

4.3.5 Wetlands

In compliance with Presidential Executive Order 11990, and the Federal Highway Administration's (FHWA) Technical Advisory T6640.8A, Title 23, Code of Federal Regulations (CFR), Part 777, and in accordance with guidelines presented in Part Two, Chapter 18 of FDOT's *PD&E Manual*, assessments of wetland and other natural resources within the project study corridor were conducted.

Project biologists identified and evaluated wetlands within the study area which was defined as roughly an 800-foot wide corridor centered on the alternative alignments and immediate vicinity, in addition to potential stormwater pond locations. Wetlands were classified, described and quantified using limited field verification of readily available information such as the National Wetlands Inventory (NWI) mapping, SJRWMD GIS database of land use mapping, and soil surveys for Lake, Orange, and Seminole Counties.

The Uniform Mitigation Assessment Method (UMAM), per Chapter 62-345 F.A.C., was used to evaluate the function and condition of ten representative wetlands that may be impacted by the proposed improvements. Three main parameters are assessed under the UMAM protocol. They are 1) location and landscape, 2) water environment, and 3) vegetation and benthic community. Each parameter is given a score between 1 and 10. The final score is a weighted average.

The UMAM analysis scores for the existing conditions of representative wetlands in 2006 are presented in **Table 4-10**. These representative wetlands are typical of wetlands throughout the project study area and were selected for analysis out of the total set of wetlands identified as potentially being impacted by the project. An approximate delineation of each wetland in the study area and the corresponding wetland identification numbers are shown on project aerials in the updated final *Wetland Evaluation Report* (CH2MHILL, June 2010).

Wetlands identified within the proposed project corridor are of high to moderate quality. Most of the representative wetlands scored above average to average for wetland assessment functions. The Wekiva River, one of the most notable and unique features in the regional landscape, scored the highest due to its near pristine condition and preserved adjacent uplands for wildlife habitat. Wetlands located within or near State Parks, Preserves, and State Forests scored high due to their location in the landscape and the high quality of their water environment. These wetlands were typically identified in east Lake County and Seminole County. In areas of Orange County and west Lake County where development pressures are higher in the adjacent uplands and habitats are more fragmented, wetlands scored lower. The UMAM assessment and scoring worksheets, *PART I – Qualitative Description (per Section 62-345.400, F.A.C.) and PART II – Quantification of Assessment Area (per Sections 62-345.500 and .600, F.A.C.)* are presented in the *Final Wetland Evaluation Report*.

4.3.5.1 Avoidance and Minimization

Avoidance and minimization of wetland impacts is an important objective during the project planning process. Wetland impact avoidance was balanced with impact avoidance of historic structures, valuable upland habitats, natural resources, and public conservation property.

The larger picture of conservation at the landscape level was a major factor in the Proposed Build Alternative selection. Enhancing the connectivity of a meaningful wildlife corridor and maintaining contiguous wildlife habitat was a primary objective throughout the alternative alignment analysis process. Long bridges are proposed in locations that should improve wildlife movement corridor connectivity and effectiveness.

Further impact minimization efforts shall be considered during the final design phase following the PD&E study. Where avoiding wetlands is not possible, proposed impacts to wetlands will be minimized to the maximum extent practicable, based on safe and sound engineering practices and construction constraints.

The use of floating turbidity barriers, silt screens, upland setbacks, and other discharge prevention measures during construction will minimize impacts to remaining wetlands within the vicinity of the project. The proper erosion and turbidity control will be identified during final design, including that needed to meet the Wekiva River Basin special protection requirements, per *Applicant's Handbook* subsections 11.3.3 (SJRWMD, 2006).

The Proposed Build Alternative and related pond sites evaluated during the PD&E Study phase will be reexamined during the final design phase of the project using more detailed surveying and geotechnical information that will be available at that time. Any modifications that are warranted, such as the use of steeper front slopes with or without guard rails through wetland areas, will be considered during the final design phase to further reduce wetland impacts.

4.3.5.2 Impact Assessment

Estimates of wetland impacts for the Proposed Build Alternative are provided in **Table 4-11**. An approximate delineation of each wetland impacted by the Proposed Build Alternative and the corresponding wetland identification numbers are shown in **Exhibit 4-15, Sheets 1 – 4**.

Potential wetland impact acreage was estimated based on the proposed roadway typical sections and preliminary plans for the Proposed Build Alternative. All wetland acreage within the planned right-of-way of the Proposed Build Alternative and within pond locations, comprise the estimated impacts for the purpose of this PD&E study. Actual impact acres may be reduced from this conservative estimate in the final design, permitting, and construction phases.

Cumulative impacts are considered unacceptable when the proposed project, considered in conjunction with past, present, and future activities, would then result in a violation of state water quality standards or substantial adverse impacts to functions of wetlands or other surface waters within the same drainage basin, when considering the basin as a whole.

