



# Wekiva River Basin Commission

IMPLEMENTATION PROGRESS REPORT

2017



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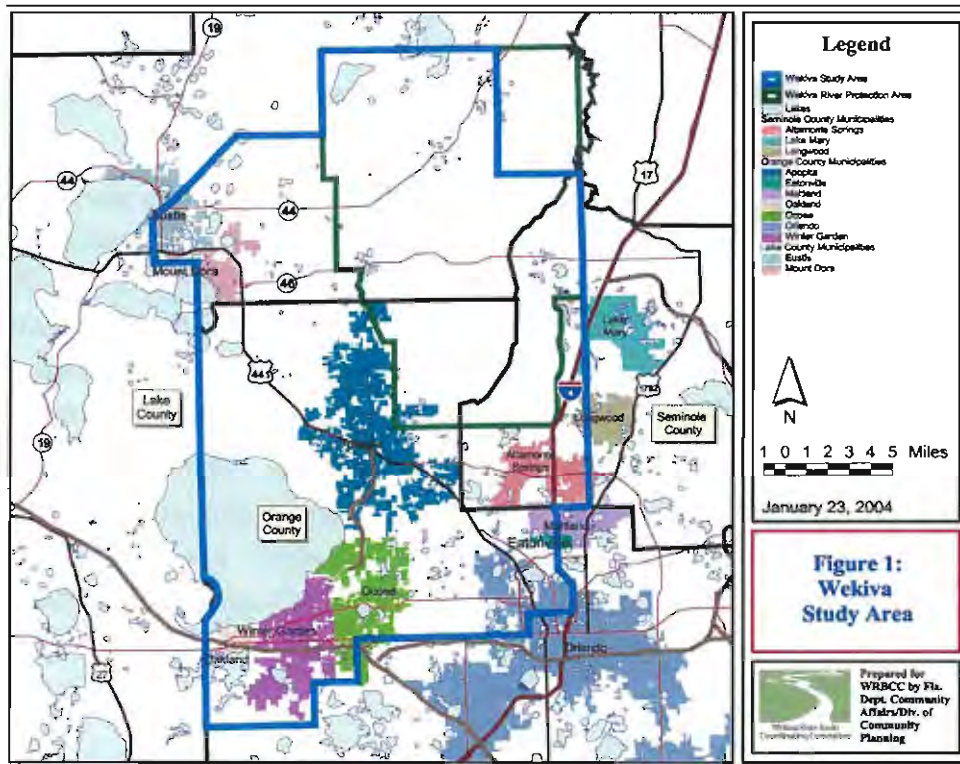
# INTRODUCTION

## BACKGROUND

Governor Bush signed the Wekiva Parkway and Protection Act (Chapter 2004-384, Laws of Florida) into law on Tuesday, June 29, 2004, at Wekiwa Springs State Park in Apopka. The law implements the recommendations of the Wekiva River Basin Coordinating Committee and authorizes designing and building the Wekiva Parkway, completing the beltway around Orlando while ensuring the protection of the Wekiva River system.

Over a six-month period, the Wekiva River Basin Coordinating Committee discussed the best way to protect the fragile spring-fed Wekiva River Basin while ensuring regional transportation, growth management and water resource needs are met. The Committee used a regional collaborative approach to produce consensus recommendations that focus and coordinate agency and local government activities to bring a higher level of planning and springs protection to the Wekiva River Basin. This regional and collaborative method for growth management planning has become a model that is being implemented in other areas of the State. The Committee was also responsible for delineating the Wekiva Study Area.

Figure 1 – Wekiva Study Area



An appropriate portion of land area that contributes surface and groundwater to the Wekiva River system was the criteria used to create the Wekiva Study Area. There are 15 local governments included in the Wekiva Study Area: Orange County and the municipalities of Maitland, Eatonville, Orlando, Ocoee, Winter Garden, Oakland and Apopka; Seminole County and the municipalities of Lake Mary, Longwood, and Altamonte Springs; and Lake County and the municipalities of Eustis and Mount Dora.

The Wekiva Parkway and Protection Act authorized the Central Florida Expressway Authority (CFX, formerly Orlando-Orange County Expressway Authority, OOCEA) to act as a third party acquisition agent on behalf of the Trustees of the Internal Improvement Trust Fund and the St. Johns River Water Management District (SJRWMD) to acquire three parcels of land identified by the Committee to provide buffer areas along the Parkway corridor. Acquisition of these parcels was to begin no later than December 21, 2004, and be completed no later than December 31, 2010. The CFX was authorized to construct and finance the Wekiva Parkway and an associated connector road.

Required studies and regulatory measures designed to protect the natural resources of the Wekiva Study Area include:

- The *Florida Department of Environmental Protection* (FDEP) requirement to prepare a study on Water Quality and Wastewater Standards by December 1, 2004. Based on the results of the study, the Department was to initiate rulemaking by March 1, 2005, or recommend additional statutory authority to achieve nitrogen reductions protective of the surface and groundwater quality of the Wekiva Study Area; and establish Total Maximum Daily Loads by December 1, 2006.
- The *Florida Department of Health* (FDOH) requirement to prepare a study on On-site Disposal Systems Treatments Standards and Implementation of Septic Tank Maintenance and Inspection Program by December 1, 2004. Based on the results of the study, and if deemed necessary, the Department was to initiate rulemaking by March 1, 2005, or recommend additional statutory authority to address nitrogen reduction through appropriate on-site disposal standards.
- The *St. Johns River Water Management District* (SJRWMD) requirement to initiate rulemaking for pre- and post-development standards for stormwater and consumptive use thresholds by March 1, 2005; establish Pollution Load Reduction Goals for the Wekiva Study Area by December 1, 2005; and update minimum flows and levels for Rock Springs and Wekiwa Springs by December 1, 2007.

- The *Florida Department of Community Affairs* (FDCA), now Florida Department of Economic Opportunity (FDEO) and the SJRWMD were to coordinate and ensure the adoption of comprehensive plan amendments by January 1, 2006, and land development regulations by January 1, 2007, which address stormwater, wastewater and land use issues as they relate to the Wekiva Study Area.
- The creation of a 19-member *Wekiva River Basin Commission* appointed by the Governor, to monitor and ensure implementation of the recommendations of the Wekiva River Basin Coordinating Committee. The East Central Florida Regional Planning Council is charged with providing staff support.

## 2017 IMPLEMENTATION ACTIVITIES

The Wekiva River Basin Commission continued its work through 2017 to complete the remaining recommendations of the Wekiva River Basin Coordinating Committee. Some highlights:

1. CFX opened its first five miles of the parkway on July 27, 2017. The ribbon cutting celebration drew about 200 officials and community members, as well as heavy, positive media coverage.
2. FDOT crews have begun driving bridge pile and installing sheet pile wall alongside the Wekiva River in December. FDOT and the project team continued to coordinate closely with the Florida Department of Environmental Protection regarding work at the river.
3. The Implementation Verification rule became effective on November 1, 2017 and the program will be a component of the FDACS BMP program.

## REPORT FORMAT

This report describes the progress made by the Wekiva River Basin Commission during 2017 in ensuring the implementation of the recommendations of the Wekiva River Basin Coordinating Committee. The Committee's Final Report outlines seventeen (17) recommendations related to construction of the Wekiva Parkway and protection of the Wekiva River Basin's natural resources. This document reports the progress made on each recommendation during the year. The corresponding portion of the Wekiva Parkway and Protection Act is noted for those recommendations with an associated statutory requirement.

# PROGRESS TOWARD MEETING RECOMMENDATIONS OF THE WEKIVA RIVER BASIN COORDINATING COMMITTEE

## RECOMMENDATION 1 – WEKIVA PARKWAY PLANNING AND DESIGN

Section 369.317 (1-5) of the *Wekiva Parkway and Protection Act (Wekiva Act)* provides for construction of the Wekiva Parkway consistent with proposed corridor and design guidelines identified in Recommendation 1 of the *Wekiva River Basin Coordinating Committee Final Report*. This effort is co-managed by CFX and FDOT.

CFX initiated the Project Development and Environmental (PD&E) study for the Parkway in January 2005, collecting data and performing background studies necessary for examining suitable alignments and potential community and environmental impacts. Federal standards for conducting the study are being followed, which will preserve the right to use federal funds for right-of-way (ROW) acquisition and construction. In 2007, the PD&E Study presented the recommended alignments, and then moved into a succession of public meetings to possibly refine the alignments to address community concerns in Orange, Lake, and Seminole Counties.

Coordination with the Federal Highway Administration and the State Historic Preservation Office continued throughout 2008, 2009 and most of 2010 in order to address the historic resources in the project corridor. In 2009, a feasibility study was undertaken by FDOT to determine the feasibility of a trail to be located in conjunction with the Parkway. The study was finalized in 2010.

During 2009 and 2010, the FDOT and Expressway Authority continued to work with cities and counties to address specific concerns with the parkway interchanges and other engineering issues, as well as discussions on parkway funding options between FDOT and the Expressway Authority. On December 17, 2009 a public meeting was held in Sorrento to discuss a service road concept for East Lake County. In early 2010, after further coordination with stakeholders, the service road was incorporated into the preliminary design concept.

The Florida Department of Environmental Protection, Department of Agriculture and Consumer Services Division of Forestry provided FDOT and CFX signed Section 4(f) concurrence letters for the Wekiva Parkway and the Programmatic Section 4(f) Evaluation for Public Lands was accepted by FHWA. The Draft Section 106 Case Study for two historic resources was sent to the State Historic Preservation Office for review and comment. In October 2011, Section 106 was approved by the State Historic Preservation Office and accepted by the FHWA.

In August 2010, FHWA approved the Environmental Assessment document for public availability, allowing public hearings to be scheduled by FDOT and CFX. Public hearings were held on October 26 in Apopka, October 27 in Mount Dora, and October 28 in Sanford. The public comment period, after the public hearing, closed on November 8, 2010. Some key points noted during the hearings included:

- Number of alignments considered (52 in Orange County, 10 in Lake County, and 6 in Seminole County)
- Final Recommended Alignments
- Cross sections of roadway
- Next steps

In August 2010, Seminole County Board of County Commissioners, the Seminole County Expressway Authority, and the Lake County Board of County Commissioners approved inter-local agreements with CFX enabling the Expressway Authority to build, operate and maintain the Wekiva Parkway. On June 20, 2014, Governor Rick Scott signed SB 230. The Central Florida Expressway Authority took over the Orlando-Orange County Authority, including E-PASS and incorporates representation from Lake, Osceola, and Seminole counties into a larger, regional tolling authority.

On May 29, 2012 FDOT signed a Memorandum of Understanding (MOU) formalizing the agreement with CFX to build the Wekiva Parkway. The MOU outlined the general understanding of the agencies concerning the financing, production, acquisition, design, construction, ownership operation, management and maintenance of the Wekiva Parkway. The signing of the MOU marked the last major hurdle toward making the long-sought vision of completing the beltway around metropolitan Orlando a reality. The MOU was approved by the boards of CFX, MetroPlan Orlando, and Lake Sumter MPO.

The following steps required for finalization of all alignments for the Parkway were accomplished by end of 2012:

- Received approval from CFX (formerly Orlando-Orange County Expressway Authority) Board;
- Gained Federal Highway Administration (FHWA) approval;
- FDOT and FHWA approval of SR 417/I-4 Interchange Modification Report;
- Gained State Historic Preservation Office approval;
- Completed the Engineering and Environmental Documents; and
- Scheduled and held public hearings.



Updates for these Requirements for full authorization of the Parkway are below:

## **SECTION 106 AND SECTION 4(F) FOR HISTORIC RESOURCES**

- **Memorandum of Agreement (MOA)**

CFX and FDOT prepared the Memorandum of Agreement (MOA) in June 2011 to address mitigation of impacts to two Section 106 historic resources. After review and concurrence, FHWA and the State Historic Preservation Officer (SHPO) executed the MOA in July 2011.

- **Section 106 Case Study**

After the MOA was executed, CFX and FDOT prepared the final Section 106 Case Study of the two historic resources for review by the SHPO and FHWA. The SHPO signed the sufficiency and concurrence form on October 18<sup>th</sup>, 2011. The revised final Section 106 Case Study was submitted to FHWA on November 17<sup>th</sup>, 2011 and approved.

- **Individual Section 4(f) Evaluation**

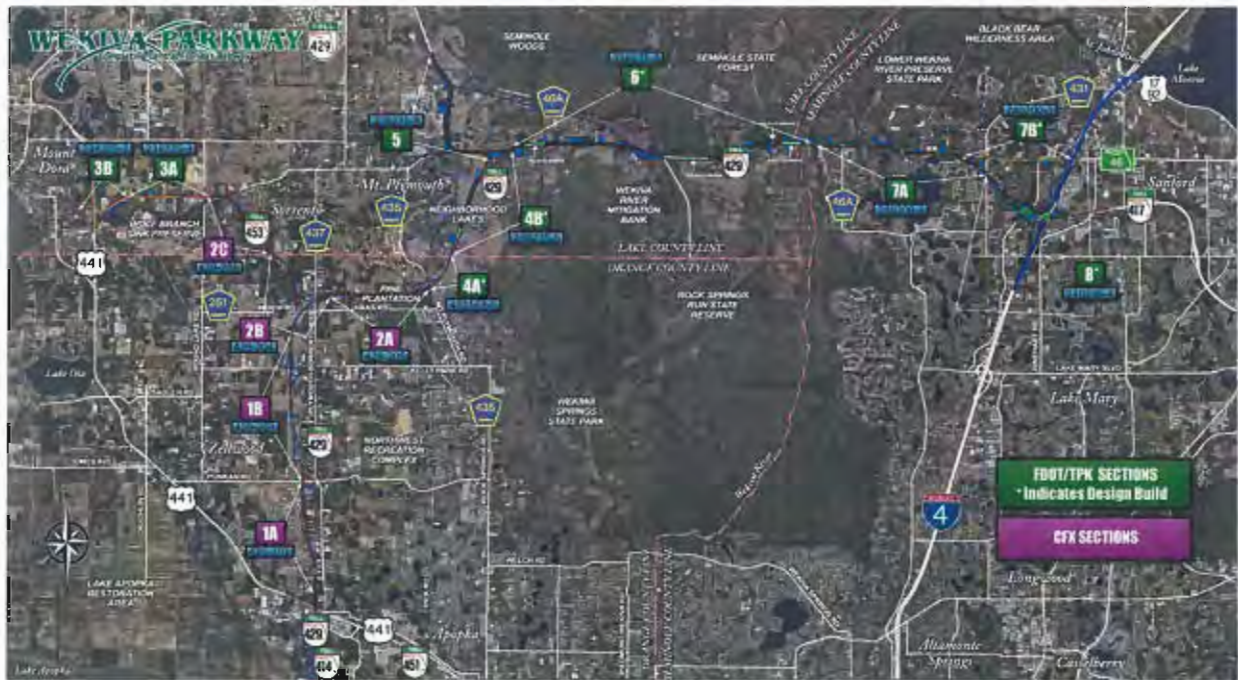
After receipt of SHPO concurrence, CFX and FDOT completed the final draft Individual Section 4(f) Evaluation for the two historic resources. The final draft document was submitted to FHWA on November 29, 2011. The final Individual Section 4 (f) was delivered in March 2012 and was approved and signed on May 11, 2012.

## **ENVIRONMENTAL ASSESSMENT (EA)**

- **EA and Finding of No Significant Impact (FONSI)**

CFX and FDOT revised the noise study information in the EA to meet new Federal requirements and preparing the draft FONSI. The EA and the FONSI was submitted to FHWA and approved in May 2012.

## DESIGN AND BUILD UPDATES



2012 Update:

In 2012, FDOT and CFX launched a joint Community Awareness Program that included creation of the [www.WekivaParkway.com](http://www.WekivaParkway.com) website to serve as a critical information resource. The program included proactive coordination with elected and appointed officials, presentations to community groups and events to update the media on the project.

FDOT began the process of design and build. By the end of 2012, segments of the parkway were in different stages of the process. As of the last Commission Meeting in October 2012: Sections 4A and 4B should have construction permits in December with the following permit activity: Army Corps of Engineering permit obtained; DEP issued a draft permit with the intent to issue; Gopher Tortoise and Burrowing Owl Permits in process. FDOT began final design of Section 3B in November 2012, and procurement was underway for Sections 3A and 5. Design firms were selected for Sections 6 and Section 7A. The connection interchange with I-4 will be the last section to move forward.

By the end of 2012, CFX's four segments were under design, with a design firm having been selected for the remaining section. Parkway design of each section was anticipated to take approximately 18-24 months.

