RIDGE ROAD EXTENSION

PERMIT APPLICATION SAJ-2011-00551 (IP-TEH)

May, 2011

INTRODUCTION

This document presents an Alternatives Analysis in support of the above permit application for the has been prepared in response to a letter to Pasco County from the Army Corps of Engineers (ACOE), dated September 9, 2010, requesting additional information in support of the Department of the Army Permit Application SAJ-1998-2682(IP-MN) submitted by the Pasco County Board of County Commissioners (BCC) to discharge fill in wetlands to construct the Ridge Road Extension (RRE), a proposed roadway located mid way between SR 52 and SR 54 in Pasco County, Florida.. The referenced ACOE letter is provided in Appendix A.

The original permit application was filed in November 1998 concurrently with the filing of a permit application to the Southwest Florida Water Management District (SWFWMD). The SWFWMD approved the application in July 2003. The ACOE application was followed by Requests for Additional Information (RAI) and subsequent responses in October 2001, April 2005, July 2006, January 2007, January 2010, May 2010, and July 2010. A detailed history of the project is provided in Appendix B.

This document is intended to provide information that includes the following:

- A Needs Analysis;
- A clarified Project Purpose;
- An identification of Alternatives;
- Avoidance and Minimization;
- An Alternatives Analysis;
- Identification of Preferred Alternative; and
- Response to Mitigation Comments.

1.0 PROJECT NEED

The need to provide additional east/west traffic capacity in Western Pasco County has been recognized and documented since the 1980's. Although this need is rooted in various transportation analyses based on existing and future population and employment growth, the need is also closely linked to adherence to arterial and collector road spacing standards (in compliance with the County's Comprehensive Plan and Development Standards). In addition, roadway improvements that improve capacity have a direct correlation to an improvement in evacuation times during a storm event or hurricane.

Transportation Demand

From a transportation demand standpoint, the source document is the MPO's most current Long Range Transportation Plan or LRTP. Work on the 2035 LRTP was initiated in 2006 and completed in December 2009, the date of official adoption by the Pasco County MPO. The 2035 LRTP Needs Plan, also known as a Policy Constraint Needs Plan, provided as Appendix C, shows the total lanes based on a policy level constraint analysis, that are required to help meet the adopted roadway Level of Service (LOS) standards in the County, including the portion of the RRE Study Area (west and central Pasco County from U.S. 19 east to U.S. 41). It should be noted that the Needs Plan is considered to be a "constrained needs plan", meaning that improvements identified are not solely based on travel demand, but consider other physical and environmental constraints, including the appropriateness and acceptability of various improvements based on guidance from the FDOT. The western portion of Pasco County is heavily populated and significant land is in the coastal area having thr highest risk for hurricane impact. Any project that is selected in the LRTP that addresses traffic demand must have a dual purpose to improve evacuation capacity and, therefore, the safey of the coastal population.

Arterial and Collector Road Spacing Standards

In addition, arterial and collector road spacing standards were utilized to develop the Needs Plan. It is well documented (1) that an efficient and safe transportation system requires adequate size and spacing of a road network. Based on widely accepted research, it is recommended that arterial roads be spaced at minimum every 1 mile in rural areas and every ¼ to ½ mile in urban areas. In response, Pasco County previously developed Arterial and

Collector Road Spacing and Design Standards. The Needs Plan is based on the application of these standards where feasible and practicable. The County's adoption of a ROW preservation ordinance and subsequent incorporation of the ordinance into County's Land Development Code (LDC 610), implements the standards. The Code requires spacing standards of Arterial roads in accordance with a "Highway Vision Map" that presents future road corridors based on the LRTP and other sources.

In accordance with the Highway Vision Map, Ridge Road is classified as an Arterial road and fills the gap between the two other existing east-west arterial roads (S.R.52 and S.R.54). Because the distance between S.R.52 and S.R.54 is almost 10 miles, the RRE will help to compensate for an existing roadway spacing that is extremely deficient based on the adopted standards.

Based on the MPO's 2035 LRTP Needs Plan, the total number of lanes as shown in Table 1 will not satisfy total estimated traffic demand in this Study Area. For example, additional traffic demand along SR 54 introduces the concept of "Managed Lanes" which would allow any future improvement needed beyond the existing or planned 6 lanes are to be provided through the introduction of "premium transit" special purpose lanes, which might include the introduction of alternative modes of travel such as Bus Rapid Transit (BRT) or Light Rail Transit (LRT). These additional lanes are not considered general use lanes. The Managed Lanes concept on SR 54 is consistent with the County's desire to link the major population centers and concentrate new development along SR 54, in compliance with the County's Comprehensive Plan promoting Transit Oriented Development (TOD). The densification, intensity and appropriate mix of land use are being implemented along SR 54 to comply with TOD concepts that will support transit.

Table 1 below shows the roadway network adopted in the Needs Plan that would help to meet the east-west traffic demand and assist in maintaining the MPO's adopted LOS Standards. The 2035 LRTP Needs Plan based on the application of the policy level constraint analysis as described above, identified a need for a total of 22 traffic lanes west of the Suncoast Parkway and 24 traffic lanes east of the Suncoast Parkway to help satisfy projected traffic demands based on projected population and employment growth over the next 25 years. Table 1 shows that 22 lanes west of the Suncoast Parkway are needed, 12 lanes are in place, and an additional 10 lanes are needed. It is proposed the future lanes need be provided by the RRE and by Tower Road. Note that the RRE represents the only continuous east/west arterial roadway alternative that links west Pasco to central Pasco (US 19 to US 41). The Tower Road

connection provides for some east/west travel, but due to its planned termini functions as a collector level facility. East of the Suncoast Parkway, Table 1 shows that 24 lanes are needed, 6 are existing, resulting in the need for 18 additional lanes. The needed lanes are proposed to be derived from widening SR 52 (4 lanes), SR 54 (6 lanes), RRE (4 additional lanes), and Tower Road (4 lanes). The implementation of the Policy Constraint Needs Plan presents the maximum number of lanes that can be added to the roadway network. The Plan shows that there are no other reasonable alternatives available than those improvements depicted in Table 1.

TABLE 1

Proposed East-West Roadway Network
U.S. 19 to U.S. 41 - Additional Lanes Needed

	West of Suncoast Parkway			East of Suncoast Parkway		
Roadway	Existing	Needs Plan	Additional	Existing	Needs Plan	Additional
S.R. 52	6	6	0	2	6	4
RRE	0	4	4	0	4	4
Tower Road	0	4	4	0	4	4
S.R. 54	6	8	2	4	10	6
Total	12	22	10	6	24	18

Source: 2035 LRTP Needs Plan December 2009

2.0 PROJECT PURPOSE

The RRE has three primary objectives, providing for parallel capacity based on the MPO's 2035 LRTP Needs Plan (Traffic Needs), implementation of the County's arterial and collector roadway spacing standards, and to enhance and improve evacuation times by providing an for an alternative route to help manage and disperse expected travel flows during storm events.

Traffic and Arterial/Collector Spacing Needs

The project purpose of the RRE is to provide east-west traffic capacity needed to help meet the MPO's adopted LOS Standards on the roadway network and implement the County's arterial and collector spacing standards. Based on the LRTP Needs Analysis summarized in Section 1, Table 1, it is the County's intent to provide for the additional lanes between West Pasco and Central Pasco County. A total of 22 east-west travel lanes between the Suncoast Parkway west to the US 19 corridor, and 24 total travel lanes east of the Suncoast Parkway to US 41 are needed to meet projected travel demand. .Four of the traffic lanes needed would be provided by the RRE project.

Hurricane Evacuation

Any alternative selected to provide the needed traffic capacity must also improve the County's ability to evacuate population away from the coastal area to shelters or other safe locations during hurricane events. Nine of ten deaths in a hurricane are related to drowning from storm surge. Therefore, the Pasco County hurricane evacuation plan focuses on moving the vulnerable population from the coast to inland destinations. Because there is a deficit of public hurricane shelter space, and there are significant constraints on the regional evacuation network (I-75), Pasco County encourages coastal residents to make arrangements to stay with family and friends at inland locations within the County. The Tampa Bay Region Hurricane Evacuation Study 2006 used the following behavioral assumptions in calculating evacuation clearance times: 10 percent to a local public shelter, 5-20 percent out of County; and 45-65 percent to in-County friends and relatives. The at-risk population for a Category 3 hurricane is estimated to be 162,982 in 2011; therefore, 73,000-106,000 residents are expected to move inland to stay with friends and family in the central and eastern portions of the County. The clearance time is estimated to be 13-17 hours for the in-County evacuation movements based on the current roadway network for a Category 3 hurricane. Pasco County currently has two east-west

evacuation routes: S.R. 54 and S.R. 52. Due to the lack of east-west roads in Pinellas County, S.R. 54 has historically handled the evacuation traffic for northern Pinellas County. Therefore, the majority of Pasco County's vulnerable population currently has to move north to S.R. 52 for evacuation.

It should be noted that expansion of lanes on one of the existing routes used for evacuation does not have the same benefit to the evacuating population as the ability to use a new facility that can provide for parallel travel. A new lane added to an existing roadway does not have the same vehicle capacity as a new road. More importantly, if an accident occurs on one of the two evacuation routes evacuation can be compromised since there are fewer alternatives and limited north-south connectivity between the two roads for effective traffic movement.. There have been numerous occasions of traffic accidents closing one or more of the State highways that are designated as primary evacuation routes (ie. SR 54/52). Due to the high evacuation clearance times (55-68 hours) for the Tampa Bay region, the State of Florida has adopted a plan for reverse laning of critical evacuation routes to reduce clearance times. However, effective reverse laning typically works where access can be highly regulated (i.e. freeways/controlled access facilities) and multiple routes exist to spread the traffic demand. Therefore, reverse laning alternatives do not exist for the proposed Study Area network. Finally, Pasco County could not exercise this option because of the number of round trips necessary for family and friends to evacuate loved ones, and for the County itself to facilitate evacuation of people with special needs.

Pasco County's coastal location requires the availability of additional evacuation routes within the RRE Study Area in order to provide for a safe and effective alternative for the vulnerable population. In addition to facilitating evacuation trips from the coast to the greater Land O' Lakes area, the RRE's connectivity to the Suncoast Parkway and US 41 will allow evacuees an additional roadway alternative resulting in increased safety and decrease of evacuation times.

3.0 IDENTIFICATION OF ALTERNATIVES

Previous analyses, including the 2035 LRTP Needs Plan have recommended a four-lane extension of the existing Ridge Road, from its current terminus at the Moon Lake/Decubellis Road intersection, east to U.S. 41, as a part of the network providing the total number of east-west lanes needed. .Specific improvements that have been determined to be needed within the timeframes of the LRTP in order to help meet the MPO's adopted Level of Service (i.e. operating conditions based on traffic volume).

The ACOE has requested that Pasco County identify improvements to other roads that would provide for the total lanes needed as shown in the Needs Plan, assuming that the four lanes assigned to the RRE are not constructed. To comply with the ACOE request, the MPO's 2035 LRTP Needs Plan (Appendix C), was utilized as the basis for developing additional build alternatives. Four alternatives (2-5) were identified that included improvements to the existing parallel routes and potential future routes that included road widening of existing and future routes. Each of the four additional alternatives identified were selected on the basis of their ability to provide for the total number of east/west lanes needed as shown in the Needs Plan. The analysis resulted in a comparative evaluation of the seven central corridor alternatives for the RRE, with the No Build and the four other alternatives identified on existing or future parallel roadways.

The following is a list of the 12 alternatives were evaluated:

1. No Build.
2. Expansion of S.R. 52 from six lanes to ten lanes at grade.
3. Expansion of S.R. 52 from six lanes to ten lanes, with six at grade and four elevated.
4. Expansion of S.R. 54 from six lanes to eight lanes at grade and expansion of proposed Tower Road from four lanes to six lanes at grade.
5. Expansion of S.R. 52 from six lanes to eight lanes at grade and expansion of S.R. 54 from six lanes to eight lanes at grade.
6. Central corridor alternative alignments (7):
    - 6A - RRE - 4 Lanes
    - 6B - RRE - 4 Lanes
    - 6C - RRE - 4 Lanes
    - 6D - RRE - 4 Lanes

- 6E - RRE - 4 Lanes
- 6F - RRE - 4 Lanes
- 6G - RRE - 4 Lanes

The seven central corridor alternatives for the RRE identified above were studied as a part of previous permit activities. In order to avoid confusion and provide continuity with previous reports and studies, the A-G labels were retained for the purposes of this Alternatives Analysis.

