs Park Drive, Sharonwood Drive, Summerwood Drive, Paige Oliver Road, and Old Woodville Road. See **Figures 12, 13 and 14** showing existing drainage structures. **Figure 15** shows potential conflicts with fiber and a fire hydrant. In addition, there are approximately 27 driveways with 15"-18" cross drains parallel to SR 267.

**Figure 12: Intersection Drainage Structures (Summerwood Drive)**



**Figure 13: Intersection Drainage Structures (Sharonwood Drive)**



**Figure 14: Driveway Drainage Structures**



**Figure 15: Fiber & Water (Fire Hydrant)**



Existing overhead electric lines from Wakulla Springs Road to Rock Road are located on the south side of SR 267. From Rock Road to Old Woodville Road the overhead electric lines shift to the north side of SR 267. There are approximately 74 electric poles along the project corridor that vary in distance from edge of pavement from 20 - 30 ft. **Figure 16** shows overhead electric poles along the SR 267 corridor.

**Figure 16: Overhead Electric Distribution Lines (Poles)**

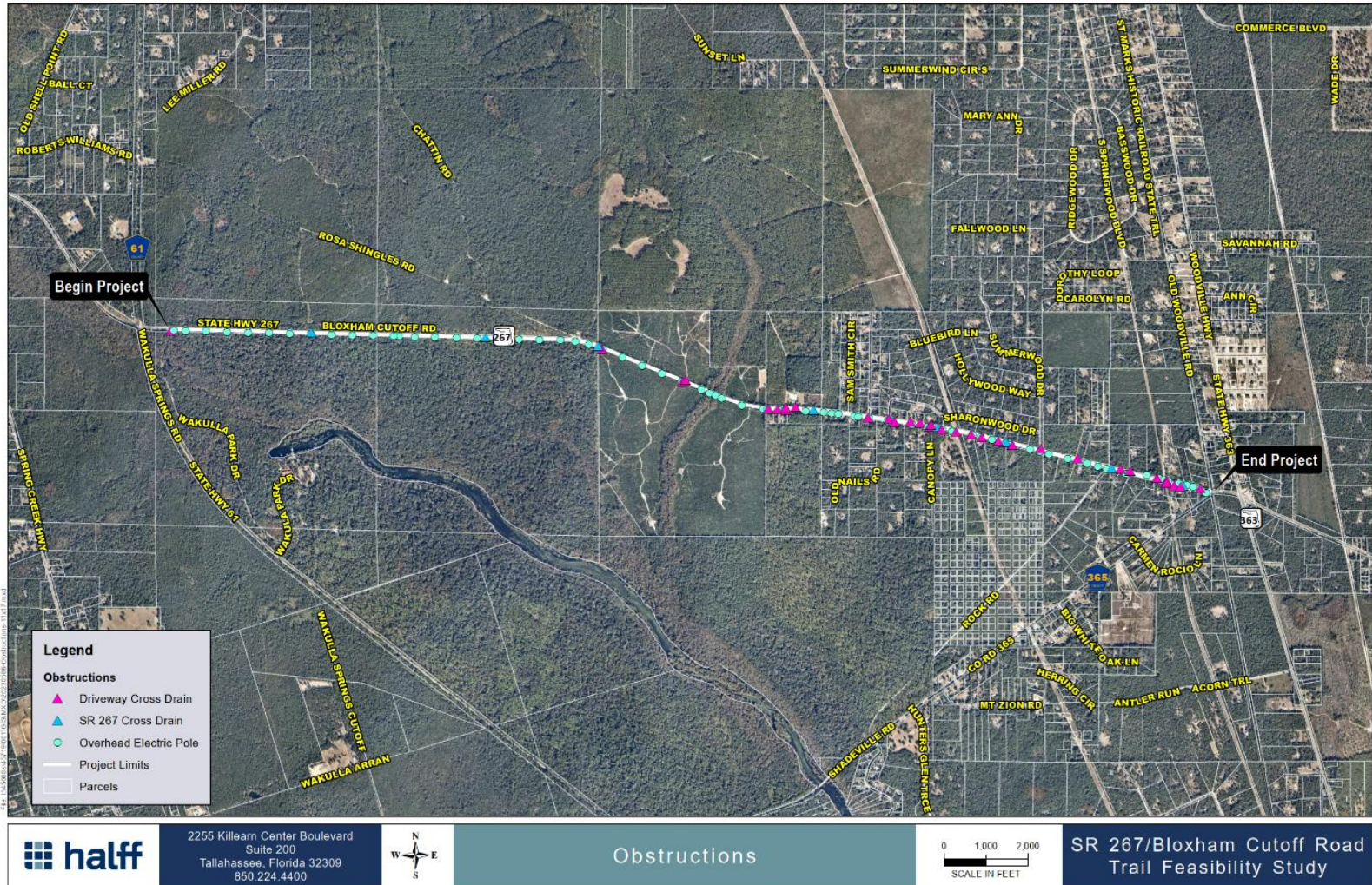


Duke Energy is the Utility/Agency Owner (UAO) for the electric distribution lines that run along SR 267 Right-of-Way and transmission lines that cross SR 267. A list of all of the known utility owners within the project corridor is included in **Table 6**.

**Table 6: Utility/Agency Owners (UAOs) Along SR 267**

Company	Contact	Telephone Number
Century Link (Local)	David Poole	(850) 815-3139
City of Tallahassee (Water/Sewer)	Brian Berry	(850) 891-6155
City of Tallahassee (Electric/Fiber)	Brian Hobbs	(850) 891-3181
Comcast Cablevision	Andrew O'Shea	(850) 815-7831
Duke Energy (Distribution)	Tara Miller	(850) 745-6345
Duke Energy (Transmission)	Scott Vanvelzor	(813) 909-1241
Florida Gas Transmission	Joe Sanchez	(407) 838-7171
Talquin Electric Coop. (Water/Sewer)	Kevin Goff	(850) 627-7651 EXT. 1760

Figure 17: Physical Obstructions - Overhead Electric Poles, Drainage Structures



### Bridge Structures

There is one bridge located along the project corridor, McBride Slough Bridge (Structure #590023), constructed in 1964 and reconstructed in 1989. The total bridge length is 75.1 ft. with a deck width edge to edge of 47.2 ft. The bridge deck, superstructure and substructure are all in good condition. According to 2023 Bridge Sufficiency Report, dated April 2023, the bridge sufficiency rating is 97.2. The bridge is not considered eligible for National Register of Historic Places (NHRP). **Figures 18 and 19** show the existing bridge crossing from the roadway and waterway. **Figure 20** shows all of the nearby bridges.

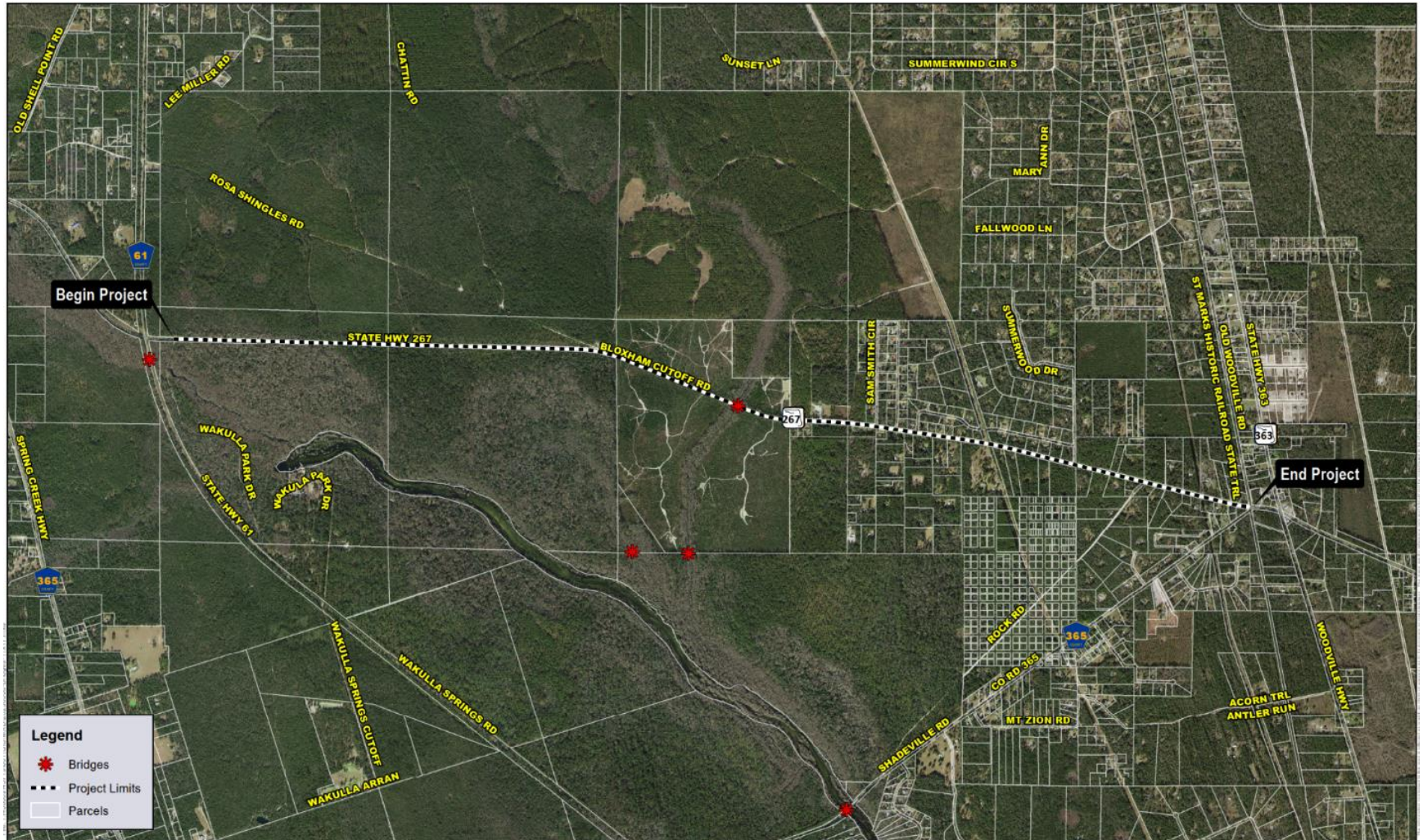
**Figure 18: McBride Slough Bridge from Roadway**



**Figure 19: McBride Slough Bridge from Waterway**



Figure 20: Bridges



### Wakulla Springs State Park Service Road

A Wakulla Springs State Park service road is located parallel and approximately 150ft. south of SR 267 and extends from Wakulla Springs Drive approximately 1.5 miles to the east. The shared-use trail is proposed to be located along the service road alignment (See **Figure 21** below).

