

### 3.6.1 Orange County

The Proposed Build Alternative for the Orange County portion of the project area is:

- Wekiva Parkway
  - Kelly Park Road Interchange Alternative and Alignment (from north of US 441 to systems interchange) – four-lane divided expressway expandable to six-lane divided in median
  - Orange County Alternative 1 (from systems interchange east to Lake County Line) – four-lane divided expressway expandable to six-lane divided in median
  - Systems Interchange Alternative 1
- SR 46 Realignment
  - Lake County West Alternative 1 (from systems interchange northwest to Lake County line) – four-lane divided expressway expandable to six-lane divided in median

The following is a brief summary of the viable alternatives assessment used to identify the components of the Proposed Build Alternative.

#### ***Local Access Interchange and Alignment:***

Four viable alternatives for two local access interchange options were identified for north-south and east-west alignments of Wekiva Parkway in Orange County. They are as follows:

- *Kelly Park Road Interchange Alignment with Orange County Alternative 1*
- *Kelly Park Road Interchange Alignment with Orange County Alternative 2*
- *Ponkan Road Interchange Alignment Alternative with Orange County Alternative 1*
- *Ponkan Road Interchange Alignment Alternative with Orange County Alternative 2*

The impacts and costs of each of those viable alternatives were comparatively assessed. The estimated costs for construction and right-of-way for the two Kelly Park Road interchange and alignment alternatives are considerably less than the two Ponkan Road interchange and alignment alternatives. The higher estimated construction costs for the Ponkan Road interchange alternatives are mainly due to the need for more extensive floodplain bridging with that interchange concept.

Generally, the estimated environmental, residential, and business (foliage nursery) impacts of the two Kelly Park Road interchange and alignment alternatives are equal to or less than the impacts of the two Ponkan Road interchange and alignment alternatives. Of the two Kelly Park Road interchange and alignment alternatives, the Kelly Park Road Interchange Alignment with Orange County Alternative 1 would have less impact to floodplains, require fewer residential displacements, and have slightly less business impact.

The traffic analysis of the local access interchange options at either Kelly Park Road or Ponkan Road indicated little difference between the interchange locations. However, the traffic analysis report recommended the Kelly Park Road local access interchange location due to better spacing from the planned John Land Apopka Expressway / US 441 interchange and better access, mobility, and user benefits for both northwest Orange County and east Lake County. On February 23, 2007 the City of Apopka's Chief Administrative Officer

indicated the Kelly Park Road interchange and alignment alternative, as well as the Orange County Alternative 1 alignment, were acceptable to the city. The Orange County Board of County Commissioners voted on March 6, 2007 to approve the Kelly Park Road alternative as the local access interchange recommendation.

The estimated total cost for either of the two Kelly Park Road interchange and alignment alternatives is essentially the same, but because the Kelly Park Road Interchange Alignment with Orange County Alternative 1 has the overall fewest impacts, it is recommended as the Proposed Build Alternative alignment and local access interchange in Orange County.

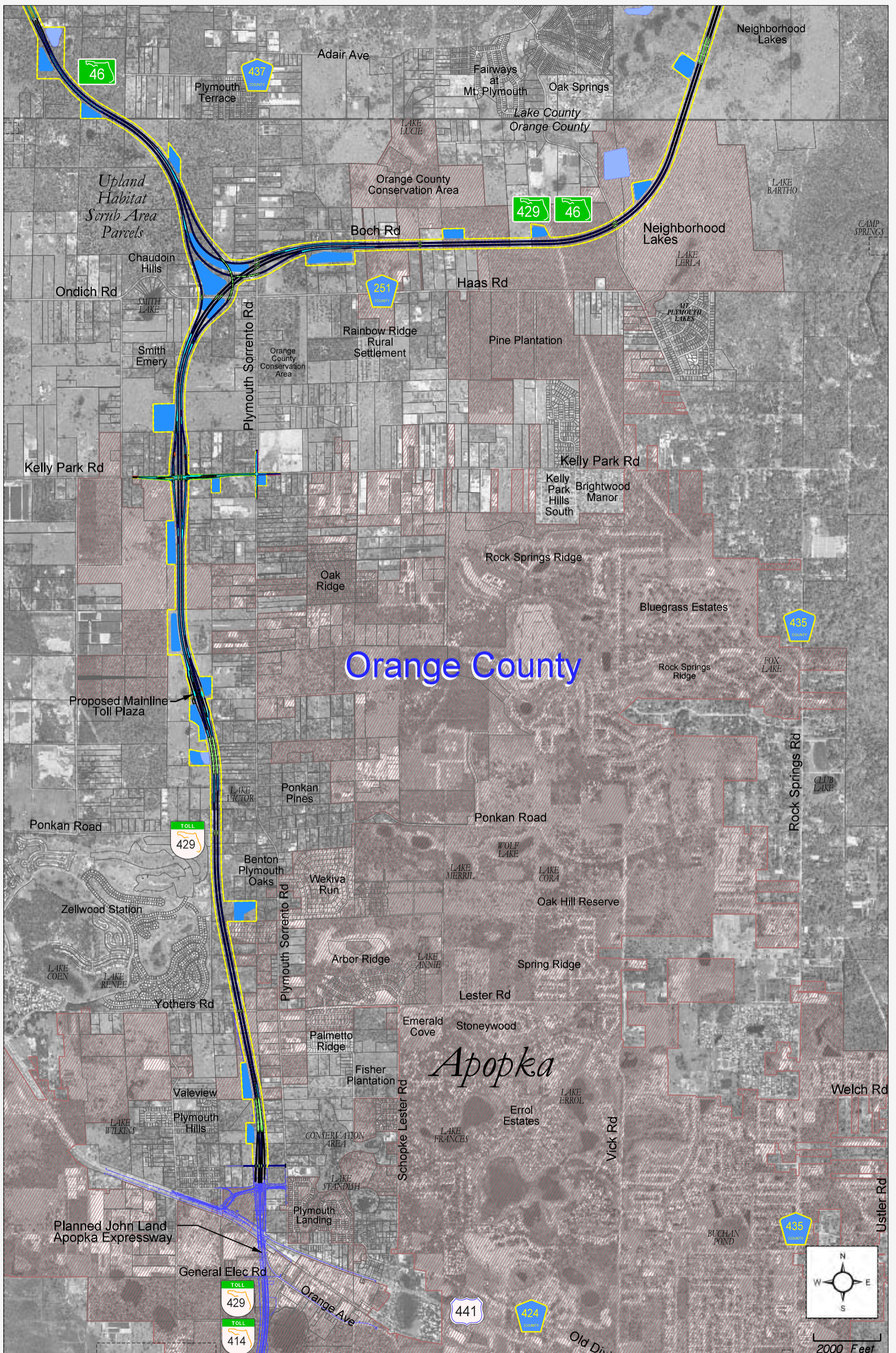
***Systems Interchange and SR 46 Realignment:***

Six viable alternatives were identified for the systems interchange between Wekiva Parkway and realigned SR 46. Each of the systems interchange alternatives was analyzed with two alternative alignments for connection to SR 46 in Lake County West. The impacts and costs of those viable alternatives were comparatively assessed.