In order to ensure that the alternatives identified for evaluation were viable and reasonable, Pasco County staff met with Donald J. Skelton, Secretary, FDOT, District Seven, to review the proposed build alternatives and verify FDOT policies regarding the maximum number of lanes on State roadways. In a letter dated October 7, 2010, (Appendix D), FDOT concludes that there is no policy regarding the maximum number of lanes on highway. However, they highlight serious concerns which focus on potential costs, operational and safety issues related to constructing roadways beyond 6 lanes. Historically, DOT points out that additional lanes beyond 6 have been used in specialized locations such as urban corridors, that are highly commercial in character. Although the issues raised by the DOT were significant in determining the feasibility of continuing to widen beyond 6 lanes, none of the proposed alternatives were removed from consideration

The alternatives and the various segments of each are shown on Map 1 and described below.

Alternative 1 - No Build

The No Build Alternative assumes that none of the proposed alternatives are constructed.

Improvement to Transit as a component of the No Build option was considered. To become a viable alternative to highway travel, transit must service population densities that are significantly higher than what currently exists in the study area. Transit must be provided either as an exclusive operating environment (i.e. fixed guideway or dedicated lane), and origins and destinations must be concentrated on either end of the trip.

Revenue sources for transit are currently limited to Federal and State grants some of which are discretionary in nature, farebox operating revenues, and county contributions to match grant requirements. Future dedicated funding for transit service expansion as indicated in the MPO's

LRTP, is dependent upon the implementation of new revenue sources (i.e. sales tax) and implementing a regional approach to funding and operation. Currently these issues are being discussed but implementation timelines have not been determined. The MPO Needs Plan does not anticipate any additional funding for transit until 2020, and any new revenue source would be subject to voter referendum.

The shift from highways to transit in Pasco County will gradually occur over the next 25 years, starting with regional express service in the near term that will provide access to major destinations in the Tampa Bay Region. Expanded local transit service will also gradually increase over time, but will not have significant impact on reducing trips on the highway network and, therefore, have no describable impact of reducing congestion.

The ability to provide enhanced transit as a solution in the No Build alternative is not viable within the timeframe of the current LRTP. Available revenue for transit improvements are limited through 2020, and significant changes to the existing land use patterns and resulting trip behaviors is not likely to be significant in that timeframe.

Further, transit is not, nor can it be, a solution to hurricane evacuation. For this and the reasons stated above, transit improvements cannot satisfy the Primary Purpose of the Project.

The pros and cons associated with the No Build option are discussed in Section 6.0, under the Preferred Alternative.

Alternative 2 - Expansion of S.R. 52 from Six Lanes to Ten Lanes at Grade

S.R. 52 is an east-west arterial roadway that spans the northern portion of Pasco County from U.S. 19 (Hudson) to U.S. 301 (Dade City). Alternative 2 includes the segment from U.S. 19 on the west to U.S. 41 in central Pasco County, a total length of 9.57 miles. S.R. 52 is currently a six-lane, divided roadway, extending from U.S. 19 to the Suncoast Parkway, and as such is consistent with the 2035 LRTP Needs Plan. East of the Suncoast Parkway, S.R. 52 is currently a two-lane roadway to U.S. 41 in central Pasco also known as Land O' Lakes. This two-lane portion of S.R. 52 is planned to be expanded to six lanes in accordance with the MPO's LRTP. The existing cross-section varies from urban (curb and gutter) in the west to a rural cross-section generally east of Moon Lake Road (C.R. 587). Existing right-of-way varies based on the

type of cross-section. Urban cross-sections range from 125 feet to 140 feet and rural cross-sections range from 160 feet to 250 feet.

This alternative expands S.R. 52 (U.S. 19 to the Suncoast Parkway) from the current six lanes to ten lanes (at grade), and from the current two lanes (Suncoast Parkway to US 41) to ten lanes (at grade) for the three-mile segment east of the Suncoast Parkway. This alternative would require additional right-of-way along the entire length in order to accommodate the ten-lane cross-section.

Alternative 3 - Expansion of S.R. 52 from Six Lanes to Ten Lanes, with Six at Grade and Four Elevated

In Alternative 2, S.R. 52 is currently a six-lane, divided arterial roadway from U.S. 19 east to the Suncoast Parkway. East of the Suncoast Parkway, S.R. 52 transitions back to its original two-lane cross-section. Existing right-of-way varies along the roadways length depending on the type of cross-section (urban vs. rural). The 2035 LRTP shows the entire segment from U.S. 19 to U.S. 41 as a six-lane, divided roadway.

Alternative 3 adds an additional four lanes in an elevated configuration to the current six- and two-lane sections of S.R. 52. The additional four lanes are achieved by elevating the roadway section on support structures that are located in the existing or future median when multi-laned.. This cross-section achieves the required four additional east-west travel lanes between U.S. 19 and U.S. 41. The elevated lanes lessen the need for right-of-way; however; additional right-of-way would be needed to accommodate drainage and intersections where access to the elevated lanes would need to be provided.

Alternative 4 - Expansion of S.R. 54 from Six Lanes to Eight Lanes at Grade and the Expansion of Proposed Tower Road from Four Lanes to Six Lanes at Grade

S.R. 54 is an arterial roadway that spans the southern portion of Pasco County. Alternative 4 includes the segment from U.S. 19 on the west to U.S. 41, a total length of 13 miles. S.R. 54 is currently a six-lane, divided roadway extending from U.S. 19 to the Suncoast Parkway. East of the Suncoast Parkway, S.R. 54 is a four-lane, divided roadway to U.S. 41 in Land O' Lakes. This portion of S.R. 54 is planned as a six-lane roadway section in the 2035 LRTP. Additional lanes beyond 6 are shown as "managed lanes", defined as High Occupancy Vehicle (HOV) or

lanes that would accommodate "premium transit" service. The existing cross-section varies from urban (curb and gutter) in the west to a rural cross-section generally east of C.R. 1 (Little Road) to US 41. Existing right-of-way varies based on the type of cross-section. Urban cross-sections range from 120 feet to 140 feet and rural cross-sections range from 200 feet to 280 feet.

This alternative expands S.R. 54 from the current six lanes (US 19 to Suncoast Parkway) and four lanes (Suncoast Parkway to US 41) to an eight-lane section for the entire length (U.S. 19 to U.S. 41), and also includes the construction of a six-lane Tower Road as a new roadway extending from Starkey Boulevard east to U.S. 41. Tower Road as shown in this alternative would not have an interchange with the Suncoast Parkway due to the alignment's proximity to the existing S.R. 54 interchange. Both S.R. 54 and Tower Road would require additional right-of-way to accommodate the needed lanes identified above.

Under Alternative 4, Tower Road, a new road that would parallel S.R. 54 would extend east to Gunn Highway (C.R. 587)), then turn in a northeasterly direction intersecting U.S. 41 in Central Pasco County. The 2035 LRTP shows the Tower Road alignment as both a two-lane roadway west of Starkey Boulevard to the Suncoast Parkway and as a four-lane roadway east of the Suncoast Parkway to U.S. 41. However, to meet the total number of east-west lanes needed for this analysis, Tower Road would be constructed as a six-lane roadway for its entire length. Existing right-of-way varies along the planned corridor based on the type of cross-section.

Alternative 5 - Expansion of S.R. 52 from Six Lanes to Eight Lanes at Grade and Expansion of S.R. 54 from Six Lanes to Eight Lanes at Grade.

Alternative 5 expands both S.R. 52 and S.R. 54 from their current cross-sections (S.R. 52 - six lanes/two lanes - S.R. 54 six lanes/four lanes) to eight-lane cross-sections (at grade). This alternative adds the four additional east-west lanes on the existing arterials that are needed to satisfy the total number of east/west lanes required in the RRE Study Area. This alternative would require additional right-of-way to construct an eight-lane cross-section on both roadways.

Alternatives 6A through 6G - Construction of New Four Lane At Grade Roadway

Alternatives 6A through 6G are alternate alignments for the construction of a new four lane extension of the existing Ridge Road from its current terminus at Moon Lake Road east to U.S. 41. The existing segment of Ridge Road from U.S. 19 to Little Road is four lanes and from

Little Road to the Decubellis Road/Moon Lake Road intersection is currently two lanes; however, the County has scheduled this segment for widening to four lanes in 2012. ROW acquisition is currently underway.

While all of these RRE alignments extend from the Decubellis Road/Moon Lake Road intersection with existing Ridge Road to U.S. 41, only Alternatives 6D, 6E, 6F and 6G actually connect to the proposed interchange with the Suncoast Parkway. Alternatives 6A, 6B, and 6C assume a bridge over the Suncoast Parkway with no direct connection.

All central corridor alignments for the RRE have been studied previously and more detailed information is available. However, for the purposes of conducting this comparative analysis the methodologies and data utilized in the evaluation were consistent throughout, even when more detailed information may have been available.

4.0 AVOIDANCE AND MINIMIZATION

The eleven build alternatives identified previously in this report were developed through an iterative process involving the following steps:

1. Identification of typical roadway sections to be considered;
2. Identification of alternative roadway alignments;
3. Evaluation and refinement of alternative roadway alignments based on environmental analyses (avoidance); followed by
4. Evaluation and refinement of the typical sections for alternative roadway alignments based on engineering and environmental analyses (minimization); and
5. Further minimization for the alternative selected as the Preferred Alternative.

The objective of this iterative process was to develop the alternative alignments to avoid and minimize community and environmental impacts to the maximum extent practicable.

4.1 Avoidance

When developing the layout for an alignment alternative, efforts were made to avoid impacts to:

- wetlands;
- threatened and endangered species habitat;
- floodplains;
- potential significant archaeological and/or historic sites;
- community features;
- major utilities; and
- adjacent properties.

Section 5.0 of this report provides detailed descriptions of these factors and how impacts are measured.

Efforts were also made to avoid poorly drained soil and difficult or long riverine crossings. Finally, efforts were made to provide reasonably aligned intersections with other roads and railways and to provide an alignment that complies with roadway design and safety criteria. Based on this approach and making use of available layers from the Pasco County Geographic

Information System (GIS) and other sources to identify the areas of concern, alignment alternatives were developed with avoidance of the features listed above in mind.

Since the intent of the central corridor alternatives is to develop an extension of the existing Ridge Road, all alternatives begin at the existing Ridge Road and Decubellis/Moon Lake Road intersection. The existing Ridge Road, from Little Road to Moon Lake Road, is two lanes. This segment is permitted, funded, and planned to be expanded to four lanes in 2012. The RRE alignment for approximately the first one-half mile east from the current Ridge Road terminus, has previously been established by Pasco County to avoid impacts to adjacent, existing residential development. No alignment alternatives are considered within this short segment of the central corridor. Beyond this initial segment and extending to the project terminus at U.S. 41, seven alternative alignments were developed and analyzed.

Like the central corridor alternatives (6A-6G), Tower Road would be a new roadway. To the extent possible, the proposed alignment for this alternative although generally depicted in the LRTP, was refined to cross major wetland systems and a wildlife corridor at the point of least impact. The final alignment for the Tower Road alternative also avoids the Starkey Preserve and the existing Tampa Bay Water 84-inch water transmission line.

There is less opportunity for avoidance within the S.R. 52 and S.R. 54 corridors since the alignments for these alternatives of necessity follow the existing road corridors. However, where the alternatives required expansion of the existing right-of-way, the alignment was adjusted based on the factors listed above.

Alternatives after avoidance are shown on the Wetland Impact Maps contained in Section 10.

4.2 Minimization

Numerous wetland minimization techniques have been incorporated into the development of the eleven alternatives. After the alignments for the alternatives were developed to address Avoidance, these minimization techniques were incorporated at the alternatives stage as modifications to the typical cross-sections used within each segment. The original and minimized cross-sections developed for the eleven build alternatives are presented in the exhibits provided in Appendix E.

4.2.1 Minimization for Central Corridor Alternatives

Minimization included an additional approach used for all central corridor alternatives (6A, 6B, 6C, 6D, 6E, 6F, and 6G). These alternatives include bridging the entire wetland limits at the Pithlachascotee River. A bridge is significantly more expensive than roadway on embankment, but minimizes the wetland impacts to shading rather than destruction from fill.

The initial minimization technique used for the central corridor alternatives through the urban portion of Phase 1 was use of the minimum recommended widths for the sidewalk and shared-use path. Per the *Florida Bicycle Facilities Planning and Design Handbook* and the Florida Department of Transportation (FDOT) *Plans Preparation Manual* (PPM), the minimum paved width for a two-directional shared-use path is 12 feet. The minimum width for a sidewalk that is separated from the roadway curb is five feet per the PPM. The five-foot-wide sidewalk is adequate for bidirectional use by pedestrians. The shared-use path is by its nature intended for bidirectional use by a variety of users, including pedestrians/bicyclists/skaters/runners. Lesser widths for the sidewalk or shared-use path as a means of wetland impact minimization would not meet the needs of the users or comply with applicable design criteria.