## 2013 Update:



In January 2013, FDOT relocated more than 100 gopher tortoises per permit on Sections 4A and 4B. FDOT began construction on those design-build sections on Feb. 18, 2013. Project activities included proactive coordination with state parks and wildlife officials regarding debris burning, wildlife monitoring and other environmental considerations.

For the other parkway sections, work continued on design and to secure contractors for each segment; obtain the various permits including the Gopher Tortoise and Burrowing Owl Permits; continuing final design; and obtain ROW acquisitions (such as Kelly Park Crossing) for the various segments. In addition, the alignment near Red Tail subdivision was successfully readdressed via extensive coordination with community members and Lake County officials.

As part of the proactive Community Awareness Plan being implemented by both agencies, five public meetings covering nine project sections were conducted in 2013. The public workshops updated nearly 1,000 community members on the latest design plans.

To make sure the public was clear that the project was moving forward, a high-profile Wekiva Parkway Kick-off Event was held on July 10, 2013. The event also highlighted the intense environmental care with which the parkway has been planned through the Wekiva River Basin. To this end, the event included a tree planting ceremony by Governor Rick Scott, U.S. Congressman Daniel Webster and other state and local officials.



During design, FDOT continued the extensive coordination with the Wekiva River System Advisory Committee, made up of environmental agency and advocacy groups and area officials. This included engaging them in the design of the Wekiva Parkway Section 6 bridge over the Wekiva River during a stakeholder workshop on June 18, 2013 and Bridge Charrette No. 1 on Dec. 11, 2013.

Participants gave input on the shapes, colors and textures of the new Wekiva River Bridge planned as part of the Wekiva Parkway. They also discussed concerns about surrounding trees and wildlife, the health and use of the river and other potential project impacts.

#### 2014 Update:

FDOT conducted the final bridge charrette on January 28, 2014, during which the Wekiva River System Advisory Committee's ideas helped refine the Section 6 bridge design. The bridge design was featured at a public meeting open house on April 29, 2014 conducted by the FDOT to review the latest preliminary design plans for Wekiva Parkway Sections 5 & 6 in Lake County and a small portion of Seminole County. More than 220 people attended the meeting, with many providing positive comments about the bridge concept.

All told, three public meetings for six project sections in Lake, Orange and Seminole counties were held in 2014, drawing more than 460 attendees.

Construction on FDOT Sections 4A and 4B reached about 66% completion, including having paved the south end and driven pile for bridges at the floodplain and near SR 46. Work on these sections was expected to finish in late spring of 2015.



FDOT continued the permitting and design for its sections. FDOT in the summer of 2014 also began design for a multi-use trail to parallel Sections 4A and 4B in Orange and east Lake counties. The trail, which is funded for construction in 2017, would connect with a planned extension of the West Orange Trail, the planned Lake-Wekiva Trail and the trail planned along the non-tolled service road on Wekiva Parkway Section 6.

CFX finished permitting and design on three of its five parkway sections in 2014; the remaining sections were to complete design by spring of 2015. The agency continued acquiring the necessary property for the project. CFX, in coordination with FDOT and the FHWA, also submitted an application for Transportation Infrastructure Finance and Innovation Act (TIFIA) funding to accelerate Section 2 of the parkway. CFX in the summer of 2014 began the procurement process to select firms to oversee and build Sections 1A and 1B, scheduled to begin construction in 2015.

## 2015 Update:

In an action-packed year, FDOT prepared to open the first sections of the Wekiva Parkway, and the Central Florida Expressway Authority began construction on its first five-mile stretch.

FDOT progressed toward finishing design on most of its sections, with public meetings held to share the latest plans on Sections 7A in Seminole County, and Sections 5 and 6 in east Lake County. The meetings drew nearly 370 people. The Department began the plans update process for the sections having reached 100 percent design: 3A and 3B, 5 and 7A. FDOT also formally got underway with right of way acquisition for these sections.



Construction of FDOT Sections 4A and 4B was nearly complete, with crews having built the toll gantry and adjacent building, posted signs and laid the final layer of pavement. Wildlife already has been spotted using the floodplain bridge to

safely pass under the road during dry periods. Section 4 is built on the former Neighborhood Lakes parcel purchased for conservation. The environmental protections and aesthetics work is done, with crews having installed wildlife fencing, wildlife jump-outs, bat houses and placed landscaping.



The 3.14-mile segment from County Road 435 (Mount Plymouth Road) to SR 46 was on track to open in late January 2016. This section will



introduce Central Floridians to the parkway's all electronic tolling feature, which will provide the greatest customer convenience and traffic flow efficiency. Both agencies also have programs for those without transponders.

The Florida's Turnpike Enterprise this year held Toll Rate Rule Development Public Workshops, which the public could attend online or on site. The public workshops were held to present the proposed costs to drive the Wekiva Parkway and to receive input.

The Department began drafting the Request for Proposal for the Section 6 design-build project, which includes the project's signature Wekiva River Bridge. Preparations and

promotions also kicked off for the FDOT Industry Forum to be held on January 26, 2016 at the Sanborn Activity and Event Center in Deland. The Department is slated to advertise for bids from design-build teams for Section 6 in early May 2016.

After an extended and intensive application process, CFX on March 12, 2015 received a federal loan under the Transportation Infrastructure Finance and Innovation Act (TIFIA) Program for its portion of the parkway. The additional funding allowed CFX to move up the schedule to finish building its five sections from 2019, to January of 2018. The federal loan could potentially save more than \$260 million in bond interest payments.



CFX in June and August began building Sections 1A and 1B, respectively, from US 441 near Plymouth Sorrento Road to the planned interchange at Kelly Park Road. Prince Construction is building the \$56.1 million Section 1A and Superior Construction is building the \$46.6 million Section 1B.

The scale of the construction is impressive. Section 1A, for example, is in the process of installing 700 concrete bridge piers and more than 1 million cubic yards of embankment.



Work on this stretch is scheduled to finish in spring of 2017. The parkway will provide an alternative to commuters currently taking Plymouth Sorrento Road, Round Lake Round, CR 435 and US 441.



CFX this year finished design on Section 2, a five-mile stretch that includes the systems interchange northwest of Plymouth Sorrento Road and Ondich Road. CFX held a pre-construction Community Open House for Sections 2A, 2B and 2C on Sept. 24, 2015, which was attended by nearly 160 people.

Community members viewing the latest project maps and aesthetics exhibits learned that construction would begin on this estimated \$218 million segment in 2016.

Working with FDOT, CFX was able to clear the right of way for Sections 1 and 2 this year. CFX also began procuring firms to oversee and build Section 2. That includes awarding the contract to build the Section 2B systems interchange to Southland Construction, with a winning bid of \$79.6 million.



Environmental coordination continued in 2015, with project staff providing updates to the Wekiva River Basin Commission and the Wekiva River System Management Advisory Committee, as well as working closely with state and national environmental agencies and advocates. A major highlight: FDOT successfully secured National Park Service Concurrence in nine months for the Section 6 Wekiva River bridge design.

Throughout the year, both agencies continued to coordinate closely with local, state and federal officials, as well as engaged community members via a joint community awareness program. Community outreach including neighborhood and civic group presentations, youth groups, special events, and public meetings reached more than 5,300 officials and community members. The agencies also continued to expand the heavily used [www.wekivaparkway.com](http://www.wekivaparkway.com) website, adding construction update and FDOT Industry Forum pages. This crucial community resource, launched in June of 2012, had received nearly 100,000 visits from nearly 75,000 visitors through the end of 2015.

2016 Update:

### Community Coordination

As the first Wekiva Parkway sections opened and others began construction, CFX and FDOT remained committed to ensuring that the community had input into, understood and supported the project. The agencies continued to work in tandem to provide consistent project messaging to the public throughout the 25-mile corridor. To that end, CFX and FDOT conducted seven Joint Agency Public Involvement Coordination meetings in 2016.

Robust communications strategies this year included intensifying the Wekiva Parkway Youth Outreach and Education Program, by working with Lyman High School's engineering magnet program to provide an in-depth look at how CFX Sections 1A and 1B continue to take shape (*photo, right*). Project and agency staff also



participated in large-scale, back-to-school events. All told, we interacted with 1,337 teachers, students and their families using this strategy.

The agencies in 2016 also held a design update public meeting for Section 8 in March and an Access Management Public Hearing for Sections 3A, 3B and 5 in July. The gatherings drew more than 300 attendees. Project staff in 2016 presented updates to about 30 homeowners associations, business groups, cultural, civic and fraternal organizations, trade associations, directly educating and engaging more than 800 community members.



Outreach highlights included the Department holding the first Industry Forum for its portion of the parkway, with nearly 300 attendees (*photo, left*). The agencies continued working with various environmental and other agency personnel, municipal staff and providing briefings and board presentations to elected officials to update them on the project.

Communications were ongoing with environmental advocates, including those serving on the Wekiva River Basin Commission (WRBC). The agencies provided project updates to the WRBC in March, August and December (*photo, right*). Due to robust and proactive media relations, the parkway also generated extensive media coverage – including in a national publication, ENR – Engineering News Record – in 2016.



The various outreach strategies resulted in nearly 15,000 people getting direct, accurate information on the Wekiva Parkway. That figure is nearly triple the number of people directly communicated with in 2015.

The total direct outreach figure does not include those using the social media and website as vital sources of project information. The project website [www.wekivaparkway.com](http://www.wekivaparkway.com) in 2016 reached a milestone of 153,643 visits by 115,983



visitors since the site launched on June 15, 2012. The site continues to be an invaluable resource for community members interested in the details, benefits and progress of the project.

Project social media pages provided an even greater avenue for getting out important information in the last year. As of December 2016, there were 481 Facebook and 339 Twitter followers. Compared to the end of 2015, that's an increase of 228 followers – or up nearly 111 percent – for Facebook, and 68 more followers, or 25 percent, for Twitter.



### Florida Department of Transportation



After decades in the making, the Department on January 20, 2016 made history by opening the first stretch of the Wekiva Parkway, Sections 4A/4B, from County Road 435 (Mount Plymouth Road) near Haas

Road to State Road 46 east of Camp Challenge Road (*photos, left and below right*). Construction began on this three-mile stretch in February 2013. FDOT started with this \$25.48 million section because all of the property needed had been acquired.

Section 4 lies on the 1,600-acre former Neighborhood Lakes property, one of several large parcels purchased for conservation as mandated by the 2004 Wekiva Parkway & Protection Act. Construction is to begin in 2017 on a multi-use trail along Section 4 that will connect to the planned Lake-Wekiva Trail and an extension of the West Orange Trail. The toll is \$0.75 for those with E-PASS or SunPass, and \$1.00, plus a \$2.50 monthly administrative fee, for those without a transponder who pay their toll using Toll by Plate.



The project included a partial interchange at SR 46 and building several bridges. A floodplain bridge in the middle of this stretch provides safe passage under the parkway for wildlife during the dry season. A temporary ramp connects the parkway to CR 435. That temporary connection will be removed once CFX ties Section 2A to the west into Section 4A.

Traffic on the first stretch has been brisk, with 495,428 total trips through the end of November. Tolls on more than 80 percent of the trips have been paid via a transponder; the remainders have used the Toll by Plate program.

FDOT this year advertised the Section 6 Design-Build project, which includes a parallel, non-tolled service road, several wildlife bridges and the new, high-profile bridge over the Wekiva River (photo, right). Selection for that project was scheduled for March of 2017, with the project to kick off in May-June. Actual construction was expected to begin near year's end.



The Department continued right of way acquisition this year and also prepared to start construction in 2017 on Sections 3A/3B and 5, all non-tolled improvements. Sections 3A and 3B will be built as one project, widening State Road 46 from west of US 441 to east of Round Lake Road, and creating a flyover ramp at US 441 for folks trying to go east toward the parkway. Section 5 entails the realignment of a portion of County Road 46A out of the Seminole State Forest, thereby reducing conflicts between vehicles and wildlife.

In December the Department kicked off design of Section 7B, the last non-tolled section, which stretches from east of Orange Boulevard to near International Parkway. Design is scheduled to finish in late 2018, with construction to begin in mid-2019.



### Central Florida Expressway Authority

CFX ramped up construction on Sections 1A and 1B, from US 441 near Plymouth Sorrento Road to the planned interchange at Kelly Park Road. Since the summer of 2015, Prince Construction has been building the \$56.1 million Section 1A, and Superior Construction has worked on the \$46.6 million Section 1B.

Bridge work intensified this year. Construction on the bridge near US 441 at the SR 429 Connector Road required temporary lane, ramp and road closures. The contractor during one operation placed 30, 100-foot-long concrete beams at the Connector Road bridge (*photo, above*). This interchange gave the public its first views of project aesthetics including stone relief on walls and piers, “haunched” – or slightly arched – beams and arched pier caps (*photo, right*).



Elsewhere, pile driving, beams, decks and other progress was made at Belgian Street (*photo below, left*) and the low area bridge north of Southfork Drive (*photo below, right*).



CFX’s first parkway paving occurred on Section 1A in the early fall from north of Yothers Road to just south of Ponkan Road. The toll gantry building (*photo, right*) also was completed along this stretch, providing the first glimpse of the rich brown stain and warm tan color that will pervade the corridor once complete.



Subsequently, CFX's contractor successfully detoured traffic off Yothers Road to build a new bridge in that location (*photo below, left*). The road closure allowed excavation to continue building the parkway's "depressed" section.



This parkway stretch of about a mile is 20-30 feet below ground from south of Belgian Street to south of Ponkan Road. Dirt from this stretch was used to elevate the road elsewhere. Lowering the parkway minimizes the visibility and noise for the surrounding community. Traffic was detoured via the new Belgian Street bridge for this operation.

This year Section 1B saw the Kelly Park Road interchange clearly take shape. Following a tremendous amount of drainage and earthwork, crews built bridge walls and began to shape the various interchange ramps. Streetlights and decorative pedestrian railing on the bridges also were put in place.

In June 2016 crews began installing the "haunched," or slightly arched, steel bridge beams across Kelly Park Road (*photo, right*). Installing the 160-foot-long beams required a series of road closures and detours for the cross street.



In late fall, Section 1B crews began paving the mainline (*photos below, left and center*), as well as installing cantilever signs. The first staining and painting of CFX retaining walls occurred on this section in the fall at the Joey McGuckin Road bridge (*photo below, right*). Section 1 is scheduled to open to traffic late spring of 2017.



Before CFX started work on its second half of the parkway in 2016, crews first had to excavate and relocate protected gopher tortoises (*photos, right*). Sections 2A, 2B and 2C began in 2016, yielding a total of 233 gopher tortoises from 522 burrows.



All told on all sections, CFX crews excavated a total of 1,139 burrows to find and safely transfer 619 of the keystone species to state licensed recipient sites in Osceola and Sumter counties.



On January 4, 2016 crews began building the systems interchange on Section 2B. By the end of the year, crews had transformed the area as aesthetic bridge columns and beams (*photo, left and below left*) rose out of the ground for the multi-level interchange at Haas-Ondich and Plymouth Sorrento roads. The contractor, Southland Construction, engaged in extensive earthwork to elevate the parkway in this area. Work on this section has required lowering the speed limit and ongoing flagging operations to safely get equipment across Plymouth Sorrento Road. Bridge abutment walls now flank the side street.

Installing some of the bridge beams at the interchange has required periodic closures and detours on Ondich Road (*photo, below right*). Since the detour route included Kelly Park Road, close coordination has taken place on the maintenance of traffic between the Sections 1B and 2B project teams.



CFX in the summer of 2016 kicked off its final two sections – 2C and 2A – in May and August, respectively. Section 2C extends northwest from the systems interchange, across the Orange-Lake County line and Coronado Somerset Drive, to end at a loop interchange at State Road 46 east of Round Lake Road. GLF Construction is the contractor building this \$49.48 million project.



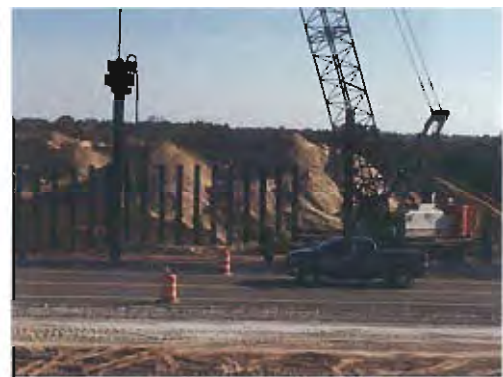
The loop interchange includes a sprawling, joint-use pond (*photo, left*) to catch runoff from both Section 2C and FDOT Section 3A immediately to the west. Sharing the pond resulted in fewer private properties needing to be acquired for the improvements. Dirt from pond excavations is being used to elevate the parkway elsewhere along this stretch.