When mitigation of a project's adverse impacts occurs within the same basin as the project, cumulative impacts are presumed to be adequately addressed (SJRWMD, 2006).

TABLE 4-10

UMAM Parameters and Scores for Existing Conditions

Wekiva Parkway/SR 46 Realignment PD&E Study in Lake, Orange, and Seminole Counties

Wetland ID #	Wetland Type / FLUCFCS	Location and Landscape	Water Environment	Vegetation or Benthic Community	Final UMAM
W33-37	Wekiva River – 510, 630, 644	9	10	9	0.93
W24-27 and contiguous swamp outside of ROW	Mixed habitat of marsh, shrub, and swamp – 617, 630, 631, 641	8	10	9	0.90
# N/A - outside of Proposed Build Alternative	Yankee Lake, mixed forested swamp, marsh – 523, 611, 630, 641, 644	7	10	9	0.87
W16	Marsh – 641	8	8	10	0.87
# N/A - outside of Proposed Build Alternative	Minor spring run, wet prairie – 510, 643	7	10	4	0.70
W48-51	Shrub wetland, marsh – 631, 630, 534, 641, 644	5	7	9	0.70
W55-56	Wet prairie, deep marsh – 643, 644	8	7	4	0.63
# N/A - outside of Proposed Build Alternative	Marsh – 641	5	7	7	0.63
W42	Lake Sten, marsh – 641	4	7	7	0.60
W2	Shrub wetland – 631	3	7	4	0.47
Total			Average score:		0.73

Wetland ID#: W = wetland, O = Orange County, S = Seminole County, LW = Lake Co. West, LE = Lake Co. East

Numbered consecutively from south to north and from west to east within each county.

Possible scores for each parameter range from 1 to 10 (highest = best quality).

Total Scores range from 0.0 to 1.0 (highest = best quality).

TABLE 4-11

Summary of Potential Direct Impacts to Wetlands and Natural Surface Waters within the Proposed Build Alternative Right-of-Way, Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study in Lake, Orange, and Seminole Counties

County	Section	Proposed Build Alternative Segments	Wetland ID #	Direct Impact (acres)
Orange	Wekiva Parkway	Kelly Park Rd Interchange Alternative & Alignment	W1 – W8	2.94
Orange	Wekiva Parkway	Orange County Alternative 1 Alignment (east of Plymouth Sorrento Rd)	-	0.00
Orange	Wekiva Parkway	Systems Interchange Alternative 1	W9	0.34
Orange	SR 46 Realignment	Lake County West Alternative 1 (northwest to Lake County line)	W58 – W59A	1.68
			Orange Co. Total	4.96
Lake West	SR 46 Reconstruction	SR 46/US 441 Interchange Modification Alt. 2 (at-grade intersection of SR 46 and US 441)	-	0.00
Lake West	SR 46 Reconstruction	SR 46 North Widening Alternative	W48 – W53	10.66
Lake West	SR 46 Realignment	Lake County West Alternative 1 (southeast to Orange County line)	W54 – W57	1.52
Lake East	Wekiva Parkway	Neighborhood Lakes Alignment Alt. 1 (western alignment)	W10 – W15	13.17
Lake East	Wekiva Parkway	South (Red) Alignment Alternative 2 with Parallel Service Road	W16 – W34	18.10
Lake East	CR 46A Realignment	Alternative 1A, with SR 46 widening to the south	W60 – W61	1.87
Seminole	Wekiva Parkway	SR 46 Corridor North Widening Alt. from Wekiva River east to near Orange Avenue	W35 – W40A	5.16
Seminole	Wekiva Parkway	SR 417/I-4 Interchange Modification Alternative, with Connection Alignment Alt. B	W41 – W47	34.39
Seminole	SR 46 Reconstruction	Widen to Six Lanes from Wekiva Parkway to the SR 46/I-4 Interchange	W62 – W64	7.73
			Lake/Seminole Co. Total	92.60
			GRAND TOTAL	97.56

