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PROGRAMMING PLAN TRANSPORTATION TRAILS NORTH OF CR 466

Lady Lake/Lake County and Village Center District

The Villages, Florida

Prepared for:

The Village Center Community Development District

Prepared by:

Kimley-Horn and Associates, Inc. in association with
Farner Barley and Associates Inc. and Michael Pape &
Associates, PA

142202000
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and Associates, Inc.

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INTRODUCTION

The Village Center Community Development District (VCCDD) retained a Design Team made up of Kimley-Horn and Associates, Inc. (KHA), Farner Barley and Associates Inc. (FBA), and Michael Pape & Associates, PA (MPA) to develop a Programming Plan that provides recommendations for improving the system of transportation or trails that are north of CR 466 in the Lady Lake/Lake County communities and other areas maintained by the Amenity Authority Commission (AAC) in The Villages, Florida. The AAC and Community Development District (CDD) Number 1 through 4 Boards, in coordination with their partners and stakeholders, are considering a scope of proposed projects and recommendations for this system of transportation trails north of CR 466. Since the original transportation trails were constructed at The Villages they have served the needs of the community well. As the community has grown and development has increased, it has become necessary to enhance the system of transportation trails to accommodate this growth and the wide variety of users. The purpose of the Programming component of this project is to determine what enhancements to the trails north of CR 466 are necessary to meet the needs of the community as well as address constraints and safety concerns along the paths.

This process has involved an evaluation of the existing facilities, a public workshop where input was received, active AAC and CDD Board participation, recommendations on project improvements, and project construction cost forecasting.

Because not all projects may be funded immediately, a strategic implementation plan is important to maximize available resources. A prioritized comprehensive project list for transportation trails north of CR 466 has been prepared for each CDD. This report focuses on the conditions and recommendations within the Lady Lake/Lake County communities and other facilities maintained by the AAC.

This report includes the following:

- ◆ Study considerations: Key factors used in the development of the recommended prioritized enhancement project list.
- ◆ An overview of the public involvement process.
- ◆ Summary of existing conditions.
- ◆ Project recommendations including the preferred typical section, safety enhancements, landscaping and irrigation modifications, tunnel safety enhancements and other recommendations.
- ◆ Programmatic Plan that outlines the scope for each project and the cost estimates.



Next Steps

An interlocal agreement between the VCCDD, Districts 1-4, and the AAC will be reached that defines the actual scope of projects to be constructed. Subsequently, construction drawings will be prepared and the necessary regulatory permits will be obtained to implement the projects.

Study Area

The study area summarized in this report includes the transportation trail network within the Lady Lake/Lake County areas. **Figure 1** is a map that illustrates the Lady Lake/Lake County areas, major road network, transportation trails, tunnels, and neighborhood access gates.

Within the Lady Lake/Lake County areas, the transportation trail network mostly consists of a 10-foot concrete trail. There are three portions of trails that are AAC-maintained and do not fall within Lake County or Lady Lake; El Camino Real (from District Two to the Morse Boulevard roundabout), the Glenview Trail, and the Saddlebrook Trail.

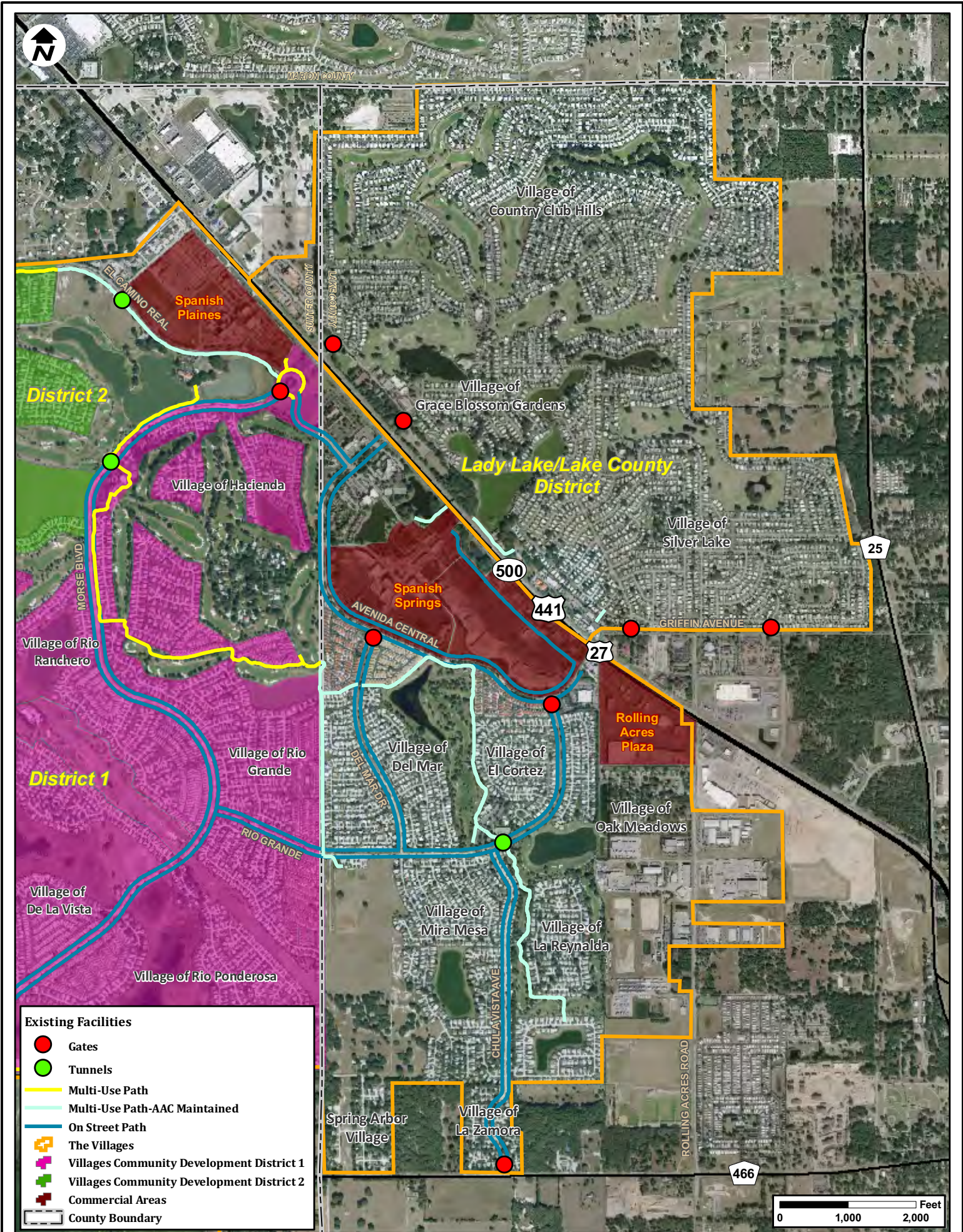


Figure 1 - District Map, Page 3

Northern Villages Transportation Trails - Lady Lake/Lake County



Primary Design Considerations

When analyzing both existing conditions and developing facility recommendations, the following factors were considered:

- ◆ **Safety:** The safe provision of multimodal travel is the highest priority. This should be considered in all aspects of this project to ensure that proper facilities are provided. This applies to the retrofit of existing facilities as well as the design of new facilities. To that end, design criteria have been established for designers to implement a safe transportation trail network.
- ◆ **Linkage between Important Destinations:** The Villages provide many key activity centers, recreation centers, parks, commercial areas, and hospitals. The existing and future transportation trails should be designed to connect important destinations while making each trip an enjoyable experience.
- ◆ **Mobility Challenges:** Provisions of enhanced transportation trails would provide multimodal choices for residents with mobility challenges. People who prefer not to drive or are unable to drive will have better travel options. Provision of ADA compliant facilities ensures that people with disabilities will have more mobility options. These are important considerations within the Villages, which is one of the world's largest retirement communities.
- ◆ **Recreation:** Provision of multiuse paths enhances healthy recreation choices for residents. The design should consider the various types of users and their needs including the material type used in the final design.



PUBLIC INVOLVEMENT

A public meeting was held at the Savannah Regional Recreation Center on October 15th with the Lady Lake/Lake County Board and interested residents. The meeting was noticed in the Villages Daily Sun newspaper and fliers were posted in each District at postal centers.

The meeting was well attended and the public was afforded the opportunity to provide input to the development of the project recommendations. The descriptions below present an overview of this information, and highlight the meeting results.

Project Newsletter

To inform the public and the various stakeholders about the goal and scope of work for this project a newsletter was developed that provided detailed information including a master schedule. Other information that was provided included the project's purpose, meeting location and dates, a map with the project study area and information about how to get more information from the www.districtgov.org website.

