



Wakulla Park Drive



Option 3 Wakulla Park Drive After

EDWARD BALL WAKULLA SPRINGS STATE PARK

ALTERNATE MULTI-USE TRAIL ROUTE STUDY

JANUARY 4, 2021

PREPARED FOR



HALFF



EDWARD BALL WAKULLA SPRINGS STATE PARK ALTERNATE MULTI-USE TRAIL ROUTE STUDY

Prepared for:

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PROJECT PURPOSE, GOALS AND OBJECTIVE

The purpose of this analysis is 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 (the Park) and review potential alternatives for a primary accessway for visitors traveling on bicycles to enter the park. The goal is to determine the most practical and scenic options for routing and alignment with the least amount of impacts to the existing manmade elements and the natural landscape setting. The primary objective is 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.

EXISTING TRAILS AND PATHWAYS ANALYSIS

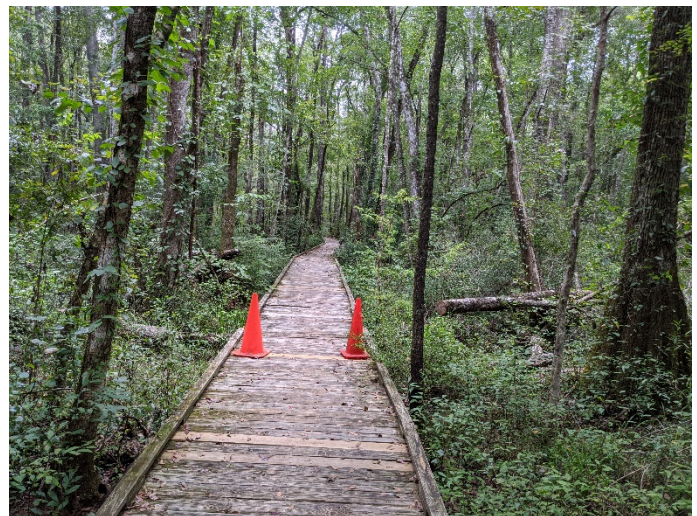
Currently, Wakulla Springs State Park offers a diversity of trail types for public use (Reference Exhibit 1). The Sally Ward trail, beginning at the trailhead near the Lodge, is 6 miles in length. This trail provides for hiking, biking and equestrian use. The first half mile of this trail from the trailhead to the Sally Ward Spring Run Bridge hosts the Tree Walk with markers identifying tree species, many of which are national champion trees. For those desiring equestrian use, the eastern loop of the Sally Ward Trail provides approximately 2.5 miles and a horse trailer parking area is located off County Road 365 on Rock Road.

The Hammock Spur Trail is a woodland hiking trail 0.9 miles in length. The primary segment of this trail runs between County Road 61 and Wakulla Park Drive. Two trail crossings on Wakulla Park Drive provide a connecting loop back to the Sally Ward Trail.

Generally, existing trail surfaces range from 4 to 6 feet in width. Clearing widths vary from 6 to 8 feet. The primary trail surface through upland forest areas is the natural woodland soils, providing a stable, sandy surface. Where wetland areas are encountered in association with the designated hiking and biking areas, elevated boardwalks are utilized. Most of the boardwalks are less than 30 inches off grade and are fitted with a toe rail on the perimeter edges.



Existing Wakulla Woodland Trail



Existing Wakulla Woodland Trail Boardwalk

Boardwalks more than 30 inches off grade are equipped with perimeter barrier rails for user safety. The condition of the existing elevated boardwalk systems within the park vary; many segments are nearing their economic life.

The bridge over the Sally Ward Spring Run is a single span steel structure with wood decking. The structure appears to be in good condition.



Sally Ward Spring

REGIONAL MULTI-USE TRAILS

In 2009, Wakulla County submitted an application to the Capital Region Transportation Planning Agency (CRTPA) to fund a Wakulla County Bicycle and Pedestrian Facilities Master Plan under the Transportation Enhancement Program with funding through the Florida Department of Transportation (FDOT).

The Wakulla County Bicycle, Pedestrian and Blueways Master Plan was prepared in 2012. The Plan builds on existing transportation facilities and identifies potential projects to develop a viable transportation network for bicyclists and pedestrians in Wakulla County. The network also addresses connectivity to Wakulla County schools; identifying projects that would be appropriate for Safe Routes to Schools Program funding. In addition to routes that provide safe access to schools, the Master Plan identifies safe pathways and trails that would provide connectivity with parks and related recreational facilities. Blueways, considered a viable recreational and ecotourism opportunity, were also assessed and included in the Master Plan.