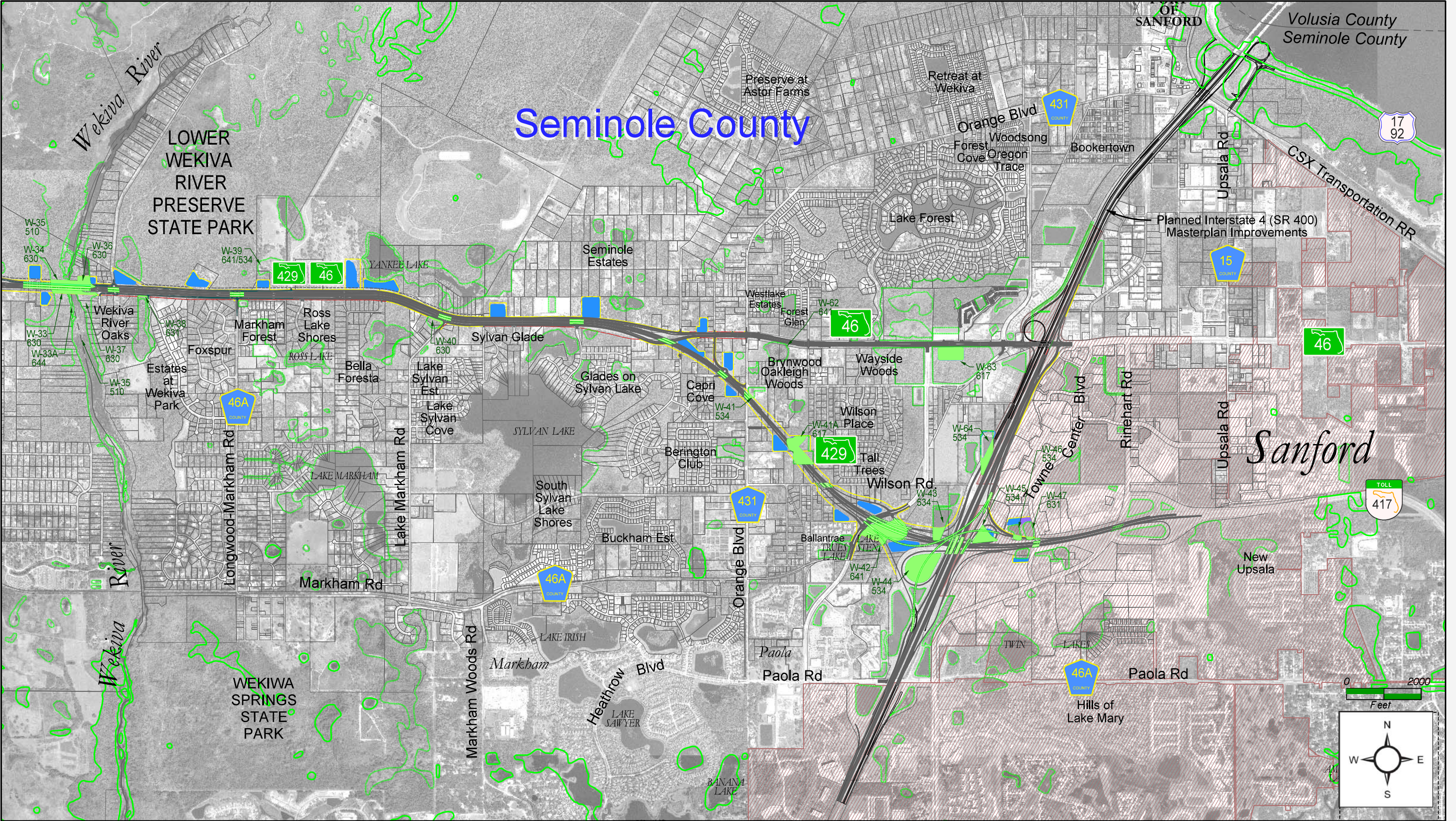


LEGEND

- Stormwater Ponds
- Floodplain Compensation Ponds
- Wetland Boundaries
- Potential Impacts to Wetlands
- W-6 Wetland ID
- Proposed Build Alternative R/W
- Existing R/W
- Proposed Bridge

Exhibit 4-15
Wetland Impacts
Lake County West Proposed Build Alternative

Sheet 2 of 4



LEGEND









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|  Stormwater Ponds |  Potential Impacts to Wetlands |  Proposed Build Alternative R/W |
|  Floodplain Compensation Ponds |  W-6 Wetland ID |  Existing R/W |
|  Wetland Boundaries | |  Proposed Bridge |

Exhibit 4-15
Wetland Impacts
Seminole County Proposed Build Alternative
Sheet 4 of 4

Direct Impacts

All wetlands and natural surface waters (i.e., river, lakes, spring runs) that are within the Proposed Build Alternative proposed right-of-way are estimated to cover 77.11 acres. Man-made surface waters (excavated ponds - 534 FLUCFCS) cover 20.45 acres of the Proposed Build Alternative proposed right-of-way. Mitigation for excavated ponds typically is not required, unless they are used by listed wildlife species.

A summary of the potential direct impacts to wetlands and surface waters is provided in the previously referenced Table 4-11. A detailed list of the estimated impacts for each wetland, general habitat type (forested, shrub, herbaceous, and surface water) within the Proposed Build Alternative is provided in the *Wetland Evaluation Report*.