Workshop Meeting Format

At the meeting a presentation was provided that outlined the project's scope of work, details about the various challenges and some of the potential engineering solutions that were being considered by the project team. The key issue that was addressed was the various typical sections for the transportation trails that were developed by the project team for consideration by participants. These typical sections included a no-build option and others that offered alternatives to the existing design. Additionally, information was also provided that described the various safety issues and other possible enhancements, such as landscaping, for consideration.

At the conclusion of the presentation, the public was provided with an opportunity to ask questions of the project team or the board or to provide comments. At the conclusion of the public comment period, the Board discussed the project and the comments that were provided by the public and provided their own comments. Both the comments from the public and the various board members were recorded by the project team so that they could be considered in the project recommendations. All participants were also provided with comment forms so that they could provide written comments about the project or the discussion at the meeting. The comment forms were collected at the end of each meeting and were included in the overall comment database for each meeting. Written comments and verbal comments were both recorded.



Public Involvement Conclusion

Based on the public comments and discussions by the various board members, the design recommendations have been greatly enhanced. The public involvement efforts of this project culminated in a series of detailed recommendations from the public related to safety enhancements, design input and a variety of other useful information. The project team compiled this information and augmented it with some additional field data collection, and then incorporated this information into the final programmatic recommendations for the transportation trails within the study area.

The public workshop was instrumental in aligning the recommendations with the needs and desires of the existing and future residents for years to come.



EXISTING CONDITIONS

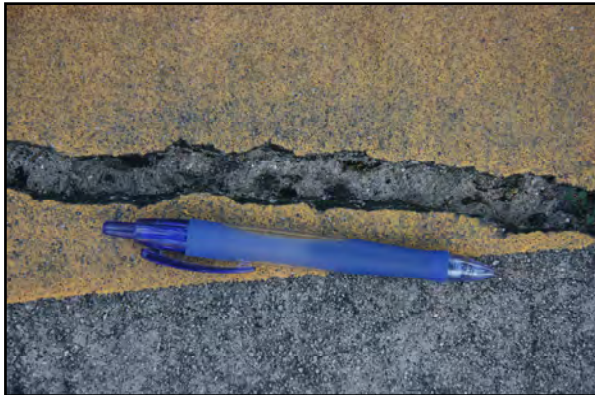
Base Mapping and Ownership Data Maps

Base mapping, existing facilities inventory, and ownership mapping information within the study area were collected. The mapping and ownership data was important to this project because it determines which entity has authority over the trails throughout the various areas. Acquiring the ownership information required researching the existing plats, amenity surveys, deeds and title searches, and reviewing the property appraiser’s tax profiles.

Field Review

The Design Team conducted numerous field reviews of the project study area. Items investigated during this review included the condition of the existing multi-modal trails, the front slope and back slope of the roadway, entrance and exits to the tunnels, intersection safety, width of multi-modal trails, irrigation and utility infrastructure, existing landscape locations, and drainage patterns.

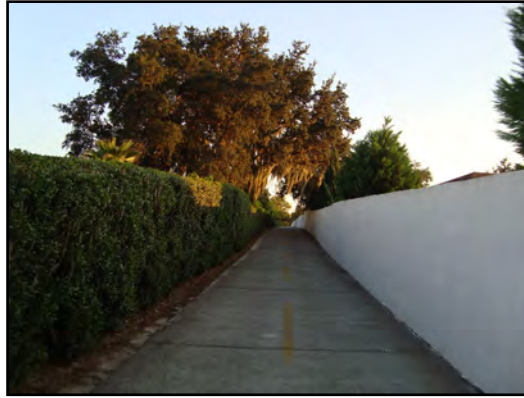
The condition of the existing multi-modal trail was observed to be quite variable. Concrete pavement cracking was prevalent in many areas but was found to be uniform and still intact in other areas. The age and condition of the multi-modal trails varied within the study area. An example of the cracking is depicted in the following photos.





Landscape and Irrigation

Landscape features and irrigation is prevalent throughout the entire study area. The existing landscape features create a constraint for path widening in some places (as illustrated in the picture below) and will need to be replaced to accommodate widening of the trail.



Irrigation within the study area that is impacted will most likely need to be fully replaced. Due to the age of the system in parts of the development, the existing landscape irrigation is not providing sufficient coverage for the plants. There are some segments where the trail widening may cause significant removal of existing vegetation. In other locations, the opportunity exists to split the trail around mature vegetation, which uses the constraint as a feature.

Straightening of Paths

The existing horizontal curvature of the transportation trails is excessive and unnecessary in some locations. Correcting the alignment to have larger radii and less curvature would create a gentler ride and would provide an opportunity to correct the horizontal geometry at the one way entrance and exits at the tunnels. Correcting this trail condition would give motorists more width and ease the comfort levels at the approach and would increase sight distance at trail intersections.





Tunnel Intersections

Some of the trail intersections at the tunnel approaches provide poor sight distance, or have areas of correctable conflict. By making these intersections closer to a traditional T-configuration, cart drivers will have an easier time predicting the behavior of other cart drivers and reduce conflicts.

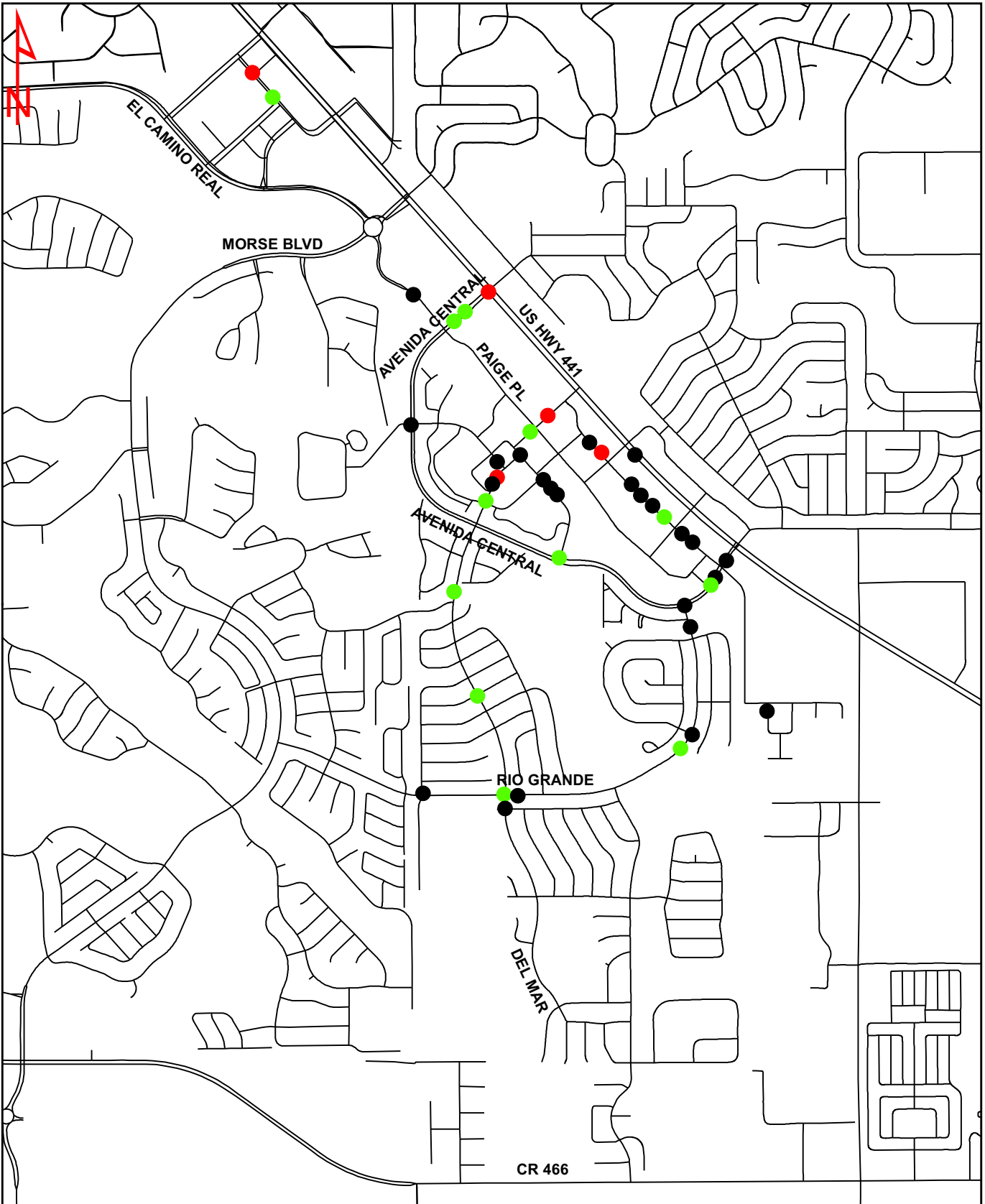


Traffic Control and Crash Data

Crash data associated with non-automobile modes of transportation over the past three years was collected from the Villages Public Safety Office, the Sumter County Sherriff's Office, and the Lady Lake Police Department. The crash data ranged from July 2006 through July 2009. The crash summary received from the agencies provided a date, location, and type of incident. **Figure 2** provides a graphical summary of the crash data over the last three years. The map separates the type of crash into three categories: golf cart with injury, golf cart without injury, and motor vehicle/pedestrian.