The interchange pond will be “curvilinear,” or naturally shaped, with enhanced landscaping, to help the feature better blend in with the natural surroundings.

Work on Section 2C has involved ongoing flagging operations, traffic shifts and other impacts to SR 46 (*photo, below right*). Close coordination with Coronado Somerset Drive residents has been required for bridge and other work affecting this neighborhood street.

Both design and construction staffs for both agencies have undertaken close coordination to ensure smooth transitions and other efficiencies between Sections 3A and 2C.

Making the SR 46 connection to the parkway closest to Mount Dora, Section 2C has generated excited interest from both city officials and area residents alike.



Section 2A extends west from the systems interchange to connect to FDOT Section 4A at CR 435. This section, which parallels Haas Road, includes the former Pine Plantation property, one of several large parcels purchased for

conservation along the project corridor as required by the 2004 Wekiva Parkway and Protection Act.



Once clearing and demolition were done (*photo, left*), the contractor, Superior Construction, quickly moved into earthwork, drainage and other operations on this \$38.65 million project.

Crews this fall began driving bridge pile at Morris Access Road and in other locations (*photo, below left*).

Once Section 2A successfully connects to FDOT Section 4A, the temporary ramp onto the parkway at CR 435 will be removed (*photo, below right*). The Legislature saw in the Wekiva Parkway and Protection Act limited the number of permanent interchanges to curb development in the natural area. Section 2 is scheduled to open to traffic in spring of 2018.



## 2017 Update

### Community Coordination

Both agencies in 2017 continued to honor the commitment to keep the public engaged and informed about the Wekiva Parkway development and progress. More than 670 people attended design update and pre-construction public meetings for Florida



Department of Transportation (FDOT) Sections 3A & 3B, 5, 6, 7B and 8. Toward the end of the year, a pre-construction public meeting also was being planned for Section 7A, expected to begin work in March of 2018.

The agencies also continued proactive outreach in the three counties and cities along the 25-mile corridor. They

presented project updates to 17 municipal and other boards, and to 12 neighborhood or community groups. We also shared project information and answered hundreds of questions at seven special events including the Mount Dora Arts Festival.

We provided close-up, educational opportunities via tours for industry groups including TEAMFL and the ASCE Central Florida Chapter, as well as for the Lyman High School magnet engineering program. We also worked with Hampton Elementary School's engineering magnet classes, and Zellwood Elementary School as part of the Wekiva Parkway Youth Outreach program.



The agencies also continued making project visuals, schedule and other information easily accessible to the public via the [wekivaparkway.com](http://wekivaparkway.com) website. The site received more than 60,000 visits in 2017, for a total of more than 214,000 visits since launching in June of 2012.

More people began following the project on social media as the agencies continued a robust posting strategy to get construction and other information out to the community. The number of Facebook followers swelled to 777, and the number of Twitter followers



grew to 391. The majority of posted comments were positive, with growing anticipation and excitement about the pending opening of the parkway to State Road 46.

### Central Florida Expressway Authority

The Central Florida Expressway Authority (CFX) made dramatic progress on its parkway sections in 2017, with bridges being topped out at Plymouth Sorrento Road, County Road (C.R.) 435 (Mount Plymouth Road), Ondich Road and State Road (S.R.) 46.



Community excitement was building for the opening of the first CFX section from U.S. 441 to



Kelly Park Road. CFX reached that important milestone by opening its first five miles of the parkway on July 27, 2017. The ribbon cutting celebration drew about 200 officials and community members, as well as heavy, positive media coverage.

Traffic on this section was projected in the first year for 6,300 one-way trips per day. By the end of the year more than 10,000 trips per day

were being registered during the work week.

In December of 2017, CFX began to install landscaping along its first stretch of the parkway, therefore honoring the commitment to create an enhanced user experience.

The agency continued working on its remaining five miles of the parkway between Kelly Park Road, C.R. 435 (Mount Plymouth Road), S.R. 46 and Round Lake Road.



Sections 2A, 2B and 2C were on track to open in the spring of 2018. These sections will provide the long-awaited, expressway connection to S.R. 46, creating greater convenience and access to many communities in Lake County. The parkway also plays a central role in the economic development plans for many of the area's municipalities.

A grand opening celebration was being planned for March 31, 2018, including a 5K race and family fun run.

## Florida Department of Transportation



The Florida Department of Transportation (FDOT) in 2017 began transitioning more of its parkway sections from final design to construction.

The Department in early June began construction on Section 5, the realignment of C.R. 46A from Arundel Way to S.R. 46 near Camp Challenge Road. The non-tolled, road project will build a new connection for C.R. 46A to S.R. 46, allowing about a mile of C.R. 46A to be abandoned in the Seminole State Forest, as required by the 2004 Wekiva Parkway and

Protection Act. The goal is to reduce collisions between vehicles and wildlife.

Section 6 will stretch six miles along the S.R. 46 corridor – from S.R. 429 in east Lake County to Longwood Markham Road in Seminole County. Construction began in mid-October. The project will largely replace S.R. 46 along this stretch with the elevated parkway and parallel, non-tolled service roads for local travel.

The \$240 million project includes a new, much higher bridge with a slightly arched design and other aesthetics over the Wekiva River. Three bridges will be built over the river for the eastbound and westbound parkway lanes, and for the non-tolled service road.



Environmental precautions – including using extensive turbidity barriers – are being taken to build the bridges over the Wekiva River, which is designated as a National Wild and Scenic River and a Florida Outstanding Waterway.



Crews had begun driving bridge pile and installing sheet pile wall alongside the river in December. FDOT and the project team continued to coordinate closely with the Florida Department of Environmental Protection regarding work at the river. Elsewhere on the project, crews were making good progress clearing the corridor and relocating gopher tortoises to state licensed recipient sites. To date throughout the entire

corridor, nearly 800 gopher tortoises have been excavated from more than 1,600 burrows and safely relocated.

Three other wildlife bridges will allow animals to pass safely between the Seminole State Forest, Rock Springs Run State Reserve and Lower Wekiva River Preserve. The wildlife bridges will total nearly 7,700 feet in length, providing nearly 100 times the safe passageway for animals as the current two wildlife tunnels under S.R. 46 in this area.

A multi-use trail with four scenic overlooks at the wildlife bridges will be included along the service road. This section is expected to enhance access to the adjacent state conservation lands.

In late October, FDOT began work on another non-tolled road improvement, Sections 3A and 3B in Mount Dora. This project will reconfigure the U.S. 441 and S.R. 46 interchange to an at-grade, signalized intersection with a flyover ramp for continuous traffic flow.

Work will include widening S.R. 46 to six lanes from U.S. 441 to Round Lake Road, in anticipation of the heavy traffic trying to get to the parkway. By the end of the year crews were well into clearing the corridor and working on utility relocations and drainage installation.



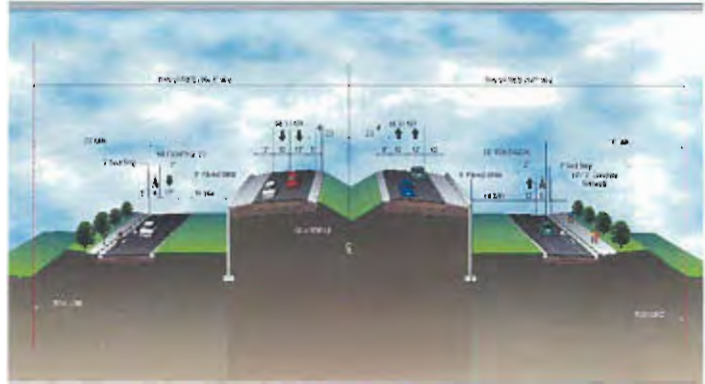
The Department this year also began soliciting bids for the Section 8 design-build project in Seminole County. This project will connect the parkway to I-4 and S.R. 417, thereby completing the beltway around Central Florida.



Work will include building or enhancing 23 bridges and creating a parkway gateway near International Parkway.

The Department is scheduled to select the design-build team in August of 2018. Work could start in late 2018-early 2019.

The Department in 2017 also procured the construction oversight firm and contractor for Section 7A in Seminole County. The project along the S.R. 46 corridor includes building the elevated parkway non-tolled service roads from Longwood-Markham Road to Orange Boulevard. Section 7A will include roundabouts at cross streets, aesthetic treatments on wall and enhanced landscaping.

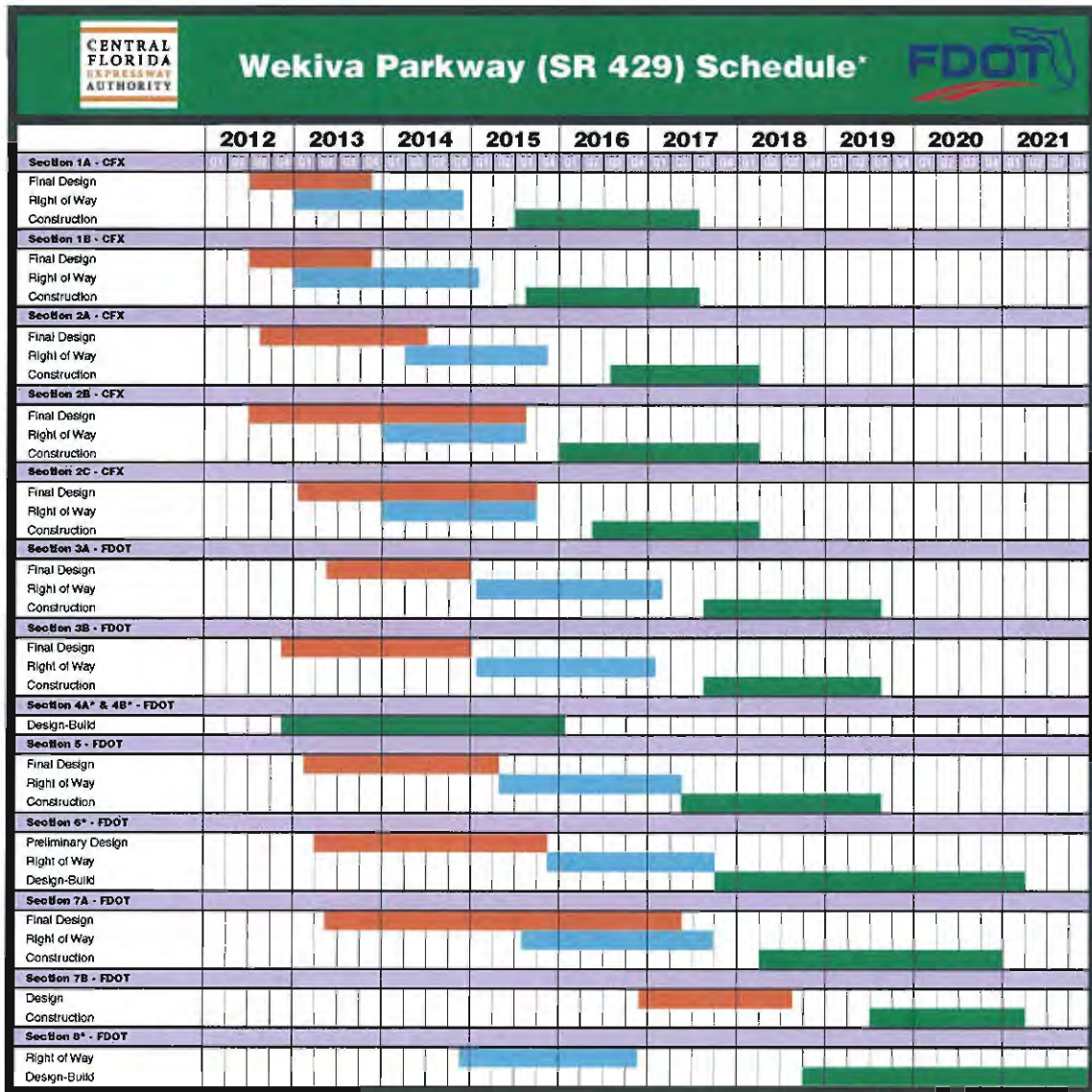


FDOT received an apparent low bid for a contractor in December. Work is expected to begin in March of 2018.

The last non-tolled segment, Section 7B in Seminole County, had reached 60 percent design plans by the end of the year. That project to widen S.R. 46 to six lanes from Orange Boulevard to Oregon Street and Wayside Drive also will to add sidewalks, street lighting and other improvements. Section 7B was scheduled to finish design in late 2018. Construction is scheduled to begin in the summer of 2019.

Below is the schedule table for each segment.

Table 1. Wekiva Parkway Schedule



\*Schedule Subject to Change  
 \*For more information, visit [www.wekivaparkway.com](http://www.wekivaparkway.com)

## RECOMMENDATION 2 – INTERCHANGE LAND USE PLANS

Section 369.321(1) F.S. of the *Wekiva Parkway and Protection Act* implements Recommendation 2 by requiring those local governments hosting an interchange to adopt an interchange land use plan within their comprehensive plans. The interchange plans would address appropriate land use and compatible development, secondary road access, access management, right-of-way protection, vegetation protection and water conserving landscaping, and height and appearance of structures and signage. As noted in the final report of the Wekiva River Basin Coordinating Committee, the primary objectives of the interchange land use plans are to allow for development that is appropriate, compatible and protective of the area's natural resources.

This requirement was amended by the Wekiva "glitch" bill to provide for a time certain. The time was changed to reflect the sequence of events in the design of the Parkway so that the interchange plans are due one (1) year after those locations have been finalized and approved.

In 2011, the City of Apopka worked with the Department of Economic Opportunity to resolve their "Out of Compliance" amendment in regard to their interchange plan. Due to the new bill, there was some text in the agreement which needed revisions.

In 2015, jurisdictions proposed/adopted land use changes in the Wekiva River Study Area; however, there have been no updates specific to the Interchange Land Use Plan.

In 2016, the City of Apopka proposed Amendment 16-1 ESR. The proposed amendment consists of one Future Land Use map amendment changing 44.26 acres from Orange County Rural to City of Apopka Mixed Use. This land use change results in an increase in development potential from 4.2 residential dwelling units to 659 residential dwelling units and 1,927,965.6 square feet on non-residential development. This parcel is located within the Wekiva Parkway Interchange Plan Area and is consistent with the jurisdictions' coordinated planning efforts initiated by the 2004 Wekiva River Protection Act. Technical Assistance Comments were provided by the Department (DEO) and the Florida Department of Transportation (FDOT). DEO commented that the City should move to adopt the Wekiva Interchange Form-Based Code that is mentioned throughout the Plan as the implementation mechanism to carry out the guidance provided within the Comprehensive Plan, but has not yet been adopted. FDOT commented that segments of SR 500/US 441 could be impacted by the development on the subject site, and that the amendment site's linkages should be identified so that an accurate assessment of transportation impacts can be measured. The Department's comment letter was mailed on February 12, 2016.

In 2017, the City of Apopka adopted the Park Kelly Park Crossings Form-Based Code and the Kelly Park Interchange Mixed Use District. The code and overlay provide more detailed guidance for land uses surrounding of the City's interchange. They also serve to implement the Wekiva Parkway Interchange Plan which is composed of three elements: the Wekiva Parkway Interchange Vision Plan, the Wekiva Parkway Interchange Land Use Plan; and the Wekiva Parkway Interchange Goal, Objectives, and Policies.

### RECOMMENDATION 3 – LAND ACQUISITION

Figure 2 – Properties for Acquisition



Section 369.317 (6) F.S. of the *Wekiva Parkway and Protection Act* grants authority to the CFX until December 31, 2010 to act as a third-party acquisition agent in the purchase of the following properties shown in Figure 15:

- *Neighborhood Lakes*
- *New Garden Coal*
- *Pine Plantation I & II*
- *Seminole Woods*

In 2005, an agreement was reached with the Wekiva River Mitigation Bank LLC to protect land within the New Garden Coal parcel. In 2007, Neighborhood Lakes was acquired through cooperation between the CFX, the SJRWMD, FDEP, and Orange and Lake County. Pine Plantation I was acquired in 2008 with Florida Forever, FDOT, and CFX funds.

On December 28, 2012, CFX closed on the purchase of 143 of the remaining 243 acres of Pine Planation II. Approximately forty acres will be used for the construction of the parkway and the remaining acres will be conservation land. This satisfies the obligations of CFX and FDOT under the Wekiva Parkway Act.

In addition, the SJRWMD purchased four more properties in the Wekiva Basin since the Wekiva Parkway and Protection Act passed: the 103-acre Golden Gem property in Orange County in 2009; and the 17-acre Hubler property in 2009, a 198-acre conservation easement on Sutton Ranch in 2011, and the 596-acre Sun Land Citrus property in 2017, all three in Lake County.