The Bicycle Element of the Master Plan, identifies and proposes a trail connection from the St. Marks Trail extending westerly along SR 267 (noted as the Bloxham Cutoff) to an existing trailhead on the north side of SR 267 at the intersection with Rosa Shingles Road. This trailhead currently provides access to the system of recreational trails in the southern portion of the Wakulla State Forest (Reference Exhibit 2). This location is approximately 1.8 miles east of the main entrance to Wakulla Springs State Park. Further, the Bicycle Element of the Master Plan (Bicycle Facility Recommendations) illustrates a future extension of the SR 267 trail westerly to Springhill Road and the Leon County line.

ALTERNATIVE MULTI-USE TRAIL ROUTE ANALYSIS

Regional Trail Connectivity

An existing service road located within the northern boundary of the Park parallels SR 267. There is a gated access to this road from SR 267 located approximately .35 miles west of the existing trailhead previously noted at the intersection of Rosa Shingles Road. The service road extends westerly from the access point on SR 267 for approximately 1.45 miles and connects to Wakulla Park Drive at a location just behind the existing park entry gates (Reference Exhibit 3).

The 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 feet. Considering this road is in place and available for use, the impacts to converting the current section to a paved, multi-use trail would presumably be far less than building a trail from the trailhead at Rosa Shingles Road to the park entrance within the right-of way of SR 267. As well, 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 the Rosa Shingles trailhead site, a bicycle/pedestrian crossing on SR 267 will likely be necessary for access to Wakulla Springs Park.



Existing Service Road

As noted above, the service road trail would connect cyclists directly with Wakulla Park Drive. Although they would be sharing the entrance road with automobiles, this scenario would maintain access through the Ranger Station.

Park Interior Connectivity

Wakulla Park Drive

Wakulla Park Drive is the current primary entry and exit for park visitors. From the entrance on SR 267, it is approximately 1.6 miles to the Lodge. Wakulla Park Drive is a potential route for cyclist entering the park; however, as noted previously the cyclists would be sharing roadway with automobiles. There are options for consideration that would allow both cyclists and automobiles to access the park via Wakulla Park Drive.

One option would be to maintain the existing traffic patterns with cyclists and automobiles sharing lanes. Shared lane markings (sharrow) would be required under this scenario. The challenge associated with this option is controlling automobile speeds to a level that would ensure the comfort and safety of cyclists.

Another option to reduce or mitigate the conflicts with automobiles while maintaining the existing traffic patterns would be to expand the pavement section of Wakulla Park Drive creating a dedicated lane (paved shoulder) for cyclists. Although this scenario would enhance safety for cyclists, the environmental impacts and overall cost to achieve this will be significant and potentially not permissible. Further detailed engineering analysis would be required to determine the feasibility of this option.

Alternatively, a hybrid scenario to provide access for cyclists and automobiles would be to

reconsider the current traffic patterns for visitors entering and exiting the park (Reference Exhibit 3). The existing roadway section of Wakulla Park Drive is 20 feet. This option would propose maintaining a 10-foot wide, one-way entry only lane for automobiles and convert the existing vehicle exit lane to a 10-foot wide bicycle trail for cyclists to enter and exit the park. This proposed roadway section would continue to the location where Wakulla Park Drive intersects the park access drive from County Road 61. At this juncture, the one-way auto access/bike trail would continue via the left loop road to the Lodge. The existing right loop road providing access to parking areas would remain as two-way traffic. All visitors in automobiles would exit the park site via the driveway connection on County Road 61. This scenario would require an improved gated access on CR 61 to provide for lodge guests to enter and exit after hours and to provide for service vehicles.

Hammock Spur/Sally Ward Trail

Another scenario for consideration utilizing the existing traffic patterns would be to maintain shared lanes for cyclists and automobiles from the entry of Wakulla Park Drive through the Ranger Station to the junction with the Hammock Spur trail. The first trail crossing of the Hammock Spur on Wakulla Park Drive is just .35 miles beyond the Ranger Station. From this location, the Hammock Spur runs northeasterly for a short distance and then turns southerly to connect with the Sally Ward Trail. The Sally Ward Trail loops to the south and continues to the trailhead at Wakulla Springs Lodge. Utilizing the Hammock Spur and Sally Ward Trails as primary connection to the Lodge would place cyclists in the core area of the park. There are opportunities and constraints to this approach that should be carefully considered.

Opportunities: These trails are in place and the impacts related to their initial construction has been mitigated. Their alignments primarily traverse upland hardwood forest areas, and a few segments cross through and are adjacent to floodplain swamps comprised of maple-cypress habitats. There is an abundance of plant and animal species for the trail user to observe and enjoy.