**Figure 21: Wakulla Springs Service Road**



## ENVIRONMENTAL CHARACTERISTICS

These environmental maps, and additional information regarding resources, driveways, bridges, driveway locations, trails and physical obstructions can be found in **Appendix D**.

### Flood Zones & Wetlands

The project study area is located within area of both Flood Zone AE and Flood Zone X, which are described as follows:

Flood Zone AE – The base flood plain where base flood elevations are provided.

Flood Zone X – 0.2% annual change flood hazard, areas of 1% annual chance flood with average depth less than one ft. or with drainage areas of less than one square mile.

It is not anticipated that the flood zones will be adversely impacted by the proposed shared-use trail. The bridge over McBride Slough is the only portion of the project corridor located in Zone AE. The flood zones within the project study area are shown in **Figure 22**.

Wetlands are delineated north and south of the McBride Slough Bridge crossing as shown in **Figure 23**. No other known wetlands exist along the SR 267 Right-of-Way.



Figure 22: FEMA Floodplain

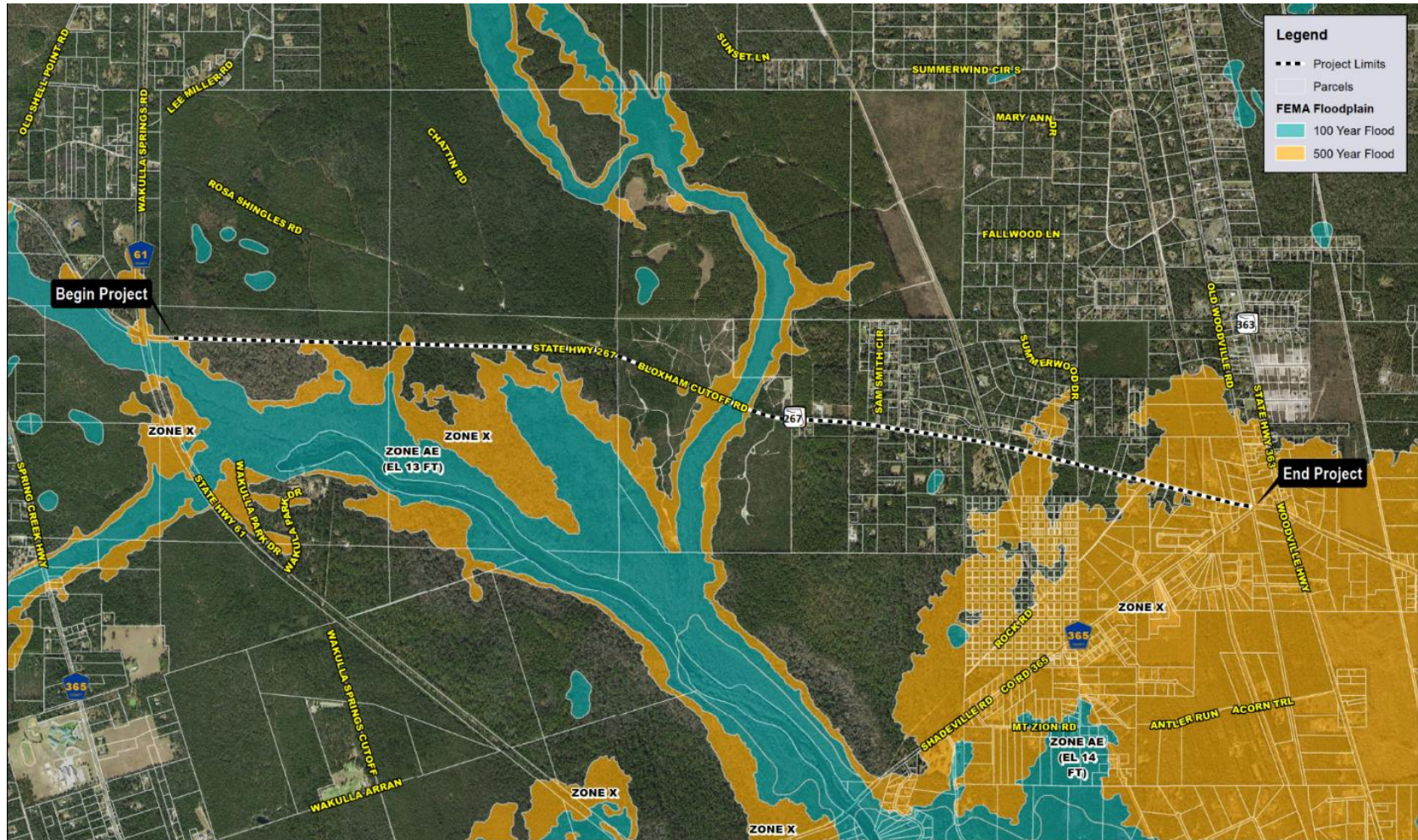


Figure 23: Wetlands



### Strategic Habitat Conservation Areas & Rare Species Habitat

The Florida Fish and Wildlife Conservation Commission originally identified strategic habitat conservation areas (SHCA) in a Commission report in 1994. The goal of the SHCA is to identify the minimum amount of land needed in Florida to ensure long-term survival of key components to Florida's biological diversity. In 2006, the Florida Natural Areas Inventory, University of Florida Center for Landscape Conservation Planning, and Florida Fish & Wildlife Conservation Commission collaborated to produce CLIP - the Critical Lands and Waters Identification Project. CLIP is a GIS database of statewide conservation priorities for a broad range of natural resources, including biodiversity, landscape function, surface water, groundwater, and marine resources.

The majority of the area adjacent to SR 267 corridor falls in Priority 2 area, with small portions in Priority 3, 4, and 5 areas. The SHCAs are described in the Critical Lands and Waters Identification Project (CLIP) Version 4.0 located here: [Critical Lands and Waters Identification Project \(fnai.org\)](https://www.fnai.org/CLIP) and the Technical Report located here: [CLIP v4 technical report.pdf \(fnai.org\)](https://www.fnai.org/CLIP_v4_technical_report.pdf). These priority areas are defined as follows:

Priority 2 – State Rank 1 and Global Rank 4-5, or State Rank 2 and Global Rank 2-3

Priority 3 – State Rank 2 and Global Rank 4-5, or State Rank 3 and Global Rank 3

Priority 4 – State Rank 3 and Global Rank 4

Priority 5 – State Rank 3 and Global Rank 5, or State Rank 4 and Global Rank 4

The Strategic Habitat Conservation Areas within the project study area are shown in **Figure 24**.

The Rare Species Habitats within the project study area are shown in **Figure 25**.

The shared-use trail is located within FDOT Right-of-Way and along a Wakulla Springs State Park Service Road that has been cleared and maintained and is therefore not anticipated to have an adverse effect on strategic habitat or rare species habitat.

### Cultural Resources

According to data maintained by the State Historic Preservation Office updated in January 2022, no structures or cemeteries are located within or adjacent to the project study area. There are resource groups present along the southern half of SR 267 and for most of the western portion of the project corridor. These cultural resources are displayed in **Figure 26**.