Another minimization technique used in the central corridor alternatives involves modification to slopes utilized adjacent to the sidewalk and shared-use path when passing through wetlands. The slopes were steepened from the more desirable and easily maintained 1:4 up to a maximum of 1:2 to reduce the roadway footprint and further minimize impacts. At the alternative analysis stage, the benefit of the steeper side slopes can only be estimated since there is no vertical alignment developed. The steeper slopes reduce the limits of construction (extent of wetland and habitat impacts), but do not reduce the right-of-way or slope/harmonizing easement widths which are typically kept consistent for simplicity of legal descriptions and acquisition.

Within the rural portion of Segment 01, the typical median width is 64 feet, which is desirable based on the design speed. Within this segment where the alignment passes through wetlands, the median width is reduced to the minimum allowed 40 feet. Further reduction of the median width would not comply with applicable design standards. Within Phase 2, the minimum-allowable median width of 40 feet is used throughout.

Rather than utilizing a typical open-swale drainage approach, shoulder gutter with inlets and storm drain pipe are utilized to capture and convey runoff from the rural typical section when the roadway passes through wetlands. This costly shoulder gutter approach reduces the width of the embankment and limits of construction, thereby reducing wetland impacts. Additionally, the front slopes within the clear recovery area are steepened to the maximum-allowed 1:4 from the recommended 1:6. The impact reduction of these minimization techniques varies with fill height and is only estimated at the alternatives analysis stage.

Additional minimization techniques were utilized within the portions of the project where a rural typical section is proposed. These include not including sidewalks along these lengths for both Phases 1 and 2. A shared-use path is included within Phase 1 for connectivity between the population centers located west of the project and the existing Suncoast Parkway multiuse trail. The path width is set at the minimum required for two-way travel. Where the shared-use path passes through wetland areas, a typical section utilizing guardrail and shoulder gutter along the roadway allows the path to be moved to close proximity to the roadway further minimizing the wetland impacts. Within Phase 2, a multiuse trail is not included and bicycle users are accommodated on a paved shoulder.

The described minimization techniques are employed for all seven alternatives considered for the RRE Corridor. The result of the minimization effort would be a reduction in the limits of construction and consequently impacts to wetlands and habitat. Reductions in or modifications to the typical right-of-way width is not associated with the wetland minimization techniques. Additional design-specific minimization techniques can be utilized for the preferred alternative based on detailed engineering and design development.

4.2.2 Minimization for Alternatives 2 Through 5

Minimization techniques were also utilized on Alternatives 2 through 5. The typical cross-sections for each alternative included additional impacted areas outside of the proposed right-of-way limits. The typical cross-section calls for 28 additional feet (17 feet on each side) that would be impacted/disturbed by the "Limits of Construction" to accommodate an easement to return the outside slopes back to existing grade. With the inclusion of a guardrail between the outside travel lane, sidewalk, and installation of a retaining wall with handrailing safety, the total "Limits of Construction" can be reduced by 28 feet for Alternatives 2 through 5. Bicycles are accommodated on the outside curb lane in accordance with the DOT design standards instead of placement of a multiuse path that would have necessitated additional right-of-way within the corridor. Alternative 3 (six-lane divided down/four-lane divided elevated) reduces the overall right-of-way that is required by using elevated sections of roadway to accommodate the ten-lane cross-section instead of an at-grade solution to provide for the total number of lanes required. . It should be noted that for Alternatives 2, 3 and 5, all of which include widening the existing SR 52 from 2 to 6 lanes, it was assumed based on the LRTP that this segment would be widened to 6 lanes regardless of whether the RRE was built or not. Therefore, impacts were related to the portion of the corridor needed to widen the roadway beyond a 6 lane cross section.

5.0 ALTERNATIVES ANALYSIS

5.1 FACTORS FOR ALTERNATIVE ANALYSIS AND COMPARISON

The factors to be utilized in analysis of the alternatives are described below. A numerical scoring system has been used to compare alternatives. The scoring will vary from factor to factor, but all will utilize a range from "0" to "5", with "0" representing the most impacts and "5" representing the least impacts.

The range of actual data for each alternative and factor was utilized to determine the number of score categories and ranges within each. Where the difference between the alternatives was small, the score were grouped in fewer categories. Some had only two categories (0 and 5), while most are grouped in three categories (0, 3 and 5). Where data was more detailed including wetlands and wildlife, all categories between 0 and 5 were utilized for scoring (0, 1,2,3 4, and 5).

A table presenting the actual data used to calculate these ranges and the final score for all of the alternatives follows each impact factor description below. The scores are presented in the Alternatives Analysis Impact Matrix contained in Section 5.2 of this document.

No attempt was made to give any factor more weight than another. However, the one factor that is considered a fatal flaw is cost. If the funding for the cost to construct any individual alternative is not practicable, that alternative was not considered for selection as the Preferred Alternative.

5.1.1 Community Impacts

This category includes impacts to neighborhoods, individual homes, businesses, utilities, agricultural land, and archaeological/historic sites or structures.

Neighborhood Impacts

Description of the Evaluation Factor:

> The number of linear miles where neighborhoods/subdivisions are adjacent to or within 100 feet of the alternative right-of-way limits and; therefore, likely to be impacted by loss or change of access and/or increased noise due to proximity of the travel lanes.

Alternatives will be given a numerical score as follows:

> 0 - Over 1.0 Linear Mile of Impacts to Neighborhoods
> 3 - 0.5 to 1.0 Linear Miles of Impacts to Neighborhoods
> 5 - 0 to 0.4 Linear Miles of Impacts to Neighborhoods

Residential Relocations

Description of the Evaluation Factor:

> The number of single-family homes and/or apartment units within the right-of-way.

Alternatives will be given a numerical score as follows:

> 0 - Over 75 Residential Units Within the Right-of-Way
> 3 - 1 to 75 Residential Units Within the Right-of-Way
> 5 - 0 Residential Units Within the Right-of-Way

Business Relocations

Description of the Evaluation Factor:

The number of businesses that are within the right-of-way.

Alternatives will be given a numerical score as follows:

0 - Over 75 Businesses within the Right-of-Way
3 - 1 to 75 Businesses within the Right-of-Way
5 - 0 Businesses within the Right-of-Way

Businesses Impacted

Description of Evaluation Factor:

The number of businesses that could remain, but would sustain loss of or change to access and/or parking.

Alternatives will be given a numerical score as follows:

0 - Over 75 Businesses Impacted
3 - 1 to 75 Businesses Impacted
5 - 0 Businesses Impacted

Utilities

Description of the Evaluation Factor:

The identification of major utilities which would be required to be relocated, including electric substations, water treatment plants, wastewater treatment plants or pump stations, water transmission mains, and regional or communitywide stormwater facilities.

Alternatives will be given a numerical score as follows:

0 - More than One Major Utility to be Impacted
3 - One Major Utility to be Impacted
5 - No Major Utilities to be Impacted

Agricultural Land

Description of the Evaluation Factor:

Farmland is important as it contributes to the character of Florida's cultural environment as we know it and is a significant part of Pasco County's economy. GIS readable data were from the Florida Land Use Cover and Forms Classification System (FLUCFCS, FDOT 1999, as the FLUCFCS layer produced by the SWFWMD [1999] were utilized).

For each alternative, the outline of the alternative was superimposed on the existing FLUCFCS layer. Farmland within or partially within the right-of-way for each identified alternative was identified as having one of the following FLUCFCS codes:

- Pastures and Rangeland - 211, 212, 213, 330s
- Row Crops - 214
- Field Crops - 215
- Tree Crops and Nurseries - 220s, 240s
- Horse Farms and Dairies - 251, 252
- Kennels - 253
- Aquaculture - 254

No attempt was made to characterize or value different types of farmland. The actual land uses and economic values of farmland vary considerably from pasture to unimproved pasture, to citrus grove, to sod farms, to various row crops. Regardless of specific agricultural use and condition, farmlands contribute substantially to Florida's economy and cultural aesthetic.

Using the GIS, acreages were determined for each agricultural FLUCFCS code. Total farmland acreage was computed as the acreage within the footprint of the alternative alignment. Table 3 summarizes farmland acreages for each alternative.

Each alternative was given a numerical score between 0 and 5 as follows:

0 - Greater than 150 Acres of Agricultural Land Impacted

3 - 40 to 150 Acres of Agricultural Land Impacted

5 - Less than 40 Acres of Agricultural Land Impacted

Archaeological/Historic Impacts

Description of the Evaluation Factor:

Number of Archaeological sites and/or historic sites as identified in the Florida Master Site File (FMSF).[1]

Alternatives will be given a numerical score as follows:

0 - More than 10 Archaeological or Historic Site Within the Right-of-Way

3 - 1 to 10 Archaeological or Historic Site Within the Right-of-Way

5 - No Archaeological or Historic Sites Within the Right-of-Way

[1] State and Federal law mandates that an inventory of all known cultural resources (historic structures and archaeological sites) be maintained. The FMSF, within the Department of State, is the office in Florida that maintains that inventory. Generally, archaeological sites or historic structures qualify for recording in the FMSF if they are at least 50 years old and if they are adequately documented. Significance evaluations are performed by the Compliance Review Section of the Bureau of Historic Preservation, in consultation with the State Historic Preservation Office/Officer.

TABLE 2

Community Impacts Summary Data by Alternative							
Alternative	Linear Miles of Impacted Neighborhoods	No. of Residential Units to be Relocated	No. of Businesses to be Relocated	No. of Businesses Impacted	No. of Archaeological/ Historic Sites Impacted	No. of Major Utilities Impacted	Acres of Agricultural Land Impacted
1	0.00	0	0	0	0	0	0
2	0.50	34	137	216	27	0	17.17
3	0.50	21	90	92	19	0	13.93
4	1.90	48	1	27	4	1*	160.92
5	2.40	39	137	216	27	0	59.06
6A	0.60	0	0	0	7	0	100.55
6B	2.66	142	0	0	11	0	31.74
6C	2.66	142	0	0	9	0	101.37
6D	1.88	107	0	0	10	0	85.04
6E	0.60	0	0	0	7	0	103.60
6F	0.75	12	0	0	7	0	95.25
6G	0.60	0	0	0	6	0	100.55

*The one major utility impacted by Alternative 4 is a 36-inch County water transmission main. This known fact was not used as a reason to eliminate this option.

Prepared by Pasco County, Pitman Hartenstein and Associates, and Entrix, October 2010.

5.1.2 Environmental Impacts

Wetland Impacts Analysis

Wetland impacts associated with each alternative were compared using a combination of available data on wetlands and wetland types in combination with the most current, available aerial photography. GIS readable data were available in two forms: the FLUCFCS, FDOT 1999, and the National Wetlands Inventory (NWI). After due consideration, the FLUCFCS system was selected for use with the awareness that it would be necessary to convert from the FLUCFCS system into the National Wetlands Classification Standard Cowardin (1979) system used by the ACOE. The FLUCFCS layer produced by the SWFWMD (1999) was selected over the NWI system because the available database includes a greater degree of detail and the mapping is more recent.

For each alternative, the outline of the alternatives was superimposed on the existing wetland layer, and the alternative route was adjusted to avoid wetland impacts to the extent obvious and feasible at the level of analysis appropriate to an alternatives analysis. Both the alternatives that avoided wetlands and other sensitive features per Section 5.1 and the central corridor alternatives (6A – 6G) that minimized wetland impacts per Section 5.2.1 were evaluated.

The wetland acreage reported herein may vary from the acreages submitted in previous reports. When the initial alternatives analysis was conducted for the central corridors, wetland impacts ranged (on a corridor-by-corridor basis) from 25.5 acres to 44.3 acres for the central corridors (Alternatives 6A-G). The analysis provided in this document was done utilizing the same methodology and level of information available for all the alternatives in order not to bias the comparison. Information previously submitted was more detailed and based on more field analysis and surveys. The current analysis shows impacts ranging from 14.4 to 45.3 acres.

The wetlands within or partially within the identified alternative were numbered, and polygons delineating the wetland cover types were overlaid on aerials to verify the cover type and reclassify into the terminology used by the ACOE. For this specific analysis, no attempt was made to eliminate wetlands not meeting Federal jurisdictional criteria. Wetlands were classified as Palustrine forested, Palustrine emergent (herbaceous), and Palustrine shrub-scrub based on the FLUCFCS cover type, a translation into the Cowardin system (see table below), and the

aerial interpretation. In order to have discrete wetlands for which to compute acreages, wetlands (such as streams) were "truncated" 300 feet from each side of the roadway corridor.