Constraints: As previously noted, these trails are narrow. Intended primarily for hiking, the on-grade pathways vary from 4 to 6 feet in width, in clearings ranging from 6 to 8 feet wide. The existing on-grade trail surface is generally native, sandy soils and organic matter, which is not an appropriate surface for cyclists on skinny-tired road bikes. Material options for creating a more durable trail surface would need to be considered. Based on the initial field review, creating a consistent 6-foot width throughout seems possible with minimal impacts to the existing habitat; however, a 6-foot width is not wide enough for a multi-use trail.

Where trail segments currently encounter wetland areas, elevated boardwalk systems are utilized. The boardwalk surfaces also vary in width from 4 to 6 feet. As noted for the on-grade trail sections, the opportunity to construct a consistent 6-foot wide boardwalk system throughout appears to be possible, with minimal impacts to the existing woodland habitat. Many of the existing boardwalk segments are nearing their economic life. Unfortunately, the existing environmental conditions where the boardwalks are located contribute to an accelerated decomposition of treated wood products. Consideration should be given to alternative materials in these settings that could provide expanded life cycle performance or permanent, maintenance-free solutions for the future use.

Construction of an 8-10 foot wide paved trail system for this alternative cyclist route would be ideal. However, based upon initial field observations, the potential impacts to the existing woodland habitat would be significant. Further engineering analysis would be required if this approach were to be considered.

County Road 61

There is access to Wakulla Springs State Park from CR 61. Today, this access is primarily utilized for service vehicles making delivery to the park. In the future, potential trail connectivity between Cherokee Sink and core area of Wakulla Springs State Park would potentially be from this location.

TRAIL DESIGN STANDARDS – MULTIUSE TRAIL

Trail design and construction would be in accordance with the Wakulla County Bicycle and Pedestrian Facilities Master Plan guidelines and FDOT design standards for multiuse trails.

PROJECT SUMMARY AND RECOMMENDATIONS

Summary

Policy Recommendations included in the Wakulla County Bicycle, Pedestrian and Blueways Master Plan (page 40) outline Provisions of Bicycling Facilities. This component states the County should adopt a complete streets policy sensitive to street context and include provisions for bicycle and pedestrian facilities on streets and establish a hierarchy for the types of facilities to be provided. The hierarchy is noted as follows:

- Provision of a 12-foot or wider multiuse trail where right-of-way is available.
- Provision of an 8 to 10-foot multiuse trail where a 12-foot multiuse trail is not feasible
- Designated bicycle lanes or paved shoulders on all roadways, where feasible.
- Shared lane markings (sharrow) on roads with speed limits below 35 miles per hour where bicycle lanes are not feasible.
- Speed limit of 20 miles per hour or less on residential streets.

In consideration of the above noted Policy Recommendations and this Alternative Multi-Use Trail Route Study for connection to Wakulla Springs State Park, the Bicycle Element of the Master Plan (page 34, Figure 13: Corridor 5-SR 267) identifies and proposes a trail connection from the St. Marks Trail extending westerly along SR 267 to the existing trailhead on the north side of SR 267 at the intersection with Rosa Shingles Road. For this corridor, a 10 to 12-foot multiuse trail is proposed. The specific alignment, either the north or south side of the road, is yet to be determined. When completed, this trail will provide regional connectivity from the east to within 1.8 miles of Wakulla Springs State Park. Options for trail connection from the existing trailhead noted above to the entrance of Edward Ball Wakulla Springs State Park include extension of the Bloxham Cutoff Trail within the right-of way of SR 267 or utilization of the existing service road within the Park.

On November 2, 2020, a virtual meeting was held with Greg Slay, CRTPA Executive Director to review and gain insight into the facilitation of these options for the future trail from the St. Marks

Trail along SR 267 to Wakulla Springs State Park. Discussions were fruitful in consideration of utilizing the existing park service road as the connecting corridor based on the following conditions:

1. The Edward Ball Wakulla Springs State Park Unit Management Plan will need to be updated to specifically identify the multi-use trail alignment location along the existing park service road.
2. The multi-use trail will need to be 10 to 12 foot wide paved trail
3. The proposed multi-use trail must remain open 24 hours per day – 7 days per week for public use (cannot be gated).
4. The existing park perimeter fence and access gates along the corridor would need to be shifted south of the trail.
5. The details of these conditions would be established in a joint project agreement between CRTPA, FDEP and FDOT.

The advantages of utilizing the service road are availability, natural buffering from the traffic on SR 267, and access within the vicinity of the park's entry gates. All visitors, cyclists and motorists would be controlled through the Ranger Station. From the Ranger Station, four options are presented for cyclists to access the core area of the park and are outlined as follows:

Option 1 (Shared Traffic Lanes)

Cyclists and automobiles would share the existing traffic lanes. Shared lane markings would be required. Reducing automobile speeds to enhance safety for cyclists should be considered.