Figure 24: Strategic Habitat Conservation Areas

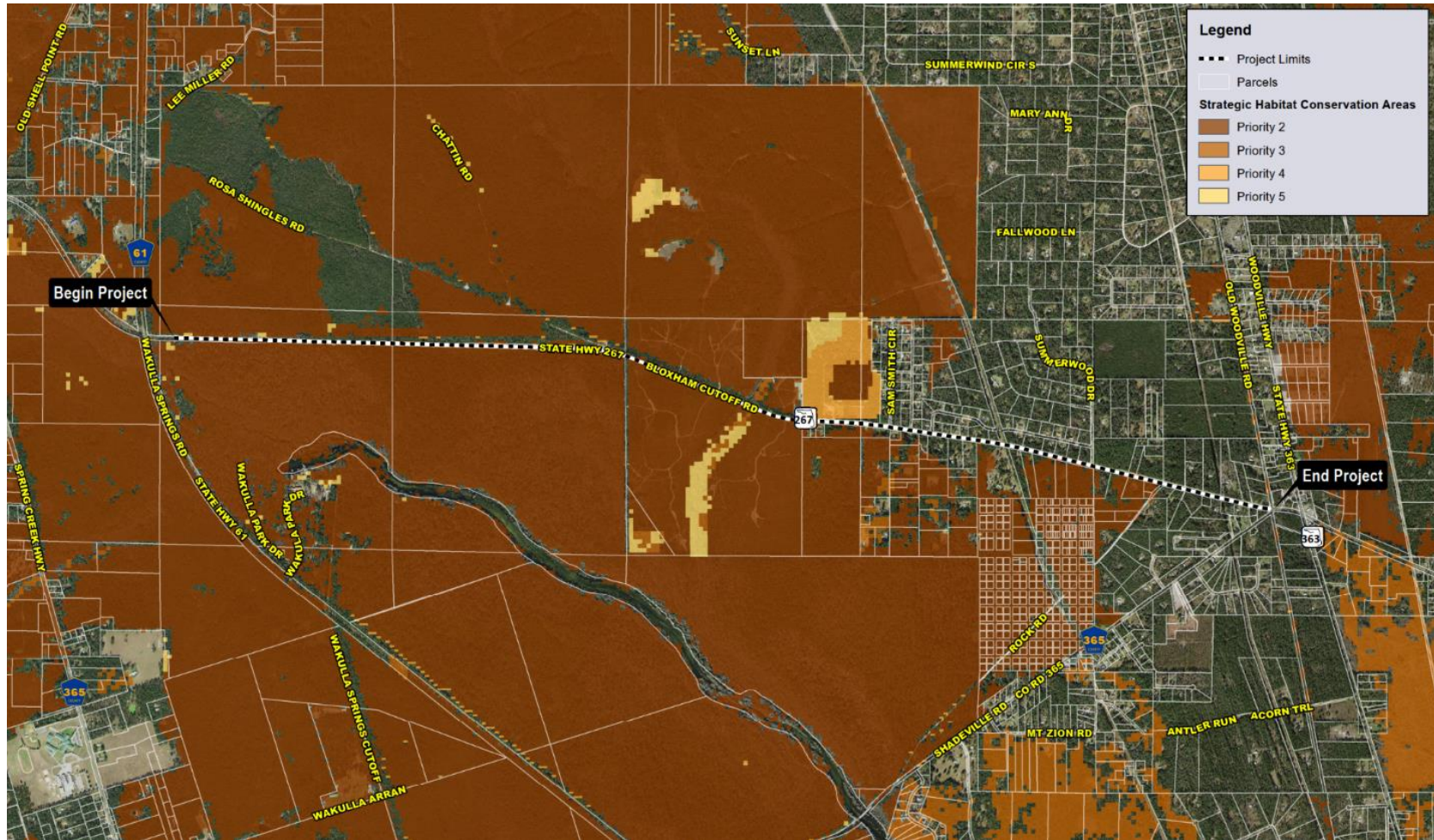


Figure 25: Rare Species Habitat Conservation Priorities

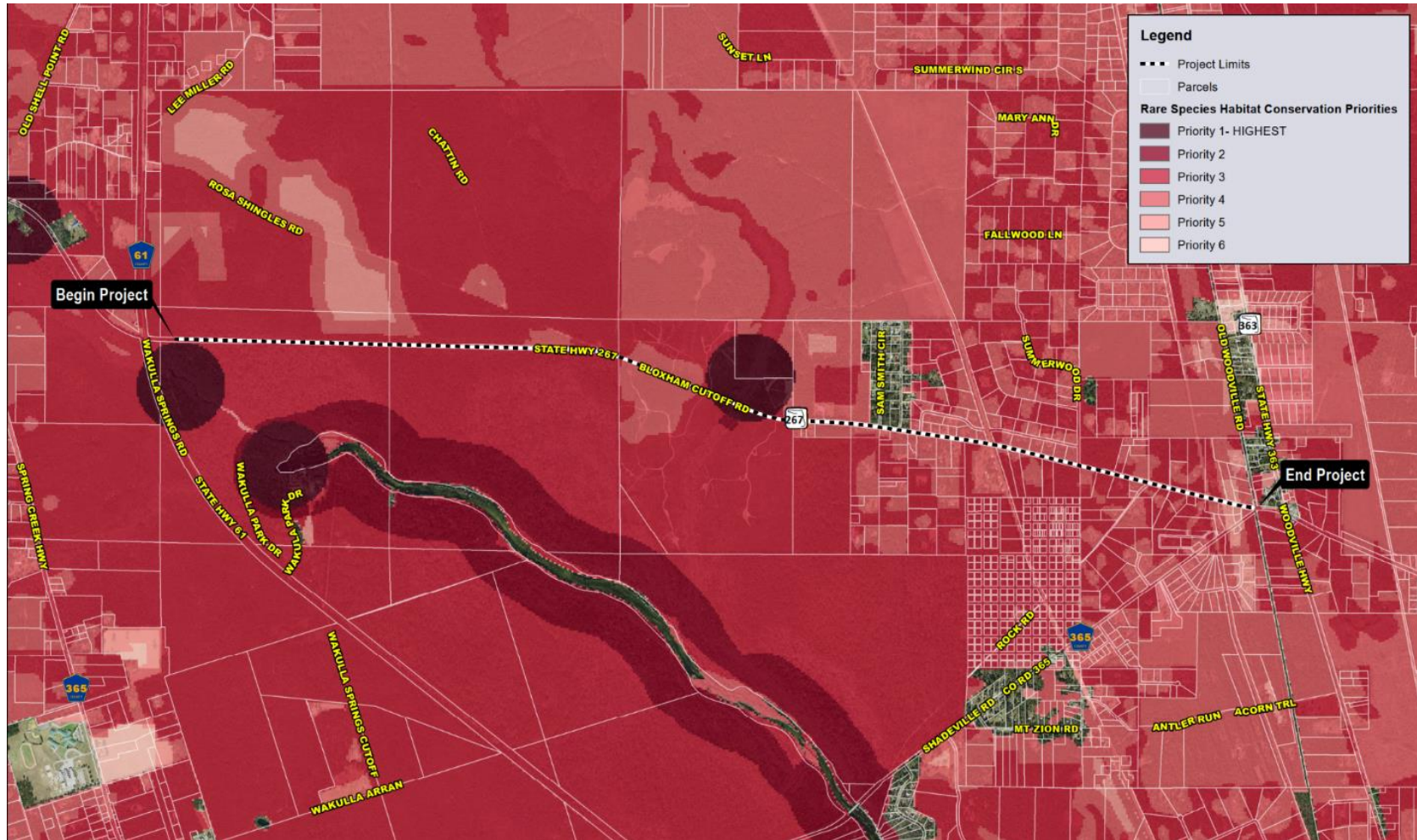
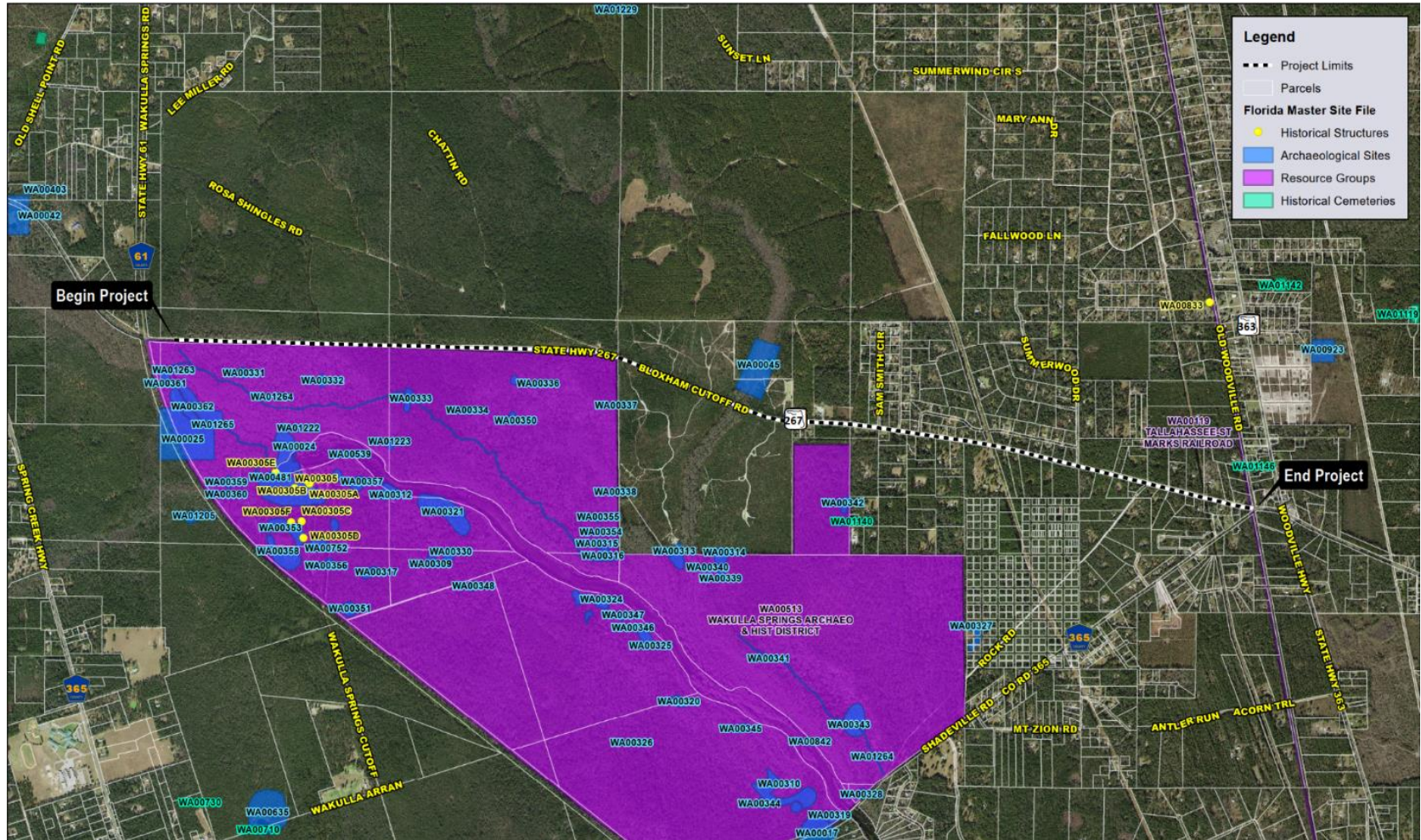