Within the Lady Lake/Lake County area, there were approximately forty one crashes reported involving non-automobile modes of transportation in The Villages over the past three years. Twelve of the crashes resulted in some sort of injury to the party/parties involved. One clear trend in the crash history is that the majority of the crashes occurred in areas where golf carts and automobiles share the road.

On the transportation trails, establishing a Clear Zone standard, and a Recoverable Terrain standard will be beneficial. Clear zone is the distance from the edge of the travel way to an obstruction. Providing a minimum clear zone and recoverable terrain will give golf cart drivers room to correct their path and reduce the likelihood of a crash.



CRASH DATA (JULY 2006 - JULY 2009)
 ● = Crash Involving a Golf Cart
 ● = Crash Involving a Golf Cart with Injuries
 ● = Crash Involving a Pedestrian

Figure 2
Crash Data Summary - Lady Lake/Lake County



RECOMMENDED LADY LAKE/LAKE COUNTY PROGRAM

This section provides the scope and program of modifications within the Lady Lake/Lake County and other AAC-maintained areas. The table below provides a list of the recommended projects with an estimated construction cost.

Table 1 Lady Lake/Lake County AAC-Maintained Project List		
Project	Description	Anticipated Construction Cost
#1 Morse Boulevard Off-Street Trail Extension	New trail along Morse Boulevard, connecting Hacienda Trail to El Camino	\$250,000
#2 Saddlebrook Trail Widening	Provide 14' trail and lighting	\$280,000
#3 El Camino Real Trail Widening	Provide 16'-6" trail, new crossing at Freedom Pointe	\$550,000
#4 Rio Grande Roadway Improvements	Widen road 2-4', add sidewalk	\$570,000
#5 Rio Grande-Del Mar Transportation Trail	Replace existing concrete trail with asphalt trail	\$320,000
#6 Avenida Central, from Paige Pl to Rio Grande	Reduce to two lanes for automobiles, wider golf cart lanes	\$30,000
#7 Del Mar Sidewalk	Add sidewalk on one side of the road	\$96,000
#8 Paradise Park Improvements	Reconstruct parking lot, install widened asphalt trail	\$245,300
#9 Mira Mesa/Chula Vista Transportation Trail	Replace existing concrete trail with asphalt trail	\$350,000
Project List Total:		\$2,691,300

A table summarizing the Opinion of Probable Construction Cost for each project is provided in the *Appendix*. A detailed discussion of each project is provided on the following pages.



Morse Boulevard Off-Street Trail Extension, Lady Lake/Lake County

Recommended Scope:

Construct a new transportation trail from the Morse/El Camino roundabout to the Hacienda Hills existing transportation trail (see **Figure 3** below). Place the trail on the high side of the drainage retention area located on the west side of Morse Boulevard, south of the roundabout. The proposed off-street trail along Morse Boulevard will begin near pond B-14-2, near the Village of Homewood and will extend along the east side of the pond and connect to the El Camino Real/Morse Boulevard roundabout. The length of the proposed trail is approximately 1,200 feet. The scope of the proposed off-street trail will be to construct a new transportation trail using the cross section illustrated in **Figure 4**. This cross section, which is used south of CR466, provides 15.5' of asphalt with 6" concrete ribbon curb on both sides for a total width of 16.5'

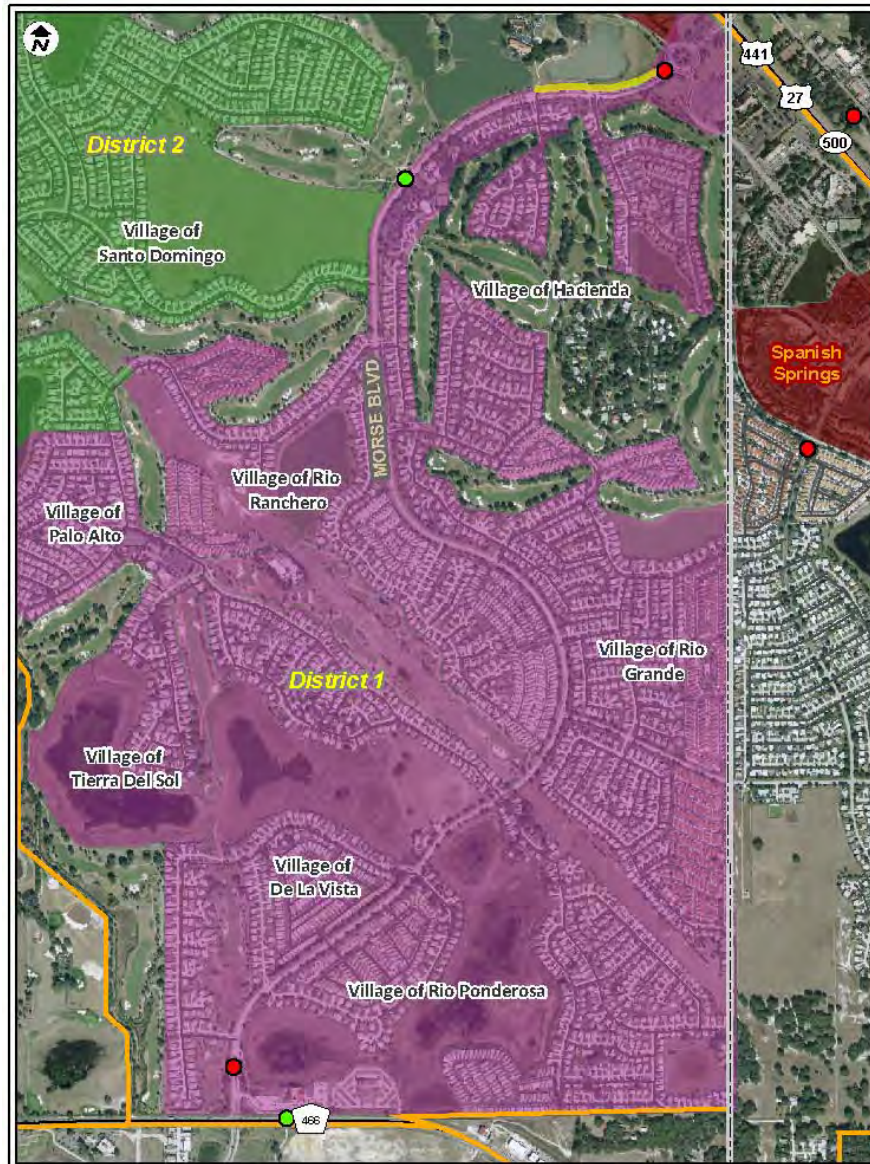
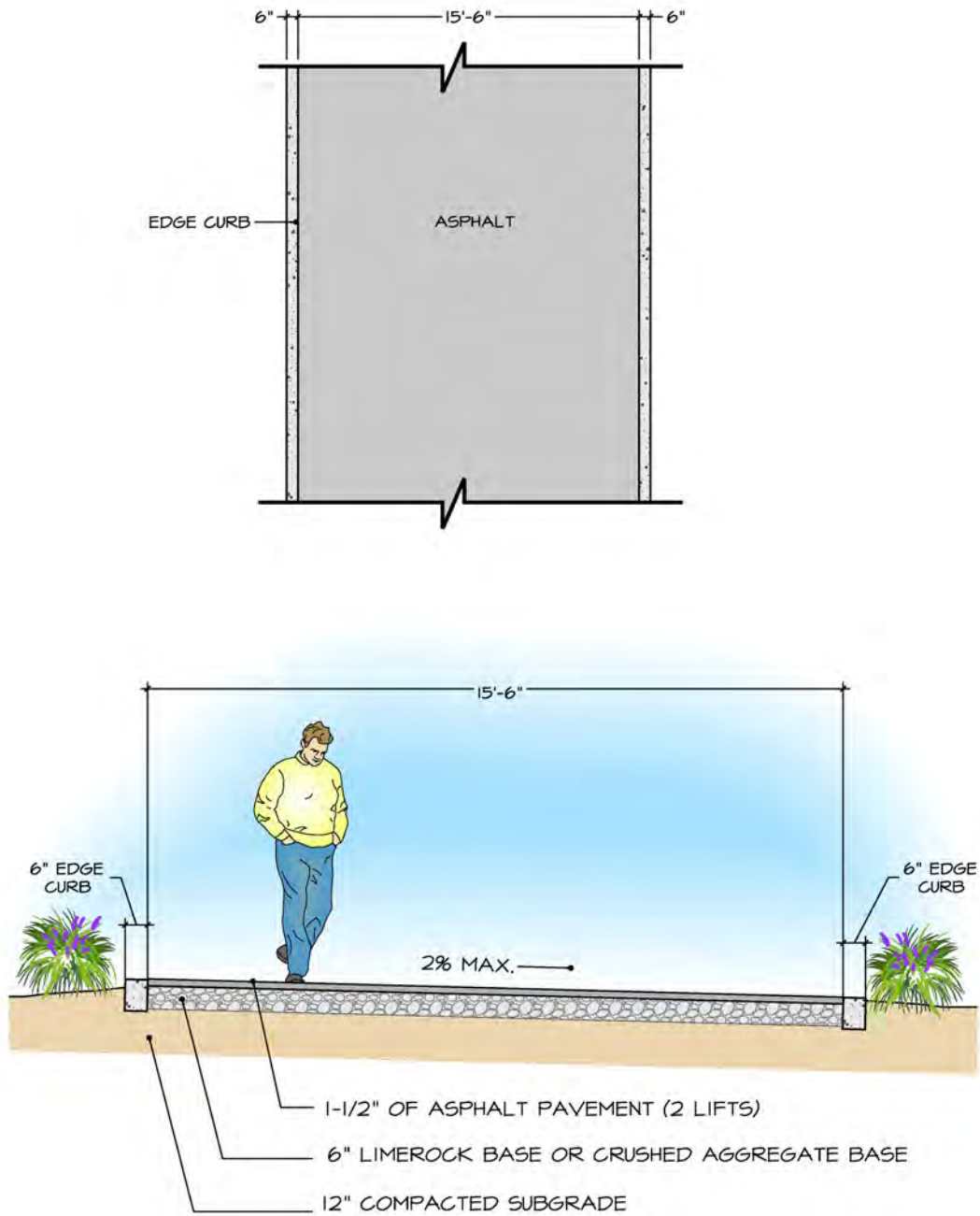