Sharro

Option 2 (Widen Pavement for Multi-use Trail)

Widen the existing pavement section creating a designated bike lane for cyclists. Further detailed engineering analysis will be required to determine environmental impacts, cost and constructability. (Reference Exhibit 4)

Option 3 (Convert Lane to Bicycle Trail)

Convert the existing Wakulla Park Drive two-way automobile traffic pattern to a 10-foot wide, one-way, entry only lane for automobiles and a 10-foot wide bike trail for cyclists to enter and exit the park. Continue this traffic pattern to the location where Wakulla Park Drive intersects the park access drive from County Road 61 and beyond to the Lodge via the left loop road. Maintain the existing right loop road as two-way traffic. All vehicles would exit the park site via the driveway connection on



Road Perspective

County Road 61. A gated access on CR 61 would be required to allow lodge guests to enter and exit after hours and to provide for service vehicles (Reference Exhibit 5).

Option 4

Utilize a shared lane scenario from the park entry, through the Ranger Station to the point of connection with the Hammock Spur Trail crossing. Upgrade the Hammock Spur and Sally Ward Trails to provide a minimum 10-foot wide trail system with appropriate surfacing for cyclists. Both trails would maintain their existing alignments, terminating at the existing trailhead located in the vicinity of the Lodge. Further detailed engineering analysis will be required to determine environmental impacts, cost and constructability.



Example Woodland Multiuse Asphalt Trail



Example Elevated Concrete Plank

Recommendations

Regional Connectivity to Wakulla Spring State Park

Based on the meeting with Greg Slay, CRTPA Executive Director, utilization of the existing service road located within the northern boundary of Wakulla State Park which parallels SR 267 is a viable corridor for connecting Wakulla Springs State Park to the trailhead at Rosa Shingles Road. The Rosa Shingles Trailhead currently provides access to the system of recreational trails in the southern portion of the Wakulla State Forest. Administrative and operating conditions relating to this approach include updating the Park's Unit Management Plan to reflect the proposed trail alignment, relocation of the existing park boundary fence and maintenance access gates to the south side of the trail, provisions for a paved trail 10 to 12 feet in width; and public access to the trail at all times (Reference Exhibit 3).

The PD&E study for the Bloxham Cutoff and trail connection to Wakulla State Park is scheduled to begin in the late 2021. Trail design and construction will require a joint project agreement between the CRTPA, FDEP, and FDOT.

Park Interior Connectivity

Option 3 noted above was presented to Amy Conyers, Park Manager and Staff on November 6, 2020 and was met with favorable review (Reference Exhibits 3 and 5). This option proposes converting the existing Wakulla Park Drive two-way automobile traffic pattern to a 10-foot wide, one-way, entry only lane for automobiles and a 10-foot wide bike trail for cyclists to enter and

exit the park. All vehicles would exit the site via the County Road 61 drive connection. Service vehicles would continue to enter and exit the site from County Road 61. Signage would be needed at the exit on County Road 61 to guide patrons leaving the park to area roadway connections.

This scenario would control access for cyclists and automobiles through the Ranger Station. Fee collection could occur on both sides of the Ranger Station, expediting visitor access during peak hours.

Support Facilities

In consideration of creating a future 10-foot multiuse trail within the existing roadway sections of Wakulla Springs State Park, a designated bicycle parking area near the Lodge is recommended. The parking area should be designed in association with an identifiable trailhead kiosk and comfort station with available drinking water and seating. Picnic shelters are also recommended and would be available to all park users. A larger pavilion (6 tables) should be considered near the comfort station to facilitate group cyclist events. Two or three smaller shelters (2 tables) are recommended in the vicinity of the trailhead to provide for a diversity of park users.



