

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, IN SUPPORT OF THE AMERICAN CANCER SOCIETY "RELAY FOR LIFE" EVENT; PROVIDING FUNDING SUPPORT TO THE AMERICAN CANCER SOCIETY FOR THE 2015 EVENT; AUTHORIZING THE VILLAGE MANAGER TO ALLOCATE \$1,800 FOR THE EVENT TO BE HELD ON FEBRUARY 28, 2015; AND PROVIDING AN EFFECTIVE DATE. (Sponsored by Mayor Eugene Flinn)

WHEREAS, the annual Relay for Life event organized by the American Cancer Society will be held on February 28, 2015 at Evelyn Greer Park in Pinecrest, Florida; and

WHEREAS, the American Cancer Society contacted the Village to seek participation in this two-day event, wherein team members camp out overnight in order to raise awareness and donations for the purpose of defeating cancer, in addition to celebrating survivorship; and

WHEREAS, the Village feels this is an important and desirable event to the Palmetto Bay community and worldwide; and,

WHEREAS, the Village wishes to support the American Cancer Society and express its gratitude for coordinating this worthwhile event.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:

Section 1: The Village Council approves providing a donation in the amount of \$1,800 for the American Cancer Society. One Thousand Dollars will be for a "Finish The Fight Sponsor" and Eight Hundred Dollars shall be for the Kid Zone rides.

Section 2: The Village Manager is hereby authorized to provide the donation in the amount of \$1,800 to the American Cancer Society and express the Village's support in the fight against cancer.

Section 3: This resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this \_\_\_\_\_ day of February, 2015.

Attest: \_\_\_\_\_  
Meighan Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

1 APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE  
2 USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY ONLY:

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6 \_\_\_\_\_  
Dexter W. Lehtinen

7 Village Attorney

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10 FINAL VOTE AT ADOPTION:

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12 Council Member Karyn Cunningham \_\_\_\_\_

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14 Council Member Tim Schaffer \_\_\_\_\_

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16 Council Member Larissa Siegel Lara \_\_\_\_\_

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18 Vice-Mayor John DuBois \_\_\_\_\_

19

20 Mayor Eugene Flinn \_\_\_\_\_

## RESOLUTION NO. \_\_\_\_\_

A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA; SUPPORTING THE 2015 LEGISLATIVE PROGRAM OF THE MIAMI-DADE COUNTY PUBLIC SCHOOLS FOR THE UPCOMING LEGISLATIVE SESSION; AND PROVIDING AN EFFECTIVE DATE. (Sponsored by Councilwoman Karyn Cunningham.)

WHEREAS, in preparation for the coming legislative session, the Village Council is desirous of supporting the legislative agenda of Miami-Dade County Public Schools (MDCPS) and its priorities, to wit: restoring funding the State's investment in K-12 education; revising the Value Adjustment Board with procedural changes; and revising the current assessment system and accountability system to insure fair and equitable accountability reform; and

WHEREAS, the Village Council supports the State Legislature in protecting and educating our children; and,

WHEREAS, the Mayor and Council desire to express their support of the MDCPS Legislative Agenda for 2015.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:

Section 1. The foregoing "Whereas" clauses are hereby ratified as true and correct and are incorporated herein by this reference.

Section 2. The Village hereby files its support of the legislative agenda item as identified in the Miami-Dade County Public School 2015 State Legislative Program, which is attached hereto as Exhibit "A"; priorities are noted, as follows:

- **Funding:** Restore the state's investment in K-12 education by increasing the Base Student Allocation (BSA) to at least pre-recession levels of \$4,163.47 and the total per student funding of \$7,307.90;
- **Value Adjustment Board Structural Changes:** Revise the Value Adjustment Board proceedings to include:
  - Proof of the property owner consent/knowledge of an appeal;
  - Limit appeal rescheduling to only one for good cause;
  - Payment of interest at the market rate; and
  - Require the property appraiser to finish all appeals by June 30<sup>th</sup> of each year.
- **Fair and Equitable Accountability Reform:** Revise the current assessment system and accountability system to:
  - Provide proper field testing in Florida of the entire new state assessment, not simply sample questions, ensuring the statistical requirements of validity and reliability;
  - Provide a two-year transition of grading districts and schools to allow for field testing and setting appropriate baseline assessment data;





# Miami-Dade County Public Schools

*giving our students the world*

**Superintendent of Schools**

Alberto M. Carvalho

November 21, 2014

**Miami-Dade County School Board**

*Perta Tabares Hantman, Chair*

*Dr. Lawrence S. Feldman, Vice Chair*

*Dr. Dorothy Bendross-Mindingall*

*Susie V. Castillo*

*Carlos L. Curbelo*

*Dr. Wilbert "Teo" Holloway*

*Dr. Martin Karp*

*Dr. Marta Pérez*

*Raquel A. Regalado*

Dear Mayor:

Despite Florida's economic challenges during the past several years, Miami-Dade County Public Schools has seen significant student achievement gains. The results are compelling as we have received national recognition for student achievement outcomes. To continue our success, we need your continued support. We respectfully request your support of the Miami-Dade School Board's legislative platform, adopted at the October 7, 2014 School Board meeting, (enclosed) for the upcoming 2015 legislative session. This platform reflects the legislative needs identified by the School Board, staff and also by interested citizens, PTA/PTSA groups, employee groups, administrators, and other community stakeholders.

We respectfully request your support of The School Board's top three priorities for the upcoming legislative session which are:

## **Funding**

Restore the state's investment in K-12 education by increasing the Base Student Allocation (BSA) to at least pre-recession levels of \$4,163.47 and the total per student funding of \$7,307.90.

## **Value Adjustment Board Structural Changes**

Revise the Value Adjustment Board proceedings to include:

- Proof of the property owner consent/knowledge of an appeal;
- Limit appeal rescheduling to only one for good cause;
- Payment of interest at the market rate; and
- Require the property appraiser to finish all appeals by June 30<sup>th</sup> of each year.

## **Fair and Equitable Accountability Reform**

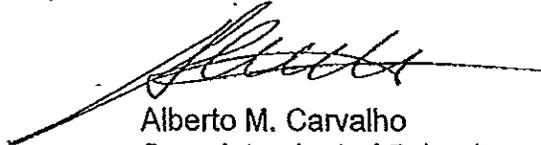
Revise the current assessment system and accountability system to:

- Provide proper field testing in Florida of the entire new state assessment, not simply sample questions, ensuring the statistical requirements of validity and reliability;

- Provide a two-year transition of grading districts and schools to allow for field testing and setting appropriate baseline assessment data;
- Authorize alternate methods for assessing learning and achievement for special populations such as ESE and English Language Learners (ELL) students;
- Ensure two years of language acquisition for ELL students;
- Suspend accountability consequences for another year;
- Provide Florida's statewide assessments in multiple languages as allowed by federal regulations;
- Eliminate the practice of using student performance on a single standardized test as the sole basis of student and school performance; and
- Perform a comprehensive review of the entire assessment program.

On behalf of the public school students of Miami-Dade County, I thank you for your continued support, and look forward to working with you. If you have any questions or need additional information, please contact Ms. Iraida R. Mendez-Cartaya, Assistant Superintendent, Office of Intergovernmental Affairs, Grants Administration, and Community Engagement, at 305 995-1497.

Sincerely,



Alberto M. Carvalho  
Superintendent of Schools

AMC:ibd  
L426

Attachment

cc: School Board Members  
School Board Attorney  
Superintendent's Cabinet

MIAMI-DADE COUNTY PUBLIC SCHOOLS

2015 STATE LEGISLATIVE PROGRAM

GOAL STATEMENT

*The Florida Legislature should establish a five-year strategic plan to restore, stabilize, and increase funding through the Florida Education Finance Program (FEFP) to achieve at least the national average in per pupil expenditures to provide the highest quality education and to enable all of our students to be empowered to lead productive and fulfilling lives as lifelong learners and responsible citizens.*

2015 LEGISLATIVE PRIORITY POSITIONS

FUNDING:

Restore the state's investment in K-12 education by increasing the Base Student Allocation (BSA) to at least pre-recession levels of \$4,163.47 and the total per student funding of \$7,307.90.

Revise the Value Adjustment Board proceedings to include:

- Proof of the property owner consent/knowledge of an appeal;
- Limit appeal rescheduling to only one for good cause;
- Payment of interest at the market rate; and
- Require the property appraiser to finish all appeals by June 30<sup>th</sup> of each year.

Amend state statutes to allow school districts to levy the Prior Period Funding Adjustment Millage based on the property appraiser's estimate of the prior year gross taxable value.

Modify the penalty for non-compliance with the constitutional class size requirement to be based on the school-wide average for all public schools.

Conduct an impartial third-party study to develop a cost of education index which focuses on cost differences integral to K-12 public school district operations reflecting such costs as average teacher salaries, health insurance for employees, property insurance per FTE, and transportation costs per FTE.

Increase funding for Safe Schools and revise allocation formula so that each district's allocation is equal to fifty percent of prior year eligible district expenditures.

Fully fund the infrastructure cost and the acquisition of computers for the mandated expansion of computer-based administration of statewide testing, and the digital content conversion required by 2015-2016.

Provide school districts funding to cover the full cost of offering dual enrollment courses through incentive funding to school districts/schools that offer such programs and have successful completion of dual enrollment courses by students.

Fully fund and allow school districts to determine locally how to ensure the lowest performing schools/students receive additional instructional time by either extending the school day or extending the school year.

Amend F.S. 1011.61 to fully fund programs taken by students beyond the 1.0 FTE cap or 25 hours a week such as virtual classes outside the traditional school day and year.

Eliminate the statutory provision requiring the passage of end-of-course assessment for funding purposes.

Amend F.S. 1008.36 related to Florida School Recognition Program requiring FLDOE to distribute funds to eligible schools only after all school letter grades are released.

Fully fund the development of end-of-course (EOC).

Oppose the imposition of unfunded, state-mandated expenditures.

#### ACCOUNTABILITY REFORM:

Revise the current assessment system and accountability system to:

- Provide proper field testing in Florida of the entire new state assessment, not simply sample questions, ensuring the statistical requirements of validity and reliability;
- Provide a two-year transition of grading districts and schools to allow for field testing and setting appropriate baseline assessment data;
- Authorize alternate methods for assessing learning and achievement for special populations such as ESE and English Language Learners (ELL) students;
- Ensure two years of language acquisition for ELL students;
- Suspend accountability consequences for another year;
- Provide Florida's statewide assessments in multiple languages as allowed by federal regulations;
- Eliminate the practice of using student performance on a single standardized test as the sole basis of student and school performance; and
- Perform a comprehensive review of the entire assessment program.

} ADDED

Reinstate a special education diploma for students with disabilities.

Ensure charter and private schools receiving public monies adhere to the same teacher certification, student placement, and progression policies to ensure compliance with federal and state accountability requirements.

#### CAPITAL FUNDING:

Establish a long-term, stable, and recurring revenue source sufficient to fulfill the state's educational facility needs.

Restore the allowable discretionary voted capital outlay millage by .10 mills annually until restoration of the full 2 mills.

Oppose any diversion of Local Discretionary Capital Outlay levy revenue from traditional public schools to charter schools.

Fully fund the Public Education Capital Outlay Program that involves construction and maintenance programs for public school districts and ensure that school districts receive their fair share.

#### SCHOOL READINESS:

Support state funding for a high-quality, full-day Voluntary Pre-K (VPK) program.

#### CHARTER SCHOOLS:

Repeal the requirement to use the standard charter contract.

Oppose any changes to current requirements regarding charter conversion of traditional public schools that dilute the role of parents, teachers, and community stakeholders.

Support capital funding for charter schools that:

- Creates neither a reduction of funding to traditional public schools in operating or capital funding nor a requirement for additional taxing mandate on the local school district;
- Requires public input; and
- Protects taxpayers' investment ensuring that capital funding be spent only on assets that can be returned to the public school district.

Establish a level playing field for traditional public schools by extending the current statutory flexibility such as the exemption from State Education Required Facilities (SREF), categorical funding, accountability, class size reduction compliance and related penalties assessed on charter schools.

Clarify that a charter school contract automatically terminates after a charter school has exhausted all of its administrative appeals after receiving two consecutive grades of F or upon voluntary closure.

Allow school districts with charter school enrollment exceeding 15 percent to limit approvals of charter school applications through a Request for Proposal (RFP) process to locate in areas of highest need or through the formulation of district/charter collaborations.

Allow charter schools to weight low-income and educationally disadvantaged applicants in admissions lotteries as recommended by the U.S. Department of Education guidance to create more integrated schools.

Improve safeguards of tax payer investments and transparency between traditional public schools and charter schools, including, but not limited to, implementing the following safeguards:

- Require charter school applications and lotteries be monitored by the local school board, or an appropriate independent entity, to ensure a fair, equitable, and transparent process for all students;
- Allow local school districts to negotiate an appropriate usage fee based on market comparables;
- Require funding to follow the student when transferring between charter and traditional public schools during the school year;

- Establish financial disclosure standards and requirements for charter school officers and related parties involved in financial decision making, similar to traditional public school standards;
- Require the state to create a pre-qualification process for charter school applicants; and
- Require the same standards of governance, conduct and ethics for public officials to apply to charter school governing board members, charter school corporate officers and employees.

#### TEACHER PREPARATION/COMPENSATION:

Require teacher certification to meet the requirements of No Child Left Behind (NCLB) and align state standards to ensure that teachers are highly qualified in content areas as well as in pedagogy.

Educational program needs must include the ability for instructional staff to be qualified in order to certify students in vocational areas for industry-certified programs.

Amend state statutes related to the Student Success Act to clarify that:

- Only one annual evaluation is required for teachers; and
- Provide for annual supplements in lieu of base salary increases for highly effective teachers only.

Provide a three-year transition for student growth measures to become part of the teacher evaluation system as the Florida State Assessment (FSA) and local end-of-course exams are developed and implemented.

Allow districts to use FSA Reading/Math and/or school-wide data for instructional staff with no assessment until such time as local valid and reliable assessments have been developed.

#### SAFETY:

Require that the Florida High School Athletic Association make literature available to parents on the importance of having a cardiovascular assessment such as an EKG performed on student athletes and pursue mandatory screening prior to participation in any organized sports.

#### FACILITIES:

Provide local school districts the flexibility to use the Florida Building Code in lieu of the State Requirements for Educational Facilities.

#### WORKFORCE DEVELOPMENT:

Support legislation that attempts to strengthen the role of technical centers in the development of a skilled workforce.

Include representatives from the secondary schools' career and technical education programs in the state's Articulation Coordinating Committee.

## VIRTUAL EDUCATION:

Modify the requirement to offer three different virtual offerings to students.

## POLICY STATEMENTS:

### Funding

Fully fund class size reduction requirement while providing increases to the Base Student Allocation (BSA) and other components of the FEFP.

Examine Florida's tax structure and phase out sales tax exemptions for non-essential goods and services; ensure that internet sales remit necessary sales tax to Florida.

Support maximum flexibility in the use of categorical funds.

Maintain the integrity of the FEFP and equity of funding among school districts.

Oppose any prescribed expenditure such as the "65 percent solution" as a mandate in the Florida Constitution and further oppose any such legislation, unless established as a spending goal with the definition of expenditures to include all instructional support expenditures.

Oppose compression of the Discretionary Millage.

Support equivalent supplemental funding for the participation and the attainment of a diploma for Advanced Placement, Cambridge (AICE) and International Baccalaureate programs.

Maintain the current required employers' contribution rate to the Florida Retirement System by absorbing any planned increase in local employer's contribution.

Oppose legislation that increases the sovereign immunity liability limits on governmental agencies.

Commit to long-term funding stability for teacher performance pay and teacher evaluation systems.

Provide maximum flexibility with the funds appropriated.

Allow school districts to locally establish contract provisions inclusive of cost structures with postsecondary institutions related to the delivery of dual enrollment.

Increase ESE per pupil funding to account for both student growth and inflationary cost particularly in level 254 and 255 to provide early identification and intervention services for students with autism.

Support grant funding to create new and innovative programs and academies.

### Capital Funding

Provide adequate school construction funding to support new and existing facilities, technology, maintenance, land acquisition and class size reduction needs through the establishment of long-term, stable and recurring revenue sources to fulfill the state's educational facility needs.

Oppose any further reduction in capital millage available to school districts for the purpose of balancing the operating budget.

Oppose any attempt to equalize the capital outlay levy.

Oppose the deletion of impact fees unless replaced with another revenue source.

Expand the allowable use of a locally voted upon sales tax to include operating expenses that maintain, renovate, or repair existing school facilities or maintain, secure, or upgrade school technology equipment.

### Governance

Oppose legislation that subverts district governance of constitutionally elected local school boards and elected or appointed superintendents.

Oppose legislation that modifies the governance structure of The School Board of Miami-Dade County, Florida.

Oppose legislation that breaks up large school districts.

### Choice

Support increased accountability measures for all publicly funded school choice options.

Oppose all publicly funded programs that lack equitable and sufficient accountability measures.

Oppose implementation of additional or any increases in funding for voucher programs while requiring more accountability from schools receiving Florida Tax Credit Scholarship (FTCS) funding.

### Academics

Support legislation that will require high-quality training in reading and English language development for teachers responsible for instructing English Language Learners (ELL).

Support the development of high-quality English Language Proficiency (ELP) standards.

Oppose legislation that would limit offering gifted programs to eligible high school students.

Support legislation that delays Academic Scholarship Signing Day until May of each year.

Support legislation that ensures that Florida State Assessment (FSA) testing not be administered during religious holidays.

Require the state to provide a minimum of one-year lead time on new state requirements for school districts.

Maintain the current dual delivery system of post-secondary programs.

Support amending F.S. 1009.534 and 1009.535 adding the attainment of the Advanced Placement Capstone diploma as one of the eligibility requirements for Florida Bright Futures Scholarship Program.

Create a statewide taskforce for Hispanic Heritage Education modeled after the African-American History taskforce. } ADDED

#### Student Safety

Support legislation that proposes a "slowing down zone" within an area prior to entering a school zone.

Support funding to provide training for students, parents, teachers, school administrators, counseling staff, and volunteers to learn how to recognize behaviors that lead to bullying and harassment.

Ensure any casino authorized in Florida is at least 1,000 feet from a school or land designated for school purpose.

## RESOLUTION NO. \_\_\_\_\_

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3 A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE  
4 VILLAGE OF PALMETTO BAY, FLORIDA; APPROVING THE TOPICS  
5 FOR THE 2015 STATE LEGISLATIVE AGENDA THAT SUPPORT THE  
6 PRIORITIES OF THE VILLAGE OF PALMETTO BAY FOR THE  
7 UPCOMING LEGISLATIVE SESSION; AND PROVIDING AN EFFECTIVE  
8 DATE.  
9

10 WHEREAS, the Village Council has developed a Legislative Agenda that supports the  
11 priorities of the Village of Palmetto Bay for the 2015 Legislative session; and

12 WHEREAS, the Mayor and Village Council desire to lobby the State Legislature to consider  
13 and address these priorities.

14 NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND THE  
15 VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS  
16 FOLLOWS:

17 Section 1. The Village Council hereby approves its 2015 Legislative Agenda in support  
18 of the following listed priorities:

- 19 1. Maximizing all available appropriation opportunities for Village-wide stormwater and  
20 other public works/infrastructure public works projects;  
21
- 22 2. Seeking funding to support traffic calming projects and public transit improvements,  
23 including construction of bus shelters. In addition, the Village will be seeking funds to  
24 assist with bicycle/pedestrian safety improvements, within the Village;  
25
- 26 3. Lessening historic restrictions to allow for public funds to be used for enhancements,  
27 including much-needed traffic improvements, to Old Cutler Road throughout the Village  
28 of Palmetto Bay;  
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- 30 4. Maximizing funding and seeking a partnership with the Trust for Public Lands, Miami-  
31 Dade County DERM, and Miami-Dade County Environmentally Endangered Lands,  
32 among others, in order to support the use of appropriated Amendment 1 monies to  
33 purchase and preserve environmentally sensitive or park/government use land within  
34 Palmetto Bay;  
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- 36 5. Seeking funding for historic preservation in Palmetto Bay;  
37
- 38 6. Pursuing grant opportunities to assist with the coordination of the interconnected  
39 bicycle path and walking trails program, supporting the efforts and application of the  
40 Miami-Dade County Parks, Recreation and Open Spaces effort;  
41
- 42 7. Urging the State to take all necessary actions in order to provide restrictions on any  
43 annual rate increases on Windstorm insurance to assist all residents of South Florida; and  
44

1 8. Supporting the Legislative Priorities of the Florida League of Cities.

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3 Section 2. The above whereas clauses are incorporated by reference.

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5 Section 3. This resolution shall take effect immediately upon approval.

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7 Section 4. The Village Clerk shall provide executed copies of this resolution to the  
8 Village's lobbyist.

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10 PASSED and ADOPTED this \_\_\_\_\_ day of February, 2015.

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13 Attest: \_\_\_\_\_

14 Meighan Alexander  
15 Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

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17 APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE  
18 USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY ONLY:

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22 Dexter W. Lehtinen  
23 Village Attorney

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26 FINAL VOTE AT ADOPTION:

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28 Council Member Karyn Cunningham \_\_\_\_\_

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30 Council Member Tim Schaffer \_\_\_\_\_

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32 Council Member Larissa Siegel Lara \_\_\_\_\_

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34 Vice-Mayor John DuBois \_\_\_\_\_

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36 Mayor Eugene Flinn \_\_\_\_\_

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40 This Resolution was filed in the Office of the Village Clerk on this \_\_\_\_\_ day of February, 2015.

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43 \_\_\_\_\_  
44 Meighan Alexander, Village Clerk



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To: Honorable Mayor & Village Council

Date: January 26, 2015

From: Ron E. Williams, Village Manager

Re: Education Advisory Committee

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**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO AD HOC ADVISORY BOARDS; APPOINTING A MEMBER TO THE EDUCATION ADVISORY BOARD; PROVIDING AN EFFECTIVE DATE. (Sponsored by Vice Mayor John DuBois)**

**BACKGROUND AND ANALYSIS:**

As you know, the Village Council formed the Education Advisory Board via Resolution No. 2013-81 on November 4, 2013. With the election of Councilwoman Katryn Cunningham, the Vice Mayor has the opportunity to appoint an individual to this important position.

Upon review of the resume received, Vice Mayor DuBois has determined that Mr. Orestes Mayo would be an asset to this Committee. Mayor Flinn remains the liaison to this Committee.

**FISCAL IMPACT:**

This is an advisory committee and there is, therefore, no anticipated fiscal impact for formation of the Board.

**RECOMMENDATION:**

Council direction.

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO AD HOC ADVISORY BOARDS; APPOINTING A MEMBER TO THE EDUCATION ADVISORY COMMITTEE; PROVIDING AN EFFECTIVE DATE. (Sponsored by Vice Mayor John DuBois)**

WHEREAS, the Village Council of the Village of Palmetto Bay had previously created the Education Advisory Committee; and

WHEREAS, as there is one position opened, which is the appointment of the Vice Mayor, Vice Mayor John DuBois has reviewed the Committee's qualifications and is desirous of appointing an individual to the Committee in order to have a full Committee.