Figure 3

Morse Boulevard Extension



DEMOLISH EXISTING CONCRETE RECREATION TRAIL.
CONSTRUCT NEW ASPHALT TRAIL WITH ROCK BASE AND
STABILIZED SUBGRADE.





Analysis:

The Hacienda Hills transportation trail ends at Morse Boulevard by directing carts into the on-street cart lane on Morse Boulevard. Most carts ride in the road up to the Morse roundabout, then any carts going west on El Camino Real travel around two legs of the Morse roundabout. There is a large natural retention area southwest of El Camino Real and Morse Boulevard (See photo below). The higher ground along the edge of this natural area appears to have sufficient room to provide a transportation trail. The trail would allow carts to travel from Mira Mesa and Hacienda Hills to the western side of the Villages without traveling on the road.



A new transportation trail would significantly decrease the volume of cart traffic crossing the Morse roundabout. It should remove the carts from the roundabout that are traveling from El Camino Real to Morse Boulevard. Carts using Paige Place to access Spanish Springs will continue to need to ride through the roundabout.

Crash data showed the clear trend that there are much fewer crashes resulting in injury on off-road transportation trails in comparison to cart lanes that share the road with automobiles. Getting some cart traffic off of Morse Boulevard should be considered a safety improvement.

The proposed route of the new trail will actually be constructed within two Districts; District 1 and Lady Lake/Lake County. The exact horizontal route of the trail will be determined in the design process.

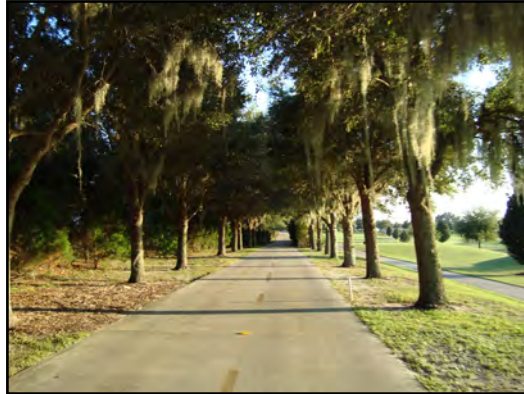
Anticipated Cost: \$250,000.00



Saddlebrook Trail Widening

Recommended Scope:

The existing Saddlebrook Trail extends from the Buena Vista Boulevard tunnel to the CR 466 tunnel near the Saddlebrook golf course. The trail connects the Buena Vista Boulevard trail to the Laurel Manor Regional Recreation Center and destinations further to the south.



The scope of this project would be to replace the existing 12' wide concrete trail with a 13' wide asphalt trail with 6" concrete curbs on each side, for a total width of 14'. This path would be built using the same construction methodology as the typical 16' asphalt with concrete curb trails south of CR 466. The width of the new trail is governed by existing mature oak trees on each side of the trail. Limiting the trail width to 14' will leave an adequate clear zone distance between the trail and the existing oak trees. Vertical root pruning will be required to insure that the widening of the trail does not impact or damage the roots of the existing oak trees. In addition, pedestrian-scale lighting should be installed to illuminate the trail. **Figure 5** illustrates the limits of the Saddlebrook Trail widening project.

Anticipated Cost: \$280,000.00

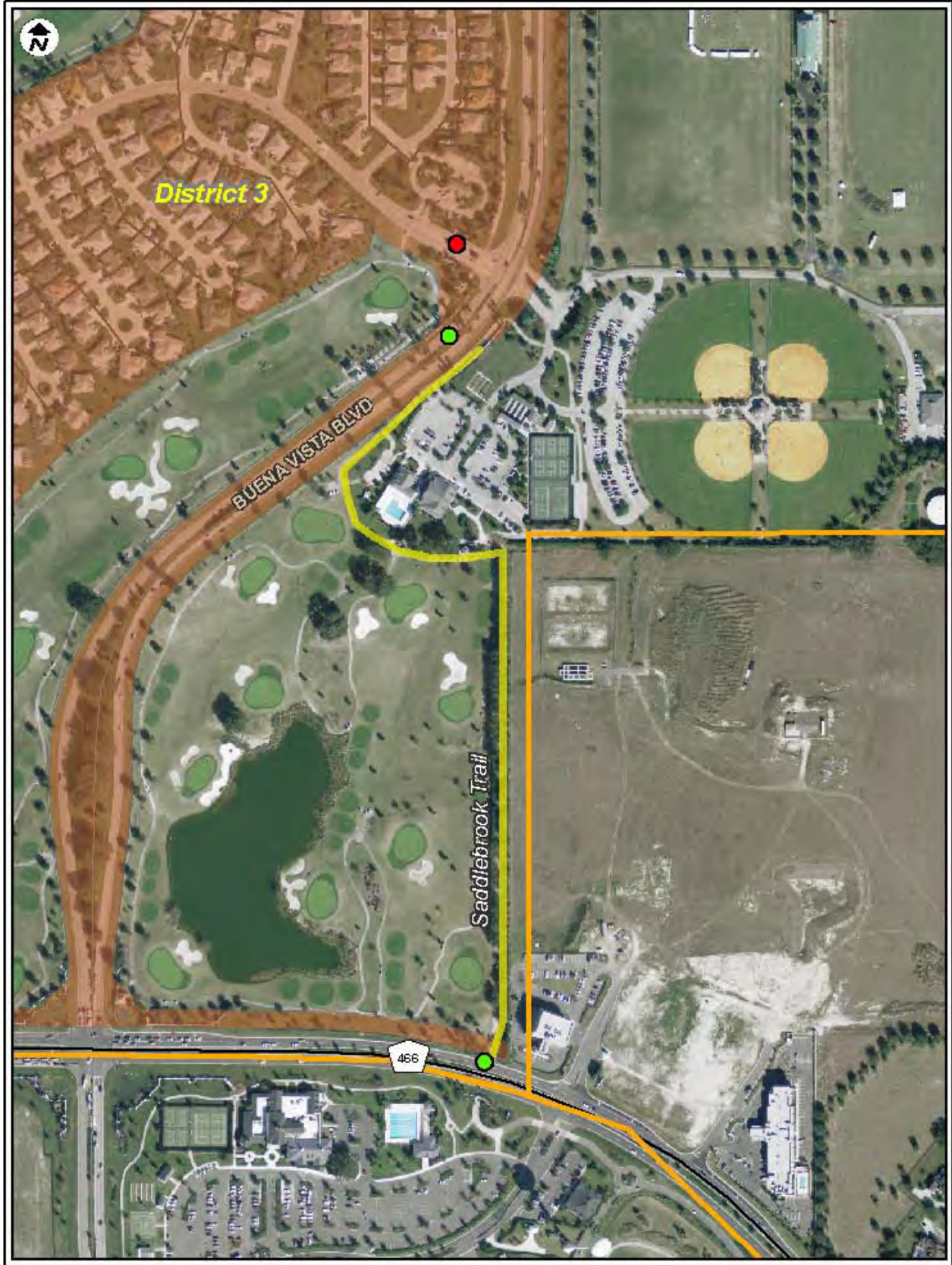


Figure 5
Saddlebrook Trail Limits

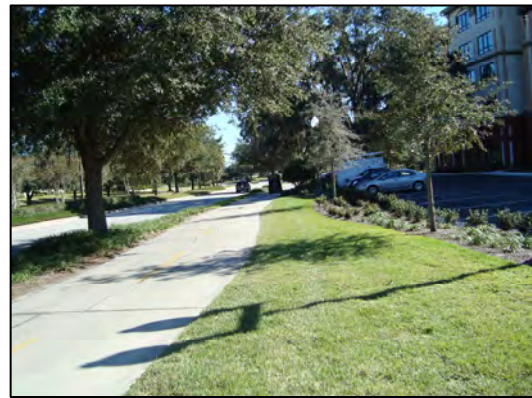


El Camino Real, AAC-Maintained Segment

Background:

The segment of El Camino Real that is maintained by the AAC runs from the District Two boundary to the roundabout at Morse Boulevard as illustrated in **Figure 1** on Page 3. El Camino Real is a four-lane divided collector road with mature landscaping on the sides of the road and in the median. An existing 10'-wide concrete transportation trail runs along the south side of El Camino Real. This trail connects the residential developments to the west to the Spanish Plaines and Spanish Springs commercial nodes to the east.

