

MIAMI-DADE COUNTY PARK AND RECREATION DEPARTMENT

Snapper Creek Trail

Segment A Planning Study

OCTOBER 2008



Kimley-Horn
and Associates, Inc.



Snapper Creek Trail

Segment A Planning Study

October 30, 2008

Mr. Jack Kardys
Director
Miami-Dade County Park and Recreation Department
275 NW 2nd Street, Fifth Floor
Miami, FL 33128

Mr. Kardys:

Kimley-Horn and Associates, Inc. is pleased to submit the Snapper Creek Trail Segment-A Planning Study. The Miami-Dade County Park and Recreation Department (MDPR) and the Miami-Dade Metropolitan Planning Organization (MPO) initiated the study to determine the feasibility and potential for implementing a non-motorized trail within the Snapper Creek (C-2) Canal and SW 117th Avenue right-of-way between Florida International University (FIU) and The Boys and Girls Club of Miami, SW Langer / Kendall-Unit.

Our study uncovered several important mobility and recreational opportunities within this corridor that make the Snapper Creek Canal an attractive corridor for an enhanced trail. There is the opportunity to make the existing Snapper Creek Trail more continuous and connected to the surrounding neighborhoods and other bicycle facilities. A public involvement and community outreach effort provided invaluable comments and suggestions for improving the trail concept, and developed strong relationships among stakeholder agencies. These partnerships can be maintained throughout the implementation and trail management process to ensure that the trail will become a durable community asset.

This report document was developed to be an attractive presentation vehicle for the work that was performed in this study that you can use for a variety of purposes from trail workshops to grant applications. I would be happy to discuss this study and assist in the successful implementation of the Snapper Creek Trail.

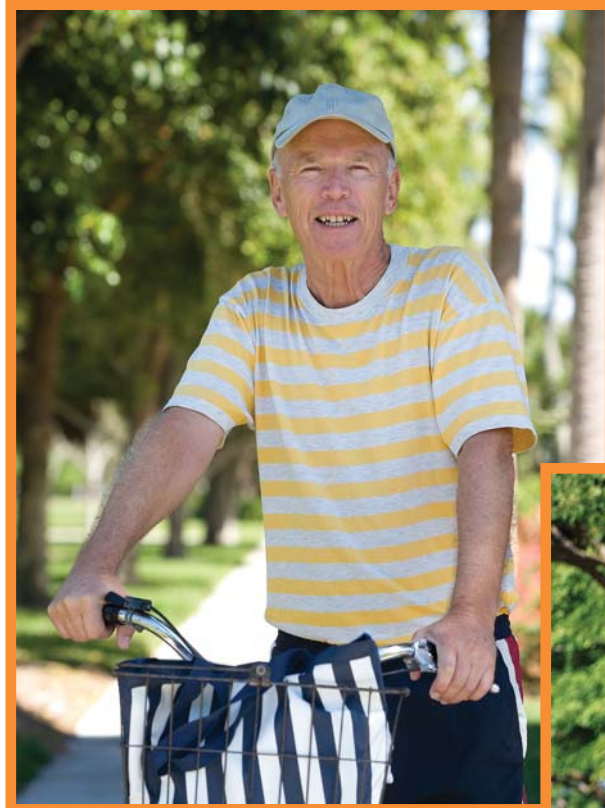
Sincerely,

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ACKNOWLEDGMENTS

Kimley-Horn and Associates, Inc. would like to acknowledge the many groups who contributed to the successful completion of the Snapper Creek Trail, Segment A, Planning Study.

The Miami-Dade County Park and Recreation Department (MDPR) served as the day-to-day management agency for the project. Mark Heinicke was instrumental in managing the project throughout the duration of the study providing direction to the consultant and coordinating public outreach activities.

The Miami-Dade County Metropolitan Planning Organization (MPO) funded the study through the Unified Planning Work Program (UPWP). Oscar Camejo is the administrator of the UPWP grant program for the MPO. David Henderson, Bicycle/Pedestrian Coordinator for the MPO, provided guidance and perspective throughout the study.

The Miami-Dade County Public Works Department (MDPWD) provided assistance and coordination with the portions of the trail along County road rights-of-way including SW 117th Avenue, SW 114th Avenue, and Snapper Creek Drive. Jeff Cohen reviewed trail concepts for MDPWD.

The South Florida Water Management (SFWMD) provided invaluable guidance on opportunities and requirements for use of the Snapper Creek Canal right-of-way. Special Recognition goes to Ed Hernandez, Evan Skornick, and Lewis Beilman. The majority of the land being considered for the trail is owned by the SFWMD, and its primary purpose is for the flood-control and conveyance purpose of the canal.

A special recognition goes to Eric Tullberg of the Bicycle/Pedestrian Advisory Committee (BPAC) who provided detailed field notes, photographs, and provided a trail user's perspective in reviewing preliminary trail concept plans.

EBS Engineering, Inc. assisted with the existing conditions analysis and field inventory for this study.



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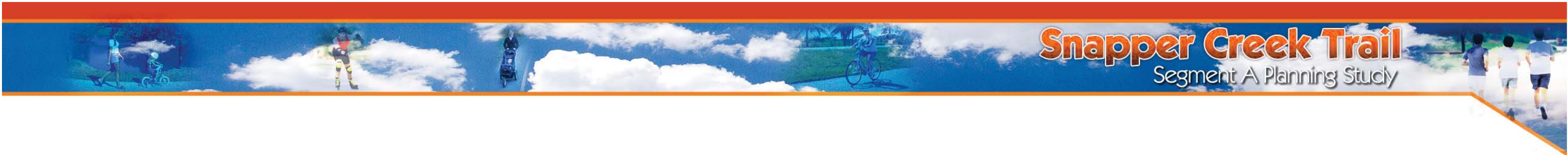


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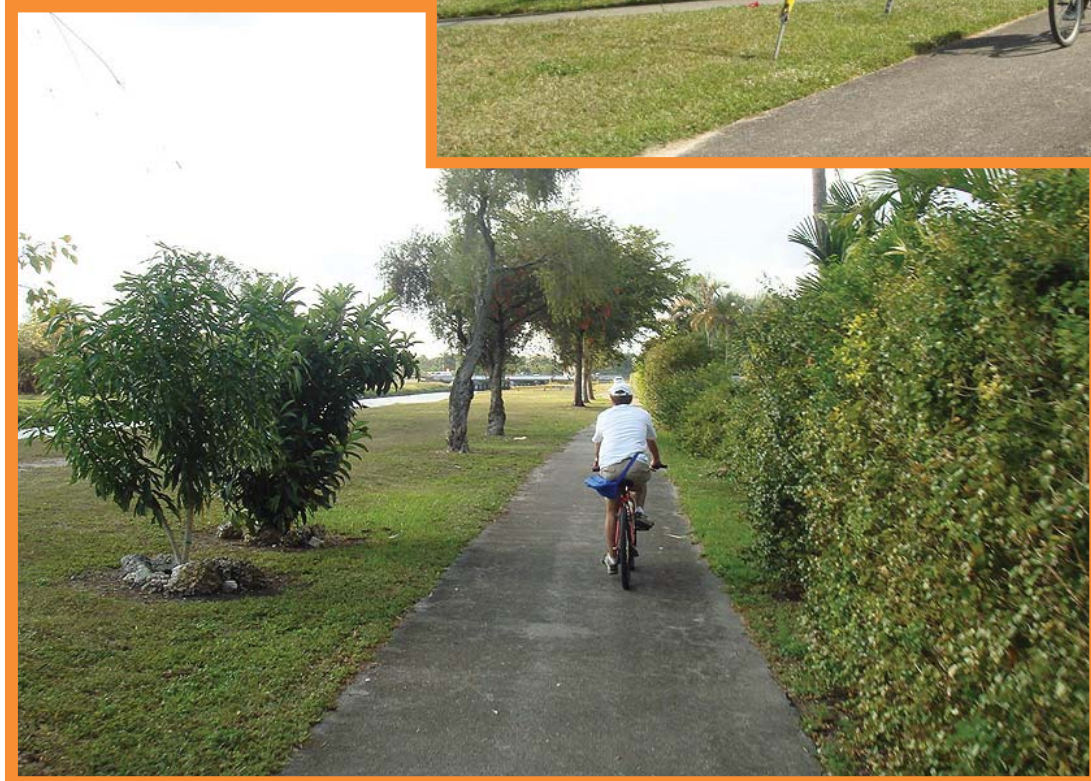
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Bicycling activity along existing Snapper Creek Trail

LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
BPAC	Bicycle Pedestrian Advisory Committee
DERM	Department of Environmental Resources Management
FAA	Federal Aviation Administration
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FIU	Florida International University
FP&L	Florida Power and Light
FWC	Florida Fish and Wildlife Conservation Commission
GOB	General Obligation Bond
HEFT	Homestead Extension of Florida's Turnpike
MDPR	Miami-Dade County Park and Recreation Department
MDPWD	Miami-Dade Public Works Department
MDT	Miami-Dade Transit
MDWASD	Miami-Dade County Water and Sewer Department
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
NDGMP	North Dade Greenways Master Plan
NE	Northeast
NW	Northwest
ROW	Right-of-way
RUS	Recreation Use Statute
SE	Southeast
SFWMD	South Florida Water Management District
SW	Southwest
TPL	The Trust for Public Land

EXECUTIVE SUMMARY

Planning Study Purpose

Snapper Creek Trail Segment A is a proposed 5.6-mile multi-use trail in suburban west central Miami-Dade County. The concept was initiated in the 1998 North Dade Greenways Master Plan. The trail meanders mainly within the Snapper Creek (C-2) Canal right-of-way with additional segments located within street right-of way. The trail provides a route of travel from the (C-4) Canal near Florida International University to Kendall Drive. The trail generally runs contiguous to the Snapper Creek Canal with segments that deviate through neighborhood streets and along sidewalks.

This Executive Summary presents the results of a planning study of a non-motorized trail and linear park within the Snapper Creek (C-2) Canal right-of way beginning near FIU and terminating at The Boys and Girls Club of Miami, Inc., /SW Langer/Kendall Unit on land owned primarily by the South Florida Water Management District (SFWMD). This study included interagency coordination and two advertised public meetings to solicit community input and present the proposed trail concept. The study established a planning program and route alignment, developed schematic conceptual designs, and established probable costs and priorities to implement the project.

Background and Opportunities

The long term vision for Snapper Creek Trail is a 9.4-mile greenway corridor that connects Florida International University with Dante B. Fascell Park near Red Road. The initial concept for this multi-use non-motorized trail was developed by faculty and students at Florida International University in the North Dade Greenways Master Plan and adopted by the Board of County Commissioners in 1998. The greenway corridor consists of the 5.6-mile Segment A (this study) and a 3.8-mile Segment B. Segment A offers a strategic connection and safe route to various parks, trails, schools, Metrobus routes and other facilities.

Park Connections:

- Tamiami Park
- Concord Park
- The Boys and Girls Club of Miami, Inc./SW Langer/Kendall-Unit
- Kendall Indian Hammocks Park



Existing Snapper Creek Trail east side of SW 117 Avenue near Tamiami Park

Existing Trail Connections

- SW 24 St. / Coral Way green and white
- SW 56 St. / Miller Drive green and white
- SW 72 St. / Sunset Drive green and white

Future Bicycle Facility Connections

- Miccosukee Trail
- SW 8 St. Bike Lanes
- SW 48 St. Bike Lanes
- Miller Link Trail
- Ludlam Trail Kendall Link (CSX corridor)
- Snapper Creek Trail Segment B (east of SW 94 Av.)

School Connections

- Dr. Carlos J. Finlay Elementary School
- Sunset Park Elementary

Constraints and Other Considerations:

- Several arterial roadways, the CSX railroad, and the SR 874 (Don Shula Expressway) corridor intersect the Segment A corridor within the study limits and will require safety improvements
- Funding will need to be identified and secured to construct most of the trail corridor



Existing Snapper Creek Trail west side of SW 117 Avenue

Preferred Plan Concept and Phasing

A preferred plan concept for a non-motorized trail from Florida International University to the Boys and Girls Club of Miami, Inc., SW Langer / Kendall Unit was developed that incorporates improvements to the existing paved trail, new sections of multi-use trail in gap areas, new shared-road facilities and widened sidewalks in areas that lack sufficient width for a multi-use trail.

An implementation phasing plan is depicted on the preferred plan with numbered circles corresponding to the initial phase of the Trail and dashed lines without the numbered circles indicating the preferred alignment and alternates.

- Phase 1: New trail SW 97 Av to SW 72 St. (Sunset Dr.) on south side of canal. Shared road SW 88 Ct., to SW 97 Rd., to SW 85 St. to SW 97 Av.
- Phase 2: Widened sidewalk SW 72 St. (Sunset Dr.) to N. Snapper Creek Dr. via west side of SW 107 Av. Widened existing trail N. Snapper Creek Dr. to lateral canal west of SW 115 Av. via south side of N. Snapper Creek Dr. Shared road from lateral canal to SW 58 Ter.

Widened existing trail SW 58 Ter. To NB Homestead Extension Florida Turnpike (HEFT) exit ramp via west side of SW 117 Av. New trail NB HEFT exit ramp to NB HEFT entrance ramp via west side SW 117 Av. Includes new trail between SW 72 St. and SW 107 Av. on south side of N. Snapper Creek Dr. and widened existing sidewalk connection to Kendall Indian Hammocks Park via west side of SW 107 Av.

- Phase 3: Widened existing sidewalk NB HEFT entrance ramp to SW 32 St via east side SW 117 Av. Shared road SW 32 St. to SW 114 Av. to SW 24 St. (Coral Way). Widened existing trail in Tamiami Park to SW 117 Av. Widened existing trail SW 24 St. to SW 13 St. to SW 17 St. via west side of SW 117 Av. New trail SW 17 St. to existing sidewalk north of SW 13 St. on east side of SW 117 Av. Includes new spur trail connection between SW 117 Av. and SW 15 Av. via south side SW 24 St. (Coral Way) bridge embankment.
- Phase 4: Widened existing sidewalk west of SW 13 St. to end of existing sidewalk east of Carlos J. Findlay Elementary School. New trail from end of existing sidewalk east of Findlay Elementary School to proposed bike lanes along SW 8 St. Includes new trail N. Snapper Creek Drive (west of SW 100 Av.) to SW 72 St. (Sunset Dr.) on north side of canal and shared road SW 99 Av. to SW 102 Av. via N. Snapper Creek Dr.). Also includes widened sidewalk SW 40 St. (Bird Rd.) to NB Heft entrance via east side of SW 117 Av.

In addition, two alternatives were developed as additional options to get from N. Kendall Drive to south side of Snapper Creek Canal.

- Alternative A: Widened existing sidewalk N. Kendall Dr. to SW 99 Ct. via west side of road. Use existing sidewalk SW 99 ct. to SW 94 Av. via north side N. Kendall Dr. (no improvements)
- Alternative B: New path on FPL right-of-way south side of Snapper Creek Canal SW 76 St. to canal. Shared road SW 84 St. to SW 102 Av. to SW 102 Pl. to SW 76 St.

Trail connections were identified to adjacent residential neighborhoods, sidewalks, and bike lanes. Supplemental trail amenities along the proposed trail include benches, shelters, interpretive signs, and information kiosks with trail maps and information on points of interest. Trailhead parking areas were identified at Tamiami Park and The Boys and Girls Club of Miami, Inc./SW Langer/Kendall-Unit. Rest stops were identified near the south side of SW 40th Street (Bird Road), near the south side of SW 58th Terrace, and near the south side of SW 72nd Street (Sunset Drive). The proposed budget for the design and construction of Snapper Creek Trail, Segment A, is approximately \$4.7 million including approximately 5 miles of paved trail and approximately 1 mile of shared road facilities, amenities, supplemental infrastructure and soft costs.

INTRODUCTION



Bicycle facilities are important components of a multimodal transportation system that enhances bicycling as a viable transportation option. Bicycle facilities, such as bike paths and bike lanes, designate space for bicycle travel. Bicycle infrastructure, such as signage, bike racks, and lockers, enhance the experience of the bicyclist and encourage

greater usage. Combining bicycle facilities and bicycle infrastructure is important to create an integrated system that augments bicycling as a mode of transportation. Bicycling is not only a transportation mode; bicycling is also a popular recreational activity. Many people in Miami-Dade County take advantage of favorable weather throughout much of the year to enjoy bicycle riding for leisure and mobility. Providing appropriate bicycle facilities can encourage short trips to be made on a bicycle instead of by automobile and contributes to a healthy citizenry.

Countywide Bicycle Master Plans

Miami-Dade County maintains a strong bicycle planning emphasis as evidenced by several past planning efforts.

North Dade Greenways Master Plan

In 1998, the Miami-Dade County Board of County Commissioners adopted the North Dade Greenways Master Plan (NDGMP), which provides for an extensive network of urban and rural greenway corridors with connections to residential neighborhoods and major activity centers. The NDGMP is an integrated system of connecting greenways and trails that comprises more than 300 miles in 24 individual trails.

2025 Bicycle and Pedestrian Facilities Plan

The MPO Governing Board adopted the current Bicycle and Pedestrian Facilities Plans in December 2001. The purpose of the 2025 Bicycle Facilities Plan was to update and expand prior bicycle planning efforts and to prioritize bicycle facility projects.

Long Range Transportation Plan to the Year 2030

In late 2004, the MPO Governing Board adopted the Miami-Dade Long Range Transportation Plan to the Year 2030 (Transport 2030). Transport 2030 included a greenway and trail component. Off-road bicycle and pedestrian facilities were identified and included in the cost feasible plan.

Parks Open Space System Master Plan

In early 2008, Miami-Dade County completed the Parks Open Space System Master Plan (POSSMP), which established a 50-year unifying vision for a livable, sustainable Miami-Dade County. The POSSMP envisions that great parks, public spaces, natural and cultural areas, streets, greenways, blueways, and trails can form the framework for a more livable and sustainable community. In the POSSMP, great greenways and trails form an interconnected system that provides transportation alternatives, creates new recreational opportunities, and increases property values.

The Snapper Creek Trail was included as a planned greenway project in each of these four documents. The purpose of this study is to provide a planning study for implementing Segment A of the Snapper Creek Trail identified in the countywide bicycle master plans. Miami-Dade County's Greenway Network envisions a non-motorized trail and linear park within the canal right-of-way along the Snapper Creek Canal and within portions of the SW 117th Avenue right-of-way.

Miami-Dade County Bicycle Facilities

The existing supply of non-motorized bicycle facilities in Miami-Dade County currently includes approximately 130 miles of paved paths, over 30 miles of bicycle lanes and hundreds of miles of sidewalks. Additional facilities are in all phases of project development from planning to design and construction. In the next five years over 30 miles of paved paths and 20 miles of bike lanes are funded for design and construction.

Active Transportation in Miami-Dade County

Although the geographic location of Miami-Dade County is attractive, the quality of life for many of its residents is diminished due to the traffic congestion that results from typical urban sprawl patterns which have occurred during the last thirty years. In many ways Miami-Dade County is a typical sunbelt community: auto-oriented development patterns, segregated landuses and a preference for low taxes have prevented the development of major bikeway and transit systems. The potential for active transportation modes in the County is very good because of opportunities to increase the supply of facilities and demand for better walking and bicycling conditions.

The County and various municipalities are attempting to address these land use repercussions through smart growth and new urbanism strategies which will provide residents with the convenience of short commutes for commodities, work, services and entertainment (Gannett-Fleming, 2008).



South side of Snapper Creek Canal right-of-way



Existing trail along west side of SW 117 Avenue

Active Transportation

Active Transportation, which is travel powered by human energy such as walking and biking, has the capacity to significantly reduce the number of automobiles on the roadway network, given that almost fifty percent (50%) of automobile trips are short trips under three miles. Active transportation systems are seamless networks of accessible trails, sidewalks, and on-road bicycle facilities. Walking or biking will benefit the health of the general public by providing a form of exercise that one would normally not benefit from if they chose to drive.

The following are some of the benefits associated with active transportation as described on the railstotrails.org website.

Active Transportation Benefits:

- **MOBILITY** “Expanding active transportation choices needs to be at the heart of the nation’s long-term transportation strategy. The status quo practice of expanding roadway capacity is a recipe for gridlock. Communities with good walking and biking conditions can expect a five to 15 percent reduction in overall vehicle miles traveled (Litman, 2007). These figures can be even higher in close proximity to bike/pedestrian facilities with local reductions of 20 to 30 percent (CCAP, 2007). While each individual walking and biking trip is usually short, the cumulative impact in terms of avoided driving is considerable.”
- **PUBLIC HEALTH** “The Center for Disease Control (CDC) states that less than 1/3 of U.S. adults engage in the recommended amount of physical activity. Many people live sedentary lives; 40% of adults do not participate in physical activity. 43% of adolescents watch more than 2 hours of television per day. Among children ages 6-19, 16% (over 9 million) are overweight. CDC recommends at least 30 minutes (adults) or 60 minutes (children) of moderate activity most days of the week. Trails provide an opportunity for regular physical activity, which is important in preventing and treating overweight and obesity and is extremely helpful in maintaining weight loss. People are much more likely to be active when safe welcoming environments like trails are available.”
- **ECONOMY** “Trails and green space are important community amenities that help spur economic development. From home owners choosing to live along a park-like trail to bicycle tourists making their way from small town to small town, trails are important community facilities that attract people and dollars. According to 2004 National Association of

Homebuilders study cited by *The New York Times*, trails are the number one amenity potential homeowners cite when they are looking at moving into a new community.”

- **CLIMATE** “Transportation is a leading source of climate pollution representing approximately 30 percent of overall U.S. emissions in 2005 (EPA, 2007). It is also the fastest rising source of CO2 emissions. Analysis from the Center for Clean Air Policy shows that technological fixes alone cannot deliver the 80 percent reduction in emissions that scientists indicate are needed by 2050 (CCAP, 2007). While at present the preponderance of trips are taken by private automobile, many more of these trips could be converted to biking, walking and transit with the right investments in infrastructure and programs. With most trips within a 15-20 minute bike-ride, many of these trips are ripe for conversion to walking and biking.”
- **FAMILY AND COMMUNITY** “Community and family are at the heart of the American Trail experience. One of the most significant benefits of trails is the sense of community and connections they build. At their most basic level, trails encourage personal interaction in a way entirely unavailable to automobile users. Well-designed trails transform “community” from an abstraction into a real place. Trails foster community involvement and pride, in addition to providing an opportunity to interact with people of varying backgrounds, and experiences.”

Snapper Creek Canal Overview

The Snapper Creek Canal extends across southern Miami-Dade County from the C-4 canal near Florida International University to Biscayne Bay. In the northwest, the Snapper Creek Canal terminates at the C-4 Canal approximately at the intersection of the Tamiami Trail and the Homestead Extension of Florida’s Turnpike (HEFT). The Snapper Creek Canal generally flows diagonally from the northwest to the southeast through suburban Miami-Dade County with a mix of land uses adjacent to the canal bank. Beginning at the intersection of the Tamiami Trail and the Homestead Extension of Florida’s Turnpike, the Snapper Creek Canal runs south along SW 117th Avenue until it reaches North Snapper Creek Drive. The canal then turns southeasterly along the south side of North Snapper Creek Drive until it reaches the Don Shula Expressway. The Snapper Creek Canal then turns easterly along the south side of SW 83rd Street until it reaches US 1. It then bears east southeasterly near Snapper Creek Drive and Kendall Drive until it reaches Red Road. The Canal then turns south following along the east side of Red Road until it reaches SW 112th Street where it turns southeasterly ultimately reaching Biscayne Bay through Matheson Hammock Park.

Greenway Trails Along Snapper Creek Canal

The provision of greenway trails and linear parks along the Snapper Creek Canal have been the subject of prior efforts by local agencies as far back as the late-1980’s. In 1975, Metropolitan Dade County prepared Design Criteria and Guidelines for Linear Park Development, which resulted in the development and implementation of several paths including Snapper Creek Linear Park in the late-1980s. Other paths that were developed under this initiative include the Old Cutler Road Bike Path and the Snake Creek Canal Bike Path.

Portions of Snapper Creek Trail, Segment A, contain existing sections of the Snapper Creek Linear Park originally developed in the late-1980s. The subject of this Planning Study is Segment A of the Snapper Creek Trail, which would connect Florida International University to The Boys and Girls Club of Miami, Inc./SW Langer/Kendall- Unit. Currently, certain portions of the canal right-of-way in Segment A have unpaved maintenance roads; other portions of the Segment A right-of-way contain no maintenance roads. However, the South Florida Water Management District (SFWMD) maintains access to the canal right-of-way on at least one side of the canal for maintenance purposes throughout the entire length of the corridor.

SFWMD’s Public Recreational Access and Use Policy established a commitment to the promotion of public recreational access and use on District lands. Public recreational access and use shall be provided for and encouraged to ensure the public’s opportunity for enjoyment and appreciation of the natural resources of South Florida. The Policy also established that trails and greenways shall be incorporated to create links or spurs with state and county greenways, trails, and blueways programs and systems.

Study Corridor

Segment A of the Snapper Creek Trail connects Florida International University at SW 17th Street with The Boys and Girls Club of Miami, Inc./SW Langer/Kendall-Unit at SW 94th Avenue. This segment of the canal is crucial for greenway planning purposes as it connects multiple bicycle facilities such as the Coral Way green-and-white path; Miller Drive green-and-white path; and Sunset Drive green-and-white path; and proposed greenway trails such as Miccosukee Trail, Miller Link Trail, and Merrick Trail*.