**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

Section 1. Orestes Mayo is hereby appointed to the Education Advisory Committee.

Section 2. This resolution shall take effect immediately upon approval.

PASSED and ADOPTED this \_\_\_\_\_ day of February, 2015.

Attest: \_\_\_\_\_  
Meighan Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY ONLY:

\_\_\_\_\_  
Dexter W. Lehtinen  
Village Attorney

FINAL VOICE AT ADOPTION:

Council Member Katryn Cunningham \_\_\_\_\_

Council Member Tim Schaffer \_\_\_\_\_

Council Member Larissa Siegel Lara \_\_\_\_\_

Vice-Mayor John DuBois \_\_\_\_\_

Mayor Eugene Flinn \_\_\_\_\_



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To: Honorable Mayor and Village Council

Date: January 26, 2015

From: Ron E. Williams, Village Manager

Re: Appointments to Tree Advisory Board

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**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO THE TREE ADVISORY BOARD, RE-APPOINTING MEMBERS TO THE VILLAGE OF PALMETTO BAY TREE ADVISORY BOARD; AND, PROVIDING AN EFFECTIVE DATE. (Vice Mayor DuBois/Councilman Tim Schaffer)**

**BACKGROUND AND ANALYSIS:**

The Tree Advisory Board duties include reviewing and proposing revisions to the Village's Master Street Tree Plan and Plans relating to trees for all Village Parks and Public Places for consideration and action by Village Staff and the Village Council. The Board is to issue recommendations to the Village Council for all program acquisitions or modifications in accordance with this Division. The Advisory Board may make recommendations as to the public education aspects of the program.

The Public Works Director, or her/his designee, continues to serve as the liaison to the advisory board. The Advisory Board shall be guided by the criteria of the National Arbor Day Foundation's Street Tree USA Program criteria and guidelines.

Currently, two members' terms will be expiring (two year term appointees, in order to allow for staggered terms.) Mr. Don Pybas and Mr. Rainer Schael both have indicated that they would like to serve again. These two individuals are fully qualified to continue to serve as members of this Board.

**FISCAL/BUDGETARY IMPACT:** No additional costs anticipated at this time.

**RECOMMENDATION:** Approval.

1 RESOLUTION NO. \_\_\_\_\_  
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3 A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE  
4 VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO THE TREE  
5 ADVISORY BOARD, RE-APPOINTING MEMBERS TO THE VILLAGE  
6 OF PALMETTO BAY TREE ADVISORY BOARD; AND, PROVIDING AN  
7 EFFECTIVE DATE.  
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9 WHEREAS, on January 12, 2009, the Village of Palmetto Bay, through adoption of  
10 Ordinance 09-02, created the Village of Palmetto Bay Tree Advisory Board to promote the general  
11 welfare and to encourage the preservation of green space and the environment by reviewing and  
12 making recommendations as to developing and administering a comprehensive tree management  
13 program. Additionally, the Tree Advisory Board would assist the Village in developing an urban or  
14 community forestry program, and ultimately, an annual, systematic management of the Village's tree  
15 resources, including, tree planting, maintenance and removal program for trees on streets, parks and  
16 other public places;  
17

18 WHEREAS, Ordinance 09-02 defines the membership, meeting requirements, conflict of  
19 interest, and duties of the Tree Advisory Board. The terms of two members will be expiring March  
20 4, 2015.  
21

22 NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE  
23 COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:  
24

25 Section 1. The following individuals are appointed:  
26

27 Don Pybas - appointed Vice Mayor John DuBois; and  
28

29 Rainer Schael – appointed by Councilman Tim Schaffer.  
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31 Section 2. This resolution shall take effect immediately upon approval.  
32

33 PASSED and ADOPTED this \_\_\_\_\_ day of February, 2015.  
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35

36 Attest: \_\_\_\_\_  
37 Meighan Alexander  
38 Village Clerk  
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\_\_\_\_\_  
Eugene Flinn  
Mayor

40 APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE  
41 USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY ONLY:  
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45 Dexter W. Lehtinen  
46 Village Attorney  
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2 FINAL VOTE AT ADOPTION:  
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4 Council Member Katyn Cunningham \_\_\_\_\_  
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6 Council Member Tim Schaffer \_\_\_\_\_  
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8 Council Member Larissa Siegel Lara \_\_\_\_\_  
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10 Vice-Mayor John DuBois \_\_\_\_\_  
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12 Mayor Eugene Flinn \_\_\_\_\_



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To: Honorable Mayor and Village Council      Date: January 26, 2015  
From: Meighan Alexander, Village Clerk      Re: Appointment of Canvassing  
Board for Special Election of  
April 21, 2015

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**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO ELECTIONS; CREATING THE VILLAGE CANVASSING BOARD FOR THE PURPOSE OF CANVASSING ELECTION RETURNS FOR THE APRIL 21, 2015 SPECIAL ELECTION; PROVIDING AN EFFECTIVE DATE.**

**BACKGROUND AND ANALYSIS**

In early January of this year, the Council passed a Resolution, setting the Special Election for the Alexander Montessori School's request for student enrollment increase. The Special Election is set for April 21, 2015, and, at the School's request, a precinct will be opened.

Since a precinct will be opened and there are no other County, State, or Federal elections scheduled, the Village is required to canvassing the election results, utilizing its own Canvassing Board. In accordance with Ordinance 2014-02, which defines the Board's composition, I contacted County Court Judge Andrew S. Hague and Cutler Bay Town Manager Rafael Casals, both of whom agreed to serve.

The Clerk's office is grateful to these two dedicated public servants for agreeing to assist Palmetto Bay.

**FISCAL/BUDGETARY IMPACT**

The budgetary impact for this Board is minimal: travel time of staff and meals for the Board members.

**RECOMMENDATION:** Approval is recommended.

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO ELECTIONS; CREATING THE VILLAGE CANVASSING BOARD FOR THE PURPOSE OF CANVASSING ELECTION RETURNS FOR THE APRIL 21, 2015 SPECIAL ELECTION; PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, as Resolution No. 2015-14, passed January 5, 2015, established a Special Election at the request of Alexander Montessori School in order for the electorate within 2,000 square feet radius to consider student expansion; and

**WHEREAS**, as this election is solely a Palmetto Bay election (it does not coincide with an existing State, Federal or Miami-Dade County election); and, as this is an election that will require a precinct to be opened, the Village must appoint its own Canvassing Board. Village Code, Section 10-11(b), provides that such Board be composed of three individuals:

The Village canvassing board shall be a panel composed of three individuals: a member of the Miami-Dade County judiciary, the Miami-Dade County Supervisor of Elections, or his or her deputy clerk, and the village clerk. If any of these individuals are unable to serve, then the village clerk is instructed to fill the vacancy with an elected or appointed official from another municipality within Miami-Dade County.

**WHEREAS**, the Village must convene a Canvassing Board in order to properly certify the results of the Special Election of April 21, 2015.

**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

**Section 1.** The following persons have agreed to serve and are appointed to the Village Canvassing Board:

The Honorable Andrew S. Hague, County Court Judge  
Town Manager Rafael Casals, Town of Cutler Bay  
Village Clerk Meighan Alexander

**Section 2.** The canvassing board shall meet to conduct pre-count logic and accuracy test of the optical scan system used for paper ballots, canvass of presumed invalid absentee ballots, absentee ballots opening and processing, duplication of ballots as needed, and, if needed, provisional ballots validation, opening, and processing.

**Section 3.** The Canvassing Board shall terminate upon completion of the process.

**Section 4.** This resolution shall take effect immediately upon enactment.

PASSED and ADOPTED this \_\_\_\_\_ day of February, 2015.

Attest: \_\_\_\_\_

Meighan Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE  
USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY ONLY:

\_\_\_\_\_  
Dexter W. Lehtinen  
Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Katryn Cunningham \_\_\_\_\_

Council Member Tim Schaffer \_\_\_\_\_

Council Member Larissa Siegel Lara \_\_\_\_\_

Vice-Mayor John DuBois \_\_\_\_\_

Mayor Eugene Flinn \_\_\_\_\_

This Resolution was filed in the Office of the Village Clerk on this \_\_\_\_\_ day of February, 2015.

\_\_\_\_\_  
Meighan Alexander, Village Clerk



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To: Honorable Mayor and Village Council

Date: January 26, 2015

From: Ron E. Williams, Village Manager

Re: Downtown Palmetto Bay  
Economic & Market  
Assessment Report

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**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL  
OF THE VILLAGE OF PALMETTO BAY, FLORIDA,  
RELATED TO THE DOWNTOWN REDEVELOPMENT  
INITIATIVE, ACCEPTING THE ECONOMIC AND MARKET  
ASSESSMENT REPORT AND SUPPLEMENTAL APPENDIX  
COMPLETED BY BERMELLO, AJAMIL & PARTNERS FOR  
THE FUTURE DOWNTOWN PALMETTO BAY AREA; AND  
PROVIDING AN EFFECTIVE DATE.**

**BACKGROUND AND ANALYSIS**

Last year, the Village entered into an agreement with the firm of Bermello, Ajamil & Partners to conduct an economic and a market profile for the future downtown area. The purpose of the study was to identify the number of businesses and residents that the local market could realistically absorb. Along with other important considerations, these figures would assist in identifying the final development patterns that are appropriate for the area, at least from an economic perspective.

Bermello, Ajamil & Partners, hired Lampert Advisory to complete the study. Lampert Advisory is a professional advisory group that is well known for their ability to develop realistic projections. The Village also requested for the consultant to identify the potential economic benefits of the proposed downtown redevelopment effort. The findings and recommendations culminated in the Economic and Market Assessment Report and Supplemental Appendix, which are being presented to the Council to consider and approve, are attached hereto.

**FISCAL/BUDGETARY IMPACT**

None at this time, since the cost for the study, totaling \$34,100 was approved with the adoption of Resolution No. 2014-06, and there are no further costs associated with the study.

**RECOMMENDATION**

Approval is recommended.

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATED TO THE DOWNTOWN REDEVELOPMENT INITIATIVE, ACCEPTING THE ECONOMIC AND MARKET ASSESSMENT REPORT AND SUPPLEMENTAL APPENDIX COMPLETED BY BERMELLO, AJAMIL & PARTNERS FOR THE FUTURE DOWNTOWN PALMETTO BAY AREA; AND PROVIDING AN EFFECTIVE DATE.**

WHEREAS, last year, the Village entered into an agreement with Bermello, Ajamil & Partners to conduct an economic and market profile and prepare an economic development guidance document for the future Downtown Palmetto Bay area; and,

WHEREAS, the purpose of such study was to assess the level of absorption that the local economic market could sustain in order to finalize recommendations for the development patterns of the downtown area; and,

WHEREAS, Bermello, Ajamil & Partners, hired Lampert Advisory to complete the study, inclusive of identifying the potential economic benefits of the proposed downtown redevelopment effort; and,

WHEREAS, the findings and recommendations deriving from the study, along with the economic benefits information, are presented on the attached Economic and Market Assessment Report and Supplemental Appendix, for the Village's consideration.

**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

Section 1. The final Economic and Market Assessment Report and Supplemental Appendix, attached hereto as Attachment A, are hereby approved.

Section 2. This Resolution shall become effective upon the date of its adoption herein.

PASSED AND ADOPTED this \_\_\_\_\_ day of February, 2015.

Attest: \_\_\_\_\_  
Meighan J. Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE USE  
AND RELIANCE OF THE VILLAGE OF PALMETTO BAY, FLORIDA ONLY:

\_\_\_\_\_  
Dexter W. Lehtinen  
Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Karyn Cunningham \_\_\_\_\_

Council Member Tim Schaffer \_\_\_\_\_

Council Member Larissa Siegel Lara \_\_\_\_\_

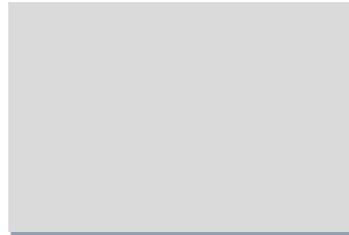
Vice-Mayor John DuBois \_\_\_\_\_

Mayor Eugene Flinn \_\_\_\_\_

# ATTACHMENT "A"



***Village of Palmetto Bay – Downtown Master Plan  
(Economic and Market Assessment) (April 2014)***





**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

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**Attachment 1: Village of Palmetto Bay Trade Area – Profile of Select Rental Apartments**

**Attachment 1: Downtown Palmetto Bay Housing Demand Model**

**Attachment 2: Downtown Palmetto Bay Trade Area Resident Retail Demand Analysis (Model)**





## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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This section provides a highlight of conclusions with a summary of demand estimates (by use), as well as strategic recommendations to help guide the Downtown Master Plan. The estimates of demand and recommendations herein have been prepared in the effort to understand and define the market-driven housing and commercial development opportunities for the Downtown Master Plan. Importantly, any financial feasibility and/or land evaluation prepared on the basis of this analysis is subject to design, building cost, parking and regulatory requirements that have not been made a part of this analysis.

Following is a summary of demand by use:

**Residential:** Miami Dade County’s economic and housing climate is still in recovery mode from the Great Recession, but the projected economic and demographic fundamentals in the region support long term growth in the housing market. The multifamily housing market is planning for considerable delivery of inventory driven by significant condominium development in Downtown Miami and the coastal/beach areas. However, there is also considerable activity among multifamily rental development, particularly in south Dade County. The multifamily rental market affecting the opportunity for housing development within Village of Palmetto Bay is relatively strong, with occupancy greater than 95 percent. However, the majority of inventory is older in nature, and rental rates overall are still relatively modest; particularly, in the sense of supporting a large amount of new market rate development in the near term.

As detailed within Section 2, the demand for housing for the Downtown Master Plan is based upon regional household growth projections, forecast demand for market rate multifamily housing, and the propensity for the Village’s Trade Area and Downtown to capture this growth over the next ten years. It also considers existing “pent-up” demand which is largely the result of a lack of existing mid- to higher density multifamily product within the Village given regulatory, infrastructure and/or other physical challenges associated with accommodating this type housing development. Based upon historical trends and population projections, there is demand for approximately 1,200 multifamily market rate housing units in the Downtown area during the next ten year period (which we consider to represent demand under a *Trending Scenario*). However, we have also undertaken an analysis that considers that the Village of Palmetto Bay and its Downtown area may be in a position to capture well more than its fair share of demand based upon the trending analysis contemplating the Village’s strong school district, a highly successful implementation of the Downtown Master Plan and continued improvement in the surrounding corridor. For this, the multifamily housing demand for Downtown area increases to approximately 1,700 units over the next 10 years (referred to herein as the *High Scenario*). Importantly, for master planning purposes, we recommend the planners rely upon the *trending scenario*, but allow for flexibility to accommodate the higher demand. In either case, the analysis considers demand for either ownership (condominium) and/or rental product supported by primary residents (and therefore does not account for any potential additional development that may be built



## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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largely for investors/speculators). In terms of housing pricing, and specific to the rental market, The base asking monthly rental rates for newer (premium) units within the market area (ie. Dadeland) is in the range of \$1.80 per square foot. We assume that this would apply to the Village; therefore, with an estimated average unit size of roughly 1,050 square feet, the average asking monthly rent would generally be in range of \$1,800 to \$1,900. For ownership (condominium), the pricing is estimated to be within the range of \$250,000 to \$350,000.

**Office:** Since the end of the recession in 2009, unemployment in Miami Dade County has continued to decline. Moreover, an analysis of office employment projections based upon CBRE/EA<sup>1</sup> and Florida Department of Economic Opportunity (FDEO) data through 2019 indicates growth in Miami Dade County’s office employment of approximately 3,900 jobs per year through this period. Miami Dade County has 100 million square feet of office space, of which the Village of Palmetto Bay (and Trade Area) comprises roughly 1.0 million square feet of total inventory. The majority of office space in Palmetto Bay is Class C space, equal to 59 percent; more than double the 28 percent share of Class C space in Miami-Dade County. Approximately 78 percent of the office space in the Village of Palmetto Bay was built before 1970, and 89 percent before 1990. Since 2007, the impact of the recession pushed the office occupancy level in the Village down below 84 percent in 2012, but has since improved to nearly 88 percent in the Village as of year-end 2013. As detailed in Section 3, based upon broader office market and local submarket office development trends, and based upon projections of office employment during the next five years, office demand for the Village of Palmetto Bay is estimated to be between 135,000 and 270,000 square feet during the next 5± years. It is very important to note that this does not represent demand entirely supporting new future office development because absorption of existing space (and/or older buildings that will likely fall out of the market due to condition) needs to be considered. Nonetheless, the Downtown area is naturally in a position to capture a considerable portion of this demand since there is limited commercial land outside of the corridor to support new office development. Specific to the Downtown Master Plan, the opportunity to incorporate a limited amount of office (ie. small professional and/or medical offices) as a supporting use is warranted.

**Retail:** For the Village of Palmetto Bay and its broader surroundings beyond the boundaries of the Village and/or Trade Area, the retail market is well represented with local, regional and national stores ranging from quick service restaurants to Big Box tenants to regional malls. Within the Trade Area, there is approximately 600,000 square feet of retail space, with a healthy 95 percent occupancy. However, average asking rental rates within the Trade Area remain 5 to 10 percent below that of the County’s average, impacted in part by a considerable amount of older, smaller neighborhood retail centers. Based upon the retail trade model (as detailed in Section 5), retail demand within Trade Area is estimated to increase 110,000± square feet by 2019; a portion of which is anticipated to be absorb by redevelopment of older retail complexes that will likely “fall out” of the market in the near term. Regardless, the Trade Area will likely capture its proportionate share. Specific to the Downtown, we estimate demand for 20,000 to

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<sup>1</sup> CRBR/EA is an independent economic research firm owned by CBRE, and internationally recognized in the field of economic modeling and forecasting.



## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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30,000 square feet of retail space can be supported as part of the initial development phase including dining establishments, smaller (boutique) shops, and limited service convenience. We also believe there is an opportunity to attract a grocery store (such as Publix or Whole Foods) within the next 5± years which is based upon steady population growth for the overall trade area and the resultant demand for *convenience goods* during the next 5+ years that adequately supports a 40,000 to 50,00 square foot grocery store. The planning team is assuming that the Village’s Downtown core has a very strong opportunity to capture this demand provided that the initial phases of the residential development are successful. Considering the opportunity for both boutique retail and grocery, there is an estimated demand for approximately 60,000 to 80,000 square feet of retail within the next 5± years. Looking further into the horizon, the Village’s Downtown area should continue to capture its fair share of retail trade area demand and, therefore, over a 10± year period the total retail demand is estimated to be in the range of 100,000 to 110,000 square feet.

Based upon the analysis completed as part of the economic and market assessment for the Village of Palmetto Bay Downtown Master Plan, we provide the following conclusions and recommendations:

- *Residential and Retail will Drive Initial Downtown Program:* As summarized above, there is demand for approximately 1,200 market rate multifamily housing units within the Downtown market area during the next 10 years. Given location and strong demographic characteristics, the opportunity to incorporate 20,000 to 30,000 square feet of supporting retail within a mixed use development creates a dynamic *downtown* environment.
- *Opportunity is Manageable and Realistic:* The level of development supported herein promotes a manageable development plan that can be phased in over time and that is relatively modest in scale. Accordingly, under this framework of development, investment by the Village to encourage this opportunity is considered to be minimal given available land and existing infrastructure.
- *Downtown Program Works Best in Concentrated Area:* Levering upon the opportunity to create the Downtown based upon a manageable and realistic plan, developing Downtown in phases within concentrated areas (such as that proposed for Phase 1 immediately east of Village Hall), should mitigate substantial infrastructure investment cost by the Village, while at the same time allow for a scale of development that promotes mixed use.
- *Access to US 1 is Critical to Downtown:* Access and visibility to US 1 is critical to the success of Downtown, which is currently lacking. Accordingly, there is presently no sense of arrival or gateway characteristic approaching the Village from either the north or south along US 1. The Downtown Master Plan provides a great opportunity to establish this attribute. Furthermore, this feature helps to promote the Village with a regional presence, rather than as a small local center.



## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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- *Evaluate Parking Needs:* In the effort to support mixed use housing and retail development for the initial phase of the Downtown, it will be important to provide adequate and integrated parking for the residential buildings, with adequate and accessible parking for the ground floor retail.
  
- *Downtown Potentially Generates Substantial Ad Valorem Tax:* Based upon the incremental ad valorem tax revenue model Lambert prepared for the Village in late 2013 (in association with previous analyses for the Downtown), the initial phases of a Downtown Master Plan that provides for up to 1,200 market rate housing units and approximately 30,000 square feet of retail space is estimated to generate more than \$600,000 in total ad valorem taxes per year to the Village (upon stabilized operations). In the case where there is estimated to be up to 1,700 market rate housing units, 100,000 square feet of retail (inclusive of grocery), and some supporting office (or 50,000± square feet), the estimated ad valorem tax revenue increases to a range of nearly \$1 million per annum (stabilized).



***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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**SECTION 1: STUDY AREA DEFINITIONS**

As the basis for evaluating the market potential and real estate development opportunities for the Village of Palmetto Bay Downtown Master Plan, Lambert examined demographic, economic, and real estate market trends and forecasts (both residential and commercial) for four primary geographic areas: (in descending order of geographic size) Miami Dade County, south Dade County, Village of Palmetto Bay, and the Downtown Trade Area (referred to herein as the Trade Area).

Miami Dade County, and the south Dade County area, are both profiled to provide economic context for the narrower drive time radii, Downtown retail Trade Area, and the Downtown. This profiling applies to the Downtown’s existing and potential “capture” of economic activity that occurs at the broader geographic levels. Importantly, the Downtown Trade Area was determined based upon a geography that represents behavioral boundaries from which prospective residents, workers and/or retail patrons’ have the propensity to live, work and/or shop in a given area. In this case, Downtown Palmetto Bay will likely be supported by areas with stronger income characteristics, which is discussed in detail in Section 2 below. An illustration of the Downtown Trade Area, and outline of the Downtown Master Plan area is provided in Figure 2 at the end of this section.

The following sections provide a detailed analysis of the economic, demographic and/or real estate market conditions within the geographies noted above. Additionally, historic data, estimates, and projections for the broad range of information in this market study – demographics, income, residential and commercial real estate, among others – are available based on varying geographies. Demographic information, for instance, is most widely available for the set hierarchy of US Census geographies. Residential real estate sales data, on the other hand, is most widely available by correlating GIS boundary maps with Miami Dade County Property Appraiser (BCPA) database.

For these reasons, different sections of this study refer to multiple and/or different geographic areas (e.g., County, Village, Trade Area), based on different geographic definitions (e.g., zip code, census block group). These areas are listed below, by section of this report, and shown graphically and defined in more detail in each respective section.

- Section 2, Demographic and Economic Profile, refers to four different areas, based on political boundaries and census geographies: Miami Dade County, south Dade County, Village of Palmetto Bay, and the Trade Area, as data permits. As noted, the Trade Area for the Downtown Master Plan area represents behavioral boundaries based on the propensity for people to live, work, and/or shop in the Trade Area.



### ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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- Section 3, Residential Market Analysis, analyzes key housing supply and demand trends in Miami Dade County, south Dade County and Village of Palmetto Bay. For purposes of this analysis, south Dade County is defined as the entire area south of Kendall Drive (Southwest 88<sup>th</sup> Street) to the Miami Dade/Monroe County line.
- Section 4, Office Market Analysis and Demand Estimate, considers office market trends in Miami Dade County, but focuses intently on the supply and demand activity within the Village and/or Trade Area.
- Section 5, Retail Market Analysis and Demand Estimate, represents retail supply and demand trends within Miami Dade County and the Village of Palmetto Bay, with a specific focus on the Trade Area. This area is the primary area from which Downtown Trade Area businesses will draw resident, visitor and worker expenditure. It is important to note that the Downtown Trade Area is regarded as a primary trade area for expenditure capture; however, the *Lambert Advisory Retail Trade Model* takes into account expenditures by residents outside of the Trade Area (or commonly referred to secondary and/or tertiary Trade Areas) by utilizing inflow factors – discussed in detail within in this section.





## SECTION 2: ECONOMIC AND DEMOGRAPHIC PROFILE

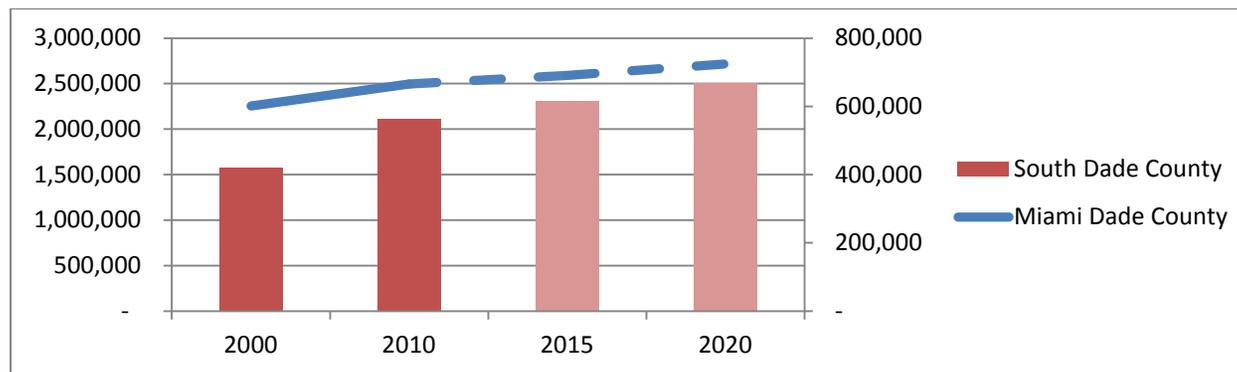
As the basis for evaluating market potential and opportunities for the Downtown area (and the Downtown Master Plan), Lambert examined population, household, and economic trends and forecasts for several geographic areas — Miami Dade County, Village of Palmetto Bay, and the Trade Area (as shown in Figure 2 above). The demographic and economic profile herein focuses on those variables that “drive” demand for residential, retail, and office uses (estimates of which are found in following sections of this report), including population and household growth trends, household income growth, and employment trends and forecasts.

### 2a: Population and Households Overview

Based upon 2010 US Census data, Miami Dade County grew from 1.93 million residents in 1990 to 2.25 million residents in 2000, or an average 31,600 persons per annum and 1.5 percent average annual growth rate. From 2000 to 2010 population increased to 2.49 million residents, or an average of 24,300 residents per year and 1.0 percent annual growth. According to University of Florida’s Bureau of Economic Research (BEBR), the County’s growth rate is forecast to increase steadily to 2.71 million residents by 2020, or 22,100 residents per annum and 0.9 percent annual growth. South Dade County experienced stronger population growth from 2000 to 2010, at 3.0 percent per year, and is projected to increase at approximately 1.7 percent per annum for the next several years according to ESRI.<sup>2</sup>

**Figure 3: Historic and Projected Population Growth – Miami Dade County**

Source: BEBR



<sup>2</sup> ESRI is an international supplier of Geographic Information System (GIS) software, web GIS and geodatabase management applications.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

The Village of Palmetto Bay was incorporated in 2002. Therefore, the historical demographic information herein is based upon the correlating Census Designated Places of Cutler and East Perrine. Based upon 2010 US Census data, the Village of Palmetto Bay had a slight loss in population during the period between 2000 and 2010, declining from 24,469 residents in 2000 to 23,410 residents in 2010, or average of 105 residents per year (equal to a decline of 0.4 percent average annually). As discussed in Section 2 above, the Trade Area is slightly smaller than the Village’s boundary, but demographically very similar, as summarized below.

**Figure 4: Miami Dade County, South Dade County, Village of Palmetto Bay and Trade Area (Demographic Profile 2010)**

Source: US Census; ACS 2008-2012

	<b>Miami Dade County</b>	<b>South Miami Dade County</b>	<b>Village of Palmetto Bay</b>	<b>Trade Area</b>
<b>2010 Population</b>	2,496,435	522,619	23,410	16,904
<b>2010 Total Households</b>	867,352	166,635	7,923	5,717
<b>2010 Avg. HH Size</b>	2.83	3.11	2.95	2.95
<b>2008-12 ACS Median Household Income</b>	\$43,464	\$49,726	\$107,259	\$98,438
<b>2008-12 ACS Per Capita Income</b>	\$23,304	\$22,509	\$41,034	\$39,337
<b>2010 Owner Occupied Households %</b>	55.80%	66.80%	84.20%	82.10%
<b>2010 Renter Occupied Households %</b>	44.20%	33.20%	15.80%	17.90%
<b>2010 Median Age</b>	38.2 years old	35.4 years old	41.9 years old	41.2 years old
<b>Under 19</b>	24.70%		29.20%	28.80%
<b>20-39</b>	28.10%		18.20%	19.30%
<b>40-64</b>	33.00%		40.60%	40.40%
<b>65+</b>	14.20%		12.00%	11.50%



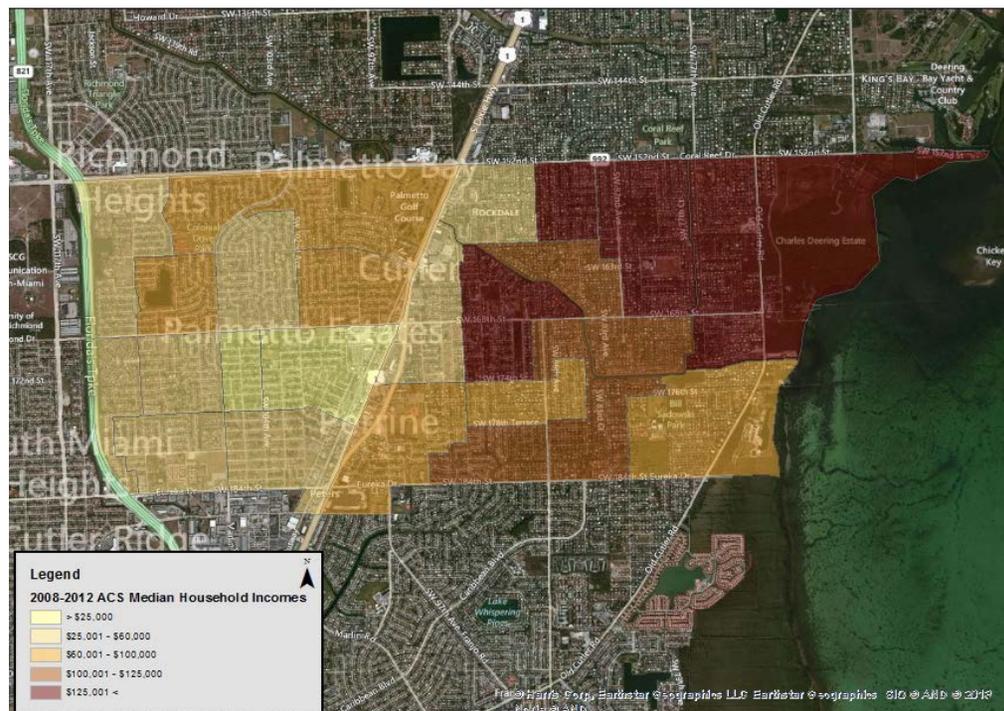
### Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)

As part of our demographic and economic profile, Lambert analyzed household income, which represents a critical element of retail and housing demand as it indicates the amount and nature of expenditure potential in a given market.

As detailed in the Figure above, the 2008-2012 median household income in the Trade Area (\$98,438) is very strong and significantly higher than that of the County (\$43,464) and slightly lower than that of the Village (\$107,259). This trend holds true for per capita income as well, with the Trade Area (\$39,337) having a higher per capita income than the County’s (\$23,304), and slightly lower than the per capita income of the Village (\$41,034). As discussed in Section above, the determination of the Trade Area boundaries considered the income characteristics of the broader market area as shown below:

**Figure 5: Median Household Incomes by Block Group, 2008-2012 ACS (Village of Palmetto Bay and Surrounding Areas)**

Source: ACS





## Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)

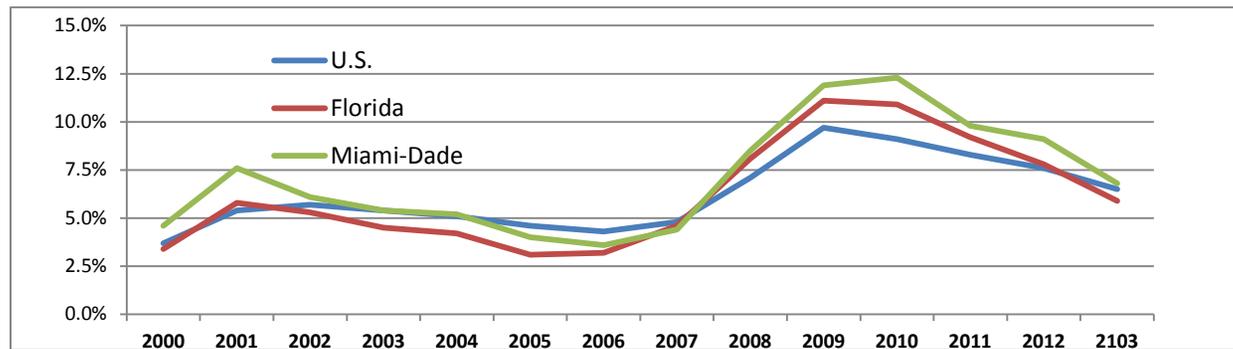
The Downtown area will primarily draw from areas to the east of US 1, with the northern boundary representing S.W. 152<sup>nd</sup> Street and S.W 184<sup>th</sup> Street being the southern boundary.

### 2b: Employment and Wages

From a broad perspective, labor trends among all sectors in Miami Dade County, including employment and unemployment, have a notable impact on office demand. From 2000 to 2007, the unemployment rate in Miami-Dade County was relatively low, which was in line with trends on a State and national level. Outside of the 12 to 18 month period following the calamitous events of 9/11, the State and County unemployment rate remained below 6.0 percent and dipped to 3.3 percent in the State and 4.1 percent in Miami-Dade during 2007<sup>3</sup>. However, commencing with the economic recession in 2007/2008, the unemployment rate in the US and throughout Florida began trending upward, reaching 9.7 percent in the U.S, in 2009 and double digit levels in the State and Miami-Dade County. The State’s unemployment rate peaked in 2009 at 11.1 percent, but unemployment in Miami-Dade didn’t peak until June 2010, reaching 13.9 percent. Though still above pre-recession levels, unemployment in Miami-Dade has since declined steadily, with the rate dropping to 6.8 percent as of year-end 2013.

**Figure 6: National, State and County Historical Unemployment Rate, January 2000-December 2013**

Source: Florida Department of Economic Opportunity; BLS; Lambert Advisory



<sup>3</sup> Florida Department of Economic Opportunity



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

According to the Florida Department of Economic Opportunity (FDEO), Miami Dade County’s total non-agricultural employment base is approximately 1.07 million, of which more than 82 percent is private sector employment. Miami-Dade County’s total private employment is more than 875,000. The largest private employment sectors in Miami-Dade County are Health Care and Social Assistance at 15.3 percent, Retail Trade at 15.2 percent and Accommodation and Food Services at 11.5 percent. The Professional and Business Services, Finance and Insurance, Real Estate (FIRE), and Information Services, which are primary the sectors for office based employment, collectively represent approximately 17 percent of total private employment in Miami-Dade County.

According to data from the US Census, there were a total of 5,644 persons privately employed within the Trade Area. This is an increase from 2002, where 5,336 persons were privately employed in the Trade Area. Retail trade, was the leading sector, with nearly 32 percent of all total employment in the Trade Area. The Figure below summarized private sector employment within the Trade Area between 2002 and 2011.

**Figure 7: Trade Area Private Sector Employment**

Source: US Census On The Map

<u>NAICS Sector</u>	<u>Count By Year</u>			<u>Actual Change</u>		<u>Percent Change</u>	
	<u>2002</u>	<u>2007</u>	<u>2011</u>	<u>02-'07</u>	<u>02-'11</u>	<u>02-'07</u>	<u>02-'11</u>
<b>Retail Trade</b>	1,701	2,239	1,804	538	103	31.6%	6.1%
<b>Health Care &amp; Social Assistance</b>	565	302	666	-263	101	-46.5%	17.9%
<b>Administration &amp; Support, Waste Management and Remediation</b>	398	549	649	151	251	37.9%	63.1%
<b>Finance, Insurance &amp; Real Estate (FIRE)</b>	215	351	494	136	279	63.3%	129.8%
<b>Accommodation &amp; Food Services</b>	446	434	481	-12	35	-2.7%	7.8%
<b>Professional, Scientific and Tech Services</b>	288	363	408	75	120	26.0%	41.7%
<b>Wholesale Trade</b>	235	202	208	-33	-27	-14.0%	-11.5%
<b>All Other Sectors</b>	1,488	958	934	-530	-554	-35.6%	-37.2%
<b>Totals:</b>	<b>5,336</b>	<b>5,398</b>	<b>5,644</b>	<b>62</b>	<b>308</b>	<b>1.2%</b>	<b>5.8%</b>



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As noted in the table above, the employment sectors that experienced the strongest growth in the Trade Area between 2002 and 2011 were FIRE, Administration & Support, Waste Management & Remediation, along with Professional, Scientific and Technical Services. These sectors are primarily office using jobs and will drive office demand locally and regionally.

In regards to office employment, Miami-Dade County is projected to increase office employment by 3,867 employees on average annually through 2019, or 1.9 percent per year. The following table is a summary of historic and projected office employment in Miami-Dade County.

**Figure 8: Miami-Dade County Office Employment Projections**

Source: Florida Agency for Workforce Innovation

	Financial	Services	Total	Avg. Annual Change	Avg. Annual Growth %
1990	63,600	76,400	140,000		
2000	60,800	134,400	195,200	5,520	3.4%
2010	60,400	119,200	176,600	-1,860	-1.0%
2013	67,800	125,800	193,600	5,667	3.1%
<b>2019</b>	<b>72,700</b>	<b>144,100</b>	<b>216,800</b>	<b>3,867</b>	<b>1.9%</b>

The office employment growth above will be the key indices for office demand projections provided in Section 5 below.

*2c: Economic and Demographic Profile Conclusions*

As noted above, the economic and demographic trends of the region are key determinants to possible development opportunities both in the near term and the long term. It is not only important to analyze economic and demographic trends in order to comprehend current market conditions, but also to adequately support a strategy for Downtown going forward. A summary of key economic/demographic characteristics within the local and regional market that will affect opportunities for the and Downtown Master Plan include:



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- Population has shown a slight decline in the Village and Trade Area during 2000-2010, compared to modest growth for south Dade and Miami Dade County. Importantly, south Dade County is expected to grow at a faster pace than that of the County for the next few years, which is a key growth indicator for the Downtown Master Plan housing and retail demand.
- The Village and Trade Area have substantially higher per capita and household income compared to the County (and south Dade County), which is a key component to supporting housing and commercial development.
- Employment growth is expected to rebound during the next several years and provide solid demand for on-going office development throughout the broader region.



### **SECTION 3: RESIDENTIAL MARKET ANALYSIS**

The opportunity for housing is considered to be strong for the Downtown area. In terms of rental housing opportunity, Lambert completed a broad overview of the local and regional rental housing market.

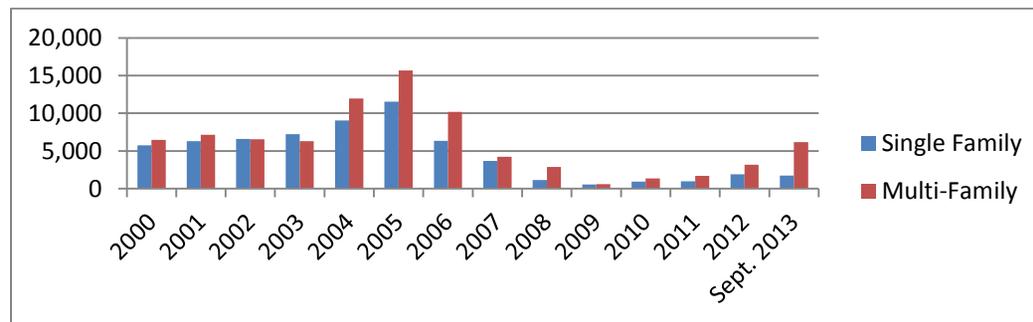
The following provides a profile of residential housing conditions supporting the opportunity for housing as part of the Downtown Master Plan. While we focus on overall trends in the housing market to identify general market conditions, the focus herein is multifamily housing, since it is the product type that defines mid- to higher density development in the Downtown.

#### *3a: Housing Market Overview*

According to Reinhold P. Wolff Economic Research (RPW), the growth in both single family and multifamily housing permit activity in Miami Dade County was among the strongest in the region’s history, with total housing permits increasing from 12,200 in 2000 to 27,200 by 2005; or an average annual increase of nearly 15 percent per annum. Multifamily housing permits had the strongest growth trajectory from 2002 to 2005, as the Downtown Miami market and coastal areas skyrocketed with speculative development. According to RPW, housing starts are expected to remain robust during the next few years, based upon projects currently under construction or in the planning stages. In particular, multifamily development County-wide is expected to reach 14,000 units in 2014, with single family development expected to remain stable at 4,000 units.

**Figure 9: Miami Dade County Residential Building Permit Activity**

Source: RPW; Lambert Advisory





## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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Based upon data provided by RPW, the median price for new single family homes in Miami Dade County as of the 3<sup>rd</sup> Quarter 2013 was \$260,000, while existing home values were approximately \$206,000; or, an estimated \$225,000± combined. However, based upon an analysis of single family home sales in the Village of Palmetto Bay, there were 93 total sales from January 2012 to March 2013, with an average home sale price of \$472,480; or, more than twice the average price for that of the County.

In terms of condominium sales, the Miami Dade County peaked with 25,400 sales in 2005, steadily declining to less than 1,330 by 2012. Although there is projected to be roughly 1,000± condominium sales in 2013, the pace of condominium sales is expected to escalate dramatically as new development is completed during the next 12 to 24 months (and likely beyond).

New condominium sales prices are rapidly increasing with the average price reaching nearly \$500,000 in the third quarter 2013, compared to less than \$375,000 per sale during the same period in 2012 which is largely the impact of sales Downtown, and along the eastern/coastal fringes of the County. In contrast, condominium re-sales are currently just below \$200,000, with several areas in the south Dade County area registering re-sales well below this level.

In terms of rental housing, the market profile is based upon rental housing market industry resources such as Apartment Guide, Reinhold P. Wolff (RPW) MyRents.com, with additional support from our discussion with select rental housing developments within the surrounding market area. The County's rental housing market overall is nearly 97 percent occupied, with the broader Perrine/Cutler Bay submarket (within which encompasses the subject's Trade Area as defined by RPW) is slightly lower but still a solid 95.5 percent occupancy. Rental rates County-wide are averaging \$1,413 per month (or \$1.60 per square foot) as of the third quarter 2013, an improvement of 3.5 percent over the prior year. For the Perrine/Cutler Bay submarket, rental rates are estimated to be slightly lower than the County overall, though generally comparable.

There are approximately 5,850 rental apartment units within five miles of the Trade Area. These include projects with 80 units or more. The inventory is dated, with 83 percent (4,820 units) delivered prior to 1980. Only eight percent (485 units) have been delivered since the year 2000.

As part of the analysis of the rental housing market for the Village of Palmetto Bay, Lambert conducted a survey of select significant rental apartment communities in and around the Village of Palmetto Bay. In the latter case, due to the lack of new vintage Class A or B market rate rental apartments in the Village (or Trade Area), the sample survey extended out to include apartment communities located within five miles of the Trade Area. Ten projects were included in the survey combining for 2,487 multi-family rental apartment units. Of this total, two apartment communities combining for 388 units are located in the Village of Palmetto Bay; four projects, combining for



## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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1,187 units are located in the Dadeland/Kendall market to the north of the Village; and four projects, combining for 912 units, are located in the Cutler Ridge area south of the Village. The findings from our research, including the sample survey of apartment communities, are presented in the following discussion along with a detailed Table in the Appendix.

Occupancies rates are high among all projects, averaging 94.6 percent and ranging from 100 percent for one of the two projects in the Village, to 93.8 percent for the four apartment communities located south of the Village. Rents are roughly 50 percent higher among projects north of Palmetto Bay, averaging \$1,254 (\$1.43/sq. ft.), compared to an average of \$853 (\$1.04/sq. ft.) among projects south of Palmetto Bay. The average rental rate for the two projects surveyed in the Trade Area were at the lower end of the survey range, averaging \$725 and \$0.94 per square foot - noting, though, that these properties are more than 40 years old.

### ***3b: Residential Demand Analysis***

In the effort to identify the level of demand for residential development expected to occur during the next few years within the broader market area, the Trade Area and the Downtown specifically, we consider the economic, demographic, and overall housing market and economic conditions as outlined in this section as well as in preceding sections. The demand analysis methodology herein is used to identify the broader parameters of residential demand that support potential housing demand within the Trade Area and the Downtown area, and has been prepared in the effort to provide order of magnitude estimates of future housing demand. Accordingly, the focus of the analysis is to determine level of demand for market rate housing, as discussed further below.

The methodology for evaluating demand considers historical population trends and projections for the Village and Miami Dade County. However, household growth activity in south Dade County is a very important part of this analysis considering it is the broader market from which the Village and Downtown will draw demand; particularly upper income households.

The detailed housing demand analysis (model) is included in the Appendix, with a summary of the key assumptions provided as follows:

*Household Growth:* In 2010, there were 166,365 households in south Dade County and based upon projection data from ESRI<sup>4</sup> the area's household growth is projected to grow at 1.7 percent per annum for the next five to ten year period.

*Household Income:* Based upon US Census data, approximately 50 percent of all households in south Dade County have annual household income greater than \$50,000, a minimum threshold considered to adequately support monthly rental payments required



## ***Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)***

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to underwrite new, market rate multi-family housing development; or, minimum average monthly rental rates estimated to be \$1,400 to \$1,600.

*Multi-family Units:* The housing demand for the Downtown area considers propensity of demand for mid- to higher density multi-family housing that provides the critical mass needed to encourage a dynamic, mixed use area. Based upon US Census housing data for Miami Dade County, roughly 40 percent of all dwelling units are multifamily. Importantly, for this analysis, we assume that the proportion of multifamily development will continue to outpace single family development given current and near term trends and therefore we apply a modest increase to the model.