Systems Interchange Alternative 1, the most westerly of the three alternative locations, is the only concept which would neither directly impact the historic Boch House (which may be eligible for listing in the National Register of Historic Places) nor affect existing access between Boch Road and Plymouth Sorrento Road. Systems Interchange Alternative 4 with Lake County West Alternative 1 would terminate Boch Road about 800 feet east of the existing intersection with Plymouth Sorrento Road. Realignment of Boch Road to maintain access would require additional right-of-way acquisition and construction costs, and could result in more displacements. Those additional costs and impacts were not estimated because substantially affecting the existing access was considered by area residents to be unacceptable; however, the realignment of Bock Road was assessed as part of the Section 4(f)/Section 106 evaluation as previously discussed in *Section 3.5.4.4*.

The estimated impacts and costs of Systems Interchange Alternative 1 with Lake County West Alternative 1 for SR 46 Realignment are comparable to or less than the other alternatives. Therefore, Systems Interchange Alternative 1 with Lake County West Alternative 1 is recommended as the Proposed Build Alternative concept. **Exhibit 3-9** depicts the Kelly Park Road Interchange Alignment with Orange County Alternative 1 and the Systems Interchange Alternative 1 with Lake County West Alternative 1, which in combination form the overall Proposed Build Alternative for Orange County.





# Orange County

# Apopka

**LEGEND**

- Stormwater Ponds
- Floodplain Compensation Ponds
- Municipal Boundaries
- Proposed Bridge
- Proposed Build Alternative R/W
- Existing R/W
- Existing Parcel Line

**Exhibit 3-9  
Orange County Proposed Build Alternative**



### 3.6.2 Lake County West

The Proposed Build Alternative for the Lake County West portion of the project area is:

- SR 46 Reconstruction and Realignment
  - US 441/SR 46 Interchange Modification Alternative 2
  - SR 46 North Widening Alternative (from US 441 to east of Round Lake Road) – six-lane divided urban section with controlled access
  - Lake County West Alternative 1 (southeast to Orange County line) – six-lane divided urban section transitioning to four-lane divided expressway expandable to six-lane divided in median

The following is a brief summary of the viable alternatives assessment used to identify the components of the Proposed Build Alternative.

#### ***SR 46 Reconstruction:***

In order to reconstruct SR 46 to a six-lane divided urban section to meet projected travel demand from US 441 to east of Round Lake Road, widening of the existing SR 46 corridor would have to be either to the north or to the south. The impacts and costs of those two viable alternatives were comparatively assessed; analysis indicated widening to the south would have more impacts and costs. Both Lake County and the City of Mount Dora expressed a preference for widening to the north. Since the residential/business impacts and right-of-way costs for widening to the south would be higher, SR 46 Widening to the North is recommended as the Proposed Build Alternative.

#### ***US 441/SR 46 Interchange Reconstruction:***

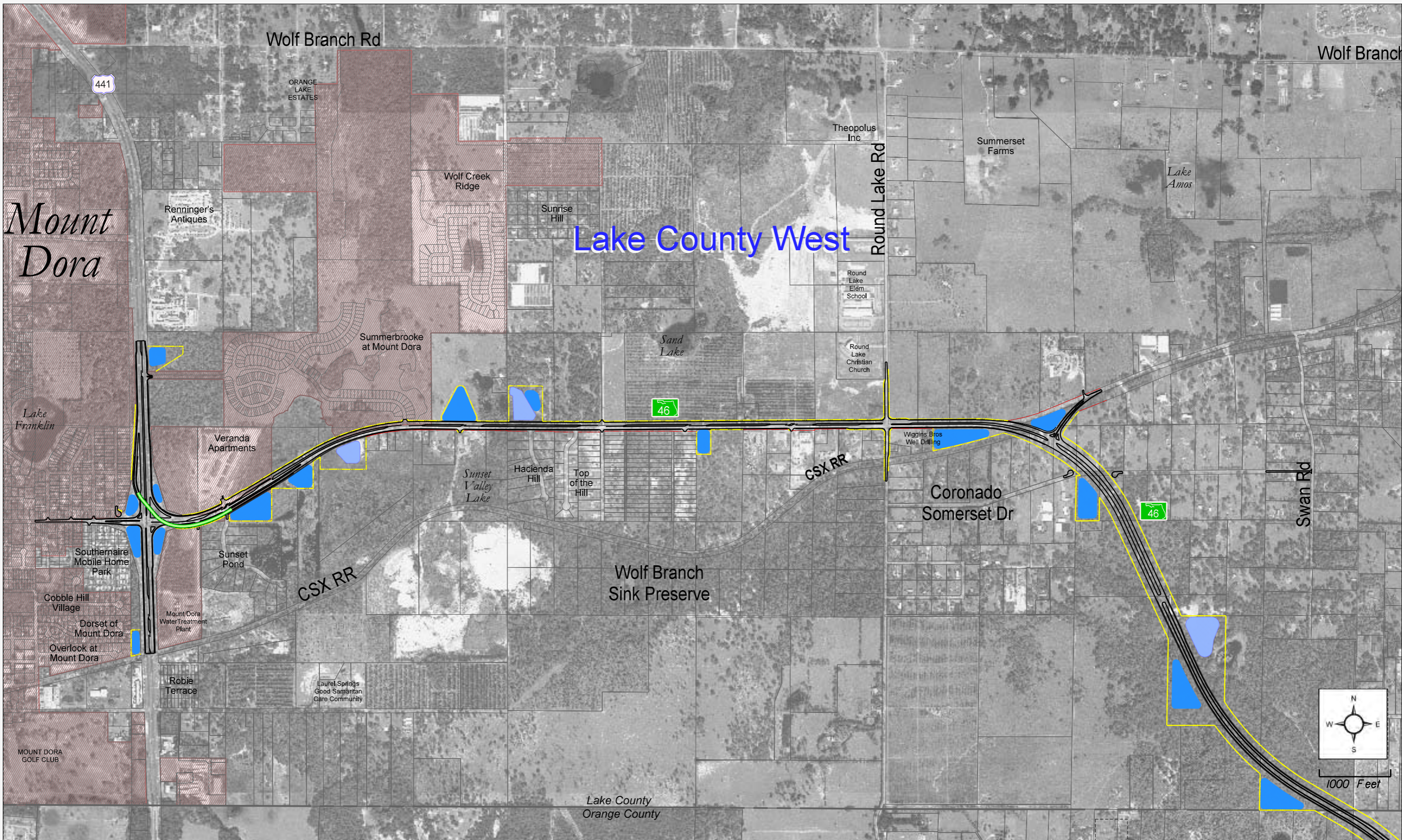
Three viable alternatives were identified for reconstruction of the existing US 441/SR 46 interchange. They are as follows:

- *Alternative 1 – Grade Separated Interchange of US 441 and SR 46 with Southbound to Eastbound Flyover (Outside Take off)*
- *Alternative 2 – At-Grade Intersection of US 441 and SR 46 with Southbound to Eastbound Flyover (Outside Take off)*
- *Alternative 3 – At-Grade Intersection of US 441 and SR 46 with Southbound to Eastbound Flyover (Inside Take off)*

At the request of the City of Mount Dora, the at-grade concepts were developed as a means to limit traffic continuing on SR 46 west of US 441. Traffic operations analyses indicated both the at-grade and grade separated concepts would function adequately. Alternative 1 would operate better, but Alternative 2 would have acceptable operations.