FLUCFCS Code	Cowardin Wetland Type*
610, 611, 613, 615, 616, 617, 619	Palustrine Forested
620, 621, 624, 625, 626, 627, 629, 630	Palustrine Forested
640, 641, 643	Palustrine Emergent (Herbaceous)
500, 510, 520, 530 (and all Level 3 Variants, subject to the restriction that aerial interpretation indicates that the area is actually a wetland and not a lake, stream, or dug out pond)	Palustrine Emergent (Herbaceous)
618	Palustrine Scrub-Shrub
**No Palustrine scrub-shrub wetlands were mapped within the alternatives.	

*Source: Cowardin, L.M., Carter, V., Golet, F.C., & LaRoe, E.T. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Government Printing Office, Washington, D.C., 103 pp., as accessed from http://www.nwi.fws.gov/classman.html

Using the GIS, acreages were determined for each wetland, and within each wetland for each Cowardin Wetland Type - Forested, Emergent, and Scrub. It should be noted that the evaluation did not show any Scrub-Shrub wetlands within the impact area of the 11 alternatives either after avoidance or after minimization. Total wetland acreage was computed as the acreage within the corridor (primary) and 300-foot buffer (secondary impact). The secondary impacts were included to account for unintended impacts that could occur that are not due to directly removing the wetland including but not limited to minor changes to wetland hydrology, edge effects on wetland vegetation, increased chance of weed establishment in the wetland, increased human access, changes in wildlife habitat values due to changes in wetland size and reduced connectivity, and other factors. Five percent of the acreage outside the primary impact area but within the 300–ft assessment area was allocated as five percent approximates the percentage of secondary impacts that was computed based on WRAP analyses previously conducted for Alternative 6G.

Per the ACOE request, a table has been provided that lists each wetland and the estimated impact acreage by Wetland Cover Type (Cowardin type). Please see detailed information provided for each alternative in Appendix F. Table 3 below summarizes the wetland impacts for each alternative, before and after avoidance and minimization.

The objective was to produce a wetland impact score for each corridor between 0 and 5.

Each alternative will be given a numerical score as follows:

0 - Greater than 50 Acres of Wetland Impacts

1 - 40-50 Acres of Wetland Impacts

2 - 30-39 Acres of Wetland Impacts

3 - 20-29 Acres of Wetland Impacts

4 - 10-19 Acres of Wetland Impacts

5 - Less than 10 Acres of Wetland Impacts

TABLE 3

Wetland Impacts - Acres by Primary and Secondary Impact, by Type, for Original and Avoided/Minimized Alternatives**

Original Alternative							
Alternative	Primary Impacts			Secondary Impacts			Cumulative Impact
	Emergent	Forested	Total	Emergent	Forested	Total	Primary + 5% Secondary
2	3.2	11.7	14.8	76.2	116.7	192.9	24.5
3	.3	1.0	1.3	70.6	110.3	180.9	10.3
4	17.0	41.4	58.4	166.7	249.9	416.6	79.2
5	.8	2.7	3.5	167.8	219.6	387.4	12.8
6A	10.9	34.6	45.5	39.6	147.0	186.5	54.8
6B	10.7	24.0	34.7	62.2	116.7	178.9	43.6
6C	4.2	38.5	42.6	48.1	152.2	200.3	52.7
6D	6.3	30.4	36.7	53.4	145.4	198.8	46.6
6E	7.3	31.7	39.0	43.8	157.4	201.2	49
6F	11.5	32.9	44.4	50.1	153.4	203.5	54.6
6G	7.9	32.9	40.8	43.4	155.4	198.9	50.7
Minimized Alternative							
Alternative	Primary Impacts			Secondary Impacts			Cumulative Impact
	Emergent	Forested	Total	Emergent	Forested	Total	Primary + 5% Secondary
2	.4	1.4	1.8	77.0	118.2	195.2	11.5
3	0.0	.3	.3	70.8	111.7	182.4	9.4
4	15.1	40.0	55.0	167.8	251.4	419.2	76.0
5	.0	.2	.2	169.1	222.5	391.6	9.6
6A	7.6	27.4	35.0	41.6	146.5	188.0	44.4
6B	7.3	21.7	29.0	63.1	117.6	180.6	38.0
6C	0.7	29.5	30.2	47.9	152.4	200.3	40.2
6D	4.5	27.0	31.5	53.9	144.7	198.5	41.4
6E	5.5	28.7	34.2	44.2	156.3	200.5	44.2
6F	9.3	29.1	38.4	50.8	152.3	203.1	48.5
6G	6.1	29.3	35.4	43.9	154.4	198.2	45.3

Table 3A

Alternative	Original Total Primary & 5% Secondary Acres	Avoided/Minimized Total Primary & 5% Secondary	Reduction in Acres (Difference)
2	24.5	11.5	-13.0
3	10.3	9.4	-0.9
4	79.2	76.0	-3.2
5	12.8	9.6	-3.2
6A	54.8	44.1	-10.7
6B	43.6	38.0	-5.6
6C	52.7	40.2	-12.5
6D	46.6	41.4	-5.2
6E	49.0	44.2	-4.8
6F	54.6	48.5	-6.1
6G	50.7	45.3	-5.4

**Prepared by: Pitman-Hartenstein & Associates in association with Biological Research Associates. 2001. Alternative Site Analysis for Pasco County Development Services Branch, Engineering Services Department

Wildlife/Habitat Impacts

Potential wildlife impacts were compared using several recent wildlife habitat studies plus regional information developed from studies conducted in 1998 and 2005 within the overall analysis area and for which the USFWS has previously deemed the information adequate to enable issuance of a Biological Opinion pursuant to Section 7 of the Endangered Species Act, as amended, for the subject application. Previous studies within the analysis area provided information on habitat suitability for listed species likely to be present. Two types of assessments were made for each alternative, one based on impacts to habitat based on statewide data and analysis conducted by a State of Florida agency (Florida Fish and Wildlife Conservation Commission [FFWCC]), and an assessment based on specific listed species known to occur in the region. These two types of assessment were compared and summarized into a single impact rating for purposes of this alternatives analysis.

ANALYSIS BASED ON WILDLIFE HABITAT VALUE

Two significant studies (Endries et al. 2008 and 2009) have been completed since the original alternatives analysis completed in 2001, and these studies build upon each other and upon the Cox et al. (1994) "Closing the Gaps" analysis to provide an updated and common platform from which all alternatives can be compared relative to potential impacts to wildlife habitats. Use of the Endries et al. 2008 analysis and regional knowledge by ENTRIX staff of the listed species likely to occur in the study area and the habitat requirements for these species allows an evaluation of potential affects of the proposed alternatives on listed wildlife.

GIS-readable data that summarize wildlife usage and habitat were obtained from the Florida Fish and Wildlife Conservation. These data provide the results of the 2008 and 2009 studies referenced above and summarize some ten different wildlife habitat occurrence and habitat importance classifications to produce one summary GIS layer that ranks habitats (both natural and anthropogenic) in order of their importance to the maintenance of wildlife in Florida. The summary layer, provided on the FFWCC web site and titled the "Integrated Wildlife Habitat Ranking System (IWHRS) GIS "assessment tool" was used to assess the importance of each of the alternatives to wildlife. The ten GIS layers used to produce the IWHRS classification were:

- Spacial Heterogeneity raster dataset
- Roadless habitat patch size raster dataset

- Strategic Habitat Conservations Areas raster dataset
- Listed species locations raster dataset
- Species richness raster dataset
- Florida Natural Areas Inventory Habitat Conservation Priorities raster dataset
- Managed lands raster dataset
- Distance to 'Managed Lands' raster dataset
- Landscape connectivity raster dataset
- 'Florida Forever' Board of Trustees/Save Our Rivers Lands raster dataset

Appendix F contains a copy of Endries et. al (2008), which details the above analysis.

The IWHRS layer assigns each raster cell a value representing its importance to wildlife. The IWHRS importance values range from 1 to 10, with 10 representing the most important wildlife habitats and 0 the least important wildlife habitats. From the raster values, an area- weighted average IWHRS score was determined for each alternative using the following formula:

Weighted IWHRS score = sum(acreage*IWHRS value) / sum (acreage)

The Weighted Average IWHRS score for each alternative is a measure of the importance of the habitat along the alternative to wildlife. Alternatives with a higher Weighted Average IWHRS scores contain more important wildlife habitat; and consequently, development of the alternative would constitute a more significant impact to wildlife habitat than development of an alternative with a lesser weighted IWHRS score. Because of the inverse relationship between the weighted IWHRS score and development impact to wildlife habitat, scores for this alternatives analysis were assigned as follows:

Weighted Average IWHRS Score	0	0.1-2.0	2.1-4.0	4.1-6.0	6.1-8.0	8.1-10
Alternatives Analysis Score	5	4	3	2	1	0

The Statewide data published by the FFWCC (Endries et al. 2008) suggest that all alternatives lie in a region that is generally intermediate in value compared to the state as a whole. Acreages were based on direct (primary) impact areas within each alternative after minimization.

In addition to the above and as backup to it, the quantity of native habitat impacted by each alignment was determined and is provided in the summary table.

Analysis Based on Species that Occur in the Region

In addition to the above, selected additional data exist that provide a regional context with which to compare potential effects of the proposed alternatives on wildlife. The FNAI database which provides locations of species as submitted to them covers all alternatives, but is incomplete as it is not a detailed study. In addition, current USFWS and FFWCC databases were reviewed for wood stork and wading bird colonies, scrub-jays, and bald eagles. The 1998 Wildlife Study by EMS (updated by BRA in 2001) and additional on-site survey conducted in 2005 (by BRA) provide regional information on listed species potential occurrence. Additional studies exist that are relevant to the overall study area, in general, and/or to one or more of the alternatives, in particular, including the Serenova Development of Regional Impact (DRI), the River Ridge DRI, the Bexley DRI, DeCubellis Avenue Route Study, the Final Environmental Impact Statement for the North Suncoast Corridor, and the Corridor Analysis Report for the Bi-County Expressway PD&E Study.

The paragraphs below provide information on the species known to occur or potentially occur within the region that could be affected by the potential alternatives. Specific details and references have been provided in previous submittals in support of the application. Each alternative has been assigned a numeric score for each species that may occur in the overall study area as follows:

0 Very High Impact: Species is known to occur in the alternative or adjacent habitats and significant, unmitigatable impacts to the species and/or its habitat are anticipated.

1 High Impact: Species is known to occur in the alternative or adjacent habitats and a high level of impact to the species and/or its habitat are anticipated. Anticipated impacts can be mitigated, but it may be difficult to do so.

2 Moderate Impact: Species is known to occur in the alternative or adjacent habitats and a moderate level of impact to the species and/or its habitat are anticipated. Effective mitigation solutions are available to minimize or offset anticipated impacts.

3 Low Impact: Significant or moderate impact to the species is not anticipated, but some impact may occur if the species occurs in the alternative or adjacent habitats. The anticipated impact is likely to be minor and/or easily mitigated.

4 Very Low Impact: Anticipated impact to the species is expected to be very low, but some minor impact may occur if the species occurs in the alternative or adjacent habitats. The anticipated level of impact is so low or unspecified as to not warrant or enable specific mitigation solutions.

5 No Impact: Species almost certainly not present and no potential habitat is present in or adjacent to the alternative; or neither species or its habitat will be impacted.

The specific criteria for assigning the ranking scores for individual species to the above scale are provided in the individual species discussions. Following those discussions, a table is provided that summarizes anticipated species-specific impacts for each alternative. Scores are based on anticipated impacts to each species and the species' required habitats based on ENTRIX knowledge of species habitat requirements; and occurrence, quantity condition of appropriate habitats. Acreages uses in assigning the specific rank values are based on species-specific home range data and other biological data.

AMERICAN ALLIGATOR (*ALLIGATOR MISSISSIPIENSIS*)

After being legally protected for many years, the alligator, listed by the FFWCC as a Species of Special Concern and by the USFWS as Threatened (due to similarity of appearance), has made a remarkable comeback, and is now fairly common in most types of wetlands that have standing water and ample food supplies.

Alligators were observed in several of the lakes and ponds within the central alternatives area and in wetlands adjacent to Tower Road. They almost certainly utilize most of the lakes and ponds that could be affected by the alternatives. However, due to the ubiquitous character of its habitat needs and the linear nature of the anticipated construction impacts, alligators should not be negatively impacted by any alternative. Indeed, the construction of new detention ponds for the highway will likely add alligator habitat. Animal crossings will allow alligators to access north-south dispersal through wetlands. All potential alternatives were assigned a very low level of impact (4) except for the alternative proposing above grade lanes on S.R. 52, which was assigned no impact (5).