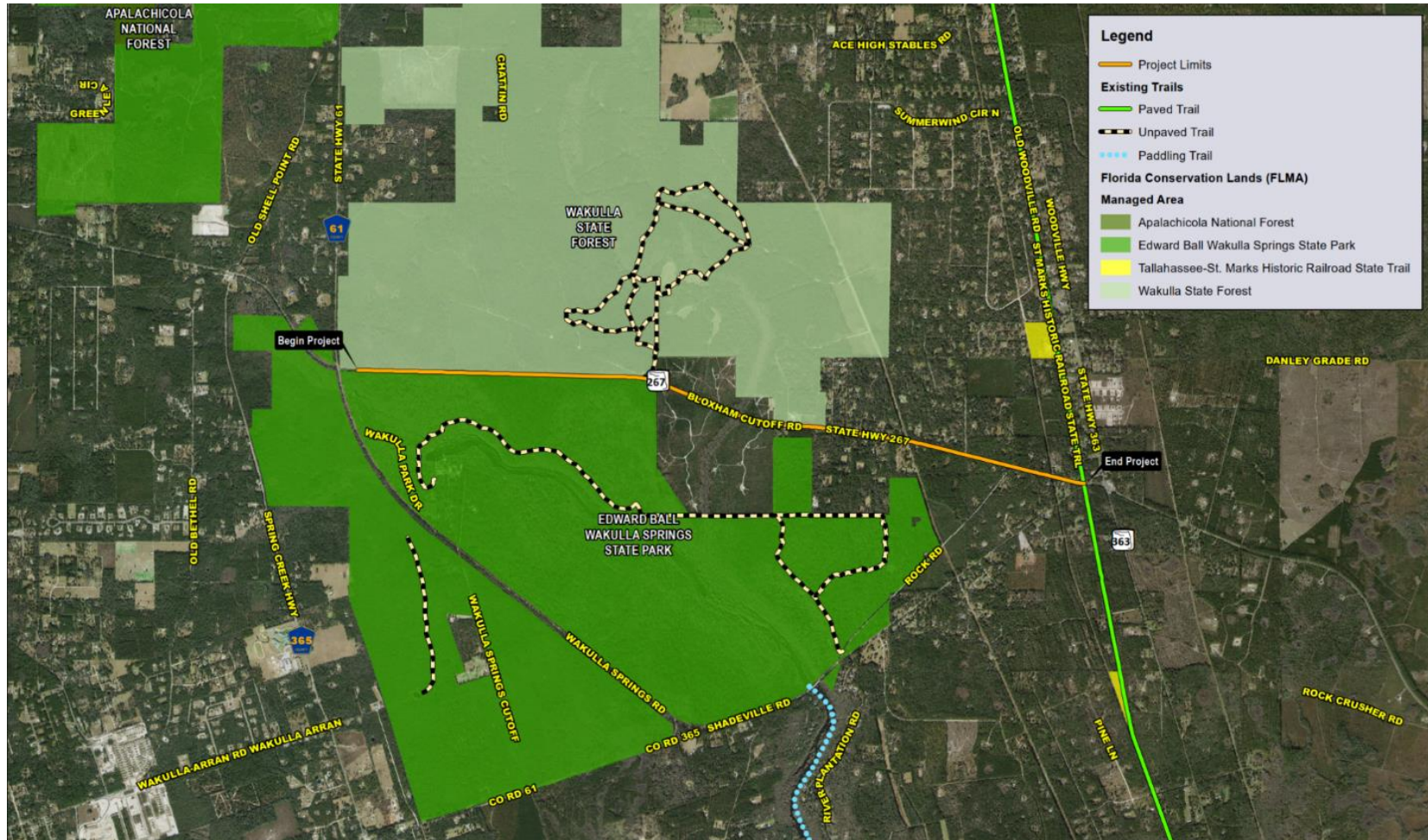
Figure 26: Cultural Resources



### Network Connectivity

This segment of SR 267 provides connectivity between Wakulla Springs Park Drive and the St. Marks Trail. The project corridor provides an opportunity for connectivity between the Rosa Shingles Trailhead in the Wakulla State Forest to the entrance to Edward Ball Wakulla Springs State Park at the western end of the corridor. The trailhead, located the intersection of SR 267 and Rosa Shingles Road, currently provides access to a system of recreational trails in the southern portion of the Wakulla State Forrest. This trailhead is located approximately 1.8 miles east of the Wakulla Park Drive which serves as the primary access to Edward Ball Wakulla Springs State Park. On the eastern end of the of the corridor the proposed shared-use trail would connect to the St. Marks Trail which provides north/south connectivity to Tallahassee and St. Marks area, respectively. See **Figure 27** showing existing paved/unpaved trails and paddling trails.

Figure 27: Paved, Unpaved and Paddling Trails





### Trailhead

Rosa Shingles Trailhead is located on Wakulla State Forest land within the Wakulla Wildlife Management Area. The trailhead is located on the north side of SR 267, approximately 1.8 miles east of the Wakulla Park Drive. Trail access is provided at the parking area shown below. Horse trailer parking is provided along Rosa Shingles Road approximately 0.45 miles to the west of the trailhead for ease of access to equestrian trails. See **Figure 28: Rosa Shingles Trailhead** and **Figure 29: Horse Trailer Parking Area**.

**Figure 28: Rosa Shingles Trailhead**



**Figure 29: Horse Trailer Parking Area**



## EXISTING PROJECTS

There are two projects within the study area that improve connectivity and existing roadway and safety conditions. The FDOT and Edward Ball Wakulla Springs State Park are implementing these projects. A detailed description of the existing projects is provided below.

### SR 267 (Bloxham Cutoff Rd) – FPID: 432550-2-32-01

This Resurfacing, Restoration and Rehabilitation (3R) project extends along SR 267 from the Leon County Line to SR 363/Woodville Road. Existing travel lanes and paved shoulders will be resurfaced. Intersection improvements will include adding intersection ahead signs, street name signs, and flashing beacons along SR 267 in advance of the intersections with:

- Spring Creek Highway
- SR 61

The crossings at Shadeville Road, and the St. Marks Trail crossing at CMP 7.200 will be upgraded to include lighting and RRFBs.

The existing Right-of-Way varies from 100' to 200'. No additional Right-of-Way will be required.

Information regarding this 3R project was gathered from the Scope of Services.

### Edward Ball Wakulla Springs State Park Alternate Multi-Use Trail Route Study

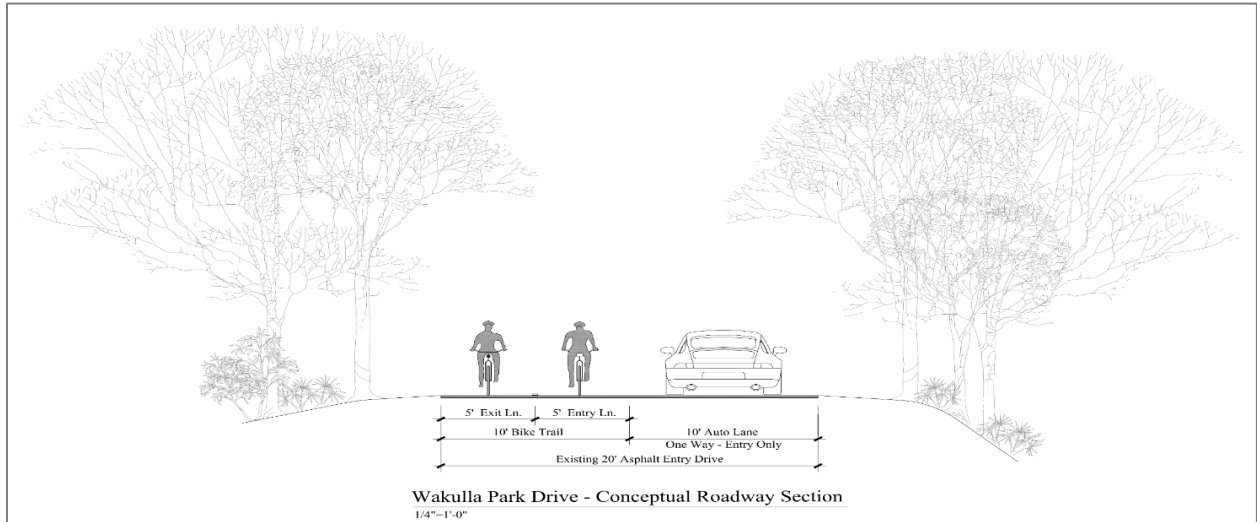
The purpose of this analysis was to conduct a review of existing and future regional multi-use trail systems, evaluate the existing trails and pathways within the core area of the Edward Ball Wakulla Springs State Park and review potential alternatives for a primary accessway for visitors traveling on bicycles to enter the park. The goal was to determine the most practical and scenic options for routing and alignment with the least number of impacts to the existing manmade elements and the natural landscape setting. The primary objective was to provide a safe, well-defined route for cyclists to enter the park, minimize conflicts with automobile traffic to the greatest extent practical, and to maintain access through the existing ranger station.