The impacts and costs of each of the viable alternatives were comparatively assessed. The three alternatives would have similar impacts, however, Alternative 1 would cost substantially more to construct. Since an outside take off on the flyover ramp is the preference for traffic operations and safety, Alternative 2 is the Proposed Build Alternative. There has been on-going coordination with the City of Mount Dora on these interchange modification concepts. FDOT has committed to reassess projected traffic operations at the US 441/SR 46 interchange during the design phase of the project. **Exhibit 3-10** depicts the US 441/SR 46 Interchange Alternative 2, SR 46 Widening to the North, and Lake County West Alternative 1 for SR 46 Realignment, which in combination form the Proposed Build Alternative for Lake County West.





- LEGEND**
- Stormwater Ponds
  - Floodplain Compensation Ponds
  - Municipal Boundaries
  - Proposed Bridge
  - Proposed Build Alternative R/W
  - Existing R/W
  - Existing Parcel Line

**Exhibit 3-10**  
**Lake County West Proposed Build Alternative**



### 3.6.3 Lake County East

The Proposed Build Alternative for the Lake County East portion of the project area is:

- Wekiva Parkway
  - Neighborhood Lakes Alignment Alternative 1 (from Orange County line northeast to Neighborhood Lakes interchange) – four-lane divided expressway expandable to six-lane divided in median
  - South (Red) Alignment Alternative 2, revised to incorporate a parallel two-way, non-tolled Service Road within the Wekiva Parkway 300-foot wide right-of-way (from Neighborhood Lakes interchange east across Wekiva River) – 6-lane divided expressway with parallel two-lane rural service road on north side
- CR 46A Realignment
  - Alternative 1A, with SR 46 widening to the south (from existing SR 46 north to Arundel Way) – two-lane rural roadway expandable to four-lane rural roadway

The following is a brief summary of the viable alternatives assessment used to identify the components of the Proposed Build Alternative.

#### ***Neighborhood Lakes Alignment:***

Three viable alternative alignments (western, central, and eastern) were identified through the Neighborhood Lakes area. The impacts and costs of each of those viable alternatives were comparatively assessed.

There is no substantial difference in the estimated impacts and costs for the three alternatives. After joint acquisition of the entire Neighborhood Lakes property, the Florida Department of Environmental Protection (FDEP) indicated a preference for Alternative 1 since it would provide the most contiguous land with the existing Rock Springs Run State Reserve. Because all of the alternatives have substantial floodplain impacts, FDEP has agreed to consider additional floodplain compensation on the west side of Alternative 1 with shortened bridge lengths to reduce construction costs. Also, FDEP has asked that all stormwater ponds be located on the west side of the alignment if possible. Alternative 1, the Western Alignment, is the Proposed Build Alternative in Neighborhood Lakes.

#### ***CR 46A Realignment:***

Five alternatives for the CR 46A Realignment were developed for discussion with both the landowner who currently owns the property on which the road would be constructed and the homeowners association for the contiguous property to the west. Those alternatives are as follows:

- *Alternative 1 – CR 46A Realignment with west right-of-way line on landowner’s western property boundary and homeowners association’s eastern property boundary.*
- *Alternative 1A – approximately 50 feet east of Alternative 1 to provide buffer*
- *Alternative 1B – approximately 800 feet east of Alternative 1*
- *Alternative 1C – approximately 2,700 feet east of Alternative 1*
- *Alternative 1D – on the existing CR 46A alignment*



The homeowners association specifically requested analysis of Alternatives 1C and 1D. The impacts and costs of each of the five alternatives were comparatively assessed. The estimated construction and right-of-way costs include the connection of realigned CR 46A to a widened portion of SR 46 and the Neighborhood Lakes interchange with Wekiva Parkway.

Alternatives 1C and 1D are inconsistent with the *Wekiva Parkway and Protection Act* due to impacts to the Seminole State Forest and wildlife habitat connectivity, and do not meet the project purpose and need. Also, FDEP and the Florida Department of Agricultural and Consumer Services, Division of Forestry have strongly objected to Alternatives 1C and 1D. The estimated costs and impacts of Alternatives 1, 1A and 1B are similar. The homeowners association objects to Alternative 1 because they believe it to be too close to future homes. The landowner has indicated Alternative 1B is too close to his home. Alternative 1A would provide 50 feet of buffer from the west right-of-way line to the homeowner's association property boundary, with an additional 56 feet from the west right-of-way line to the outside edge of the southbound travel lane. In total, over 100 feet would be provided between the homeowner's association property boundary and the outside edge of the travel lane. Alternative 1A, the option requested by the Lake County Commission in an October 24, 2007 letter to FDOT, is the Proposed Build Alternative for CR 46A Realignment.

#### ***Wekiva Parkway with Parallel Non-Tolled Service Road:***

Prior to incorporating the service road into the design of the Wekiva Parkway through Lake County East, seven viable alternatives based on three alignments with either half or full interchange access concepts were identified for this area. The alignments are described as north (green) and south (red or blue). All of the alternatives had long wildlife bridges for habitat connectivity; those bridge locations were based on wildlife crossing observation data and two existing wildlife crossings under SR 46 (see *Section 4.3.13.3*).

After comparing the estimated costs and impacts of the five alternatives on the green or red alignments with either split diamond interchanges or full interchanges, the red alignment had similar environmental impacts, comparable or fewer impacts to homes and businesses, and the lowest estimated total cost for construction and right-of-way. The estimated right-of-way costs for the red alignment are approximately \$15M less than the green alignment. The blue alignment was eliminated since it provided no advantages over the other south (red) alignment. The results of the traffic analysis had determined that the split diamond interchanges would be adequate for the low travel demand. Therefore, Alternative 1 - South (Red) Alignment with Split Diamond Interchanges was the Proposed Build Alternative; however, as previously noted in *Section 3.5.4.2*, FDOT later agreed to accommodate the FDEP request for full interchanges for the non-tolled expressway. Consequently, in April 2007, Alternative 2 - South (Red) Alignment with Full Interchanges was selected as the Proposed Build Alternative.

The change from a non-tolled expressway to a tolled expressway with a parallel service road within the previously identified expressway right-of-way increases the construction cost substantially due to additional MSE wall and an additional 7,710 feet of wildlife bridging for the service road; however, the right-of-way requirements and environmental impacts are reduced. Local access interchanges are no longer required, as the service road provides a continuous alternative route between the section of SR 46 to remain (west of the CR 46A Realignment) and the one-way frontage roads in Seminole County. There is no change to the alignment of the expressway with the addition of the service road; therefore, the Proposed



Build Alternative is Alternative 2 - South (Red) Alignment with parallel two-way, non-tolled service road.