EASTERN INDIGO SNAKE (*DRYMARCHON CORAIS COUPERI*)

The indigo snake, listed by both the FFWCC and USFWS as Threatened, is a habitat generalist, using a variety of habitats from mangrove swamps to xeric uplands. Indigo snakes are often associated with gopher tortoise burrows, which they use as refugia from extreme temperatures (Moler 1992). These snakes require large tracts of natural, undisturbed habitat and have been documented to have home ranges of 125 – 250 acres (Moler 1992). No indigo snakes were observed during the surveys of the central alternatives or reported near Tower Road through the Bexley DRI or in the portion of the Serenova Wilderness area adjacent to S.R. 52. However, suitable habitat occurs along the central alternatives and Starkey Wilderness Area adjacent to S.R. 52, and indigo snakes likely occur in these areas in low densities. In the region, only two indigo snakes (one adult, one shed skin) were observed during surveys of the Suncoast Parkway Phase I project (FDOT records), one was observed during fieldwork for the Bexley Ranch DRI but not in the Tower Road alignment (BRA records), and none was seen during fieldwork for the Serenova DRI.

As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural habitats. In the summary table, alternatives traversing the edges of potential eastern indigo snake habitat and having no more than 10 acres of impact within that edge were assigned a very low impact rating (4). Alternatives through contiguous blocks of habitat 100 acres or more but not resulting in fragmentation into two non-contiguous habitat blocks less than 100 acres in size each were given low impact ratings (3) as appropriate habitat will remain to either side of the road. Alternatives resulting into fragmentation into one block smaller than 100 acres and one block greater than 100 acres were given a moderate impact rating (2). Those resulting in fragmentation into two blocks both less than 100 acres were given a high impact rating (0). If an alternative breaks multiple habitats into fragments too small to support indigo snakes (<100 acres), the pattern was assessed and the most appropriate (generally the highest) impact rating assigned. In general, the central corridor alternatives were assigned low ratings (3) as the blocks of contiguous habitat remained larger than 100 acres.

GOPHER TORTOISE (*GOPHERUS POLYPHEMUS*)

This species, listed as Threatened by the FFWCC, is a key factor in the determination of habitat suitability for listed species because of the large number of other animals that use tortoise burrows for one or more of their life requisites. While it is common to find tortoise burrows in most types of upland communities, the preferred habitats of gopher tortoise are xeric uplands and disturbed, ruderal areas. Gopher tortoises have been documented as occurring in xeric

habitat areas on the central corridor and there is a high potential of their occurrence in undeveloped uplands along S.R. 54, S.R. 52, and Tower Road. Tower Road through the Bexley DRI has been surveyed and the potentially impacted area within the DRI is too wet to support tortoises. The portion of the Starkey Wilderness Area adjacent to S.R. 52 is known to support tortoises (Serenova DRI documentation). State permitting requirements for gopher tortoises provide relocation alternatives to avoid direct impacts to gopher tortoises and enable a score of 3 for alternatives supporting gopher tortoises.

FLORIDA PINE SNAKE (*PITUOPHIS MELANOLEUCUS MUGITUS*)

This snake, listed as a Species of Special Concern by the FFWCC, is a gopher tortoise burrow commensal utilizing both tortoise burrows and the tunnels of pocket gophers (*Geomys pinetis*) for feeding and shelter. Preferred habitat of the pine snake is xeric uplands. Radiotelemetry of pine snakes in north central Florida revealed variable home ranges of 27 to 240 acres for the individuals tracked (Franz 1992). Suitable habitat is common within the project, especially in Phase I. No pine snakes were observed during the gopher burrow inventory in 2005. As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural xeric habitats habitats, but population levels for this species are anticipated to be low. In the summary table, alternatives containing 20 acres or more xeric habitats (FLUCFCS 412) were given an impact rating of 3. All others were rated as having low impact (4).

SUWANNEE COOTER (*PSEUDEMMYS CONCINNA SUWANNIENSIS*)

The Suwannee cooter, listed as a Species of Special Concern by the FFWCC, is a relatively large emydid turtle, and is the subspecies of the river cooter (*Pseudemmys suwanniensis*) that can be found from the Apalachicola River and southward. The cooter is found in rivers, spring-runs and backwater swamps, but is not known to occur in the Pithlachascotee and Anclote Rivers or their tributaries (Jackson 1992). It is not a very common turtle, and has only a low likelihood of occurrence for any of the alternatives. If present, impacts to the turtle's habitat will be very low (4), since the riverine systems of concern will be bridged. Alternatives not requiring bridged river crossings were assigned a no impact value (5).

SHORT-TAILED SNAKE (*STILOSOMA EXTENUATUM*)

The short-tailed snake, listed as Threatened by the FFWCC, belongs to a monotypic genus endemic to Florida. It is restricted to xeric uplands, primarily longleaf pine-turkey oak sandhills, for its habitat requirements. Suitable habitat is present on this project in both phases, but this

rare species was not observed during any of the wildlife surveys or during previous studies in which trapping was conducted; therefore, it has been determined to have a low likelihood of occurrence within the study area. Potential impacts to the short-tailed snake habitat would be offset by the proposed mitigation measures. As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural habitats. In the summary table, alternatives containing 10 acres or more xeric habitats (FLUCFCS 412) were given an impact rating of 3. All others were given a very low impact rating of 4.

GOPHER FROG (*RANA CAPITO*)

Gopher frogs (*Rana capito*) are a commensal of the gopher tortoise, occurring almost exclusively where gopher tortoises are found. Prime gopher frog habitat includes xeric uplands, especially longleaf pine-turkey oak associations, with nearby (within one mile), seasonally flooded marshes or ponds. Gopher frogs were observed during 2005 wildlife surveys, and they likely occur in xeric habitats throughout the central corridor and in xeric areas south of S.R. 52. Alternatives with a mixture of isolated ponds and dry uplands (all central corridor alternatives and the S.R. 52 alternative) were assigned low impact ratings (3), others were assigned very low impact ratings (4) as the appropriate combination of habitats do not occur.

FLORIDA PANTHER (*FELIS CONCOLOR CORYI*)

All alternatives use alignments outside of the known core range of the Florida panther (*Felis concolor*), which currently is restricted to large wilderness areas in south Florida (Maehr 1992). All alignments are outside of the ACOE's Florida panther "consultation area". No evidence of panthers was detected during any surveys of the alternatives. Although panthers are free ranging animals and, therefore, there is always a potential that they could pass through almost any property while traveling between wilderness areas, panthers are not expected to reside near any of the alternatives. No alternative is anticipated to impact this species and so all were assigned a no impact score (5).

FLORIDA MOUSE (*PODOMYS FLORIDANUS*)

This mouse, listed as a Species of Special Concern by the FFWCC, is one of the two mammal species that are endemic to Florida. It typically lives within gopher tortoise burrows in fire-maintained, xeric uplands. Suitable habitat (longleaf pine/xeric oak, FLUCFCS 412) is present within the project area. Project specific surveys (EMS 1998) and the Serenova DRI indicated the presence or probable presence of Florida mice in areas with appropriate habitats in the central alternatives and in the Starkey Wilderness Area near S.R. 52. As a generality, any

alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural habitats. In the summary table, alternatives containing 10 acres or more of xeric habitats (FLUCFCS 412) were given an impact rating of 3. Alternative with less habitat were given a very low rating (4) or if there was no habitat, a rating of 5.

SHERMAN'S FOX SQUIRREL (*SCIURUS NIGER SHERMANI*)

The Sherman's fox squirrel is listed by the FFWCC as a Species of Special Concern. Optimum habitat for this subspecies is composed of longleaf pine-turkey oak sandhills, although they also can be found in mesic forested areas as well. Home range sizes for Sherman's fox squirrel average approximately 50 to 100 acres (Kantola 1992). Suitable habitat is present on both phases of the project. The squirrel is fairly common in localized areas, including the along the central alternatives and in xeric natural areas near S.R. 52. As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural habitats.

In the summary table, an impact rating of low (3) was given to alternatives where the acreage of xeric habitat with longleaf pine and xeric oaks (FLUCFCS 412 plus FLUCFCS 421) was between 1 and 50 acres as this species is mobile and actual loss of animals is unlikely where the amount of habitat loss is small, moderate (2) where the acreage was between 50 and 100 acres, and high (1) where there were the acreage of suitable habitat exceeded 100 acres. Areas with less than an acre of habitat impacts were assigned a 5 (no impact).

FLORIDA BLACK BEAR (*URSUS AMERICANUS FLORIDANUS*)

Regular sightings of the black bear in Pasco County are limited to the extreme northwestern corner of the county associated with the small (20-25 individuals) Weeki Wachee River/Chassahowitzka Swamp population and a disjunct population within the Green Swamp in eastern Pasco County (Nancy Barnwell, SWFWMD, pers. comm.). Several sightings have been reported from the Starkey Wilderness Area, the most recent being in 2004 when a poacher shot and killed a bear. As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of natural habitats. For any central alternative, impacts can be prevented by fencing and wildlife undercrossings (as proposed for the preferred alternative). In the summary table, low impacts (3) were assigned to all alternatives except the S.R. 52 alternative as either suitable habitat is not present or impacts can easily be prevented. S.R. 52

was assigned a moderate rating (2) because prevention of impacts could be difficult (fully fencing the highway is not feasible). Alternatives with no habitat were assigned a 5.

FLORIDA SCRUB-JAY (*APHELOCOMA COERULESCENS*)

The Florida scrub-jay, listed as Threatened by both the FFWCC and USFWS, is an endemic species found in Florida scrub habitats. This gregarious jay is a habitat specialist that lives in scrub and scrubby flatwoods habitats. Optimal scrub habitat is sparse within all potential alternatives and all recent surveys that we are aware of suggest that no scrub-jays currently use any potential alternative. Please see the 2005 wildlife survey report for extensive detail on scrub-jay occurrence in the region. We are aware of management activities (controlled burns) on the Starkey Wilderness Area that could encourage scrub-jays to recolonize the area, but so far as we are aware, this has not occurred.

In the summary table, an impact rating of low (3) was given to alternatives where the acreage of scrub habitat that could potentially be restored to scrub-jay habitat occurs along the alternative. Where no habitat or inadequate acreage of habitat occurs, an impact rating of No Impact (5) was assigned.

FLORIDA BURROWING OWL (*ATHENE CUNICULATIA FLORIDANA*)

Representing a disjunct population of a western U.S. species, these owls, listed by the FFWCC as a Species of Special Concern, are most common in Florida west and north of Lake Okeechobee, but scattered breeding populations do exist elsewhere around the central portion of the state. They occupy burrows within dry prairies, agricultural land and disturbed urbanized areas. Open fields and pastures are plentiful in all alternatives, especially the central corridor alternatives within in Phase II; however, this species was not observed during our surveys or during surveys conducted for nearby projects and is not believed to inhabit any of the potential alignments. All alternatives were assigned a no impact score of 5.

SOUTHEASTERN AMERICAN KESTREL (*FALCO SPARVERIUS PAULUS*)

This resident subspecies of the kestrel, listed as Threatened by the FFWCC, can be distinguished from its cousin, *F. s. sparverius*, a winter migrant, by its smaller size. The southeastern kestrel requires three components for optimal habitat; large, open fields for foraging; snags for nesting; and snags, fence lines or telephone poles as perching sites from which to hunt. Due to the large amount of pastures in both phases, optimum habitat for the kestrel is plentiful.

Several kestrels were observed along the power line easement in Phase I during surveys in 1998, 2001 and 2005, and southeastern kestrels were reported in previous studies, and by a

Pasco County biologist within the pasture area west of the Pithlachascotee River in Phase I. Kestrels are also known to be abundant along that part of the Tower Road alternative that goes through the Bexley DRI site. No nest sites have been observed along any alternative. Considering the linear nature of the proposed construction, impacts to kestrels would be primarily to feeding habitat and not nesting habitat. As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact this species than alternatives that impact large areas of open habitats. In the summary table, potential impacts to this species were considered to be very low (4) when there was less than 50 acres of improved pasture, unimproved pasture and palmetto prairie combined, low (3) if the alternative contained from 50 to 100 acres of open kestrel habitat, and moderate (2) if there was more than 100 acres of habitat. Because this species is relatively abundant in the region, a high level of impact is not anticipated for any alternative. Alternatives resulting in no change in habitat were given a 5.