Bus stop along Snapper Creek Trail

The study corridor is approximately 5.6 miles long. The east side of the canal right-of-way along SW 117th Avenue is included in the study, while both the north and south sides are included in the study along the segment adjacent to Snapper Creek Drive. The canal right-of-way along this corridor varies from approximately 220 to 230 feet in total width. The canal itself is typically 80 to 100 feet wide with an additional 60 to 70 feet of right-of-way on each side of the canal. The typical canal right-of-way is 60 feet wide from the top of the canal bank to the property line.

The study examines the planning and feasibility of providing non-motorized access to Tamiami Park, Concord Park, Westwood Park, Kendall Indian Hammocks Park, Snapper Creek Park, and The Boys and Girls Club of Miami, Inc./SW Langer/Kendall-Unit. Other issues to address include identifying intersection treatments at several major intersections; identifying trailhead and rest stop locations; developing a conceptual plan consistent with SFWMD permitted public use; incorporating existing portions of maintenance paths into a cohesive trail; and developing intermodal linkages to public transit corridors.

Figure 1, which is an aerial overview of the study corridor, clearly illustrates the strategic importance of the study segment of Snapper Creek Canal right-of-way connecting other greenway trails with parks and residential neighborhoods. Appendix E includes photographs that depict the study corridor overlaid on an aerial photograph of the corridor.

* The green-and-white paths are 13-foot concrete paths with space for pedestrians, with the pedestrian space typically colored green.



Figure 1. Aerial Map of Study Corridor



Tamiami Park access to internal trail



South side SW 24 St. (Coral Way) embankment



The Boys and Girls Club of Miami, Inc., S.W. Langer/Kendall Unit

EXISTING CONDITIONS ANALYSIS PROGRAM

Examining the existing conditions is a vital step in a trail planning study because the trail corridor does not exist in a vacuum. Other physical infrastructure may exist – both natural and man-made – that can provide opportunities or constraints to the development of a trail. Many agencies including local governments, utility companies, environmental groups, and transportation authorities will have a stake in the development of a trail. Public stakeholders include residents and businesses along the trail corridor. Considering the ownership of the land comprising the trail corridor, as well as adjacent lands, is another important component of an existing conditions assessment. The existing conditions analysis for the Snapper Creek Trail Segment A Planning Study included an assessment of background information, a field inventory of existing conditions, coordination with local agencies and the general public, and a corridor analysis program.

Background Information

Relevant background information was compiled and reviewed to begin assessing the feasibility and need for a trail along the Snapper Creek Canal within the study limits.

Land Ownership and Function

Land ownership for potential trail corridors is often complex and varied. However, in the case of the study corridor, the proposed trail is being considered within the right-of-way of the canal or an adjacent public street. Therefore, the corridor exists within the land (right-of-way) owned by SFWMD and/or Miami-Dade County. The proposed trail corridor also crosses the CSX Railroad.

SFWMD owns the right-of-way being considered for an off-road multi-use or shared use trail along the Snapper Creek Canal. SFWMD is a regional agency of the State of Florida and is charged with managing and protecting water resources of the region by balancing and improving water quality, flood control, natural systems, and water supply. The primary purpose of the Snapper Creek Canal is flood conveyance and drainage control in the extensively urbanized area through which it flows. The canal right-of-way provides access to the canal for maintenance purposes. It is important to maintain the drainage systems in and around the canal. Blockage of the canal or its drainage systems can result in serious water backups and hamper

the function of the canal in the event of an extreme weather event such as a hurricane. Therefore, one requirement of a trail plan along the Snapper Creek Canal right-of-way is to maintain access to the canal right-of-way by maintenance vehicles.

Surrounding Land Uses

Typical land uses surrounding the Snapper Creek Canal within the study limits include residential, commercial, educational and recreational areas. The canal passes by FIU and Tamiami Park between the HEFT and SW 117th Avenue at the northern limit of the study area. It continues south between the HEFT and SW 117th Avenue passing single family homes and a commercial corridor at SW 40th Street (Bird Road).

Turning southeasterly along the south side of N Snapper Creek Drive, the canal passes single family and multi-family homes until it reaches another commercial node in the area of SW 107th Avenue and SW 72nd Street (Sunset Drive). Continuing southeasterly, the canal passes through multi-family and single-family homes and under the Don Shula Expressway until it reaches The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall-Unit Park.

Park Maps

Base maps were collected to analyze the location of infrastructure such as roadways, canals, and parks in relation to the study corridor.



Existing rest stop south of SW 58 Terrace



Existing kayak/canoe launch south of SW 58 Terrace

North Dade Greenways Master Plan

In 1998, the Miami-Dade County Board of County Commissioners adopted the North Dade Greenways Master Plan (NDGMP), which provides for an extensive network of urban and rural greenway corridors with connections to residential neighborhoods and major activity centers. The NDGMP is an integrated system of connecting greenways and trails that comprises more than 300 miles in 24 individual trails.

Other Planned Bicycle Facilities

Bicycle lanes are currently being constructed along SW 97th Avenue between SW 40th Street (Bird Road) and SW 72nd Street (Sunset Drive). Bicycle lanes are also planned along SW 48th Street, between SW 117th Avenue and SW 87th Avenue.

Additional unfunded bicycle lane projects identified in the MPO's Bicycle Facilities Plan in the vicinity of the proposed Snapper Creek Trail, Segment A, include the following:

- SW 32nd Street between SW 79th Avenue and SW 117th Avenue
- SW 112th Avenue between SW 40th Street and SW 32nd Street
- SW 117th Avenue between Snapper Creek Drive and SW 168th Street
- SW 40th Street between SW 67th Avenue and SW 112th Avenue
- SW 40th Street between SW 122nd Avenue and SW 117th Avenue

Peripheral Facilities

- Tamiami Park – Interior park trails
- The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall-Unit – Interior park paths
- Kendall Indian Hammocks Park – Interior park trails

Multimodal Access

Miami-Dade Transit (MDT) Metrobus routes were identified that could provide connections to the Snapper Creek Trail Segment A. Providing connections between trail facilities and transit facilities is an important way of increasing access to transit. In addition, MDT's Bike-n-Ride program allows

cyclists to extend their rides by using bus bike racks while they ride the bus. Figure 2 is a map of Metrobus routes in the vicinity of the study corridor. Connections to Metrobus routes from the proposed Snapper Creek Trail are available at the following locations:

- Coral Way Max – At SW 24th Street (Coral Way)
- Route 24 – At SW 24th Street (Coral Way)
- Route 40 – At SW 40th Street (Bird Road)
- Bird Road Max – At SW 40th Street (Bird Road)
- Route 56 – At SW 56th Street (Miller Drive), SW 107th Avenue, and SW 72nd Street (Sunset Drive)
- Route 71 – At Snapper Creek Drive, SW 107th Avenue, and SW 72nd Street (Sunset Drive)
- Route 272 (Sunset KAT) – At SW 72nd Street (Sunset Drive)
- Route 72 – At SW 72nd Street (Sunset Drive)
- Route 288 (Kendall KAT) – At SW 88th Street (Kendall Drive)
- Route 88 – At SW 88th Street (Kendall Drive)

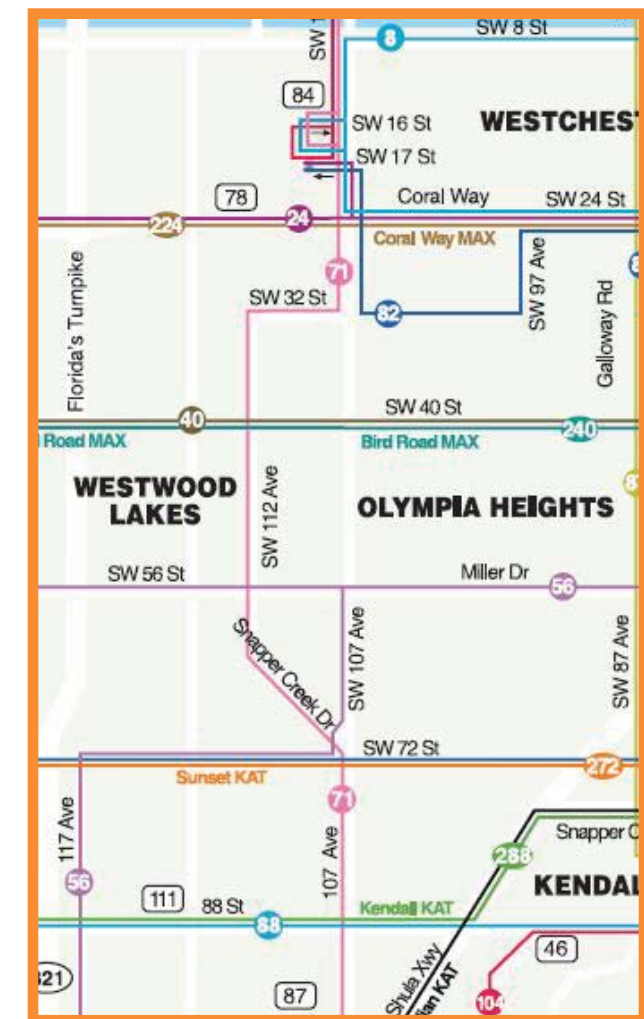


Figure 2. MDT Metrobus Routes in the Study Corridor

Blueways

The Miami-Dade County Blueways network is designed to provide residents and visitors with a fun, healthy way to explore the County's many beautiful bodies of water. The paddling trails that make up the blueways have been selected due to their scenic quality, cultural interest, proximity to users, and uninterrupted segment length. Florida International University graduate students in landscape architecture developed a Blueways Plan in 2002, and is presented in Figure 3, to enhance enjoyment opportunities for residents and visitors. The Blueways Plan was reviewed to examine potential coordination opportunities.

A portion of Snapper Creek Canal along Snapper Creek Trail Segment A is identified as a blueway between SW 117th Avenue and the southern terminus near the S.R. 874/Don Shula Expressway. A kayak/canoe launch and a boat ramp are currently located along this segment of the Snapper Creek (C-2) Canal. The Snapper Creek blueway connects to Biscayne Bay providing connections to other blueways throughout Miami-Dade County.

Field Inventory of Existing Conditions

A field inventory was conducted to study general corridor conditions and identify potential opportunities and constraints that are readily apparent.



Fishing activity along an existing section of Snapper Creek Trail

Photographs were taken during field reviews to document the existing conditions and assist during the analysis and public involvement components of this study. Appendix E contains photographs with captions that describe the existing conditions along the Snapper Creek (C-2) Canal corridor between SW 17th Street and SW 94th Avenue.

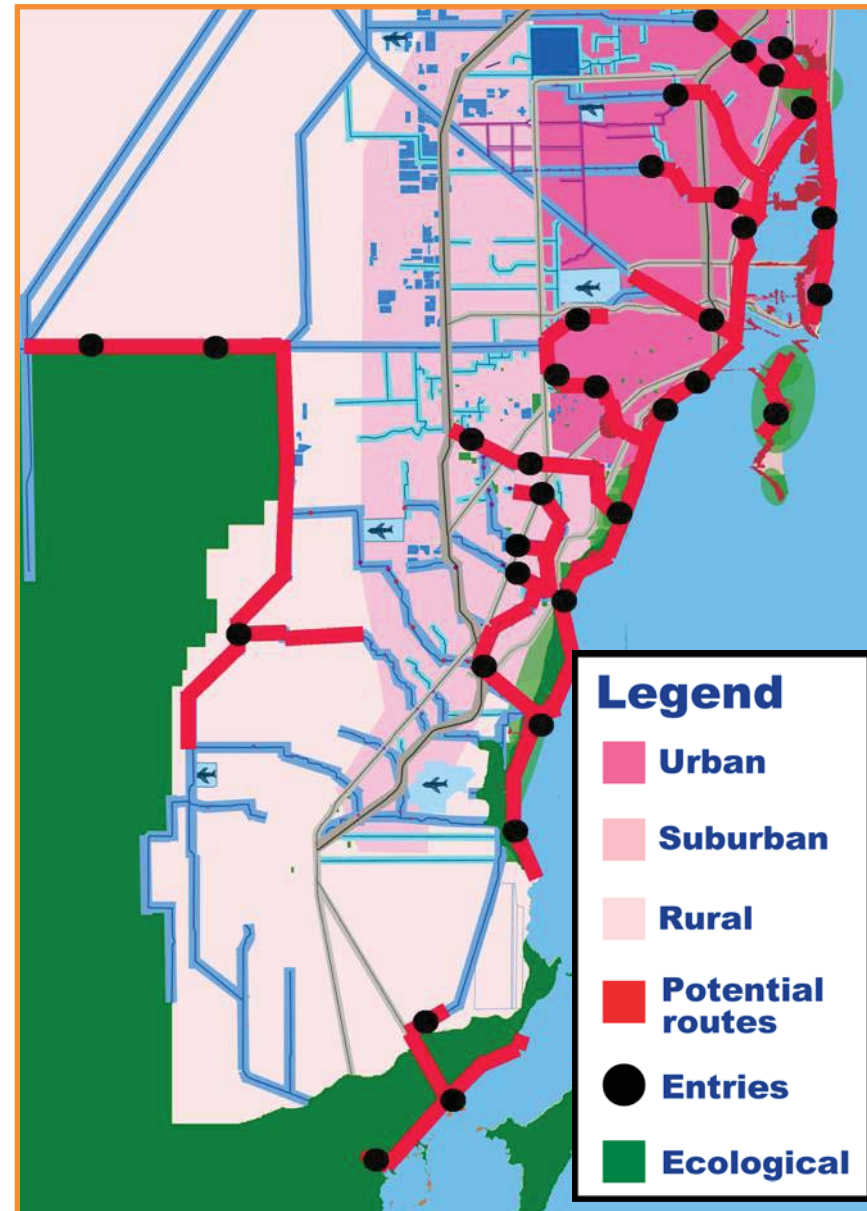


Figure 3. Potential Miami-Dade County Blueways
FIU, 2002

Intergovernmental Coordination

To initiate the intergovernmental coordination and public involvement component of this study, stakeholder agencies were contacted whose assistance may be required to design or implement a trail along Snapper Creek Canal within the project limits. The purpose of the preliminary agency contact was to collect ideas, constraints, and requirements for the trail. The agencies listed in Appendix F were contacted as part of this process. A sample letter is also included in Appendix F. The interagency coordination process revealed many important corridor opportunities and constraints. Several of these elements are listed below.

- A SFWMD general guideline prohibits placing landscaping elements or other structures within 40 feet of a canal top-of-bank for maintenance purposes and to reduce canal blockage during and after severe storms. Elements within 40 feet will require a special permitting process
- When presented with the idea of a series of pedestrian bridges spanning the Snapper Creek Canal, SFWMD indicated that these pedestrian bridges are within their guidelines as long as any bridge piers that may be required go through the SFWMD permit process
- The MPOs Indirect Left Turns Study at the intersection of SW 72nd Street and SW 107th Avenue was expanded to include recommendations from the Snapper Creek Trail Segment A Planning Study including enhanced pedestrian crossings, signals and actuation buttons, and shortened median noses
- The Florida Office of Greenways and Trails (OGT) recommends a trail width of 12 feet where on-the-ground conditions can accommodate this width

Public Involvement

Public involvement is key to a successful trail planning process. Public involvement fosters trust and support between the local community and the project representatives. The ideas and input gathered from the public involvement component of this study played a vital role in the outcome of the trail plan.

Advertised Public Meetings

Two advertised public meetings were conducted for this study. A workshop



Snapper Creek Trail Public Meeting

was held near the beginning of the study to inform the community of the trail concept and to solicit input and ideas to be considered during subsequent phases of the study. A final public meeting in the form of an “open house” was held near the end of the study to receive comments and suggestions on three preliminary trail concept plans. Attendees visited various stations assembled around the room and shared comments and suggestions regarding the preliminary plans and other study material on display. The public meetings conducted for this study were held on two separate days at the following locations:

- Cypress Elementary School – February 27, 2008
- Cypress Elementary School – June 4, 2008

A PowerPoint presentation was developed for the workshop to explain the park planning process, discuss corridor opportunities and constraints, and address potential concerns. In addition, a project information sheet was distributed during the public outreach component of this project; Appendix G contains the project information sheet. Appendix H includes a list of community concerns and answers from the public involvement process. Appendix I includes the results of a survey that was distributed during the community meetings to solicit input and suggestions for the proposed trail. Appendix J includes public meeting summary reports.

Public Input and Comments

In general, public feedback and comment regarding the linear park and trail concept along the Snapper Creek Canal Segment A corridor was positive at the workshop. Residents of the surrounding neighborhoods were supportive

and happy to hear that a public trail was going to be built near their homes. Public comment was also favorable at the open house (when preliminary plan concepts were presented). A summary of public meeting comments is provided in Appendix J.

The types of concerns raised by a few adjacent homeowners regarding maintenance, property values, and security are quite common during the planning process for proposed trail projects. These concerns were addressed from several perspectives during the study.

Crime, Property Values, and Maintenance Concerns

Studies and surveys by universities, local governments, the Rails-to-Trails Conservancy, and a host of other groups indicate that:

- The frequency and character of crime and other problems on multiuse paths is generally minimal
- Surrounding landowners feel the trail has no effect on, or has actually increased the value of their property
- Adjacent homeowners typically report that living near the trail is somewhat better than they had expected it to be and the quality of their neighborhood was improved
- Trail neighbors are frequent users of the trail itself
- Multi-use trails benefit from a reasonable level of self-enforcement in terms of user safety and security

These studies have also shown that the best and most effective method of enhancing safety and security is to design a functional facility that is well used by the general public. Similar trails in Miami-Dade County and other communities nationwide have not experienced significant crime problems. Many efforts have been made to objectively study the effect of trails on crime and security. These studies conclude time after time that trails either do not create additional crime and security problems or that problems are minimal and can be managed through partnerships between the maintaining agency, law enforcement, and stakeholders.

An important aspect of linear parks and trails that can address crime and intrusion concerns is that trails provide natural surveillance of the area by trail users. This will help minimize the occurrence of crime.

Representatives from the City of North Miami Beach were contacted to discuss their experience with planning, constructing, and operating the bike trails within Snake Creek Park. According to historical information provided by City of North Miami Beach officials, similar concerns of crime, property values, and intrusion were raised by adjacent landowners along the Snake Creek Canal before construction of the trails. However, the area homeowners

have not expressed opposition to the trails after implementation because they are enjoying the benefits of the positive atmosphere in the park, frequent maintenance of the canal right-of-way, and proximity to the tranquil recreational environment. In addition, the City of North Miami Beach Police Department operates a bicycle patrol that monitors the trails and other locations throughout the City. The North Miami Beach trail can serve as a model for communities in Miami-Dade County implementing multi-use or shared use trails that can become a source of community pride.

Trail maintenance is a valid concern of adjacent residents and potential trail users. If the proposed trail is not properly maintained, it could fall into a state of disrepair that could damage the positive community aspect of the trail. It is important to maintain a consistent and frequent maintenance program after construction of the trail to preserve the appearance and positive public perception of the trail.

Corridor Analysis Program

Based on the data collected and organized in this study, as well as the existing conditions of the corridor and the surrounding areas, an analysis was conducted that focused on the feasibility of the project. The analysis phase of the planning process considered infrastructure needs, project requirements, opportunities, constraints, supplemental amenities, access control, and trail safety improvements.

Infrastructure Needs

The multimodal infrastructure most suited to serving project mobility needs is an off-road, multi-use paved non-motorized trail. This type of trail provides a path for bicyclists and pedestrians separated from vehicular traffic with few obstacles to negotiate. This facility type is consistent with the construction documents under development by the Miami-Dade Public Works Department between SW 112th Avenue and SW 107th Avenue. In addition, off-road non-motorized trails provide a suitable environment for various cyclist ability levels – from novice to advanced.

The project corridor is also suitable for the development of a linear park facility for the enjoyment of local residents and trail users. The study corridor generally consists of open space canal right-of-way. Corridor beautification could enhance the trail environment and park facilities along the trail could serve as recreational destinations.

Sharrows

The word “sharrow” is a combining of two words – “share” and “arrow”. Sharrows are identified by a stencil of a bike under what looks like two inverted “V”s, or chevrons. The chevrons indicate the direction of travel (always with traffic).



Sharrows can be installed on any road on which bicyclists and autos share the road. Sharrows send a clear signal to motorists that bicyclists are not only going to be on the road, but that they are part of the mix of vehicles. The markings are painted far enough out in the lane

so as to move cyclists out of the “door zone”, thus reducing the chance that cyclists will be “doored” by motorists who do not check for cyclists before opening their doors in to traffic. Additionally, studies have shown that sharrows act as a form of traffic calming by subtly encouraging motorists to reduce their speed on roads with the markings.

Funding Requirements

The primary requirement to move the project forward is to secure funding for the design and construction phases of the trail. The project is identified in Miami-Dade County’s 2030 Long Range Transportation Plan and NDGMP. Additional funds required for the design and construction of Segment A may be obtained from other potential sources including grants and general funds. In addition, \$500,000 in General Obligation Bond (GOB) funds have been allocated specifically for the construction of Snapper Creek Trail Segment A. The Park and Recreation Department is scheduled to receive \$500,000 in the Building Better Communities Bond Program item #141 for future improvements to the Snapper Creek Trail between Tamiami Park and Kendall Indian Hammocks Park in FY 14-17.

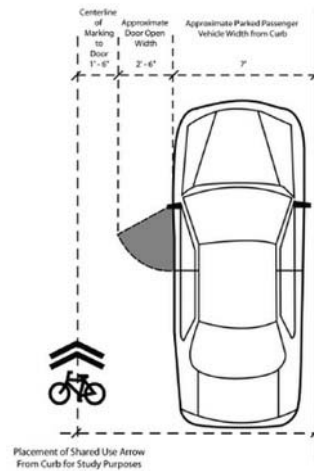
Corridor Opportunities

The following opportunities have been identified for the Snapper Creek Trail corridor:

- Provide a continuous non-motorized trail facility along the Snapper Creek Canal
- Provide a non-motorized connection to County parks such as:
 - Tamiami Park
 - Concord Park
 - Westwood Park



W11-1 / W16-1
Share the Road with Bicyclists assembly
Sign images from the Manual of Traffic Signs <http://www.trafficdesign.us/>
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- Kendall Indian Hammocks Park
- Snapper Creek Park
- Kendallwood Park
- The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall Unit
- Provide a non-motorized connection to existing and proposed bicycle facilities:
 - Miccosukee Trail
 - 8 St. Bike Lanes
 - SW 24 St. (Coral Way) Green and White Path (Merrick Trail)
 - SW 48 St. Bike Lanes
 - SW 56 St. (Miller Dr.) Green and White Path
 - Miller Link Trail
 - SW 72 St. (Sunset Dr.) Green and White Path
 - Ludlam Trail (CSX Corridor)
 - Snapper Creek Trail Segment B (East of SW 94 Av.)



- Trailhead opportunities with parking were identified for Tamiami Park and The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall-Unit
- Funding has already been identified in the Miami-Dade County General Obligation Bond Program (GOB) for Snapper Creek Trail, Segment A, although additional funding will need to be secured
- Provide pedestrian bridges over the Snapper Creek Canal and spur canals at certain key locations to enhance bicycle/pedestrian mobility and increase recreational opportunities
- Improve the aesthetics and use of currently underutilized canal right-of-way
- Corridor Constraints

Corridor Constraints

The following constraints have been identified for the Snapper Creek Trail, Segment A corridor.

- Several arterial roadways cross the Snapper Creek Canal within the study limits including:
 - SW 24th Street (Coral Way)
 - SW 40th Street (Bird Road)
 - SW 56th Street (Miller Drive)
 - SW 72nd Street (Sunset Drive)
 - SW 107th Avenue
- One railroad crossing was identified along the Segment A corridor that will require crossing and safety improvements
- Funding will need to be identified to construct most of the trail corridor

- An environmental review or assessment should be conducted before the design phase to identify environmentally endangered or threatened plants or animals that need protection
- There is a need to maintain maintenance access to the canal right-of-way for SFWMD vehicles and equipment

Supplemental Amenities

Based on the data and needs analysis conducted for this study, supplemental amenities were identified for the trail to enhance recreational opportunities.

Benches - Benches are a basic amenity that should be provided along the Snapper Creek Trail. Benches provide opportunities for trail users to rest, stretch, and enjoy the vistas along the trail. Benches can be made from a variety of materials including treated wood, painted metal, concrete, and recycled plastic. It should be securely anchored to the ground so it will not overturn. Benches should highlight the trail’s variety including taking advantage of sunlight, shade, tranquil spots, and busy high-visibility intersections. Benches help make a trail more accessible. The general spacing guideline for benches along a multiuse non-motorized trail is at least one bench every 1000 feet near access points and trailheads and one bench every mile thereafter.



Benches should be placed away from pedestrian and bicycle paths and located at least 3 feet from the edge of the trail. Benches should be connected to the trail with a concrete pad for accessibility purposes and to avoid bare spots. In addition, benches should be shaded from the afternoon sun, if possible.

Shelters - Shelters with roofs and protected seating areas should be placed along the trail to provide opportunities for trail users to escape from elements such as rain and intense sun while providing a pleasant place to rest. The shelters recommended in this study include a small picnic table. The shelters should be constructed on concrete pads and located at rest stops and trailheads along the trail.

Bicycle Racks - Bicycle racks should be located as close as possible to destinations without interfering with bicycle or pedestrian flow. Bicycle racks identified in this study are located at rest stops and trailheads. It may be possible to work with local commercial landowners and shopping centers to place bicycle racks near destinations such as Publix. Bike racks should be inverted “U” type as suggested by the Association of Pedestrian and Bicycle Professionals.

Trash Receptacles - Trash receptacles should be placed at strategic locations along the trail corridor, especially near where people naturally gather such as trail access points, rest stops, shelters, and trailheads. It is important that trash receptacles along the Snapper Creek Trail be included on regular, frequent maintenance rounds to ensure a tidy appearance along the corridor and to reduce foul odors that may occur. Trash receptacles should have a rain cover or the bags inside perforated and drainage provided.