The existing wildlife culverts/bridges on either side of the “hump” in SR 46 will be replaced by long, low-level bridges. At both locations, the eastbound mainline bridge will be a separate structure, with the westbound mainline and service road carried on a parallel structure. The western wildlife bridges will be approximately 1,960 feet in length. The eastern wildlife bridges will be approximately 4,000 feet in length.

The mainline and service road bridges over the Wekiva River will be approximately 1,750 feet in length. At this location, the SR 429 mainline (eastbound and westbound) will be carried on one structure, and the service road with an adjacent ten-foot multi-use trail will be carried on a parallel structure. The bridges over the Wekiva River will be both longer and higher than the existing SR 46 Wekiva River bridge. The additional length and height of the bridges will open up the shoreline and provide improved wildlife habitat connectivity.

**Exhibit 3-11** depicts the Neighborhood Lakes Western Alignment, CR 46A Realignment Alternative 1A, and the South (Red) Alignment with the parallel non-tolled Service Road, which in combination form the Proposed Build Alternative for Lake County East.

### 3.6.4 Seminole County

The Proposed Build Alternative for the Seminole County portion of the project area is:

- Wekiva Parkway
  - North Widening Alternative (from Wekiva River east to near Orange Avenue) – 6-lane expressway with two-lane, one-way frontage roads on north and south sides
  - SR 417/I-4 Interchange Modification Alternative B Alignment (from SR 46 southeast to systems interchange) – 6-lane divided expressway
- SR 46 Reconstruction
  - Widen from Wekiva Parkway frontage roads to the SR 46/I-4 Interchange – 6-lane divided urban section with controlled access

The following is a brief summary of the viable alternatives assessment used to identify the components of the Proposed Build Alternative.

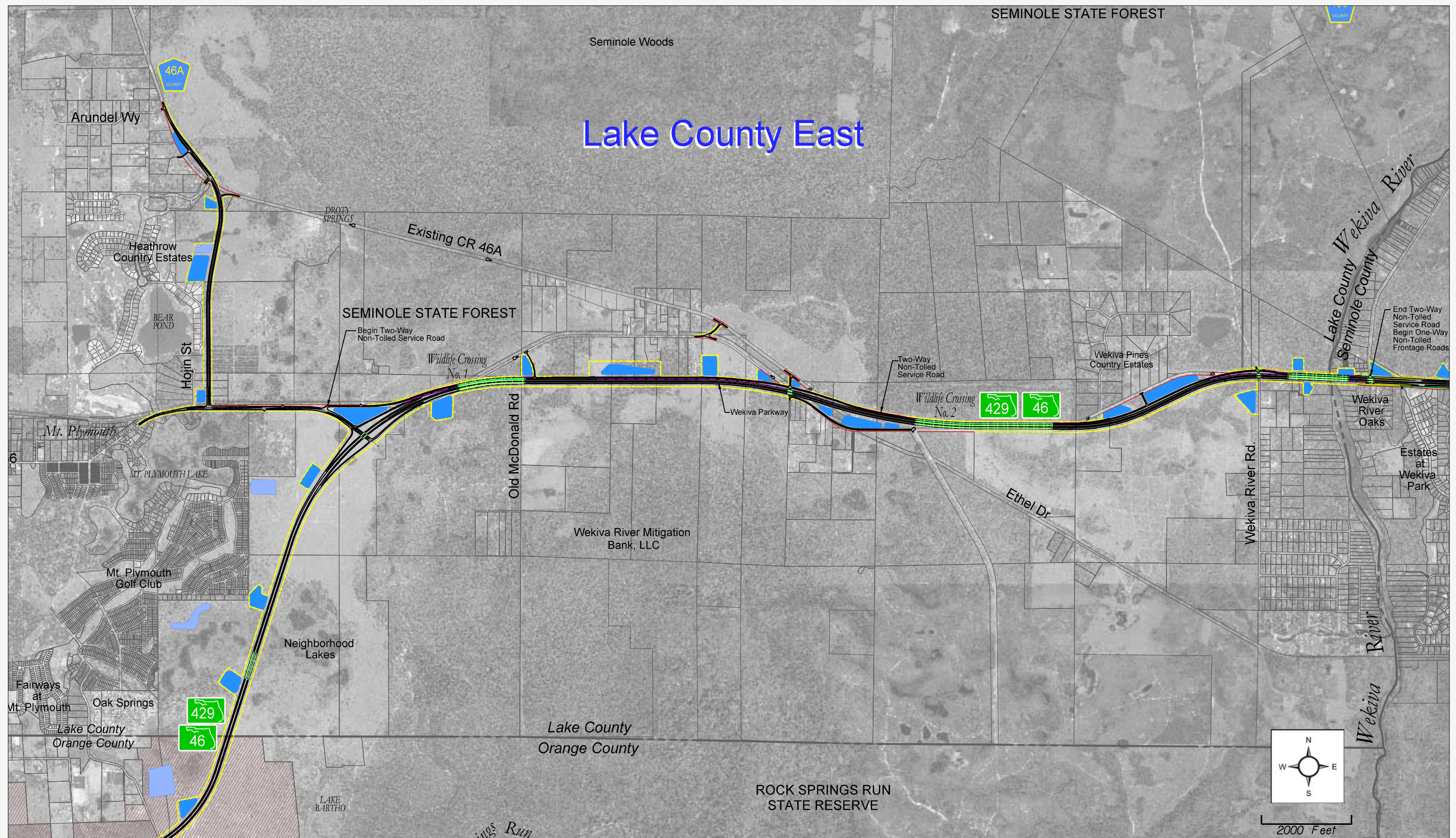
#### ***SR 46 Corridor Widening:***

The existing right-of-way width for the SR 46 corridor from the Wekiva River east to I-4 is approximately 200 feet. To accommodate the estimated 260 feet of right-of-way needed for Wekiva Parkway with frontage roads in Seminole County, widening either to the north or to the south would be required. From the river east to Orange Avenue, the south side of SR 46 is more developed than the north side, mostly with existing, under construction, and planned residential developments. The constraints on the north side are the Lower Wekiva River State Preserve and a 26 inch natural gas pipeline in a 50 foot easement abutting the SR 46 north right-of-way line.








The right-of-way cost estimates indicate widening to the south would cost approximately \$30M more than widening to the north. It is estimated that 37 parcels with currently existing homes would be impacted by widening to the south. Conversely, it is estimated that widening to the north would impact 8 parcels with existing homes. Based on information



# Lake County East



**LEGEND**

	Stormwater Ponds		Proposed Build Alternative R/W
	Floodplain Compensation Ponds		Existing R/W
	Municipal Boundaries		Existing Parcel Lines
	Proposed Bridge		

**Exhibit 3-11**  
**Lake County East Proposed Build Alternative**





provided by Florida Gas Transmission, it is estimated that relocating the gas pipeline and the 50 foot easement to the north would cost approximately \$14M to \$20M. So from a right-of-way perspective, widening to the north is estimated at a net cost of approximately \$10M to \$16M less than widening to the south. The estimated construction costs for widening to the north or to the south are generally comparable. Therefore, the Proposed Build Alternative is North Widening.