#### **RECOMMENDATION 4 – RECHARGE CRITERIA (ALSO INCLUDES MFLS CUP THRESHOLDS, AND ERP/CUP (CUPCON))**

**RECHARGE CRITERIA:** SJRWMD amended the Wekiva Recharge criteria in 2006 to apply to Type “A” soil recharge lands within the Wekiva Study Area (now called the Wekiva Recharge Protection Basin). Recharge criteria result in post-development recharge volume conditions approximating pre-development.

**MFLS:** The MFL Priority List was sent to FDEP in November 2017 and is pending their approval; public workshops have been held. The Wekiva River hydrologic model is scheduled for model peer review (under the Central Florida Water Initiative (CFWI) peer review process) initiated by end of 2018 and MFL adoption is expected in 2019. The MFL will include Little Wekiva River at Spring Landing Blvd, Wekiva River at SR46, Wekiwa Springs, and Rock Springs.



**CUP THRESHOLDS:** In 2009, SJRWMD completed rulemaking regarding water uses below the 100,000 gpd CUP thresholds. The rule amendments apply not only to the Wekiva study area, but also District-wide. The rule amendments implement more water conserving measures for these small water uses. The amendments became effective in 2009, and are within the lawn and landscape irrigation part of rule 40C-2.042, F.A.C.

**ERP/CUP (CUPCON):** In 2004, the SJRWMD published a Notice of Rule Development (NRD) to amend its rules to create a consolidated permit (ER/CUP) for projects that require both an ERP and CUP and involve the irrigation of landscape, golf course, or recreational areas. In fall 2010, the District held rule workshops in Sanford, Jacksonville, and Palatka for the consolidated rule. This rulemaking was placed on hold for over a year for the DEP and WMDs (including SJRWMD) to complete the statewide ERP ("SWERP") rules and the CUP (CUPcon") rules. The new statewide rules went into effect in 2014. With the completion of the CUPcon rulemaking, the District requested that the CFWI Regulatory Team add this topic to the list of items to be considered for the CFWI rulemaking. After acceptance by the CFWI Regulatory Team, DEP began rulemaking in 2017 to develop consolidated ER/CUP rules in the CFWI area (including the Wekiva Basin). This rulemaking will be completed when DEP completes the CFWI rulemaking.

## **RECOMMENDATION 5 – AGRICULTURAL NONPOINT POLLUTION**

Section 369.318 (9), F.S., of the *Wekiva Parkway and Protection Act* appoints the Florida Department of Agriculture and Consumer Services (FDACS) as the lead agency to coordinate the reduction of agricultural nonpoint pollution sources and continuously enroll agricultural producers in the Best Management Practices (BMP) Program. FDACS has completed and adopted numerous BMP rules and manuals. Adopted BMPs that potentially pertain to the Wekiva are statewide manuals for citrus, cow/calf, dairy, equine, nurseries, poultry, silviculture, sod, specialty fruits & nuts, and vegetable and agronomic crops.

In early 2016, the FDACS adopted a dairy manual that applies to dairies that do not have Florida Department of Environmental Protection (FDEP)-issued National Pollutant Discharge Elimination System permits. To date, FDACS has BMP manuals for cow/calf, citrus, vegetable and agronomic crops, nurseries, equine, sod, dairy, poultry, and specialty fruit and nut operations. A small farms BMP manual is currently under development and anticipated to be completed in 2018. The sod, specialty fruit and nut, and cow/calf manuals are currently undergoing a five-year review. In 2015, the FDACS Florida Forest Service adopted a Wildlife BMP Manual for forestry operations. OAWP

also adopted a wildlife BMP manual for non-forestry operations, which closely resembles the forestry version. The FDACS BMP manuals are located here: <http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs/BMP-Rules-Manuals-and-Other-Documents>.

FDACS has a contract with Mobile Irrigation Labs (MILs) to provide agricultural irrigation system uniformity evaluations by request within the Wekiva Basin area; SJRWMD requires all permit applicants for agricultural use types to submit a water conservation plan that contains specific activities designed to conserve water.

OAWP is currently revising and restructuring its Implementation Assurance (IA) program to provide a consistent statewide database on the status of implementation of BMPs. The previous IA program included two key components—mail-out surveys and site visits. Field staff and technicians conducted site visits, focusing on nutrient-management, irrigation-management, and water-resource protection BMPs that are common to all the adopted BMP manuals. Mail-out surveys, the second component, were developed by OAWP staff in conjunction with commodity experts. Enrolled producers were mailed surveys to be completed and returned. The survey reports typically provided information on the percentage of BMP implementation for irrigation-management and nutrient-management BMPs.

Additional emphasis was given to implementation assurance in 2016 legislation, particularly Chapter 2016-1, Laws of Florida. Among its provisions, this law requires enhancement and formalization of OAWP implementation assurance policies and procedures through rulemaking. The Implementation Verification rule became effective on November 1, 2017. FDACS will implement the enhanced Implementation Verification program and more detailed reporting, as prescribed by the legislation, on an annual basis. Data on the status of implementation of BMPs will be collected from enrolled producers statewide.

The enhanced Implementation Verification program, as a component of the FDACS BMP program, will be designed to:

- To provide accurate and timely information on BMP enrollments;
- To provide accurate and timely information on the status of BMP implementation;
- To provide the information from which reports on BMP enrollment and implementation can be made to BMAP stakeholders and to the annual report required by Chapter 2016-1, Section 34, Laws of Florida;
- To inform educational, research, and technical assistance efforts targeted to strengthen BMP implementation and effectiveness; and,
- To guide review and potential revision of BMP manuals.

Table 2 provides the status of FDACS rules/manuals applicable to the Wekiva area.

**Table 2. Status of FDACS Best Management Practice (BMP) Programs**

OAWP BMP Programs	Rule	Area(s) of Application	Development/Revision Status
<i>Nurseries</i>	5M-6	Statewide applicability	<i>Adopted 2014</i>
<i>Vegetable/ Agronomic Crops</i>	5M-8	Statewide applicability	<i>Adopted 2015</i>
<i>Sod Farms</i>	5M-9	Statewide applicability	<i>Adopted 2008</i>
<i>Cow/Calf Operations</i>	5M-11	Statewide applicability	<i>Adopted 2009</i>
<i>Conservation Plans</i>	5M-12	Statewide applicability to rule-specified operations	<i>Adopted 2010</i>
<i>Specialty Fruit and Nut</i>	5M-13	Statewide applicability - (e.g., blueberries, pecans, tropical fruit)	<i>Adopted 2011</i>
<i>Equine/Horse Farms</i>	5M-14	Statewide - commercial equine operations	<i>Adopted 2012</i>
<i>Citrus</i>	5M-16	Statewide applicability	<i>Adopted 2013</i>
<i>Dairy</i>	5M-17	Statewide applicability	<i>Adopted 2016</i>
<i>Wildlife</i>	5M-18	Statewide applicability for non-forestry operations	<i>Adopted 2015</i>
<i>Poultry</i>	5M-19	Statewide applicability	<i>Adopted 2016</i>
Other FDACS BMPs	Rule	Area(s) of Application	Lead Entity
<i>Silviculture</i>	5I-6	Statewide applicability	<i>In effect - adopted/implemented by Florida Forest Service</i>
<i>Aquaculture</i>	5L-3	Statewide applicability	<i>In effect - adopted/implemented by Division of Aquaculture</i>

## RECOMMENDATION 6 – POLLUTION LOAD REDUCTION GOALS

Section 369.318(8) F.S of the *Wekiva Parkway and Protection Act* requires the St. Johns River Water Management District (SJRWMD) to establish Pollution Load Reduction Goals (PLRGs) for the Wekiva Study Area and to assist the FDEP in adopting total maximum daily loads (TMDL) for impaired water within the Study Area. The PLRG process undertaken by the SJRWMD involved the following steps:

- Analyze new and existing data and identify pollutants that impair the springs
- Develop water quality targets for those pollutants (e.g., nutrient concentrations, coliform levels)
- Evaluate the relationship between current pollutant loadings and acceptable pollutant concentrations
- Determine reductions in load needed to meet specified water quality targets

In 2006, the SJRWMD presented the PLRG studies to FDEP.

In 2007, the TMDL document had been developed and reviews were completed. The first public meeting was held in November 2007, opening the public commenting period. The TMDLs were adopted in 2008. In 2011, all domestic wastewater surface water discharge permits were revised to reflect the new wasteload allocations from the TMDLs.

In 2009, the Florida Department of Environmental Protection (FDEP) initiated the process to develop a Basin Management Action Plan to implement the new TMDL nutrient reductions, with technical support from the SJRWMD. On October 27, 2015, the Wekiva River, Rock Springs Run and Little Wekiva Canal BMAP was adopted.

The formal adoption of the Wekiva River, Rock Springs Run, and Little Wekiva Canal BMAP was postponed by the FDEP as staff continued to work together with the SJRWMD and local governments to develop projects to address the nutrient loading from Onsite Treatment and Disposal Systems (OSTDS or septic tank/drainfield systems) such as connection to regional wastewater collection systems. An outcome of this effort is a ground water monitoring project for an area with OSTDS located near the Wekiwa Spring system that will more clearly determine OSTDS contributions of Nitrogen to the Wekiwa Spring system. After updating and refining the draft BMAP, FDEP staff from the Division of Environmental Assessment and Restoration (DEAR) held a public meeting to present the final draft BMAP to stakeholders for comment at a public meeting held on September 2, 2015. FDEP accepted comments on the Draft BMAP until September 16, 2015. Subsequently, FDEP Secretary Jonathon P. Steverson adopted the Basin Management Action Plan by Final Order on October 27, 2015. At this time, a separate formal BMAP for the Lakes TMDL waterbodies in the Wekiva Study Area is not planned for development.

Florida Law Chapter 2016-001, authorizing the development and adoption of the Florida Springs and Aquifer Protection Act (Sections 373.801 - 373.813), was signed in January 2016. The act designated 31 Florida springs as Outstanding Florida Springs (OFS, Section 373.802), including Wekiwa Springs. In the basins of an impaired OFS, if OSTDS contribute 20% or more of the nonpoint source nitrogen loads to groundwater, or FDEP determines that it is needed, the act requires that an OSTDS remediation plan be developed.

Since February 2016, FDEP has conducted ten (10) public meetings on technical discussions on possible approaches for addressing nitrogen loads from major sources to the Wekiva basin.

In 2017, FDEP prepared a Nitrogen Source Inventory and Loading Tool (NSILT) to provide information on the major sources of nitrogen (atmospheric deposition, wastewater treatment facilities [WWTFs], urban fertilizers, septic systems, livestock wastes, and agricultural fertilizers) in the Wekiwa Springs and Rock Springs springshed. The NSILT identified OSTDS as contributors of at least 20% of the nonpoint source nitrogen pollution to groundwater. FDEP has been meeting with local governments, public, and private wastewater utilities and FDOH to work on the development of the remediation plan for the Wekiva River, Rock Springs Run, and Little Wekiva Canal BMAP. The most recent meeting was held on November 8, 2017.

The BMAP must be revised by statute by July 1, 2018 to include the OSTDS remediation plan as part of the adopted BMAP. The revised BMAP will be developed to meet all the requirements set forth by the act.

## **RECOMMENDATION 7 – MASTER STORMWATER MANAGEMENT PLAN**

Section 369.319 of the Wekiva Act requires each of the local governments in the Wekiva Study Area to develop a Master Stormwater Management Plan (MSMP) for their portion of the Wekiva Study Area. The MSMP is required to:

- Assess existing problems and deficiencies in the community
- Identify projects to meet long-range needs
- Establish priorities to address existing deficiencies
- Establish measures to address redevelopment
- Establish a schedule to complete needed improvements
- Evaluate the feasibility of stormwater reuse
- Include requirements for inspection and maintenance of facilities
- Identify funding sources

In order to assist local governments in applying the information and strategies to their jurisdictions, the SJRWMD conducted a series of workshops with local governments.

Jurisdictions were scheduled to submit Stormwater Amendments by the end of 2007. During 2010, Ocoee and Eustis worked with the Department to become “in compliance” while Eatonville worked to respond to the Objections Recommendations Comments (ORC) Report. As of 2012, Orlando has been classified as “Incomplete” as their Capital Improvements Element is not yet revised. In 2012, the Town of Eatonville continued to work with the Department of Economic Development to come into compliance. By 2013 all jurisdictions have been found to be in compliance.

## RECOMMENDATION 8 – WASTEWATER TREATMENT STANDARDS

Section 369.318(1) F.S. of the *Wekiva Parkway and Protection Act* requires the Florida Department of Environmental Protection (FDEP) to study the efficiency and applicability of water quality and wastewater treatment standards needed to achieve nitrogen reductions protective of surface and groundwater quality within the Wekiva Study Area. The Department completed its report entitled *A Strategy for Water Quality Protection: Wastewater Treatment in the Wekiva Study Area* in December 2004. In October 2005, the Department initiated rulemaking and a public hearing was held on November 1, 2005 in the City of Apopka. The public hearing was well attended and positive. A briefing on the rule before the Environmental Regulatory Commission was held in January 2006. The rule was adopted in February 2006 and effective of April 2006.

Phase I Nitrate Sourcing Study for the Wekiva Basin, funded by FDEP, was completed during 2008-2009. For the purpose of the study, the Basin was defined as the combination of the watershed and the springshed, which is not the same as the Wekiva Study Area, an administrative boundary. A companion study by DOH focused on septic systems, while FDEP’s study focused on residential fertilizer impacts on the basin. The final 2010 report updated Phase I with local data and the report used 2004 as base year calculations. The results are available on the DEP website. Existing domestic wastewater facilities were given five years to meet new limits for total nitrogen and these new limits have been incorporated into each facility permit. Through 2013, local jurisdictions continued to work toward meeting the new standards. It is planned to address this issue in detail at the summer 2014 WRBC meeting.

A presentation on the status of wastewater treatment facility (WWTF) compliance with new nitrogen limits in Rule 62-600.550, F.A.C. was provided to the Wekiva Commission on June 12, 2014 by Christianne Ferraro, P.E. At this time, of the 50 facilities affected, there are ten that have connected to regional wastewater collection systems and all but six facilities are in compliance with the Wekiva Study Area nitrogen limits. Enforcement action has been taken with the owners of these six facilities to ensure compliance. In addition, eleven WWTFs that are located in the secondary protection

zone have ten years (April 2016) to meet these new limits. Outreach and follow up action is underway to ensure that those eleven WWTFs are in compliance by April 2016.

An update to the 2014 presentation on wastewater treatment facility compliance with the new Total Nitrogen (TN) limits was provided by Christianne Ferraro, P.E. to the Commission on October 19, 2015. As of December 2015, just four facilities have not achieved compliance with the new TN limit and are under enforcement to complete the required upgrades. In addition, the FDEP Central District staff continues to work proactively with the eleven smaller facilities required to meet the deadline by next April, 2016.

As of December 2016, of the 30 wastewater treatment facilities (WWTF) required to upgrade their treatment processes to meet new Total Nitrogen limits by 2011, 25 are now in compliance, and the remaining 5 facilities continue to operate under enforcement and/or compliance assistance, on their way to meeting the limit.

In addition, the smaller facilities that are required to meet the new Total Nitrogen limit of 10 mg/L that became effective for them in April 2016 are all working closely with the Department to improve their treatment process (compliance with the limit must be achieved by April 2017 since it is an annual average limit). In fact, 3 of these facilities have already connected to regional systems, and 8 remain working toward compliance.

During 2017, significant progress has been made with domestic wastewater treatment facility compliance with the Total Nitrogen limit as set forth in Rule 62-600.550, F.A.C. At this time, all domestic wastewater treatment facilities within the Wekiva Study Area primary and secondary protection zones are required to meet a more stringent Total Nitrogen limit.

There are 41 domestic wastewater treatment facilities affected by this requirement. Of the 41 facilities, 25 are in compliance with the Total Nitrogen treatment limit and an additional 12 have connected to regional wastewater systems. There are 4 remaining facilities that continue to operate under enforcement and/or compliance assistance, continuing to work steadily on improvements for compliance.

## **RECOMMENDATION 9 – ON-SITE DISPOSAL SYSTEMS**

Section 369.318 (2) F.S. charges the Florida Department of Health (Department) with addressing nitrogen reductions through appropriate on-site sewage disposal standards. The Department studied the efficacy and applicability of modifying disposal standards as a way of protecting the Study Area's groundwater quality. The Department determined that it was possible to provide higher level treatment and protection through improved technology, and, in March 2005, the Department initiated rulemaking.