*Capture of New Housing Demand:* Based upon the demographic composition of the region, Village of Palmetto Bay represents approximately 4.7 percent of the total households in south Dade County; however, it represents more than 7.5 percent of the households over \$50,000. Therefore, for this analysis we assume that the Village will continue to capture its fair share of this household demand, which is considered to be a somewhat conservative estimate considering the Village residents have access to some of the highest performing elementary, middle and high schools in the south Dade County region.

Based upon the assumptions above, and detailed in the housing demand model in the Appendix, there is estimated to be approximately 10,500 new multifamily housing units with household incomes greater than \$50,000 demanded within south Dade County during the next 10 years from population growth alone. Accordingly, it is presumed the Village (and specifically the Downtown are) will continue to capture its fair share of growing demand, or 840 total multifamily (market rate) housing units demand from 2014 to 2023.

However, in addition to the demand from new household growth in the region, we strongly believe there is current pent-up demand for multifamily housing in the Village of Palmetto Bay. This pent-up demand essentially represents demand from the existing population base that would choose to live in Village of Palmetto Bay should mid- to higher density multi-family product exist, but does not due to any land constraints, infrastructure challenges, and/or regulatory controls that if mitigated by the Village would allow for such development. At this stage of the process, it is difficult to clearly understand or evaluate pent-up demand. Nonetheless, we consider that a select group of tenants within several rental communities in the broader area (as identified above) would have a very high propensity to locate within a new development in the Village of Palmetto Bay; particularly, within a well-planned Downtown environment. For this analysis, we assume that at least 1,000 units (households) that currently exist in the broader market area would represent the universe of pent up demand from which the Downtown may capture over the next ten years. If we assume that the average tenant “roll-over”<sup>5</sup> within an apartment complex is 60 percent on an annual basis, and the Village is capable of capturing only 5

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<sup>5</sup> Roll-over is generally defined as expiring leases for which tenants are not likely to renew at the current location.



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percent of those tenants, then there is additional “pent-up” demand of approximately 330 multi-family units in total over a 10 year period.

The analysis above is primarily based upon population and housing growth that is generally tied to historical trends and projections from census and County provided data. As such, we refer to this as a *Trending Scenario*. However, we have also undertaken an analysis that considers that the Village of Palmetto Bay and its Downtown area may be in a position to capture well more than its fair share of demand based upon the trending analysis contemplating the Village’s strong school district, a highly successful implementation of the Downtown Master Plan and continued improvement in the surrounding corridor. For this, we increase the Villages capture of south Dade County households from 8 percent to 9 percent (more than a 10 percent increase) and increasing capture of “pent up” demand from existing apartments from 5 percent to 7.5 percent, the multifamily housing demand for Downtown area increases to approximately 1,700 units over the next 10 years (referred to herein as the *High Scenario*). Importantly, for master planning purposes, we recommend the planners rely upon the trending scenario, but allow for flexibility to accommodate the higher demand.

**Figure 10: Summary of Multifamily (Market Rate) Housing Demand – Downtown Village of Palmetto Bay (2014 to 2023)**

Source: US Census; ESRI; Lambert Advisory

Source	Demand (Units) <i>Trending Scenario</i>	Demand (Units) <i>High Scenario</i>
Demand from New Households	840	1,206
Plus: Existing Pent-up Demand	330	495
<b>Total Estimated Multifamily Housing Units (Market Rate)</b>	<b>1,170</b>	<b>1,701</b>

It is also important to note that in the determination of prospective housing demand for the Village and its Downtown, we do not make a distinction between homeownership (condominium) and rental product. This is due to the likelihood that multi-family demand in this particular location will represent a mix of owners and renters. This is based upon multifamily development trends in South Florida during the past 15± years. Prior to the housing boom of in the early 2000’s, multifamily family housing development represented a mix of traditional rental complexes and condominium properties. The condominium properties were primarily occupied by primary residents, with a relatively modest representation of second homers and investors who purchased with the intent to rent their units. However, speculation in the condominium development sector prevailed since 2000, and the proportion of investor-purchased units dominated and created a significant “shadow” rental market; particularly in the Downtown Miami market, but also in suburban markets such as Downtown Dadeland and Kendall. Today, this trend continues fueled in large part by financing environment and preponderance of foreign investment in Miami Dade County. Therefore, it is highly possible that housing development in Downtown Palmetto Bay (or at least a portion thereof) may be built as condominium, but the mix of occupants will be primary residents, or investors renting their units



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to primary households/renters. Regardless, the demand for multifamily housing whether ownership or rental outlined herein is based upon the demand from primary residents (occupants).



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**SECTION 4: OFFICE MARKET DEMAND ANALYSIS AND DEMAND ESTIMATE**

*4a: Office Market Overview*

According to CoStar<sup>6</sup>, as of the 4<sup>th</sup> Quarter of 2013, there are 4,315 office buildings in Miami-Dade County combining for 100 million square feet of office space. The vacancy rate is at 12.2 percent and the average quoted full service rent is at \$29.05 per square foot.

The Village Palmetto Bay has an office inventory of 989,757 square feet in 73 buildings, equal to one percent of the County total. Of the total office space in Palmetto Bay, 835,470 square feet, equal to 84 percent, is situated in the Trade Area. Vacancy rates in Palmetto Bay and the Trade Area are higher than the County as a whole; and average quoted full service rents are lower than the county. The average size office building in Palmetto Bay is 13,500<sub>±</sub> square feet, compared to 23,000<sub>±</sub> for Miami-Dade County.

**Figure 11: Miami-Dade County, Village of Palmetto Bay and Trade Area - Office Market Snapshot (4Q 2013)**

Source: Costar

<u>Market Area</u>	<u>Number of Buildings</u>	<u>Avg. Size Bldg Sq. ft.</u>	<u>Total Inventory Sq. Ft.</u>	<u>Vacancy Rate</u>	<u>Quoted FS Rent/ Sq. Ft.</u>
Miami-Dade County	4,315	23,062	99,510,900	12.20percent	\$29.05
Village of Palmetto Bay	73	13,556	989,757	16.10percent	\$25.75
Trade Area	63	13,261	835,470	12.90percent	\$24.75

Approximately 27 percent of the office space in Miami-Dade is classified as Class A, compared to five percent for the Village of Palmetto Bay. This five percent share in the Village represents 48, 700 square feet of Class A office. The majority of office space in Palmetto Bay is Class C space, equal to 59 percent; more than double the 28 percent share of Class C space in Miami-Dade County.

Approximately 78 percent of the office space in the Village of Palmetto Bay was built before 1970, and 89 percent before 1990. Since 2003, seven new buildings, combing for 113,772 square feet of office space has been delivered to Palmetto Bay.

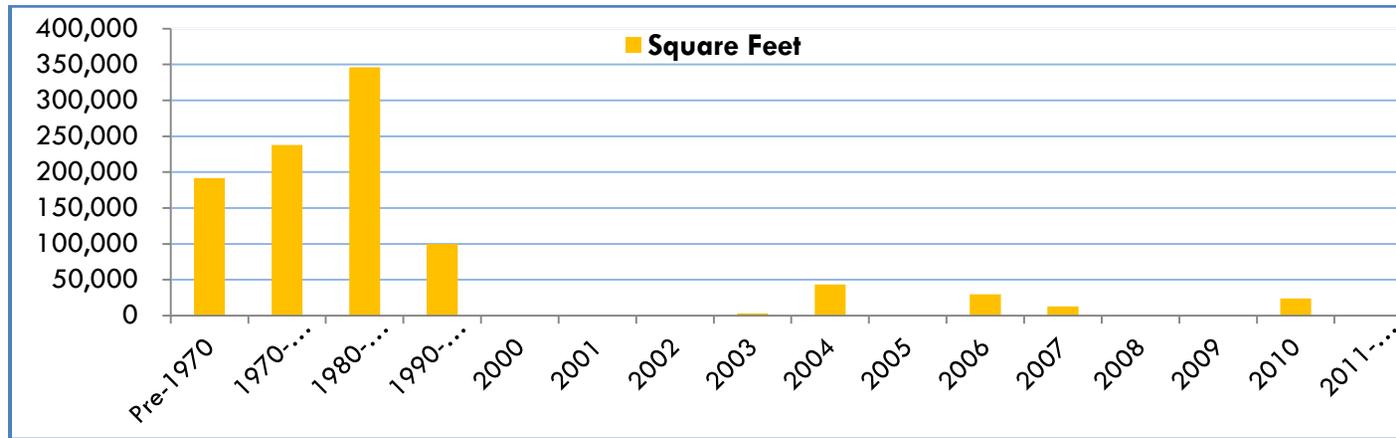
<sup>6</sup> CoStar is an internationally recognized as an industry leading real estate data service provider.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

**Figure 12: Age of Office Inventory - Village of Palmetto Bay**

Source: Costar



The office occupancy rate for Miami-Dade peaked at 93.4 percent in 2005, before over supply, coupled with the impact of the recession contributed to declining occupancy levels every year over the next five years to 85.5 percent in 2010. Office occupancy in Miami-Dade began improving in 2011, with a slow steady climb to 87.7 percent as of the 4<sup>th</sup> Quarter 2013; and corresponding with the slow but steady improvements in the local economy.

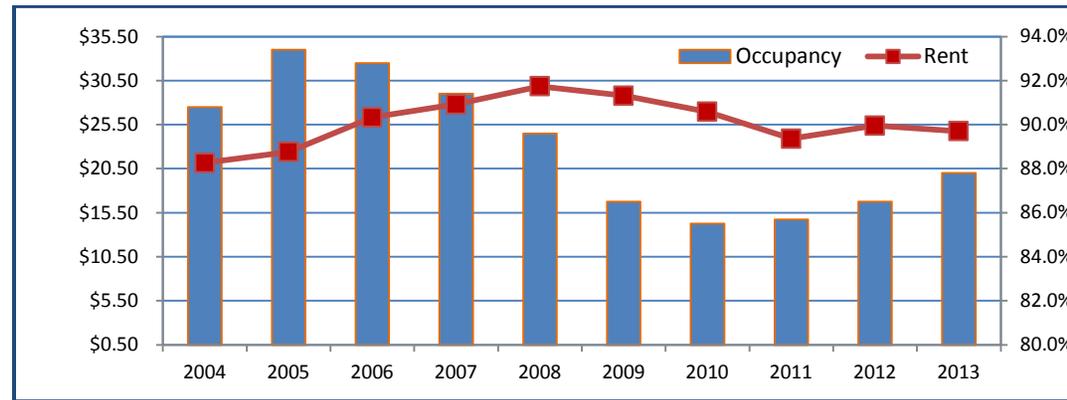
Prior to the recession, office occupancy in the Village of Palmetto Bay (and Trade Area) improved significantly from 2004 to 2007, climbing from a paltry low of 63.8 percent and 63.6, respectively in 2004, to a peak of 93 percent in 2007. This was the result of the new office buildings delivered to the market during this time and an indication of pent-up demand for new office in the Village. Since 2007, the impact of the recessions pushed the office occupancy level in the Village down below 84 percent in 2012, but still significantly better than the occupancy rate in 2004. Office occupancy trended up in 2013 to 87.6 percent in the Village and 86.9 percent in the Trade Area as of year-end 2013.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

**Figure 13: Village of Trade Area - Office Occupancy and Quoted Rental Rate Trends- 2004-2013**

Source: Costar



The average quoted full service rent for office in Miami-Dade County climbed from \$24.11 per square foot in 2004, to \$32.32 in 2008, peaking in that year. This equated to a staggering average annual increase of 7.6 percent. The impact of the recession contributed to rents for office space declining by 11.2 percent (2.9 percent annual average), from \$32.34 in 2008 to \$28.71 in 2012. The average quoted full service rent increased by a 1.2 percent in 2013, a modest increase, but a positive sign for landlords.

The Village of Palmetto Bay, including the Trade Area experienced comparable increases in quoted full service rent for office between 2004 and 2008, growing by an annual average of 9.0 percent over the four year period. Rents peaked at \$29.26 per square foot in the Village and \$29.85 per square foot in the Trade Area in 2008. From 2008 to 2011, rents in the Village declined by 16.8 percent (4.5 percent annual average) to \$24.92 per square foot; and by 19.9 percent (5.4 percent annual average) to \$23.90 in the Trade Area. Since 2011 rent growth in both the Village and the Trade Area has been uneven, increasing by 4.5 percent to \$26.05 per square foot in 2012, before declining by 1.2 percent to \$25.75 per square foot in 2013 in the Village; and increasing by 6.2 percent to \$25.38 per square foot in 2012, before declining by 2.5 percent to \$24.75 in the Trade Area in 2013.

The analysis of net absorption is a very important component of any office demand analysis, as it is the key barometer for understanding timing associated with new development. At the outset, we believe it's important to gain insight into long term absorption trends, narrowing into more recent activity.



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The Village of Palmetto Bay absorbed 325,794, square feet of office space from 2004 to 2007. Of this total, approximately 97 percent, equal to 315,216 square feet, was absorbed in the Trade Area. The peak year for absorption over the four years was 2005, with 125,297 square feet absorbed in the Village and 119,297 absorbed in the Trade Area in that year. From 2007 to 2012, absorption in both the Village and the Trade Area has been uneven, with both areas experiencing a negative net absorption of 57,126 and 45,367 square feet, respectively, over the five-year period. However, absorption trended up in 2013, including 33,019 net square feet absorbed in the Village and 28,019 net square feet absorbed in the Trade Area for the year.

The Figure below presents an analysis of annual net office absorption in the Village of Palmetto Bay and the Trade Area as a share of net office absorption in Miami-Dade County from 2004 to 2013. The analysis shows that the Village of Palmetto Bay’s share of net office absorption in Miami-Dade County ranged from 2.1 to 10.4 percent, and averaged 2.9percent over the ten-year period. The share of net absorption of office in the PB Trade Area ranged from 2.0 to 50 percent, with the latter occurring in 2008 and representing somewhat of an anomaly. The next highest share in the Trade Area was 10.3 percent in 2006, comparable to the 10.4 percent share for the Village in that year.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

**Figure 14: Annual Net Office Square Feet Net Absorption, Market Share (2004-2013) - Village of Palmetto Bay & Trade Area**

Source: Costar

Year	Miami-Dade Net Sq. Ft. Absorbed	Village of PB Net Sq. Ft. Absorbed	Share of Miami-Dade	PB-Primary Trade Area Net Sq. Ft. Absorbed	Share of Miami-Dade
2004	2,528,860	54,051	2.1%	60,296	2.4%
2005	3,190,230	125,297	3.9%	119,297	3.7%
2006	830,233	86,474	10.4%	85,274	10.3%
2007	1,210,900	59,972	5.0%	50,354	4.2
2008	16,259	(8,541)	-	8,177	50.3%
2009	(1,397,274)	(28,235)	-	(32,335)	-
2010	717,337	25,355	3.5%	24,805	3.5%
2011	1,043,220	(12,576)	-	(14,525)	-
2012	1,001,230	(33,129)	-	(31,489)	-
2013	1,430,175	33,019	2.3%	28,489	2.0%
<b>Total</b>	<b>10,571,163</b>	<b>301,687</b>	<b>2.9%</b>	<b>297,508</b>	<b>2.8%</b>
10 Year Annl.Avg	1,057,116	30,1693	2.9%	29,750	2.8%
2004-2007 Pre Recession	7,760,223	325,794	4.2%	315,221	4.1%
2010-2013 Post Recession	4,191,962	12,669	0.3%	6,810	0.2%
Avg 2004-2005	2,859,545	89,674	3.1%	89,800	3.1%
Avg. 2004-2007	1,940,055	81,450	4.2%	78,800	4.1%
Avg. 2010-2013	1,047,990	3,167	0.3%	1,700	0.2%

As part of this analysis, we completed a detailed profile of 12 of the largest office buildings (greater than 20,000 square feet) in the Trade Area. The 12 building combine for 540,058 square feet, equal to approximately 65 percent of the total inventory of office space in the Trade Area and approximately 55 percent of the inventory of office space in the Village. The average rentable area among the 12 office buildings is 45,000 square feet and ranges from 23,639 square feet at the Total Bank Building, to 190,719 square feet at the Palmetto Bay Village Center. The average asking FS rent among the 12 significant buildings is \$26.00 per square foot. Operating expense generally range between \$7.00 and \$10.00/sq. ft.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

*4b: Office Demand Analysis*

To get a basic understanding of future office market demand that will drive the need for new office development throughout the County and the Downtown area, the analysis commences with projected office employment growth. As previously noted, office demand related employment in Miami Dade County is estimated to increase by roughly 3,900 per year over the next few years (or an estimated 23,500 jobs from 2014 to 2019). According to the Building Managers and Owners Association (BOMA), among other industry benchmark indicators, the office space per employee ratio in Miami Dade County is in the range of 230 square feet. Based upon low and high growth estimates ranging from 18,000 to 22,000 new office jobs, and then multiplying this range by 230 square feet per employee, results in net demand for new office space in Miami Dade County is estimated to range between 4.1 and 5.1 million square feet over the next five years. Based upon historical and more recent capture trends, the Village of Palmetto Bay is estimated to capture 3 to 5 percent of the County’s total inventory, and assuming this capture rate going forward, the Village’s office market is forecast to have demand for roughly 135,000 to 270,000 square feet during the next 5± years.

**Figure 15: Village of Palmetto Bay Office Demand – 2014 to 2019**

Source: Lambert Advisory

	Low	High
Estimated County Office Job Growth (2014 to 2019)	18,000	22,000
Sq.Ft. Office Net Demand @ 230 sf per employee	4,100,000	5,100,000
percent Village of Palmetto Bay Capture	3percent	5percent
<b>Village of Palmetto Bay Total Potential - Office Demand (Sq.Ft.)</b>	<b>135,000</b>	<b>270,000</b>

The office demand indicated above represents demand for the entire Village of Palmetto Bay, from which demand in the Downtown area will be driven, including the Downtown area. Accordingly, this figure is net new space demanded and it assumes that at least some portion of this space is absorbed within existing vacant space and/or older, development well beyond its useful life. Nonetheless, the most relevant point to the analysis herein indicates office demand exists for the Downtown area that can be considered a strong supporting use for mixed use development, either in the initial development phases, and/or subsequent phases.



## **SECTION 5: RETAIL MARKET ANALYSIS AND DEMAND ESTIMATE**

### *5a: Retail Market Overview*

The focus of the retail analysis herein is to review and summarize retail market trends in the Village of Palmetto Bay and the Trade Area, with a comparison to that of the broader region. For the Village of Palmetto Bay and its broader surroundings beyond the boundaries of the Village and/or Trade Area, the retail market is well represented with local, regional and national stores ranging from quick service restaurants (ie. fast food) to Big Box tenants (such as Target, Best Buy and Marshalls) to regional malls. Specific to the Downtown area, we do not anticipate large scale retail development (and namely large discount stores) to occur during the foreseeable future considering site constraints and the fact that it is not complimentary to the Downtown envisioned for Palmetto Bay (at least during initial phases). Considering this, we do believe the Downtown will be served by complimentary uses which will be smaller in scale (and discussed further below), with potential for any large scale retail in the Corridor planned for long term development. Regardless, we have analyzed the retail market and prepared estimates of demand.

According to CoStar<sup>7</sup>, as of the 4<sup>th</sup> Quarter of 2013, there are 9,757 retail buildings in Miami-Dade County combining for 122 million square feet of retail space. The vacancy rate is at a very healthy 4.0 percent and the average quoted full service rent is at \$27.85 per square foot.

The Village of Palmetto Bay has a retail inventory of 787,200 square feet in 75 buildings, equal to less than one percent (0.6 percent) of the County total. Of the total retail space in the Village, 570,300 square feet (68 percent) is situated in the Trade Area. Vacancy rates in the Village and Trade Area are slightly higher than the county as a whole at 4.1 and 4.9 percent, respectively. The average quoted full service rents are lower than the County at \$25.54 and \$22.40 per square foot, respectively. The average size retail building in both the Village and Trade Area is roughly 10,000 square feet. By comparison, the average size retail building in Miami-Dade is estimated at 12,519 square feet.

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<sup>7</sup> CoStar is an internationally recognized as an industry leading real estate data service provider.



**Village of Palmetto Bay – Downtown Master Plan (Economic & Market Assessment)**

**Figure 16: Miami-Dade County & Village of Palmetto Bay and Trade Area - Retail Market Snapshot (4Q 2013)**

Source: Costar

Market Area	Number of Buildings	Avg. Size Bldg. Sq. ft.	Total Inventory Sq. Ft.	Vacancy Rate	Quoted FS Rent/Sq. Ft.
Miami-Dade County	9,757	12,519	122,152,110	4.0%	\$27.85
Village of Palmetto Bay	75	10,496	787,200	4.1%	\$25.54
Primary Trade Area	58	9,832	570,250	4.9%	\$22.40

As with most metropolitan markets in Florida, the economic downturn in real estate markets has significantly impacted the retail sector in Miami-Dade County. Starting in 2007, declining retail sales brought on by high unemployment and shaken consumer confidence, combined with tight credit markets and a “wait and see” strategy among retailers with regard to expansion plans, contributed to a fragile real estate market for retail. In general, occupancy levels declined as did rental rates, and tenant prospects diminished.

The Figure below presents occupancy rate trends for Miami-Dade County, the Village of Palmetto Bay and Trade Area from 2006 to 2013. The analysis shows that the occupancy rate for retail space in Miami-Dade and the Trade Area peaked in 2007 at 97.1 and 98.8 percent, respectively. Starting in 2008, the occupancy rate for retail space in both Miami-Dade and the Village declined slightly, reaching 95 percent in Miami-Dade County in 2009 and 89.4 percent in the Trade Area in 2010. Since 2009, the occupancy level for retail space in Miami-Dade has slowly increased to reach 96 percent as of the 4<sup>th</sup> Quarter 2013. The occupancy rate for retail space in the Trade Area also registered 96 percent, with a sharper increase from its low point in in 2010.

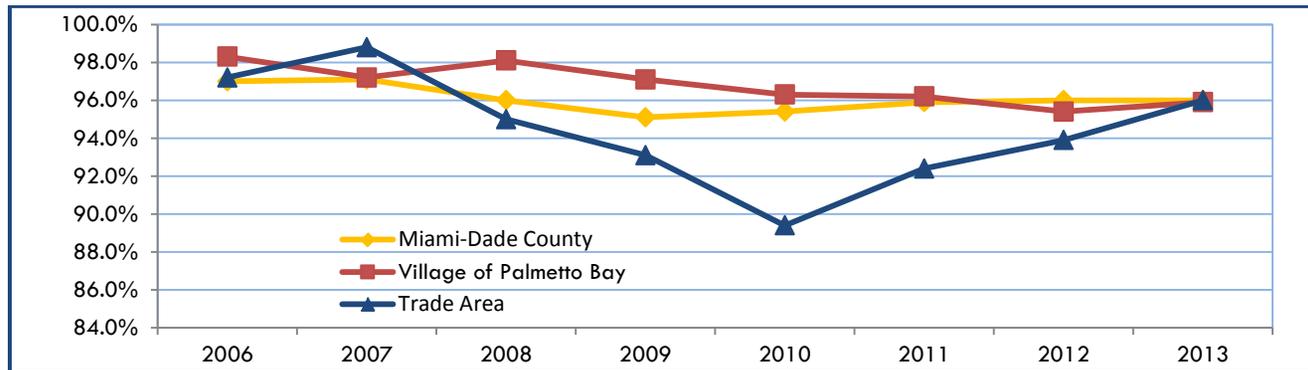
The occupancy rate for retail space in the Village of Palmetto Bay as a whole peaked at 98.3 percent in 2006, declined to 97.2 percent in 2007 then popped back up to 98.1 percent in 2008. Starting in 2009, the occupancy rate for retail in the Village declined at a much smaller pace than the Trade Area, reaching a low point of 95.4 percent in 2012, inching up to 95.9 percent in 2013.