*Alignment for Connection to I-4 and Systems Interchange:*

Two basic alignment concepts for Wekiva Parkway from Orange Avenue eastward to an I-4 connection at a systems interchange were analyzed as viable alternatives. One alignment concept would follow the existing SR 46 corridor to the SR 46/I-4 interchange. The other concept would follow a new southeast alignment to the SR 417/I-4 interchange.

The impact and cost assessment for the alignment to and modification of the SR 46/I-4 interchange indicated that concept would have considerably greater impacts on existing major commercial development and right-of-way costs would be substantially higher than the SR 417/I-4 interchange alternative. Of more significance, the traffic operations analysis performed for the SR 46/I-4 interchange alternative demonstrated that it would fail to provide adequate operational characteristics since it could not serve all desired travel movements and local streets would still be heavily impacted.

The traffic operations analysis of the SR 417/I-4 interchange modification indicated satisfactory operational characteristics, especially for accommodating the substantial east-west movement from SR 417. The commercial impacts and right-of-way costs of the SR 417/I-4 interchange alternative would be substantially less than those of the SR 46/I-4 interchange alternative. Therefore, modification of the SR 417/I-4 interchange is the Proposed Build Alternative with further evaluation outlined below to determine the recommended alignment from the SR 46 corridor southeast to I-4.

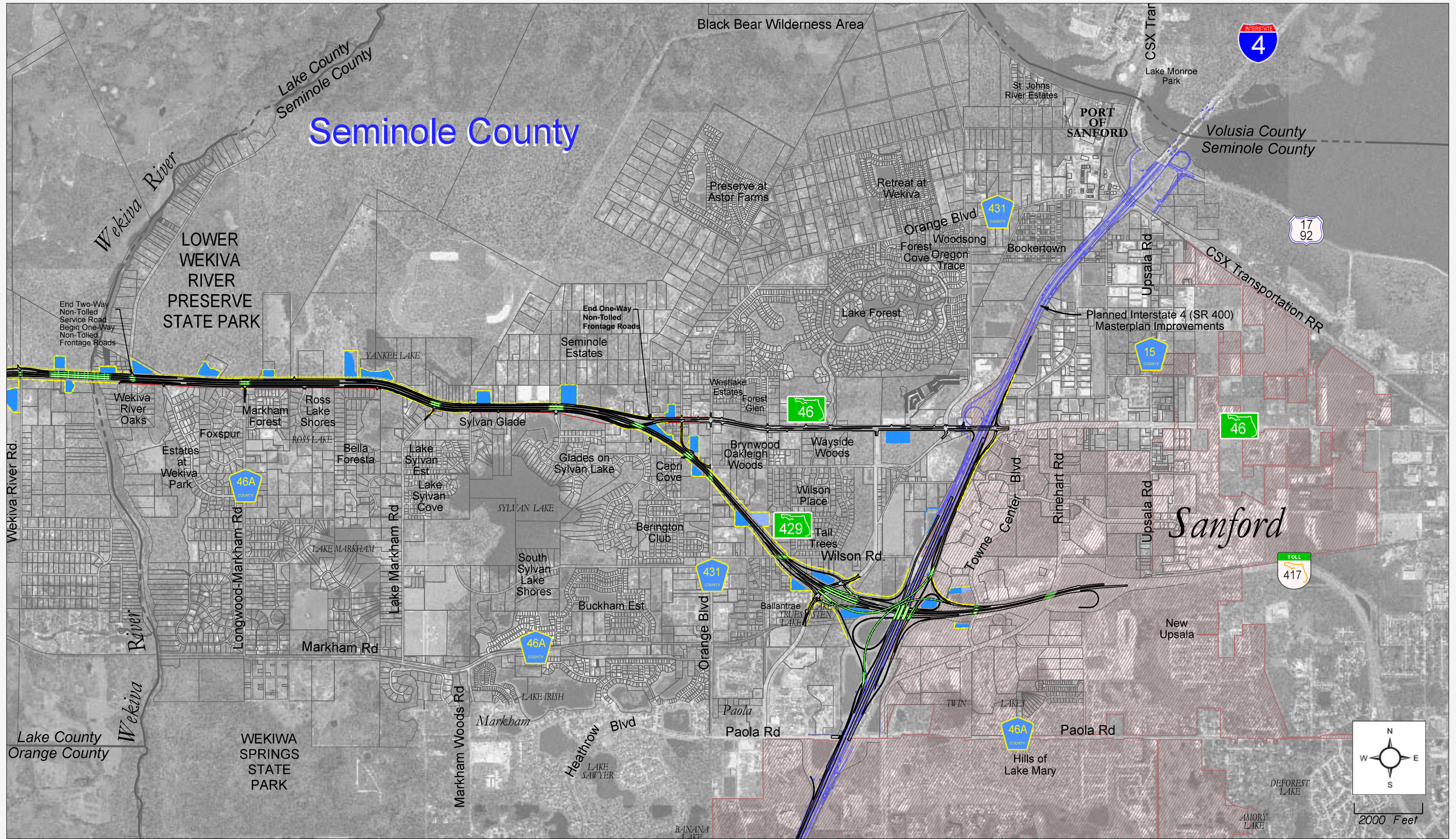
Six alignment alternatives for the Wekiva Parkway connection to the SR 417/I-4 interchange, each combined with the recommended North Widening alternative, were assessed for impacts and costs. The various alignment alternatives from the SR 46 corridor southeast to the SR 417/I-4 interchange were developed in response to requests from several groups and individuals, including homeowners associations, businesses, and churches. Unfortunately, shifts in the alignment to accommodate the request of one group often meant another group was more affected. The environmental impacts of the six alignment alternatives are quite similar. The estimated direct impacts to residences vary from a low of 16 to a high of 23; direct impacts to businesses are comparable, but Alternatives A and C directly impact churches. The estimated right-of-way costs range from about \$139M to about \$159M, while the estimated construction costs are approximately \$596M to about \$605M depending upon the alignment alternative.

The project team has endeavored to satisfy as many stakeholders as possible and minimize both direct and indirect impacts. Based on the comparative evaluation of impacts and costs, as well as discussions with the various stakeholders, Alternative B is the Proposed Build Alternative for the alignment of the connection to the SR 417/I-4 interchange.

**Exhibit 3-12** depicts the North Widening of the SR 46 corridor and Alternative B for the Wekiva Parkway connection to the SR 417/I-4 Interchange Modification, which in combination form the Proposed Build Alternative for Seminole County.