Wayfinding Signs - MDPR has completed a parks, trails and marinas wayfinding program. The program contains pertinent information such as project character, graphic image development, architectural styles, wayfinding



concerns, terminology, multilingual requirements and priority destinations. Designs for trail wayfinding including trail maps, pedestrian directional signs, trail etiquette signs, trail route signs, interpretive signs, educational signs, and mile marker signs.

Location Kiosks - Location kiosks are recommended at intervals along the trail. An appropriate place to erect a location kiosk is at a trail access point, rest stop, or trailhead. The location kiosk is typically a wooden or metal structure that provides an overall map of the trail corridor and points out the location of the observer. A mile marker may also be placed on the location kiosk to indicate distance. Information about local attractions such as parks and shopping centers may also be provided on location kiosks. Kiosks sometimes include a glass map case so maps can be protected from the weather and changed as they are updated and current events posted.

Access Points - The concept of the access point is to provide a location for people to access the trail from local sidewalks, to provide a gathering place for people to meet for positive activities such as exercise groups, and to provide bollards and gates to limit motorized vehicle access to the canal right-of-way. Clusters of amenities are proposed at access points including a bench, small plantings, bollards, and directional signage. Access points are proposed at SW 17 St., SW 115 Av., SW 28 St., SW 32 St., SW 32 Ln., SW 37 St., SW 40 St. (Bird Rd.), SW 43 Ter., SW 47 Ter., SW 56 St. (Miller Rd.), SW 117 Av. south, SW 112 Av., SW 109 Ct., SW 109 Av., SW 107 Av., SW 72 St. (Sunset Dr.), SW 100 Av., SW 99 Ct., SW 99 Av., N. Snapper Creek Dr., SW 77 Dr., SW 98 Av., SW 98 Av., and SW 97 Av. In addition, Alternative A includes access points at SW 99 Ct., SW 80 Ter, SW 81 St., SW 82 St., SW 83 St., SW 84 St., SW 85 St., and SW 94 Av.

Trailheads - A trailhead is a site with a large cluster of amenities along the trail corridor. Trailheads generally serve as locations that provide regional trail access. Trailheads are important as they are often seen as recreational destinations and points of departure for the trail that are familiar to the entire community, not just trail users. Trailheads should be developed where possible in high visibility locations at parks. For the Snapper Creek Trail Segment A, amenities recommended to be placed at trailheads include parking areas, kiosks, benches, bicycle racks, and trash receptacles. It is anticipated that the only dedicated parking facilities for Snapper Creek Trail, Segment A, will be located at trailheads. The purpose of providing parking is to provide regional access to the trail. Trailheads are proposed at Tamiami Park near the far west park entrance near SW 19 Lane at the existing southwest ballfield parking lot and at the Boys and Girls Club of Miami/ SW Langer – Kendall Unit existing southeast corner parking lot south of the existing stormwater retention lake between 93 Ct. and SW 94 Av.



Rest Stops - Rest stops are generally small level places along the trail that provide users the opportunity to move off the main traveled path to stop. Rest stops are clusters of amenities placed along the trail corridor that allow trail users to relax, read an interpretive sign, or enjoy views of the canal.

Ideally, rest stops should be located where expanded canal right-of-way is available or adjacent public right-of-way is available near the canal. Typically, trail rest stops should be located at approximately every half-hour of travel time. Potential amenities to be located at rest stops include a location kiosk, overlook shelter, small plantings, benches, trash receptacles, bicycle rack, picnic table, and an interpretive sign. A single rest stop is proposed near the existing shelter and kayak/canoe launch south of SW 58 Ter. on west side of SW 117 Av.

Landscaping

Landscaping is a critical element of a trail corridor because the visual effect a trail has on a trail user can help define the experience of using the trail. Landscaping can also be used as a buffer between public areas and private property.

Different types of plants and trees can play different roles along a trail corridor. The use of different varieties of trees and shrubs can create shade and visually define spaces. Moderately sized shrubs can block eye-level views of adjacent properties. Small shrubs and woody plants add visual interest to the landscape and can help control weeds. Ground cover forms the surface of a landscaping plan and can provide food and cover for wildlife.

The SFWMD Permit Information Manual states that trees and shrubs should be kept back a distance of 40 feet from the top of the bank due to maintenance and canal blockage concerns. Landscaping must go through a permitting process. Any landscaping within 40 feet from the top of the bank would require a waiver of rules. Therefore, landscaping should mostly be concentrated on the outside of the trail (between the trail and the adjacent properties).

The landscaping concept developed in this study is a coordinated idea that combines smaller shrubs and hedges (for controlling access and visual buffers) near the edge of the right-of-way line with larger landscaping trees in parks and trailheads.

Although landscaping can be a relatively expensive component of trail costs, it is a vital component of the trail needs plan for several reasons including residential property buffers and enhancing the experience of trail users. Landscaping is not a one-time cost; installation and maintenance costs must be considered. In fact, SFWMD requires a dedicated source of funding for maintenance as a condition of permit. Landscape maintenance is especially important because it is a recurring annual cost. Interlocal agreements between county and municipal governments often include provisions for landscape maintenance. Consideration should be given to using wildflowers, legumes (no fertilizer required) and other native plants rather than using grass. Many houses along the ROW have a privacy fence so screening the fence rather than defining the edge of the ROW is the primary goal. Community volunteers could potentially be enlisted to help plant trees and shrubs.

Access Control

Access to the trail should be limited to pedestrians and non-motorized vehicles such as bicycles. Decorative bollards can be used near roadway crossings to block vehicular entrance. According to SFWMD requirements, access gates must be installed for maintenance and emergency vehicles. The field inventory identified several access gates already in place for canal maintenance; it is expected that these gates may remain as the principal access points for maintenance vehicles.

Pedestrian entrance to the trail will mainly be limited to trailheads, access points, and roadway crossings.

Trail Safety Improvements

Trail safety features that should be provided along the corridor include active warning pedestrian crossings, signs, pavement markings, striping, bollards, and decorative crosswalks.

Upgrading the corridor to a trail facility provides an opportunity to upgrade the railroad at-grade crossing located on SW 88th Street/Kendall Drive and west of the S.R. 874/Don Shula Expressway. It may be desirable to utilize the existing flashers and gates located at this crossing for the Snapper Creek Trail crossing. Railroad crossings pose unique hazards particularly for the wheeled trail user. The wheel of a train requires a 2 inch wide gap (flangeway gap) parallel to each rail. This gap is a potential hazard for cyclists, inline skaters and wheelchair users. The following recommendations, adapted from Designing Sidewalks and Trails for Access, Part II of II, should be considered in designing the railroad crossing:

- The trail approach and crossing should be as nearly 90 degrees as possible
- The trail crossing should be raised to the same level as the top of the rails. A surface material such as textured rubber railroad crossing pads provides a stable surface with good traction
- The crossing approach should be ramped with minimal grades
- Provide a flat area for 5 feet on either side of the track, free of obstacles, with a firm, stable surface
- The trail should be hardened or stabilized for a sufficient distance so debris is not carried onto the track. A specific distance has not been established for this stabilized surface, however 20 feet from each rail is a recommended minimum
- Signs and warning devices should be used to alert the train and the trail user of the crossing
- These devices should accommodate users with various types of impairment. Warning gates may be necessary in some situations

Active Warning Pedestrian Systems - Active warning pedestrian systems provide a technological solution for at-grade trail/roadway crossings. Active warning systems include a motion-activated early warning system for intersections that alert motorists when a trail user is near. Yellow flashing lights are triggered when a motion sensor detects trail activity. The system can also be activated using pedestrian push-buttons. A stop sign and red warning flashing lights facing the trail emphasize the need for trail users to stop and wait for a clear opportunity to cross the roadway. Several manufacturers provide a solar-powered system with battery backup to reduce electrical costs. Benefits of an active warning pedestrian system include:

- flashers that only flash when a trail user is present so motorists may be less likely to ignore the warning lights
- motorists are forewarned of the presence of trail users
- the system reinforces the existing right-of-way rules

Active warning pedestrian systems are recommended for major intersections such as SW 99th Avenue and SW 117th Avenue. SW 117th Avenue may require a two-stage crossing with a median refuge due to the width of the roadway.

Signs - Signs represent a primary form of trail safety. Regulatory signs provide operational requirements of the trail and are used for traffic control. Regulatory signs include stop signs and bike paths signs. Warning signs point out hazardous conditions along the trail. Signs should be erected near at-grade intersections that notify trail users to cross roadways only at signalized intersections or at active warning pedestrian crossings. Supplementary directional signs should be provided to point trail users toward signalized intersections for crossing roadways.

Pavement Markings - Pavement markings are commonly used along trails to reinforce signs with warning and regulatory messages. Pavement markings



should only be used where necessary to attract attention to upcoming intersections and danger spots, since sideslipping can be a problem with some types of paint. Examples of messages that may be provided with pavement markings include "Bike Path," "Stop Ahead," and "Slow." Smaller stenciled pavement markings should be considered that simply depict a bicycle symbol. A 12" stop bar is recommended at all access points to encourage users to stop and slow down before crossing streets.

Striping - Striping should be placed near trail intersections with roadways. Striping can include stop bars that reinforce stop signs and pavement striping within parking lots. A 4" wide yellow centerline stripe to separate opposite directions of travel is recommended down the center of the trail with a skip stripe pattern.

Bollards - Bollards provide a restriction of motor vehicles to multi-use trails. Bollards should be well-marked and visible to bicyclists. Bollards should be placed at least 12 feet from roadway intersections to allow trail users to cross the intersection before negotiating the bollards. Trail access for maintenance vehicles can be maintained by providing vehicle access gates adjacent to the bollards. The clear distance between bollards should be 3 feet for Americans with Disabilities Act (ADA) compliance.

Decorative crosswalks, usually made of brick pavers, provide not only visual appeal, but warn motorists to be on alert for pedestrians and bicyclists. Paver crosswalks are recommended at locations where the trail crosses roadways.

PREFERRED TRAIL PLAN

This section of the report outlines the Snapper Creek Trail, Segment A, preferred plan. The data collection and analysis phase described in the previous chapter of this report formed the basis for the conceptual trail plan that was developed in this study.

Design Concept

A preferred plan concept for a non-motorized trail from Florida International University to the Boys and Girls Club of Miami, Inc., SW Langer / Kendall Unit was developed that incorporates improvements to the existing paved trail, new sections of multi-use trail in gap areas, new shared-road facilities and widened sidewalks in areas that lack sufficient width for a multi-use trail. The trail is designed to serve the needs of long-distance bicycle trips as well as the needs of local trail users for short trips and for daily recreation. The supplemental amenities, signs, and safety features developed during the corridor analysis program were incorporated into the conceptual design for Snapper Creek Trail, Segment A.

Preliminary plan concepts were initially developed and presented to the public and stakeholder groups. Comments and suggestions on the preliminary plan were received during an advertised open house held on June 4, 2008, at Cypress Elementary School. Additional comments and suggestions on the preliminary plan concepts were received during meetings with stakeholder agencies. The comments and suggestions received during the public involvement phase were used to modify the preliminary plan concepts into the preferred plan.

The preferred plan was segmented into four phases for prioritization purposes. The segmentation may facilitate securing funding to construct the trail in a logical order in case full funding is not initially available. The phases were specifically identified so that the Phase 1 trail would complete the longest missing gap in the trail south of SW 72nd Street.

Preferred Plan – The Preferred Plan includes the entire length of Snapper Creek Segment A, from Florida International University to The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall Unit. The trail will begin adjacent to the west side of Florida International University connecting with the existing sidewalk. The trail will continue south along the east side of SW 117th Avenue until it reaches the connection to the internal path of Tamiami Park. The trail will then travel east within the park until it reaches SW 114th Avenue where it will cross SW 24th Street (Coral Way) on the west side of the intersection. From there it will utilize a shared road facility with “sharrow”

markings, sharing the road with motorists traveling south to SW 32nd Street where it turns west until it reaches SW 117th Avenue.

At this point the trail will follow the eastside of SW 117th Avenue utilizing a widened ten foot sidewalk until it reaches the on-ramp to the Homestead Extension of Florida’s Turnpike. The trail will cross SW 117th Avenue at this location and continue south within the Snapper Creek Canal right-of-way to the intersection of SW 117th Avenue and the Snapper Creek (C-2) Canal.

At the SW 117th Avenue crossing, the trail will continue along the SW 117th Avenue frontage road and North Snapper Creek Drive until it enters the north side of the Snapper Creek (C-2) Canal right-of-way. From this point the trail utilizes the canal right-of-way until the intersection of SW 72nd Street (Sunset Drive) where it crosses the canal and utilizes the south side of the canal until SW 97th Avenue.

The trail then travels south using local neighborhood streets until it reaches the intersection of SW 99th Court and SW 88th Street (Kendall Drive). At this point, the trail utilizes the existing sidewalk along the north side of SW 88th Street (Kendall Drive) traveling east until it reaches The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall Unit.

Preferred Plan and Panel Detail Maps

The preferred plan overview for Snapper Creek Trail, Segment A, between Florida International University and The Boys and Girls Club of Miami, Inc.,/SW Langer/Kendall Unit is presented on the following page. Following the preferred plan overview are a series of six sheets with panel details showing the preferred alignment and a general placement of various proposed trail infrastructure and amenities.

SW 8th Street Bike Lanes

FDOT plans on installing eastbound designated bicycle lanes along SW 8th Street from the SW 112th Avenue intersection (FIU entrance) to the SW 79th Avenue intersection and westbound designated bicycle lanes from SW 79th Avenue to SW 109th Avenue /Andrews Boulevard as part of a road resurfacing project. The existing vehicle travel lanes are proposed to be reduced in width to accommodate the bicycle lanes. Based on a request from the Bicycle Pedestrian Advisory Committee (BPAC), the Snapper Creek Trail Segment A project will connect to the FDOT project via widening the existing sidewalk along SW 117th Avenue in front of Carlos J. Finlay Elementary School to ten feet from SW 12th Street to SW 114th Avenue and adding a new ten foot wide sidewalk in the gap area from SW 114th Avenue to SW 112th Avenue.

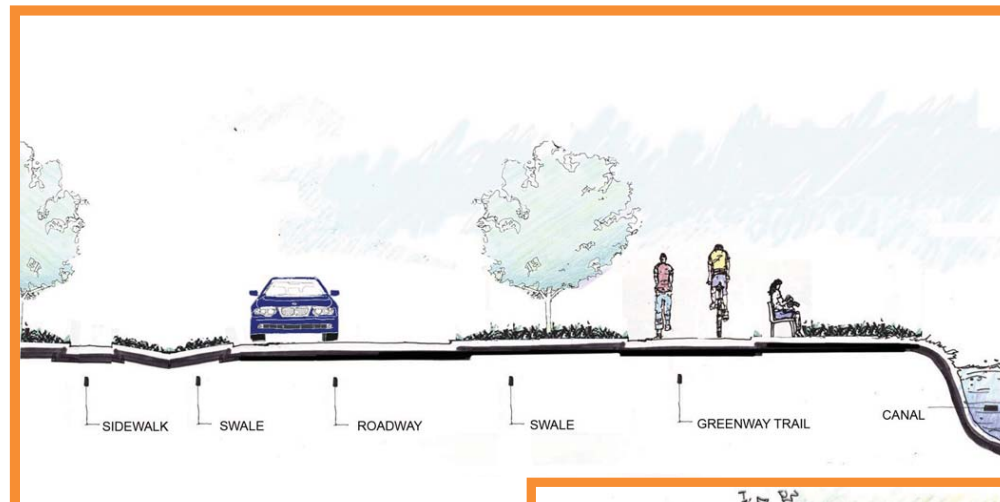


Snapper Creek Trail Proposed Extension to SW 8th Street

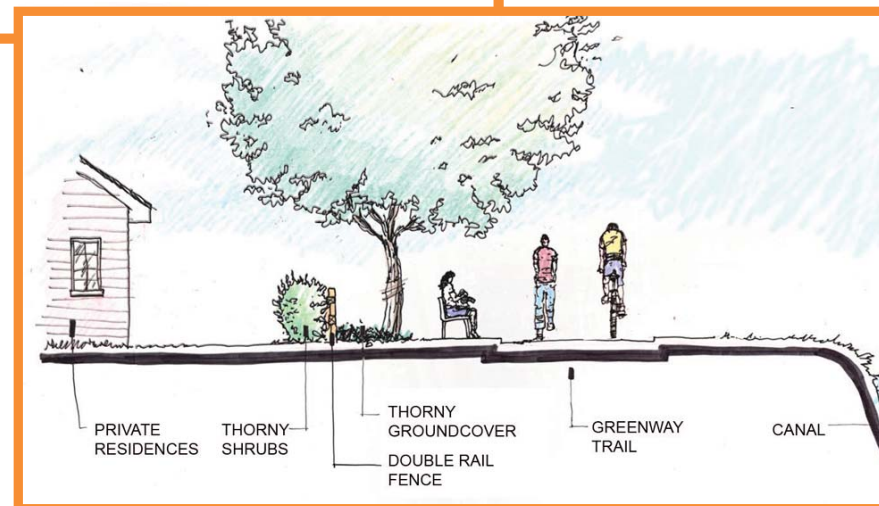
Opinion of Probable Costs

An opinion of probable cost (OPC) was prepared for the preferred plan. Appendix L presents the OPC for the capital construction costs of the preferred plan. The OPC was developed to assist in financial planning for funding and grant applications. More detailed cost estimates may be developed during subsequent design and permitting stages. In addition, costs may fluctuate if elements are added or removed from the OPC.

Appendix L presents the budget prepared for the Snapper Creek Trail Segment A including both capital costs and “soft” costs, which include assumptions regarding design and construction administration projects. Appendix L presents the costs segmented by construction phase as defined in the preferred trail plan for grant purposes.



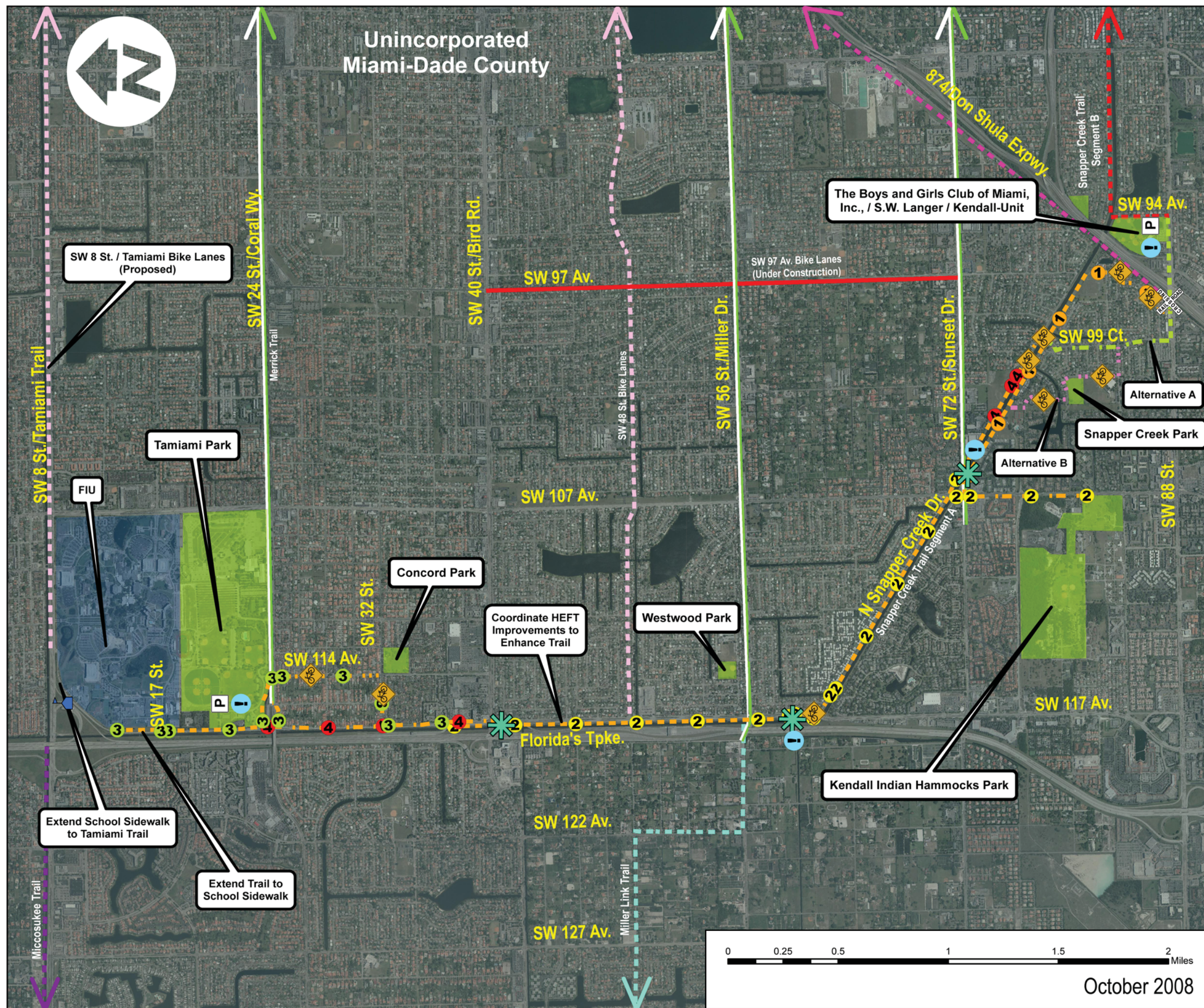
Typical section adjacent to roadways



Typical section adjacent to residential neighborhoods



Typical trail east of SW 107 Av.



LOCATION MAP



LEGEND

1	Phase 1	...	Share the Road
2	Phase 2	---	Widen Sidewalk
3	Phase 3		
4	Phase 4		
---	Alternative A		
---	Alternative B		
Recommended Improvement		Map Features	
	Rest Stop		School
	Share the Road		Park
	Interpretive Sign		FIU
	Trailhead Parking		Green and Whites Path
			Urban Development Boundary



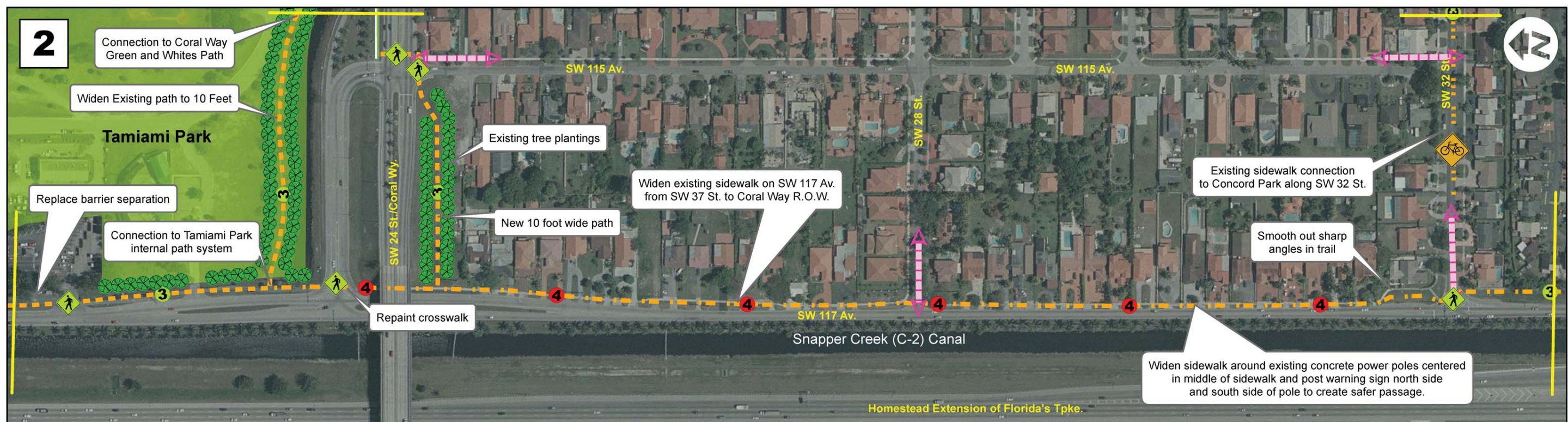
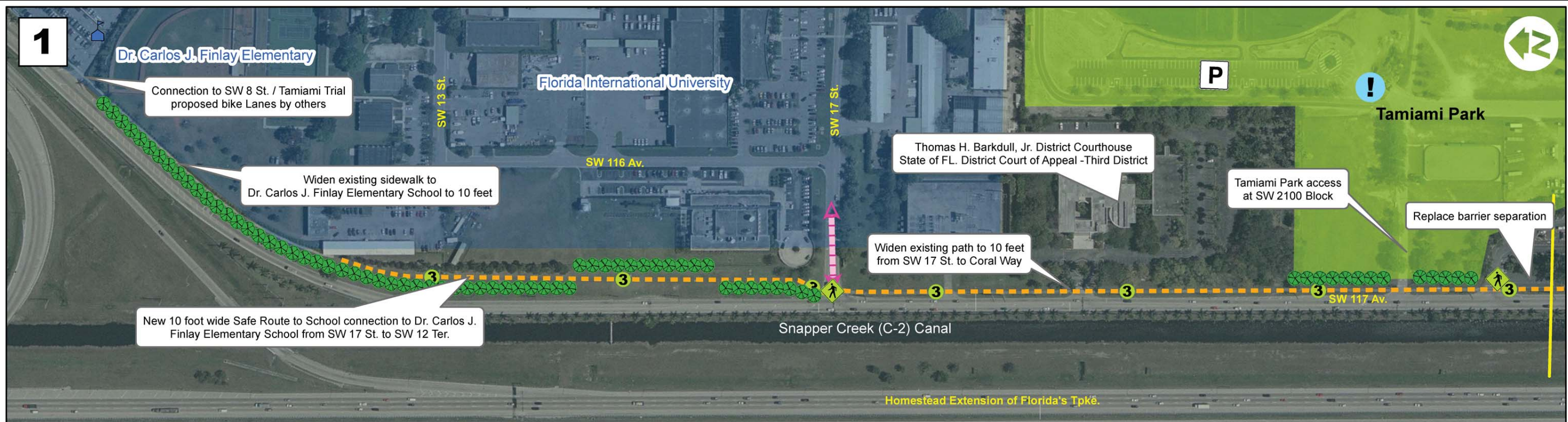
Kimley-Horn
and Associates, Inc.