The study recommended converting the existing Wakulla Park Drive two-way automobile traffic pattern to a 10-ft. wide, one-way, entry only lane for automobiles and a 10-ft.-wide bike trail for cyclists to enter and exit the park. All vehicles would exit via the County Road 61 drive connection. **Figure 30** displays the conceptual roadway section for Wakulla Park Drive.

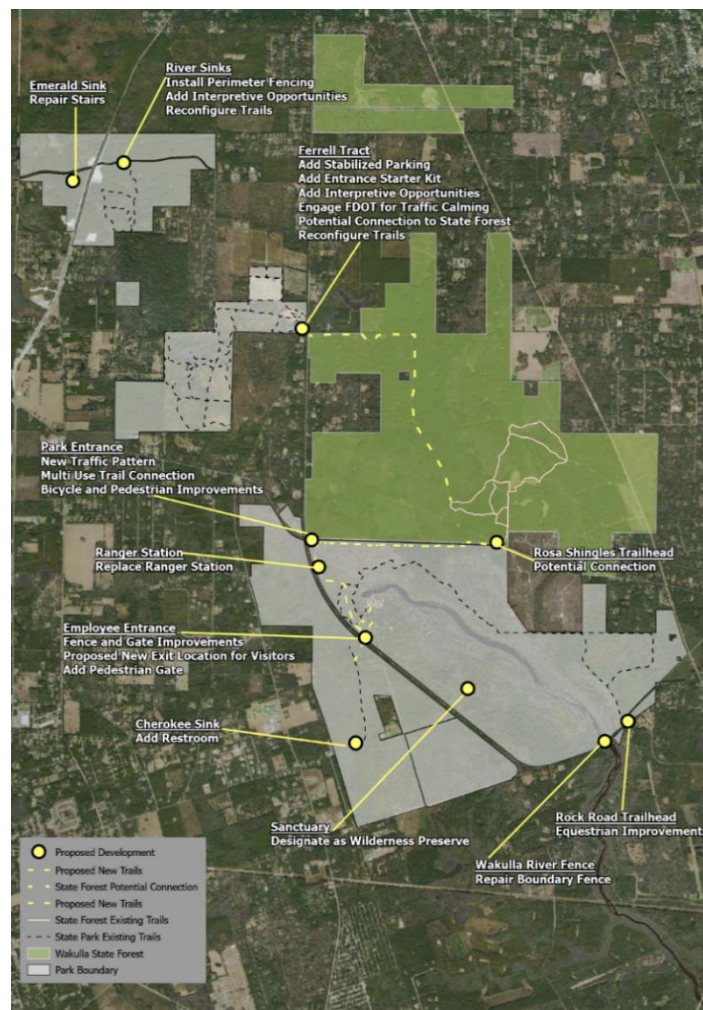
Information regarding this Alternate Trail Route Study was gathered from the Edward Ball Wakulla Springs State Park Alternate Multi-Use Trail Route Study Report (dated 2021).

In addition, the Edward Ball Wakulla Springs State Park Unit Management Plan was updated in December 2022 and includes a shared-use trail alignment along an existing service road alignment from the Wakulla Park Drive east for approximately 1.5 miles, then crossing SR 267 to connect to Rosa Shingles Trailhead. See **Figure 31** showing the Edward Ball Wakulla Springs State Park Unit Management Plan. For reference, **Appendix E** includes the entire Edward Ball Wakulla Springs State Park Unit Management Plan.

**Figure 30: Wakulla Park Drive – Conceptual Roadway Section**



**Figure 31: Unit Management Plan (UMP) - Conceptual Land Use Plan**



## Design Criteria

The design of the SR 267 Trail needs to meet all required criteria for a trail with consideration given to the local area. **Table 7** supplies the requirements for trail width, cross slope, grading, clearance, geometric criteria, and offset from the vehicular travel way. All design standards are sourced from the Florida Department of Transportation Design Manual (FDM), which sets forth geometric and other design criteria, as well as procedures, for FDOT projects. In addition, the trail design will consider the Florida Greenbook trail design guidelines.

**Table 7: Design Criteria**

Design Element	Criteria	Source	
<b>WIDTHS</b>			
Two Directional Shared Use Path	Range: 10-14ft. Standard: 12ft.	FDM, Section 224.4	
<b>CROSS SLOPES</b>			
Maximum Cross Slope (ADA Requirements)	2%	FDM, Section 224.5	
Changing Slope Direction	Use 75 ft. distance to transition from -2% to 2% OR 2% to -2%.  *Consider potential for ponding water.		
<b>LONGITUDINAL GRADES</b>			
Maximum Longitudinal Slope (ADA Requirements)	5%	FDM, Section 224.6	
Ramp	> 5%		
Max Ramp Slope	8.33% with a maximum rise of 30 inches with a level landing at least 60 inches in length.	*Refer to FDM, 224.11 for Controls on Grade Changes	
Ramp Maximum Grade	Grade (%)		Length (ft.)
	6		800
	7		400
	8		300
	9		200
	10		100
	11+		50
	1. When using a longer grade, consider adding 4 to 6 ft. of additional width to path to allow a bicyclist to dismount and walk their bicycle. 2. Clear distances and sight distances should be adjusted to accommodate longer grades.		
<b>HORIZONTAL CLEARANCE</b>			
Adjacent to Both Sides of Path	4 ft. *Including Placement of Signs	FDM, Section 224.7	
Max Slope Adjacent to Both Sides of Path	1:6		
Graded Area Width	2ft.		
Restricted Condition (Bridge Abutments, Signposts, Fencing, Railing)	Within 4 ft. of the edge of pavement; not less than 2 ft.		

VERTICAL CLEARANCE				
Bottom of Lowest Edge of an Overhead Obstruction to Any Portion of Path Under Obstruction	10 ft.	FDM, Section 224.8  *FDM 260.6 for Bridge Structure Minimum Clearance		
Overhead Signs/Other Obstructions Under Constrained Conditions	8 ft.			
Accommodation of Equestrians/Maintenance & Emergency Vehicles; Underpasses & Tunnels; SUN Trail	12 ft.			
*Existing elements that provide a minimum 8 ft. vertical clearance are not required to be corrected to the clearances listed above.				
DESIGN SPEED				
Longitudinal Grade ≤ 4%	18 mph	FDM, Section 224.9		
Longitudinal Grade > 4%	30 mph			
MINIMUM RADII				
Horizontal Curves	Design Speed	Cross Slope	Minimum Radius	FDM, Table 224.10.1
	18 mph	2%	74 ft.	
	18 mph	-2%	86 ft.	
	30 mph	2%	261 ft.	
	30 mph	-2%	316 ft.	
*For paths with two-way traffic use minimum radius given for cross slope of -2%.				
STOPPING SIGHT DISTANCE				
Flat Grades	Design Speed	Grade	FDM, Table 224.10.2	
	18 mph	134		
	30 mph	Use 18 mph Values		
	*Stopping sight distance based on an object height of 0.0 ft. and eye height of 4.5 ft..			
	*More information on calculating minimum stopping sight distances may be found in the AASHTO Guide for the Development of Bicycle Facilities, 2012.			
VERTICAL ALIGNMENT				
When S > L	L = 2S 900/A		FDM, Section 224.11	
When S < L	L = AS <sup>2</sup> /900			
	L = Min. Length of Vertical Curve (ft.) A = Algebraic Grade Difference (%) S = Stopping Sight Distance (ft.)			
SEPARATION FROM ROADWAY				
Flush Shoulder w/Speeds ≤ 45 mph	Edge of path at least 5 ft. from edge of paved shoulder.		FDM, Section 224.12	

### Intersection Concepts

Intersections involving trails and roadways represent areas of conflict points and require proper signing and pavement markings to warn trail users of the upcoming intersection and to inform motor vehicles of the pedestrian movement. The FDOT Trail Intersection Design Handbook, together with the MUTCD, and the FDOT Florida Bicycle Facilities Planning Guide, provides guidance for the development of trail intersections. This project concept was developed using two standard details of intersection improvements to provide a guide for designers when implementing this trail project. These standard details are described below.

#### Side Street Crossing – Type 1

This crossing type is characterized by a parallel trail facility crossing a side street with traffic greater than 2,000 Average Annual Daily Traffic (AADT). Design features could include a landscaped trail median, concrete trail approach, handrails and signing and pavement markings on both the roadway and the shared-use trail. The only side street crossing within the project study area with over 2,000 AADT is the Shadeville Road intersection. FDOT is in the process of completing a 3R design project that re-configures the intersection to a plus and adds safety features including overhead lighting, a bicycle/pedestrian crossing beacon and shifting the trail further east, away from the reconfigured intersection.

#### Side Street/Driveway Crossing – Type 2

This crossing type is characterized by a parallel trail facility crossing a side street or driveway with traffic less than 2,000 AADT. Design features include signing and pavement markings.

#### Midblock Crossing

There is one midblock crossing proposed as part of the Alternative 1 alignment described in the alternatives section. This midblock crossing would occur at the eastern end of an existing Wakulla Springs State Park service road which is located approximately 0.35 miles west of the existing Rosa Shingles Trailhead. An example of a two-lane undivided rural arterial midblock crossing is shown in **Figure 32**.