FLORIDA SANDHILL CRANE (*GRUS CANADENSIS PRATENSIS*)

This non-migratory subspecies, listed as threatened by the FFWCC, can often be seen foraging in improved pasture and open fields. Cranes nest in emergent wetlands with water one to three feet in depth (Nesbitt 1996) and feed in adjacent fields and pastures. Prime nesting habitat is abundant throughout along all alternatives. Wetlands used for nesting shift from year to year depending on water levels. As a generality, any alternative that is a single roadway will have less potential to impact this species than alternatives that impact multiple alternatives. In the summary table, this species was listed as likely to have very low impacts (4) for alternatives with less than 10 acres of marsh habitats and little improved pasture or rangeland habitat; low impacts (3) for alternatives with less than 10 acres of marsh habitats and intermediate acreages of improved pasture or rangeland habitat; and moderate (2) for alternatives with more than 10 acres of marsh habitats and significant acreage of improved pasture and rangeland habitat. Alternatives resulting in no change in habitat were given a 5.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

The bald eagle was listed as Threatened by the FFWCC and USFWS, but has been delisted because populations have rebounded. No eagle nests are in close proximity to any of the potential alternatives. All alternatives were assigned a no impact score of 5.

RED-COCKADED WOODPECKER (*PICOIDES BOREALIS*)

The colonial red-cockaded woodpecker (RCW) is a habitat specialist, requiring stands of over-mature pine that have contracted the red-heart disease. RCWs require diseased, live trees to

construct cavities, in which they nest and roost. Preferred pine stands need to have a fairly open canopy, with a sparse subcanopy to allow easy flight. RCWs must also have ample foraging habitat of pines surrounding the cavity tree. Existing surveys and available documentation also supports a lack of RCW colonies along any potential alternative. All alternatives were assigned a no impact score of 5.

LISTED WADING BIRDS

The USFWS and FFWCC list many of the large Florida wading birds as Endangered, Threatened, or of Special Concern depending on the species. All require both appropriate breeding and foraging habitats. Most of the listed species are colony breeders. The FFWCC database of breeding bird colonies that were active during the 1990s does not identify any colony as occurring with 0.5 mi of any alternative for any Ridge Road alternative. While this database is not current, the project team is broadly aware of new colonies that have formed in this region, and we are unaware of any colony near any potential alternative. Wading birds also require foraging habitats which typically shift with water levels and prey abundance. As a generality, alternatives with lesser wetland acreage and wetlands that are unaltered (by use of the immediate area as wellfield or ditching) will have less impact on listed wading birds. One significant change that has occurred since the 2005 wildlife study is that the Starkey Wilderness Area, which is used as the Starkey and North Pasco wellfields by Tampa Bay Water (TBW), is now connected by pipeline to the TBW central system. This connection is anticipated to allow TBW to "rest" these wellfields potentially allowing some improvement to the hydrologic condition of wetlands within the central alternatives.

In the summary table, it was assumed that the relative impact would be proportionate to the wetland impact acreage. The same value was assigned as assigned by the wetland analysis.

PLANTS

The only federally listed plant species known to occur in Pasco County is Britton's beargrass (*Nolina brittoniana*). It is not known from any potential alternative, though recent burn management in the Starkey Wilderness Area could provide improved habitat for this species. State listed plants have been observed on and near the central alternatives. Two were observed during the 2005 surveys and one, giant orchid (*Pteroglossaspis ecristata*),was seen in 2008. The two species observed, pine lily (*Lilium catesbaei*) and blue butterwort (*Pinguicula caerulea*), are listed by the Department of Community Affairs (DCA) as Rare and Imperiled, respectively and are uncommon but broadly distributed in the state. FDA listed species known to occur on the Starkey Wilderness Area south of the potential alternatives (Ferguson 2004)

include *Tillandsia utriculata* (Endangered) and *Garberia heterophylla*, *Lilium catesbaei*, *Lobelia cardinalis*, *Pteroglossaspis ecristata*, *Spiranthes laciniata*, and *Zephyranthes atamasca* var. *treatiae* (all Threatened). Other state listed species known to occur in close proximity to one or more alternatives are pondspice (*Litsea aestivalis*, (personal knowledge and Tampa Bay Water consultant reports) and hooded pitcher plant (*Sarracenia minor*, Serenova DRI). Zephyr lily is known to occur on the Bexley DRI in wet pasture.

As a generality, any alternative that is a single roadway or which is restricted to more highly developed areas will have less potential to impact listed plants than alternatives that impact large areas of natural habitats.

If any regionally significant populations of listed plant species are identified during the permitting or construction of the road, steps can be taken to protect these populations, possibly through relocation to nearby conservation areas or other public lands.

Species Impact Summary by Alternative

The following table lists all potential alternatives and rates each on its potential to impact individual listed species. This table is intended to provide support at an individual species level to the general ranking based on the FFWCC Integrated Wildlife Habitat Ranking System.

Table 4. Wildlife Scores

Analysis Based on Wildlife Habitat	**1**	**2**	**3**	**4**	**5**	**6**						
						A	**B**	**C**	**D**	**E**	**F**	**G**
Total native habitat (acres)	0	107	81	261	158	219	232	221	226	221	219	219
Weighted average IWHRS score	0	1.99	1.99	2.37	1.89	3.27	3.35	3.26	3.58	3.49	3.64	3.41
Alternatives Analysis Score based on IWHRS	**5**	**4**	**4**	**3**	**4**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Analysis Based on Species That Occur in the Region	**1**	**2**	**3**	**4**	**5**	**6**						
						A	**B**	**C**	**D**	**E**	**F**	**G**
Alligator missippiensis (American alligator)	5	4	5	4	4	4	4	4	4	4	4	4
Drymarchon corais couperi (eastern indigo snake)	5	4	5	3	4	3	3	3	3	3	3	3
Gopherus polyphymus (gopher tortoise)	5	3	5	3	3	3	3	3	3	3	3	3
Pituophis melanoleucus mugititus (pine snake)	5	4	4	5	4	4	4	3	4	4	4	4
Pseudemmys concinna suwanniensis (Suwannee cooter)	5	5	5	4	5	4	4	4	4	4	4	4
Stilosoma extenuatum (short-tailed snake)	5	3	4	5	4	3	3	3	3	3	3	3
Rana capito (gopher frog)	5	3	3	4	3	3	3	3	3	3	3	3
Felis concolor coryi (Florida panther)	5	5	5	5	5	5	5	5	5	5	5	5
Podomys floridanus (Florida mouse)	5	3	4	5	4	3	3	3	3	3	3	3
Sciurus niger shermani (Sherman's fox squirrel)	5	3	3	3	3	2	2	2	2	2	2	2

Ursus americanus floridanus (black bear)	5	2	5	3	3	3	3	3	3	3	3	3
Aphelocoma coerulescens (Florida scrub-jay)	5	5	5	5	5	3	3	3	3	3	3	3
Athene cuniculatia floridana (burrowing owl)	5	5	5	5	5	5	5	5	5	5	5	5
Falco sparverius paulus (southeastern American kestrel)	5	4	4	2	3	2	3	4	3	2	2	2
Grus canadensis pratensis (Florida sandhill crane)	5	4	4	2	4	3	3	3	3	3	3	3
Haliaeetus leucocephalus (bald eagle)	5	5	5	5	5	5	5	5	5	5	5	5
Picoides borealis (red-cockaded woodpecker)	5	5	5	5	5	5	5	5	5	5	5	5
Listed wading birds	5	4	4	0	3	1	2	1	1	1	1	1
Listed plants	5	4	5	3	3	3	3	3	3	3	3	3
Score Based on Species That Occur in the Region	**5.0**	**3.9**	**4.5**	**3.7**	**3.9**	**3.4**	**3.5**	**3.4**	**3.4**	**3.4**	**3.4**	**3.4**

Overall Score	**1**	**2**	**3**	**4**	**5**	**6**						
						A	**B**	**C**	**D**	**E**	**F**	**G**
Score based on Alternatives Analysis Score based on IWHRS	5	4	4	3	4	3	3	3	3	3	3	3
Score Based on Species That Occur in the Region (rounded from above)	5	4	4	4	4	3	3	3	3	3	3	3
Overall Score (average of the above two lines)	**5**	**4**	**4**	**3**	**4**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Reference Lists

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Floodplain Impacts

Description of the Evaluation Factor:

Acreage of Zone A Floodplain within the right-of-way for each alternative using the most recent Flood Insurance Rate Maps (FIRMs) available.

Each alternative will be given a numerical score as follows:

0 - 151 to 200 Acres of Floodplain within the Right-of-Way
3 - 76 to 150 Acres of Floodplain within the Right-of-Way
5 - 0 to 75 Acres of Floodplain within the Right-of-Way

TABLE 5

Floodplain Impacts by Alternative

Alternative	Acreage of Zone A Floodplains Within Rights-of-Way
1 - No Build	0
2 - S.R. 52 (10 Lanes At Grade)	18.4
3 - S.R. 52 (6 Lanes At Grade; 4 Lanes Elevated)	14.0
4 - S.R. 54 (8 Lanes At Grade; 8 Lanes Elevated)	78.1
5 - S.R. 54 (8 Lanes At grade) Tower Road (6 Lanes Elevated)	62.5 (S.R. 54) 103.9 (Tower Road) 166.4 Total
6A - RRE 4 Lanes	118.4
6B - RRE 4 Lanes	103.2
6C - RRE 4 Lanes	125.7
6D - RRE 4 Lanes	112.4
6E - RRE 4 Lanes	121.1
6F - RRE 4 Lanes	117.9
6G - RRE 4 Lanes	121.1

Source: FEMA Firm Maps, 1992
Prepared by: Pasco County, October 2010

Air Quality

Description of the Evaluation Factor:

Air quality is impacted by the amount of traffic. Traffic capacity of each alternative will be calculated and compared with other alternatives.

Each alternative will be given a numerical score as follows:

0 - 8 to 10 Lanes (Significant Impact)
3 - 4 to 6 Lanes (Moderate Impact)
5 - 0 to 2 Lanes (Minimal Impact)

TABLE 6

Air Quality
Total Number of Lanes by Alternative

Alternative	Number of Lanes
1	0
2	10
3	10
4	14
5	16
6A - 6G	4

Water Quality

Description of the Evaluation Factor:

Preventing water quality impacts is achieved by requiring adherence to water quality standards as required by the Environmental Protection Agency (EPA), National Pollutant Discharge Elimination System (NPDES) Permit conditions; and the SWFWMD, Chapters 40D-4, 40D-40, 41, and 42 of the Florida Administrative Code. For the purpose of evaluation, it will be assumed that all alternatives will meet these requirements and will have no impact on water quality.

5.1.3 Travel Characteristics

Distance in Miles

Description of the Evaluation Factor:

The length of an alternative (miles) will affect Vehicle Miles Traveled, Travel Time, and Air Quality. Shorter alternatives that can meet the same need are considered more favorable than longer alternatives.

Each alternative will be given a numeric score as follows:

0 - Over 10 Miles
3 - 6 to 10 Miles
5 - 0 to 5 Miles

Network Continuity

Description of the Evaluation Factor:

Alternatives that provide connectivity to the Suncoast Parkway will optimize traffic distribution and, therefore, provide more relief to other east-west roadways and facilitate hurricane evacuation.

Each alternative will be given a numeric score as follows:

0 - No Connectivity to the Suncoast Parkway
3 - Partial Connectivity to the Suncoast Parkway
5 - Full Connectivity to the Suncoast Parkway

TABLE 7

Travel Characteristics by Alternative

Alternative	Linear Miles	Connected to Suncoast Parkway
1	0	N/A
2	9.57	Yes

Alternative	Linear Miles	Connected to Suncoast Parkway
3	9.57	Yes
4	12.95	Partial
5	12.95	Yes
6A	8.73	No
6B	9.10	No
6C	9.10	No
6D	8.85	Yes
6E	8.69	Yes
6F	8.69	Yes
6G	8.64	Yes

5.1.4 Safety

Safety for Motorized Vehicles, Pedestrians, and Bicycles

Description of the Evaluation Factor:

> As the number of lanes on a roadway increase, safety declines. Pedestrians have more difficulty crossing and automobiles are forced to make difficult weaving movements to execute turns. This factor excludes elevated lanes and measures safety only in regard to lanes constructed at grade.

Each alterative will be given a numerical score as follows:

> 0 - 10 Lanes (Least Safe)
> 3 - 6 to 8 Lanes (Less Safe)
> 5 - 4 Lanes (Safer)

Improves Hurricane Evacuation

As outlined in the Project Purpose, Pasco County needs an alternative route for hurricane evacuation that allows vulnerable coastal residents to move inland to stay with friends and family. The expansion of lanes on one of the existing routes does not have the same benefit to the evacuating population as the creation of a new facility. A new lane does not have the same vehicle capacity as a new road. More importantly, if an accident occurs on one of the two evacuation routes, currently there is only one alternative route available. Therefore, alternatives

will be evaluated to determine if they improve Hurricane Evacuation by increasing the number of routes available for evacuation from the coastal area.

Description of Evaluation Factor:

Alternatives will be evaluated to determine if they improve Hurricane Evacuation by increasing the number of routes available for evacuation from the coastal area.