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**Figure 17: Retail Occupancy Trends- 2004-2013 - Miami-Dade County, Village of Palmetto Bay & Trade Area**

Source: Costar



The average rental rate for retail space from 2006 to 2013 in Miami-Dade County, the Village of Palmetto Bay and the Trade Area, generally trended in response to occupancy rate. Thus, after peaking at \$27.69 per square foot in 2007, the average rental rate for retail space in Miami-Dade declined by 15.2 percent (5.3 percent annual average) from 2007 to 2010. Rental rates for retail space in Miami-Dade bounced back growing 21.6 percent (10.3 percent annual average) to \$28.57 per square foot in 2012. However, the average rental rate for retail in Miami-Dade declined again in 2013, to \$27.85 per square foot.

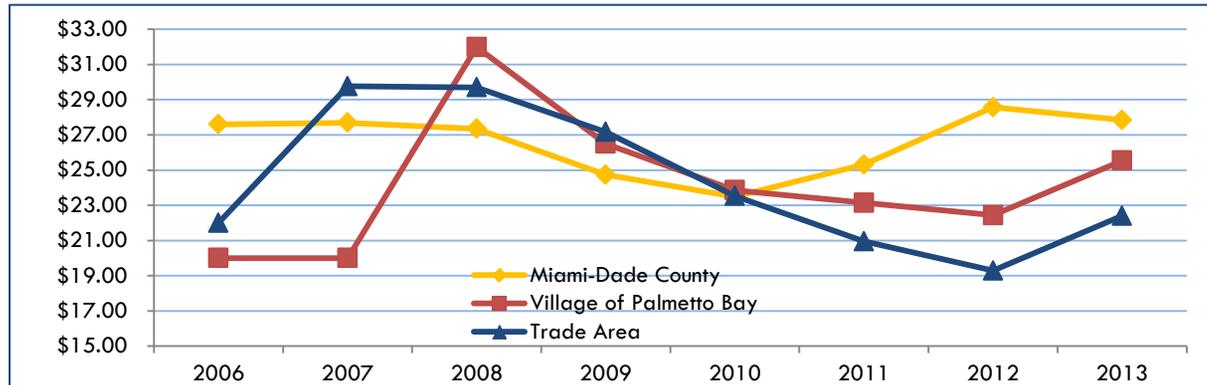
The average rentals rates for retail space in the Village and the Trade Area peaked at \$31.99 and \$29.70 in 2008, both higher than that for Miami-Dade County in that year. From 2008 to 2012, the average retail rental rate declined precipitously in both the Village and the Trade Area. Accordingly, the average retail rental rate in the Village declined by 30 percent (8.5 percent annual average) to \$22.44 per square foot in 2012; declining by 35 percent (10 percent annual average) to \$19.29 per square foot in 2012. The average rental rate for retail in the Village jumped back up by 13 percent to \$25.54 per square foot in 2013 and by 15.1percent to \$22.40 per square foot in the Trade Area.



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**Figure 18: Retail Quoted Rental Rates- 2004-2013 - Miami-Dade County, Village of Palmetto Bay & Trade Area**

Source: Costar



The Figure below presents an analysis of annual net retail absorption in the Village of Palmetto Bay and the Trade Area as a share of net retail absorption in Miami-Dade County from 2006 to 2013. The analysis shows that the Village of Palmetto Bay’s share of net retail absorption in Miami-Dade County ranged from 0.3 to 2.4 percent and averaged 0.1 percent over the seven-year period. The share of net absorption of retail in the Trade Area ranged from 0.7 to 1.4 percent and averaged 0.3 percent from 2006 to 2013.



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**Figure 19: Annual Net Retail Square Feet Absorption and Market Share-2004-2013 - Village of Palmetto Bay & Trade Area**

Source: Costar

Year	Miami-Dade Net Sq. Ft. Absorbed	Village of Palmetto Bay Net Sq. Ft. Absorbed	Share of Miami-Dade	Primary Trade Area Net Sq. Ft. Absorbed	Share of Miami-Dade
2006	1,500,000	17,500	1.20%	100	0.00%
2007	3,557,630	-9,800	-	24,800	0.70%
2008	1,460,700	35,460	2.40%	-2,800	-
2009	906,000	-19,275	-	-10,900	-
2010	583,400	-1,700	-	-6,100	-
2011	1,191,800	4,270	0.30%	17,100	1.40%
2012	604,200	-17,200	-	8,400	1.40%
2013	552,600	9,865	1.80%	4,500	0.80%
<b>Total</b>	<b>10,356,300</b>	<b>19,100</b>	<b>0.10%</b>	<b>35,100</b>	<b>0.30%</b>
8 Year Annl.Avg	1,294,500	2,390	0.10%	4,400	0.30%

**6B: Retail Demand Analysis**

As discussed in Section 1, Lambert has defined its primary retail Trade Area based upon boundaries for the Corridor and Downtown which is considered to represent the area from which we believe Downtown businesses will draw patrons for food and beverage establishments, local stores and boutiques, and specialty businesses on a regular basis. We clearly recognize that the Trade Area described herein is not the only area from which the Downtown area and Downtown retailers will draw patrons. The *Lambert Advisory Retail Trade Model* takes into account expenditures by residents outside the retail Trade Area by utilizing inflow factors, as described in detail below. We have estimated demand for the current year and for 2019.

Local residents’ expenditures are the primary potential driver of demand for retailers within the Downtown’s Trade Area. Although utilizing large amounts of data from a variety of sources, the way the retail trade model derives the estimated space demand is actually quite simple. The methodology is described in detail below.

- **Total Personal Income** – In 2014, there are nearly 17,250 residents in the Trade Area with per capita income of approximately \$43,420 (distinct from average household income), which yields \$172 million in total personal income.



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- **Total Non-Auto Retail Expenditure** – An estimate of non-automobile retail expenditure for the Trade Area is made by multiplying the Total Personal Income by the percent of income that is spent on non-auto retail purchases in a given year. The percent of household income spent on non-auto retail purchases was derived from the Department of Commerce 2009-2010 Consumer Expenditure Survey (Southern Region), which is both region- and income cohort-specific based upon data from the Department of Commerce, and residents are estimated to spend nearly 23 percent of their income on non-auto related retail goods.
- **Expenditure by Store Type** – Non-auto expenditure by store type for the market area is estimated using the percentage of total non-auto store sales by store type for the State of Florida (as a proportion of total non-auto sales) based on an analysis of the 2007 Census of Retail Trade. County level data is available to some degree but many retail categories are not separable due to the fact that the Census Bureau maintains limits on how much data is provided at the county level for categories where there are only a few competitors.
- **Primary Market Area Retention** – This is estimated based upon fieldwork and experience, and is an estimate of the degree of leakage which may occur from the Downtown by store type. Most merchandise categories have relatively low retention rates due to the size of the Trade Area and the fact that surrounding retail nodes along US 1 in the south Dade County area has considerable retail development.
- **Percent Sales Inflow from Secondary Market** – While there is resident expenditure leakage from the Trade Area there is also inflow from residents that live outside the bounds of the Trade Area. This is accounted for in the resident model. However, additional inflow demand will come from non-resident daytime workers in the area, which are also accounted for in the model and into specific segment models detailed below.
- **Sales per Square Foot** – The sales per square foot figures are estimated for stores in the Trade Area based on interviews and other sources of information, including but not limited to the Urban Land Institute’s Dollars & Cents of Shopping Centers.
- **Warranted Square Feet** – Is calculated using the following formula:  $\text{Net Sales Potential (by category)} / \text{Sales per Square Foot (by category)}$
- **Non-Retail Space** – Is calculated assuming that there is an additional 10-15 percent of “retail” space demanded in traditional retail space that is utilized for non-retail uses such as doctor’s offices, hair salons, or other personal services.



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**Figure 20: Downtown Trade Area – Estimated Retail Demand (by Category)**

Source: Lambert Advisory

	2014	2019	Change
Estimated Population	17,245	18,761	1,516
Per Capita Income	\$43,421	\$47,238	\$3,817
<b>Total Retail Expenditure Potential</b>	<b>\$172,217,890</b>	<b>\$203,832,559</b>	<b>\$31,614,669</b>
<b>Expenditure Potential by Category</b>			
Food Services & Drinking Places	\$34,828,020	\$41,221,528	\$6,393,507
Shoppers Goods	\$80,702,733	\$95,517,629	\$14,814,896
Convenience Goods	\$66,153,141	\$78,297,115	\$12,143,974
<b>Sales per Square Foot by Category</b>			
Food Services & Drinking Places	\$375	\$375	\$0
Shoppers Goods	\$302	\$302	\$1
Convenience Goods	\$350	\$350	\$0
<b>Supportable Square Footage by Category</b>			
Food Services & Drinking Places	92,875	109,924	17,049
Shoppers Goods	267,336	315,803	48,467
Convenience Goods	195,822	231,770	35,948
Non-Retail Space	55,991	66,219	10,228
<b>Total Supportable Retail Space</b>	<b>612,023</b>	<b>723,716</b>	<b>111,693</b>

Based upon the retail Trade Area model (which is provided in detail in the Appendix, retail demand from resident expenditure (which accounts for inflow and outflow demand factors) is estimated to be 600,000 square feet. This appears to be in line with total retail inventory estimated for the Trade Area based upon the retail supply analysis. Accordingly, retail demand within Trade Area is estimated to increase 110,000± square feet by 2019; however, a portion of this net new retail demand presumes absorption of existing vacant space, as well as support for a reposition of older retail buildings that will likely “fall out” of the market from redevelopment. Regardless, the Trade Area and Downtown area will likely capture its proportionate share of future retail demand and, as a matter of fact, the Downtown’s ability to capture current and future retail demand is not so much from a lack of demand or expenditure potential, but instead related to other issues, such as the limited availability of sizable parcels for (re)development, required roadway



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improvements, and vehicle and pedestrian mobility. Importantly, the mix of retail categories (i.e., the proportion of restaurant and entertainment space, convenience goods space, etc.) implied by these estimates should be taken into consideration as the Village formulates and refines its strategic priorities for the Downtown area and Downtown. As such, the near term opportunity for the first phase of Downtown is approximately 20,000 to 30,000 square feet of retail space comprised primarily of dining establishments, smaller (boutique) shops, and limited service convenience. We also believe there is an opportunity for a grocery store (such as Publix or Whole Foods) within the next 5± years which, as detailed within the retail trade model, is based upon modest population growth for overall trade area and the resultant demand for 50,000 to 60,000 square feet of *convenience goods* during the next 5+ years. The planning team is assuming that the Downtown core has a very strong opportunity to capture this demand provided that initial phases of the residential development are successful. Therefore, this would support an additional 40,000 to 50,000 square feet of retail demand. In all, the retail demand specifically targeted for the Downtown area is estimated to be approximately 60,000 to 80,000 square feet of retail within the next 5± years. Looking further into the horizon, the Village’s Downtown area should continue to capture its fair share of retail demand and we believe that over a 10± year period the total retail demand is estimated to be in the range of 100,000 to 110,000 square feet.



## ATTACHMENTS



**Attachment 1:  
Village of Palmetto Bay Trade Area – Profile of Select Rental Apartments**

Name of Project	Address	Year Built	Distance from Primary Trade Area	Total Units	Floor Plans	Unit Size AC-Sq. Ft		Base Asking Rent		Base Asking Rent/Sq. Ft.		Current Occ (%)	Comments
						Range	Avg.	Range	Avg.	Range	Avg.		
<b>Palmetto Bay Projects</b>													
Coral Colony	17255 95th Ave. SW	1971	0	214	Eff., 1 & 2 Bdrms	550-1,300	834	\$550-\$865	\$715	\$0.67-\$1.00	\$0.86	N/A	Condo Project with rental units
Royal Coast	9001 SW 156th St.	1969	< 1 mile	174	1 & 2 Bdrms	630-845	689	\$694-\$826	\$738	\$0.98-\$1.10	\$1.07	100.0%	35 units are low income set aside
<b>Subtotal</b>				<b>388</b>		<b>550-1,300</b>	<b>769</b>	<b>\$550-\$865</b>	<b>\$725</b>	<b>\$0.67-\$1.10</b>	<b>\$0.94</b>	<b>100.0%</b>	
<b>Projects North of Palmetto Bay - Dadeland/Kendall/Pinecrest</b>													
Colony at Dadeland	9355 77th Ave. SW	1967	5± miles	335	1 & 2 Bdrms	785-1,250	988	\$1,011-\$1,380	\$1,179	\$1.10-\$1.24	\$1.19	99.40%	Refurbished several times
Downtown Dadeland	9005 Dadeland Blvd.	2010	5± miles	136	Studio, 1,2 & 3 Bdrms.	470-1,758	989	\$1,100-\$2,800	\$1,813	\$1.59-\$2.34	\$1.83	96.32%	Condo project marketed as rentals.
Gardens at Pinecrest	8800 SW 68th Ct.	1980	5± miles	88	1 & 2 Bdrms	625-825	675	\$925-\$1,200	\$994	\$1.45-\$1.48	\$1.47	90.0%	
Residences at the Falls	13888 90th Ave. SW	1972	3± miles	628	1,2 & 3 Bdrms.	697-1,097	824	\$1,055-\$1,555	\$1,210	\$1.40-\$1.51	\$1.47	92.0%	Condos & Apts.
<b>Subtotal</b>				<b>1,187</b>		<b>470-1,758</b>	<b>878</b>	<b>\$925-\$2,800</b>	<b>\$1,254</b>	<b>\$1.10-\$2.34</b>	<b>\$1.43</b>	<b>94.4%</b>	
<b>Projects South and/or West of Palmetto Bay</b>													
Captiva Club	9005 Dadeland Blvd.	2003	1± miles	136	1,2 & 3 Bdrms.	702-1,210	1,025	\$800-\$1,025	\$950	\$0.87-\$1.14	\$0.93	95.50%	LIHTC project
Caribe Villa	11105 200 St. SW	1972	5± miles	288	Eff., 1 & 2 Bdrms	474-829	683	\$620-\$865	\$740	\$1.00-\$1.31	\$1.08	90.00%	
Cutler Riverside	13888 90th Ave. SW	1989	5± miles	200	1,2 & 3 Bdrms.	660-1,060	860	\$750-\$1,010	\$880	\$0.95-\$1.14	\$1.02	94.5%	
Old Cutler Village	10415 Old Cutler Road	2003	5± miles	288	1,2 & 3 Bdrms.	577-1,082	826	\$750-\$1,100	\$900	\$0.98-\$1.30	\$1.09	96.2%	
<b>Subtotal</b>				<b>912</b>		<b>474-1,210</b>	<b>818</b>	<b>\$620-\$1,100</b>	<b>\$853</b>	<b>\$0.87-\$1.31</b>	<b>\$1.04</b>	<b>93.8%</b>	
<b>Total/Avg.</b>				<b>2,487</b>		<b>470-1,758</b>	<b>839</b>	<b>\$550-\$2,800</b>	<b>\$1,024</b>	<b>\$0.67-\$2.34</b>	<b>\$1.22</b>	<b>94.6%</b>	



## **Attachment 2: Downtown Palmetto Bay Residential Demand Model**

Village of Palmetto Bay Multifamily Housing Demand Projections (Market Rate Housing) 2014 through 2023												
	2010	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change
Population	522,619	559,074	568,578	578,244	588,074	598,071	608,238	618,578	629,094	639,789	650,665	100,937
Total Households	166,635	179,665	183,078	186,557	190,101	193,713	197,394	201,144	204,966	208,861	212,829	36,514
Persons per HH	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	
% South Dade HH w/Income > \$50K (Future Demand)		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	
No. HH with Income > \$50,000		89,832	91,539	93,278	95,051	96,857	98,697	100,572	102,483	104,430	106,414	18,257
% MF Dwelling	40.0%	40.0%	40.0%	41.0%	41.0%	41.0%	42.0%	42.0%	42.0%	43.0%	43.0%	
Total Demand for New MF Dwelling Units	66,654	35,933	36,616	38,244	38,971	39,711	41,453	42,240	43,043	44,905	45,758	10,495
Scenario 2 - VPB Mid Point Capture:	± HH Capture:	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
Potential HH Demand:		2,875	2,929	3,060	3,118	3,177	3,316	3,379	3,443	3,592	3,661	
Net New HH Annual Demand:		54	55	130	58	59	139	63	64	149	68	840
Net New HH Cumulative Demand:		54	108	238	297	356	495	558	622	771	840	
Total Potential Annual Demand (Mid Point)	-	54	55	130	58	59	139	63	64	149	68	840
Total Potential Cumulative Demand (Mid Point)	-	54	108	238	297	356	495	558	622	771	840	
Additional Demand from Capture of Existing Renter Market												
Primary Comparable/Competitive Set		1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	
% Annual Turnover		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	
% Annual Capture		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Annual Demand from Existing Capture		33	33	33	33	33	33	33	33	33	33	330
Cumulative Demand from Existing Capture		33	66	99	132	165	198	231	264	297	330	
Total Potential Annual Demand (Mid Point)	-	87	88	163	91	92	172	96	97	182	101	1,170
Total Potential Cumulative Demand (Mid Point)	-	87	174	337	429	521	693	789	886	1,068	1,170	



## **Attachment 3: Downtown Retail Trade Area Model**

Resident Expenditure Estimate, By Major Retail Category, Village of Palmetto Bay Trade Area

	2014	2015	2016	2017	2018	2019
Total Population	17,245	17,538	17,836	18,139	18,448	18,761
Per Capita Income	\$43,421	\$44,159	\$45,219	\$45,942	\$46,585	\$47,238
Total Income	\$748,773,436	\$774,448,128	\$806,516,476	\$833,350,892	\$859,383,107	\$886,228,517
% of Total Income Expended on Non-Auto Retail Expenditure	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Total Non-Auto Retail Expenditure	\$172,217,890	\$178,123,069	\$185,498,789	\$191,670,705	\$197,658,115	\$203,832,559