Within this segment, major features include the Buenos Aires Boulevard intersection, Freedom Pointe, and the tunnel at Freedom Pointe. In addition, there are a few instances of the transportation trail crossing a commercial driveway. The total length of the transportation trail is approximately 3,900 feet in this segment.



Recommended Scope:

A new transportation trail should be constructed using the cross section illustrated in **Figure 4** on Page 13. This cross section should provide from 11' to 15'-6" of asphalt with 6" concrete ribbon curb on both sides for a total width of 12' – 16'-6". The exact width should be determined based on a complete survey of existing conditions. Some areas may be too constrained between the roadway and the CDD boundary for a full-width typical section. The existing concrete trail should be removed, and the new trail should generally be constructed in the same location. Minor modifications to the existing alignment should be considered to allow for a safer turning radius and adequate clear zones. The new trail should be designed using the design criteria detailed in **Table 2** on Page 19.

There is some amount of mature landscaping and landscaping directly adjacent to the trail. Every effort should be made to save this mature landscaping, however the final design solution should be a balance of engineering, cost, and aesthetics. Where mature landscaping, existing utilities, property lines, or the



existing road prevents adequate space to widen the trail, the trail may be reduced below the full 16’-6” width, but the total width should not be less than 12’. In addition to the landscaping and sod directly impacted by the widening of the trail, all low level shrubs and groundcovers that have declined over the years or have reached their effective aesthetic lifespan should be evaluated and replaced as necessary. The irrigation system should also be updated, as near as possible, to current Villages specifications, that meet or exceed “Florida Friendly” wise water use.

The crossing at Freedom Pointe should be relocated further away from the Buenos Aires Boulevard/El Camino Real signalized intersection. The crossing should be moved so that the transportation trail is between the tunnel wall and the Freedom Pointe parking deck wall. **Figure 6** illustrates this realignment and the new location for the crossing. New landscaping will be required through the realigned area to make the relocated trail fit into the surroundings. The existing trail that runs between the tunnel and El Camino Real could remain for pedestrian use, however bollards should be installed that prohibit carts from traveling on that section of trail if the pedestrian trail remains.



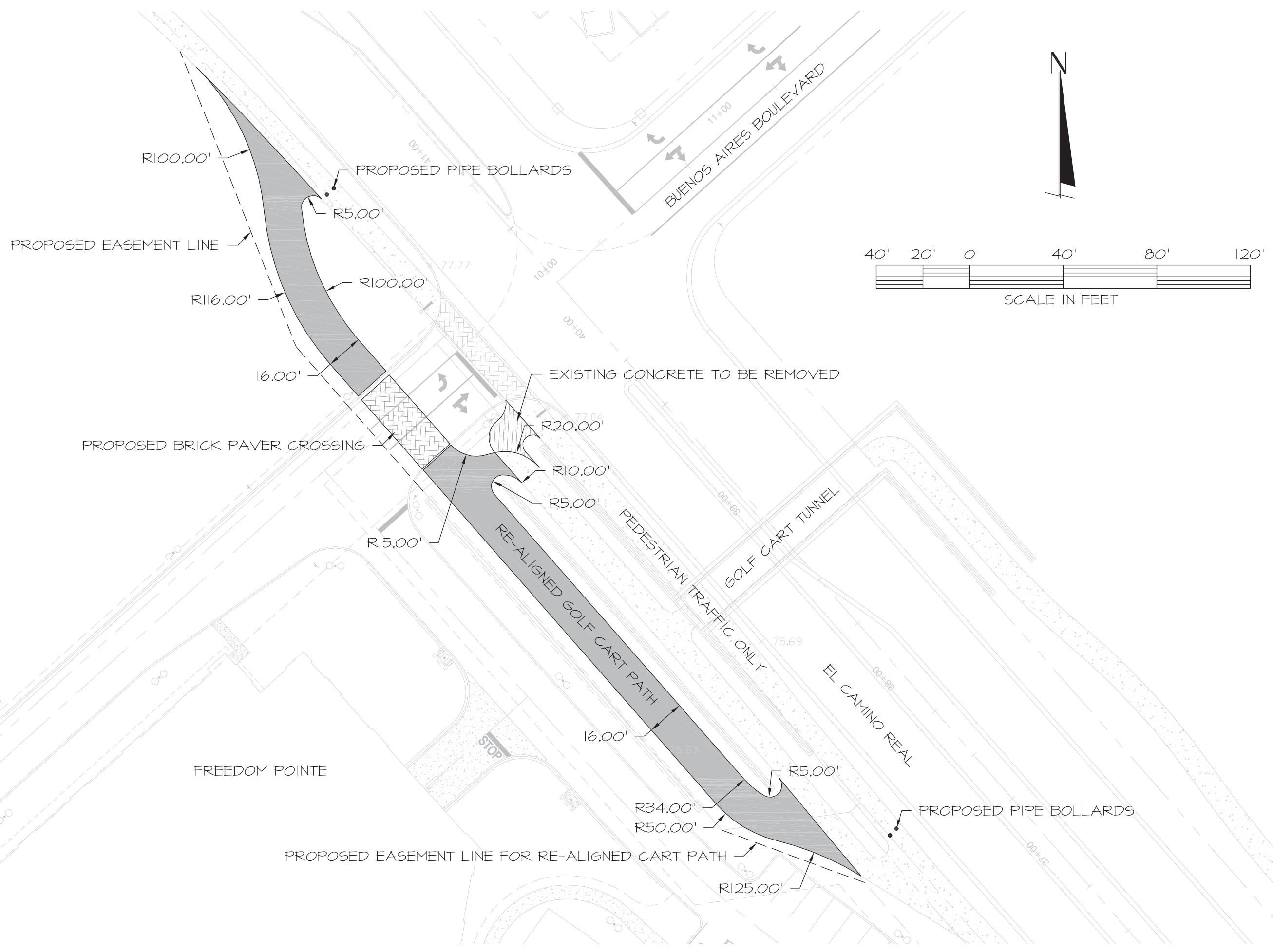
At other crossings with each driveway along the trail, the grades should allow a smooth crossing, but bollards or other calming measures are needed to force golf carts to cross slowly.



Table 2 Preliminary Design Criteria		
Item	Criterion	Source/Justification
Trail Surface Material	Asphalt	Villages Typical Detail, R-4
Trail Width, Typical	16' 6"	Villages Typical Detail, R-4
Cross Slope (%)	2% MAX	Villages Typical Detail, R-4
Front Slope Ratio (run:rise)	1:4	Villages Typical Detail, R-40
Back Slope Ratio (run:rise)	1:4	Villages Typical Detail, R-40
Minimum Distance of Trail From Residential Lots	5 ft	Preliminary for designing purposes. Physical constraints need to be identified.
Maximum Grade (%)	7	FDOT Florida Greenbook
Stopping Sight Distance	155 ft	FDOT Florida Greenbook
Maximum Deflection Without Horizontal Curve	2°00'00"	FDOT Plans Preparation Manual, Volume 1
Maximum Change in Grade Without Vertical Curve (%)	1.10%	FDOT Florida Greenbook
Maximum Deflection Through Intersections	11°00'00"	FDOT Plans Preparation Manual, Volume 1

Drawing name: K:\OCA_IPTO\1422\02000 - Villages Recreation Trails\CADD\Misc\REV CART PATH.dwg Layout1 Dec 03, 2009 9:28am by: chris.malone

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The Villages
 FREEDOM POINTE
CONCEPT PLAN
Figure 6

DATE: 12-02-09
 DRAWN BY: CPM
 CHKD BY: JRG

ENGINEER:
 RICHARD V. BUSOCH, P.E. #58568
 DATE:

SHT. 1 OF 1



Analysis

The widened asphalt trail will provide a facility that is more desired by the users. Intersections with tunnels and crossings will become safer and easier to maneuver and the wider trail should better accommodate the multiple modes of carts, pedestrians, and bicyclists. Moving the crossing at Freedom Pointe away from the signal and enhancing the tunnel at-grade intersections should likely be a safer condition due to lower speeds and higher visibility.