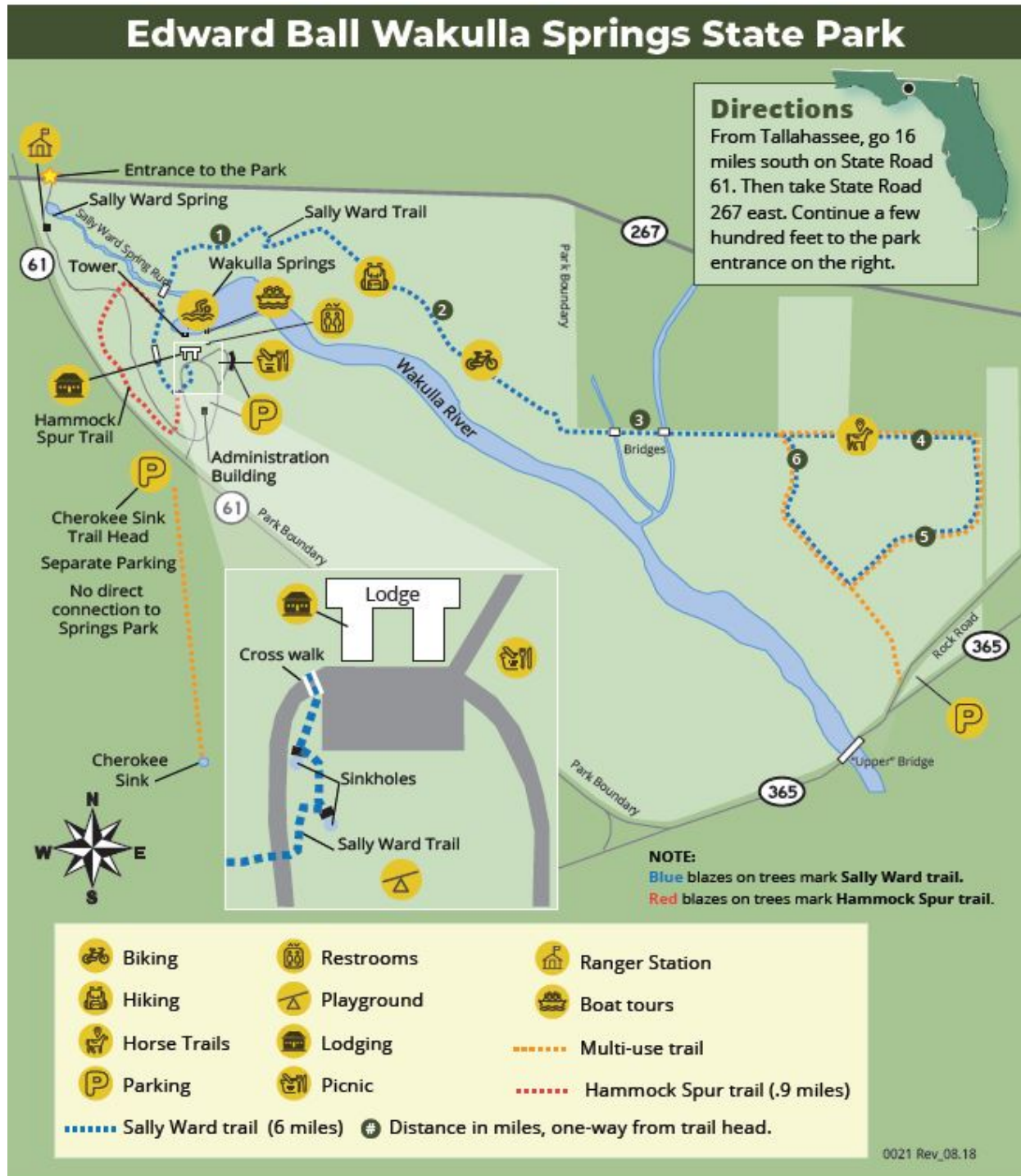
Example Picnic Shelter



Example Trailhead Comfort Station

EXHIBIT 1

WAKULLA SPRINGS EXISTING TRAILS MAP





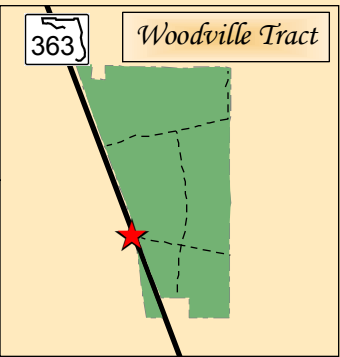
Wakulla State Forest

4,897 Acres

EXHIBIT 2



8 Mile Tract

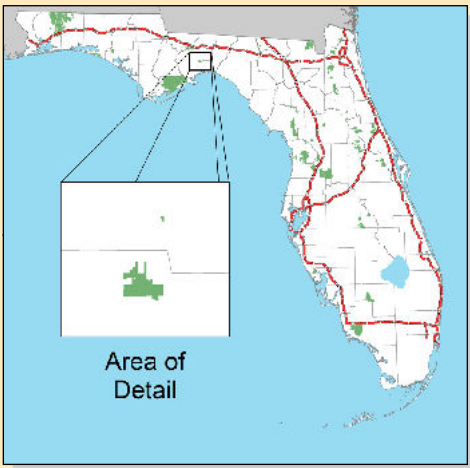


LEON
WAKULLA

61

Finner Rd.

Staten Rd.



Area of
Detail

North Chattin Rd.

McPhaul Rd.

McBride Slough Rd.

Chattin Road

Chinquapin Trail

H. O. Franklin Rd.

Rosa Shingles Rd.

Nemours Rd.

Caprock Rd.

Double Springs Rd.

Double Springs Rd.

DISCLAIMER
This map is the product of the Florida
Forest Service. No warranties are
provided for data therein, its use, or its
interpretation.