Snapper Creek Trail

SEGMENT A

Planning Study

Preferred Plan Overview



LEGEND

- 1** Phase 1
- 2** Phase 2
- 3** Phase 3
- 4** Phase 4
- Alternative A
- Alternative B

0 100 200 300 400 500 Feet

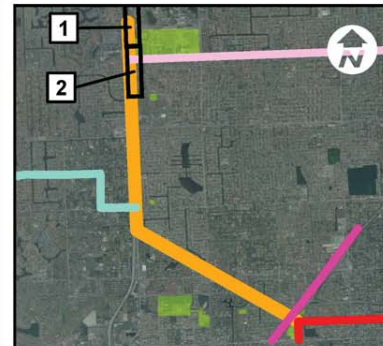
- Share the Road
- Widen Sidewalk
- Trail Connection
- Gateway

Recommended Improvements

- Promenade Plantings
- Railroad Crossing
- High Emphasis Crosswalk
- Share the Road
- Pedestrian Bridge
- Rest Stop
- Interpretive Sign
- Canoe Launch
- Trailhead Parking
- Fitness Station

Map Features

- School
- Park
- FIU
- Panel Number
- Match Line
- Green and Whites Path
- Bus Shelter
- Boat Launch



Snapper Creek Trail

SEGMENT A

Planning Study

Preferred Plan

SHEET 1 OF 6



LEGEND

1 - Phase 1 Share the Road
2 - Phase 2	- - - Widen Sidewalk
3 - Phase 3	◀ - - - ▶ Trail Connection
4 - Phase 4	● - - - ▶ Gateway
- - - Alternative A	
- - - Alternative B	

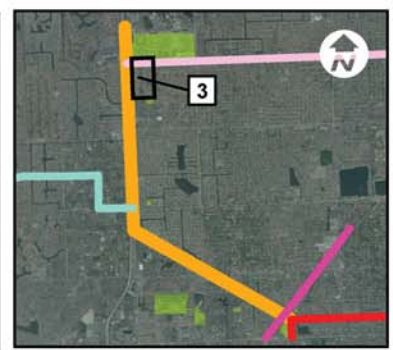
MIAMI-DADE COUNTY
October 2008
Kimley-Horn and Associates, Inc.

Recommended Improvements

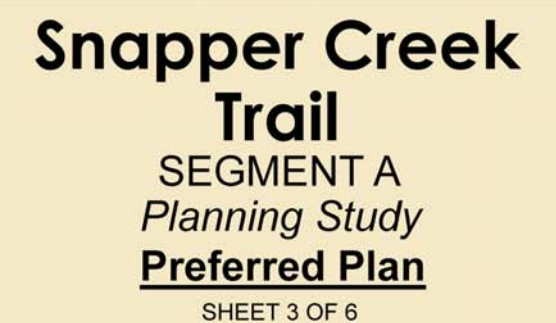
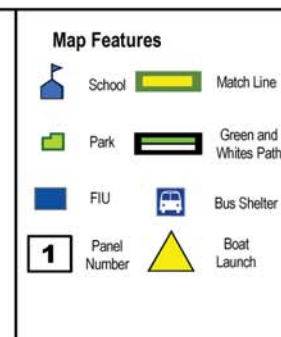
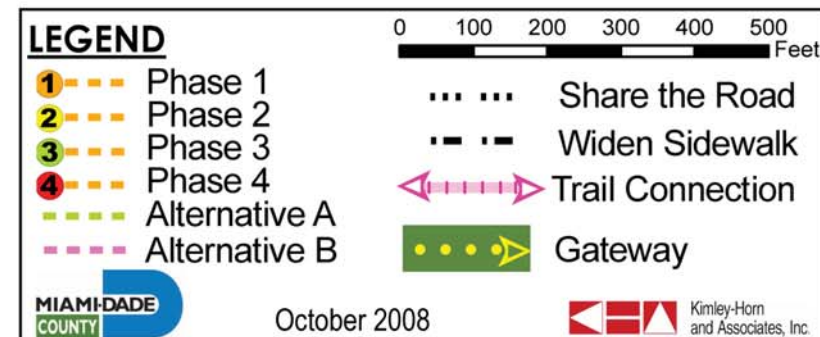
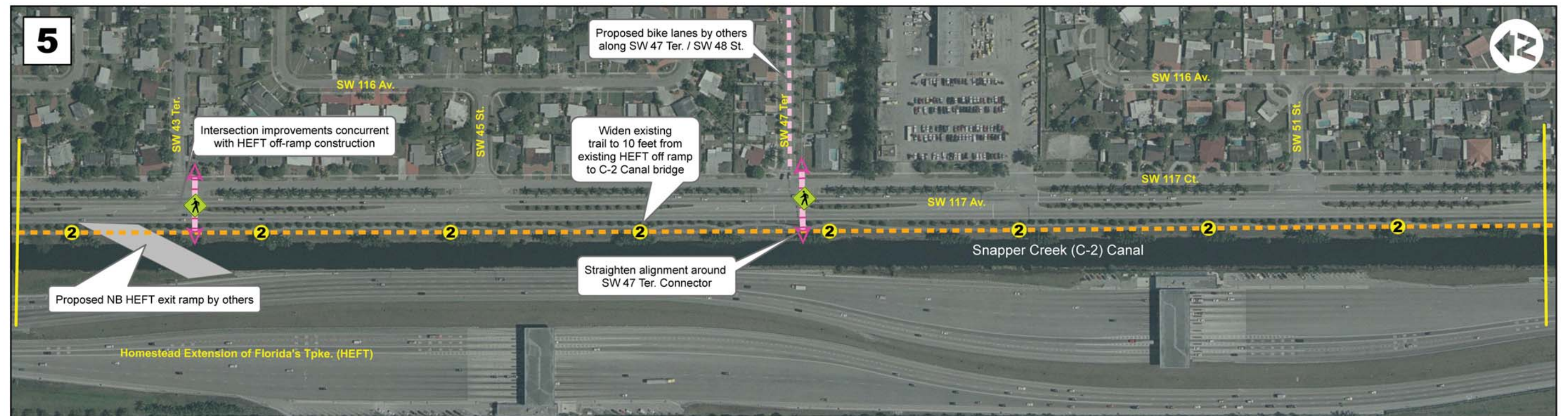
● Promenade Plantings	✱ Rest Stop
⚡ Railroad Crossing	! Interpretive Sign
🚶 High Emphasis Crosswalk	🚣 Canoe Launch
🚲 Share the Road	P Trailhead Parking
🌉 Pedestrian Bridge	🌞 Fitness Station

Map Features

🏫 School	🟡 Match Line
🌳 Park	🟢 Green and Whites Path
🏠 FIU	🚌 Bus Shelter
1 Panel Number	🚤 Boat Launch



Snapper Creek Trail
Trail
 SEGMENT A
Planning Study
Preferred Plan
 SHEET 2 OF 6





LEGEND

1 Phase 1

2 Phase 2

3 Phase 3

4 Phase 4

Alternative A

Alternative B

Share the Road

Widen Sidewalk

Trail Connection

Gateway

Recommended Improvements

Promenade Plantings

Railroad Crossing

High Emphasis Crosswalk

Share the Road

Pedestrian Bridge

Rest Stop

Interpretive Sign

Canoe Launch

Trailhead Parking

Fitness Station

Map Features

School

Park

FIU

Panel Number

Match Line

Green and Whites Path

Bus Shelter

Boat Launch

Snapper Creek Trail

SEGMENT A

Planning Study

Preferred Plan

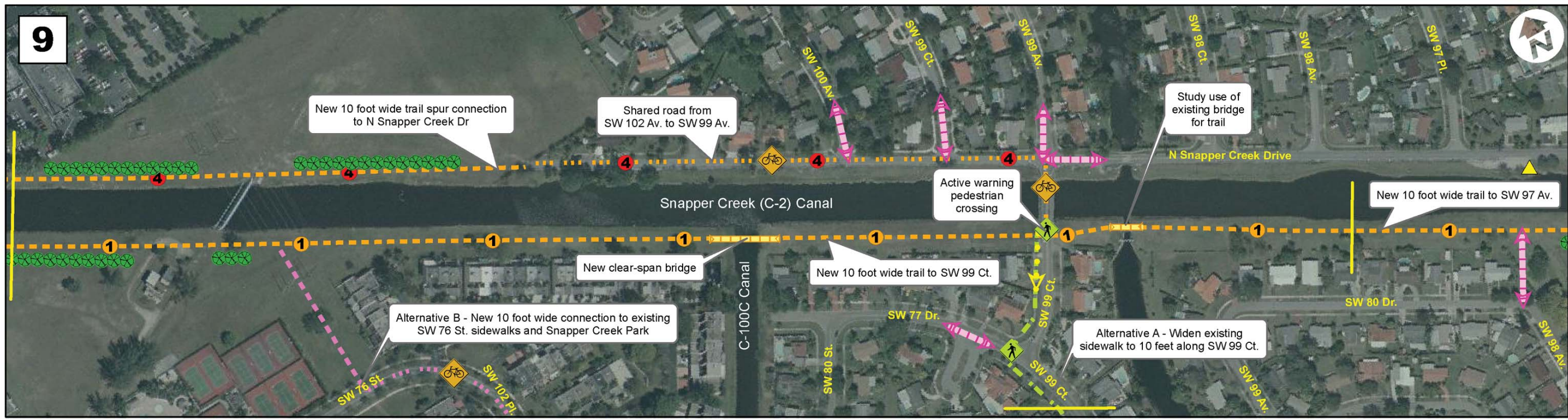
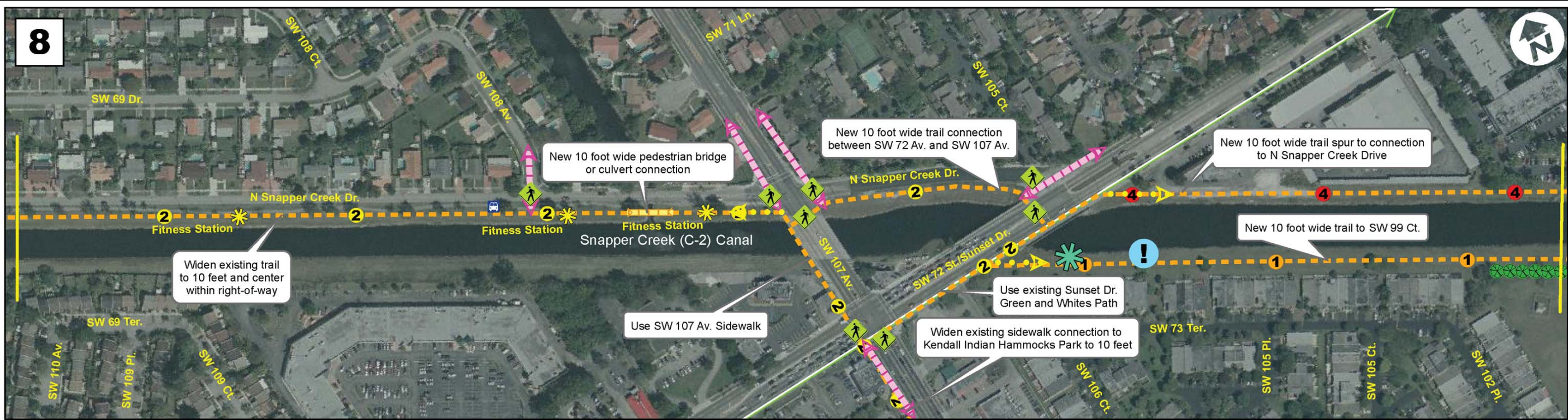
SHEET 4 OF 6

MIAMI-DADE COUNTY

October 2008

Kimley-Horn and Associates, Inc.

17



LEGEND

1 Phase 1
 2 Phase 2
 3 Phase 3
 4 Phase 4
 Alternative A
 Alternative B

... .. Share the Road
 - - - Widen Sidewalk
 Trail Connection
 Gateway

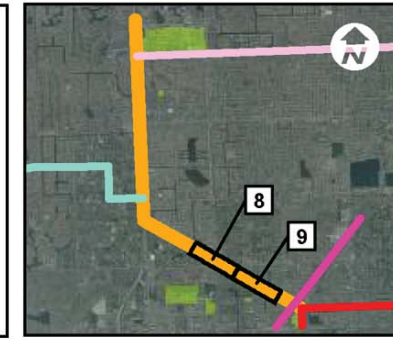
MIAMI-DADE COUNTY
 October 2008
 Kimley-Horn and Associates, Inc.

Recommended Improvements

Promenade Plantings
 Railroad Crossing
 High Emphasis Crosswalk
 Share the Road
 Pedestrian Bridge
 Rest Stop
 Interpretive Sign
 Canoe Launch
 Trailhead Parking
 Fitness Station

Map Features

School
 Park
 FIU
 Panel Number
 Match Line
 Green and Whites Path
 Bus Shelter
 Boat Launch



Snapper Creek Trail

SEGMENT A

Planning Study

Preferred Plan

SHEET 5 OF 6



LEGEND

1 Phase 1
 2 Phase 2
 3 Phase 3
 4 Phase 4
 Alternative A
 Alternative B

||||| Share the Road
 ||||| Widen Sidewalk
 <---> Trail Connection
 ... Gateway

0 200 400 600 800 Feet

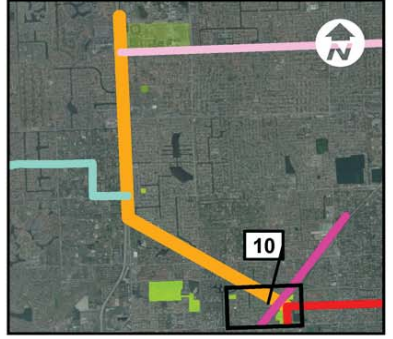
MIAMI-DADE COUNTY
 October 2008
 Kimley-Horn and Associates, Inc.

Recommended Improvements

Promenade Plantings
 Railroad Crossing
 High Emphasis Crosswalk
 Share the Road
 Pedestrian Bridge
 Rest Stop
 Interpretive Sign
 Canoe Launch
 Trailhead Parking
 Fitness Station

Map Features

School
 Park
 FIU
 Panel Number
 Match Line
 Green and Whites Path
 Bus Shelter
 Boat Launch



Snapper Creek Trail

SEGMENT A

Planning Study Preferred Plan

SHEET 6 OF 6

MANAGEMENT AND MAINTENANCE

Management and maintenance of the Snapper Creek Trail Segment A will be vital to the long-term success of the corridor as a linear park and a link in the alternative transportation mode network. Therefore, management and maintenance is considered from the outset of the planning process.

Trail Management

Trail management is a partnership that must exist among the various agencies that have jurisdictions in the area. A cooperative management strategy should be developed for the trail that includes regular coordination among agencies to promote consistency and establish expectations. In general, trail corridors are managed at the County level. The SFWMD must remain a partner in trail management issues since the trail is proposed within canal right-of-way.

According to Governing Greenways (Trust for Public Land, et al., 2002), several types of organizational structures are currently in operation throughout the United States which serve to govern various greenway trail initiatives. The models most frequently associated with greenway trail efforts include:

- Single-agency model
- Multi-agency model
- Public-private model
- Private sector model

The factors that determine which model is either chosen or emerges for a particular greenway trail varies from community to community. It is important that a community choose a model that takes advantage of local strengths, such as leadership, funding, or management capacity. It is also important to choose a model that will produce the best results for the project.

Many trails are jointly managed through various partnerships out of necessity. In such instances, a cooperative management strategy should be developed for the trail that includes regular coordination among agencies to promote consistency and establish expectations.

It is recommended that the following strategies be used on joint management of trails:

- Develop cooperative management strategy
- Develop manual
- Use consistent name

- Trail map should cover the entire length of trail
- Create a “Friends of the Trail” organization for entire facility
- Visit other sections and experience look and feel

The key to minimizing exposure to trail liability is for proper design, maintenance, and management. Snapper Creek Trail Segment A should be designed by professionals to accepted state and national standards and systematically maintained and managed with clear, well-documented records. Beyond that there are three legal precepts, either alone or in combination, that define and in many cases limit liability for injury related to trail use. The first is the concept of duty of care which speaks to the responsibility that a land owner (private or public) has to anyone on their land. Second is the Recreational Use Statute (RUS) which is available in all 50 states and provides protection to private landowners and some public landowners who allow public free access to land for recreational purposes. Florida Statute 373.1395 provides limitation on liability for water management districts with respect to land made available to the public for recreational purposes without charge. Third, for all private and public parties, liability insurance provides the final line of defense. Trail owners can also find much protection through risk management. (Morris, et al., 2000).

Public trail managers are also protected by the Concept of Sovereign Immunity, which holds that the sovereign entity (the government) is generally immune from liability. However, the federal government and most state and local governments have waived this privilege of immunity, in many contexts, including trail user injuries, by enacting a Tort Claims Act. Such acts control the definition of liability under recreational circumstances and hold agencies to the same liability standards as individuals instead of a higher standard. In addition, some states have gone beyond RUS and have enacted a law specifically to address public liability on recreational lands including on trails. Furthermore, many public agencies that are self-insured have umbrella insurance policies that protect most activities and facilities (Morris, et al., 2000).

Hours of Operation

The hours of operation of the trail are generally set by the management agency. Although SFWMD allows for 24-hour legal use (i.e., passive activities) of its right-of-way, it is anticipated most trail activities would occur during daylight hours. Furthermore, lighting will be kept minimal to discourage night-time use. However, trail usage should be monitored following implementation to evaluate if apparent demand exists for longer operating hours. Multi-use trails also function as transportation corridors with their length and multiple access points, which could increase demand for expanded hours of operation and lighting levels. In such cases, the addition of lighting may be deemed appropriate for increased public safety and security.

Police Patrol

The Miami-Dade County Police Department Midwest District and Kendall District stations currently handle security around the neighborhoods with routine security patrols both by vehicle and bicycle. Anything north of the center line of SW 40 St. (Bird Rd.) is handled by the Midwest District and anything south of the centerline of SW 40 St. (Bird Rd.) is handled by the Kendall District. Miami-Dade County has bike patrols based out of both the Midwest District (9101 NW 25 St. Doral) and Kendall District (7707 SW 117 Av. by Kendall Indian Hammocks Park) through the Neighborhood Resource Unit. Volunteer courtesy patrols consisting of trained citizens could also be potentially utilized as a cost efficient method of security. SFWMD enforcement is limited to enforcing what is in the Permit Information Manual Volume 5. Other issues not related to permits are handled by the Florida Fish and Wildlife Conservation Commission (FWC) like no-wake zones and poaching.

Trail Maintenance and Costs

As new and expanding facilities are implemented, such as Snapper Creek Trail Segment A, the need to assess the current management and maintenance practices as well as funding is essential. The Greenways Management and Maintenance Study (Dluhy, et al., 2000) from the FIU Metropolitan Center, recommended an incremental approach to improving the management and maintenance of the county greenway network that included:

- Strengthen and clarify agreements and memoranda of understanding (MOUs) and establish interagency coordinating committee to improve immediately the current system
- Provide dedicated sources of funding to carry out the functions outlined in the MOUs within the current multi-organization framework
- Create a county agency with its own budget and staff charged with the responsibility of managing and maintaining the trail/greenway/pathway network
- Create a quasi-county agency (authority) with its own dedicated source of funding, charged with the responsibility of managing the trail/greenway/pathway network

The degree of maintenance performed and the standard of quality that is maintained has a direct impact on the effectiveness, service life, liability and degree of use of bicycle/pedestrian facilities. A longlasting, successful greenways program depends on the quality construction, adequate maintenance and overall program management. A good operations plan will encourage usage while reducing safety and risk management problems. The key to developing a comprehensive management program is determining

how “the land, amenities, and facilities will be used, how they will age, and how they will be repaired or replaced in the future.” (Schwartz et al., 1993, p. 291).

A number of factors will affect maintenance costs of greenway systems. Several of these come in the planning, design, and construction phases for trails. These phases offer the best opportunity to address long-term maintenance issues to help insure that trails, once built, will be as cost-efficient to maintain as possible. Other factors that influence costs are dependent upon usage, weather, and in some cases management decisions.

A successful greenway program in Miami-Dade County ought to be viewed from a systemic perspective, allowing coordination of different actors and agencies from planning and construction to fullscale operation, to achieve optimal results and lowest life-cycle cost of the system. The simplest approach to estimating a budget for operations and maintenance is to draw upon experience and data from existing greenway programs. Typical annual maintenance costs for a one mile paved trail according to Trails for the Twenty-first Century (Flink et al., 2001) are \$6,500 based on national averages. However, the frequency of maintenance from this figure and the age of the data is not known and costs will vary for individual trails.

Prior to the construction of the Snapper Creek Trail, Segment A, a comprehensive post-implementation budget and management plan should be established that includes activities and cost of maintaining the trail. Following the management plan will increase trail user enjoyment, minimize safety risks and potential liability, and help curb unexpected costs.

Routine Maintenance

Typical trail maintenance costs were examined for a similar trail in Miami-Dade County – the Biscayne Trail Segment A and B, which is 2.6 miles in length. Maintenance costs for this trail were approximately \$50,000 per year, or \$19,339 per mile, for twelve cycles and \$1,612 per mile for one cycle according to data provided by MDPR. However, it should be noted the Biscayne Trail generally has a greater density of trees and shrubs than other trails so the maintenance costs may be somewhat higher than for other trails.

Table 1 lists trail maintenance costs that may occur for Snapper Creek Trail, Segment A. Actual costs may vary somewhat based on trail design, amenities, right-of-way width, and other factors. These costs may be shared among various agencies such as SFWMD, MDPR, and Miami-Dade County Public Works Department. Annual operations and maintenance could vary from \$6,500 per mile to \$19,000 per mile depending on many variables such as frequency of maintenance, usage, and weather.

Table 1. Potential Snapper Creek Trail Segment A Annual Operations and Maintenance Costs

Trail Section	Length (Miles)	Potential Maintenance Cost
Preferred Plan (Including Initial Phase)	5.6	\$36,400 - \$ 106,400
Initial Phase	1.1	\$7,150 - \$20,900

CONCLUSION

The Snapper Creek Trail, Segment A, Planning Study evaluated the development of a non-motorized trail and linear park within the Snapper Creek (C-2) Canal right-of-way between Florida International University and The Boys and Girls Club of Miami, Inc./SW Langer/Kendall Unit. The Snapper Creek Trail, Segment A, study included interagency coordination and two advertised public meetings to solicit community input and present the proposed trail concepts. The Snapper Creek Canal corridor presents numerous positive opportunities for developing a multi-use trail. The study segment also provides local residents and trail users with non-motorized access to Tamiami Park, Concord Park, Kendall Indian Hammocks Park, Snapper Creek Park, and The Boys and Girls Club of Miami, Inc./SW Langer/Kendall-Unit.

The study determined that a multi-use, non-motorized trail along the Snapper Creek Canal right-of-way is feasible and would improve alternative travel mobility and provide green recreation infrastructure for the local community. A concept was developed that provides a continuous multi-use trail across the study limits. Access points, trail connections, rest stops, and trailhead locations were identified in this study. The vision for this trail is to provide the community with a safe, attractive recreational experience connecting people to neighborhoods, schools, and parks.