However, in August 2005, major concerns were voiced at four (4) public meetings held to review the proposed rule. The primary issue regarded the cost of system replacements for homeowners. As a result, a decision was made that further studies, including field work, were needed before moving forward with finalizing any rule changes.

In 2006, the Legislature appropriated \$250,000 to the Department and \$25,000 to the Florida Department of Environmental Protection (DEP) to conduct further studies on nitrogen loading in the Wekiva area. The Department's Research Review and Advisory Committee (RRAC) provided objectives. This was determined to be a collaborative effort with involvement from various agencies and the public.

In 2007, these nitrogen studies were completed and rule-making activities recommenced. The consideration of possible recommendations began. Considerations included policies for new developments and more stringent regulations in septic tank maintenance and inspection, recommending the legislature institute a nitrogen discharge fee and implement an onsite wastewater management program. That program would require maintenance and inspection every five years beginning July 1, 2008, or when property ownership changes. All new systems would be performance based treatment systems providing pretreatment. The proposed rule language for the Wekiva Study Area called for a 70 percent reduction in nitrogen and the creation of an inventory of all onsite systems in the Wekiva Study Area. The language also addressed existing systems in need of repair and land application restrictions specific to the Wekiva Study Area.

This continued to be a contentious topic due to concern regarding funding for the repair and replacement of existing onsite systems. In 2008, the Florida Legislature directed the Department to contract with experts to develop cost-effective nitrogen reduction strategies for onsite sewage treatment and disposal systems (OSTDS). In January 2009, the Department, in consultation with the RRAC, contracted with a project team comprising nationally recognized experts led by Hazen and Sawyer. The Department and the RRAC coordinated the Florida Onsite Sewage Nitrogen Reduction Strategies (FOSNRS) project, with participation from DEP.

The project had two main areas of focus: development of passive nitrogen reduction technologies, and evaluation and prediction of the fate and transport of nitrogen from OSTDS. Objectives included:

- Development of cost-effective, passive strategies for nitrogen reduction from onsite sewage systems
- Characterization of nitrogen removal in the soil and shallow groundwater



- Development of simple models to determine fate and transport of nitrogen from OSTDS in soil and groundwater

A passive system was defined as one that uses no mechanical components other than one effluent pump and that uses reactive media for denitrification. Reactive media, such as wood chips or sulfur, are used to reduce nitrogen concentrations. Passive nitrogen reduction was defined based on previous research done for the Department.

The study led by Hazen and Sawyer was developed around four major tasks:

Task A - Select promising technologies and pilot test them at a Florida university research facility to determine preliminary design criteria for new passive nitrogen reduction systems.

Task B - Install top candidates for nitrogen reduction technologies at existing Florida homes, with documentation of performance and cost.

Task C - Determine efficacy of nitrogen reduction in Florida soils and contributions to shallow groundwater.

Task D - Develop simple, user-friendly computer models for nitrogen fate and transport from onsite sewage systems in Florida to support environmental assessment, planning, and system selection.

As part of the project, seven passive nitrogen treatment systems were installed and monitored at six home sites (one home exchanged systems after testing), three of which were in the Wekiva Study Area in Seminole County. Onsite systems at four homes were monitored to characterize nitrogen transport in soil and groundwater, one of which was in the Wekiva Study Area in Seminole County.

The nitrogen sensitivity of Florida watersheds varies greatly, and includes areas of extremely high sensitivity to nitrogen loading and other areas where nitrogen loading from OSTDS may be less critical. DEP and local governments are expected to identify nitrogen sensitive watersheds and address high nitrogen loading via the Total Maximum Daily Load (TMDL - maximum amount of a pollutant that a body of water can receive while meeting water quality standards) and Basin Management Action Plan (BMAP - "blueprint" for restoring impaired waters by reducing pollutant loading) processes.

As specific TMDLs and BMAPs are developed for Florida watersheds, it will become important to have a range of available options for nitrogen load reductions from OSTDS. The Department is using the results of the FOSNRS study to develop strategies to promote nitrogen-reducing OSTDS. These strategies will provide planning-level tools

to state agencies, local governments, stakeholders, and other interested entities to enhance their ability to assess nitrogen loading from OSTDS, select designs which provide a range of options for nitrogen removal, and facilitate education and training for industry professionals and the public. The goal is to enhance the skills of resource managers, regulators, and land use managers, and to engage community partners to ensure that informed decisions on the most cost-effective strategies to limit nitrogen inputs from OSTDS are made.

A collaborative approach to nitrogen reduction from all sources at the local level is the approach that can make the most impact. The results of this project help characterize and refine strategies for cost-effective nitrogen reduction from onsite sewage treatment systems that will protect our environment, as well as provide cost-effective options for Florida residents.

The results of this study have provided Floridians:

- Field-tested designs for “passive” user-friendly systems effective at removing nitrogen
- System cost estimates and cost comparisons to existing approved systems
- Nitrogen fate and transport model for estimating nitrogen contribution from OSTDS
- Options for nitrogen reduction OSTDS in sensitive watersheds where sewers are not feasible

In consultation with DEP and the RRAC, the Department used the results of the FOSNRS study to develop a final report to the Florida Governor and Florida Legislature, which is available at <http://floridahealth.gov/nitrogen>. The total estimated project cost was \$5 million, but \$4.8 million was spent over a six-year period.

Since the submission of the final report to the Florida Legislature, the Department has pursued a two-pronged approach to make nitrogen-removing onsite sewage technologies available for broader use in sensitive watersheds. The first approach consists of a rule proposal developed in discussions with DEP to create a category of drainfields with a liner that will provide nitrogen reduction. The category is referred to as “in-ground nitrogen-reducing biofilters.” The rule proposal was initially presented to the Department’s Technical Review and Advisory Panel (TRAP) on October 22, 2015, and discussed again at meetings on August 31 and December 9, 2016. In the current version, the rule proposal anticipates a phased implementation approach, in which a variation of systems will be installed as part of a pilot program to gain additional insights into aspects such as costs, installation methods, operation, and performance. Parallel to the rule revision effort, DEP, in cooperation with the Department, installed a

lined drainfield in the Wekiva area (City of Apopka) in August of 2016. The system was monitored monthly for one year in the period from August of 2016 through August of 2017 and has been monitored quarterly since then. The second approach consists of an evaluation of the results from the in-tank treatment systems from the FOSNRS study to develop design criteria that can be used by engineers for the design, permitting and construction of performance-based treatment systems.

Additionally, developers and manufacturers of onsite treatment technologies, including those that provide nitrogen reduction, are continuing to develop OSTDS to offer additional options for homeowners. Some of these may be effective in Florida. During 2016, two manufacturers obtained innovative system permits for an evaluation of their technologies in the state. A few such systems have been installed for evaluation in 2017.

The 2008 legislative directive requiring the Department to undertake the study also prohibited any rulemaking until completion of the study. House Bill 1263 passed by the 2012 Florida Legislature prohibited any government entity from requiring the use of a performance-based treatment system prior to completion of the study (section 381.0065(4) (x), Florida Statutes). Now that the study is complete, this prohibition has been lifted. House Bill 1263 also deleted the 2010 statewide onsite sewage treatment and disposal system performance evaluation program, which had not been implemented. In its place, it created a performance evaluation program from which local governments could opt-in or opt-out. Counties and cities with first magnitude springs were required to decide by January 2013. All first magnitude counties and cities opted out and no jurisdiction since, has developed and adopted an OSTDS performance evaluation program as created in statute.

In January 2016, the Florida Legislature passed Florida Law Chapter 2016-001, authorizing the development and adoption of the Florida Springs and Aquifer Protection Act (FSAPA) (Sections 373.801 - 373.813). The act designated 30 Florida springs as Outstanding Florida Springs (OFS) (Section 373.802, Florida Statutes), including Wekiva Spring and Rock Spring Run, and required DEP to identify all OFS that are impaired for nutrients, especially nitrogen, by July 1, 2018 (section 373.807, Florida Statutes). The statute also requires DEP to initiate the development of BMAPs for impaired OFS as soon as the nutrient TMDL restoration target for each spring is adopted. The law requires that OFS BMAPs shall be adopted by secretarial order within two years of initiation or, the latest, by July 1, 2018. The BMAP shall target achievement of TMDL goals in 20 years and phased restoration targets should be established for the 5, 10, and 15-year timeframes to evaluate the progress of the restoration activities. In 2016 and 2017, the Florida legislature appropriated \$56.6 and \$50 million, respectively, to DEP towards spring restoration and remediation projects to accomplish these goals.

The FSAPA also requires that, if OSTDS in the basin of a given impaired OFS contribute 20% or more of the nonpoint source nitrogen loads to groundwater or DEP determines that it is needed, an OSTDS remediation plan will be developed. DEP is required to work with the Department, local government, public, and private wastewater utilities to develop the remediation plan and adopt the plan as part of the BMAP. It also requires that BMAPs adopted before July 1, 2016, addressing OFSs will be revised by July 1, 2018, to include the OSTDS remediation plan, if necessary. Three major elements are supposed to be included in the OSTDS remediation plan, including credible scientific information on the effect of nutrients on springs and springs systems, a public education plan to provide area residents with reliable and understandable information about OSTDS and springs, and, most importantly, a list of cost-effective and financially feasible projects that will be implemented to reduce the nutrient impacts from OSTDS (section 373.807, Florida Statutes). The statute also requires that the OSTDS remediation plan include options for repair, upgrade, replacement, drainfield modification, addition of effective nitrogen reducing features, connection to a central sewer system, or other actions needed by OSTDS owners in spring basins where OSTDS contribute more than 20% of the total nonpoint source nitrogen loads. DEP is to prioritize funding opportunities for restoration projects in these basins while taking into consideration expected nutrient reduction benefits per unit cost, size and scope of project, relative local financial contribution to the project, and the financial impact on property owners and the communities.

The FSAPA calls to prioritize the restoration activities in areas where OFS are most sensitive to the nutrient loads – the priority focus area (PFA). The law requires DEP to work with water management districts to delineate PFAs for all impaired OFS basins, taking into consideration groundwater travel time to springs, hydrogeology, nutrient load, and any other factors that may lead to degradation of OFS. The PFA delineations for all impaired OFS must be finished by July 1, 2018. Once a PFA is delineated, defined construction activities, including new domestic wastewater disposal facilities with permitted capacities of 100,000 gpd or more, new OSTDS on lots of one acre or less, new facilities for disposal of hazardous waste, the land application of Class A or Class B domestic wastewater biosolids, and new agriculture operations that do not implement best management practices, will be prohibited under certain circumstances.

The Wekiva Spring and Rock Spring Run BMAP was adopted in October 2015, without an OSTDS remediation plan being included at the time of the BMAP adoption. Therefore, DEP is obliged by the statutory requirement to revise the BMAP to include an OSTDS remediation plan by July 1, 2018. In 2016, DEP organized four OSTDS remediation plan public meetings. These meetings provided general overviews on the Wekiva and Rock Spring Run BMAP, and statutory requirements from the FSAPA on

controlling nitrogen loads from OSTDS in the spring basin. An advisory committee was established for the Wekiva Spring basin to guide the development of the OSTDS remediation plan. This committee includes representatives from the Department of Health in Lake, Orange, and Seminole Counties; county government staff from these three counties; city government staff from the City of Apopka and Altamonte Springs; area public and private utilities; environmental interest groups; homeowners; and other interest groups such as the Florida Onsite Wastewater Association. During these meetings, DEP:

- Introduced the general concept of nitrogen source tracking and a nitrogen source inventory loading tool (NSILT) that can be used to quantify the relative contribution of nitrogen loads from different sources.
- Discussed the needed reduction of nitrogen loads from the existing benchmark to achieve the TMDL target and the 5, 10, and 15-year milestone load reduction goals for phased implementation of needed restoration activities.
- Explained factors to be considered and the approach to be used in delineating the PFA.
- Solicited the existing, proposed, and future projects that address nitrogen loads.
- Discussed the scientific information needed to characterize the nitrogen dynamics in the Wekiva and Rock Springs Run basin and the impact of nitrogen loads from OSTDS on the spring system.
- Worked with local stakeholders to generate an education program and identified key audiences, key messages to pass on, misconceptions to clarify, and effective approaches and methods that can be used for the education program.
- Introduced major funding sources available to support the local restoration and education projects.

The Department has an active role in assisting DEP with development of the OSTDS remediation plan. County Health Department staff serves as members of the advisory committee. In several OSTDS advisory committee meetings, presentations by Department staff:

- Introduced available information and data related to the OSTDS regulated by the Department and the application of a comprehensive wastewater/drinking water database – the Florida Water Management Inventory (FLWMI – <http://floridahealth.gov/flwmi>).
- Described the FOSNRS study and results from this study.

- Introduced the nitrogen removal technologies available for OSTDS in Florida and their permitting categories.
- Explained available tools and models developed by the Department that can help conduct life cycle cost analyses for selected OSTDS technologies; evaluate the nitrogen removal efficiency of available OSTDS technologies; and identify nitrogen loading hot spots based on such criteria as the seasonal high-water table, soil conditions, system hydraulic loading rates, and drainfield configurations.

The Department and DEP staff also held ongoing meetings to coordinate efforts. The Department has aided DEP with listing available OSTDS technologies, selecting proper nitrogen loading model parameters, reviewing DEP's draft NSILT, PFA, and BMAP/OSTDS remediation reports, and providing data analyses to assist DEP's decision making.

By the end of 2017, DEP published four draft BMAP/OSTDS remediation plans for nutrient-impaired OFS basins including the Volusia Blue Spring, Kings Bay/Crystal River, Weeki Wachee/Aripeka, and Suwannee River basins. These OSTDS remediation plans require that the nitrogen treatment efficiency for OSTDS to be installed in geographic areas defined by BMAPs must be at least 65%. Depending on each individual BMAP, this minimum treatment efficiency is required for new constructions, repair, and modifications of OSTDS either on lots of one acre or less or lots of all sizes located in PFA. For lots where sewer will be available within five years of the permit application date, a conventional OSTDS can be permitted. But the system must connect to the sewer within one year after the sewer becomes available. All lots with OSTDS in the PFA will need to be upgraded to nitrogen-reducing systems within 20 years of the adoption of the BMAP-OSTDS remediation plan. DEP is still developing the OSTDS remediation plan for the Wekiva Basin. However, the general requirements for controlling nitrogen loads from OSTDS in the Wekiva Basin are expected to be like those included in the four-published draft BMAP/OSTDS remediation plans.

In 2017, DEP organized four more OSTDS remediation plan public meetings for the Wekiva Basin. During these meetings, DEP:

- Presented the draft PFA and the detailed methodology and data used to generate the PFA delineation.
- Presented the draft NSILT calculation results, which indicated that the total nonpoint source nitrogen loads reaching the Upper Floridan Aquifer in the Wekiva Basin is about 1,015,853 lb. nitrogen per year and 29% of the load is contributed by OSTDS. Of the total nitrogen load contributed by OSTDS, 23% of

the load is contributed by OSTDS located in PFA, and the remaining 6% is contributed by systems outside PFA.

- Discussed the existing nitrogen loads, TMDLs, and the total nitrogen load reduction goal to achieve the TMDL. They provided an analysis of the gap between the total reduction goal and anticipated reductions from planned projects and indicated that an additional 138,190 lb. nitrogen per year needs to be reduced through future projects.
- Discussed possible OSTDS remediation approaches, which include:
  - The requirement to enhance or sewer all OSTDS within the BMAP basin within 20 years.
  - Installation or repair of a conventional system if sewer is projected in a BMAP basin. This approach was questioned by stakeholders as being too open-ended.
  - Enhanced OSTDS must meet or exceed the nitrogen removal treatment efficiencies expected from National Sanitation Foundation (NSF) Standard 245 certified systems. These systems provide a 50% nitrogen reduction. An additional 15% removal (30% of the remaining 50% nitrogen in the system effluent) can be achieved if the effluent is disposed into a drainfield with 24-inch or greater separation from the seasonal high-water table.
  - DEP is now evaluating the geographic extent of the needed OSTDS enhancement and sewer requirement in the Wekiva Basin. They are considering applying BMAP/OSTDS requirements on systems on lots one acre or less, all OSTDSs within the PFA, or all OSTDSs within the PFA plus systems outside the PFA.

To fulfill the statutory requirements related to education projects, at the same 2017 meetings DEP also:

- Presented results from a one-year monitoring project (October 2015 through October 2016) on 11 conventional OSTDSs located in the Wekiva Basin. The study was designed to quantify the nitrogen removal in drainfields and whether pumping OSTDS, for example as part of a maintenance program, provides nitrogen reduction. The results from the study showed that the conventional system drainfields provide about 35-44% nitrogen reduction in domestic wastewater from residences. Pumping of the septic tank did not significantly change the nitrogen concentrations of the septic tank effluent.