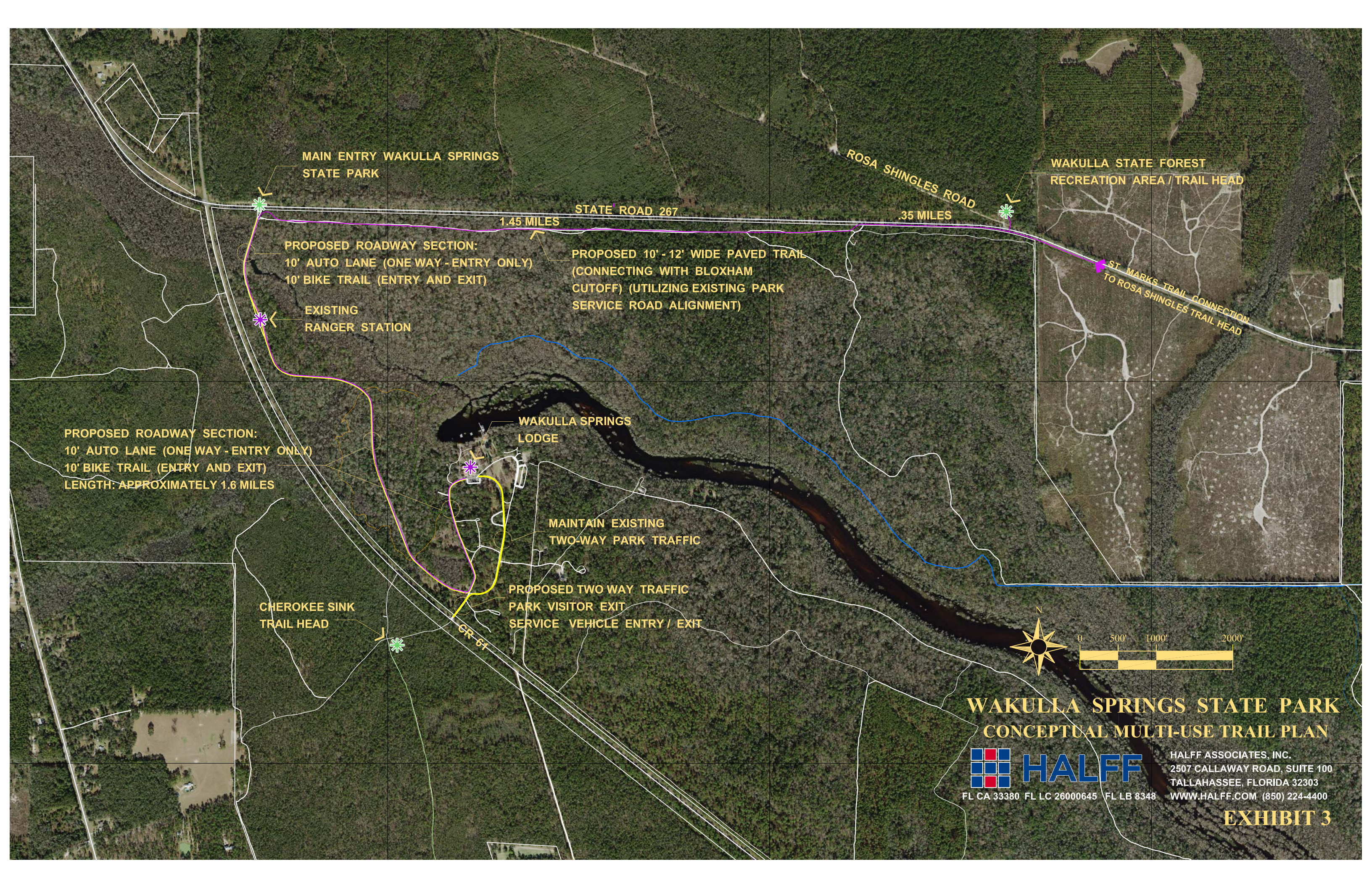
Legend

- | | | | | | |
|--|-----------------|--|-----------------------------------|--|--|
| | Recreation Site | | Nemours Trail ~1.75 M. | | |
| | Office | | Petrik Spur Trail ~1 M. | | |
| | Hiking | | Double Springs Trail ~4.5 M. | | |
| | Equestrian | | Hiking only | | |
| | Biking | | Road Open to
Licensed Vehicles | | |
| | Picnic Shelter | | Roads open to non-vehicular use | | |
| | Picnic Area | | | | |

Map Date 2016/04, sd

0 0.25 0.5 Miles

Wakulla Springs State Park



MAIN ENTRY WAKULLA SPRINGS
STATE PARK

STATE ROAD 267

ROSA SHINGLES ROAD
.35 MILES

WAKULLA STATE FOREST
RECREATION AREA / TRAIL HEAD

1.45 MILES

PROPOSED ROADWAY SECTION:
10' AUTO LANE (ONE WAY - ENTRY ONLY)
10' BIKE TRAIL (ENTRY AND EXIT)