Bicyclist using the sidewalk on the east side of SW 117th Avenue, north of HEFT northbound entrance ramp



Sidewalk on the east side of SW 117th Avenue near Florida International University (FIU)



Green-and-white path (13 feet in width) on the south side of SW 72nd Street

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APPENDIX A: SOURCES



1. North Dade Greenways Master Plan

Prepared by FIU School of Architecture Graduate Program in Landscape Architecture for Miami-Dade County Metropolitan Planning Organization
December, 1997

2. Miami-Dade County Parks and Open Space System Master Plan

Prepared by Glatting Jackson Kercher Anglin for Miami-Dade County Park and Recreation Department
December, 2007

3. Miami-Dade County 2010 Campaign Case Statement for Active Transportation

Prepared by Gannett-Fleming, Inc. for Miami-Dade County Metropolitan Planning Organization
June 30, 2008

4. Miami-Dade County Aesthetics Master Plan for Miami-Dade County Gateways, Corridors, and Facilities

Prepared by EDAW / AECOM for the Community Image Advisory Board
January, 2009

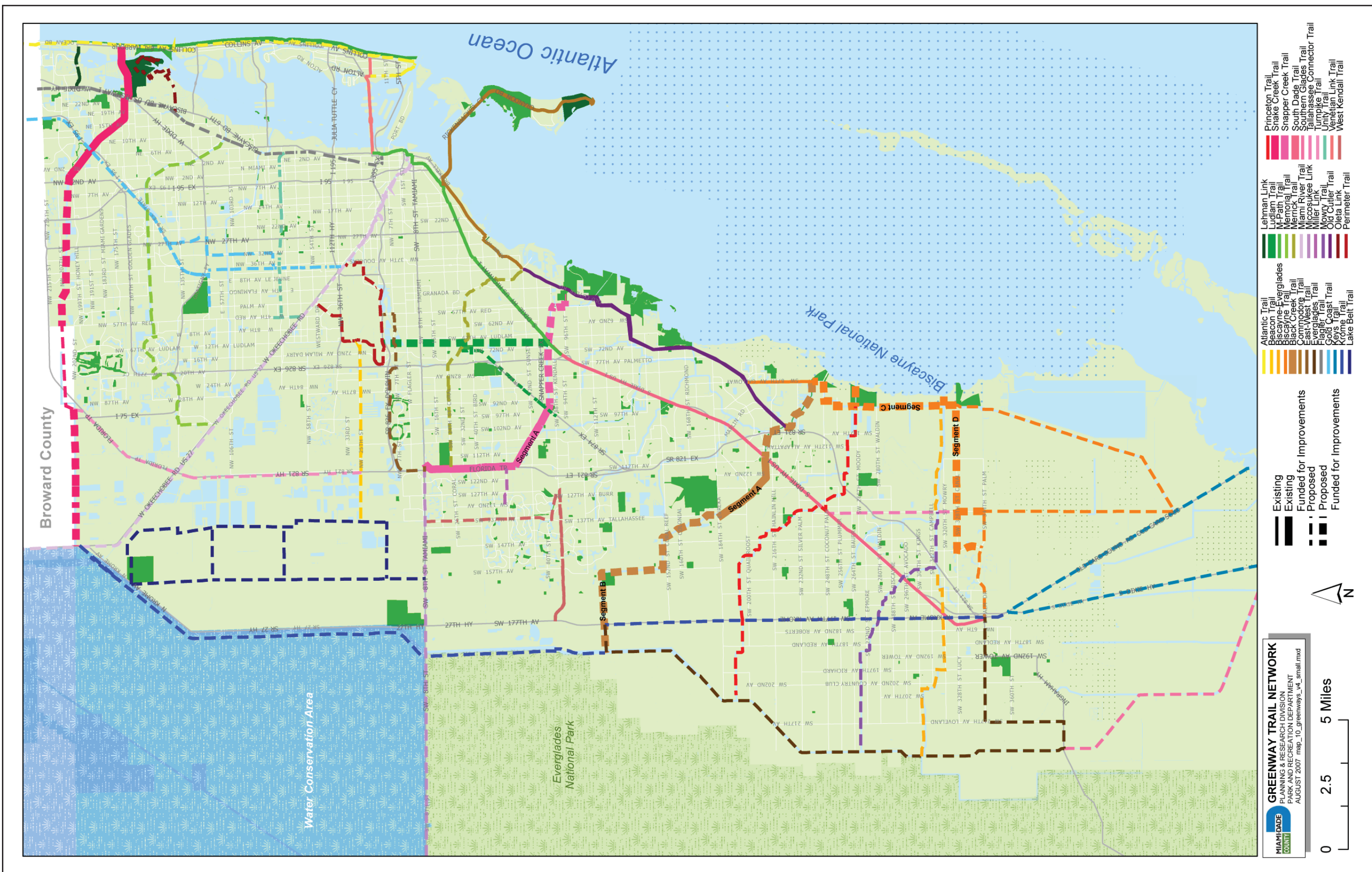
5. Sign Implementation Manual for Miami-Dade County Park and Recreation Department

Prepared by Glatting Jackson Kercher Anglin for Miami-Dade County Park and Recreation Department
December, 2007

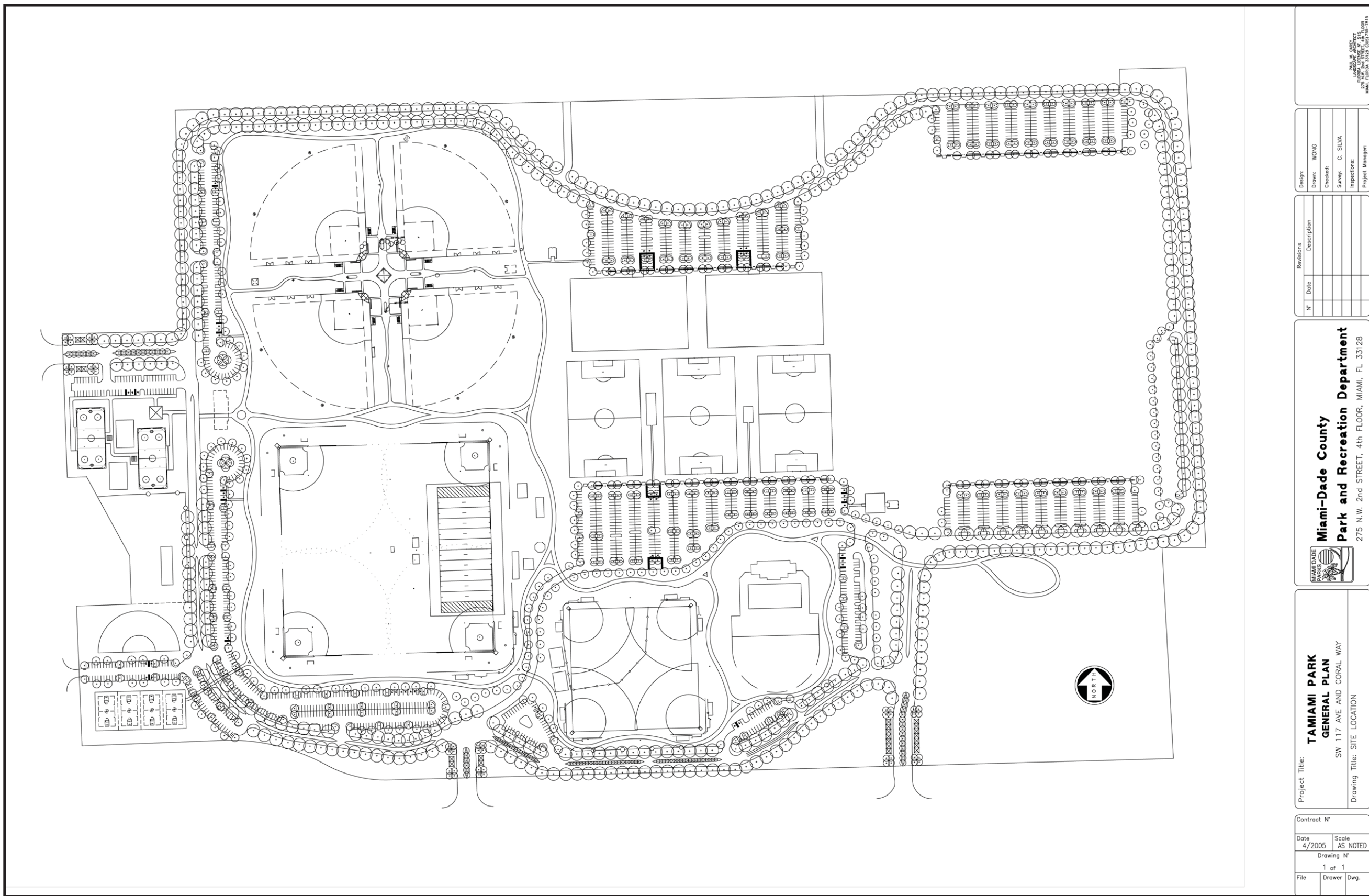
6. SFWMD Volume V Permit Information Manual Criteria Manual for Use of Works of the District

Prepared by South Florida Water Management District
September 15, 1999

APPENDIX B: MIAMI-DADE COUNTY GREENWAY NETWORK



APPENDIX C: TAMAMI PARK GENERAL PLAN



APPENDIX D: PRELIMINARY PD&E CONCEPT SR 821 BIRD RD. OFF-RAMP



APPENDIX E: FIELD INVENTORY PHOTOS



APPENDIX E: FIELD INVENTORY PHOTOS



APPENDIX E: FIELD INVENTORY PHOTOS



APPENDIX E: FIELD INVENTORY PHOTOS



APPENDIX E: FIELD INVENTORY PHOTOS



APPENDIX E: FIELD INVENTORY PHOTOS



AGENCY CONTACT LIST

- South Florida Water Management District (SFWMD)
- Miami-Dade County Metropolitan Planning Organization (MPO)
- Miami-Dade County Park and Recreation Department (MDPR)
- Miami-Dade County Public Works Department
- Miami-Dade County Solid Waste Management
- Miami-Dade County Building Department
- Miami-Dade County Water and Sewer Department
- Miami-Dade County Public Schools
- Miami-Dade County Fire Rescue
- Miami-Dade County Police Department
- Miami-Dade County Department of Environmental Resources Management
- Miami-Dade County Expressway Authority
- Miami-Dade Transit (MDT)
- Florida Department of Environmental Protection (FDEP)
- FDEP Office of Greenways and Trails (OGT)
- Florida Department of Transportation (FDOT)
- Team Metro
- South Florida Regional Planning Council
- Florida Power and Light
- Bell South
- United States Army Corps of Engineers (USACE)
- CSX Railroad
- Florida International University

APPENDIX F: SAMPLE INTERGOVERNMENTAL COORDINATION LETTER



Kimley-Horn
and Associates, Inc.

December 6, 2007

Mr. Andy McCall
Miami-Dade County
Park and Recreation Department
275 NW 2nd Street, 4th Floor
Miami, FL 33128

**Re: Snapper Creek Trail, Segment A
Planning Study**

Dear Mr. McCall:

On behalf of the Miami-Dade County Park and Recreation Department (MDPR), the consulting team of Kimley-Horn and Associates, Inc., has been engaged to facilitate a planning study for the proposed Snapper Creek Trail, Segment A. As part of our due diligence efforts in this project, we invite your participation in this study to obtain input that is relevant to the successful completion of this study.

The Snapper Creek Trail is proposed to be built within the Snapper Creek Canal (C-2) right-of-way. The entire Snapper Creek Trail is 9.4 miles long and is split into two sections – Segment A and Segment B. Segment A starts from the University Park campus of Florida International University (FIU) and Tamiami Park near the intersection of SW 17th Street and SW 117th Avenue and travels 5.6 miles ending at SW 94th Avenue near K-Land Park (see attached aerial map).

The Snapper Creek Trail, Segment A Planning Study includes studying connections to parks such as Tamiami Park, Concord Park, Westwood Park, Kendallwood Park, Kendall Indian Hammocks Park, Snapper Creek Park, and K-Land Park. The proposed multi-use trail is intended to provide bicycle and pedestrian transportation mobility and to connect the surrounding community and all other users to the local parks in the area.

We cordially invite you to provide input on this worthy project as we continue to assist in helping to make Miami-Dade County a better place to live. Please provide feedback on the following areas below or any other areas of interest or concern.

- Environmental concerns
- Maintenance concerns
- Roadway restrictions
- Safety and security considerations

TEL 954 535 5100
FAX 954 739 2247

Suite 109
5200 N.W. 33rd Avenue
Ft. Lauderdale, Florida
33309



Kimley-Horn
and Associates, Inc.

Mr. McCall December 6, 2007, Page 2

- Bicycle/pedestrian access and connectivity
- Boat launch access and issues
- Other transportation or recreational issues
- Agency/department requirements or constraints

The Park and Recreation Department is planning two public meetings associated with this study. The first meeting is tentatively scheduled for February and will gather input and comments from the surrounding community and stakeholders. The second meeting will most likely be held sometime in April and is intended to present concepts developed from study analysis and ideas gathered during the initial public meeting.

Attached for your perusal is background information on the Snapper Creek Trail study. An aerial map is also included in the attached information illustrating the study limits.

If you have additional questions or require more information, please contact Stewart Robertson or Eric Zahn at 954-535-5100. We can also be reached via e-mail at Stewart.Robertson@Kimley-Horn.com and/or Eric.Zahn@Kimley-Horn.com.

Please provide a written response (letter or e-mail) stating the opportunities, restrictions, or constraints, that your agency or department may have regarding the potential implementation of a multi-use trail along the Snapper Creek Trail right-of-way between SW 17th Street/SW 117th Avenue and SW 94th Avenue. Also, if necessary, please pass this letter along to a supervisor or others within your organization to provide additional information or verification. We look forward to working with you to ensure relevant information from your agency or department is included in this study.

Respectfully,

Stewart Robertson, P.E.

Cc: Mark A. Heinicke, Miami-Dade Park and Recreation Department
James A. McCall, Miami-Dade Park and Recreation Department
David Henderson, Miami-Dade Metropolitan Planning Organization
Distribution list

Enclosure: Background – Snapper Creek Trail, Segment A
Snapper Creek Trail, Segment A Map

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APPENDIX G: PROJECT INFORMATION



Snapper Creek Trail Segment-A Planning Study Miami-Dade County Park and Recreation Department (MDPR) Project Information

What are the objectives of the Study?

The study will determine ways to improve portions of the existing trail, provide suggestions for missing gaps, and better access to Florida International University (FIU) and nearby County parks. The study will help establish ways to bring the existing trail up to current standards, improve neighborhood connections and access, recommend potential amenities and enhancements, examine and recommend solutions to safety issues involving crossing street intersections, roads, and canals.

What is the scope of work for the consultant?

The consultant will develop a planning program, schematic designs, and establish opinion of probable costs and priorities to implement the planned project at some future date. Although a preferred plan and report will be created, more detailed design development and construction drawings are not part of the scope of services.

How is this Study being funded?

This study is being partially funded through the Miami-Dade County Metropolitan Planning Organization (MPO), through its Unified Planning Work Program (UPWP) grant.

When will the Study be done?

It's anticipated the final report for this Study will be completed near the end of September 2008.

Where is the Study area?

The study area is primarily located along the Snapper Creek (C-2) Canal right-of-way, SW 117 Av. right-of-way, and Snapper Creek Dr. right-of-way in unincorporated Miami-Dade County. The study area extends from SW 17 St. (FIU) to SW 94 Av. (The Boys and Girls Club of Miami - SW Langer / Kendall Unit) for a total distance of approximately 5.6 miles one way.

Who owns the canal right-of-way?

The Snapper Creek (C-2) Canal is owned and operated by the South Florida Water Management District (SFWMD).

Who maintains the existing trail?

Currently, MDPR maintains all of the existing Snapper Creek Trail (approximately 2.4 miles) from Bird Rd. (SW 40 St.) to SW 107 Av. through a permitted agreement with SFWMD.

Who would maintain any new improvements in gap areas?

MDPR would enter into a permitted agreement with SFWMD to build and maintain the trail in gap areas while SFWMD retains ownership of the land. The Board of County Commissioners would pass a resolution confirming the County's intent to maintain facilities to be constructed. Typical MDPR trail maintenance programs include sweeping and mowing the grass 26 times per year, including pick-stick trash removal.

June 2008



Are there any other similar greenways in Miami-Dade County along canals?

Snake Creek Park in North Miami Beach (NE Miami Gardens Dr. to NE 22 Av.) contains popular bicycle greenway paths along both sides of Snake Creek Canal. Other examples include the Black Creek Trail from the Florida's Turnpike to SW 184 St. and the Red Rd. Trail from Kendall Drive (SW 88 St.) to SW 112 St. along Red Rd. (SW 57 Av.).

Who will use this trail?

The trail will be a linear park that is designed for multi-use or shared-use travel by a variety of non-motorized users such as pedestrians, skaters, joggers, rollerbladers, bicyclists, and others seeking healthy recreation within a park setting. These paths are popular and well used by people with disabilities, people pushing strollers, children, the elderly, and others.

Is this greenway part of a larger system of trails?

The Snapper Creek greenway was identified in the North Dade Greenways Network Master Plan (NDGMP) developed by FIU, December 1997. The plan covers the geographic area from north Kendall Drive to the Broward County line and Biscayne Bay to Krome Av.. The network is an integrated system consisting of 24 proposed greenways occupying various canal, railroad, utility easements and road rights-of-way totaling approximately 312 miles.

How long is the Snapper Creek trail in the NDGMP and where does it go?

Snapper Creek Trail is divided into Segment A (this study) which is approximately 5.6 miles long and Segment B (not included in this study) which is approximately 3.8 miles long. The proposed Snapper Creek Trail could eventually extend approximately 9.4 miles one way from FIU to Dante Fascell Park near Red Rd. (SW 57 Av.) in the Village of South Miami. The existing Snapper Creek trail goes from SW 40 St. (Bird Rd.) to SW 107 Av. and is approximately 2.4 miles long one way.

Has the North Dade Greenways Master Plan been adopted?

The North Dade Greenways Master Plan was adopted by the MPO November 1998.

Where would I be able to go using the Snapper Creek Trail?

This bike facility connects directly to FIU / Tamiami Park on the north end and to The Boys and Girls Club of Miami - SW Langer / Kendall Unit on the southeast end via SW 117 Av. and the Snapper Creek (C-2) Canal. There are direct links or connections to three existing "green and white" paths: Sunset Dr. (SW 72 St.) from SW 117 Av. to SW 87 Av.; Miller Dr. (SW 56 St.) from SW 117 Av. to SW 68 Av. and Merrick Trail (Coral Way) from SW 117 Av. to SW 87 Av. There are also direct links to two bicycle lane projects: SW 97 Av. from SW 72 St. (Sunset Dr.) to SW 40 St. (Bird Rd.) (under construction) plus SW 48 St. from SW 117 Av. to SW 87 Av. (bidding underway for construction of two bicycle/pedestrian bridges and their approaches over the canal). In addition, a number of nearby County parks and local schools will be connected indirectly through other pedestrian and bicycle facilities.

When could this project be constructed?

Construction is somewhat dependent on the outcome of this study and the ability to secure funding for design and construction. A typical timeframe for this type of project is 4 to 5 years after it is fully funded before the first phase of construction begins.

June 2008



APPENDIX G: PROJECT INFORMATION



How would the bikeway be funded?

\$500,000 has been set aside in Building Better Communities Bond Program item #141 for future improvements to the Snapper Creek Trail between Tamiami Park and Kendall Indian Hammocks Park. Other funding sources will need to be identified and secured for design development drawings. The average costs today to build a multi-use trail ranges from \$300,000 – \$800,000 per mile.

Which federal and state legislative districts does this project fall under?

This project is within U.S. House of Representatives District 21 (Congressman Lincoln Diaz-Balart). It is also within State Senate District 38 (Senator J. Alex Villalobos). In addition, it is within State House District 114 (Rep. Anitere Flores) with small portions in District 115 (Rep. Juan Carlos "J.C." Planas) and District 119 (Rep. Juan C. Zapata).

Which county commission districts does this project fall under?

This project is primarily within Commission District 10 (Honorable Senator Javier D. Souto) and District 7 (Honorable Carlos A. Gimenez) with a smaller portion in District 11 (Honorable Joe A. Martinez).

Which Miami-Dade County Park and Recreation Department maintenance and operations region does this project fall under?

This project is within Region 4 (Tom Morgan, Region 4 Manager). Roving Crew 4B maintains all of Snapper Creek Trail, excluding any areas maintained by the Britannia Homeowners Association.

Which South Florida Water Management District operations and maintenance area does this project fall under?

The Snapper Creek (C-2) Canal is within the Miami Field station service area (Eric Fryar, Sr. Engineering Associate).

What's the description of the Snapper Creek (C-2) Canal?

The Snapper Creek Canal is located in central Miami-Dade County in the city of Sweetwater and primarily in unincorporated Miami-Dade County. It begins near the intersection of Highway 836 and the Turnpike Extension and runs southeast to the S-22 salinity control structure on SW 57 Av. (Red Rd.) near Pinecrest Gardens Park. The main canal is 12.3 miles long, averages 12 feet in depth and ranges from 50 to over 100 feet in width. The north end of the canal is narrower and shallower than the southeast end.

Who built the existing Snapper Creek Trail?

The developer of Britannia Subdivision (Interdevco/Britannia) built the trail and linear park from SW 107 Av. to SW 117 Av. around 1988 and dedicated it to Miami-Dade County. The portion from SW 112 Av. to SW 117 Av. is not with SFWMD right-of-way. The original linear park included six fitness stations and planting of trees and shrubs 30 feet from top of bank. Miami-Dade County built other portions of the Snapper Creek Trail including the trail on the west side of SW 117 Av. south of the Turnpike/SW 40 St. (Bird Rd.) interchange and the trail on the east side of SW 117 Av. near Tamiami Park. The trail sections along SW 117 Av. are within SFWMD and Miami-Dade County right-of-way.

June 2008



APPENDIX H: FREQUENTLY ASKED QUESTIONS AND ANSWERS



Snapper Creek Trail Segment-A Planning Study Miami-Dade County Park and Recreation Department (MDPR) Frequently Asked General Questions and Answers

Is this study a done deal?

No, this is just a planning study. Many more hurdles have to be cleared like funding, design, and permitting before trail enhancements are built.

Will this project raise my taxes?

The proposed project will not raise taxes. MDPR plans, designs, and builds trails through a variety of funding sources including, Building Better Communities bond, Safe Neighborhood Parks (SNP) bond, Transportation Enhancements through Florida Department of Transportation (FDOT), Surface Transportation Program, and legislative earmarks.

Who came up with the idea for this project?

The developer of Britannia Subdivision (Interdevco/Britannia) built the existing trail from SW 107 Av. to SW 116 Av. around 1988 and dedicated it to Miami-Dade County. The idea for extending the existing Snapper Creek Trail further north and further southeast goes back to the North Dade Greenway Master Plan developed by graduate students at Florida International University (FIU) in 1997 and adopted by the Miami-Dade Metropolitan Planning Organization (MPO) in 1998.

What will be the hours of operation?

Typical hours for parks are sunrise to sunset, however, South Florida Water Management District (SFWMD) allows for 24-hour legal use (i.e., passive activities) of its right-of-way (R.O.W. - strip of land owned by SFWMD that is typically 40 feet wide from top of canal bank) along district-owned property. It's anticipated that the majority of activity on the trail would occur during the day.

Where will the points of trail access be located?

The points of trail access will be primarily along the street crossings that intersect the R.O.W. corridor.

Where will trail users park?

Designated trailheads for people to park and access the trail will be made available at Tamiami Park and the Boys and Girls Club of Miami – SW Langer / Kendall Unit. Most users are expected to be local people from surrounding neighborhoods who will walk or ride a bicycle to the trail.

Is it possible to build the trail on one side of the canal only?

The proposed trail will need to switch sides of the canal at some point to get access to Kendall Drive and the Boys and Girls Club of Miami - SW Langer / Kendall Unit. It's not possible to stay entirely on one side of the canal due to existing conditions, physical barriers and limitations and the need and desire to connect to multiple neighborhoods.

Is there enough room to build a trail?

Field investigation and research has shown that there is room for a 10' wide multi-use trail within the canal R.O.W. with some separation between the trail and property line.

June 2008



How was the public notified about this meeting?

MDPR goes through great efforts to notify the public of its meetings. Notices are published in the *Miami Herald* in the Thursday and Sunday Neighbors section, the Wednesday edition of the *Miami Times*, the Tuesday edition of the *Kendall Gazette* and the Sunday edition of *Diario Las Americas*. For this particular meeting over 1,450 postcards were sent via direct mail to the homes along the canal using GIS to obtain address information. In addition, posters and signs were posted around various neighborhoods and e-mail invitations were sent to various individuals and stakeholder groups.

Roads and streets are for bikes, not back yards.

Although roads and streets are good for more experienced cyclists they can be dangerous and undesirable for children, the elderly, and the disabled. Multi-use or shared-use paths are safer for those unable or unwilling to go on the road. Crash data indicate that bicyclists and pedestrians represent approximately 15% of all traffic fatalities, despite accounting for less than 5% of all trips, primarily because of having to share space with automobiles. Projects like Snapper Creek Trail can reduce conflicts with automobiles.

Build parks instead of trails.

This project can be thought of as a linear park.

Are bathrooms proposed?

No bathrooms are planned or proposed for this project. Public facilities are already available at Tamiami Park and The Boys and Girls Club of Miami – SW Langer / Kendall Unit. In addition, several commercial establishments offer facilities at various restaurants and shops along SW 72 St. (Sunset Dr.) and S.W. 40 St. (Bird Rd.).

Cyclists should not have to drive to a park to then ride their bike.

This project will help solve that problem by connecting several parks and neighborhoods, schools and businesses together via the greenway (linear park) and trail.

Are picnic tables proposed?

No picnic tables are planned or proposed for this project. Public facilities are already available at Tamiami Park, Kendall Indian Hammocks Park and several other nearby County parks.

This bike trail is a good idea because it promotes a healthy lifestyle!

Providing nearby trails and walkways offers a significant option for regular physical activity that can lower the rate of obesity and health care costs.

June 2008



APPENDIX H: FREQUENTLY ASKED QUESTIONS AND ANSWERS



Snapper Creek Trail Segment-A Planning Study Miami-Dade County Park and Recreation Department (MDPR) Frequently Asked Questions and Answers about Public Safety

Emergency responders

The amount of trail use will not be so great as to prevent emergency vehicles from accessing the trail in true emergency situations. It's anticipated the majority of accidents would be minor where the person would be able to get home to treat himself or herself. Bicyclist and pedestrian injury rates on multi-use trails is far less than on roads and streets. Bicyclists and pedestrians on paths that are separated from vehicular traffic are unlikely to be hit by cars. When the injury rate on such paths is compared to the number of people killed or injured by cars at other locations, it is clear that more lives could have been saved in the past if bicyclists and pedestrians had more alternatives to sharing the road with motor vehicles.

Animals

The chances of getting bitten by an alligator or snake is relatively rare. Most of the time animals are not a problem unless people feed or harass them. If an animal shows traits of becoming a nuisance they will be trapped and removed or potentially exterminated depending on behavior and age of the animal.

Pollution

This project could help stop illegal dumping and uses of the corridor through legitimate use and activities.