Each alterative will be given a numerical score as follows:

0 - Does not Increase the Number of Routes Available for Evacuation
5 - Does Increase the Number of Routes for Evacuation

TABLE 8

Safety by Alternative

Alternative	Number of At-Grade Lanes	Adds Hurricane Evacuation Route
1	N/A	No
2	10 - S.R. 52	No
3	6 - S.R. 52	No
4	8 - S.R. 52 6 - Tower Road	No
5	8 - S.R. 52 8 - S.R. 54	No
6A - 6G	4	Yes

5.1.5 Costs and Funding

Construction/Right-of-Way Costs

Table 9 lists costs associated with each of the eleven build alternatives. Costs were calculated for each roadway segment within each alternative alignment. (See Appendix F for details.) Roadway and bridge construction costs were computed using the revised FDOT, District 7, Long-Range Estimates (LRE) Roadway Costs, 2010, which provides average costs per mile for various applicable improvements. The FDOT Total Construction Cost includes construction cost derived from the LRE system, and includes costs associated with 10 percent Maintenance of Traffic (MOT), 10 percent Mobilization, and 25 percent Scope Contingency. Required roadway mileage and bridges were also computed to determine the segment costs. Segment costs were totaled to produce alignment construction costs, which were reduced to 85 percent of the State roads subtotal construction costs based on County estimates contained in the Pasco County Traffic Impact Study and Substandard Road Review Guidelines; thereof, to more accurately reflect the probable construction cost, this same assumption was made in the LRTP. For consistency and accurate comparison, the same assumption was used in computing costs for all eleven alternatives.

The right-of-way costs were computed by multiplying the reduced construction costs by a factor of 1.20. For the purposes of computing the right-of-way costs for the alignments, the construction costs of elevated bridges over wetlands and the Suncoast Parkway were excluded from the reduced construction costs. Also, the right-of-way costs were calculated to take into account existing right-of-way on S.R. 52, S.R. 54, and donated right-of-way on the central corridor Alternatives 6A-G. Appendix G provides more detailed assumptions for calculations.

Funding Availability

The cost and revenue assumptions for the Pasco County MPO's LRTP provide documentation of the financial resources expected to be available to the Pasco County MPO to fund needed transportation improvements through 2035. Federal and State laws require that long-range transportation plans are financially constrained; i.e., they reflect available funding as shown in the Cost Affordable Plan. After identifying needed projects to meet future travel demand, the estimated costs of planning, constructing, and managing improvements are compared to the

revenues projected to be available for those purposes from various sources. The cost affordable LRTP is the product of prioritizing projects based on need and identifying viable and sufficient funding sources to fund those projects within the planning horizon year (2015-35). The Financial Plan utilized to develop the Pasco County MPO's LRTP primarily covers existing funding programs that are currently available and estimates of County suballocation of various Federal and state revenues based on the fund type that are available through the FDOT. Working with the MPO's partnering agencies at the Federal, State, and regional level, a set of revenue assumptions deemed "reasonable for purposes of developing long-range plans," were selected. For Pasco County, this included the continuation of current funding sources and the identification of one new source of local revenue; i.e., Charter County Transportation System Surtax. Potential revenues from all identified sources were projected and utilized in developing the cost affordable LRTP (see Chapter 5, Cost and Revenue Assumptions, Pasco County LRTP, adopted December 10, 2009). Approximately 79.4 percent of the total available revenues for all transportation modes were anticipated to be derived from local revenue (County-generated) sources.

On a local level, the County has three funding sources for transportation projects: gas taxes, impact fees, and revenues derived from a portion of the "Penny for Pasco" sales tax, which expires in 2014. The LRTP reflects a County allocation totaling $132,000,000 for the construction of the four-lane RRE. If additional dollars are diverted beyond that set aside amount for the RRE, another project or projects must be eliminated or downsized.

Each alternative will be evaluated to determine if funding is adequate to meet the estimated cost of construction and right-of-way. If funding is not available, the alternative will not be considered in selection of a preferred alternative.

The evaluation will be either “Yes” for Funding Available, or “No” for Funding Not Available. No numeric score will be provided.

TABLE 9

Ridge Road Extension Alternatives Analysis
Estimated Costs for Construction/Right-of-Way
and Funding Availability

	Construction Costs (1)	Right-of-Way Costs (2)	Total Costs	Available Funding (3)
Alternative 1 (No Build)	0	0	0	$132,000,000
Alternative 2	180,590,000	76,249,000	256,839,000	132,000,000
Alternative 3	1,108,189,000	17,648,000	1,125,837,000	132,000,000
Alternative 4	286,050,000	225,995,000	512,045,000	132,000,000
Alternative 5	252,741,000	73,440,000	326,180,000	132,000,000
Alternative 6A	87,107,000	24,384,000	111,491,000	132,000,000
Alternative 6B	93,769,000	44,162,000	137,931,000	132,000,000
Alternative 6C	93,172,000	44,100,000	137,272,000	132,000,000
Alternative 6D	80,652,000	29,636,000	110,289,000	132,000,000
Alternative 6E	79,616,000	22,425,000	102,041,000	132,000,000
Alternative 6F	79,458,000	26,625,000	106,084,000	132,000,000
Alternative 6G	79,292,000	22,114,000	101,406,000	132,000,000

1. Construction Costs are based on 85 percent of the costs in the FDOT, District 7, LRE Roadway Costs, June 2009. (See Appendix E.)
2. Right-of-Way Costs are based on 120 percent of Construction Costs adjusted for existing and donated right-of-way. (See Appendix E.)
3. Available funding is based on funding allocation for the RRE as shown in the 2035 LRTP, Committed Projects (2009-14), and 2025 Cost Affordable (2015-25) Road Improvements, December 2009. (See Appendix C.)

Prepared by Pasco County and Pitman Hartenstein, October 2010/Updated January 31, 2011

Note: The estimated costs above do not include costs associated with the reconstruction of interchanges of S.R. 52 and S.R. 54.

5.2 ALTERNATIVES EVALUATION AND MATRIX

Each alternative was evaluated and scored using the factors provided in 5.1 above.

For the reviewer's convenience, the twelve alternatives are listed below:

1. No Build.
2. Expansion of S.R. 52 from six lanes to ten lanes at grade.
3. Expansion of S.R. 52 from six lanes to ten lanes, with six at grade and four elevated.
4. Expansion of S.R. 54 from six lanes to eight lanes at grade and expansion of proposed Tower Road from four lanes to six lanes at grade.
5. Expansion of S.R. 52 from six lanes to eight lanes at grade and expansion of S.R. 54 from six lanes to eight lanes at grade.
6. Central corridor alternative alignments:
   - 6A - RRE - 4 Lanes
   - 6B - RRE - 4 Lanes
   - 6C - RRE - 4 Lanes
   - 6D - RRE - 4 Lanes
   - 6E - RRE - 4 Lanes
   - 6F - RRE - 4 Lanes
   - 6G - RRE - 4 Lanes

Table 10 is a summary of the data presented in Section 5.2 and utilized to create the scores for each alternative.

Table 11 is the Alternatives Evaluation Matrix. Scores are provided by individual factor and totaled for each alternative.

This information, both scores and actual data for each alternative, was utilized to select the Preferred Alternative described in Section 6.0 below.

TABLE 10 - SUMMARY OF DATA FOR ALTERNATIVES

Alternative Alignment

Factor	1	2	3	4	5	6A	6B	6C	6D	6E	6F	6G
Community Impacts												
Neighborhood Impacts (linear miles)	0	0.50	0.50	1.90	2.40	0.60	2.66	2.66	1.88	0.60	0.75	0.60
Residential Relocations	0	34	21	48	39	0	142	142	107	0	12	0
Business Relocations	0	137	90	1	137	0	0	0	0	0	0	0
Businesses Impacted	0	216	92	27	216	0	0	0	0	0	0	0
Agricultural Land (acreage)	0	17.17	13.93	160.92	59.06	100.55	31.74	101.37	85.04	103.60	95.25	100.55
Archaeological/Historic Impacts	0	27	19	4	27	7	11	9	10	7	7	6
Major Utility Impacts	0	0	0	1*	0	0	0	0	0	0	0	0
Environmental Impacts												
Wetlands Impacted (total acres)	0	11.52	9.41	76.01	9.59	44.40	38.00	40.20	41.40	44.20	48.50	45.30
Wildlife Habitat Acres Impacted**	0	107.00	81.00	261.00	158.00	219.00	232.00	221.00	226.00	221.00	219.00	219.00
Floodplain Impacts (acres of Zone A)	0	18.35	14.04	166.67	78.04	118.14	103.23	125.66	112.40	121.13	117.90	121.13
Air Quality (number of lanes)	0	10	6 at grade 4 elevated	8 (S.R. 54) 6 (Tower)	8 (S. R. 54) 8 (S.R. 52)	4	4	4	4	4	4	4
Water Quality (meets regulations)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Travel Characteristics												
Length (miles)	0	9.57	9.57	12.95	12.95	8.73	9.10	9.01	8.85	8.69	8.69	8.64
Network Continuity (connected to Suncoast)	N/A	Yes	Yes	Partial	Yes	No	No	No	Yes	Yes	Yes	Yes
Safety												
Motorized Vehicles/Pedestrian/ Bicycle Safety (number of lanes at grade)	N/A	10	6 at grade 4 elevated	8 (S.R. 54) 6 (Tower)	8 (S.R. 54) 8 (S.R. 52)	4	4	4	4	4	4	4
Hurricane Evaluation Times (adds route)	NO	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Costs and Funding												
Construction	0	215,215,000	1,142,814,000	286,050,000	276,029,000	87,107,000	93,769,000	93,172,000	80,652,000	79,616,000	79,458,000	79,292,000
Right-of-Way Costs	0	90,869,000	28,084,000	225,995,000	82,344,000	24,384,000	44,162,000	44,100,000	29,636,000	22,425,000	26,625,000	22,114,000
Total Costs	0	306,084,000	1,170,898,000	512,045,000	358,373,000	111,491,000	137,931,000	137,272,000	110,289,000	102,041,000	106,084,000	101,406,000

*36" County Water Transmission Main

**Scoring Methodology in Section 6.

TABLE 11 - ALTERNATIVES EVALUATION MATRIX

Factor	Alternatives 1	2	3	4	5	6A	6B	6C	6D	6E	6F	6G
Community Impacts												
Neighborhood Impacts	5	3	3	0	0	3	0	0	0	3	3	3
Residential Relocations	5	3	3	3	3	5	0	0	0	5	5	5
Business Relocations	5	0	0	3	0	5	5	5	5	5	5	5
Businesses Impacted	5	0	0	3	0	5	5	5	5	5	5	5
Agricultural Land	5	5	5	0	3	3	5	3	3	3	3	3
Archaeological/Historic Impacts	5	0	0	3	0	3	0	3	3	3	3	3
Major Utility Impacts	5	5	5	3	5	5	5	5	5	5	5	5
Subtotal	**35**	**16**	**16**	**15**	**11**	**29**	**20**	**21**	**21**	**29**	**29**	**29**
Environmental Impacts												
Wetlands Impacted	5	5	5	0	5	1	2	1	1	1	1	1
Wildlife/Habitats Impacted	5	4	4	3	4	3	3	3	3	3	3	3
Floodplains	5	5	5	0	3	3	3	3	3	3	3	3
Air Quality	5	0	0	0	0	3	3	3	3	3	3	3
Water Quality	5	5	5	5	5	5	5	5	5	5	5	5
Subtotal	**25**	**19**	**19**	**8**	**17**	**15**	**16**	**15**	**15**	**15**	**15**	**15**
Travel Characteristics												
Length (miles)	5	3	3	0	0	3	3	3	3	3	3	3
Network Continuity	0	5	5	3	5	0	0	0	5	5	5	5
Subtotal	**5**	**8**	**8**	**3**	**5**	**3**	**3**	**3**	**8**	**8**	**8**	**8**
Safety												
Motorized Vehicles//Pedestrian/Bicycles	5	0	3	3	3	5	5	5	5	5	5	5
Hurricane Evaluation	0	0	0	0	0	5	5	5	5	5	5	5
Subtotal	5	0	3	3	3	10	10	10	10	10	10	10
Total	**70**	**43**	**46**	**29**	**36**	**57**	**49**	**49**	**54**	**62**	**62**	**62**
Costs and Funding												
Funding Availability	N/A	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

6.0 THE PREFERRED ALTERNATIVE

Alternative 1, the No Build option, has significant advantages and significant disadvantages as described below.

Not constructing any of the proposed build alternatives would result in the following advantages:

- No impacts to wetlands;
- No impacts to wildlife habitat or species;
- No impacts to floodplains;
- No immediate impacts to air quality;
- No impacts to neighborhoods, residences, businesses, agricultural land, or archaeological/historic sites; and
- No expenditures of funds.