# Seminole County



- LEGEND**
- Stormwater Ponds
  - Floodplain Compensation Ponds
  - Municipal Boundaries
  - Proposed Bridge
  - Proposed Build Alternative R/W
  - Existing R/W
  - Existing Parcel Lines

**Exhibit 3-12**  
**Seminole County Proposed Build Alternative**



### 3.6.5 Proposed Typical Sections

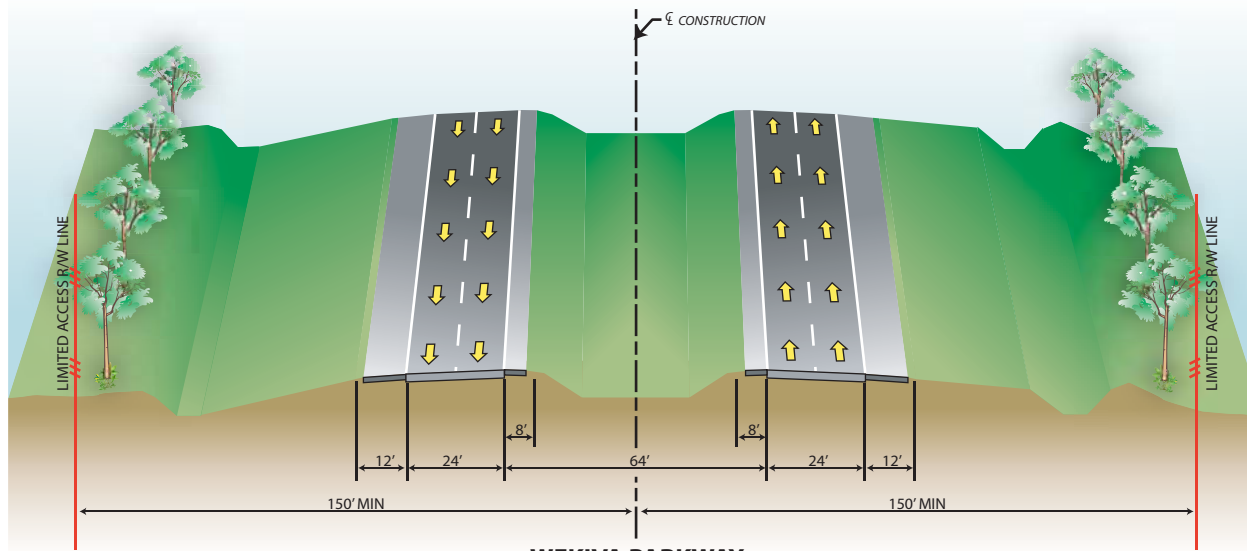
Depictions of the proposed typical sections for the Wekiva Parkway (SR 429) in the various project segments along the alignment, SR 46 Reconstruction, and CR 46A Realignment are shown in **Exhibit 3-13, Sheets 1 - 5**. More detailed typical sections with stationing are provided in the *Preliminary Engineering Report*.

### 3.6.6 Estimated Overall Impacts and Costs

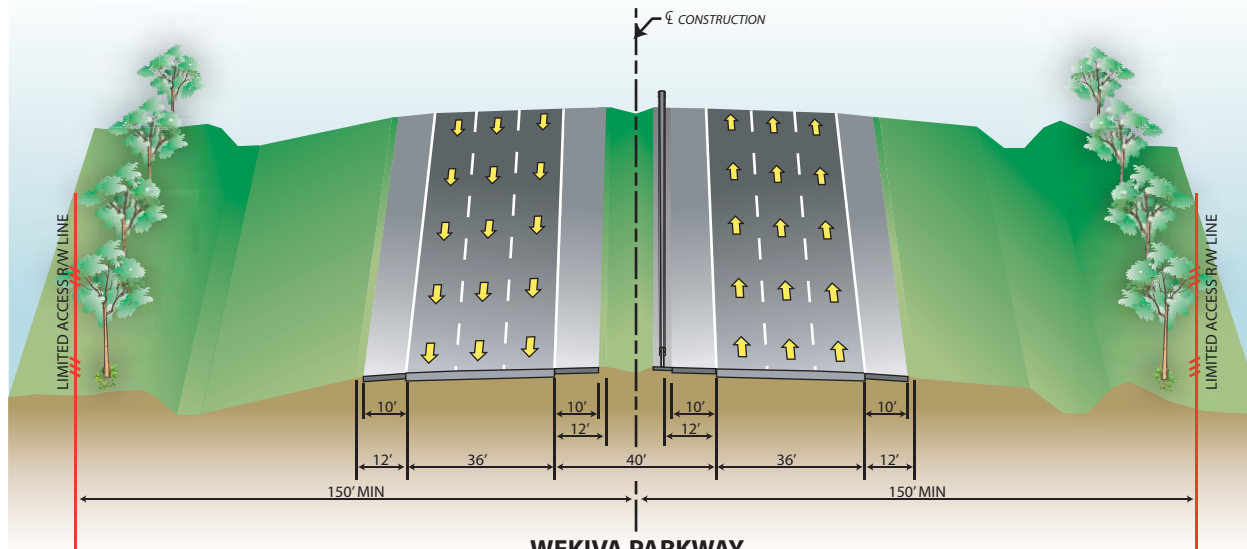
A summary of the estimated total overall impacts and costs of the Wekiva Parkway (SR 429)/SR 46 Realignment Proposed Build Alternative is provided in **Table 3-1**. Assessments of potential impacts to wetlands, floodplains, protected species and wildlife habitat, cultural or historic resources, public lands, and other categories are provided in *Section 4* of this document.

TABLE 3-1  
Estimated Impacts and Costs of the Proposed Build Alternative

Proposed Build Alternative	Parcel Impacts	Total Right-of-Way (acres)	Residential Displacements	Businesses/ Other Displacements	Wetland Impacts (acres)	Floodplain Impacts (acre-ft)	Section 4(f) Public Land Impacts (acres)	Section 106 Properties Impacted	Potential for Impacts to T&E Species	Construction Cost Estimate (2010 \$)	Right-of-Way Cost Estimate (2010 \$)	Total Cost Estimate (2010 \$)
Kelly Park Road Interchange Alignment with Orange County Alternative 1	113	417	26	2	3.28	6.29	0	2	Low	252.7 M	90.0 M	342.7 M
Systems Interchange Alternative 1 with Lake County West Alternative 1	33	189	10	2	3.20	0	0	0	Low	102.2 M	39.8 M	142.0 M
SR 46 Widen to North	20	24	2	0	10.65	11.26	0	0	Low	22.5 M	21.4 M	43.9 M
US441/SR 46 Interchange Alternative 2	22	22	0	0	0	0	0	0	Low	64.5 M	9.3 M	73.8 M
Neighborhood Lakes Alternative 1 - Western Alignment	8	157	0	0	13.57	0.94	33.76	0	Low	96.7 M	10.8 M	107.5 M
CR 46A Realignment Alternative 1A, South Widening	64	83	0	0	1.87	33.90	0	0	Low	21.1 M	13.6 M	34.7 M
Lake County East Alternative 2 - South (Red) Alignment with Parallel Service Road	54	278	1	2	18.07	3.16	121.62	0	Low	287.6 M	28.7 M	316.3 M
Wekiva Pkwy to SR 417/ I-4 Interchange - Alternative B, with North Widening	122	191	18	3	46.92	5.24	3.86	0	Low	520.3 M	141.0 M	661.3 M
<b>Totals</b>	<b>436</b>	<b>1,361</b>	<b>57</b>	<b>9</b>	<b>97.56</b>	<b>60.79</b>	<b>159.24</b>	<b>2</b>	<b>--</b>	<b>1.37 B</b>	<b>354.6 M</b>	<b>1.72 B</b>