Overpasses

Unfortunately overpasses are very costly to build and not very realistic given the constraints of a limited budget. For long range planning it might be possible to think about this in major areas like SW 40 St. (Bird Rd.) or SW 72 St. (Sunset Dr.). A potentially less expensive alternative is motion-activated, solar-powered, radio controlled active warning signals.

Access control

Bollards, gates and locks, signs and enforcement of rules do help control users and activities.

Motorized vehicles

The multi-use trail is a non-motorized facility. All-Terrain Vehicles (ATV's - any of a number of small open motorized buggies and tricycles designed for off-road use - a vehicle that travels on low pressure tires, with a seat that is straddled by the operator with handlebars for steering control), mopeds (look like bicycles but can be powered by small motor or manual pedaling), scooters (look like kids push scooter with small motor attached), go-karts (small low motor vehicle with four wheels and an open framework used for racing), and other motorized vehicles are prohibited from using the trail. Bollards, gates, signs and enforcement of rules will help minimize and control motorized traffic.

Privacy

The South Florida Water Management District (SFWMD) right-of-way is considered public property and as such is open to public use right now.

June 2008



Neighborhood protection

The Miami-Dade County Police Department Midwest District and Kendall District stations currently handle security around the neighborhoods with routine security patrols both by vehicle and bicycle. Anything north of the center line of SW 40 St. (Bird Rd.) is handled by the Midwest District and anything south of the center line of SW 40 St. (Bird Rd.) is handled by the Kendall District. SFWMD enforcement is limited to enforcing what's in the Permit Information Manual Volume 5. Other issues not related to permits are handled by the Florida Fish and Wildlife Conservation Commission (FWC) like no-wake zones and poaching.

Bike patrols

Miami-Dade County Police Department already has bike patrols based out of both the Midwest District (9101 NW 25 St., Doral) and Kendall District (7707 SW 117 Av. by Kendall Indian Hammocks Park) through the Neighborhood Resource Unit. Volunteer courtesy patrols consisting of trained citizens could also be utilized as a cost efficient method for security.

Crime

Studies nationwide have shown fears about increasing crime due to trails are unfounded. Trails have consistently been shown to have no measurable effect on public safety and to have an overwhelming positive influence on quality of life. Studies have shown that crime and violence do not increase with trails. This project could help stop illegitimate activities like vandalism by bringing legitimate uses like biking, walking and in-line skating. In fact, trails can be a major factor in safe routes to schools making it easier and safer for children to walk and bicycle to school through multi-use trails, sidewalks and greenways.

Policing

MDPR Park security officers, Miami-Dade County Police Department and even volunteer courtesy patrols could all play an important part in safety. The specific details for security and protection for the proposed trail will be worked out at later date. It could be a combination of Miami-Dade Police Department, Park security officers and volunteer courtesy patrols.

Crime prevention

Crime Prevention through Environmental Design (CPTED) will help minimize incidents. CPTED principles include natural surveillance (unobstructed lines of visibility), access control (ingress and egress controlled by some means natural or man-made), boundary definition (signs, landscaping, fencing, etc...) management and maintenance (well-maintained public spaces are less inviting to criminal behavior) and legitimate activity support (community groups taking ownership).

Packs of cyclists (20 to 30 people)

The typical user of the trail will be the neighborhood resident and their families. The people who ride in huge packs (also known as pelotons) are experienced cyclists who prefer to ride on the streets and roads versus multi-use trails.

June 2008



APPENDIX H: FREQUENTLY ASKED QUESTIONS AND ANSWERS



Snapper Creek Trail Segment-A Planning Study
Miami-Dade County Park and Recreation Department (MDPR)
Frequently Asked Questions and Answers about Landscaping and Maintenance

How frequent will the maintenance occur along the corridor?

Typical MDPR maintenance for the existing Snapper Creek Trail from SW 107 Av. to SW 40 St. includes sweeping and mowing the grass 26 times per year including trash removal via a pick-stick (tool with a pointed end to pierce trash). Each MDPR cycle consists of litter removal, mowing, weed-eating / edging, tree trimming up to 10' and blowing pathways clear. This is more frequent than South Florida Water Management District (SFWMD) maintenance in other areas which are typically mowed 6-8 times per year.

Who will maintain the landscaping?

MDPR would enter into a permitted agreement with SFWMD to maintain the right-of-way (R.O.W.) and its landscaping. Trees will be located in open areas away from homes such as Tamiami Park, The Boys and Girls Club of Miami - S.W. Langer / Kendall Unit, and Miami-Dade Water and Sewer Department R.O.W.

Does SFWMD allow landscaping within setback requirements?

SFWMD allows it in pockets. All proposed landscaping will follow the rules and regulations from SFWMD. Plant material will be planted where feasible and practical. SFWMD may relax its standard 40' setback requirement when the permittee is responsible for routine maintenance of linear parks. It could be considered on a case-by-case basis.

What rules and regulations will new landscaping follow?

All proposed landscaping will follow the rules and regulations from SFWMD. Plant material that is known to be weak or dangerous will be avoided. A well designed and maintainable planting scheme utilizing drought-tolerant species native to Florida will be used. Taller plants and trees will be set back from top of bank to reduce the likelihood that they will fall into the canal if they topple during a hurricane or windstorm. MDPR would be responsible for complying with any applicable tree ordinances.

Maintenance standards.

All proposed and existing trails need to be maintained at a consistent standard. MDPR acknowledges there have been problems in the past with other trails but has made significant efforts to improve deficiencies.

June 2008



APPENDIX I: OPINION SURVEY & QUESTIONNAIRE RESULTS

Snapper Creek Trail-Segment B Planning Study Workshop Opinion Survey - 2/27/08



The Miami-Dade County Park and Recreation Department, the Miami-Dade County Metropolitan Planning Organization, South Florida Water Management District, Bicycle Pedestrian Advisory Committee, and local citizens are collectively working together to develop a plan for a multi-use trail and greenway that will link FIU / Tamiami Park with Boys and Girls Club of Miami / K-Land Park. We are enlisting the public's support and input for this project. **Please return completed survey before you leave the workshop. Thanks!**

What types of outdoor recreation do you or your family members enjoy?
(Please check all that apply.)

- ☐ 12 (100%) Walking/hiking
☐ 5 (42%) Jogging/running
☐ 7 (58%) Bicycling (separated paved path off road)
☐ 4 (33%) Bicycling (shared road - on the road)
☐ 1 (8%) In-line skating (roller-blading)
☐ 5 (42%) Fishing
☐ 8 (67%) Canoeing/Kayaking
☐ 0 (0%) Jet-skiing
☐ 9 (75%) Wildlife viewing
☐ 3 (25%) Other (please list) _____

Please check types of amenities you would like to see as part of the greenway system (Please check all that apply).

- ☐ 6 (50%) Widened path (increase width from eight to ten feet)
☐ 11 (92%) Shade trees
☐ 7 (58%) Informational signage / trail markers
☐ 5 (42%) Educational signage and materials
☐ 6 (50%) Trailhead parking (Tamiami Park, etc...)
☐ 9 (75%) Benches / rest areas
☐ 9 (75%) Waste receptacles (trash cans)
☐ 4 (33%) Fitness stations (exercise equipment)
☐ 4 (33%) Dog park (waste dispensers)
☐ 1 (8%) Other (please list) _____

What do you see as the most important function of this greenway system?
(Please check all that apply.)

- ☐ 5 (42%) Mobility (short trips-alternative transportation)
☐ 9 (75%) Public health (integrating daily routine physical activity)
☐ 5 (42%) Economic development (increased property values)
☐ 7 (58%) Climate (reduction of CO₂)
☐ 9 (75%) Family and community (connections and interaction with neighbors)
☐ 6 (50%) Safe routes to school (encourage kids to safely walk/bike to school)
☐ 10 (83%) Recreation (linear park)

If you need to return this form after the workshop, please send to: Mark Heinicke, Park Planner II, Miami-Dade County Park and Recreation Department, 275 NW 2nd St., 4th Floor, Hickman Building, Miami, FL 33128

How frequently do you use the existing trail from SW 107 Avenue to Bird Road? (Check one, please)

- ☐ _____ At least once per week
☐ 1 (8%) At least twice per week
☐ 1 (8%) Almost daily
☐ 4 (33%) Infrequently (occasional sporadic use)
☐ 6 (50%) Not at all

How frequently do you use the existing green and white paths along SW 72 Street, SW 56 Street or SW 24 Street (Check one, please.)

- ☐ 1 (8%) At least once per week
☐ 2 (17%) At least twice per week
☐ 2 (17%) Almost daily
☐ 4 (33%) Infrequently (occasional sporadic use)
☐ 3 (25%) Not at all

Do you presently travel outside of Miami-Dade County to access a greenway system? (Please circle one) Yes = 3 (27%) or No = 8 (73%)
If Yes, please name the greenway or trail. _____

How often do you presently travel outside of Miami-Dade County to utilize a trail system? _____

Would you like more information on the Snapper Creek Trail-Segment A project?

- ☐ 8 (67%) Yes, please send more greenway information.

Name _____

Mailing Address _____

City _____ State _____ Zip _____

E-mail _____ Phone # _____

Written Comments

Question 1

- Sailing
- Rowing
- Yoga/Meditation

Question 2

- Bridge over spur canal west of SW 99 Av bridge

Question 3

-

Question 4

-

Question 5

- No

Question 6

- AT, Long Path
- Monroe County
- Broward Riverwalk

Question 7

- 1-5 years
- Once a year (answered no to question 6)
- Weekly
- None

Other

- A good project – for all.

If you need to return this form after the workshop, please send to: Mark Heinicke, Park Planner II, Miami-Dade County Park and Recreation Department, 275 NW 2nd St., 4th Floor, Hickman Building, Miami, FL 33128

APPENDIX I: OPINION SURVEY & QUESTIONNAIRE RESULTS

Names and Adresses

- Eric Tullberg (Y)
7884 SW 179th Ter
Palmetto Bay, FL 33157
 - Omar Beceiro (Y)
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Miami, FL 33173
obeceiro@yahoo.com 305-302-3543
 - Manuel Pomares (Y)
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Miami, FL 33173
mypomare@bellsouth.net 305-271-2278
 - Ruben Arias
5708 Le Jeune Rd
Coral Gables, FL 33146
 - Edith Case (Y)
5301 SW 117 Av
Miami, FL 33175
 - Jane Padelford
KHA 1691 Michigan Av #400
Miami Beach, FL 33139
jane.padelford@kimley-horn.com
- Carla Savola
7401 SW 82 Ct
Miami, FL 33143
csavola@aol.com 305-279-9417
 - Esther Camacho (Y)
713 SW 105 Ct
Miami, FL 33173
 - Sally D. Bermudez
10616 SW 71 Ln
Miami, FL 33173
salberm@bellsouth.net 305-596-0872
 - Yolanda Borroto (Y)
10452 SW 76 St
Miami, FL 33173
ybrborroto@bellsouth.net 305-987-1455
 - Yoly McCarthy (Y)
8325 SW 116th Terrace
Miami, FL 33156
ybmac@bellsouth.net 786-573-0894
 - Judy Wolfsohn (Y)
9554 SW 82nd St
Miami, FL 33173

Y = Yes, please send more greenway information

If you need to return this form after the workshop, please send to: Mark Heinicke, Park Planner II, Miami-Dade County Park and Recreation Department, 275 NW 2nd St., 4th Floor, Hickman Building, Miami, FL 33128

APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA



MEMORANDUM

To: Mark Heinicke, CPRP, CLARB
Miami-Dade County Park and
Recreation Department (MDPR)

Date: March 24, 2008

From: Stewart Robertson, PE
Eric Zahn
Kimley-Horn and Assoc. (KHA)

Subject: **Public Workshop
Notes – Task 5**

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

Suite 109
5200 Northwest 33rd Avenue
Fort Lauderdale, Florida
33309

The public workshop meeting for the Snapper Creek Trail (SCT) Segment A Planning Study was held on February 27, 2008, at Cypress Elementary School (5400 SW 112th Court). The purpose of the workshop was to determine public support for a non-motorized multi-use trail along Snapper Creek Canal within the study corridor (SW 17th Street to SW 94th Avenue) and to solicit input and generate discussion regarding potential corridor opportunities and constraints.

Approximately 30 attended the workshop including the following people:

- Mark Heinicke, Project Manager – MDPR
- Bill Rodriguez, Construction Manager II – MDPR
- Michael Sorbello – MDPR
- David Henderson, Bike/Ped Specialist – Miami-Dade County MPO
- Carla Ascencio-Savola – Community Council 12
- Ruben J. Arias – Miami-Dade Commission District 7
- Rene Diaz – Miami-Dade Commission District 11
- Steve Foren – Miami-Dade County Planning and Zoning
- Giulio Miglio – Miami-Dade County Public Works
- Stewart Robertson, P.E., Project Manager – KHA
- Eric Zahn, Project Planner – KHA
- Jane Padelford, Landscape Architect – KHA

At the beginning of the workshop, attendees were given the chance to examine various workshop exhibits, including presentation boards and handouts, and to have conversations with project representatives.

The formal portion of the workshop began with introductions by Mr. Heinicke of the project team members in attendance and recognition of

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Snapper Creek Trail, Segment A
Task 5 – Community Information Workshop
Page 1 of 4



county officials and other officials in the audience. Mr. Heinicke then presented KHA's Mr. Robertson, who gave a detailed PowerPoint presentation on the background of the project, the benefits of active transportation, description of the County's master plan to build more continuous linear parks in a connected manner, general information regarding trails and greenways, and explained that this trail was in the conceptual planning stage not construction stage.

Mr. Robertson then allowed the workshop attendees to separate into two individual groups at their own discretion and discuss input/concerns to a project team member while a scribe wrote the input/concerns on a flip chart.

The remainder of this memorandum describes the discussion topics that were voiced by workshop attendees in each of the two individual groups.

Snapper Creek Trail, Segment A, Public Workshop Flip Chart Comments

Group 1: Mr. Robertson as lead and Mr. Zahn as scribe

- Maintain trails for non-motorized users only and same for canals.
- Make trails ADA compliant.
- Consider both sides of the canal for trail alignment.
- Adjacent homeowners on the north side of the canal to the west of the Don Shula Expressway are concerned over potential loss of wildlife habitat.
- Would like to see a bike path and walkways along the Snapper Creek Canal.
- More frequent maintenance is desired.
- Landscaping improvements including lighting (spotlights) is desired.
- Native plants should be used to conserve wildlife.
- Concern was stressed over the SW 107 Avenue and Snapper Creek Drive crossing.
 - Busy intersection
- The segment of the existing trail behind the Britannia development is viewed as being unsafe and too close to the existing wooden privacy fence.
- Paths/sidewalks along SW 117 Avenue should extend to Finlay Elementary School.
- The sidewalk at Tamiami Trail should be extended.
- There were concerns over expenses and maintenance costs once the trail is built.

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Snapper Creek Trail, Segment A
Task 5 – Community Information Workshop
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APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA



- Improvements should be made to the intersection of SW 117 Avenue and SW 40 Street.
- Clear signage is needed from SW 107 Avenue to SW 72 Avenue.
- Pedestrian push buttons should be installed at crosswalks.
- Bridge would be needed over spur canal on south side.
 - Important for neighborhood connectivity
- Existing bridge southeast of SW 99 Avenue should be opened for bicycle/pedestrian traffic even if the trail does not extend beyond SW 99 Avenue.
- If a pedestrian bridge is possible over the Don Shula Expressway, provide a cost estimate.
- The shortest and most feasible route for the trail to cross the Don Shula Expressway is south long SW 99 Court, east along Kendall Drive and north along SW 94 Avenue.
- The cost to pave a ten foot path is \$160,000 per mile (paving only).
- The cost to improve sidewalks is \$10,000 to \$20,000 per mile.
- Neighborhood residents could contribute to landscaping improvements.
- Neighborhood schools could be involved in trail amenities.
- The trail would give the community something to take pride in.

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Group 2: Mr. Heinicke as lead and Ms. Padelford as scribe

- The trail should not impede existing or future motorized boating access.
- Motorized boating access should be included.
- An additional boat ramp should be built at SW 107 Avenue, Snapper Creek Drive and Sunset Drive by triangular parcel.
- Miami-Dade Water and Sewer (MDWASD) property west of SW 102 Avenue and South of Sunset Drive is potential opportunity for SFWMD access to new boat ramp
- If approved, Joel Marco will assist in private funding for the boat ramp.
- Canoe launch needs to incorporate motorized boats.
- Maintenance needs to improve at existing boat launch area.
 - trash issue
- Will there be 24/7 access?
- Need to control tree roots with root barriers.
- Bike trail should not be at the expense of other county programs.
- Diverting people to existing sidewalks.
- A cost estimate of \$700,000 per mile is too low if considering bridges.
- Presentation was a continuous greenway, this trail will include alternative routes.
- Community councils 10 and 12, homeowners associations and the public should be invited to future workshops.
- Make sure you are legally right and don't eliminate access.

■
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Snapper Creek Trail, Segment A
Task 5 – Community Information Workshop
Page 3 of 4



- Don't use the word "natural" to describe this greenway.
- Public agencies like SFWMD and NPS are decreasing public access for motorized uses.

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Snapper Creek Trail, Segment A
Task 5 – Community Information Workshop
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APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA



MEMORANDUM

To: Mark Heinicke, CPRP, CLARB Date: June 12, 2008
Miami-Dade County Park and
Recreation Department (MDPR)

From: Stewart Robertson, PE Subject: **Community Open**
Eric Zahn **House Notes – Task 7**
Kimley-Horn and Assoc. (KHA)

■
Suite 109
5200 Northwest 33rd Avenue
Fort Lauderdale, Florida
33309

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

The community open house to present the alternative concept plans for the Snapper Creek Trail (SCT) Segment A Planning Study was held on June 4, 2008, at Cypress Elementary School (5400 SW 112th Court). The purpose of the open house was to showcase proposed trail concepts, provide an opportunity for the public to review project-related exhibits at various stations with project representatives and solicit public feedback on conceptual plans for a non-motorized multi-use trail along the Snapper Creek Canal, SW 117th Avenue, and other local streets within the study corridor. The project extents go from SW 17th Street to SW 94th Avenue.

Approximately 35 attended the workshop including the following people:

- Mark Heinicke, Project Manager – MDPR
- Andy McCall – MDPR
- David Henderson, Bike/Ped Specialist – Miami-Dade County MPO
- Senator Javier D. Souto – Miami Dade Commission District 10
- Aldo Gonzalez – Assistant to Commissioner Javier D. Souto
- Evan Skornick – SFWMD
- Steve Foren – Miami-Dade County Planning and Zoning
- Pedro Reynolds – MDPR
- Rahul Shivaster – MDPR
- Eric Tullberg – Miami-Dade County BPAC
- Jeff Cohen – Miami-Dade County Public Works
- Stewart Robertson, P.E., Project Manager – KHA
- Eric Zahn, Project Planner – KHA
- Leo Almonte, Project Design Analyst – KHA

This memorandum presents the notes and comments that were recorded by the public on flip charts provided at the open house. People who attended

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Snapper Creek Trail, Segment A
Task 7 – Community Open House
Page 1 of 2



the open house meeting were generally supportive of this project, identified the need for better bicycle and pedestrian facilities, and desired safe places to walk and ride bicycles for transportation and recreation.

■
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Snapper Creek Trail, Segment A, Community Open House Flip Chart Comments

- Like idea of ped crossing at NB HEFT on-ramp
- Open NE portion of Tamiami Park to bikes. Gate prohibits bikes from entering and exiting the internal path.
- Route path through Tamiami Park to FIU
- Add underpass or overpass at Miller Rd. and Bird Rd.
- Plant mores shade trees in general along trail
- Add landscaping enhancements on dead-end streets at end of frontage rd. at Miller Rd. (SW 56 St.) and SW 117 Av on NE and SE corners. Add sound deadening landscape barrier in this area
- Use more native plants for landscaping ie., Dade Pine, Live Oak, Cabbage Palm, etc...
- Widen canal bridge at SW 99 Av. for bikes and peds.
- Add fitness stations at other locations besides N. Snapper Creek Drive between SW 107 Av. and SW 112 Av.
- Speeding cars are a problem on N. Snapper Creek Dr.
 - Add warning lights, speed bumps or roundabout at SW 112 Av. and N. Snapper Creek Dr.
- Need landscaping at Miller Rd., and SW 117 Ct.
- Ped bridge over lateral canal on N. Snapper Creek Dr. is important
- Improve sidewalks SW 24 St. to SW 40 St. first (inexpensive solution)
- Use shared road from SW 56 St. to SW 116 Av.
- Put trail on SW side of canal from SW 72 St. to SW 99 Ct.
- Use thru-truss galv. steel or aluminum bridges for economy
- Consider using the east side of SW 99 Ct. because it has fewer cross streets (3 vs. 9 on the west side)
- Consider potential to partner w/ WASD. WASD owns property at SW 93 Av. south side of canal.

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Snapper Creek Trail, Segment A
Task 7 – Community Open House
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APPENDIX K: TASK MEMORANDUM NOTES



MEMORANDUM

To: Mark Heinicke, CPRP, CLARB
Miami-Dade County Park and
Recreation Department (MDPR)

Date: November 28, 2007

Suite 109
5200 Northwest 33rd Avenue
Fort Lauderdale, Florida
33309

From: Stewart Robertson, PE
Eric Zahn
Kimley-Horn and Assoc. (KHA)

Subject: **Kick-off Meeting Notes
– Task 2**

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

The kick-off meeting for the Snapper Creek Trail (SCT) Segment A Planning Study was held on November 28, 2007, in the fourth floor conference room of the Miami-Dade County Park and Recreation Department (MDPR). The meeting was attended by:

- Mark Heinicke, Park Planner III – MDPR
- Andy McCall, Park Planner II – MDPR
- Bill Rodriguez, Construction Manager II – MDPR
- David Henderson, Bike/Ped Specialist – Miami-Dade County MPO
- Stewart Robertson, P.E., Project Manager – KHA
- Eric Zahn, Planner – KHA

The meeting began with introductions by the project team members in attendance. MDPR staff provided the kickoff meeting agenda, which summarized items to be discussed. The following list describes the pertinent discussion topics during the meeting.

Snapper Creek Trail, Segment A, Kick-Off Meeting Discussion

- Mark Heinicke stressed the importance of documented verification that the following question is asked of all inquiries to public agencies: “Does your recommendation or opinion need further verification by senior administration or your supervisor?”
 - A version similar to the above question should also be included on the agency contact letters.
 - Mr. Heinicke requested that he and Mr. McCall be copied on e-mail correspondence with agencies.
- Mr. Heinicke stated that the report needs to be written in active tense.

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- Captions should be included for inset photos throughout the report if the location of the photo is known.

- Use TrailLink 2007 for “Active Transportation” paragraphs on mobility, public health, economy, climate, community and family in addition to the need to provide greenways. Use RTC TrailLink 2007 pictures with source credits for report and PowerPoint presentations.

- Use final Glatting-Jackson signs for trail etiquette, trail marker, and interpretive signage in the report.

- Snapper Creek Trail is not one of the previous greenways studied for the signage demo project so a specific trail map/accessibility sign is not available; however, the other signs are applicable.

- The committee discussed the use of new graphic images for the report in place of the same typical access point, typical rest stop, typical cross section, and typical plan view images found in previous KHA reports.

- Mr. Robertson pointed out that the prior trail studies had the same typical cross-section so there was a need to be consistent. Mr. Robertson agreed that the Snapper Creek Trail could have new images because the typical section was different due to the presence of a roadway adjacent to the proposed trail throughout much of the alignment.

- Mr. Heinicke recommended the creation of a new picture of a decorative crosswalk treatment.

- The committee discussed goals for the Snapper Creek Trail, Segment A, Planning Study including the enhancement of bicycle and pedestrian mobility, enhanced recreation opportunities, the creation of well-connected pathways to the corridor, connection to parks and existing facilities such as existing green-and-whites, and providing a connection to Florida International University (FIU). In addition, the committee identified a goal of improving the existing trail gap areas.

- The importance of a connection with FIU was discussed further. The future extension of Metrorail to the FIU campus and other new developments were mentioned and their beneficial aspects in relationship to the trail.

- Additionally, Mr. Heinicke asked a question regarding any studies that have been conducted for the Metrorail extension.

- Mr. Henderson stated that the study has not been completed; however, Miami-Dade Transit (MDT) consultants are currently evaluating the corridors.
- John Spillman of MDT was mentioned as a contact for the Metrorail East-West Transit Corridor.

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- Mr. Rodriguez identified constraints such as crossing Bird Road and the Don Shula Expressway (S.R. 874), which is a Miami-Dade Expressway (MDX) facility.
 - The contact at MDX was identified as Alfred Lurigados.
- Mr. Heinicke mentioned that he has uploaded Tamiami Park plans to the project FTP site.
- A question was asked if there is room to widen the sidewalk on SW 117th Avenue.
 - Mr. Robertson mentioned that preliminary field reviews indicate there appears to be room to widen the sidewalk in certain locations only. In addition, sidewalk widening projects often lead to resistance from the surrounding homeowners who do not want to lose green space.
- Mr. Heinicke stated that the study needs to be approached as an alternatives analysis with options such as widening sidewalks, adding bike lanes, constructing a path along the canal, along with other considerations.
- Mr. Henderson suggested that SW 112th Avenue should be examined for the potential to be a traffic calmed bike boulevard. This could also be an alternative route to FIU/Tamiami Park in place of SW 117th Avenue north of Bird Road.
- Mr. Henderson stated that he has heard that MDPH was trying to seal off access between FIU and Tamiami Park. Mr. Heinicke stated this was not true but the Department had made some improvements to separate the student parking area from the park near the stadium.
- Trail alignment along the canal gets more difficult as you go east after K-Land Park.
- Mr. Henderson mentioned that a bike lane project is planned by Public Works for SW 48th Street between SW 117th Avenue and SW 87th Avenue. Mr. Heinicke will inquire about getting copies of plans and share with KHA.
- Mr. Robertson and Mr. Henderson agreed there are three existing wide sidewalks (green-and-whites that range from 8 to 13 feet in width) built as bicycle facilities that connect to Segment A. These are located along Sunset Drive (SW 72nd Street), Miller Drive (SW 56th Street), and Coral Way (SW 24th Street).
 - Another short term goal identified is to include wayfinding signage to integrate existing wide sidewalks (green-and-whites).