Distribution by Store Type - 2007 Census; Miami-Dade County

Expenditure by Store Type - Detail

<b>General merchandise stores</b>	\$ 26,768,775	\$ 27,686,649	\$ 28,833,098	\$ 29,792,433	\$ 30,723,089	\$ 31,682,817
Department stores	\$ 13,385,638	\$ 13,844,619	\$ 14,417,897	\$ 14,897,609	\$ 15,362,980	\$ 15,842,889
Other general merchandise stores	\$ 13,383,136	\$ 13,842,031	\$ 14,415,202	\$ 14,894,824	\$ 15,360,109	\$ 15,839,928
<b>Clothing &amp; clothing accessories stores</b>	\$ 25,106,407	\$ 25,967,280	\$ 27,042,534	\$ 27,942,293	\$ 28,815,154	\$ 29,715,282
Clothing stores	\$ 17,290,057	\$ 17,882,916	\$ 18,623,412	\$ 19,243,050	\$ 19,844,164	\$ 20,464,056
Men's clothing stores	\$ 838,382	\$ 867,130	\$ 903,036	\$ 933,082	\$ 962,229	\$ 992,287
Women's clothing stores	\$ 4,862,280	\$ 5,029,002	\$ 5,237,243	\$ 5,411,497	\$ 5,580,541	\$ 5,754,866
Children's & infants' clothing stores	\$ 839,244	\$ 868,020	\$ 903,963	\$ 934,040	\$ 963,218	\$ 993,307
Family clothing stores	\$ 8,481,516	\$ 8,772,339	\$ 9,135,584	\$ 9,432,543	\$ 9,734,415	\$ 10,038,499
Clothing accessories stores	\$ 1,015,427	\$ 1,050,245	\$ 1,093,733	\$ 1,130,124	\$ 1,165,427	\$ 1,201,832
Other clothing stores	\$ 1,253,209	\$ 1,296,180	\$ 1,349,852	\$ 1,394,764	\$ 1,438,334	\$ 1,483,265
Shoe stores	\$ 3,141,020	\$ 3,248,722	\$ 3,383,245	\$ 3,495,813	\$ 3,605,015	\$ 3,717,628
Jewelry, luggage, & leather goods stores	\$ 4,675,330	\$ 4,835,642	\$ 5,035,877	\$ 5,203,430	\$ 5,365,975	\$ 5,533,957
Luggage stores	\$ 4,298,361	\$ 4,445,748	\$ 4,629,837	\$ 4,783,881	\$ 4,933,320	\$ 5,087,427
Luggage & leather goods stores	\$ 376,969	\$ 389,895	\$ 406,040	\$ 419,549	\$ 432,655	\$ 446,170
<b>Furniture &amp; home furnishings stores</b>	\$ 7,890,540	\$ 8,161,099	\$ 8,499,034	\$ 8,781,814	\$ 9,056,140	\$ 9,339,036
Furniture stores	\$ 4,591,678	\$ 4,749,122	\$ 4,945,774	\$ 5,110,330	\$ 5,269,966	\$ 5,434,590
Home furnishings stores	\$ 3,298,862	\$ 3,411,977	\$ 3,553,260	\$ 3,671,484	\$ 3,786,174	\$ 3,904,446
Floor covering stores	\$ 761,806	\$ 787,927	\$ 820,554	\$ 847,855	\$ 874,341	\$ 901,653
Other home furnishings stores	\$ 2,537,056	\$ 2,624,049	\$ 2,732,706	\$ 2,823,629	\$ 2,911,833	\$ 3,002,793
<b>Electronics &amp; appliance stores</b>	\$ 11,372,866	\$ 11,762,830	\$ 12,249,905	\$ 12,657,484	\$ 13,052,879	\$ 13,460,625
Appliance, television, & other electronics stores	\$ 9,057,999	\$ 9,368,589	\$ 9,756,523	\$ 10,081,142	\$ 10,396,057	\$ 10,720,809
Computer & software stores	\$ 2,193,939	\$ 2,269,167	\$ 2,363,129	\$ 2,441,755	\$ 2,518,030	\$ 2,596,688
Camera & photographic supplies stores	\$ 120,928	\$ 125,075	\$ 130,254	\$ 134,587	\$ 138,792	\$ 143,127
<b>Sporting goods, hobby, book, &amp; music stores</b>	\$ 4,318,185	\$ 4,466,252	\$ 4,651,190	\$ 4,805,945	\$ 4,956,073	\$ 5,110,890
Sporting goods, hobby, & musical instrument stores	\$ 2,851,681	\$ 2,949,462	\$ 3,071,594	\$ 3,173,792	\$ 3,272,935	\$ 3,375,175
Sporting goods stores	\$ 1,492,618	\$ 1,543,798	\$ 1,607,724	\$ 1,661,216	\$ 1,713,109	\$ 1,766,623
Hobby, toy, & game stores	\$ 831,663	\$ 860,179	\$ 895,798	\$ 925,603	\$ 954,517	\$ 984,334
Sewing, needlework, & piece goods stores	\$ 193,984	\$ 200,635	\$ 208,943	\$ 215,895	\$ 222,639	\$ 229,594
Musical instrument & supplies stores	\$ 333,417	\$ 344,850	\$ 359,129	\$ 371,078	\$ 382,670	\$ 394,624
Book, periodical, & music stores	\$ 1,466,504	\$ 1,516,789	\$ 1,579,596	\$ 1,632,153	\$ 1,683,138	\$ 1,735,716
Book stores & news dealers	\$ 1,174,814	\$ 1,215,097	\$ 1,265,412	\$ 1,307,515	\$ 1,348,359	\$ 1,390,479
Prerecorded tape, compact disc, & record stores	\$ 291,690	\$ 301,692	\$ 314,185	\$ 324,638	\$ 334,779	\$ 345,237
<b>Miscellaneous store retailers</b>	\$ 5,501,920	\$ 5,690,576	\$ 5,926,211	\$ 6,123,388	\$ 6,314,670	\$ 6,511,928
Florists	\$ 390,839	\$ 404,241	\$ 420,979	\$ 434,986	\$ 448,574	\$ 462,587
Office supplies, stationery, & gift stores	\$ 2,277,290	\$ 2,355,376	\$ 2,452,907	\$ 2,534,520	\$ 2,613,694	\$ 2,695,340
Office supplies & stationery stores	\$ 1,457,242	\$ 1,507,209	\$ 1,569,619	\$ 1,621,844	\$ 1,672,507	\$ 1,724,753
Gift, novelty, & souvenir stores	\$ 820,048	\$ 848,167	\$ 883,288	\$ 912,677	\$ 941,187	\$ 970,588
Used merchandise stores	\$ 449,245	\$ 464,650	\$ 483,890	\$ 499,990	\$ 515,608	\$ 531,715
Other miscellaneous store retailers	\$ 2,384,546	\$ 2,466,310	\$ 2,568,435	\$ 2,653,892	\$ 2,736,794	\$ 2,822,286
Pet & pet supplies stores	\$ 568,676	\$ 588,176	\$ 612,531	\$ 632,911	\$ 652,682	\$ 673,070
Art dealers	\$ 514,180	\$ 531,811	\$ 553,832	\$ 572,259	\$ 590,135	\$ 608,570
All other miscellaneous store retailers	\$ 218832,666	\$ 226,336	\$ 235,708	\$ 243,551	\$ 251,159	\$ 259,005
<b>Food &amp; beverage stores</b>	\$ 29,956,361	\$ 30,983,535	\$ 32,266,501	\$ 33,340,072	\$ 34,381,549	\$ 35,455,560
Grocery stores	\$ 27,429,012	\$ 28,369,526	\$ 29,544,251	\$ 30,527,247	\$ 31,480,857	\$ 32,464,256
Supermarkets & other grocery (except convenience) stores	\$ 26,648,042	\$ 27,561,808	\$ 28,703,088	\$ 29,658,097	\$ 30,584,556	\$ 31,539,957
Convenience stores	\$ 780,970	\$ 807,717	\$ 841,163	\$ 869,151	\$ 896,301	\$ 924,300
Specialty food stores	\$ 948,858	\$ 981,394	\$ 1,022,031	\$ 1,056,036	\$ 1,089,025	\$ 1,123,044
Beer, wine, & liquor stores	\$ 1,578,491	\$ 1,632,616	\$ 1,700,219	\$ 1,756,789	\$ 1,811,667	\$ 1,868,260
<b>Food services &amp; drinking places</b>	\$ 26,535,635	\$ 27,445,515	\$ 28,581,979	\$ 29,532,958	\$ 30,455,509	\$ 31,406,878
Full-service restaurants	\$ 12,705,980	\$ 13,141,656	\$ 13,685,825	\$ 14,141,180	\$ 14,582,922	\$ 15,038,464
Limited-service eating places	\$ 9,193,542	\$ 9,508,780	\$ 9,902,519	\$ 10,231,996	\$ 10,551,623	\$ 10,881,235
Drinking places	\$ 1,511,526	\$ 1,563,355	\$ 1,628,090	\$ 1,682,260	\$ 1,734,810	\$ 1,789,002
<b>Health &amp; personal care stores</b>	\$ 20,178,529	\$ 20,870,431	\$ 21,734,634	\$ 22,457,788	\$ 23,159,325	\$ 23,882,776
Pharmacies & drug stores	\$ 16,863,179	\$ 17,441,400	\$ 18,163,614	\$ 18,767,954	\$ 19,354,227	\$ 19,958,814
Cosmetics, beauty supplies, & perfume stores	\$ 1,348,666	\$ 1,394,910	\$ 1,452,671	\$ 1,501,004	\$ 1,547,893	\$ 1,596,246
Optical goods stores	\$ 913,742	\$ 945,073	\$ 984,207	\$ 1,016,953	\$ 1,048,721	\$ 1,081,481
Other health & personal care stores	\$ 1,052,943	\$ 1,089,047	\$ 1,134,142	\$ 1,171,877	\$ 1,208,484	\$ 1,246,235
<b>Home Centers, Paint &amp; wallpaper stores, Hardware Stores</b>	\$ 6,103,824	\$ 6,103,824	\$ 6,356,571	\$ 6,568,067	\$ 6,773,240	\$ 6,984,822
<b>Building material &amp; garden equipment &amp; supplies dealers</b>	\$ 14,588,671	\$ 15,088,902	\$ 15,713,703	\$ 16,236,530	\$ 16,743,726	\$ 17,266,767
Other building material dealers	\$ 6,025,295	\$ 6,231,896	\$ 6,489,947	\$ 6,705,880	\$ 6,915,358	\$ 7,131,380
Lawn & garden equipment & supplies stores	\$ 504,036	\$ 521,319	\$ 542,905	\$ 560,969	\$ 578,492	\$ 596,563
Outdoor power equipment stores	\$ 114,331	\$ 118,252	\$ 123,148	\$ 127,246	\$ 131,221	\$ 135,320
Nursery, garden center, & farm supply stores	\$ 389,704	\$ 403,067	\$ 419,757	\$ 433,723	\$ 447,272	\$ 461,244

## Resident Expenditure Estimate, By Major Retail Category, Village of Palmetto Bay Trade Area

Expenditure by Store Type - Summary	2014	2015	2016	2017	2018	2019
General merchandise stores	\$ 26,768,775	\$ 27,686,649	\$ 28,833,098	\$ 29,792,433	\$ 30,723,089	\$ 31,682,817
Clothing & clothing accessories stores	\$ 25,106,407	\$ 25,967,280	\$ 27,042,534	\$ 27,942,293	\$ 28,815,154	\$ 29,715,282
Furniture & home furnishings stores	\$ 7,890,540	\$ 8,161,099	\$ 8,499,034	\$ 8,781,814	\$ 9,056,140	\$ 9,339,036
Electronics & appliance stores	\$ 11,372,866	\$ 11,762,830	\$ 12,249,905	\$ 12,657,484	\$ 13,052,879	\$ 13,460,625
Sporting goods, hobby, book, & music stores	\$ 4,318,185	\$ 4,466,252	\$ 4,651,190	\$ 4,805,945	\$ 4,956,073	\$ 5,110,890
Home Centers, Paint & wallpaper stores, Hardware Stores	\$ 6,103,824	\$ 6,103,824	\$ 6,356,571	\$ 6,568,067	\$ 6,773,240	\$ 6,984,822
Miscellaneous store retailers	\$ 5,501,920	\$ 5,690,576	\$ 5,926,211	\$ 6,123,388	\$ 6,314,670	\$ 6,511,928
<b>Shoppers Goods Subtotal</b>	<b>\$ 87,062,518</b>	<b>\$ 89,838,510</b>	<b>\$ 93,558,543</b>	<b>\$ 96,671,423</b>	<b>\$ 99,691,245</b>	<b>\$ 102,805,400</b>
Food & beverage stores	\$ 29,956,361	\$ 30,983,535	\$ 32,266,501	\$ 33,340,072	\$ 34,381,549	\$ 35,455,560
Food services & drinking places	\$ 26,535,635	\$ 27,445,515	\$ 28,581,979	\$ 29,532,958	\$ 30,455,509	\$ 31,406,878
Health & personal care stores	\$ 20,178,529	\$ 20,870,431	\$ 21,734,634	\$ 22,457,788	\$ 23,159,325	\$ 23,882,776
<b>Convenience Goods Subtotal</b>	<b>\$ 76,670,525</b>	<b>\$ 79,299,481</b>	<b>\$ 82,583,114</b>	<b>\$ 85,330,819</b>	<b>\$ 87,996,383</b>	<b>\$ 90,745,214</b>
<b>Building material &amp; garden equipment</b>	<b>\$ 8,484,847</b>	<b>\$ 8,985,078</b>	<b>\$ 9,357,133</b>	<b>\$ 9,668,463</b>	<b>\$ 9,970,487</b>	<b>\$ 10,281,945</b>
<b>Primary Market Area Retention</b>						
General merchandise stores	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Clothing & clothing accessories stores	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Furniture & home furnishings stores	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Electronics & appliance stores	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Sporting goods, hobby, book, & music stores	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Home Centers, Paint & wallpaper stores, Hardware Stores	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Miscellaneous store retailers	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Food & beverage stores	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Food services & drinking places	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
Health & personal care stores	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Building material & garden equipment	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
<b>Inflow from Secondary Market</b>						
General merchandise stores	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Clothing & clothing accessories stores	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Furniture & home furnishings stores	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Electronics & appliance stores	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Sporting goods, hobby, book, & music stores	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Home Centers, Paint & wallpaper stores, Hardware Stores	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Miscellaneous store retailers	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Food & beverage stores	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
Food services & drinking places	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
Health & personal care stores	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Building material & garden equipment	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
<b>Net Sales Potential</b>						
General merchandise stores	\$31,854,842	\$32,947,113	\$34,311,387	\$35,452,995	\$36,560,476	\$37,702,552
Clothing & clothing accessories stores	\$29,876,624	\$30,901,064	\$32,180,615	\$33,251,328	\$34,290,033	\$35,361,185
Furniture & home furnishings stores	\$5,917,905	\$6,120,824	\$6,374,276	\$6,586,360	\$6,792,105	\$7,004,277
Electronics & appliance stores	\$4,094,232	\$4,234,619	\$4,409,966	\$4,586,694	\$4,699,036	\$4,845,825
Sporting goods, hobby, book, & music stores	\$1,036,364	\$1,071,900	\$1,116,286	\$1,153,427	\$1,189,457	\$1,226,614
Home Centers, Paint & wallpaper stores, Hardware Stores	\$1,464,918	\$1,464,918	\$1,525,577	\$1,576,336	\$1,625,578	\$1,676,357
Miscellaneous store retailers	\$7,922,765	\$8,194,429	\$8,533,744	\$8,817,678	\$9,093,125	\$9,377,176
<b>Shoppers Goods Subtotal</b>	<b>\$80,702,733</b>	<b>\$83,469,949</b>	<b>\$86,926,273</b>	<b>\$89,818,484</b>	<b>\$92,624,233</b>	<b>\$95,517,629</b>
Food & beverage stores	\$41,938,906	\$43,376,949	\$45,173,102	\$46,676,101	\$48,134,169	\$49,637,784
Food services & drinking places	\$34,828,020	\$36,022,238	\$37,513,847	\$38,762,008	\$39,972,856	\$41,221,528
Health & personal care stores	\$24,214,235	\$25,044,517	\$26,081,560	\$26,949,346	\$27,791,190	\$28,659,331
<b>Convenience Goods Subtotal</b>	<b>\$100,981,161</b>	<b>\$104,443,704</b>	<b>\$108,768,509</b>	<b>\$112,387,455</b>	<b>\$115,898,214</b>	<b>\$119,518,643</b>
<b>Building material &amp; garden equipment</b>	<b>\$445,454</b>	<b>\$471,717</b>	<b>\$491,249</b>	<b>\$507,594</b>	<b>\$523,451</b>	<b>\$539,802</b>

## Resident Expenditure Estimate, By Major Retail Category, Village of Palmetto Bay Trade Area

Sales Per Square Foot	2014	2015	2016	2017	2018	2019
General merchandise stores	\$300	\$300	\$300	\$300	\$300	\$300
Clothing & clothing accessories stores	\$325	\$325	\$325	\$325	\$325	\$325
Furniture & home furnishings stores	\$250	\$250	\$250	\$250	\$250	\$250
Electronics & appliance stores	\$325	\$325	\$325	\$325	\$325	\$325
Sporting goods, hobby, book, & music stores	\$250	\$250	\$250	\$250	\$250	\$250
Home Centers, Paint & wallpaper stores, Hardware Stores	\$225	\$225	\$225	\$225	\$225	\$225
Miscellaneous store retailers	\$275	\$276	\$277	\$278	\$279	\$280
<b>Shoppers Goods Subtotal</b>	<b>\$302</b>	<b>\$302</b>	<b>\$302</b>	<b>\$302</b>	<b>\$302</b>	<b>\$302</b>
Food & beverage stores	\$310	\$310	\$310	\$310	\$310	\$310
Food services & drinking places	\$375	\$375	\$375	\$375	\$375	\$375
Health & personal care stores	\$400	\$400	\$400	\$400	\$400	\$400
<b>Convenience Goods Subtotal</b>	<b>\$350</b>	<b>\$350</b>	<b>\$350</b>	<b>\$350</b>	<b>\$350</b>	<b>\$350</b>
<b>Building material &amp; garden equipment</b>	<b>\$115</b>	<b>\$115</b>	<b>\$115</b>	<b>\$115</b>	<b>\$115</b>	<b>\$115</b>
<b>Average Per Square Foot Sales</b>	<b>\$328</b>	<b>\$328</b>	<b>\$328</b>	<b>\$328</b>	<b>\$328</b>	<b>\$328</b>
<b>Warranted Square Feet</b>						
General merchandise stores	106,183	109,824	114,371	118,177	121,868	125,675
Clothing & clothing accessories stores	91,928	95,080	99,017	102,312	105,508	108,804
Furniture & home furnishings stores	23,672	24,483	25,497	26,345	27,168	28,017
Electronics & appliance stores	12,598	13,030	13,569	14,021	14,459	14,910
Sporting goods, hobby, book, & music stores	4,145	4,288	4,465	4,614	4,758	4,906
Home Centers, Paint & wallpaper stores, Hardware Stores	6,511	6,511	6,780	7,006	7,225	7,450
Miscellaneous store retailers	28,810	29,690	30,808	31,718	32,592	33,490
<b>Shoppers Goods Subtotal</b>	<b>267,336</b>	<b>276,394</b>	<b>287,728</b>	<b>297,186</b>	<b>306,353</b>	<b>315,803</b>
Food & beverage stores	135,287	139,926	145,720	150,568	155,272	160,122
Food services & drinking places	92,875	96,059	100,037	103,365	106,594	109,924
Health & personal care stores	60,536	62,611	65,204	67,373	69,478	71,648
<b>Convenience Goods Subtotal</b>	<b>288,697</b>	<b>298,596</b>	<b>310,961</b>	<b>321,307</b>	<b>331,344</b>	<b>341,694</b>
<b>Building material &amp; garden equipment (incl. SG)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Warranted Retail Space</b>	<b>556,033</b>	<b>574,991</b>	<b>598,688</b>	<b>618,493</b>	<b>637,696</b>	<b>657,497</b>
<b>Non-Retail Space (Services)</b>	<b>55,603</b>	<b>57,499</b>	<b>59,869</b>	<b>61,849</b>	<b>63,770</b>	<b>65,750</b>
<b>Non-Retail Percent</b>	<b>10.00%</b>	<b>10.00%</b>	<b>10.00%</b>	<b>10.00%</b>	<b>10.00%</b>	<b>10.00%</b>
<b>Total</b>	<b>611,636</b>	<b>632,490</b>	<b>658,557</b>	<b>680,343</b>	<b>701,466</b>	<b>723,246</b>
<b>Annual Net New Demand</b>		<b>20,854</b>	<b>26,067</b>	<b>21,786</b>	<b>21,124</b>	<b>22,322</b>
<b>Cumulative Net New Demand</b>		<b>20,854</b>	<b>46,921</b>	<b>68,707</b>	<b>89,830</b>	<b>111,610</b>



**Memorandum**

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**To:** Mr. Ed Silva, Village of Palmetto Bay  
**From:** Lambert Advisory, LLC  
**Date:** January 7, 2015  
**Subject:** Village of Palmetto Bay – Downtown Master Plan Economic and Market Assessment (Supplemental Appendix)

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The Memorandum herein represents a Supplemental Appendix to the Village of Palmetto Bay – Downtown Master Plan (Economic and Market Assessment) completed in April 2014. The Supplemental Appendix represents an assessment of economic benefits associated with the estimates of demand (by use) indicated within the Economic and Market Assessment. Specifically, the assessment of economic benefits includes **one time construction impacts** and **recurring impacts upon program build out**, and evaluates select benefits such as estimates of employment, wages, and ad valorem tax revenue.

In the absence of any defined development program associated with the estimates of demand by use, we have completed the analysis herein on an order-of-magnitude basis. As such, development and performance information (i.e., development timing, development costs pricing, absorption, and operating performance) utilized to derive select benefits is based upon information obtained from our research as part of the Economic and Market Assessment; but, highly generalized in the application herein. Importantly, Lambert has not independently verified the development cost and/or operating performance data and cannot attest to the accuracy of the estimates that have been utilized to determine the select benefits. Furthermore, the economic impacts as stated herein from construction and operation of any proposed development are presented in current (2015) dollars. Any change in development and/or operating assumptions from those utilized as part of this analysis can have a material impact on the direct and in-direct economic indicators stated herein.

The following table provides a summary of select benefits from the potential demand for approximately: 1,200 residential units; 135,000 square feet of office space; and 100,000 square feet of retail:

Village of Palmetto Bay									
Estimates of Select Benefits from Potential Development Program									
Order of Magnitude Analysis									
One-Time Construction Impacts	Residential		Office		Retail		Total		
	Trending	High	Trending	High	Trending	High	Trending	High	
Avg. Annual Direct & Indirect Employment	462	654	46	93	36	40	545	787	
Avg. Annual Direct & Indirect Wages	\$ 21,743,114	\$ 30,802,745	\$ 2,188,616	\$ 4,377,232	\$ 1,716,562	\$ 1,888,218	\$ 25,648,292	\$ 37,068,195	
Recurring Impacts (Upon Program Build Out)									
	Trending	High	Trending	High	Trending	High	Trending	High	
Total Annual Employment	30	43	587	1,174	571	629	1,188	1,845	
Total Annual Wages	\$ 1,165,344	\$ 1,650,904	\$ 22,800,209	\$ 45,600,417	\$ 22,197,029	\$ 24,416,731	\$ 46,162,581	\$ 71,668,053	
Ad Valorem to Village (Operating, Debt)	\$ 763,464	\$ 1,081,574	\$ 82,586	\$ 165,173	\$ 67,293	\$ 74,022	\$ 913,343	\$ 1,320,768	
Ad Valorem to County (Operating, Debt)	\$ 1,596,473	\$ 2,261,670	\$ 172,695	\$ 345,391	\$ 140,715	\$ 154,786	\$ 1,909,883	\$ 2,761,847	
Ad Valorem to County (Other)	\$ 3,621,946	\$ 5,131,090	\$ 391,797	\$ 783,594	\$ 319,242	\$ 351,166	\$ 4,332,985	\$ 6,265,850	
<b>Total Ad Valorem</b>	<b>\$ 5,981,882</b>	<b>\$ 8,474,333</b>	<b>\$ 647,079</b>	<b>\$ 1,294,157</b>	<b>\$ 527,249</b>	<b>\$ 579,974</b>	<b>\$ 7,156,210</b>	<b>\$ 10,348,465</b>	



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To: Honorable Mayor and Village Council

Date: January 26, 2015

From: Ron E. Williams, Village Manager

Re: Accepting 2014 SWMP  
Update Final Report

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**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA; RELATING TO THE STORMWATER MASTER PLAN UPDATE REPORT, ACCEPTING THE FINAL REPORT DOCUMENTS AND RECOMMENDATIONS; FURTHER AUTHORIZING THE VILLAGE MANAGER TO PROCEED WITH IMPLEMENTATION OF THE REPORT FINDINGS, FOLLOWING IDENTIFICATION AND AVAILABILITY OF APPROPRIATE FUNDING SOURCES; AND PROVIDING FOR AN EFFECTIVE DATE.**

**BACKGROUND AND ANALYSIS:**

Prior to the Village being incorporated in September 2002, the area within the Village boundaries was part of unincorporated Miami-Dade County. In February 2004 as per Resolution No. 04-21, the Village of Palmetto Bay contracted with Kimley-Horn and Associates (KH&A) for the Development of a Stormwater Master Plan (SWMP). KH&A completed the Village's SWMP which was accepted per Resolution No. 04-102 in December 2004. The original SWMP is over nine (9) years old and numerous stormwater sub-basin and localized drainage improvement projects have been constructed to enhance and improve the Village's stormwater system. The Village of Palmetto Bay has implemented the recommended Operations and Maintenance Program and constructed several of the drainage projects included in the original SWMP CIP utilizing grant funding and revenue from the Stormwater Utility. Approximately 60% of the drainage deficiencies identified in the Village's original SWMP have been removed and replaced with new priority sub-basins as sub-basins identified in the original SWMP have been corrected by either improved maintenance by the Village, completion of CIP's, or completion of localized drainage improvement projects.

On October 17, 1995, the Board of County Commissioners adopted Ordinance 95-195, amending Section 24-61.2 of the Code of Miami-Dade County, Stormwater Utility Ordinance, thereby granting municipalities the option to exempt from the Utility and in turn creating a local stormwater utility. On July 11<sup>th</sup>, 2005 as per Resolution No. 05-50 the Village of Palmetto Bay exercised its option to be exempt from the provisions of Section 24-61-2 of the Code of Miami-Dade County, and to establish a stormwater utility within the boundaries of the Village of Palmetto Bay and commit to implement the provisions of

Section 403.0893(1), (2) or (3), Florida Statutes. Exemption from Miami-Dade County's Stormwater Utility System ensures that revenue collected from Village commercial businesses and residential property owners through the utility fee will be used to maintain and improve drainage systems within the Village. In May of 2006, the Village adopted Ordinance 06-07 which established the Village's Stormwater Utility.