**WEKIVA PARKWAY  
4-LANE RURAL EXPRESSWAY**

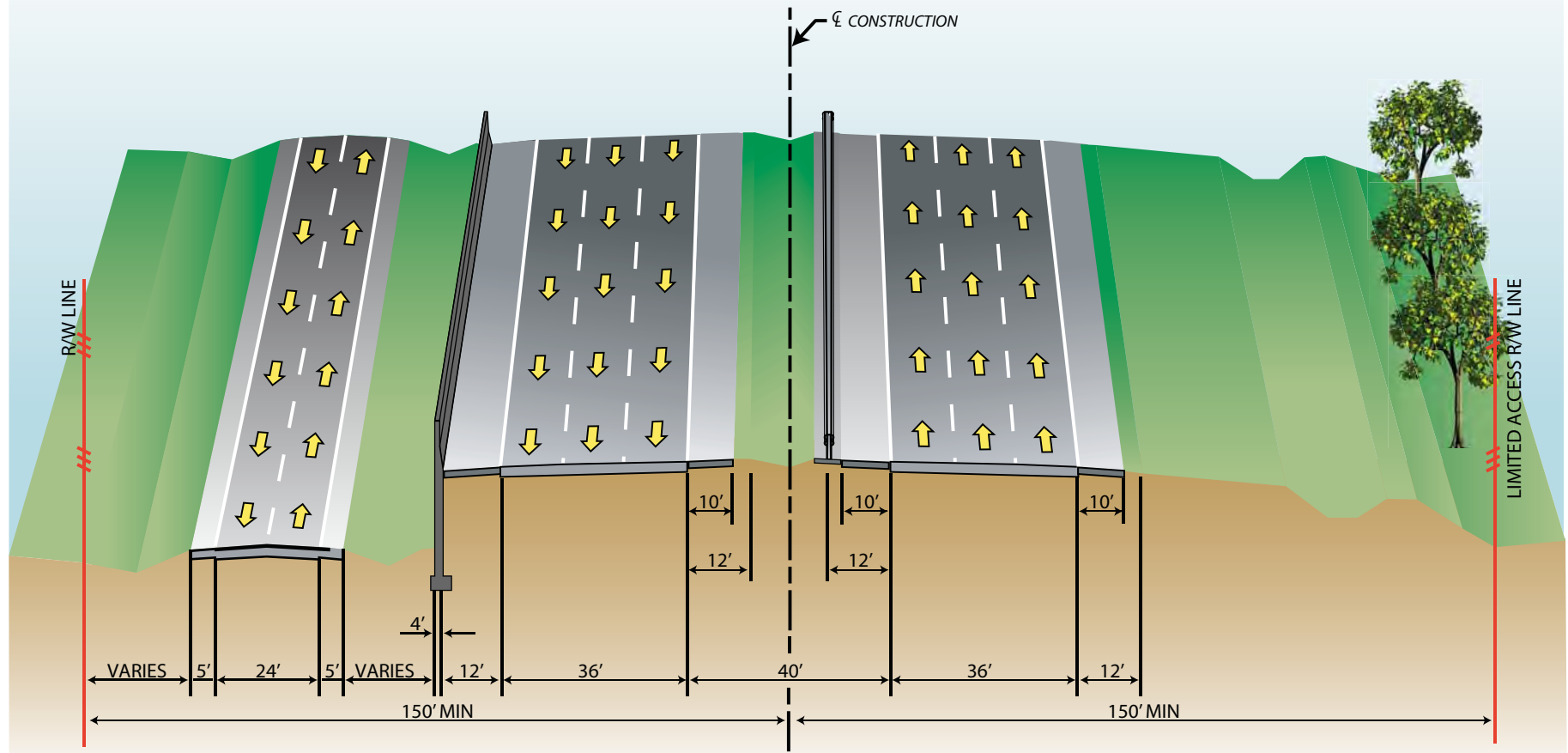


**WEKIVA PARKWAY  
ULTIMATE 6-LANE RURAL EXPRESSWAY**

**Exhibit 3-13  
Proposed Typical Sections - Limited Access Rural Expressway**

Sheet 1 of 5



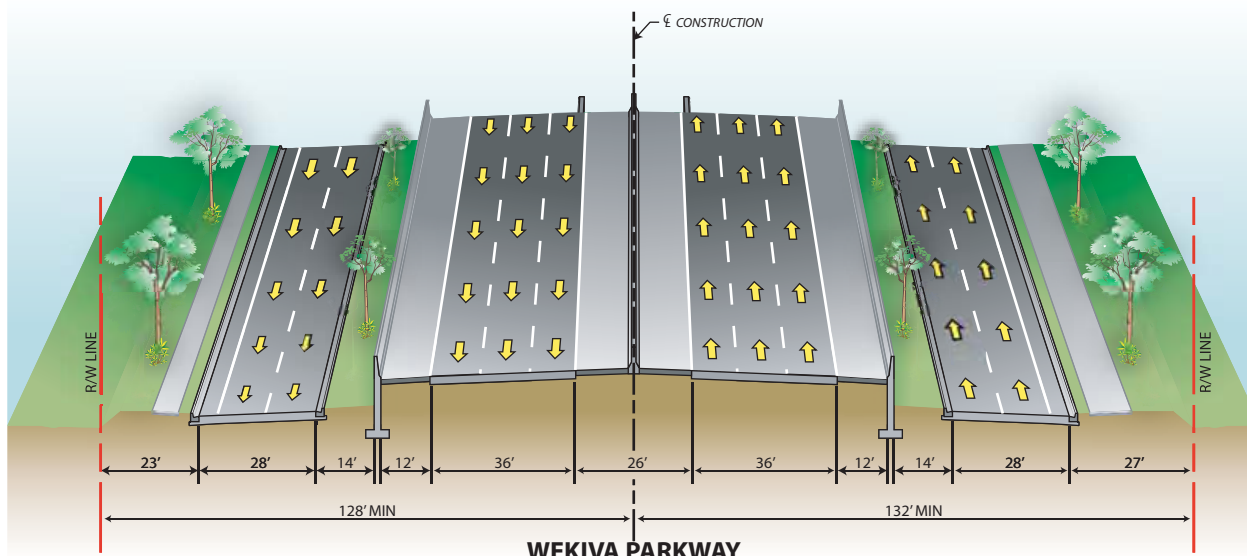


**WEKIVA PARKWAY**  
**ULTIMATE 6-LANE RURAL EXPRESSWAY WITH SERVICE ROAD ON NORTH SIDE**

**Exhibit 3-13**  
**Proposed Typical Section - Limited Access Rural Expressway w/ Service Road**

Sheet 2 of 5





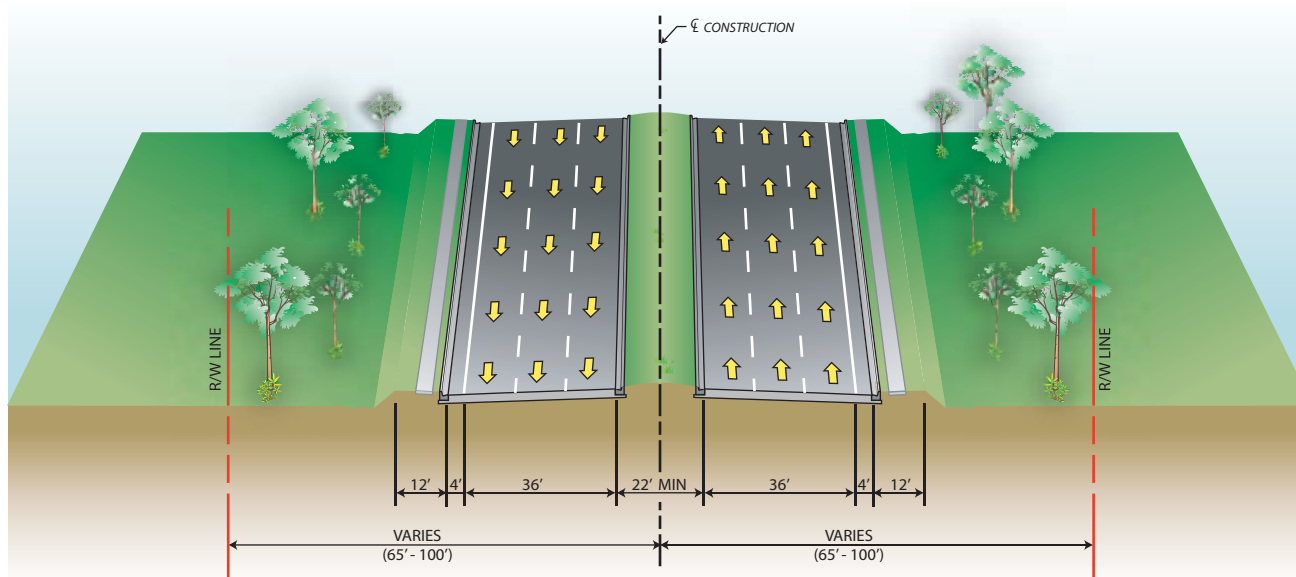
**WEKIVA PARKWAY  
ULTIMATE 6-LANE EXPRESSWAY WITH FRONTAGE ROADS**