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- Mr. Henderson stated that the existing green and white paths are somewhat neglected, and there are no treatments to notify crossings, turn lanes, and driveways cut into the paths.
- Mr. Heinicke stated the green-and-whites should be added to aerial map.
- Mr. Heinicke stated he would like BPAC members and MDPH staff to be invited to field inventory visits.
- Mr. Robertson stated that the review of background material uncovered that part of the north side of Snapper Creek Trail is on private property maintained by property manager. This area is adjacent to the Britannia development and is currently owned and maintained by the homeowner's association.
- Mr. Robertson stated that immediately southeast of the Britannia development, the existing path is in either County or South Florida Water Management District (SFWMD) right-of-way. Along this segment, the path passes in front of several bus shelters.
 - Mr. Henderson mentioned that the pavement markings similar to the M-Path notifying trail users of upcoming transit stops could be used on the Snapper Creek Trail to notify trail users of upcoming transit stops.
- Mr. Heinicke mentioned that in relation to the priority of improvements, high priority should be given to new connections. He also mentioned that while some segments of the existing trail are satisfactory, there is still room for improvements.
- Mr. Henderson mentioned that there may be fewer objections from the surrounding community to improve existing path segments in comparison to trail corridors where there is no existing path.
- Consultant schedule was discussed and the following adjustments made:

Assemble background information and review relevant material	Dec - Jan
Site inventory / preliminary agency contacts	Dec - Jan
Site analysis / program	Jan - Feb
Community information workshop	Feb
Alternative plan concepts developed / steering committee	Feb - Mar
Community open house to present alternative plan concepts	Apr
Final plan concept developed / steering committee	May
Draft final report	May - Aug
Final report completed	Aug 2008

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Snapper Creek Trail, Segment A – Task 2
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- Mr. McCall stated that MDPH has a right-of-way agreement with Florida Power and Light (FPL) for Snapper Creek Park. Mr. Heinicke stated that he would provide information to the consultant regarding the agreement.
- Mr. Robertson stated there is a waste transfer facility on SW 117th Avenue between Coral Way and SW 17th Street that disrupts the sidewalk.
- Coordination efforts should include partnering with Public Works Department.
- The study corridor falls within Commission District 7, 10 and 11.

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APPENDIX K: TASK MEMORANDUM NOTES



MEMORANDUM

To: Mark Heinicke, CPRP, CLARB
Miami-Dade County Park and
Recreation Department (MDPR)

Date: April 4, 2008

From: Stewart Robertson, PE
Kimley-Horn and Assoc., Inc. (KHA)

Subject: **Site Inventory
Summary**

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

A site inventory/field review was conducted by the team comprised of Kimley-Horn and Associates, Inc. (KHA) and EBS Engineering, Inc., for the Snapper Creek Trail, Segment A corridor between Monday, January 14, and Thursday, February 7, 2008. The purpose of this memorandum is to provide a summary of the existing conditions observed in the field.

EBS and KHA representatives bicycled and walked along the Snapper Creek Canal (C-2) right-of-way within the study limit. In addition, a field review was conducted by KHA, MDPR, and Bicycle/Pedestrian Advisory Committee (BPAC) members on Thursday, February 7, 2008. The field reviews covered the entire length of the study corridor, starting at SW 17th Street (adjacent to Florida International University) and ending at SW 94th Avenue (adjacent to K-Land Park). The field review included the SW 117th Avenue right-of-way adjacent to the Snapper Creek Canal right-of-way between SW 17th Street and Snapper Creek Drive. Digital photos were taken throughout the course of this study for use in reports, meetings, presentations, etc.

SW 117th Avenue (from north of SW 17th Street to Coral Way)

- A 5-foot concrete sidewalk is provided along the south/east side of SW 117th Avenue adjacent to Dr. Carlos J. Finlay Elementary School. However, gaps exist on either end of the sidewalk resulting in no connectivity to the existing path south of SW 17th Street nor to the existing sidewalk along SW 8th Street (Tamiami Trail). This area (north of SW 17th Street) is outside of the study area established for the Snapper Creek Trail, Segment A Planning Study. However, implementing a connection between the Snapper Creek Trail and the Dr. Carlos J. Finlay Elementary School sidewalk would improve

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connectivity by providing a pedestrian connection to the neighborhoods to the south. Implementing a connection between the Dr. Carlos J. Finley Elementary School sidewalk and the Tamiami Trail sidewalk could potentially connect Tamiami Trail with Snapper Creek Trail.

- An existing 7-foot wide asphalt path is provided along the east side of SW 117th Avenue between SW 17th Street and the SW 2000 Block. No paved path exists within the canal right-of-way or along the west side of SW 117th Avenue.
- An existing 5-foot wide asphalt path is provided along the east side of SW 117th Avenue between the SW 2000 Block and SW 24th Street (Coral Way). No paved path exists within the canal right-of-way or along the west side of SW 117th Avenue.
- The east side of SW 117th Avenue is bordered by the Florida International University (FIU) campus, a commercial office building, Tamiami Park, and the Snapper Creek Trash and Recycling Center.
- There appears to be available right-of-way to expand the path on the east side of SW 117th Avenue to 10 feet in width between SW 17th Street and SW 24th Street (Coral Way).
- Several areas of the paved path south of the SW 2100 Block were observed to have gravel and debris partially covering the path and had missing sections of pavement. Paving enhancements are needed.
- There appears to be space to expand the path by the Snapper Creek Trash and Recycling Center area by expanding toward the road, making channelization enhancements, and clearing debris from the path.
- Crosswalk enhancements are needed at the intersection of SW 117th Avenue and Coral Way. Markings are faded and signals are difficult to view by bicyclists and pedestrians.
- A pedestrian connection between the Snapper Creek Trail sidewalk and the Coral Way green-and-white should be provided. Green-and-whites are 13-foot paths provided along several arterial roadways in Miami-Dade County.
- Tamiami Park should serve as a trailhead for Snapper Creek Trail. Parking is provided at the SW 2100 Block entrance near the ballfields. Information kiosks providing information about Snapper Creek Trail and the Miami-Dade County Greenways network should be added.

SW 117th Avenue (Coral Way to Bird Road)

- A 5-foot concrete sidewalk exists on the east side of SW 117th Avenue between SW 24th Street (Coral Way) and approximately 100 feet south of SW 32nd Street. No paved path exists within the canal right-of-way.
- South of SW 32nd Street, the existing path becomes a 7-foot concrete path to SW 40th Street (Bird Road).

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- The existing sidewalk passes under the Coral Way bridge. Opportunity for widening in this area is limited to approximately 3 feet between the existing sidewalk and the guardrail.
- The existing sidewalk crosses numerous residential driveways. The sidewalk has several sharp bends near cross-streets, which is detrimental for bicyclists.
- Several utility poles exist along the sidewalk, which reduces the passable width to 47-48 inches.
- Providing bicycle lanes along SW 117th Avenue appears to be possible if the roadway is expanded to the west toward the canal.
- Right-of-way appears to exist to expand the sidewalk/path in certain areas, especially near cross-street intersections and south of SW 32nd Street. However, a continuous 10-foot path may not be possible along the east side of SW 117th Avenue due to utility conflicts and the placement of residential mailboxes.

SW 117th Avenue (Bird Road to Snapper Creek Canal bridge)

- A 5-foot concrete sidewalk exists along the frontage road east of SW 117th Avenue. The sidewalk connects the Bird Road signalized intersection with the Homestead Extension of the Florida's Turnpike (HEFT) egress ramp south of Bird Road, which is also signalized.
- Bicyclists were observed utilizing the low-volume frontage road.
- The signalized HEFT south ramp intersection includes a crosswalk that connects the east side of SW 117th Avenue with a paved asphalt path on the west side of SW 117th Avenue. The crosswalk should be widened to 10 feet to match the width of the proposed trail enhancements. Enhanced crosswalk markings should be provided.
- An existing 8-foot asphalt path is provided along the west side of SW 117th Avenue (between the roadway and the canal) between the HEFT south ramp intersection and the SW 117th Avenue bridge over the Snapper Creek Canal.
- The existing path is separated from SW 117th Avenue by a curb and guardrail.
- The existing path is landscaped with trees. Promenade plantings exist in several locations, including across from the SW 47th Terrace (Blue Road) intersection.
- A crosswalk is provided at SW 56th Street (Miller Drive), which is the only street the trail crosses between the HEFT south ramp intersection and the SW 117th Avenue bridge over the Snapper Creek Canal.
- Connections are available at Miller Drive to the green-and-white along the north side of Miller Drive.

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- A canoe launch and shelter is provided along the path south of Miller Drive. This would be a good location to provide an information kiosk.
- Right-of-way is available to expand the existing path to 10 feet. In addition, several sharp meanders along the trail should be smoothed out in this area through resurfacing to accommodate bicyclists.
- An unsignalized intersection exists at SW 117th Avenue and SW 58th Terrace. This intersection could provide a location for a signalized trail crossing or an active warning trail crossing to connect the existing path along the west side of SW 117th Avenue to the continuation of the path to the southeast along the Snapper Creek Canal. Currently, no connection exists between these two segments of the Snapper Creek Trail.

Snapper Creek Canal between SW 117th Avenue and SW 107th Avenue)

- Just south of SW 61st Terrace, the Snapper Creek Canal turns from a north-south alignment to a southeast-northwest alignment. The canal passes under SW 117th Avenue and continues toward the southeast. The canal is oriented slightly more in an east-west fashion; therefore, north side and south side references will be used throughout this document to refer to the canal right-of-way in this area.
- A residential frontage road exists between SW 117th Avenue/SW 56th Street and Snapper Creek Drive. Bicyclists were observed utilizing the frontage road due to low volumes. Snapper Creek Drive continues for approximately 500 feet along the north side of the canal before ending.
- An existing 7- to 8-foot asphalt path continues beyond Snapper Creek Drive between the adjacent residential properties and Snapper Creek Canal.
- Bollards are provided at the entrance to the asphalt path to limit vehicular access from Snapper Creek Drive to the path.
- The existing asphalt path passes behind the Britannia residential neighborhood between SW 117th Avenue and SW 112th Avenue. Trees landscape the area between the path and the canal. The surrounding residential properties have privacy fences separating the asphalt path from the homes.
- The existing path continues along Snapper Creek Drive from SW 112th Avenue to SW 107th Avenue. The existing path in this area is located between Snapper Creek Drive and the Snapper Creek Canal.
- Several bus stops exist along this section of trail. The bus stops serve Metrobus Route 71. Shelters are located at the bus stops. Several benches exist along this section of the trail and one fitness station.
- There is available right-of-way to expand the path in this area and to re-route the path away from bus stops and shelters to reduce conflicts

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between trail users and waiting bus passengers, while still providing connectivity to the bus stops.

- Additional landscaping should be considered in this area between the road and the trail because the trail is generally located more than 40 feet from the canal.
- The path connects to a narrow sidewalk across the Snapper Creek Drive bridge over a small canal that flows from the north just west of SW 107th Avenue. The sidewalk is too narrow for more than one user at a time and forces trail users close to vehicular traffic, which limits mobility along the bi-directional trail. A new trail bridge should be provided across the small canal in this area to improve mobility and safety conditions.
- A monument sign exists at the entrance to the Snapper Creek Drive section of trail at SW 107th Avenue. The monument sign references Snapper Creek Metro Park donated by the Britannia neighborhood.
- Trail users can connect to the SW 72nd Street (Sunset Drive) green-and-white using the sidewalk along the west side of SW 107th Avenue. The Sunset Drive green-and-white is along the south side of the road.
- Pedestrian crossing features and enhanced crosswalks are provided at the intersection of SW 72nd Street and SW 107th Avenue.

Snapper Creek Canal between Sunset Drive and SW 99th Court

- No paved path exists along either side of the canal right-of-way between Sunset Drive and SW 99th Court.
- A frontage road exists along certain sections of the north side of the canal right-of-way. No frontage road exists along the south side.
- The north side of the canal right-of-way is generally bordered by commercial properties. The south side of the canal right-of-way is generally bordered by residential properties, primarily multi-family residential townhomes except for a short section of single-family residential just west of SW 99th Court.
- A large open space exists on the south side of the canal right-of-way near the Kendalltown neighborhood. An unpaved path provides a connection to existing sidewalks along SW 76th Street.
- A Florida Power & Light (FPL) corridor crosses the canal right-of-way near the open space. A potential paved path connection to Snapper Creek Park could be provided within the FPL corridor.
- A small canal extends south from Snapper Creek Canal approximately 750 feet northwest of SW 99th Court. No bridge is currently provided within the canal right-of-way.
- The south side of the canal right-of-way is generally more conducive to a new multi-use trail in this area due to proximity of residential

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neighborhoods, connectivity to existing open space, and potential connectivity to existing parks.

Snapper Creek Canal between SW 99th Court and S.R. 874 (Don Shula Expressway)

- No paved path exists along either side of the canal right-of-way between SW 99th Court and S.R. 874.
- An abandoned bridge over a small canal exists along the south side of the Snapper Creek Canal right-of-way approximately 175 feet southeast of SW 99th Court. Currently, no paved path connects to this bridge. However, this bridge could be used as part of the Snapper Creek Trail alignment. A structural analysis of the bridge should be conducted as part of the design phase to evaluate potential usage of the bridge.
- A frontage road (Snapper Creek Drive) exists along the north side of the canal between SW 100th Court and SW 97th Avenue.
- A boat launch exists along the north side of the canal right-of-way approximately 1,100 feet southeast of SW 99th Court. The boat launch is accessible using Snapper Creek Drive.
- Single-family residential borders Snapper Creek Drive between SW 99th Court and SW 97th Avenue on the north side of the canal. East of SW 97th Avenue, single-family residential directly borders the canal right-of-way.
- On the south side of the canal right-of-way, single-family residential borders the canal right-of-way between SW 99th Avenue and SW 98th Avenue. Multi-family residential borders the canal right-of-way on south side between SW 97th Avenue and S.R. 874.
- Two street ends meet the canal right-of-way along the south side including SW 98th Avenue and SW 97th Avenue. These street ends are good locations for neighborhood connections.
- There appears to be no feasible opportunity for providing a connection under the CSX Railroad and S.R. 874 corridor. An overhead bridge would be limited by the new flyover being constructed at the S.R. 874/S.R. 878 interchange.
- The closest existing path across the CSX Railroad and S.R. 874 is at SW 88th Street (Kendall Drive).
- Two options for connecting the proposed Snapper Creek Trail in the canal right-of-way with the existing sidewalks along Kendall Drive are (1) existing sidewalks along SW 99th Court and (2) low-volume residential streets (i.e. – SW 97th Avenue to SW 85th Street to SW 97th Road to SW 98th Court, which connects to Kendall Drive. In addition, right-of-way is available along SW 99th Court for future bike lanes.

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Snapper Creek Canal between S.R. 874 (Don Shula Expressway) and SW 94th Avenue

- No paved path exists along either side of the canal right-of-way between S.R. 874 and SW 94th Avenue.
- K-Land Park and the Boys and Girls Club of Miami – S.W. Langer/Kendall Unit exists along the south side of the canal right-of-way between Kendall Drive and the canal.
- Existing parking is located near the Boys and Girls Club that could serve as a trailhead parking location with information kiosks.
- A lake exists between the Boys and Girls Club and SW 94th Avenue. The lake is currently fenced off.
- SW 94th Avenue is a local residential street that could be used as access between Kendall Drive and the proposed trail within the canal right-of-way.
- No driveways exist along the west side of SW 94th Avenue. The fenced lake borders the west side of SW 94th Avenue for most of the distance between Kendall Drive and the canal right-of-way.

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MEMORANDUM

To: Mark Heinicke, CPRP, CLARB
Miami-Dade County Park and
Recreation Department (MDPR)

Date: May 16, 2008

From: Stewart Robertson, PE
Eric Zahn
Kimley-Horn and Assoc. (KHA)

Subject: **Steering Committee
Meeting Notes
– Task 6**

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

The preliminary plan steering committee meeting for the Snapper Creek Trail (SCT) Segment A Planning Study was held on May 6, 2008, in the fourth floor conference room of the Miami-Dade County Park and Recreation Department (MDPR). The meeting was attended by:

- Mark Heinicke, Park Planner III – MDPR
- Bill Rodriguez, Construction Manager II – MDPR
- David Henderson, Bike/Ped Specialist – Miami-Dade County MPO
- Jeff Cohen, Bicycle Pedestrian Coordinator – MDPWD
- Pedro Reynolds – MDPR
- Lewis Beilman, Intergovernmental Coordination – SFWMD
- Stewart Robertson, P.E., Project Manager – KHA
- Eric Zahn, Planner – KHA

The meeting began with introductions by the project team members in attendance. The primary objective of the meeting was to review community feedback and evaluate schematic alternative plan and design concepts, preliminary cost estimates, and obtain direction. The following list describes the pertinent discussion topics during the meeting.

Snapper Creek Trail, Segment A, Preliminary Plan Meeting Discussion

- Mr. Heinicke stated that the next public meeting will be held at the Cypress Elementary School on June 4th from 5 p.m. to 9 p.m.
 - Mr. Beilman stated that a SFWMD representative will be present at the next public meeting.

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- Mr. Robertson gave a brief recap of the community information workshop public meeting, stating that most residents are supportive of the trail.
- Mr. Robertson introduced features of the proposed preliminary plan alignment such as the potential for utilizing portions of the existing path and new path along SFWMD right-of-way.
- The committee then spent the remaining time discussing potential alignments and trail features to be included in Snapper Creek Trail, Segment A beginning with the north end of the trail and working south.
- Mr. Rodriguez asked a question concerning the length of Snapper Creek Trail Segment A.
 - Mr. Zahn replied that the length of the trail is 5.6 miles.
- Mr. Heinicke followed with an inquiry regarding the length of the existing trail.
 - Mr. Robertson replied that he estimates the existing trail to be approximately 2.5 miles.
- A question was asked if SW 117th Avenue will be widened to 4 lanes.
 - Mr. Cohen replied that SW 117th Avenue is planned to be widened to 4 lanes.
- Mr. Henderson mentioned that SW 117th Avenue's right-of-way varies between SW 32nd Street and Coral Way.
 - Widening the sidewalk to construct a trail may not be possible throughout the length of this section.
 - Multiple driveways and utility poles also inhibit trail construction.
 - There have been homeowner concerns from a commissioner meeting.
- Trail alignment could be considered within the canal right-of-way if there is enough space.
 - Bike lanes could also be considered as an option, but the roadway would have to be widened toward the canal.
 - Widening SW 117th Avenue to four lanes is in the LRTP which may preclude bike lanes.

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Snapper Creek Trail, Segment A – Task 6
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- It was mentioned that it seems that the available roadway right-of-way would be more conducive for construction of a trail.
- Mr. Cohen asked if the SFWMD would consider cantilevering a structure over the canal.
 - Mr. Beilman said it would be considered and would need to go through a permitting process.
- It was mentioned that there would be impacts to existing landscaping if the trail was located adjacent to the canal between Miller Drive and Snapper Creek Drive.
 - Palms could be moved rather than removed.
- Mr. Henderson stated that bike lanes would not be feasible along SW 117th Avenue given high traffic volumes and vehicle speed along the corridor.
 - Low volume neighborhood streets to the east should be considered for alternative routes.
- Mr. Cohen stated that there is an existing connection to the Coral Way green and whites through Tamiami Park that should be used rather than a new connection along the Coral Way exit ramp.
- Mr. Henderson stated that more right-of-way exists on SW 117th Avenue south of SW 32nd Street and that a proposed trail alignment north of SW 32nd Street may be constrained.
- A discussion regarding reducing the width of the median for the inclusion of bike lanes would lower the design speed below 40 miles per hour.
- It was mentioned that the signal at SW 114th Avenue and Coral Way is unique and presents challenges for bicycle and pedestrian crossings.
 - The signal includes turbo lanes.
- It is possible to link Concord Park to Tamiami Park and SW 117th Avenue via SW 32nd Street (possible bike lane) and SW 114th Avenue (shared road).
- It was mentioned that private development partnerships could be utilized to gain more space and trail facilities.
 - Also, working with planning and zoning could be beneficial in acquiring more room for a trail.

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Snapper Creek Trail, Segment A – Task 6
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- Mr. Cohen stated there is adequate room within the C-2 canal right-of-way south of SW 36th Street to move the trail to the west side of SW 117th Avenue using the northbound Turnpike entrance ramp intersection.
- Look at crossing SW 117th Avenue at SW 36th Street.
 - Double arrow protected phase provides protection for a crossing.
 - A crossing at SW 36th Street would eliminate a double crossing at Bird Road.
 - SW 36th Street is a private roadway providing access to a shopping center.
 - Widen the sidewalk between SW 36th Street to SW 32nd Street.
- There is a potential bike lane project on SW 47th Terrace / SW 48th Street.
- A potential crossing exists at Miller Drive and SW 117th Avenue.
 - South of Miller, the trail could utilize the frontage road as a connection to the canal right-of-way.
- Evaluate elevations for sight distance concerns at SW 58th Terrace crossing.
 - The superelevation on the SW 117th Avenue bridge may inhibit unsignalized crossings.
 - It was recommended that the crossing be signalized.
- It was recommended that there should be better landscaping between privacy fence and relocated trail along Britannia development.
- There is a request for a guard rail along Snapper Creek Drive between SW 112th Avenue to SW 107th Avenue by the commissioner's office.
- Mr. Rodriguez mentioned that the canoe launch may not be in an optimal location along the proposed trail alignment.
 - It was also mentioned that the canoe launch is worn and in need of revitalization.
 - The location of the canoe launch is more viable if a signalized trail crossing is provided at SW 58th Terrace.

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- Mr. Cohen suggested a spur trail on the north side of the SFWMD right-of-way south of SW 72nd Street to connect to existing Snapper Creek Drive.
- It was recommended that the crossing at SW 107th Avenue should occur north of SW 72nd Street.
- It was mentioned that there are a lot of impediments along the Kendall Drive sidewalk such as street furniture and utility poles.
- It was mentioned that the MPO's Rail Convertibility Study suggests a transit greenway along the CSX railroad right-of-way. This is a long term project.
- It was mentioned that there is room for the trail within the Boys and Girls Club of Miami/K-unit Park to provide a future connection to Snapper Creek Trail Segment B.
- It was mentioned that there is a potential connection to Kendall Indian Hammock Park along SW 107th Avenue by widening the sidewalk.
 - Mr. Cohen state that there is sufficient space within the swale for widening.
- Crossings should be provided at all legs at the intersection of SW 107th Avenue and SW 72nd Street.
- There is \$500,000 available for priority I improvements.
 - Identify gap areas for potential phase one improvements.

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Snapper Creek Trail, Segment A – Task 6
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APPENDIX K: TASK MEMORANDUM NOTES



MEMORANDUM

To: Mark Heinicke, CPRP, CLARB
Miami-Dade County Park and
Recreation Department (MDPR)

Date: July 22, 2008

From: Stewart Robertson, PE
Eric Zahn
Kimley-Horn and Assoc. (KHA)

Subject: **Steering Committee
Meeting Notes
– Task 8**

Project: **Snapper Creek Trail, Segment A** Job No.: 040829017
Planning Study

The final plan concept steering committee meeting for the Snapper Creek Trail (SCT) Segment A Planning Study was held on July 22, 2008, in the fourth floor conference room of the Miami-Dade County Park and Recreation Department (MDPR). The meeting was attended by:

- Mark Heinicke, Park Planner III, Project Manager – MDPR
- Bill Rodriguez, Construction Manager II – MDPR
- David Henderson, Bike/Ped Specialist – Miami-Dade County MPO
- Jeff Cohen, Bicycle Pedestrian Coordinator – MDPWD
- Tom Morgan – MDPR
- Stewart Robertson, P.E., Consultant Project Manager – KHA
- Eric Zahn, Planner – KHA

The meeting began with introductions by the project team members in attendance. The primary objective of the meeting was to review community feedback from the community open house meeting, review the proposed final plan, and obtain direction from the steering committee. The following list describes the pertinent discussion topics during the meeting.

Snapper Creek Trail, Segment A, Final Plan Meeting Discussion

- Mr. Heinicke stated that the community open house was successful in that there were few people opposed to the trail and most of the attendees were excited about having a trail close to where they live.
- After Mr. Heinicke's recap of the community open house meeting, Mr. Robertson presented the preliminary plan boards to the steering committee that were presented at the community open house meeting.

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Snapper Creek Trail, Segment A – Task 8
Page 1 of 4



- Mr. Robertson mentioned that the boards have since been updated and that the handouts presented to the committee represent the most recent version of the proposed final plan and that everyone should review the final plan and provide any comments they may have.