Not constructing any of the proposed build alternatives would result in a number of negative impacts including:

- The roadway network would continue to have inadequate lanes, and thus capacity, resulting in a degradation of the adopted LOS;
- Significantly higher roadway congestion would result since the existing east/west arterials (SR 52 and SR 54) would not be improved and no other east/west roadway alternative would be provided that would help to redistribute traffic volumes;
- While neighborhoods, residences, and businesses would not be directly impacted by the construction of a roadway improvement, over time, the growing traffic congestion would have a negative impact on businesses and deteriorating quality of life for residents;
- Traffic congestion leads to further air quality degradation; and
- The No Build option offers no improvement in Hurricane Evacuation from the coastal area to shelters and other safe havens which could result in increased injury or loss of life.

This option fails to provide for the additional lanes that are needed to help meet the adopted LOS standards and fails to improve hurricane evacuation times from the coastal area. In addition, as detailed in Section 3.0, providing increased transit service as a part of the No Build option is not viable due to financial constraints, density of development, dispersed trip origins

and destination in the Study Area, and lack of regional connections/service. The No Build option fails to achieve the Project Purpose and is rejected.

While the wetland, wildlife, and floodplain impacts of **Alternatives 2, 3, 4, and 5** are significant, these alternatives generally have fewer impacts to these resources because they involve improvements to existing roadways. Conversely, because they are partially within areas which already are highly developed, these same alternatives have a greater impact on neighborhoods, homes and businesses.

Regardless of these factors, the cost estimates provided in Section 5.1.5 and the Summary of Data Table 10 above demonstrate that construction and right-of-way costs for these alternatives are two to ten times higher than the costs for the central corridor alternatives. Funding is not currently available nor is funding projected to be available at levels adequate to construct Alternatives 2, 3, 4, or 5. These alternatives are, therefore, not practicable and will not be considered for the Preferred Alternative.

Of the remaining central corridor alternatives, funding is available for **Alternatives 6A, 6D, 6E, 6F, and 6G.** Funding for Alternatives 6B and 6C is slightly less than projected costs, although probably not prohibitively less. Additionally, **Alternatives 6A, 6B, and 6C** do not connect with the Suncoast Parkway and, therefore, do not provide network continuity, optimal traffic distribution, or improved hurricane evacuation. These alternatives, therefore, do not meet the Primary Project Purpose and have been eliminated.

Of those remaining, **Alternative 6G** was chosen as the Preferred Alternative for a number of reasons:

- It meets the primary Project Purpose by providing the number of lanes needed to help meet the adopted LOS on the east-west roadways from U.S. 19 to U.S. 41.
- It improves hurricane evacuation for the coastal population by providing adequate traffic capacity and an additional route to disperse traffic away from vulnerable areas;
- It is the shortest by miles and the least expensive alternative, and adequate funding has been earmarked to construct this improvement.

7.0 MINIMIZATION OF THE PREFERRED ALTERNATIVE

During the alternatives analysis stage wetland impacts are based on publicly available sources of defined wetland limits. Wetland impacts determined for each alternative analyzed were based on wetland limits based on the FLUCFCS. Additionally, at the level of alternatives analysis, the design geometry that defines how far the proposed roadway will be above the existing ground has not been developed. Therefore, minimization is limited to the roadway typical section level of detail for determination of wetland impacts before and after minimization efforts.

For the preferred alternative, 6G, wetland limits have been determined based on field observation using appropriate Federal guidelines. For the preferred alternative, wetland impacts are determined based on these field determined wetland lines. Additionally, the design geometry defining the height of the roadway above the existing ground has been established. This allows the actual extent of roadway fill planned to be placed within the wetlands to be determined based on the roadway width and the proposed steepness of the fill slopes along the sides of the road.

Minimization can be defined as limiting the degree or magnitude of an action and its implementation. The ACOE minimization procedures are described in 404(b)(1) Guidelines, specifically 40 CFR 230.10(d), which states that no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been undertaken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H of the guidelines further provides a broad array of possible methods for minimizing the impacts of a proposed activity. For a linear roadway project the commonly accepted means of achieving minimization are changing the size or configuration of project elements as well as addressing side slope steepness and median widths. All of these methods have been employed for the preferred alternative.

Accepted minimization techniques were implemented for the preferred alternative from the initial design efforts for the project. Many were implemented prior to the issuance of the public notice for the project by the ACOE. One of the methods of changing the size or configuration of project elements that was implemented was the approach of bridging the entire wetland limits of the Pithlachascotee River. Typically when a roadway crosses a riverine feature a minimum and thus most cost effective bridge length is determined based on hydraulic considerations. That is,

how long does the bridge have to be to allow the water to pass through without adverse upstream impacts. This length is typically much shorter than the wetland limits adjacent to the conveyance channel. For the preferred alternative a bridge 520 feet long was determined to be the minimum length needed to pass the design river flows. To minimize wetland impacts an 845-foot long bridge that entirely spans the wetlands is utilized. This limits permanent wetland impacts to the piles supporting the bridge and the minor affects of shading.

Another size or configuration change to a project element implemented was the elimination of the multiuse trail on the project segment east of the Suncoast Parkway (Phase II of the project) and limiting it to only the segment west of the Parkway (Phase I of the project). This significantly reduced the width of the roadway for nearly half the project and significantly minimized impacts to adjacent wetlands.

Side slopes and median widths originally utilized were established at the regulatory minimum for save recovery of a vehicle that leaves the travel lanes. For side slopes this is typically a ratio of six feet horizontal to one foot vertical. Likewise, the minimum recommended widths for elements of the roadway cross-section (commonly known as the "Typical Section") were implemented. This included shoulder width, multiuse trail width, and sidewalk width.

The above described minimization techniques were implemented in the project at the time of public notice issuance by the ACOE. At that time, the proposed wetland impacts totaled approximately 57.5 acres for the RRE, Phases I and II. An additional 11.9 acres of impacts were associated with the Suncoast Parkway interchange improvements. Since the issuance of the notice, Pasco County has been in consultation with the ACOE and has implemented numerous, additional minimization features into the project when it passes through wetland areas. These have included narrowing the median in select segments of the project; using gutter and pipes to collect runoff in lieu of the more typical roadside collection ditches; making the roadside slopes steepest allowed for vehicle recovery in select segments and steeper than allowed in others requiring the use of a guardrail for protection of errant vehicles; locating the multiuse trail closer to the roadway; utilizing a guardrail to protect it from motor vehicles; and utilizing either vertical walls or steep side slopes between the trail and adjacent wetlands. The results of these minimization techniques have resulted in a reduction of wetland impacts of nearly 14 percent or approximately 7.8 acres. Table 13 summarizes the reduction in wetland impacts for the RRE, Phases I and II, resulting from minimization techniques implemented in the project since the time of the original Public Notice. Previously submitted detailed descriptions of the minimization efforts for the RRE, Phases I and II, are included in Appendix H.

Table 12 - Ridge Road Extension Summary of Wetland Impact & Reduction Areas
U.S. Army Corps of Engineers Wetland Lines

Wetland Number	Wetland Impacts (Acres) February 2000 Public Notice	Impact Area (Acres) Final Design	Impact Reductions (Acres) Since Public Notice	
			Minimization	Other
Phase I				
W2	0.30	0.30		
W3	0.00	0.00		
W4	0.20	0.20		
W5	0.61	0.61		
W5A	0.18	0.00		0.18
W6	5.61	5.33	0.28	
W6A		0.02		-0.02
W7A	0.47	0.26		
W7B		0.21		
W10	5.38	4.15	1.23	
W11	2.10	1.00	1.10	
W12	3.81	2.53	1.28	
W13	4.48	2.65	1.83	
W14	0.38	0.39		
W15	1.78	Non-Jurisdictional (1.78)		1.78
W16	1.76	1.55	0.21	
W17	0.46	0.52		-0.06
W18A	0.13	0.13		
Subtotal RRE Phase I	27.65	19.85		
Phase II				
W28	2.52	2.31	0.21	
W30	0.76	0.57	0.18	
W31	0.57	0.53	0.03	
W32	0.04	0.04		
W32A	0.13	0.13		
W33	2.53	2.22	0.31	
W35	3.83	3.50	0.34	
W37	0.52	0.46	0.07	
W38	2.71	2.64	0.07	
W39	2.85	2.55	0.30	

Wetland Number	Wetland Impacts (Acres) February 2000 Public Notice	Impact Area (Acres) Final Design	Impact Reductions (Acres) Since Public Notice	
			Minimization	Other
W40	2.32	2.06	0.26	
W42	1.61	1.51	0.10	
W44	3.72	3.76	-0.05	
W45A	0.52	0.52		
W45B	0.39	0.39		
W46A	0.60	0.60		
W47	0.05	0.05 (Non-Jurisdictional - Isolated)		0.05
W48	0.92	0.92 (Non-Jurisdictional - Isolated)		0.92
W50	0.69	0.69 (Non-Jurisdictional - Isolated)		0.69
W52	0.40	0.0 (Impacted by other projects)		0.40
W53	0.32	0.0 (Impacted by other projects)		0.32
W54	1.48	0.0 (Impacted by other projects)		1.48
W55	0.37	0.0 (Impacted by other projects)		0.37
Subtotal RRE Phase II	29.81	23.77		
Subtotal Ridge Road	57.47	43.62		
Suncoast Interchange				
	11.85	11.85		
Totals	**69.32**	**55.47**	**7.77**	**6.10**
			13.86	

8.0 MITIGATION

The Mitigation Plan for Alternative 6G of the RRE alternatives, the Preferred Alternative, was revised and resubmitted in December 2009. The Mitigation Plan includes the River Ridge Preservation Site (222 acres, m.o.l.) and the 4G Ranch Critical Linkage Corridor (805 acres, m.o.l.). The River Ridge preservation parcels were deeded to Pasco County in July of 2006 to be used as mitigation for wetland impacts. Pasco County will deed the two parcels to the SWFWMD once both permits have been approved. The SWFWMD has already agreed to accept maintenance.

Pasco County has been negotiating with the owner of the 4G Ranch in good faith for a number of years for the conservation easement (CE). At the urging of the ACOE last year, we doubled the acreage to be encumbered under the easement. During all of those discussions, Pasco County assured the landowner the ability to maintain his current agriculture uses and the current recreational hunting. These uses are consistent with past ACOE conservation easements, past SWFWMD easements, and past Pasco County easements.

The ACOE staff has indicated that although the ACOE has allowed hunting in conservation easements in the past, they are concerned about hunting in a designated critical linkage. The critical linkage concept is unique in Pasco County, and the inclusion of designated critical linkages in the Pasco County Comprehensive Plan was a Pasco County policy decision. The Comprehensive Plan, Chapter 3, Conservation Element, describes the purpose of critical linkages. The Pasco County Attorney's office has reviewed the Comprehensive Plan and determined that hunting is not prohibited in critical linkages. The proposed perpetual conservation easement for the 4G Ranch allows the owner to continue his current recreational hunting activities. At our meeting on February 4, 2010, you advised that you would defer to the County's Comprehensive Plan on the matter of hunting. We provided that documentation in our May 2010 package.

Additionally, the ACOE has proposed changing the easement Grantee to be the SWFWMD. The CE relationship was with Pasco County because the County was willing to accept management responsibility for the protected property if the landowner was unable to continue management. We will need to discuss this proposed change with the SWFWMD and the landowner. As you are aware, Pasco County submitted a permit modification request to the

SWFWMD on April 16, 2010, in order to add the turnpike interchange to the project. The Wetland Mitigation Plan was updated as part of the modification because of the changes that had been requested by the ACOE since the permit was approved by the SWFWMD in 2008. The SWFWMD has indicated in their RAI that they would prefer the County to return to the simplified CE originally approved under their permit. The ACOE did not like the CE approved by the SWFWMD. We will need to negotiate a revised CE that is acceptable to the landowner, the SWFWMD, and the ACOE.

The proposed changes to the CE language proposed by the ACOE are very significant. The proposed changes prohibit hunting and prohibit continuation of the current agricultural activities. These changes alter the agreement that has been negotiated and the value of the conservation easement. Pasco County cannot renegotiate this agreement in the 30-day timeframe allowed by the ACOE. The changes are significant, and the SWFWMD needs to be involved in the negotiations. Pasco County respectfully requests that the ACOE re-evaluate their prohibition on hunting and continued agriculture use and look at their past practices as a guide.

Regarding Third Party Mineral Interests on the 4G Ranch, the required title information is being reviewed by the Pasco County Attorney and will be submitted separately.

A revised legal description of the Conservation Easement area on the 4G Ranch is provided in Appendix I. The field survey is being prepared and will be provided under separate cover