In November 2012 per Resolution No. 2012-83, the Village of Palmetto Bay contracted with KH&A to update the Village of Palmetto Bay's SWMP. KH&A used Geographic Information System (GIS) data, performed field reviews and reviewed stormwater complaints of stormwater problem areas and performed hydraulic modeling to evaluate the performance of existing stormwater systems, as well as to evaluate the performance of the stormwater systems following implementation of proposed improvements. The SWMP Update will enable the Village to examine the effectiveness of the ongoing operation and maintenance program, and to identify additional capital improvement projects (CIP) for future reduction of flooding and improvement of water quality within the Village of Palmetto Bay. This report summarizes the performance against goals for each of the ten (10) priority sub-basins including two (2) from the original SWMP and eight (8) new priorities identified as part of the SWMP Update. The 2014 SWMP Update will become a component of the Village's 5-Year Capital Improvement Element of the Comprehensive Plan and provide a measure to fund different improvement projects within the Stormwater infrastructure and address sites that have been identified to be in need of improvement.

The SWMP Update attached as Exhibit "A" contains approximately \$552,000 in annual expenses related to ongoing Operation and Maintenance of the existing system in conformance with the mandates of federal and state government agencies and the Village's desire to improve drainage conditions. The CIP also contains \$8,000,000 worth of major CIP's recommended for implementation over the next ten (10) years.

It is recommended that the Village Council adopt the 2014 SWMP Update final report and authorize the Village Manager to proceed with implementing the prioritized SWMP projects identified in the report following identification and availability of appropriate funding sources.

**FISCAL/BUDGETARY IMPACT:**

None

**RECOMMENDATION:**

Approval is recommended

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA; RELATING TO THE STORMWATER MASTER PLAN UPDATE REPORT, ACCEPTING THE FINAL REPORT DOCUMENTS AND RECOMMENDATIONS; FURTHER AUTHORIZING THE VILLAGE MANAGER TO PROCEED WITH IMPLEMENTATION OF THE REPORT FINDINGS, FOLLOWING IDENTIFICATION AND AVAILABILITY OF APPROPRIATE FUNDING SOURCES; AND PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, in February 2004 as per Resolution No. 04-21, the Village of Palmetto Bay contracted with Kimley-Horn and Associates (KH&A) for the Development of a Stormwater Master Plan (SWMP); and,

**WHEREAS**, in December 2004, KH&A completed the Village's SWMP which was accepted per Resolution No. 04-102 in December 2004; and,

**WHEREAS**, the original SWMP is over nine (9) years old and numerous stormwater sub-basin and localized drainage improvement projects have been constructed to enhance and improve the Village's stormwater system; and,

**WHEREAS**, having completed the original SWMP as well as implementing four (4) of the Village's Stormwater Capital Improvement Projects, the Village of Palmetto Bay contracted with Kimley-Horn and Associates to prepare the SWMP Update as they have extensive information and local knowledge to better serve the Village during the data collection and reporting required for preparation of the SWMP Update document; and,

**WHEREAS**, approximately 60% of the drainage deficiencies identified in the Village's original SWMP have been removed and replaced with new priority sub-basins as sub-basins identified in the original SWMP have been corrected by either improved maintenance by the Village, completion of CIP's, or completion of localized drainage improvement projects; and,

**WHEREAS**, in November 2012 as per Resolution No. 2012-83, the Village of Palmetto Bay contracted with KH&A to update the Village of Palmetto Bay's SWMP; and,

**WHEREAS**, KH&A used Geographic Information System (GIS) data, performed field reviews and reviewed stormwater complaints of stormwater problem areas and performed hydraulic modeling to evaluate the performance of existing stormwater systems, as well as to evaluate the performance of the stormwater systems following implementation of proposed improvements; and,

**WHEREAS**, The SWMP Update will enable the Village to examine the effectiveness of the ongoing operation and maintenance program, and to identify additional capital improvement projects (CIP) for future reduction of flooding and improvement of water quality within the Village of Palmetto Bay; and,

WHEREAS, this report summarizes the performance against goals for each of the ten (10) priority sub-basins including two (2) from the original SWMP and eight (8) new priorities identified as part of the SWMP Update; and,

WHEREAS, the 2014 SWMP Update will become a component of the Village's 5-Year Capital Improvement Element of the Comprehensive Plan and provide a measure to fund different improvement projects within the Stormwater infrastructure and address sites that have been identified to be in need of improvement; and,

WHEREAS, funding for the prioritized improvements will be provided through revenue from the Village's Stormwater Utility Fee and also through available grant funding; and,

WHEREAS, a copy of the 2014 SWMP Update is attached as Exhibit "A"; and,

WHEREAS, The Administration is recommending that the Village Council adopt the 2014 SWMP Update final report and authorize the Village Manager to proceed with implementing the prioritized SWMP projects identified in the report following identification and availability of appropriate funding sources; and,

WHEREAS, the Village Council finds that adopting the 2014 SWMP Update is in the best interest of the Village.

**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

**Section 1.** The 2014 SWMP Update and the Capital Improvement Plan included in the update, a copy attached hereto as Exhibit "A" is hereby adopted by the Village Council, further authorizing the Village Manager to proceed with implementing the prioritized SWMP projects identified in the report following identification and availability of appropriate funding sources.

**Section 2.** This resolution shall take effect immediately upon approval.

PASSED AND ADOPTED this \_\_\_\_\_ day of February 2015.

Attest: \_\_\_\_\_  
Meighan J. Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE USE  
AND RELIANCE OF THE VILLAGE OF PALMETTO BAY, FLORIDA ONLY:

\_\_\_\_\_  
Dexter W. Lehtinen  
Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Karyn Cunningham \_\_\_\_\_

Council Member Tim Schaffer \_\_\_\_\_

Council Member Larissa Siegel Lara \_\_\_\_\_

Vice-Mayor John DuBois \_\_\_\_\_

Mayor Eugene Flinn \_\_\_\_\_

# Palmetto Bay

Prepared For  
Village of Palmetto Bay, Florida



## Stormwater Master Plan Update



Prepared By  
**Kimley»»Horn**

## EXECUTIVE SUMMARY

The Village of Palmetto Bay was incorporated in September 2002. Prior to this date the area within the Village boundaries was part of unincorporated Miami-Dade County. In December 2004, Kimley-Horn completed a Stormwater Master Plan for the Village in preparation of the Village assuming the responsibility for stormwater management within its boundaries. In May 2006, the Village adopted Ordinance 06-07 which established the Village's Stormwater Utility.

In the nine years since the original Stormwater Master Plan was completed, the Village of Palmetto Bay has implemented the recommended Operations and Maintenance Program and constructed several of the drainage projects included in the Capital Improvement Program utilizing grant funding and revenue from the Stormwater Utility. This Stormwater Master Plan Update will enable the Village to examine the effectiveness of the ongoing Operation and Maintenance Program, to evaluate progress in implementing the Capital Improvement Program, and to identify additional Capital Improvement Projects for future reduction of flooding and improvement of water quality within the Village of Palmetto Bay.

To measure the performance of each drainage sub-basin, performance goals were identified in the Village's original Stormwater Master Plan. This report summarizes the performance against goal for each of the ten priority sub-basins (two sub-basins from the original Stormwater Master Plan and eight new priority sub-basins identified as a part of this Stormwater Master Plan Update). This report also recommends improvements that will improve performance in the priority sub-basins. The recommended improvements are the basis for the Capital Improvement Program contained at the end of the report.

The Capital Improvement Program contains approximately \$552,000 in annual expenses related to ongoing Operation and Maintenance of the existing system in conformance with the mandates of federal and state government agencies and the Village's desire to improve drainage conditions. The Capital Improvement Program also contains \$8,000,000 worth of major Capital Improvement Projects recommended for implementation over the next ten years.

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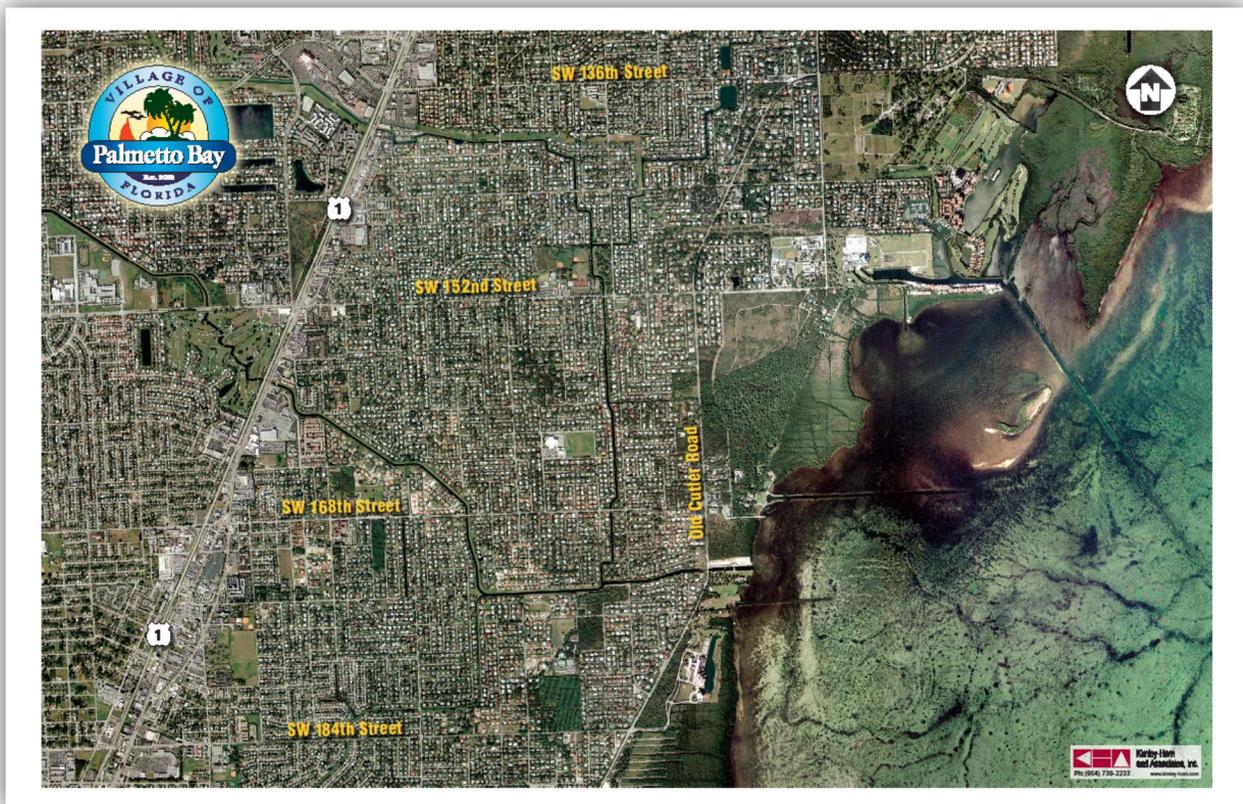
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## INTRODUCTION

The Village of Palmetto Bay is located in southeastern Miami-Dade County, Florida and was incorporated in 2002. Figure 1 illustrates the location of the Village of Palmetto Bay.

*Figure 1: Village of Palmetto Bay Location Map*



In December 2004, Kimley-Horn completed a Stormwater Master Plan for the Village of Palmetto Bay in preparation of the Village assuming responsibility for stormwater management within its boundaries. In May 2006, the Village adopted Ordinance 06-07 which established the Village's Stormwater Utility.

The first section of the original Stormwater Master Plan described existing conditions within the Village of Palmetto Bay. Existing information on stormwater management available from various sources including the Miami-Dade County Department of Environmental Resource

Management (DERM), the Miami-Dade County Department of Public Works, the South Florida Water Management District (SFWMD), the Federal Emergency Management Agency (FEMA), the Florida Department of Environmental Protection (FDEP), and the Village of Palmetto Bay was compiled in this section. In addition, the section included field information on the existing condition of Village drainage infrastructure and locations where street flooding was occurring.

The second section of the original Stormwater Master Plan contained drainage analysis of 17 sub-basins that were selected as priority areas for improvement as part of the Village-wide stormwater performance review. Drainage improvements for the priority sub-basins were recommended to meet performance goals associated with both reducing flooding and improving water quality. The third section of the original Stormwater Master Plan outlined a Capital Improvement/Operations and Maintenance Program for the Village's Stormwater Utility.

In the nine years since the original Stormwater Master Plan was completed, the Village of Palmetto Bay has implemented the recommended Operations and Maintenance Program and constructed several of the drainage projects included in the Capital Improvement Program utilizing grant funding and revenue from the Stormwater Utility. This Stormwater Master Plan Update will enable the Village to examine the effectiveness of the ongoing Operation and Maintenance Program, to evaluate progress in implementing the Capital Improvement Program, and to identify additional Capital Improvement Projects for future reduction of flooding and improvement of water quality within the Village of Palmetto Bay.

## DATA COLLECTION AND EXISTING CONDITIONS

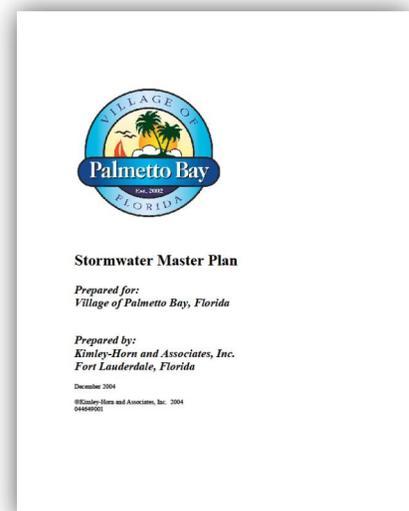
Available stormwater management information for the Village of Palmetto Bay was reviewed to provide a baseline for this Stormwater Master Plan Update. The information reviewed included the following:

- The original Village of Palmetto Bay Stormwater Master Plan
- Village ordinances, regulations, and guidelines for stormwater management
- Stormwater management GIS coverage
- Design and record drawings of completed and proposed stormwater management and local drainage improvement projects
- Village records related to drainage and stormwater management issues
- Field review of the Village during storm events to identify stormwater problem areas

### Village of Palmetto Bay Stormwater Master Plan

The original Village of Palmetto Bay Stormwater Master Plan was completed in December 2004. The first section described existing conditions within the Village of Palmetto Bay at the time the Village assumed responsibility for the drainage system from Miami-Dade County.

Figure 2 shows the location of stormwater problem areas identified in the original Stormwater Master Plan. The various types of drainage and flood related complaints or observations were identified with color coded dots.





The second section of the original Stormwater Master Plan contained drainage analysis of 17 sub-basins that were selected as priority areas for improvement. Drainage improvements for the priority sub-basins were recommended to meet performance goals associated with both reducing flooding and improving water quality. The location of the priority sub-basins (shaded grey) identified in the original Stormwater Master Plan can be seen in Figure 3.





The third section of the original Stormwater Master Plan outlined a Capital Improvement/Operations and Maintenance Program for the Village's Stormwater Utility. The capital improvement projects included in the original Stormwater Master Plan that have been completed will be discussed later in the report. The report will also provide a summary of area specific or localized drainage improvements that have been completed by the Village. The localized drainage improvement projects can range from limited infrastructure projects at intersections or along roadways to swale grading to address ponding.

### NPDES Permit and CRS Application Information

The Village of Palmetto Bay is a co-permittee on the Miami-Dade County Multiple Separate Storm Sewer System Permit through the EPA's National Pollutant Discharge Elimination System (NPDES). The permit is administered by the Florida Department of Environmental Protection (DEP). Each year, the co-permittees are required to submit an annual report to DEP detailing progress on permit-mandated activities. These activities range from inspecting stormwater treatment facilities to conducting public awareness events to publicize the environmental consequences of illegal dumping. The permit is now entering Year 3 of Cycle 3 which covers the time period between June 2013 and June 2014. The deadline for submitting the annual report for Year 3 of Cycle 3 is December 2014. MS4 permit mandated activities are reflected in the Village's Stormwater Utility Operation and Maintenance Budget.

The Village of Palmetto Bay was accepted into the National Flood Insurance Program (NFIP) in 2008 and submitted a request to join the Community Rating System (CRS) program in 2011. As part of the CRS program, the NFIP offers flood insurance at more affordable rates than are generally available from private insurers. A better rating with the CRS will provide additional savings to Village residents on their flood insurance. The CRS rating is determined by activities implemented by the Village ranging from stormwater infrastructure maintenance to public outreach programs. Prior to submitting the application to become a member of the CRS, the Village needs a letter of compliance with the NFIP. Prior to the NFIP preparing that letter, a FEMA regional coordinator will require satisfactory completion of a Community Assistance Visit

(CAV) with the Village. The CAV occurred in 2012. The FEMA representative met with the Village and reviewed the Village's Floodplain Management ordinance and the Building Department's enforcement of the ordinance. The Village is currently working with FEMA to obtain their letter of compliance from FEMA. CRS activities should be included in the Village's Stormwater Utility Operation and Maintenance Budget.

### Village Ordinances, Regulations, and Guidelines

Upon incorporation, the Village of Palmetto Bay adopted the entire Miami-Dade County Code. Since that time, the Village has passed additional ordinances pertaining to stormwater management. In May of 2006, the Village passed Ordinances 06-07 which established the Village's Stormwater Utility and set the Stormwater Utility rate at \$4.00 per Equivalent Residential Unit. This ordinance established the Village's Stormwater Utility as a source of funding for Stormwater-related projects and maintenance activities within the Village.

In 2009, the Village adopted Ordinance 09-20, updating their original Floodplain Management Ordinance (incorporated in to the Village's Land Development Code in 2008 and codified in Muni Code as Chapter 18) to comply with changes made by FEMA. A newer version of a floodplain ordinance was later developed with the intent of being more compliant with the Florida Building Code. In 2012, the Village adopted the new Floodplain Management Ordinance as Ordinance 2012-16. The Floodplain Management Ordinance sets flood protection minimum standards for new and substantially improved properties within the Village.

In March 2011, the Village adopted Ordinance 2011-31. This ordinance is a 5-year interlocal agreement with Miami-Dade County for canal maintenance. The agreement resulted in the Village owning the SW Maral Estates canal and the Bel Aire Section canal. Miami-Dade County currently maintains the SW 160th Street ditch in the Village.

In December 2003, the Village adopted their Comprehensive Plan as Ordinance 03-46. The Comprehensive Plan contains a section on Stormwater Management which sets stormwater

management Level of Service standards for development within the Village. More recently, Kimley-Horn prepared, in conjunction with Village staff, the Village's Evaluation and Appraisal Report (EAR) Based Comprehensive Plan amendments; these amendments were transmitted to the Florida Department of Economic Opportunity (DEO) in July 2014 and are anticipated to be adopted by the Village in October 2014. The Village's Comprehensive Plan includes Goals, Objectives and Policies (GOPs) relating to stormwater planning within the Infrastructure Element, Stormwater Management Sub-Element, Conservation Element, Capital Improvements Element, Level of Service Standards, and the Water Supply Facilities Element. These Elements and their respective GOP establish stormwater management policies for development within the Village.

### Stormwater Management GIS Coverage

As part of the original Village of Palmetto Bay Stormwater Master Plan, Kimley-Horn obtained Geographic Information System (GIS) information on existing stormwater systems from Miami-Dade County DERM. This information was in the form of an AutoCAD file showing the location of drainage infrastructure and several hard copy data sheets showing additional information on each drainage structure. As part of this Stormwater Master Plan Update, Kimley-Horn used the GIS data to analyze the amount of pervious versus impervious areas on each of the priority stormwater sub-basins that were hydraulically modeled. The hydraulic modeling was required to evaluate the performance of the existing stormwater systems, as well as the performance of the stormwater systems after implementing proposed improvements.

### Field Review of Stormwater Problem Areas

Based on field reviews and review of stormwater complaints, it appears that several of the drainage deficiencies identified in the Village's original Stormwater Master Plan have been corrected by either improved maintenance by the Village, completion of capital improvements projects, or completion of localized drainage improvements. As a result, several of the original priority sub-basins have been removed and replaced with new priority sub-basins.

Figure 4 illustrates the updated drainage deficiency map. Based on sub-basin area, Figure 4 as compared to Figure 2 reflects that approximately 60% of the drainage deficiencies identified in the original Stormwater Master Plan have been addressed by the Village.





## Summary of Completed Stormwater Management Projects

Kimley-Horn obtained and reviewed design and record drawings for priority sub-basin capital improvement projects as well as localized drainage improvement projects that have been completed for incorporation into the report. The following two sections provide an update to the sub-basin prioritization and a summary of the localized projects completed by the Village.

## Updated Sub-basin Prioritization

Based on observed flooding, complaints, road conditions, and the other parameters noted above, the Village selected 17 sub-basins for more in-depth study under the original Stormwater Master Plan. Since the original Stormwater Master Plan was finalized, the Village of Palmetto Bay has implemented capital improvement projects in four of the original seventeen priority sub-basins:

- 1) Sub-basin 2 – SW 164th Street Drainage Improvements
- 2) Sub-basin 7 - SW 148th Street Drainage Improvements
- 3) Sub-basin 5 - SW 146th Street Drainage Improvements
- 4) Sub-basin 9 - SW 89th Avenue Drainage Improvements

The completed projects have substantially improved conditions in the areas that they serve. The Village has also completed the design and permitting of sub-basin 10 – SW 88th Avenue Drainage Improvements and anticipates advertising that project for construction in early 2015. Therefore, these five sub-basins have been removed from the drainage sub-basin analysis section of this Stormwater Master Plan Update.

Of the 12 remaining priority sub-basins from the original Stormwater Master Plan, ten have been removed based on either improved maintenance by the Village or completion of localized drainage improvements that resolved the flooding issues; those sub-basins are 1, 3, 4, 6, 8, 13, 14, 15, 16, and 17. As part of this Stormwater Master Plan Update, eight new priority sub-basins have been identified and sub-basins 11 and 12 from the original Stormwater Master Plan have stayed on the priority list. Selection of the eight new priority sub-basins was a function of

flooding complaints, site observations, and coordination with Village staff. The eight new priority sub-basins are 39, 41, 42, 43, 44, 57/96, 59/60, 61. The sub-basin names with a "/" represent addressing areas that include portions of two adjacent sub-basins. These ten priority sub-basins are the subject of hydraulic and hydrologic modeling as part of this Stormwater Master Plan Update. The four completed and one designed capital improvement projects and the ten priority sub-basins to be analyzed as part of this Stormwater Master Plan Update are highlighted in Figure 5.





Hydraulic and hydrologic analysis of these ten priority sub-basins will result in Capital Improvement Project recommendations for these sub-basins which will be incorporated into an updated Stormwater Capital Improvement Program (CIP).