**Proposed Typical Section - Limited Access Urban Expressway w/ Frontage Roads**

**Exhibit ' -%**

Sheet 3 of 5



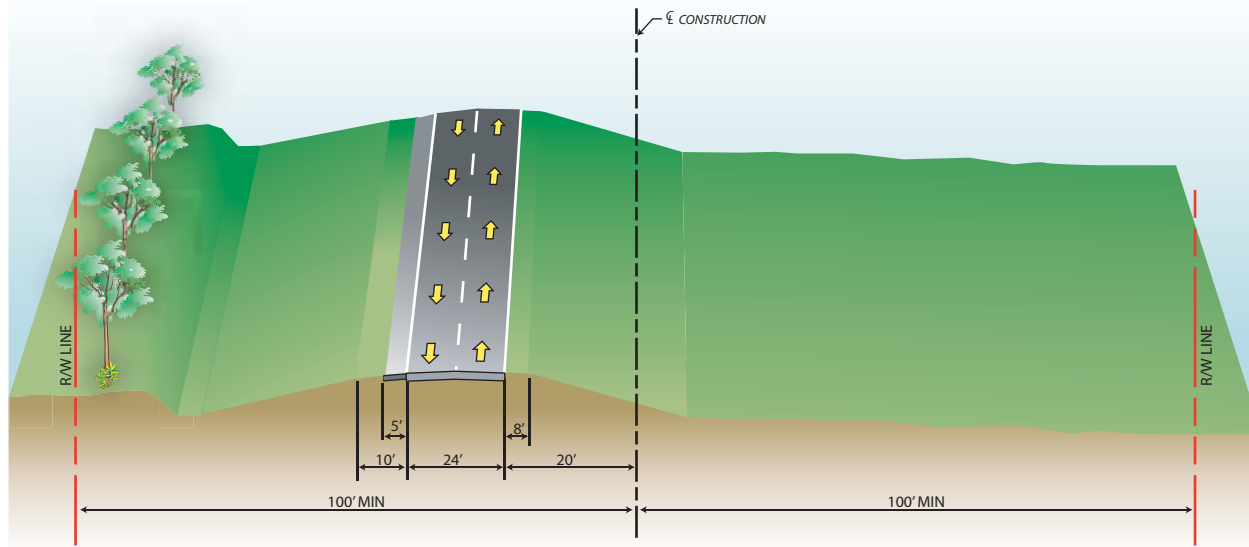


**SR 46 CORRIDOR IMPROVEMENTS  
6-LANE DIVIDED URBAN SECTION**

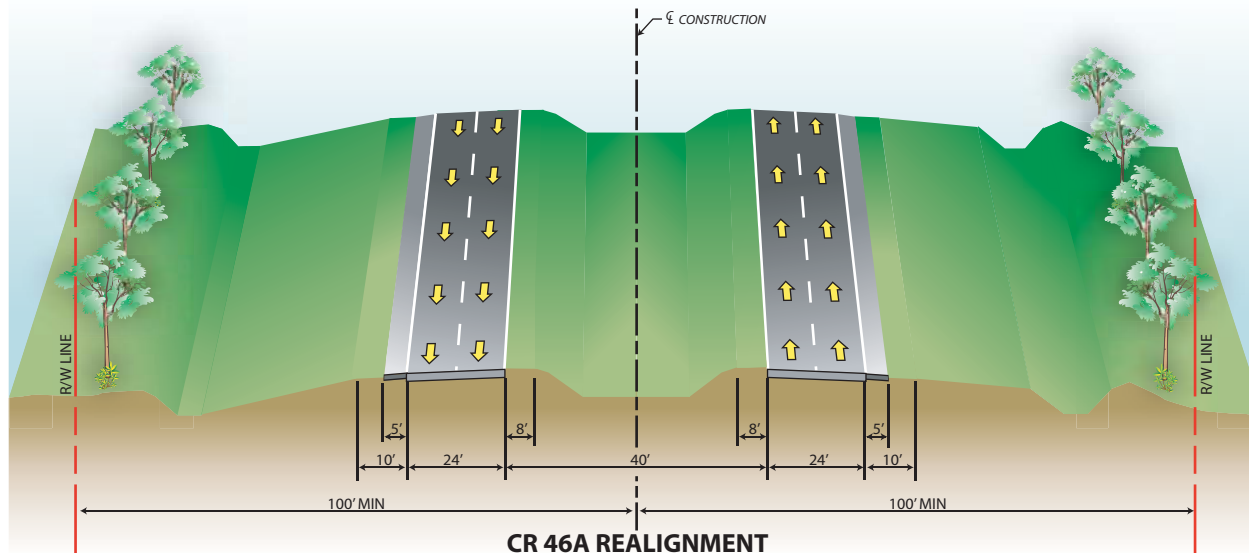
**Exhibit 3-13  
Proposed Typical Section - Controlled Access Urban Arterial**

*Sheet 4 of 5*





**CR 46A REALIGNMENT  
2-LANE RURAL SECTION**



**CR 46A REALIGNMENT  
4-LANE RURAL SECTION**

**Exhibit 3-13  
Proposed Typical Sections - Rural Arterial**

Sheet 5 of 5