PROPOSED 10' - 12' WIDE PAVED TRAIL
(CONNECTING WITH BLOXHAM
CUTOFF) (UTILIZING EXISTING PARK
SERVICE ROAD ALIGNMENT)

EXISTING
RANGER STATION

ST. MARKS TRAIL CONNECTION
TO ROSA SHINGLES TRAIL HEAD

PROPOSED ROADWAY SECTION:
10' AUTO LANE (ONE WAY - ENTRY ONLY)
10' BIKE TRAIL (ENTRY AND EXIT)
LENGTH: APPROXIMATELY 1.6 MILES

WAKULLA SPRINGS
LODGE

MAINTAIN EXISTING
TWO-WAY PARK TRAFFIC

PROPOSED TWO WAY TRAFFIC
PARK VISITOR EXIT
SERVICE VEHICLE ENTRY / EXIT

CHEROKEE SINK
TRAIL HEAD

CR 64



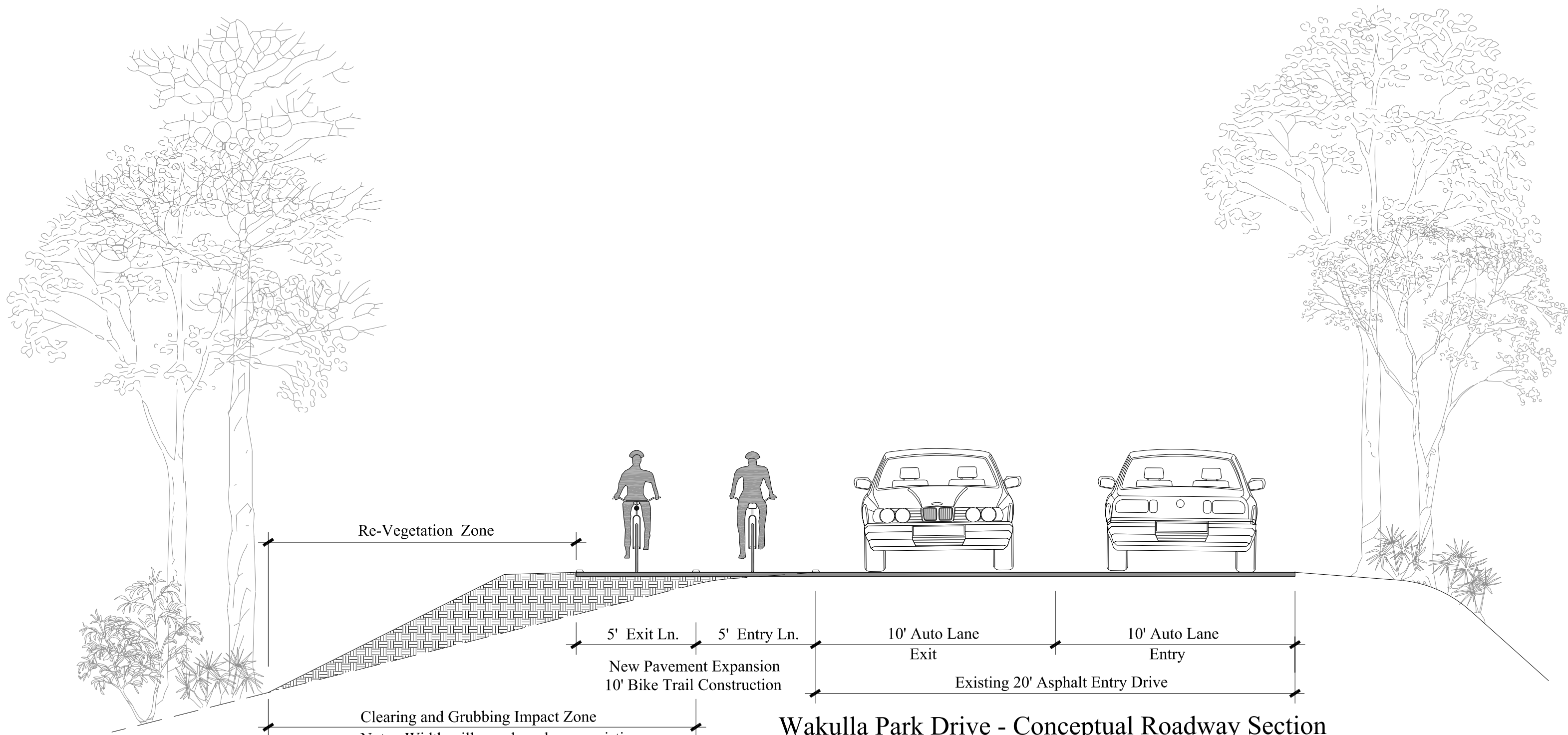