- Presented results from monitoring the “in-ground nitrogen-reducing biofilter” system installed in City of Apopka and showed that the system could provide a nitrogen-reduction in the range of 65-77%.
- Invited Orange County Government to introduce their scope of work for conducting a social marketing campaign to provide education to OSTDS owners. Orange County is now applying for the 319-grant education fund to support the education campaign. If the grant request is successful, the county would like to form focus groups to find out what the people in Orange County know about OSTDS, and other nitrogen nonpoint sources. The county would also like to use the focus groups to better understand how to reach their residents.
- Invited representatives from the Department, the Florida Department of Health, Orange County, and Florida Onsite Wastewater Association to provide introductions on onsite nitrogen-reducing technologies approved to be used in the State of Florida, the Department’s onsite system rule revision, the Department’s Onsite Sewage Program, and decentralized wastewater treatment technologies.
- Presented an annual update on the BMAP implementation in the Wekiva Basin. Invited representatives from St. John’s River Water Management District (SJRWMD) and Florida Department of Agriculture and Consumer Services to provide summaries on the long-term water quality trend of Wekiva River and Rock Springs Run, SJRWMD cost-share program and implementation of the projects supported by the cost-share program, and the status of agriculture BMP enrollment.

It is expected that DEP will provide draft OSTDS remediation policies in January 2018 and publish the draft Wekiva River and Rock Springs Run BMAP/OSTDS remediation plan report for public review in April, 2018.

The Department continues to play a vital role in assisting DEP to develop and implement OSTDS remediation plans. By March 2017, with TRAP’s final approval, the Department’s Onsite Sewage Program had completed the development of rule language to amend Florida Administrative Code, Chapter 64E-6 and allow passive nitrogen-reducing media layers to be placed beneath conventional septic system drainfield (i.e., the in-ground nitrogen-reducing biofilter). However, during this process, the Department was informed of potential patent infringement regarding the use of liners and woody materials in an OSTDS for the purposes of nitrogen reduction. The rule development and rulemaking documents have been drafted and await resolution of the patent issue prior to the Department’s completion of the rulemaking process.



In addition to the proposed and temporarily halted rule language to allow the in-ground nitrogen-reducing biofilters, rule language that acknowledges the nitrogen-reducing capabilities of specific aerobic treatment units (ATUs) certified to meet the NSF's Standard 245, has also been drafted by the Department and approved by TRAP. The rule language acknowledging NSF 245 certified ATUs for nitrogen reduction is proceeding through the rulemaking process and is expected to become effective in early 2018.

While the Department is drafting language to acknowledge the nitrogen-reducing ATUs certified to meet the NSF 245 in rule, this language change is only intended as a clarification. These ATUs must meet NSF Standard 40 prior to certification under Standard 245, and are, therefore, currently allowed to be installed in Florida under existing rule. When combined with a 24-inch separation between the bottom of the drainfield and the water table, the NSF 245 ATUs are expected to achieve at least the 65% nitrogen reduction as demonstrated from the in-ground nitrogen-reducing biofilter system. The Department estimates that over 600 of these systems have already been installed across Florida.

To obtain data on the longer-term performance of the passive in-ground and in-tank nitrogen-reducing systems identified and tested during the FOSNRS study, four in-tank systems and one in-ground nitrogen-reducing biofilter system have been monitored by Department staff since March 2017. The Department plans to continue monitoring these systems on a quarterly basis for a period of two years to evaluate long-term performance in reducing nitrogen and other key pollutants from the domestic wastewater as well as the maintenance needs and costs. Funding for this monitoring is anticipated from a federal 319-grant approved in December 2017 by the United States Environmental Protection Agency. The Department is now working with DEP on the necessary grant agreement for this project.

For an OSTDS enhancement to receive FSAPA related financial support from DEP, the system needs to be included in a "project" which must have a starting date, ending date and estimated costs. For these and other reasons, all projects require prior planning and are mostly limited to septic to sewer conversion projects. Local governments could work to create "umbrella projects", and based on the number of OSTDS repairs and modifications applications received in prior years, estimate the annual funding needs to supplement OSTDS upgrades. Local governments interested in this approach, would request springs restoration funds from and in accordance with DEP's requirements. Local governments should actively seek to develop this or other types of projects to obtain springs restoration funding for areas impacted by spring BMAPs.

The Department reached out to the DEP Clean Water Act State Revolving Fund (CWASRF) Program (low interest loan) and Nonpoint Source Funding Program (NSFP,

319 and TMDL grants) and has confirmed that these are two possible additional funding sources local governments could use to assist area residents with the forthcoming BMAP-required OSTDS enhancements.

The Department is working closely with DEP on an interagency agreement to implement the OSTDS remediation plan. The Department is preparing a set of education materials including info graphs, webpage, brochure, poster and podium presentations to help educate OSTDS owners about the needs of OSTDS remediation, available onsite system technologies, and new OSTDS regulation required by DEP BMAPs.

#### **RECOMMENDATION 10 – COORDINATED STRATEGIES FOR PRESCRIBED BURNING**

This recommendation relates to the issue of prescribed burning and the need to continue this practice as a way of mirroring the natural process required for many of the plant communities in the Study Area. While there is no specific statutory requirement, the *Wekiva River Basin Coordinating Committee Final Report* identified the Florida's Division of Forestry as the appropriate agency for leading a coordinated effort on this issue. The Division of Forestry continues working through the Central Florida Prescribed Fire Council (which includes the major agencies and entities identified in the recommendation) to promote education and understanding of the issue.

#### **RECOMMENDATION 11 – COORDINATED PLANNING FOR APOPKA/ORANGE COUNTY**

This recommendation addresses the need for coordinated planning and joint agreement on annexation in Northwest Orange County. In response, the City of Apopka and Orange County have developed and adopted (October, 2004) a joint planning agreement (JPA) that provides future areas of annexation, land uses and associated densities and intensities of use. This agreement currently is being used by both parties in addressing the comprehensive planning requirements of the *Wekiva Parkway and Protection Act* and review of individual development proposals.

#### **RECOMMENDATION 12 – COMPREHENSIVE PLAN REVIEW: AVAILABILITY OF CUP CAPACITY**

This recommendation is addressed through s369.322 (1) of the *Wekiva Parkway and Protection Act*. It requires the Florida Department of Economic Opportunity (DEO) and SJRWMD to ensure that local comprehensive plan amendments proposing to increase development potential in the Study Area demonstrate that adequate potable water

consumptive use permit (CUP) capacity is available. This requirement currently is being applied in the review of comprehensive plan amendments by both agencies.

SJRWMD has determined there were no consumptive use permit capacity issues associated with any of the comprehensive plan amendments thus far.

On November 10, 2015, the SJRWMD Governing Board approved the amended Regional Water Supply Plan and the draft 2035 Water Resources Protection and Water Supply Strategies Plan for five counties in central Florida. This region includes the Wekiva River and associated springs system and the plans will directly support water resources and water use in the Wekiva River region. The plans are the result of a collaborative effort for the Central Florida Water Initiative (CFWI) that includes three water management districts, FDEP, FDACS, central Florida utilities and stakeholders representing agricultural interests, the business community, local governments, and the environmental community. The plans call for a focus on options to accelerate and increase conservation measures and provide a comprehensive menu of alternative water supply project options, which include reclaimed water, surface water, stormwater, and other projects, to ensure adequate water supplies for the region through 2035.

### **RECOMMENDATION 13 – WASTEWATER FACILITY PLANS**

This recommendation is implemented through Section 369.320 F.S. of the *Wekiva Parkway and Protection Act*. It requires local governments within the Wekiva Study Area to develop a Wastewater Facility Supply Plan for joint planning areas and utility service areas. An important component of this planning is the requirement to update the plans if the TMDLs require reductions in point source pollutants for a basin or is required by legislation for enhanced treatment standards. All local governments have fulfilled the requirements as of 2012.

### **RECOMMENDATION 14 – LAND USE STRATEGIES**

Section 369.321 (3) F.S. of the *Wekiva Act* addresses this recommendation by requiring local governments to establish land use strategies that optimize open space and promote a pattern of development that protects the most effective recharge areas, karst features, and sensitive natural habitats. In March 2005 the former Florida Department of Community Affairs (FDCA), now Florida Department of Economic Opportunity (FDEO) prepared a technical assistance manual for local governments entitled *Guidelines for Preparing Comprehensive Plan Amendments for the Wekiva Study Area*. This manual outlined the requirements, information sources and suggested approaches for meeting the requirements of the Act. In addition, the East Central Florida Regional Planning Council hosted three (3) technical assistance meetings with local governments

to discuss the requirements and coordinate development of the amendments among the fifteen (15) jurisdictions. In 2010, Orange County, Ocoee and Eustis came into compliance. Eatonville worked with the Florida Department of Economic Opportunity (FDEO) through 2011 to come into compliance. By 2013, all jurisdictions have been found to be in compliance.

#### **RECOMMENDATION 15 – BALANCING RESOURCE PROTECTION AND ECONOMIC DEVELOPMENT**

Section 369.322 (3) F.S. of the *Wekiva Parkway and Protection Act* encourages development initiatives that ensure protection of surface and groundwater resources while promoting compact, ecologically and economically sustainable growth. In response to this recommendation, the Florida Department of Community Affairs (FDCA), now the Florida Department of Economic Opportunity (FDEO) produced the guidelines noted above, which suggest a variety of techniques and tools for guiding balanced growth that can be used by local governments.

#### **RECOMMENDATION 16 – BEST MANAGEMENT PRACTICES**

This recommendation is being addressed by the FDACS through their rulemaking activities required by Section 369.318 (9) F.S. of the *Wekiva Parkway and Protection Act* and development of their BMP Manuals referenced in Recommendation 5.

#### **RECOMMENDATION 17 – PUBLIC EDUCATION**

This is an ongoing activity of the SJRWMD through their water conservation planning activities as well as through groups such as the Friends of the Wekiva. This activity includes Florida Yards and Neighbors, SJRWMD Water Conservation Initiative, and landscaping BMPs.

The District's Blue School Grant Program accepted applications through Nov. 30, 2016 to provide support to school teachers of grades 9 through 12 to enhance student knowledge of freshwater resources issues. \$10,000 in grant funding was available. The District continues to promote this program, doubled the funding available to teachers for the 2017-18 grant cycle and expanded to include both middle and high school teachers.

The District also continues to promote the necessity of water conservation throughout the Central Florida Water Initiative Region, which the Wekiva River Basin falls into. Those efforts include sharing focused water conservation messaging through weekly newsletters, promoting low-cost ways for residents and businesses to cut back on water

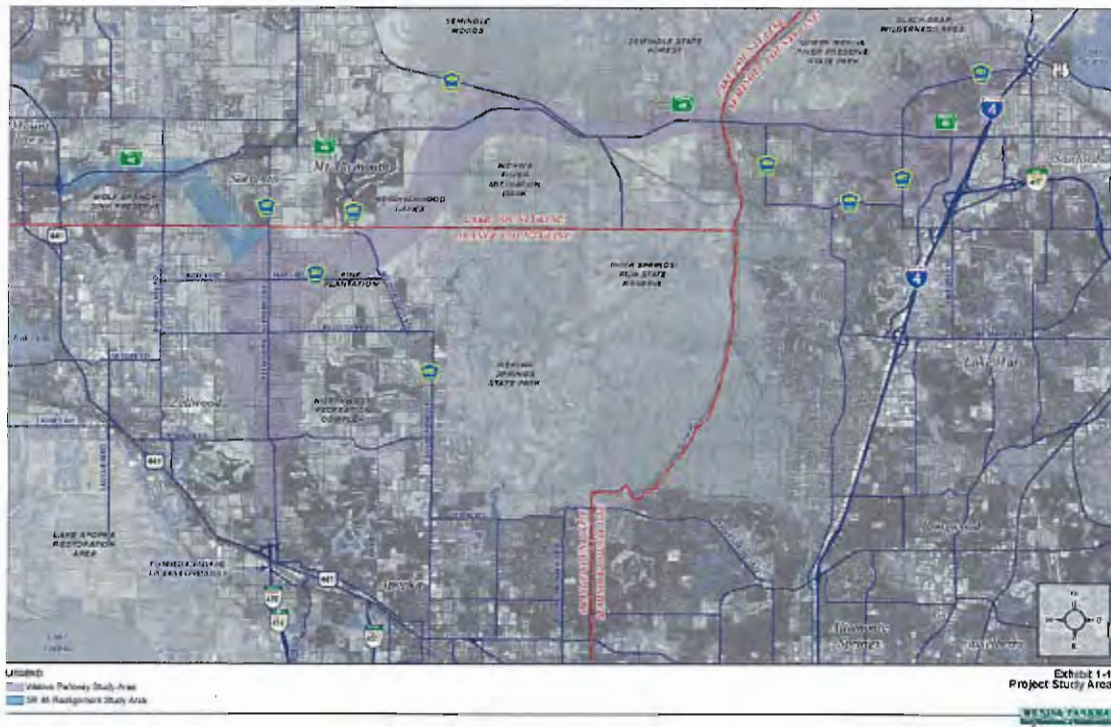
use through social media channels, including Facebook, Twitter, Instagram and YouTube, and educating the public about where water comes from and why we all have to work together to conserve, protect and restore one of Florida's most precious resources- water.

# ADDENDUM

## HISTORICAL PERSPECTIVE

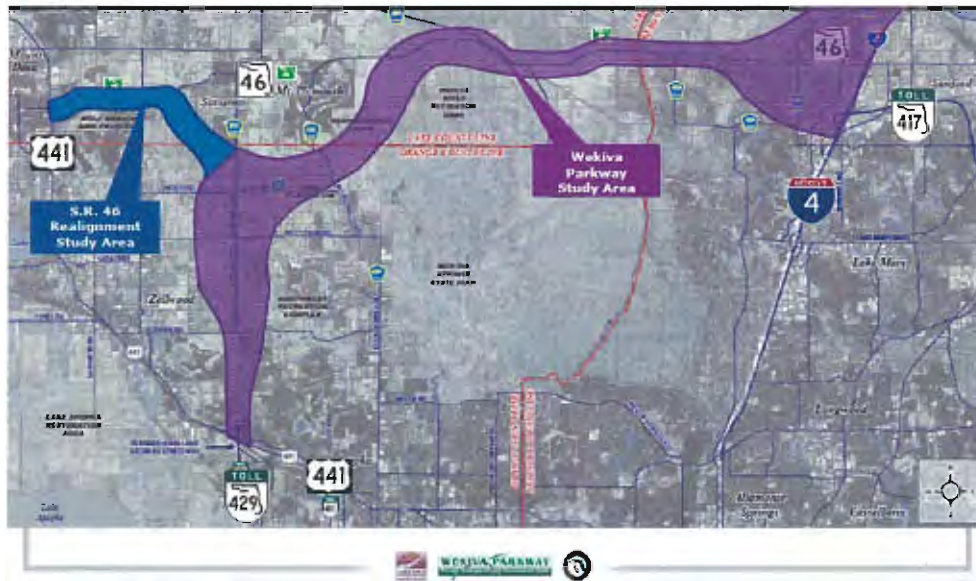
The following pages include a historical perspective of the recommendations made during the planning process for various segments of the Wekiva Parkway. Specifics may not be representative of the final engineered design.

Figure 3 – Project Location Map



CFX and FDOT

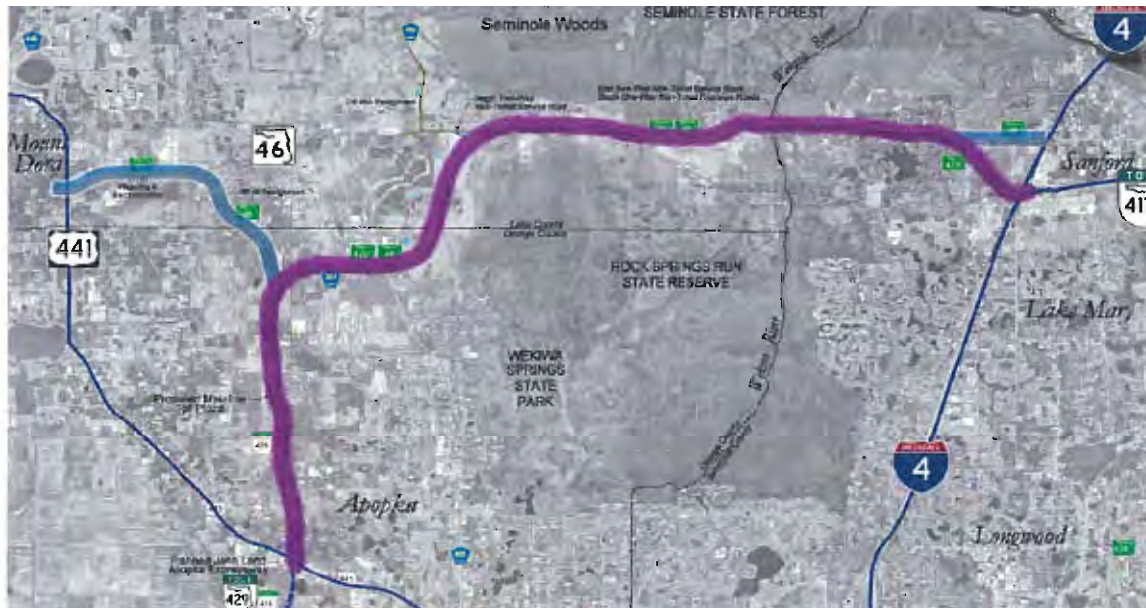
Figure 4 – Project Study Area



CFX and FDOT

Figure 5, below, depicts the **proposed** build alternative developed as a result of the studies and input from stakeholders. The figures that follow are more detailed representations of various segments of the parkway project.