Due to constraints, it will likely not be feasible to install a 16'-6" trail through the entire length of this segment. Replacing the existing concrete trail with a 12' asphalt trail still has the benefit of a new life cycle, higher level of service for users who prefer asphalt, and easier maintenance due to the concrete ribbon curb.

Anticipated Cost: \$550,000.00



Rio Grande Improvements, Lady Lake/Lake County

Recommended Scope:

The existing Rio Grande Avenue roadway consists of a 22’ wide two lane road section with a 4’ wide golf cart lane on each side of the roadway. The roadway would be widened to include a 22’ wide two lane roadway section and increase the golf cart lanes to 6’ wide on each side of the roadway. In addition a 4.5’ wide sidewalk would be constructed at the back of curb along the south side of Rio Grande. The roadway would be widened to the north to accommodate the proposed improvements and this would require a 2’ to 3’ high retaining wall on the North side of Rio Grande within the landscaped/bermed tracts.

Approximately 5,300 feet of Rio Grande Avenue roadway is within the Lady Lake/Lake County limits, therefore the roadway was broken down into two sections; a District 1 section and a Lady Lake/Lake County section. **Figure 7** below illustrates the limits of each section within the two Districts.

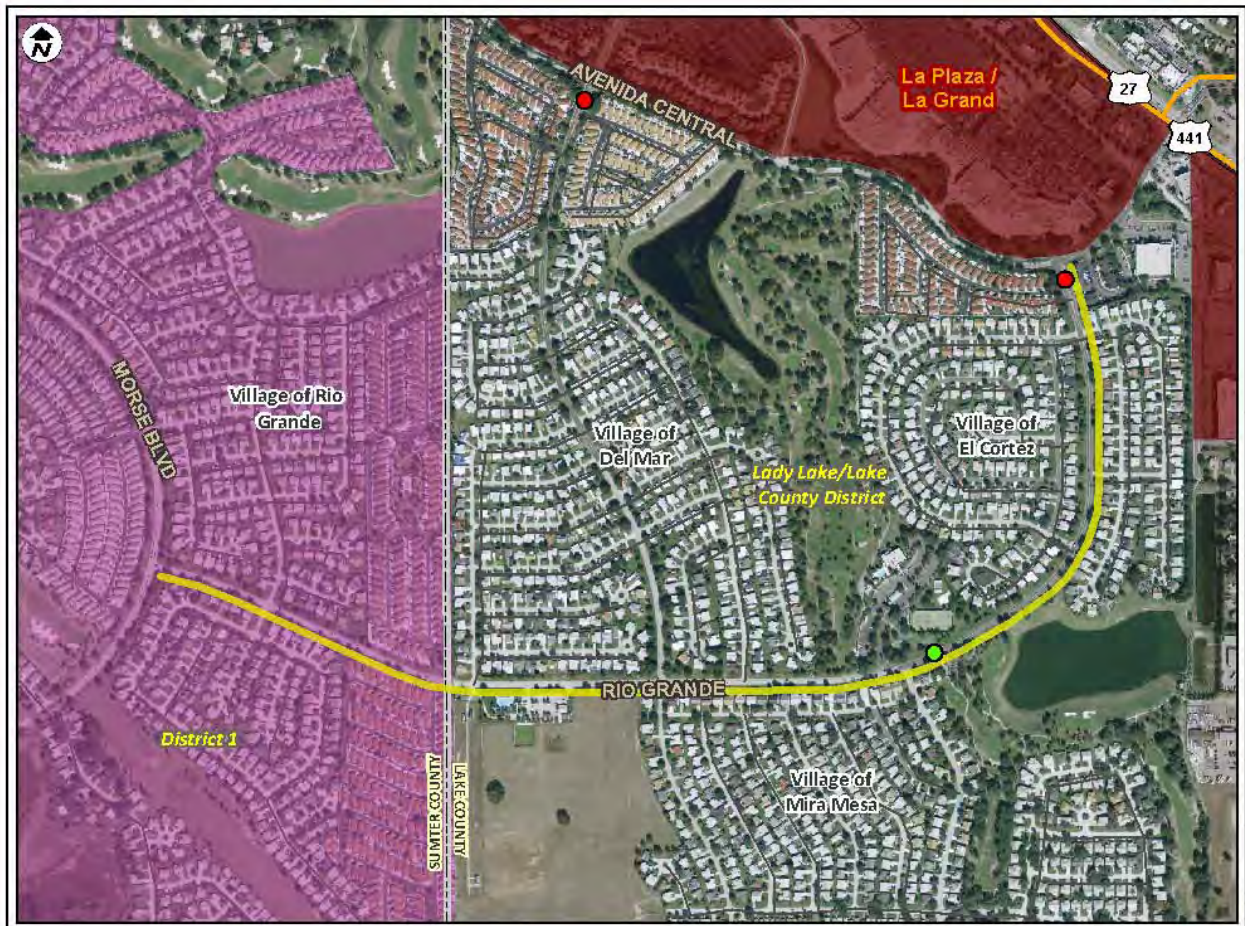


Figure 7
District Limits

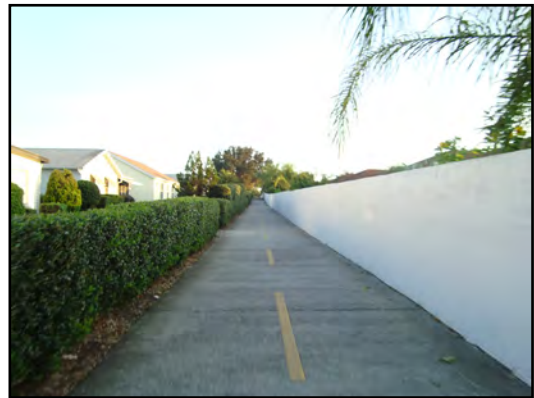
Anticipated Cost: \$570,000.00



Rio Grande-Del Mar Transportation Trail

Background:

The Rio Grande-Del Mar trail runs along the interface of the Sumter County/Lake County line and is actually a portion of what is named the “Hacienda Trail”. Because this portion of the trail is AAC maintained, it has been separated from the Hacienda Trail within District 1 in order to separate the costs per District. The trail extends on the north end from the Villa de Laguna to the south along the Sumter County/Lake County interface and ends at Rio Grande. This trail is approximately 10’ in width and contains Villa walls on one side and mature shrubs on the other as illustrated in the following photos:



Recommended Scope:

The recommended scope of this project is to replace the existing path with an asphalt path as illustrated in Figure 3. The width of the newly constructed asphalt path will be 12’ wide with 6” of concrete ribbon curb on the east side. The hedge will need to be replaced with a smaller hedge of the same opacity. All of this work will be within the existing VCDD tracts that extend along this corridor.

Anticipated Cost: \$320,000.00



Avenida Central, from El Camino Real to Rio Grande Avenue

Background:

Avenida Central is the loop road surrounding the Spanish Springs town center and La Plaza/La Grande shopping center (see **Figure 1** on Page 3). The typical road section is a four-lane divided road with mature landscaping in the median and along both roadsides. Each direction of travel provides 24' of pavement, which is striped to provide two 10' lanes and a 4' shoulder/golf cart lane. Golf carts are not permitted on Avenida Central beyond the intersection of Oak Meadows Lane on the south end, and beyond Paige Place on the north end. The typical section is illustrated in **Figure 4** on Page 13.



Avenida Central has a demand for a high amount of multi-modal travel, however the current striping does not allow golf carts to comfortably use the road. Residents commented through Public Involvement that their golf cart tires would often get trapped in the gutter pan of the curb. A field visit verified the difficulty of navigating this segment of road in a golf cart without traveling in an automobile lane.

Recommended Scope:

Restripe Avenida Central between Paige Place and Rio Grande Avenue to provide a single 12' automobile lane, a 7' golf cart lane, and a five foot striped separation.

A restriping project of this magnitude would necessitate resurfacing. If the striping changes were implemented when Avenida Central is resurfaced due to pavement management purposes, the actual new cost would be relatively minor.

Analysis:

The crash data demonstrates that most crashes involving a golf cart occur in areas where automobiles and golf carts share the road (in lieu of golf carts traveling on an off-road trail). Providing more width for the golf carts is a safety improvement.