**Figure 32: Example of Two-Lane Rural Arterial Midblock Crossing**

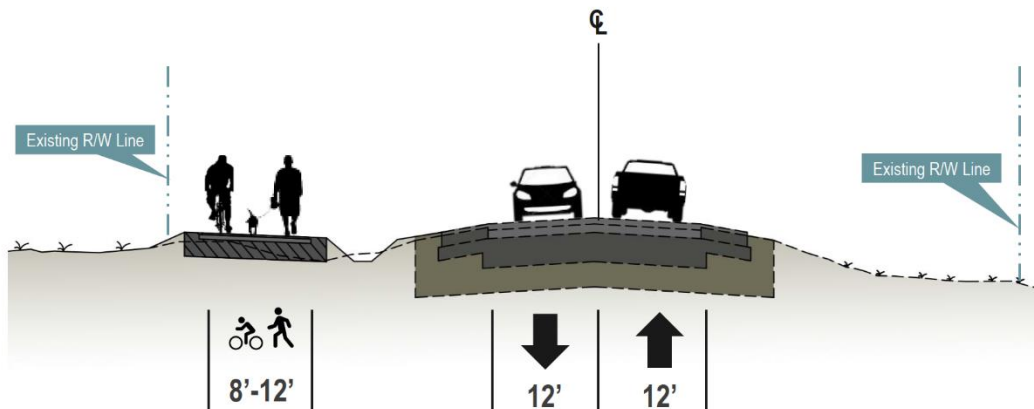


It is recommended the crossing include a Rectangular Rapid Flashing Beacon (RRFB) consistent with what FDOT is proposing at the SR 267 crossing, just east of the Shadeville Road/Old Woodville Road intersection.

### Typical Section

The recommended typical section is shown below is **Figure 33**. Depending on the offset from the road, the existing ditch may need to be reconstructed.

**Figure 33: Typical Section**



## Design Recommendations

Trail design standards provide guidance on facilities and signage, which improve user experience and safety. The project area is approximately 4.8 miles in length, which is relatively long when considering the variety of user types and skill levels that may use the trail. The following design standards should be implemented to improve overall experience, safety, and navigability of the recommended trail route.

### Trail Width & Separation

As noted throughout this report, the recommended facility for the majority of the trail is a 12-ft. shared-use trail. This is the industry recommended standard and is noted in the FDOT Design Manual. Where Right-of-Way is constrained, or to avoid or minimize impacts to natural, cultural or physical features, the trail may be reduced as needed to a minimum width of eight (8) ft. for short sections.

Considering the high-speed nature of the SR 267 corridor, it is important that a buffer exists to separate the shared-use trail from the roadway. Typically, on roadways with speeds over 50 mph, the trail should be at least five (5) ft. from the paved shoulder to address safety and comfort of trail users (FDOT Design Manual, 2020). For this trail segment, a minimum of five (5) ft. from the paved shoulder break is recommended with a desired buffer of 11 ft. from the paved shoulder, wherever possible.

### Meandering Design

Where appropriate and Right-of-Way allows, a meandering trail design should be pursued. A meandering design will allow the trail to avoid any obstructions within the Right-of-Way, such as large trees or aging structures. This design technique also improves the overall aesthetic and experience for trail users and can aid bicyclists in attempting to slow down as they approach intersections or elevation change.

## Alternatives Analysis

Upon completion of the existing conditions analysis, four (4) potential trail route alternatives were developed and are described below:

### Alternative 1: Park Service Road/North Side of SR 267

Alternative 1 begins on the south side of SR 267 at the Wakulla Park Drive entryway and follows an existing Wakulla Springs State Park service road that runs parallel to SR 267 for a distance of

approximately 1.5 miles. The trail would then cross SR 267 to the north side and connect to the Rosa Shingles Trailhead. From the Rosa Shingles Trailhead, the trail would continue east on the north side of SR 267 Right-of-Way until connecting to the St. Marks Trail.

Alternative 1 is approximately 4.8 miles in length, with 11 residential driveway connections, three (3) commercial connections, and seven (7) roadway crossings. The trail is located within Wakulla Springs State Park and FDOT Right-of-Way.

This alternative will require clearing with limited shade opportunities on the eastern portion of the trail (see **Figure 34**).

#### **Alternative 2: Park Service Road/South Side of SR 267**

Alternative 2 begins on the south side of SR 267 at the Wakulla Park Drive entryway and follows an existing Wakulla Springs State Park service road that runs parallel to SR 267 for a distance of approximately 1.5 miles. The trail would then continue east along SR 267 Right-of-Way until connecting to the St. Marks Trail. This would require crossing Shadeville Road at the intersection with SR 267.

Alternative 2 is approximately 4.8 miles in length, with 31 residential driveway crossings, two (2) commercial connections, and six (6) roadway crossings. The trail is located within Wakulla Springs State Park and FDOT Right-of-Way.

This alternative will have to avoid impacts to the overhead Electric Poles but it does provide shade opportunities along the eastern portion of the trail (see **Figure 35**).

#### **Alternative 3: Park Service Road/North Side of SR 267 (Off-System)**

Alternative 3 begins on the south side of SR 267 at the Wakulla Park Drive entryway and follows an existing Wakulla Springs State Park service road that runs parallel to SR 267 for a distance of approximately 1.5 miles. The trail would then cross SR 267 to the north side and connect to the Rosa Shingles Trailhead. The trail would then turn north and east with State Forest property until connecting back to the north side of SR 267 near the Wakulla State Forest Ranger Station. The trail would continue on the north side of SR 267 until connecting to the St. Marks Trail.

Alternative 3 is approximately 5.2 miles in length, with 11 residential driveway crossings, three (3) commercial connections and seven (7) roadway crossings. The trail is located within Wakulla Springs State Park, Wakulla State Forest and FDOT Right-of-Way.

This alternative was not supported by Wakulla State Forest representatives and was removed from further consideration (see **Figure 36**).

#### **Alternative 4: Park Service Road/South Side of SR 267 (Off-System)**

Alternative 4 begins on the south side of SR 267 at the Wakulla Park Drive entryway and follows an existing Wakulla Springs State Park service road that runs parallel to SR 267 for a distance of approximately 1.5 miles. The trail would then continue east along SR 267 Right-of-Way until turning south and following the eastern perimeter of Wakulla Springs State Park property. The trail would then head east until reaching the Electric transmission easement where the trail would head north until reaching SR 267. The trail would then follow along the southside of the SR 267 until crossing Shadeville Road and connecting to the St. Marks Trail.

Alternative 4 is approximately 6.1 miles in length, with 18 driveway crossings, two (2) commercial connections and two (2) roadway crossings.

This alternative was not supported by Wakulla Springs State Park representatives and was removed from further consideration (see **Figure 37**).