Figure 5 – Proposed Build Alternative (2010)



CFX and FDOT

The project begins in Orange County at the SR 429 and US 441.

Figure 6 – U.S. 441 Interchange in Apopka

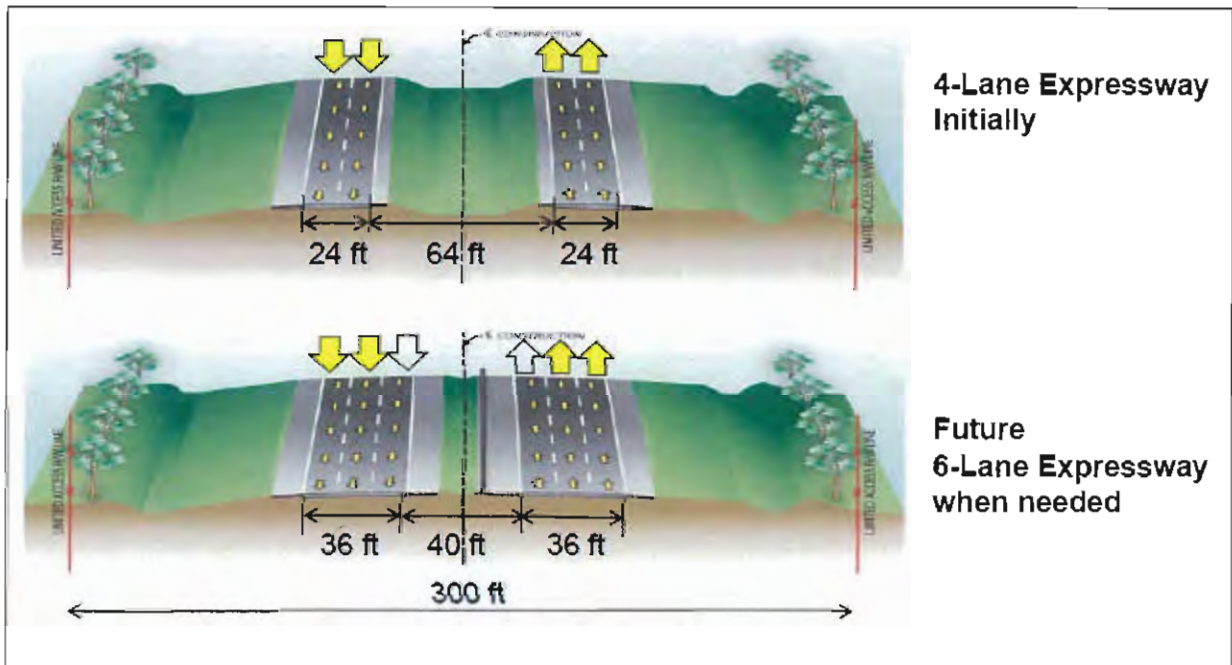


CFX and FDOT

Figure 7 illustrates an **example** rendering of the initial 4 lane expressway from U.S. 441 north to Lake County with the future expansion to a 6 lane expressway when needed.

Figure 7 – Parkway Cross-section from U.S. 441 north to Lake County

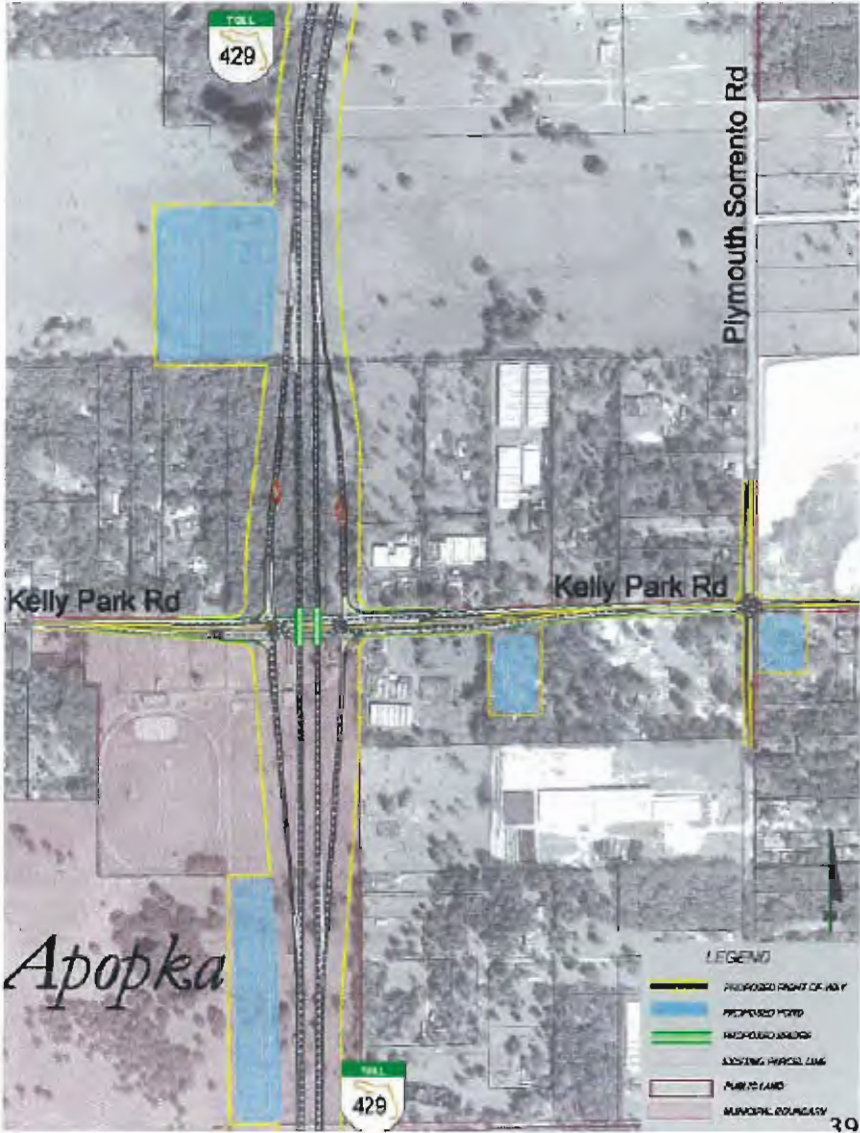
CFX and FDOT





Kelly Park road was the recommended placement for an interchange. This recommendation was supported by the City of Apopka.

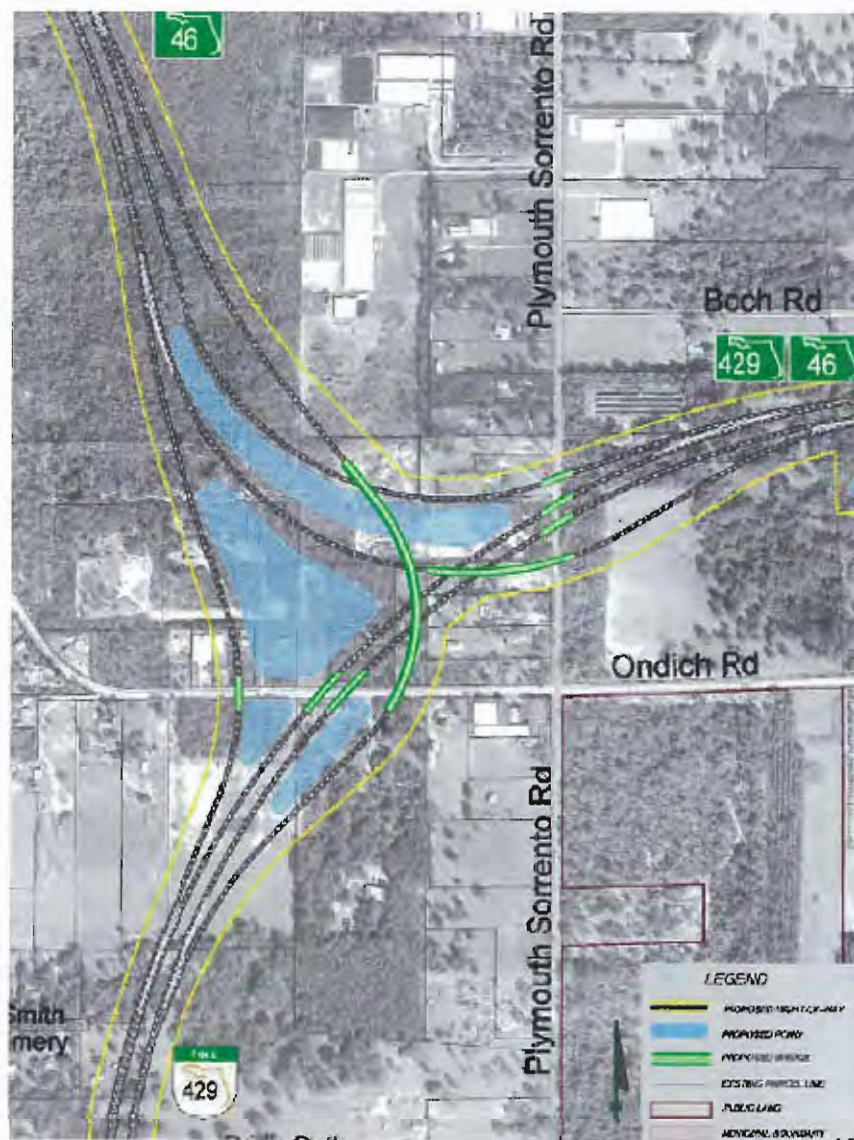
**Figure 8 – Orange County, Kelly Park Interchange**



CFX and FDOT

The Systems Interchange is located in the proximity of Plymouth Sorrento Road and Ondich Road as shown below in Figure 9. At this location, SR 429 (Wekiva Parkway) will continue to the east toward Seminole County.

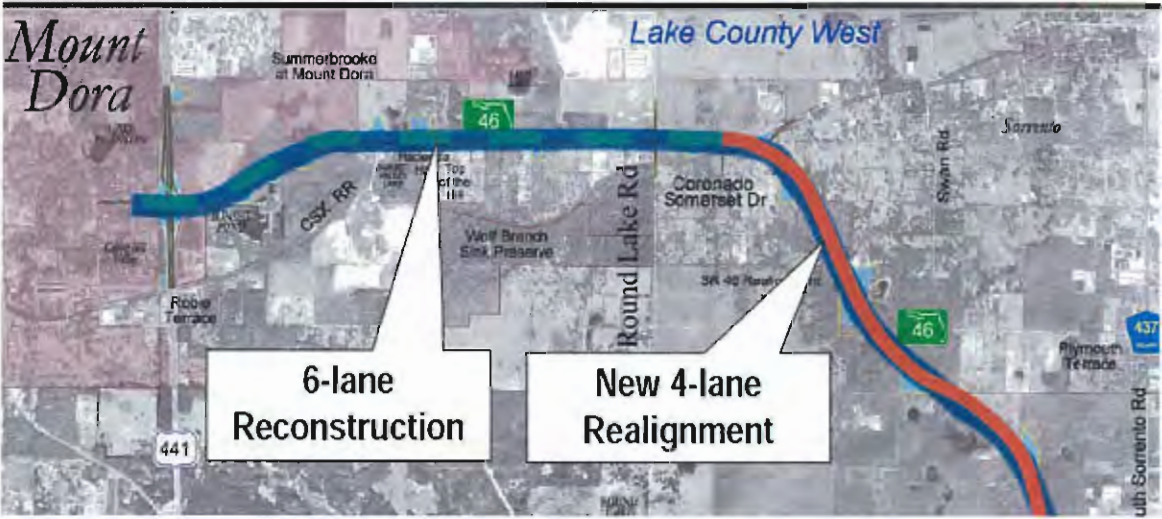
Figure 9 – Orange County, Systems Interchange



CFX and FDOT

In west Lake County, SR 46 was recommended to be widened to six lanes divided from US 441 to east of Round Lake Road with a new 4 lane realignment from east of Round Lake Road to the systems interchange.

**Figure 10 – Lake County West, Recommended Preferred Alternative**



CFX and FDOT

The interchange between SR 46 and U.S. 441 will be redesigned.

**Figure 11 – Lake County West, U.S. 441/S.R. 46 Interchange in Mount Dora**



CFX and FDOT

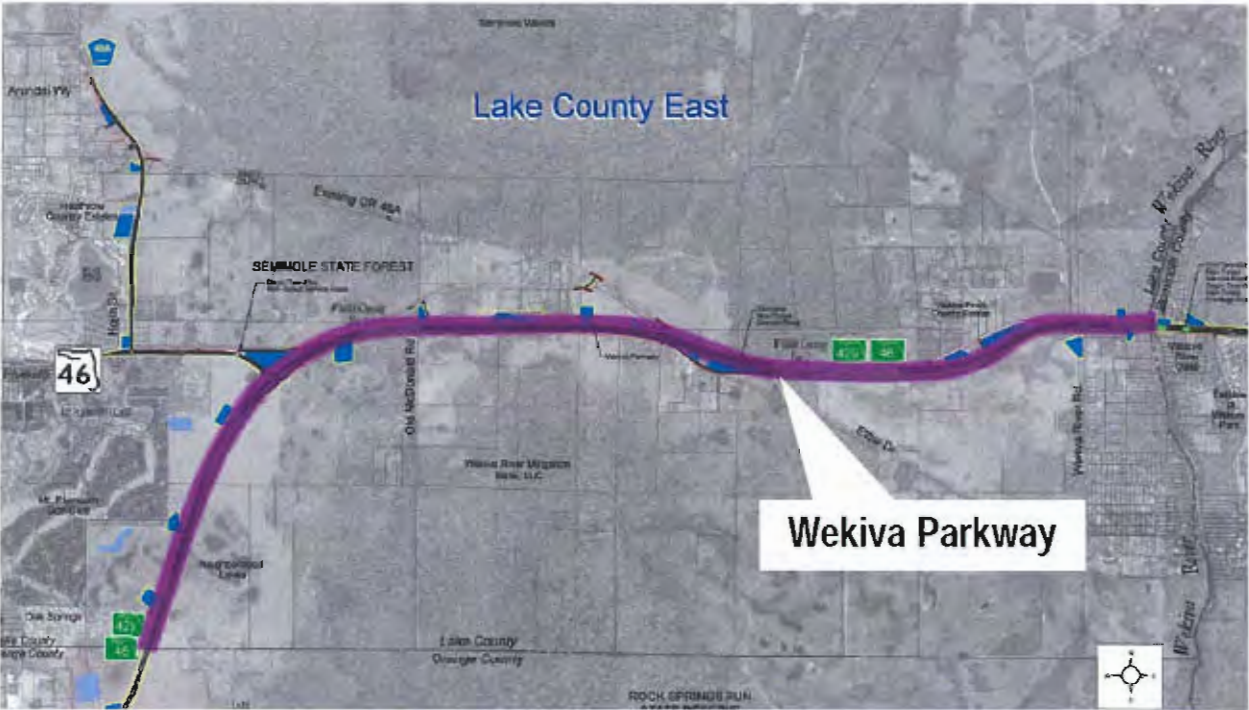
Figure 12 – Lake County West, S.R. 46 Transitions East of Round Lake Road



CFX and FDOT

In the eastern portion of Lake County, the recommended preferred alignment is depicted below in Figure 13. From Orange County to the Neighborhood Lakes Interchange, the Parkway will be a four lane expressway, expandable to 6 lanes when needed. From Neighborhood Lakes interchange to east of the Wekiva River, the parkway will also be four lanes, expandable to 6, however, a service road will be located in conjunction with this segment (Figure 13).