- Mr. Cohen commented that the portion of the trail that is located in front of the mini dump would need improvements to buffer trail users from the mini dump driveway.
- Mr. Robertson suggested working with the solid waste department to provide a more permanent buffer system that would maintain adequate turning radii for trucks in the driveway.
- Mr. Cohen asked if Tamiami Park's internal paths could be used to avoid the dump.
- Mr. Robertson stated that some trail users who were using the trail for purely transportation purposes would prefer a shorter, more direct route and would still use the historic path along SW 117th Avenue.
- Mr. Cohen stated that debris is present in front of the dump and would impede trail users.
- Mr. Robertson mentioned that the existing crossing at Coral Way is difficult and pedestrians cannot see the traffic signals very well.
- Mr. Heinicke stated that the proposed park located south of Coral Way and east of SW 117th Avenue has been recently planted with trees.
- Mr. Cohen suggested replacing the existing bridge west of SW 107th Avenue on N Snapper Creek Drive with a wider bridge that would provide space for the trail on the south side and a sidewalk on the north side.
- Mr. Cohen mentioned that the existing trail along N Snapper Creek Drive between SW 112th Avenue and the spur canal west of SW 107th Avenue will be moved away from the road and a guardrail will be installed between the road and the trail.
- Mr. Cohen stated that Priscilla Morales would be able to provide exiting plans for the crossing at SW 47th Terrace and SW 117th Avenue.
- Mr. Cohen mentioned that eastbound left-turns at the intersection of N Snapper Creek Drive and SW 72nd Street are minimal and could potentially be eliminated to allow for a safer crossing for trail users.
- Mr. Rodriguez mentioned that there is no parking for the existing canoe launch on SW 117th Avenue.

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Snapper Creek Trail, Segment A – Task 8
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APPENDIX K: TASK MEMORANDUM NOTES



- Mr. Robertson said that there isn't any formal parking available, only a guardrail cut that allows vehicles to pull in and unload canoes and kayaks.
- Mr. Henderson suggested a bridge connecting the crossing at SW 72nd Street directly to the trail along the south side of the canal.
- Mr. Robertson mentioned that there are many benefits for the trail to be built on the south side of the canal east of SW 107th Avenue.
 - Wider right-of-way
 - More scenic and park-like atmosphere
 - Closer access for a greater number of residents
 - Crossing the Don Shula Expressway along Kendall Drive
- Mr. Henderson inquired about the existing bridge on the south side of the canal east of SW 99th Avenue.
 - Mr. Heinicke explained that it is a 13 foot wide concrete bridge and that a structural evaluation would need to be conducted, but it appears to be usable for pedestrians and bicyclists.
- Mr. Rodriguez asked if there are any problems with crossing SW 99th Avenue on the south side of the canal.
 - Mr. Robertson mentioned that this would be a good location for installation of an active warning system such as Cross Alert.
- Mr. Heinicke asked Mr. Henderson if it is worse to cross multiple cross streets or multiple driveways.
 - Mr. Henderson said that it is better to cross multiple cross streets since traffic on streets is controlled by stop signs.
- Mr. Henderson inquired about the reasoning for Alternate C that utilizes neighborhood streets rather than canal right-of-way.
 - Mr. Robertson stated that Alternate C was developed to avoid building a bridge over the spur canal and it also provides connections to Snapper Creek Park and the school.
 - Mr. Henderson suggested eliminating Alternate C and providing wayfinding signage to the park and school since SFWMD concerns over building the bridge over the spur canal seem to have been eased.
- After Mr. Robertson presented the boards displayed at the public open house, he explained that the main difference between the boards and the map handouts was the labeling of the alternates. In addition, the inclusion of an initial phase that would connect the existing trail to the southern limit of the Snapper Creek Segment A study was incorporated into the maps.
- Mr. Henderson asked if there is currently access between FIU and Tamiami Park.
 - SW 112th Avenue connects Tamiami Park with FIU.

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Snapper Creek Trail, Segment A – Task 8
Page 3 of 4



- Mr. Heinicke requested that the most recent plan maps be uploaded to the FTP site along with the cost estimates.
- Mr. Heinicke also requested an outline for the report with a section including active transportation.
- Mr. Heinicke also requested that the appendix of the report be reduced in comparison to the Black Creek Trail report.

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Snapper Creek Trail, Segment A – Task 8
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APPENDIX L: OPINION OF PROBABLE COST

SNAPPER CREEK TRAIL, SEGMENT A - PREFERRED PLAN, PHASES 1-4

Table 1. Opinion of Probable Cost for Trail Elements

October 1, 2008

Base Bid Item No.	Elements	Phase 1	Phase 2	Phase 3	Phase 4	Estimated Quantity	Unit	Unit Price	Cost
1	Kiosks - (3' wide x 8' tall)	2	2	1	0	5	EA	\$ 5,000.00	\$ 25,000.00
2	Directional Signage	4	6	4	2	16	EA	\$ 500.00	\$ 8,000.00
3	Overlook Shelter (table included separately)	1	2	0	0	3	EA	\$ 20,000.00	\$ 60,000.00
4	Bridges (+/- 40 ft span)	0	1	0	0	1	EA	\$ 150,000.00	\$ 150,000.00
5	Bridges (+/- 80 ft span)	1	0	0	0	1	EA	\$ 200,000.00	\$ 200,000.00
6	Park Benches	8	24	9	9	50	EA	\$ 900.00	\$ 45,000.00
7	Trash Receptacles	4	10	2	2	18	EA	\$ 800.00	\$ 14,400.00
8	Bike Racks	3	2	2	0	7	EA	\$ 750.00	\$ 5,250.00
9	Landscape Trees	10	22	20	8	60	EA	\$ 1,000.00	\$ 60,000.00
10	Cross Walks (Pavers) - includes sub-base	30	8950	3400	3400	15780	SF	\$ 6.66	\$ 105,094.80
11	Snapper Creek Trail Signage	4	6	4	4	18	EA	\$ 300.00	\$ 5,400.00
12	Bollards (non-lit)	12	36	12	21	81	EA	\$ 500.00	\$ 40,500.00
13	Landscape Shrubs	2000	4000	0	0	6000	SF	\$ 3.00	\$ 18,000.00
14	10' Asphalt Trail (plus sub-base)	7028	20753	8287	7737	43804	SY	\$ 39.00	\$ 1,708,373.33
16	Pavement Markings (4" Lines)	2800	8300	3400	3100	17600	LF	\$ 0.99	\$ 17,424.00
17	Pavement Markings (12" Lines)	120	360	140	130	750	LF	\$ 6.50	\$ 4,875.00
18	Pavement Markings (Letters and Symbols)	300	100	400	200	1000	EA	\$ 6.50	\$ 6,500.00
19	Picnic Table (w/ benches)	2	2	1	0	5	EA	\$ 1,000.00	\$ 5,000.00
20	Advance Warning Signs	7	27	9	2	45	EA	\$ 150.00	\$ 6,750.00
21	Regulatory Signage	12	34	14	10	70	EA	\$ 120.00	\$ 8,400.00
22	Interpretive Signs	4	4	2	0	10	EA	\$ 2,000.00	\$ 20,000.00
23	Fill	11000	10000	0	0	21000	CY	\$ 15.00	\$ 315,000.00
24	Emergency Call Box	1	2	1	1	5	EA	\$ 10,000.00	\$ 50,000.00
25	Lighting - near major crossings	1	4	2	0	7	EA	\$ 1,600.00	\$ 11,200.00
26	Median Modifications - concrete curb & island	0	500	0	0	500	SY	\$ 41.33	\$ 20,665.00
27	Pedestrian Signal	0	1	0	0	1	EA	\$ 400,000.00	\$ 400,000.00
28	Active Warning Pedestrian Crossing	1	1	0	0	2	EA	\$ 40,000.00	\$ 80,000.00
29	Pedestrian Flashing Light for W11-2	0	3	1	1	5	EA	\$ 10,000.00	\$ 50,000.00
30	Sod, Grade, Scarify, Topsoil	23000	67920	27120	25320	143360	SF	\$ 0.60	\$ 86,016.00
31	Sod Bahia	23000	67920	27120	25320	143360	SF	\$ 0.15	\$ 21,504.00
32	Silt Fencing	5750	14210	0	2700	22660	LF	\$ 1.50	\$ 33,990.00
	Subtotal - 10' Trail and Amenities								\$ 3,582,342.13
	Design & Const. Admin 15%								\$ 537,351.32
	Boundary & Topographic Survey 2.9%								\$ 103,887.92
	Project Management 12%								\$ 429,881.06
	General Requirement 6%								\$ 214,940.53
	Bond & Insurance 2%								\$ 71,646.84
	Traffic Maintenance 2.5%								\$ 89,558.55
	Contingency 20%								\$ 716,468.43
	Subtotal - 10' Trail Soft Cost								\$ 2,163,734.65
	Grand Total - 10' Trail and Amenities								\$ 5,746,076.78

APPENDIX L: OPINION OF PROBABLE COST

SNAPPER CREEK TRAIL, SEGMENT A - PREFERRED PLAN, PHASE 1

Table 1. Opinion of Probable Cost for Trail Elements

October 1, 2008

Base Bid Item No.	Elements	Estimated Quantity	Unit	Unit Price	Cost
1	Kiosks - (3' wide x 8' tall)	2	EA	\$ 5,000.00	\$ 10,000.00
2	Directional Signage	4	EA	\$ 500.00	\$ 2,000.00
3	Overlook Shelter (table included separately)	1	EA	\$ 20,000.00	\$ 20,000.00
4	Bridges (+/- 40 ft span)	0	EA	\$ 150,000.00	\$ -
5	Bridges (+/- 80 ft span)	1	EA	\$ 200,000.00	\$ 200,000.00
6	Park Benches	8	EA	\$ 900.00	\$ 7,200.00
7	Trash Receptacles	4	EA	\$ 800.00	\$ 3,200.00
8	Bike Racks	3	EA	\$ 750.00	\$ 2,250.00
9	Landscape Trees	10	EA	\$ 1,000.00	\$ 10,000.00
10	Cross Walks (Pavers) - includes sub-base	30	SF	\$ 6.66	\$ 199.80
11	Snapper Creek Trail Signage	4	EA	\$ 300.00	\$ 1,200.00
12	Bollards (non-lit)	12	EA	\$ 500.00	\$ 6,000.00
13	Landscape Shrubs	2000	SF	\$ 3.00	\$ 6,000.00
14	10' Asphalt Trail (plus sub-base)	7028	SY	\$ 39.00	\$ 274,083.33
16	Pavement Markings (4" Lines)	2800	LF	\$ 0.99	\$ 2,772.00
17	Pavement Markings (12" Lines)	120	LF	\$ 6.50	\$ 780.00
18	Pavement Markings (Letters and Symbols)	300	EA	\$ 6.50	\$ 1,950.00
19	Picnic Table (w/ benches)	2	EA	\$ 1,000.00	\$ 2,000.00
20	Advance Warning Signs	7	EA	\$ 150.00	\$ 1,050.00
21	Regulatory Signage	12	EA	\$ 120.00	\$ 1,440.00
22	Interpretive Signs	4	EA	\$ 2,000.00	\$ 8,000.00
23	Fill	11000	CY	\$ 15.00	\$ 165,000.00
24	Emergency Call Box	1	EA	\$ 10,000.00	\$ 10,000.00
25	Lighting - near major crossings	1	EA	\$ 1,600.00	\$ 1,600.00
26	Median Modifications - concrete curb & island	0	SY	\$ 41.33	\$ -
27	Pedestrian Signal	0	EA	\$ 400,000.00	\$ -
28	Active Warning Pedestrian Crossing	1	EA	\$ 40,000.00	\$ 40,000.00
29	Pedestrian Flashing Light for W11-2	0	EA	\$ 10,000.00	\$ -
30	Sod, Grade, Scarify, Topsoil	23000	SF	\$ 0.60	\$ 13,800.00
31	Sod Bahia	23000	SF	\$ 0.15	\$ 3,450.00
32	Silt Fencing	5750	LF	\$ 1.50	\$ 8,625.00
	Subtotal - 10' Trail and Amenities				\$ 802,600.13
	Design & Const. Admin 15%			\$	120,390.02
	Boundary & Topographic Survey 2.9%			\$	23,275.40
	Project Management 12%			\$	96,312.02
	General Requirement 6%			\$	48,156.01
	Bond & Insurance 2%			\$	16,052.00
	Traffic Maintenance 2.5%			\$	20,065.00
	Contingency 20%			\$	160,520.03
	Subtotal - 10' Trail Soft Cost			\$	484,770.48
	Grand Total - 10' Trail and Amenities			\$	1,287,370.61

SNAPPER CREEK TRAIL, SEGMENT A - PREFERRED PLAN, PHASE 2

Table 1. Opinion of Probable Cost for Trail Elements

October 1, 2008

Base Bid Item No.	Elements	Estimated Quantity	Unit	Unit Price	Cost
1	Kiosks - (3' wide x 8' tall)	2	EA	\$ 5,000.00	\$ 10,000.00
2	Directional Signage	6	EA	\$ 500.00	\$ 3,000.00
3	Overlook Shelter (table included separately)	2	EA	\$ 20,000.00	\$ 40,000.00
4	Bridges (+/- 40 ft span)	1	EA	\$ 150,000.00	\$ 150,000.00
5	Bridges (+/- 80 ft span)	0	EA	\$ 200,000.00	\$ -
6	Park Benches	24	EA	\$ 900.00	\$ 21,600.00
7	Trash Receptacles	10	EA	\$ 800.00	\$ 8,000.00
8	Bike Racks	2	EA	\$ 750.00	\$ 1,500.00
9	Landscape Trees	22	EA	\$ 1,000.00	\$ 22,000.00
10	Cross Walks (Pavers) - includes sub-base	8950	SF	\$ 6.66	\$ 59,607.00
11	Snapper Creek Trail Signage	6	EA	\$ 300.00	\$ 1,800.00
12	Bollards (non-lit)	36	EA	\$ 500.00	\$ 18,000.00
13	Landscape Shrubs	4000	SF	\$ 3.00	\$ 12,000.00
14	10' Asphalt Trail (plus sub-base)	20753.33333	SY	\$ 39.00	\$ 809,380.00
16	Pavement Markings (4" Lines)	8300	LF	\$ 0.99	\$ 8,217.00
17	Pavement Markings (12" Lines)	360	LF	\$ 6.50	\$ 2,340.00
18	Pavement Markings (Letters and Symbols)	100	EA	\$ 6.50	\$ 650.00
19	Picnic Table (w/ benches)	2	EA	\$ 1,000.00	\$ 2,000.00
20	Advance Warning Signs	27	EA	\$ 150.00	\$ 4,050.00
21	Regulatory Signage	34	EA	\$ 120.00	\$ 4,080.00
22	Interpretive Signs	4	EA	\$ 2,000.00	\$ 8,000.00
23	Fill	10000	CY	\$ 15.00	\$ 150,000.00
24	Emergency Call Box	2	EA	\$ 10,000.00	\$ 20,000.00
25	Lighting - near major crossings	4	EA	\$ 1,600.00	\$ 6,400.00
26	Median Modifications - concrete curb & island	500	SY	\$ 41.33	\$ 20,665.00
27	Pedestrian Signal	1	EA	\$ 400,000.00	\$ 400,000.00
28	Active Warning Pedestrian Crossing	1	EA	\$ 40,000.00	\$ 40,000.00
29	Pedestrian Flashing Light for W11-2	3	EA	\$ 10,000.00	\$ 30,000.00
30	Sod, Grade, Scarify, Topsoil	67920	SF	\$ 0.60	\$ 40,752.00
31	Sod Bahia	67920	SF	\$ 0.15	\$ 10,188.00
32	Silt Fencing	14210	LF	\$ 1.50	\$ 21,315.00
	Subtotal - 10' Trail and Amenities				\$ 1,925,544.00
	Design & Const. Admin 15%			\$	288,831.60
	Boundary & Topographic Survey 2.9%			\$	55,840.78
	Project Management 12%			\$	231,065.28
	General Requirement 6%			\$	115,532.64
	Bond & Insurance 2%			\$	38,510.88
	Traffic Maintenance 2.5%			\$	48,138.60
	Contingency 20%			\$	385,108.80
	Subtotal - 10' Trail Soft Cost			\$	1,163,028.58
	Grand Total - 10' Trail and Amenities			\$	3,088,572.58

APPENDIX L: OPINION OF PROBABLE COST

SNAPPER CREEK TRAIL, SEGMENT A - PREFERRED PLAN, PHASE 3

Table 1. Opinion of Probable Cost for Trail Elements

October 1, 2008

Base Bid Item No.	Elements	Estimated Quantity	Unit	Unit Price	Cost
1	Kiosks - (3' wide x 8' tall)	1	EA	\$ 5,000.00	\$ 5,000.00
2	Directional Signage	4	EA	\$ 500.00	\$ 2,000.00
3	Overlook Shelter (table included separately)	0	EA	\$ 20,000.00	\$ -
4	Bridges (+/- 40 ft span)	0	EA	\$ 150,000.00	\$ -
5	Bridges (+/- 80 ft span)	0	EA	\$ 200,000.00	\$ -
6	Park Benches	9	EA	\$ 900.00	\$ 8,100.00
7	Trash Receptacles	2	EA	\$ 800.00	\$ 1,600.00
8	Bike Racks	2	EA	\$ 750.00	\$ 1,500.00
9	Landscape Trees	20	EA	\$ 1,000.00	\$ 20,000.00
10	Cross Walks (Pavers) - includes sub-base	3400	SF	\$ 6.66	\$ 22,644.00
11	Snapper Creek Trail Signage	4	EA	\$ 300.00	\$ 1,200.00
12	Bollards (non-lit)	12	EA	\$ 500.00	\$ 6,000.00
13	Landscape Shrubs	0	SF	\$ 3.00	\$ -
14	10' Asphalt Trail (plus sub-base)	8286.666667	SY	\$ 39.00	\$ 323,180.00
16	Pavement Markings (4" Lines)	3400	LF	\$ 0.99	\$ 3,366.00
17	Pavement Markings (12" Lines)	140	LF	\$ 6.50	\$ 910.00
18	Pavement Markings (Letters and Symbols)	400	EA	\$ 6.50	\$ 2,600.00
19	Picnic Table (w/ benches)	1	EA	\$ 1,000.00	\$ 1,000.00
20	Advance Warning Signs	9	EA	\$ 150.00	\$ 1,350.00
21	Regulatory Signage	14	EA	\$ 120.00	\$ 1,680.00
22	Interpretive Signs	2	EA	\$ 2,000.00	\$ 4,000.00
23	Fill	0	CY	\$ 15.00	\$ -
24	Emergency Call Box	1	EA	\$ 10,000.00	\$ 10,000.00
25	Lighting - near major crossings	2	EA	\$ 1,600.00	\$ 3,200.00
26	Median Modifications - concrete curb & island	0	SY	\$ 41.33	\$ -
27	Pedestrian Signal	0	EA	\$ 400,000.00	\$ -
28	Active Warning Pedestrian Crossing	0	EA	\$ 40,000.00	\$ -
29	Pedestrian Flashing Light for W11-2	1	EA	\$ 10,000.00	\$ 10,000.00
30	Sod, Grade, Scarify, Topsoil	27120	SF	\$ 0.60	\$ 16,272.00
31	Sod Bahia	27120	SF	\$ 0.15	\$ 4,068.00
32	Silt Fencing	0	LF	\$ 1.50	\$ -
	Subtotal - 10' Trail and Amenities				\$ 449,670.00
	Design & Const. Admin 15%			\$	67,450.50
	Boundary & Topographic Survey 2.9%			\$	13,040.43
	Project Management 12%			\$	53,960.40
	General Requirement 6%			\$	26,980.20
	Bond & Insurance 2%			\$	8,993.40
	Traffic Maintenance 2.5%			\$	11,241.75
	Contingency 20%			\$	89,934.00
	Subtotal - 10' Trail Soft Cost			\$	271,600.68
	Grand Total - 10' Trail and Amenities			\$	721,270.68

SNAPPER CREEK TRAIL, SEGMENT A - PREFERRED PLAN, PHASE 4

Table 1. Opinion of Probable Cost for Trail Elements

October 1, 2008

Base Bid Item No.	Elements	Estimated Quantity	Unit	Unit Price	Cost
1	Kiosks - (3' wide x 8' tall)	0	EA	\$ 5,000.00	\$ -
2	Directional Signage	2	EA	\$ 500.00	\$ 1,000.00
3	Overlook Shelter (table included separately)	0	EA	\$ 20,000.00	\$ -
4	Bridges (+/- 40 ft span)	0	EA	\$ 150,000.00	\$ -
5	Bridges (+/- 80 ft span)	0	EA	\$ 200,000.00	\$ -
6	Park Benches	9	EA	\$ 900.00	\$ 8,100.00
7	Trash Receptacles	2	EA	\$ 800.00	\$ 1,600.00
8	Bike Racks	0	EA	\$ 750.00	\$ -
9	Landscape Trees	8	EA	\$ 1,000.00	\$ 8,000.00
10	Cross Walks (Pavers) - includes sub-base	3400	SF	\$ 6.66	\$ 22,644.00
11	Snapper Creek Trail Signage	4	EA	\$ 300.00	\$ 1,200.00
12	Bollards (non-lit)	21	EA	\$ 500.00	\$ 10,500.00
13	Landscape Shrubs	0	SF	\$ 3.00	\$ -
14	10' Asphalt Trail (plus sub-base)	7736.666667	SY	\$ 39.00	\$ 301,730.00
16	Pavement Markings (4" Lines)	3100	LF	\$ 0.99	\$ 3,069.00
17	Pavement Markings (12" Lines)	130	LF	\$ 6.50	\$ 845.00
18	Pavement Markings (Letters and Symbols)	200	EA	\$ 6.50	\$ 1,300.00
19	Picnic Table (w/ benches)	0	EA	\$ 1,000.00	\$ -
20	Advance Warning Signs	2	EA	\$ 150.00	\$ 300.00
21	Regulatory Signage	10	EA	\$ 120.00	\$ 1,200.00
22	Interpretive Signs	0	EA	\$ 2,000.00	\$ -
23	Fill	0	CY	\$ 15.00	\$ -
24	Emergency Call Box	1	EA	\$ 10,000.00	\$ 10,000.00
25	Lighting - near major crossings	0	EA	\$ 1,600.00	\$ -
26	Median Modifications - concrete curb & island	0	SY	\$ 41.33	\$ -
27	Pedestrian Signal	0	EA	\$ 400,000.00	\$ -
28	Active Warning Pedestrian Crossing	0	EA	\$ 40,000.00	\$ -
29	Pedestrian Flashing Light for W11-2	1	EA	\$ 10,000.00	\$ 10,000.00
30	Sod, Grade, Scarify, Topsoil	25320	SF	\$ 0.60	\$ 15,192.00
31	Sod Bahia	25320	SF	\$ 0.15	\$ 3,798.00
32	Silt Fencing	2700	LF	\$ 1.50	\$ 4,050.00
	Subtotal - 10' Trail and Amenities				\$ 404,528.00
	Design & Const. Admin 15%			\$	60,679.20
	Boundary & Topographic Survey 2.9%			\$	11,731.31
	Project Management 12%			\$	48,543.36
	General Requirement 6%			\$	24,271.68
	Bond & Insurance 2%			\$	8,090.56
	Traffic Maintenance 2.5%			\$	10,113.20
	Contingency 20%			\$	80,905.60
	Subtotal - 10' Trail Soft Cost			\$	244,334.91
	Grand Total - 10' Trail and Amenities			\$	648,862.91

APPENDIX M: BPAC RESOLUTION OF SUPPORT

BPAC RESOLUTION #7-2008

A RESOLUTION SUPPORTING THE SNAPPER CREEK TRAIL SEGMENT "A" MASTER PLAN, EXTENDING THE NORTHER PROJECT LIMIT TO SW 8TH ST AND EXPEDITING THE PROJECT'S CONSTRUCTION

WHEREAS, the Miami-Dade Metropolitan Planning Organization Governing Board has established the Bicycle/Pedestrian Advisory Committee (BPAC) to advise it on bicycle/pedestrian issues;

WHEREAS, the Miami-Dade County Park and Recreation Department has developed the Snapper Creek Trail Segment "A" Master Plan that proposes new and enhanced connections between the FIU University Park campus, Tamiami Park and K-Land Park along the Snapper Creek Canal and adjacent streets;

WHEREAS, the Florida Department of Transportation proposes to add bicycle lanes along SW 8th Street from SW 112 Ave to SR 826 as part of an upcoming resurfacing project;

WHEREAS, extending the Snapper Creek Trail Segment "A" project limits to SW 8th Street would connect this project to the proposed bicycle lanes; and

WHEREAS, the "Building Better Communities" bond program includes project #141 ("Bike Path Improvements on Snapper Creek Trail") which includes \$500,000 in fiscal years 2015-2017 for implementation of the master plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BICYCLE/PEDESTRIAN ADVISORY COMMITTEE OF THE METROPOLITAN PLANNING ORGANIZATION FOR THE MIAMI URBANIZED AREA:

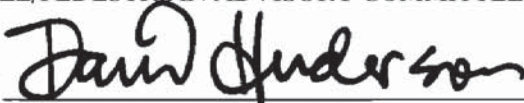
THAT the Bicycle/Pedestrian Advisory Committee supports the Snapper Creek Trail Segment "A" Master Plan and recommends extending the northern project limit to SW 8th Street and expediting the construction of the project.

The foregoing resolution was offered by Eric Tullberg, who moved its adoption. The motion was seconded by Susan Kairalla, and being put to a vote, the vote was as follows:

Brett Bibeau – aye	John O'Brien – aye
Steve Greenberg – absent	Robert Rodriguez – absent
Susan Kairalla – aye	Larry Thorson – absent
Theo Karantsalis – aye	Betty Trueba – absent
Lee Marks – absent	Eric Tullberg – aye

The Chair thereupon declared the resolution duly passed and adopted this 24th day of September, 2008.

BICYCLE/PEDESTRIAN ADVISORY COMMITTEE (BPAC)

BY 
David Henderson, BPAC Secretariat