Secondary Impacts

Secondary impacts refer to indirect effects on wetland functions resulting from project activities. Examples of secondary impacts that may occur because of the project include shading of wetlands due to bridging, an increase in sunlight reaching a wetland resulting from the removal of adjacent tree canopy, or road noise and debris causing habitat disruption in adjacent wetlands.

Secondary impacts to water quality are not expected with this project because the stormwater treatment system will be designed to satisfy current stormwater management criteria, including special basin criteria. Rather, water quality treatment will be improved over the existing conditions along some portions of the project in Lake and Seminole Counties which follow the existing SR 46 alignment and were constructed primarily before drainage criteria were developed.

Shading from bridge spans may be expected with this project at the marsh wetland on the Neighborhood Lakes property and at the Wekiva River. The Wekiva River expressway and service road bridges will be constructed at the existing bridge crossing, so the impacts from this project will be from the increased width of the proposed bridges. However, the effects of shading from the wider bridge crossing will be reduced by the increased height of the proposed bridges, which will allow more light to reach the vegetation within the river channel.

Secondary impacts to forested wetlands from removal of existing tree canopy will result in a change of sunlight for adjacent wetlands. These types of impacts will occur where forested wetlands are immediately adjacent to the existing SR 46 right-of-way and to the proposed alternatives. Forested wetlands that have the potential to be impacted from the Wekiva Parkway/SR 46 realignment were identified in areas of Seminole and Lake Counties.

In some locations secondary impacts will be avoided. Wherever possible, a setback will be provided between a proposed stormwater treatment pond and a wetland, per the provision in the *SJRWMD Applicant's Handbook 12.2.7(a)* that states: "Secondary impacts to the habitat functions of wetlands associated with adjacent upland activities will not be considered adverse if buffers, with a minimum width of 15 feet and an average of 25 feet, are provided abutting those wetlands."

However, setbacks may not always be possible along the proposed roadway, such as where insufficient right-of-way is available. When setbacks are not practicable, additional mitigation acreage may be required to offset secondary impacts. The amount of mitigation acreage required for the secondary impact is determined during the permitting process.

Cumulative Impacts

As per the SJRWMD *Applicant's Handbook* subsections 12.1.1(c), 12.1.1(g), 12.2.2, and 12.2.8(b), an applicant must provide reasonable assurances that the project will not cause unacceptable cumulative impacts on wetlands within the same drainage basin by identifying "reasonably expected future applications with like impacts." Cumulative impacts are considered unacceptable when the proposed project, considered in conjunction with past, present, and future activities, would then result in a violation of state water quality standards or substantial adverse impacts to functions of wetlands or other surface waters within the same drainage basin, when considering the basin as a whole. Mitigation for cumulative impacts is determined during the permitting process.

History has shown that transportation improvement projects usually have cumulative effects in terms of new residential and commercial development occurring near the new roadway. Some of the changes in land use patterns, population density, and growth rate are projected to occur in the study area irrespective of this roadway project. As stated in the *Wekiva Parkway and Protection Act*, the intent of this project is to complete the western beltway around the greater Orlando metropolitan area in an environmentally compatible manner while limiting local access interchanges so as not to encourage development of adjacent areas.

The Orange County portion of the Wekiva Parkway will be a limited access expressway on new alignment. The new roadway will cross rural residential and agricultural land uses that are steadily being developed today. It is expected that the new local access interchange at Kelly Park Road may contribute to the local area commercial and/or residential development. However, the *Wekiva Parkway and Protection Act* requires local governments to prepare plans for the interchanges areas to control development. Very few wetlands would be impacted by the project in Orange County.

In Lake County West, SR 46 east of US 441 is proposed to be reconstructed and widened, with a realignment connecting to the Wekiva Parkway. In Lake County east, most of the improvements will be a limited access expressway partially on new alignment and partially following the existing SR 46 corridor near conservation lands under state ownership. There will be a parallel Service Road for local access that will be inside the right-of-way needed for the expressway. The cumulative effects of this Wekiva Parkway project will be greatly minimized by removing the option of future development from parcels along the roadway, as is the case with the recently acquired Neighborhood Lakes property. That land was planned to be developed as a residential community and, with a parkway interchange at the north end of the parcel, it surely would have been developed. Now it will be conservation land directly contiguous to the state reserve land.

The majority of the Seminole County portion of this project will be a widening of the existing SR 46 corridor for a limited access expressway with frontage roads. This section of existing SR 46 particularly on the south side has been almost fully developed in urban and residential lane uses; therefore, little opportunity for increased cumulative impacts is anticipated. A portion of the roadway through Seminole County will be on new alignment from SR 46 southeast to the existing SR 417/I-4 interchange. However, most of that area has already been developed in urban and residential land uses, except for some small parcels of pasture and remnant citrus groves. It is likely that parcels which are currently undeveloped in this section of Seminole County will be developed by the time Wekiva Parkway construction activities begin.