**Figure 13 – Lake County East, Recommended Preferred Alternative**

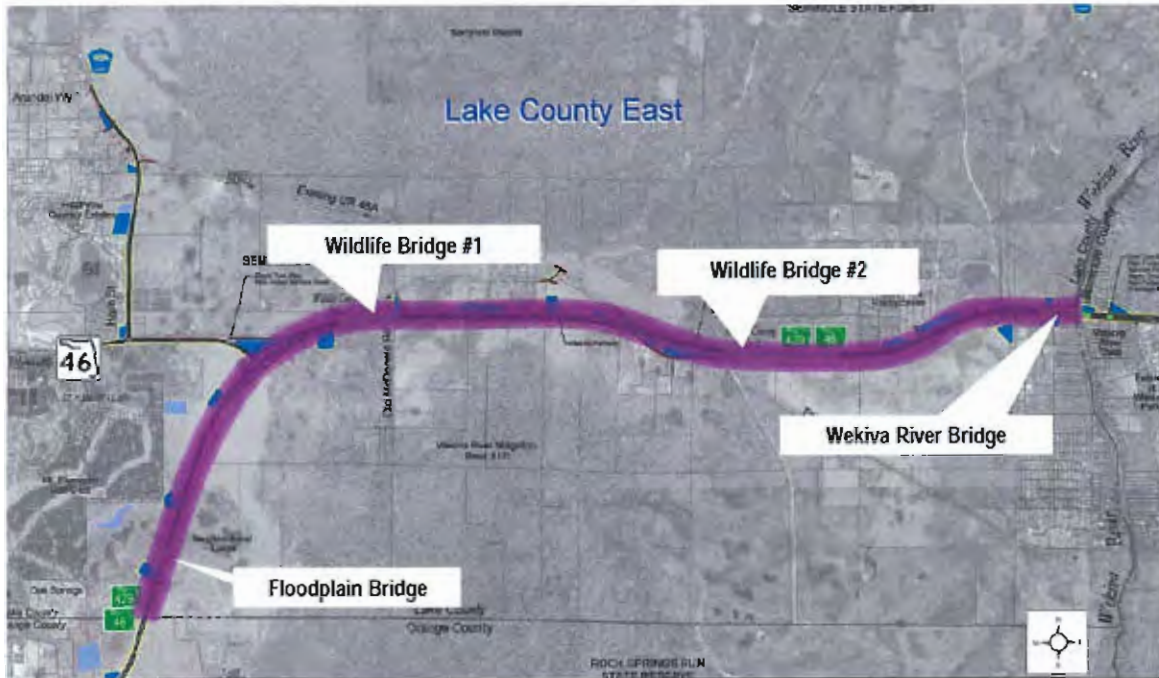


*CFX and FDOT*

Four bridges are associated with the Wekiva Parkway:

- Two wildlife bridges
- Floodplain Bridge
- Wekiva River Bridge

**Figures 14 – Wekiva Parkway Bridge Crossings**



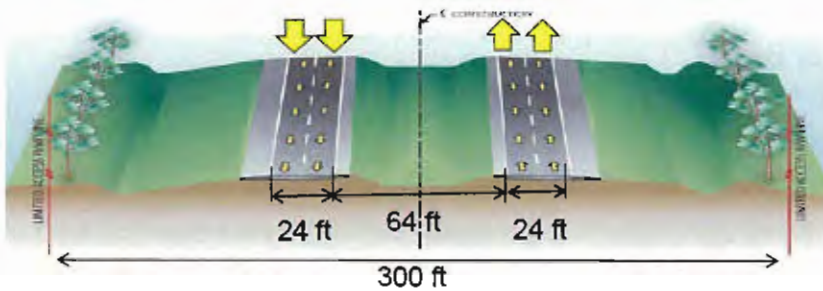
*CFX and FDOT*

In March, April and July 2011, CFX and FDOT conducted three conceptual bridge design charrettes with the National Park Service (NPS), the Wekiva River System Advisory Management Committee, the Federal Highway Administration (FHWA) and other stakeholders. This charrette process was necessary in order to obtain NPS Section 4(f) concurrence for the Wekiva River bridges. On October 7<sup>th</sup>, NPS provided full Section 4(f) concurrence subject to an ultimate Section 7(a) determination (under the Wild & Scenic Rivers Act) during final design.

After receipt of NPS Section 4(f) concurrence, CFX and FDOT completed the final draft Programmatic Section 4(f) Evaluation for the Wekiva Wild & Scenic River and submitted the document to FHWA on November 8<sup>th</sup>.

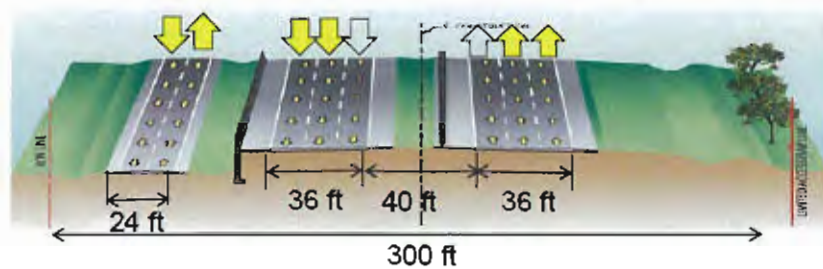
**Figures 15 – Wekiva Parkway Cross-Sections**

*CFX and FDOT*



**4-Lane Expressway Initially  
(Expandable to 6-Lanes when needed)**

From Neighborhood Lakes Interchange to east of Wekiva River



**4-Lane Expressway with Service Road  
(Expandable to 6-Lanes)**

The service road will begin at the Neighborhood Lakes Interchange and follow on the north side of the Wekiva Parkway into Seminole County to Wekiva Park Drive. At this location, the two-way, non-tolled service road ends and the one-way, non-tolled frontage roads begin and head east through Seminole County until the Wekiva Parkway turns southeast towards S.R 417.

Figures 15 illustrates an **example** what a cross-section of the parkway may look like.

Figures 16a – Wekiva Parkway Service Road Concept

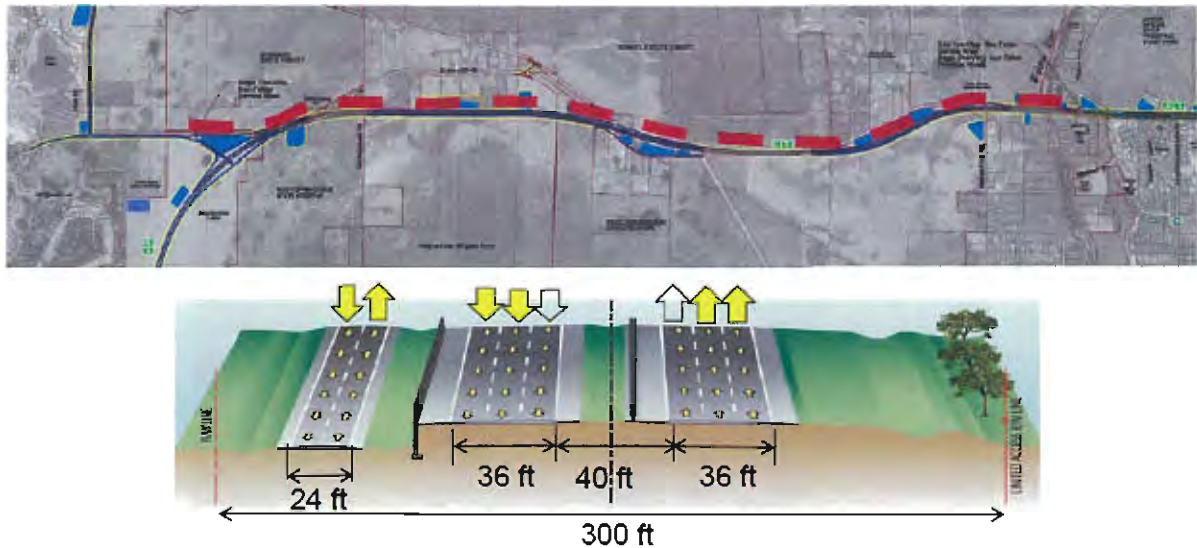


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**Figures 16b – Wekiva Parkway Service Road Concept and Cross Section**

**Along North Side of Wekiva Parkway**



*CFX and FDOT*

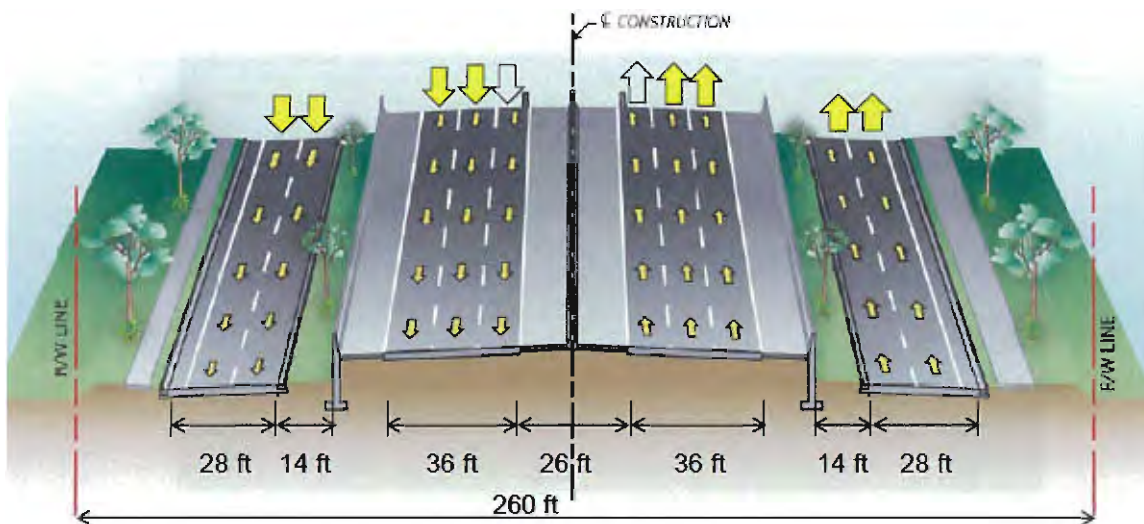
As shown in Figures 17a and 17b, the frontage roads associated with the parkway are one way 4 lane roadways located on the north and south sides of the parkway. The roadways are expandable to 6 lanes if needed. S.R 46 will be reconstructed from West of Orange Blvd. to I-4 as part of this project.

**Figures 17a – Seminole County, Recommended Alignment with Frontage Roads**



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Figures 17b – Seminole County, Recommended Alignment Cross Section Example



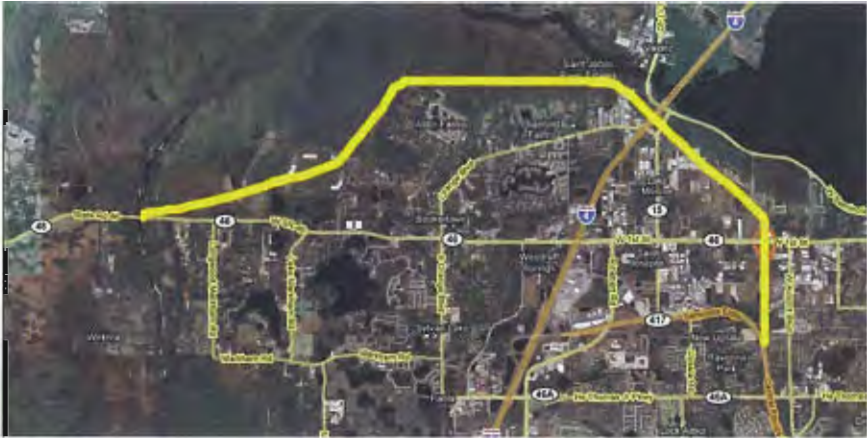
**4-Lane Expressway with Frontage Roads  
(Expandable to 6-Lanes)**

*CFX and FDOT*

In Seminole County, the recommendation for SR 46 was to widen the road to the north, minimizing the impact to Lower Wekiva River Preserve State Park. Numerous alternatives were explored including the request of the Seminole County Expressway Authority (SCEA) Board that FDOT conducted Traffic, Impact and Cost Assessment of the Wekiva Parkway Community Coalition Alignment Alternative in 2008. From October 13-21, 2008, CFX met with the SCEA Board members to review the assessment results and on October 27<sup>th</sup>, a meeting was held with WPCC representatives. A presentation was made to the SCEA board on November 18, 2008. Agencies continued to work together to resolve concerns for this alignment throughout 2009.

Figure 18 depicts Map G “Seminole County/Bevier Rd Alternative” as proposed by the WPCC.

**Figure 18 – Map G “ Seminole County/Bevier Rd Alternative”**



*CFX and FDOT*

After numerous additional alignments were explored for the SR 417/I-4 Interchanges, the alignment illustrated below in Figure 19 was determined to be the final recommendation, which will reduce the impact on two neighborhoods.

**Figure 19 – Seminole County, Recommended Interchange with S.R. 417 and I-4**



*CFX and FDOT*

The realignment of SR 46A has been most controversial. The recommended road alignment keeps SR 46A out of the Seminole State Forest and Heathrow Country Estates.

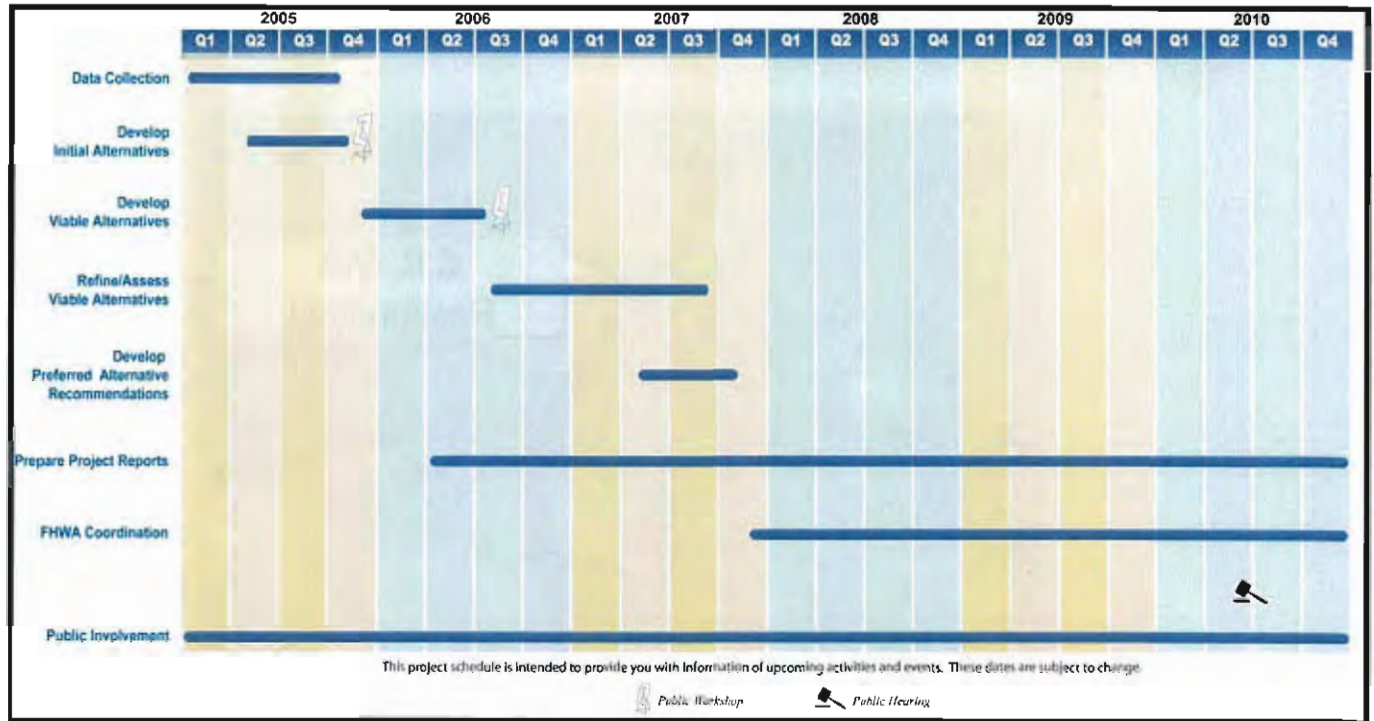
Figure 20 – S.R. 46A Realignment



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Figure 21 shows the timeline utilized for the Wekiva Parkway PD&E study.

**Figure 21 – Study Schedule**



CFX and FDOT



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