WAKULLA SPRINGS STATE PARK CONCEPTUAL MULTI-USE TRAIL PLAN



FL CA 33380 FL LC 26000645 FL LB 8348

HALFF ASSOCIATES, INC.
2507 CALLAWAY ROAD, SUITE 100
TALLAHASSEE, FLORIDA 32303
WWW.HALFF.COM (850) 224-4400

EXHIBIT 3



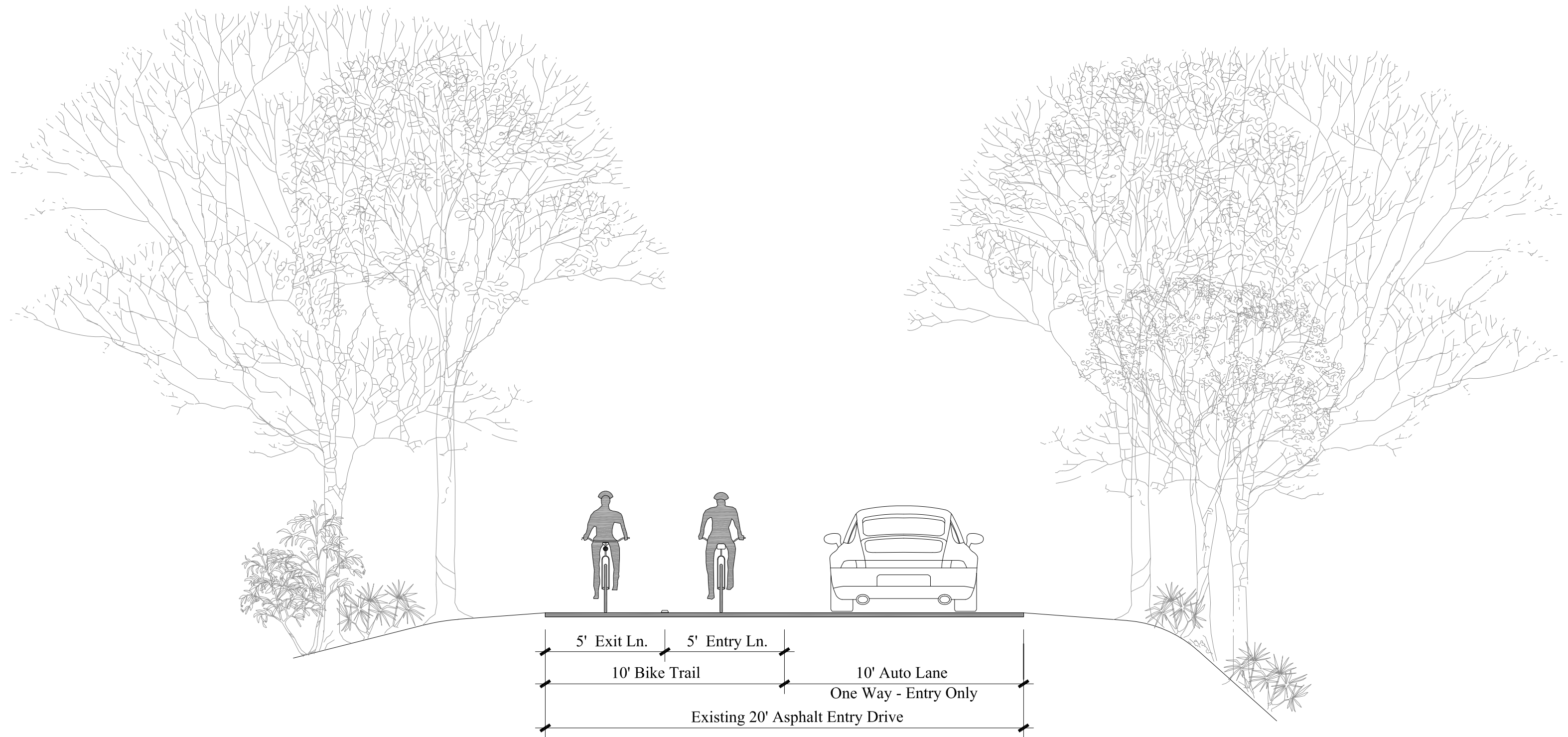
Note: Width will vary based upon existing grade conditions. Retaining walls may be required where wetland / cross drainage occurs.

Wakulla Park Drive - Conceptual Roadway Section

1/4"=1'-0" Paved Shoulder / Bike Trail Construction



EXHIBIT 4



Wakulla Park Drive - Conceptual Roadway Section

1/4"=1'-0"



EXHIBIT 5