Figure 34: Alternative 1: Park Service Road/North Side of SR 267

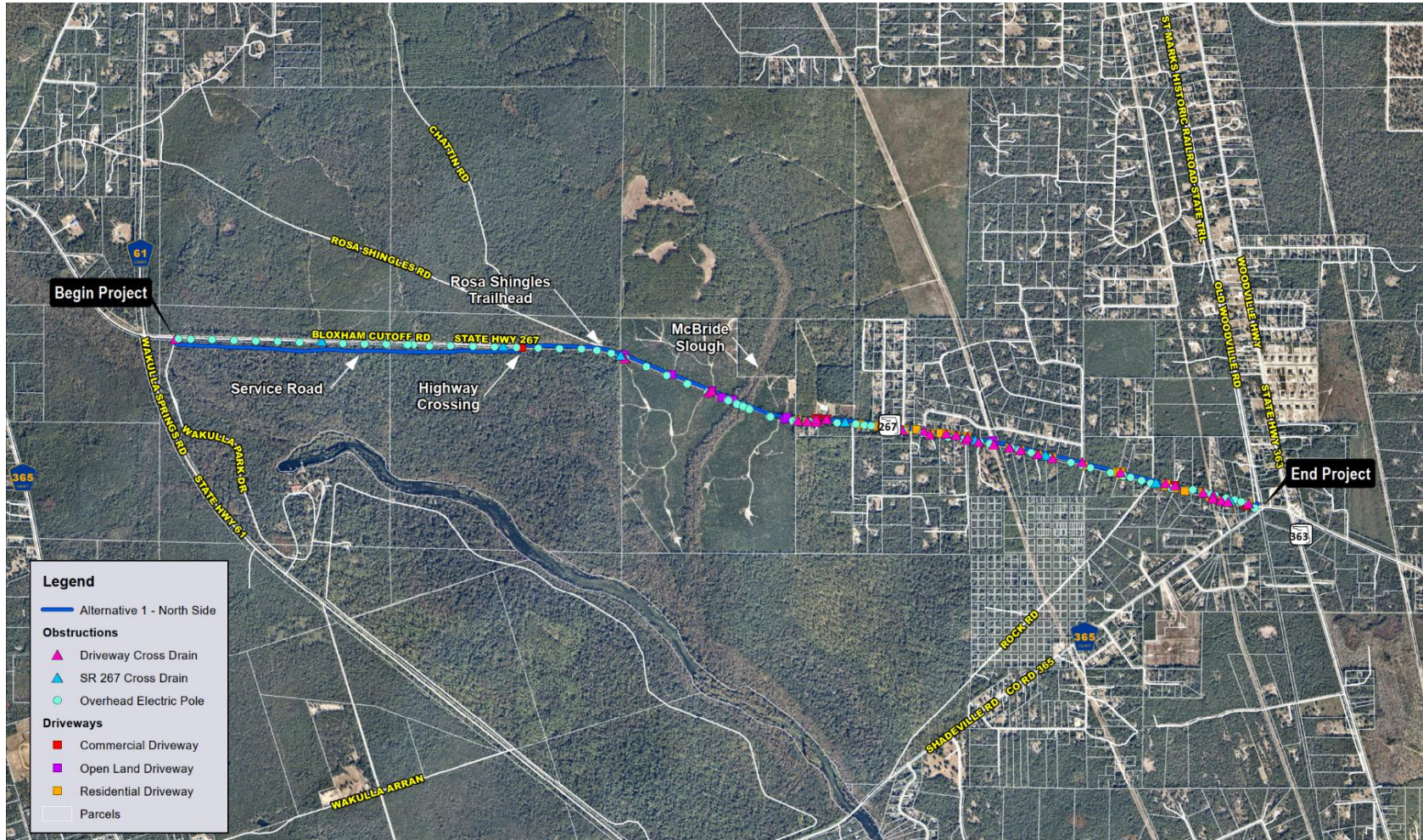
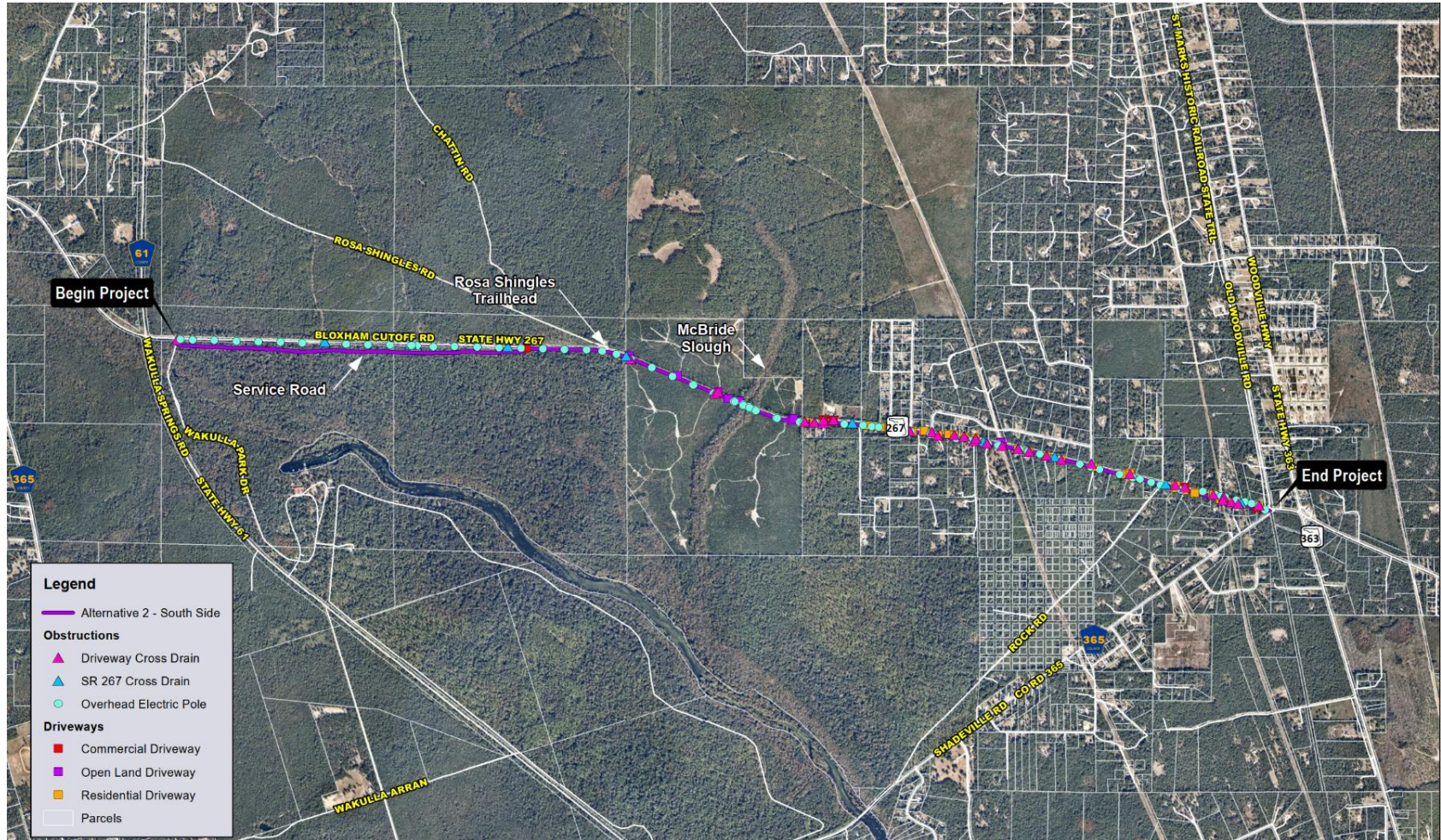


Figure 35: Alternative 2: Park Service Road/South Side of SR 267



**Figure 36: Alternative 3: Park Service Road/North Side of SR 267 (Off System)**

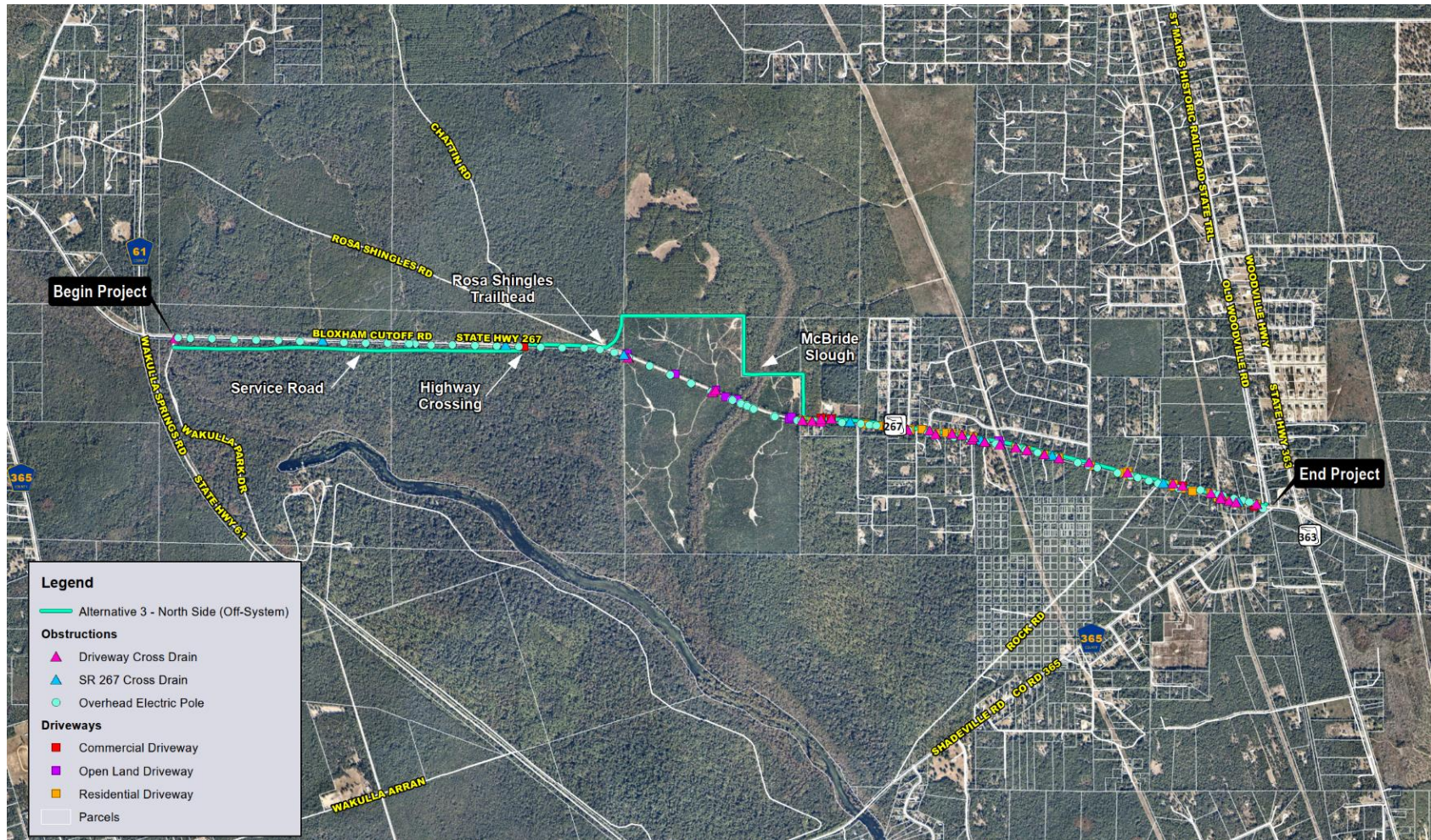
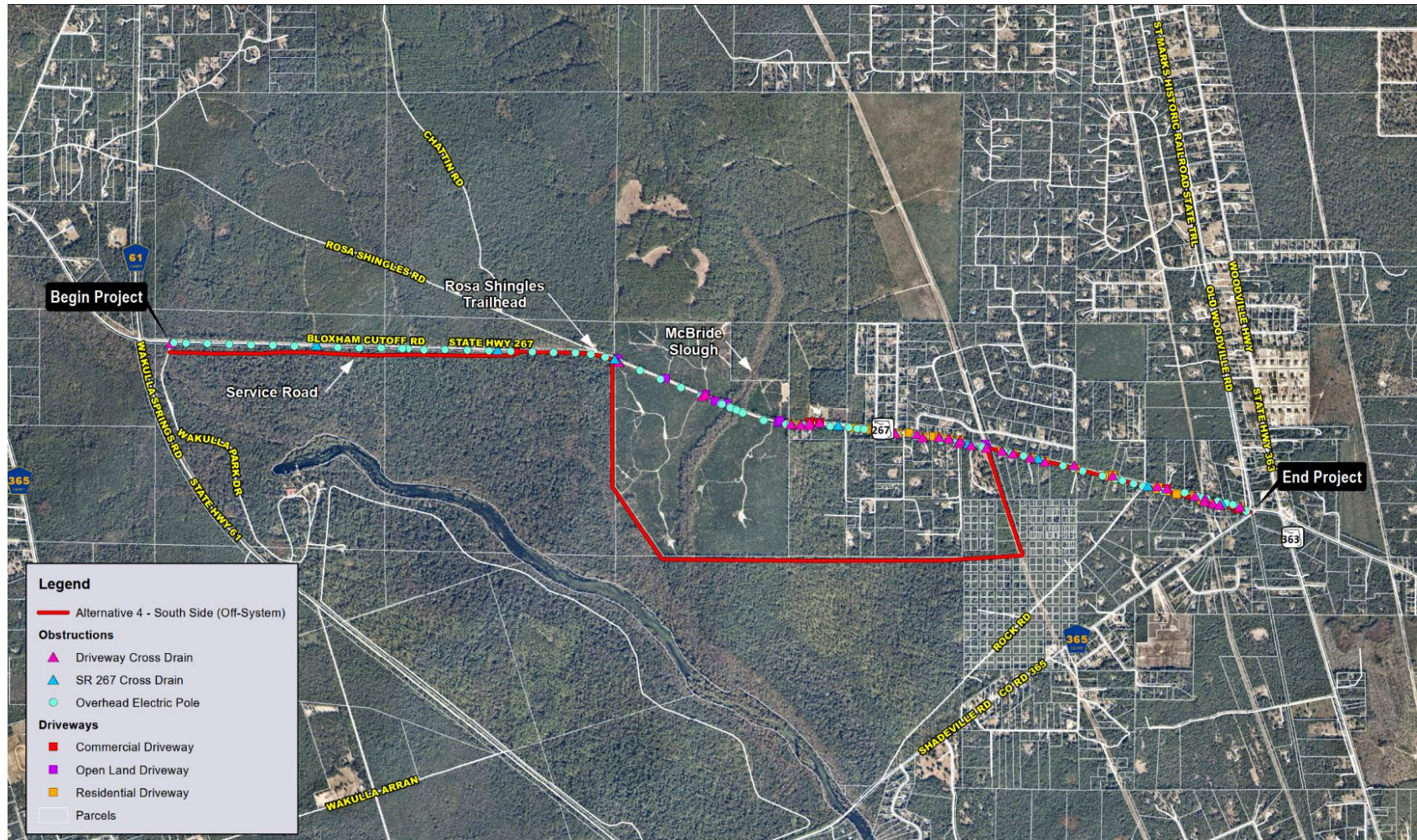