This segment of Avenida Central carries approximately 6,100 vehicles per day during the peak season. The capacity of an urban two-lane road is over 15,000 vehicles per day. The capacity of an urban four lane road is over 27,000 vehicles per day. The road should continue to provide an acceptable level of service for automobiles as a two-lane road. No added congestion is expected. The segments closer to US 441 (east of Paige Place and Rio Grande Avenue) should remain four-lane roads.

During the public involvement, there was a request to put sidewalks on Avenida Central. Based on available information, there is no practical way to install new sidewalks on Avenida Central without extensive regrading and removal of a significant amount of mature landscape.

Anticipated Cost:

If this project is performed during routine resurfacing of Avenida Central, then the additional striping may cost \$5,000-\$15,000. A complete resurfacing project is likely to cost \$150,000-\$200,000.



Del Mar Sidewalk

Background:

Del Mar Drive is located within the Lady Lake/Lake County portion of the Villages. The roadway is within a 60' right of way, extends from Avenida Central to Rio Grande Avenue, and travels between the Village of Del Mar. Del Mar Drive extends further south from Rio Grande and into the Village of Mira Mesa, however the proposed extents of the sidewalk along Del Mar will terminate at Rio Grande Avenue as illustrated in **Figure 8** below.



Figure 8
Del Mar Sidewalk Extents



Recommended Scope:

The recommended scope of this project is to construct a sidewalk along the west side of Del Mar Drive, which is approximately 3,400 feet from the existing sidewalk on the north end (Avenida Central) to the south end (Rio Grande Avenue). The sidewalk should be constructed using the standard Villages Construction detail as illustrated. The sidewalk would need to be constructed to meet ADA requirements and therefore would need handicap ramps and crosswalks at each driveway crossing.

Anticipated Cost: \$96,000.00



Paradise Park (Bridge, Dog Park, Alignment, Path to Medical Offices)

Background:

The Paradise Park project will include the trail that leads to the US 27 Bridge (from both the west side and the east side), the actual Paradise Park improvements, and the trail that runs southeast from the bridge toward Griffin Avenue on the east side of 441. The trails are generally 10' – 12' wide and total in length of approximately 2,200 feet. The Archery Range and Dog Park receive a lot of traffic during archery events and steady volume throughout the day due to with pet owners. The current configuration of the parking lot is a double stack parking area with a 24' drive aisle that serves as two functions. The drive aisle serves as a drive aisle for the parking lot as well as the main cart path that leads to the bridge. This creates a hazardous condition for both carts and cars. While the bridge will remain its current width, the widening and realignment of the trails at the entrances of the bridge will significantly relieve the congestion at the bridge entrances and exits. The re-aligned parking area will also solve vehicle/cart conflicts that now exist.

Recommended Scope:

The recommended scope of this project is to construct separate parking for both vehicles and carts and to separate the car drive aisle from the cart path. This improvement would require the north side of the dog park fence to be moved approximately 20 feet westward to make way for the proposed transportation trail as illustrated in **Figure 9** on the following page.

In order to widen the trails under the Oak canopies, it will require the trails to become a one-way divided system to save the very mature Live Oaks as illustrated in the **Figure 9**. The re-alignment of the new trails will allow cart traffic coming off of the bridge to have an adequate distance to slow before coming to a three leg intersection. The trails that lead to the medical facility and on the west side of the bridge will be widened to the same cross section as illustrated in **Figure 4** on Page 13. All precautions necessary will be taken to reduce the impact of construction on the mature trees.

Anticipated Cost: \$250,000.00



SCALE IN FEET
 0 25 50 100
 DATE: 4 DECEMBER, 2009
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AERIAL PHOTO DATA: 2007
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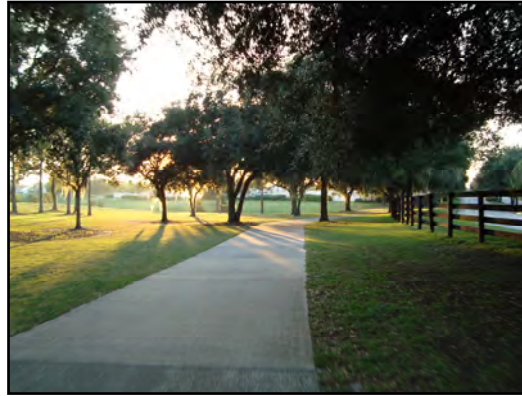
Paradise Park
 Conceptual Plan
 Figure 9, Page 29



Chula Vista-Mira Mesa Trail

Background:

The Chula Vista/Mira Mesa Trail runs from the interface of the Sumter County/Lake County line just west of Del Mar Drive through the Chula Vista Golf Course to the tunnel at Rio Grande. The trail continues south from the tunnel through the Mira Mesa golf course to the southern end of Village of La Reynalda. The limits of the trail are illustrated in **Figure 1** on Page 3. The trail is generally 10' wide and 4,900 feet long.



Recommended Scope:

A new transportation trail should be constructed using a cross section as illustrated in **Figure 4** on Page 13. This cross section, which is used south of CR 466, will provide 11-15.5' of asphalt with 6" concrete ribbon curb on both sides dependent on the existing field constraints. The existing concrete trail should be removed, and the new trail should generally be constructed in the same location. Modifications to the existing alignment should be adjusted to allow for a safer turning radius and adequate clear zones.

In order to widen the trails under the Oak canopies, it will require the trails to become a one-way divided system to save the very mature Live Oaks as illustrated in the **Figure 9**. The re-alignment of the new trails will allow cart traffic coming off of the bridge to have an adequate distance to slow before coming to a three leg intersection. The trails that lead to the medical facility and on the west side of the bridge will be widened to the same cross section as illustrated in **Figure 4** on Page 13. All precautions necessary will be taken to reduce the impact of construction on the mature trees.

Anticipated Cost: \$350,000.00



APPENDIX



SUMMARY OF CONSTRUCTION COSTS

OPINION OF PROBABLE CONSTRUCTION COSTS Morse Boulevard Off-Street Trail Extension

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	<u>15' - 6" Trail cost per linear foot</u>				
	Misc demo and finished grading	1.00	L.S.	\$5.68	\$5.68
	12" compacted subgrade	1.83	S.Y.	\$2.30	\$4.21
	6" limerock base	1.72	S.Y.	\$7.55	\$12.99
	1.5" Type III Asphalt	1.72	S.Y.	\$8.10	\$13.93
	Concrete edge curb	2.00	L.F.	\$8.95	\$17.90
	<u>Prime Coat</u>	<u>1.72</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$0.77</u>
	Subtotal:	1	L.F.	\$55.48	\$55.48
1	New Transportation Trail from Morse Roundabout to ex. Hacienda Trail	2,800	L.F.	\$55.48	\$155,346.80
2	Earthwork	7,622	C.Y.	\$4.00	\$30,488.89
3	Sod	7,000.00	S.Y.	\$2.70	\$18,900.00
				TOTAL	\$204,735.69

SIGNAGE AND STRIPING @ 2% OF TRAIL

\$4,094.71

TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL

\$10,236.78

SUB TOTAL

\$219,067.19

CONTINGENCY 10%

\$21,906.72

TOTAL-SPLIT BETWEEN DISTRICT ONE AND LADY LAKE/LAKE COUNTY

\$240,973.91

ESTIMATE

\$250,000

OPINION OF PROBABLE CONSTRUCTION COSTS

Saddlebrook Trail Widening

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	13' Trail cost per linear foot				
	Demo existing concrete trail	1	L.F.	\$5.00	\$5.00
	Misc demo and finished grading	1.00	L.S.	\$5.68	\$5.68
	12" compacted subgrade	1.56	S.Y.	\$2.30	\$3.58
	6" limerock base	1.44	S.Y.	\$7.55	\$10.91
	1.5" Type III Asphalt	1.44	S.Y.	\$8.10	\$11.70
	Concrete edge curb	2.00	L.F.	\$8.95	\$17.90
	<u>Prime Coat</u>	<u>1.44</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$0.65</u>
	Subtotal:	1	L.F.	\$55.41	\$55.41
1	Transportation Trail from BVB tunnel to CR 466 tunnel	2,500	L.F.	\$55.41	\$138,533.33
2	Landscaping and Tree Pruning	2,500	L.F.	\$8.00	\$20,000.00
3	Pedestrian Lighting	50	E.A.	\$1,500.00	\$75,000.00
				TOTAL	\$233,533.33

MAINTENANCE OF TRAFFIC @ 6% OF TRAIL	\$8,312.00
SIGNAGE AND STRIPING @ 2% OF TRAIL	\$2,770.67
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL	<u>\$6,926.67</u>
SUB TOTAL	\$251,542.67

CONTINGENCY 10%	<u>\$25,154.27</u>
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TOTAL	\$276,696.93
	ESTIMATE \$280,000

OPINION OF PROBABLE CONSTRUCTION COSTS El Camino Real Trail Widening- AAC Maintained Section

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	<u>15' - 6" Trail cost per linear foot</u>				
	Demo existing concrete trail	1	L.F.	\$5.00	\$5.00
	Misc demo and finished grading	1.00	L.S.	\$5.68	\$5.68
	12" compacted subgrade	1.83	S.Y.	\$2.30	\$4.21
	6" limerock base	1.72	S.Y.	\$7.55	\$12.99
	1.5" Type III Asphalt	1.72	S.Y.	\$8.10	\$13.93
	Concrete edge curb	2.00	L.F.	\$8.95	\$17.90
	<u>Prime Coat</u>	<u>1.72</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$0.77</u>
	Subtotal:	1	L.F.	\$60.48	\$60.48
1	Transportation Trail from District Two boundary to Morse roundabout	3,900	L.F.	\$60.48	\$235,875.90
2	Landscape/ Irrigation	3,900	L.F.	\$39.50	\$154,050.00
3	Freedom Pointe crossing	1	LS	\$75,000.00	\$75,000.00
				TOTAL	\$464,925.90

MAINTENANCE OF TRAFFIC @ 6% OF TRAIL	\$14,152.55
SIGNAGE AND STRIPING @ 2% OF TRAIL	\$4,717.52
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL	\$11,793.80
SUB TOTAL	\$495,589.77

CONTINGENCY 10%	\$49,558.98
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TOTAL	\$545,148.74
	ESTIMATE \$550,000

OPINION OF PROBABLE CONSTRUCTION COSTS

Rio Grande Roadway Improvements

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	<i>Rio Grande Improvements</i>				
	Mill 3/4" Asphalt	23,273	S.Y.	\$2.50	\$58,182.50
	Tack Coat	23,273	S.Y.	\$1.25	\$29,091.25
	3/4" Type III	23,273	S.Y.	\$4.05	\$94,255.65
	12" Stabilized Subgrade	4,655	S.Y.	\$2.30	\$10,706.50
	6" Limerock Base	4,655	S.Y.	\$7.55	\$35,145.25
	1 1/2" Type III	3,103	S.Y.	\$8.10	\$25,134.30
	Prime Coat	4,655	S.Y.	\$0.45	\$2,094.75
	4.5' Concrete Sidewalk	3,491	S.Y.	\$30.00	\$104,730.00
	Stack Block Retaining Wall	3,480	S.F.	\$20.00	\$69,600.00
	Sod	7,758	S.Y.	\$2.70	\$20,946.60
	Type F Curb & Gutter	6,982	L.F.	\$10.00	\$69,820.00
	Storm Improvements	1	LS.	\$30,000.00	\$30,000.00
				TOTAL	\$549,706.80

MAINTENANCE OF TRAFFIC @ 10% OF TOTAL	\$54,970.68
SIGNAGE AND STRIPING @ 10% OF TOTAL	\$54,970.68
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TOTAL	<u>\$27,485.34</u>
SUB TOTAL	\$687,133.50
 CONTINGENCY 10%	 <u>\$68,713.35</u>

TOTAL	\$755,846.85
ESTIMATE	\$760,000

DISTRICT 1 TOTAL:	\$190,000.00
LADY LAKE/LAKE COUNTY TOTAL:	\$570,000.00

OPINION OF PROBABLE CONSTRUCTION COSTS Rio Grande/Del Mar Transportation Trail

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	<u>11' Asphalt Trail cost per linear foot</u>				
	Demo existing concrete trail	1	L.F.	\$5.00	\$5.00
	Misc demo and finished grading	1.00	L.S.	\$5.68	\$5.68
	12" compacted subgrade	1.33	S.Y.	\$2.30	\$3.07
	6" limerock base	1.22	S.Y.	\$7.55	\$9.23
	1.5" Type III Asphalt	1.22	S.Y.	\$8.10	\$9.90
	Concrete edge curb	2.00	L.F.	\$8.95	\$17.90
	<u>Prime Coat</u>	<u>1.22</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$0.55</u>
	Subtotal:	1	L.F.	\$51.32	\$51.32
1	Reconstruct trail from Hacienda Trail to Rio Grande	2,700	L.F.	\$51.32	\$138,576.00
2	Landscape/ Irrigation	2,700	L.F.	\$48.00	\$129,600.00
				TOTAL	\$268,176.00

MAINTENANCE OF TRAFFIC @ 6% OF TRAIL	\$8,314.56
SIGNAGE AND STRIPING @ 2% OF TRAIL	\$2,771.52
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL	<u>\$6,928.80</u>
SUB TOTAL	\$286,190.88
 CONTINGENCY 10%	 <u>\$28,619.09</u>

TOTAL	\$314,809.97
	ESTIMATE \$320,000

OPINION OF PROBABLE CONSTRUCTION COSTS Del Mar Sidewalk

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	<i>Del Mar Sidewalk</i>				
	Misc. Demolition and Finish Grading	2,844	S.Y.	\$4.00	\$11,377.78
	4.5' Concrete Sidewalk	1,600	S.Y.	\$30.00	\$48,000.00
	Curb Ramps	19	E.A.	\$650.00	\$12,350.00
	Sod	1,422	S.Y.	\$2.70	\$3,840.00
				TOTAL	\$75,567.78

SIGNAGE AND STRIPING @ 5%	\$3,778.39
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 10% OF TOTAL	<u>\$7,556.78</u>
SUB TOTAL	\$86,902.94
 CONTINGENCY 10%	 <u>\$8,690.29</u>

TOTAL	\$95,593.24
	ESTIMATE \$96,000

OPINION OF PROBABLE CONSTRUCTION COSTS Paradise Park

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	<i>Paradise Park Trail</i>				
	Misc demo and finished grading	2,200.00	L.F.	\$5.68	\$12,496.00
	Demo existing concrete trail	1,700.00	L.F.	\$5.00	\$8,500.00
	12" compacted subgrade	4,522.22	S.Y.	\$2.30	\$10,401.11
	6" limerock base	4,188.89	S.Y.	\$7.55	\$31,626.11
	1.5" Type III Asphalt	4,188.89	S.Y.	\$8.10	\$33,930.00
	Concrete edge curb	4,400.00	L.F.	\$8.95	\$39,380.00
	<u>Prime Coat</u>	<u>4,188.89</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$1,885.00</u>
	Subtotal:				\$138,218.22
2	<i>Landscape and Irrigation</i>	2,200.00	L.F.	\$8.00	\$17,600.00
3	<i>Parking Lot</i>				
	Mill 3/4" Asphalt	900	S.Y.	\$2.50	\$2,250.00
	Tack Coat	900	S.Y.	\$1.25	\$1,125.00
	3/4" Type III	900	S.Y.	\$4.05	\$3,645.00
	4.5' Concrete Sidewalk	110	S.Y.	\$30.00	\$3,300.00
	Bollards	<u>20</u>	<u>E.A.</u>	<u>\$350.00</u>	<u>\$7,000.00</u>
	Subtotal:				\$17,320.00
				TOTAL	\$173,138.22

MAINTENANCE OF TRAFFIC @ 6% OF TRAIL + LOT	\$18,681.39
SIGNAGE AND STRIPING @ 5% OF TRAIL + LOT	\$15,567.82
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL + LOT	<u>\$15,567.82</u>
SUB TOTAL	\$222,955.25

CONTINGENCY 10%	<u>\$22,295.53</u>
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TOTAL	\$245,250.78
ESTIMATE	\$250,000

OPINION OF PROBABLE CONSTRUCTION COSTS

Mira Mesa/Chula Vista Trail

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	<u>10' Asphalt Trail with ribbon curbs</u>				
	Demo existing concrete trail	1	L.F.	\$5.00	\$5.00
	Misc demo and finished grading	1.00	L.S.	\$5.68	\$5.68
	12" compacted subgrade	1.22	S.Y.	\$2.30	\$2.81
	6" limerock base	1.11	S.Y.	\$7.55	\$8.39
	1.5" Type III Asphalt	1.11	S.Y.	\$8.10	\$9.00
	Concrete edge curb	2.00	L.F.	\$8.95	\$17.90
	<u>Prime Coat</u>	<u>1.11</u>	<u>S.Y.</u>	<u>\$0.45</u>	<u>\$0.50</u>
	Subtotal:	1	L.F.	\$49.28	\$49.28
1	Transportation Trail from Lake/Sumter line to Village of La Reynalda	4,900	L.F.	\$49.28	\$241,472.00
2	Landscape and Irrigation	4,900	L.F.	\$8.00	\$39,200.00
				TOTAL	\$280,672.00

MAINTENANCE OF TRAFFIC @ 6% OF TRAIL	\$14,488.32
SIGNAGE AND STRIPING @ 2% OF TRAIL	\$4,829.44
TESTING, SURVEY, AS-BUILTS, EROSION CONTROL @ 5% OF TRAIL	\$12,073.60
SUB TOTAL	\$312,063.36
 CONTINGENCY 10%	 \$31,206.34

TOTAL	\$343,269.70
	ESTIMATE \$350,000