Figure 37: Alternative 4: Park Service Road/South Side of SR 267 (Off System)



Alternatives 1 and 2 are further analyzed in the next section of this document and were presented at the public meeting held on June 29, 2023, at the Wakulla Springs State Park Lodge. Both alternatives 1 and 2 utilize an existing park service road located within the northern boundary of the Wakulla Springs State Park, which parallels SR 267. The service road connects to Wakulla Park Drive at a location just behind the existing park entry gates and extends easterly for approximately 1.5 miles. There is a gated access to this service road from SR 267 located approximately .35 miles west of the Rosa Shingles Trailhead. See **Figure 38** below.

**Figure 38: Entrance to Wakulla Springs State Park Service Road from SR 267**



The park service road's surface is stone and designed to support heavy service vehicles as may be necessary for maintenance activities. The clearing width for this road varies from 20 to 30 ft. in width. Considering this road is in place and available for use, the impacts to converting the current section to a paved, shared-use trail would be less costly than building a trail from the trailhead at Rosa Shingles Road to the park entrance within the Right-of-Way of SR 267. Additionally, the natural woodland buffer that exists between the park service road and the SR 267 Right-of-Way would be beneficial to user safety and contribute to an enhanced biking experience.

Depending upon which side of the SR 267 Right-of-Way is utilized for connecting the St. Marks Trail to Wakulla Springs State Park entrance, a midblock bicycle/pedestrian crossing on SR 267 may be necessary to connect to the Rosa Shingles Trailhead.

### Trail Evaluation Matrix

The Trail Evaluation Matrix in **Table 8** summarizes the impacts from the two alternatives carried forward in this study.

**Table 8: Evaluation Matrix**

<b>Evaluation Criteria</b>	<b>Alternative 1: Park Service Road/ North Side of SR 267</b>	<b>Alternative 2: Park Service Road/ South Side of SR 267</b>
<b>Social &amp; Economic</b>		
Community Support (Low/Medium/High)	High	High
Consistency with Local Plans (Yes/No)	Yes	Yes
Support from Maintaining Agencies (Low/Medium/High)	High	High
Connections to other trails (number within 0.5 miles)	2	1
<b>Cultural</b>		
Risk of Impact to Archaeological Sites (Low/Medium/High)	Low	Low
Risk of Impact to Historic Sites (Low/Medium/High)	Low	Low
<b>Natural</b>		
Wetland Impacts (assuming trail bridge) (Acreage of Impacts)	0.1	0.1
Floodplain Impacts (Acreage of Impacts)	None	None
<b>Physical</b>		
Level of Utility Impacts (Low/Medium/High)	Low	Medium/High
Level of Drainage Swale Impacts (Low/Medium/High)	Low	Medium
Forest Area Impact (Low/Medium/High)	Low	Low
Bridge Crossings (Number of New Bridge Crossings)	1	1
<b>Trail Experience</b>		
Shade (Low/Medium/High)	Medium	High
Trail offset from Roadway (average offset in Ft. from edge of pavement)	11	8
Crossings at Non-Signalized/Midblock Crossings (Number of Crossings)	1	0
Crossings at Signalized Intersections	0	0
Unsignalized Road Crossings	7	7
Residential Driveway Crossings	11	31
Commercial Driveway Crossings	3	2
Open Land Driveway Crossings	7	6
<b>Estimated Cost</b>		
Construction Cost Range	\$3.5 – \$6.0 million	\$3.7 - \$6.2 million

## Public Engagement

A public meeting was held on June 29, 2023, at the Wakulla Springs Lodge from 5:30pm to 6:30pm. See public meeting pictures shown below in **Figure 39**.

**Figure 39: Public Meeting Pictures**



The public meeting was advertised through several methods, including:

- A project handout was emailed to 135 Wakulla County-based federal, state, and local elected and appointed officials, agencies, stakeholders, and citizens on June 13, 2023.
- A postcard was mailed to 265 property owners on June 9, 2023.
- A legal advertisement ran in the June 15, 2023, edition of the *Wakulla News*.
- The CRTPA homepage, [www.crtpa.org](http://www.crtpa.org), featured an informational tile that alerted viewers to see public meeting and project information.

A total of 23 citizens signed in at the public meeting. Public comments received are contained in **Appendix F** and summarized below:

- Please push this plan, I am not going to live forever.
- The bridge crossing needs special attention. A separate bridge would be best.
- Great project. This will be heavily used. Like the north alternative a bit better.
- Please finish the design fast and look for funds to get this constructed.
- The Friends of Edward Ball Wakulla Springs State Park fully support this trail project.
- The McBride Slough is an environmentally sensitive feature, please protect this area without disturbing its present use.
- Prefer bike trail on south side – keep traffic out of the neighborhoods.
- It is a great idea. I vote for the north side, ease of construction.

- I am all in, full speed ahead. I like the section that goes into the woods along the north side of Edward Ball Wakulla Springs Park.
- Prefer the north alternative. Plant trees after construction for more shade.
- I like the reconfigured SR 267/Shadeville Road intersection.
- I have studied the corridor many times and suggest the trail be located on the north side of the road until Rosa Shingles and then cross over to state property.
- I believe in bicycle rights.

In addition to the comment form, comments were collected via sticky notes on the project aerial maps and are summarized below:

- Want trail option that connects with Rosa Shingles Trailhead.
- 50-50 North or South. I vote for the quickest construction.
- Plant trees after trail is constructed.
- Slight preference for north alternative, less crossings and fewer driveways.
- There needs to be a separate bridge for bikes. No compromise please.
- Kudos to the designers for section of the path on service road.
- I like no power poles. Plant trees for north side route.
- I like shade and less intersections. I like the south side route.
- Please choose the side with the most shade.

## Recommended Alternative

After considering input from the public and stakeholder engagement, and considering engineering, environmental, and constructability factors, Alternative 1: Park Service Road/North Side of SR 267 including a separate bike/pedestrian bridge is recommended to advance to final design.

## Next Steps

FDOT has programmed design for the SR 267 Bike/Path Trail within the Five-Year Work Program [FDOT OWPB - WP Reports; 5 Year Work Program Item Detail \(state.fl.us\)](#). The current schedule shows the Notice to Proceed (NTP) starting January 2024 and completing final design in April 2025. Construction funding has not been programmed at this time.