### Summary of Localized Drainage Improvements

As part of a Village-wide Drainage Improvement Program, the following is a list of localized drainage improvements that have been implemented by the Village since completion of the original Stormwater Master Plan:

#### Referenced as Phase II locations

SW 141st Terrace and SW 79th Avenue  
SW 92nd Court and SW 176th Street  
SW 93rd Avenue and SW 178th Street  
SW 94th Court and SW 180th Street

#### Referenced as Phase III locations

SW 84th Avenue and SW 168th Street  
SW 179th Terrace and SW 77th Avenue  
SW 79th Avenue and SW 141st Terrace  
SW 140th Terrace and SW 80th Avenue  
SW 79th Court and SW 142nd Street  
SW 174th Street and SW 92nd Court  
SW 80th Avenue and SW 144th Street  
SW 144th Terrace and SW 68th Avenue

#### Referenced as Phase IV locations

SW 159th Terrace and SW 89th Avenue  
SW 150th Terrace and SW 86th Avenue  
SW 149th Terrace and SW 86th Avenue

SW 85th Avenue and SW 144th Street

SW 81st Avenue and SW 144th Street

Referenced as Phase V locations

SW 174th Street and SW 77th Avenue

SW 74th Court and SW 175th Street

SW 176th Street and SW 76th Avenue

SW 74th Place and SW 176th Street

SW 75th Avenue and SW 178th Terrace

SW 178th Terrace and SW 77th Avenue

SW 92nd Avenue and SW 161st Lane

SW 91st Avenue and SW 164th Street

SW 81st Avenue and SW 151st Street

SW 73rd Court and SW 154th Terrace

SW 74th Avenue and SW 145th Terrace

SW 68th Court and SW 145th Terrace

SW 68th Court and SW 144th Terrace

SW 148th Street and SW 78th Avenue

SW 72nd Avenue and SW 144th Street

SW 161st Street and SW 78th Avenue

Additional locations

SW 75th Avenue and SW 139th Street

SW 77th Avenue and SW 139th Street

SW 86th Avenue and SW 182nd Terrace

SW 178th Terrace and SW 89<sup>th</sup> Avenue

SW 95th Avenue between US1 and SW 174th Street

SW 183rd Terrace and SW 83rd Place

SW 182nd Terrace and SW 83rd Place

SW 178th Street and SW 82nd Avenue  
SW 175th Street and SW 79th Court  
SW 77th Court and SW 167th Terrace  
SW 78th Avenue and SW 164th Street  
SW 162nd Street and SW 77th Court  
SW 160th Street east of S. Dixie Highway  
SW 80th Avenue and SW 152nd Street  
SW 75th Avenue and SW 147th Street  
SW 92<sup>nd</sup> Court and SW170th Street

The areas referenced above that received localized drainage improvements were based on observed flooding, citizen complaints, and road conditions that did not warrant a full capital improvement project, but required attention to address public health and safety issues. The localized drainage improvement projects can range from limited infrastructure projects along roadways and at intersections to swale grading at specific locations to address ponding. The scope of work varies for each project and while the roadways listed above provide a general project location, the actual drainage improvements can extend beyond the specific roadways listed. The localized drainage improvements projects are highlighted in Figure 5.

Localized drainage improvements associated with the installation of two new traffic circles also occurred at SW 168th Street and SW 87th Avenue and at SW 160th Street and SW 82nd Avenue.

## DRAINAGE SUB-BASIN ANALYSIS

### Methodology

To measure the performance of each drainage sub-basin, performance goals were identified in the Village's original Stormwater Master Plan.

Water Quality Treatment Performance Goal: Drainage sub-basins discharging into lakes should have minimum water quality pre-treatment equal to the volume of the first one-half inch of runoff. Drainage sub-basins discharging into canals should have minimum water quality pre-treatment equal to the greater of the volume of the first one-inch of runoff or 2.5-inches over the impervious area contained within the sub-basin. This goal ensures that the drainage improvements meet South Florida Water Management District (SFWMD) and Miami-Dade County Department of Regulatory and Economic Resources (DRER) formerly the Department of Environmental Resource Management (DERM) requirements for water quality pre-treatment.

Water Quantity Treatment Performance Goals: As part of the original Stormwater Master Plan process, the Village adopted several water quantity treatment performance goals designed to reduce the potential for flooding within the Village.

- During the five-year, 24-hour design storm event, flooding should not exceed the crown of the local roadways located within the sub-basin.
- During the ten-year, 24-hour design storm event, flooding should not exceed the crown of the arterial or collector roadways located within the sub-basin.
- During the 25-year, 72-hour design storm event, flood depth should be less than 12-inches above the crown of the road.
- During the 100-year, 72-hour design storm event, flooding should be below the building finish floor elevation.

Existing conditions in each of the priority sub-basins were modeled to determine the extent to which the performance goals are currently being met. When a performance goal was not being

met within a sub-basin, stormwater management improvements were proposed for the sub-basin to bring it into compliance with the performance goal.

For each priority sub-basin, the amount of existing paved area, building area, and pervious area was determined using existing aerial photographs and GIS data. Elevation information contained in the GIS data was used to estimate the average high and low elevation of the paved area, building area, and pervious area associated with the sub-basin. The available GIS elevation information was very limited for the sub-basins areas, but adequate for developing proposed schematic or conceptual improvements. This information along with information on existing drainage infrastructure located within the sub-basin was incorporated into a computer model. Existing flood routing and maximum flood stage produced by four different design storm events for each sub-basin was analyzed within the computer model. In addition to flood routing analysis, each sub-basin was analyzed for water quality pre-treatment capacity. SFWMD and DRER require stormwater runoff to be pretreated to minimize pollution prior to discharging into any water body. Typically, water quality pre-treatment in the Village of Palmetto Bay is provided by exfiltration trench (underground perforated pipes in a gravel bed, also known as French drain) or by retention in roadside grass swale areas. The pre-treatment capacity of existing infrastructure within each sub-basin was estimated based on available data and compared with required pre-treatment volumes.

Based on the priority sub-basins that were designed and permitted as part of the original Stormwater Master Plan, it was determined that the storm events



most applicable to public right-of-way stormwater improvement projects include the 5-year, 24-hour and 100-year, 72-hour. The stormwater system performance results associated with those two storm events provided the required information for permitting through DRER for water quantity and water quality. The 10-year, 24-hour and 25-year, 72-hour storm events are not required for public sector permitting and are more applicable for retaining stormwater onsite for private development projects. As a result, the stormwater event modeling for this Stormwater Master Plan Update only includes the 5-year, 24-hour and 100-year, 72-hour events.



The following is a summary of the findings for each of the ten priority sub-basins (two sub-basins from the original Stormwater Master Plan and eight new priority sub-basins).

## Drainage Sub-basin #11

Location: Drainage sub-basin 11 is generally located south of SW 152nd Street, north of SW 156nd Street, west of SW 89th Avenue, and east of Dixie Highway (US 1). Drainage sub-basin 11 is part of the C100C-N-11 Miami-Dade County basin along SW 152<sup>nd</sup> Street. Drainage sub-basin 11 was analyzed as part of the original Stormwater Master Plan. This report includes an updated improvement approach and budget for the proposed improvements.

Existing and Future Conditions: Figure 6 shows existing conditions for drainage sub-basin 11. The sub-basin consists of approximately 48.37 acres of existing residential and commercial development with approximately 6,470 linear feet of roadway, including SW 92nd Avenue, SW 89th Court, SW 89th Avenue, SW 157th Street, SW 156th Street, and SW 155th Street. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.



No complaints were reported in this area by the Village as part of this update or from Miami-Dade County as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 156th Street, SW 92nd Avenue, SW 89th Court, and SW 155th Street. The location of these deficiencies can be seen in Figure 6. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.

Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 9.00 feet to a high of approximately 9.90 feet NGVD. It was assumed that the building finish elevations range from 9.67 feet (eight inches above the lowest crown of road) to 10.67 feet (eight inches above highest crown of



road). The lowest edge of road is 8.75 feet. Pervious area elevations were assumed to range from 8.85 feet (one inch above the lowest edge of road) to 10.00 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 11 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 11, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

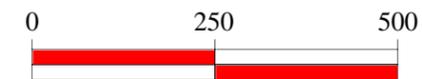
*Table 1: Drainage Sub-basin 11 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	0.76 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	0.94 feet above lowest finish floor elevation (FFE.)
Total Above Goal	1.70 feet above performance goal criteria

The flood stages shown for drainage sub-basin 11 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 6: DRAINAGE SUB-BASIN #11 PROPOSED CONDITIONS



SCALE AS SHOWN



### PROPOSED MODIFICATIONS

- Add 2,600 LF 18" French Drain / Exfiltration Trench
- Add 300 LF of 18" Storm Sewer Pipe (HDPE)
- Add 500 LF of 15" Storm Sewer Pipe (HDPE)
- Add 17 Catch Basins
- Add 15 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 8.75
- Min. Roadway Centerline Elevation 9.00
- Min. Building FFE 9.67

### LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	0.00
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	



Last Revised September 17, 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 6. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how

the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 2: Drainage Sub-basin 11 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	28.75	26.64	2.11
Total Nitrogen	226.51	202.73	23.78
Total Suspended Solids	2,715.24	2,458.65	256.59

Capital Improvement Budget: An updated budget was developed for the proposed stormwater capital improvements.

*Table 3: Drainage Sub-basin 11 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$18,345	\$19,000
2	Mobilization	1	L.S.	\$61,150	\$62,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$6,115	\$7,000
4	Asphalt Concrete Surface Course	11,000	S.Y.	\$8	\$88,000
5	Inlet Apron (Asphalt)	55	S.Y.	\$8	\$500
6	15" Diameter Polyethylene Pipe	500	L.F.	\$70	\$35,000
7	18" Diameter Polyethylene Pipe	300	L.F.	\$85	\$26,000
8	18" French Drain Exfiltration Trench	2,600	L.F.	\$100	\$260,000
9	Manhole	15	EA.	\$5,500	\$83,000
10	Catch Basin Inlet	17	EA.	\$6,000	\$102,000
11	Pollution Retardant Baffle	20	EA.	\$240	\$5,000
12	Utility Adjustments	1	L.S.	\$11,990	\$12,000
13	Professional Services	1	L.S.	\$118,915	\$119,000
14	Contingency	1	L.S.	\$69,950	\$70,000
TOTAL					\$890,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## Drainage Sub-basin 12

Location: Drainage sub-basin 12 is generally located south of Richmond Drive (SW 168th Street), north of SW 170st Terrace (private road), west of Old Cutler Road, and east of SW 76th Avenue. Drainage sub-basin 12 is part of the C100C-E-11 Miami-Dade County basin. It includes portions of the Banyan Woods subdivision. Drainage sub-basin 12 was analyzed as part of the original Stormwater Master Plan. This report includes an updated improvement approach and budget for the proposed improvements.

Existing and Future Conditions: Figure 7 shows existing conditions for Drainage sub-basin 12. The sub-basin consists of approximately 25.26 acres of existing detached single-family residential development with approximately 2,290 linear feet of roadway, including SW 76th Avenue, SW 74th Court, SW 168th Terrace, SW 169th Terrace, SW 73rd Court, and SW 169th Street. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.

No complaints were reported in this area by the Village, but complaints from Miami-Dade County were identified as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 169th Terrace, SW 75th Avenue, and SW 74th Court. The location of these deficiencies can be seen in Figure 7. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 6.94 feet to a high of approximately 11.41 feet NGVD. It was assumed that the building finish elevations range from 7.61 feet (eight inches above the lowest crown of road) to 12.18 feet (eight inches above highest crown of road). The lowest edge of road is 6.69 feet.

Pervious area elevations were assumed to range from 6.79 feet (one inch above the lowest edge of road) to 11.51 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 12 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 12, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

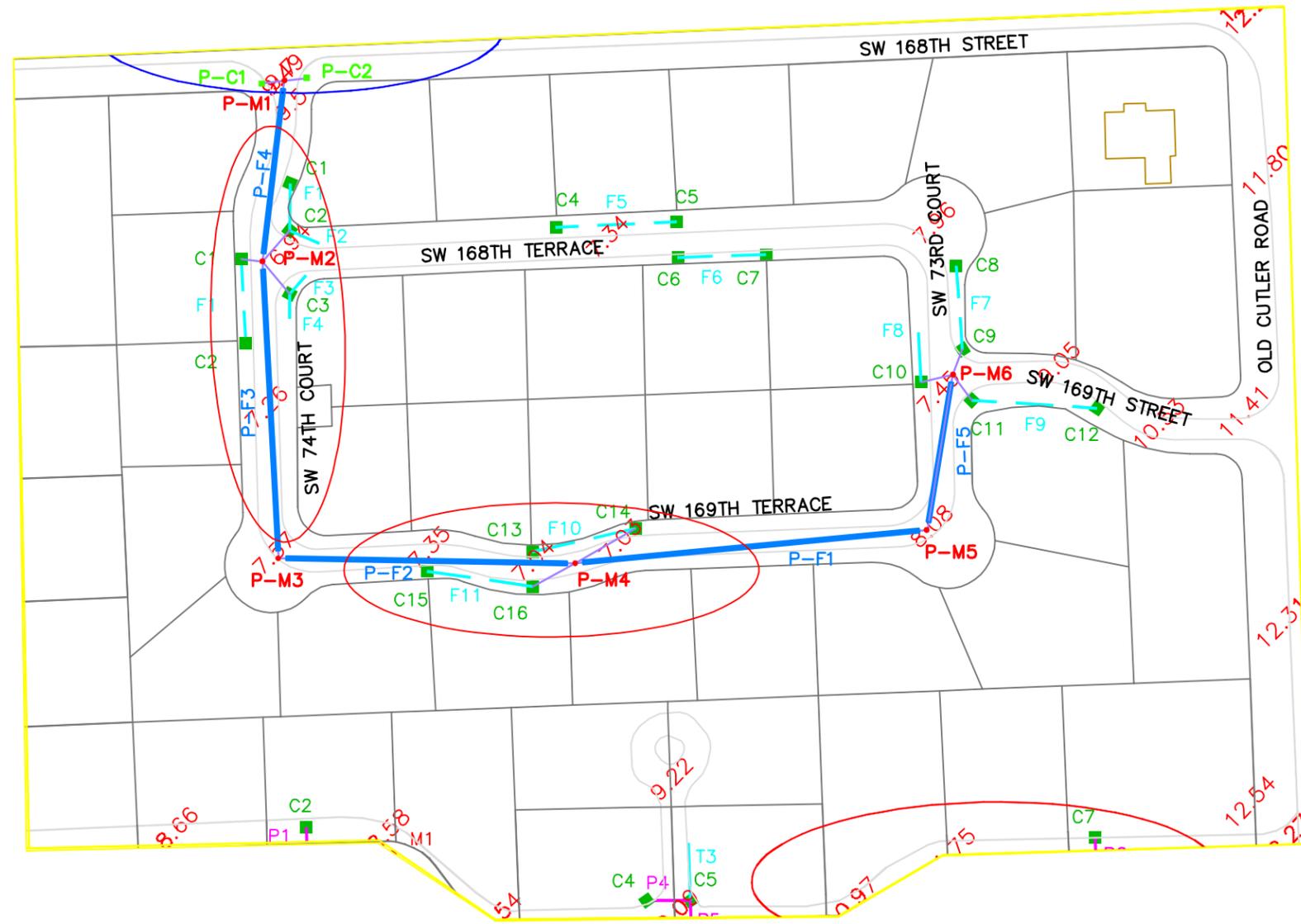
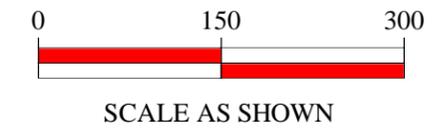
*Table 4: Drainage Sub-basin #12 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.27 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	2.09 feet above lowest finish floor elevation (FFE)
Total Above Goal	3.36 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 12 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 7: DRAINAGE SUB-BASIN #12 PROPOSED CONDITIONS



### PROPOSED MODIFICATIONS

- Add 1,200 LF 18" French Drain / Exfiltration Trench
- Add 50 LF of 18" Storm Sewer Pipe (HDPE)
- Add 400 LF of 15" Storm Sewer Pipe (HDPE)
- Add 2 Catch Basins
- Add 6 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 6.69
- Min. Roadway Centerline Elevation 6.94
- Min. Building FFE 7.61

### LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	
Flooding on Miami-Dade County roadways	

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally in good condition, but would benefit from resurfacing. Improvements to drainage infrastructure will be needed to address these inadequacies.

Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 7. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.



*Table 5: Drainage Sub-basin 12 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	15.03	13.92	1.10
Total Nitrogen	118.40	105.97	12.43
Total Suspended Solids	1,419.33	1,285.20	134.13

Capital Improvement Budget: An updated budget was developed for the proposed stormwater capital improvements.

*Table 6: Drainage Sub-basin 12 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$8,610	\$9,000
2	Mobilization	1	L.S.	\$28,705	\$29,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$2,871	\$3,000
4	Asphalt Concrete Surface Course	10,000	S.Y.	\$8	\$80,000
5	Inlet Apron (Asphalt)	6	S.Y.	\$8	\$50
6	15" Diameter Polyethylene Pipe	400	L.F.	\$70	\$28,000
7	18" Diameter Polyethylene Pipe	50	L.F.	\$85	\$5,000
8	18" French Drain Exfiltration Trench	1,200	L.F.	\$100	\$120,000
9	Manhole	6	EA.	\$5,500	\$33,000
10	Catch Basin Inlet	2	EA.	\$6,000	\$12,000
11	Pollution Retardant Baffle	10	EA.	\$240	\$3,000
12	Utility Adjustments	1	L.S.	\$5,621	\$6,000
13	Professional Services	1	L.S.	\$55,769	\$56,000
14	Contingency	1	L.S.	\$32,805	\$33,000
TOTAL					\$420,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

### Drainage Sub-basin 39

Location: Drainage sub-basin 39 is generally located south of SW 170th Terrace (private road), north of SW 173rd Street, west of Old Cutler Road, and east of SW 77th Avenue (Palmetto Road). Drainage sub-basin 39 is part of the C100C-E-11 Miami-Dade County basin.

Existing and Future Conditions: Figure 8 shows existing conditions for drainage sub-basin 39. The sub-basin consists of approximately 21.22 acres of existing detached single-family residential development with approximately 3,260 linear feet of roadway, including SW 172nd Street, SW 171st Street, SW 171st Terrace, SW 77th Avenue (Palmetto Road), SW 76th Avenue, and SW 74th Avenue. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.

No complaints were reported in this area by the Village as part of this update or from Miami-Dade County as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 171st Street and SW 77th Avenue. The location of these deficiencies can be seen in Figure 8. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 6.19 feet to a high of approximately 13.83 feet NGVD. It was assumed that the building finish elevations range from 6.86 feet (eight inches above the lowest crown of road) to 14.60 feet (eight inches above highest crown of road). The lowest edge of road is 5.94 feet. Pervious area elevations were assumed to range from 6.04 feet (one inch above the lowest edge of road) to 13.93 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 39 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 39, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

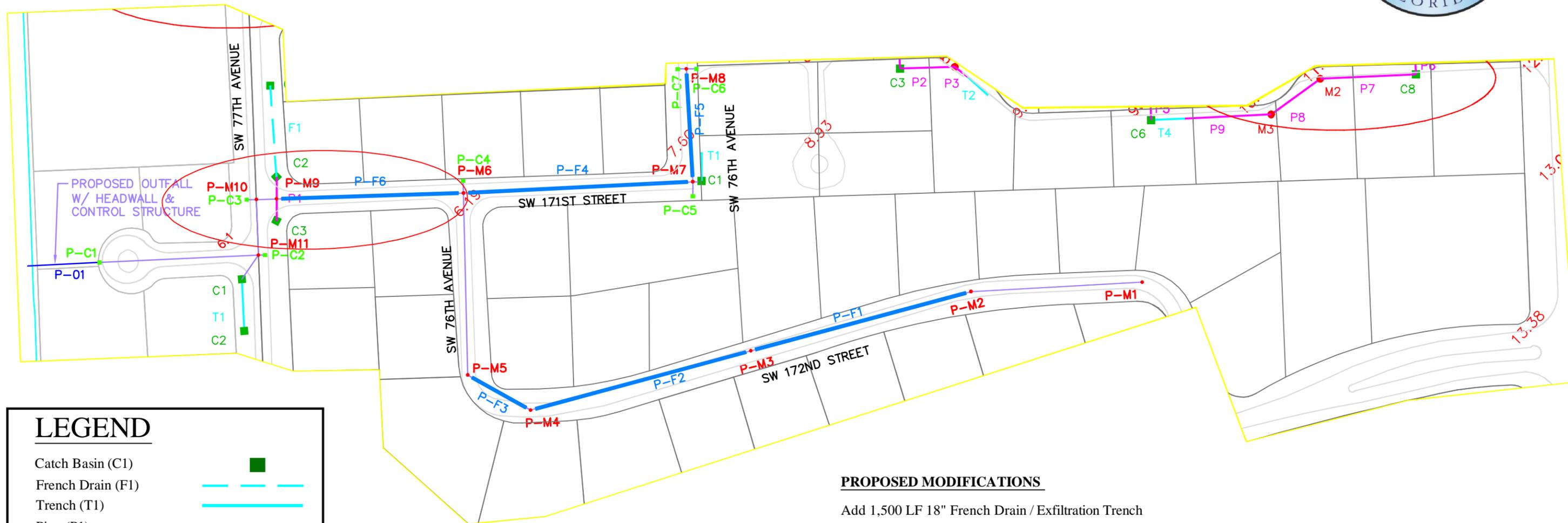
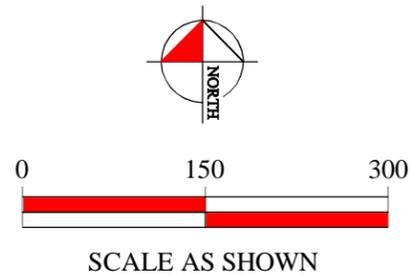
*Table 7: Drainage Sub-basin #39 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.96 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	3.27 feet above lowest finish floor elevation (FFE)
Total Above Goal	5.23 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 39 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 8: DRAINAGE SUB-BASIN #39 PROPOSED CONDITIONS



LEGEND	
Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	0.00
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	

### PROPOSED MODIFICATIONS

- Add 1,500 LF 18" French Drain / Exfiltration Trench
- Add 1,050 LF of 18" Storm Sewer Pipe (HDPE)
- Add 150 LF of 15" Storm Sewer Pipe (HDPE)
- Add 7 Catch Basins
- Add 11 Manholes
- Add 1 Headwall
- Add 1 Control Structure

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 5.94
- Min. Roadway Centerline Elevation 6.19
- Min. Building FFE 6.86



Last Revised August 25, 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally in good condition, but would benefit from resurfacing. Roadway settlement at the intersection of SW 171st Street and SW 77th Avenue was observed. Improvements to drainage infrastructure will be needed to address these inadequacies. SW 171st Street is a cul-de-sac with an opportunity to install an outfall connection. No existing outfall was observed.

Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 8. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins. This sub-basin has the possibility of a new outfall connection as well.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.



*Table 8: Drainage Sub-basin 39 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	12.59	11.67	0.93
Total Nitrogen	99.22	88.80	10.42
Total Suspended Solids	1,189.32	1,076.93	112.39

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 9: Drainage Sub-basin 39 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$13,806	\$14,000
2	Mobilization	1	L.S.	\$46,020	\$47,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$4,602	\$5,000
4	Asphalt Concrete Surface Course	8,500	S.Y.	\$8	\$68,000
5	Inlet Apron (Asphalt)	20	S.Y.	\$8	\$200
6	15" Diameter Polyethylene Pipe	150	L.F.	\$70	\$11,000
7	18" Diameter Polyethylene Pipe	1,050	L.F.	\$85	\$90,000
8	18" French Drain Exfiltration Trench	1,500	L.F.	\$100	\$150,000
9	Manhole	11	EA.	\$5,500	\$61,000
10	Catch Basin Inlet	7	EA.	\$6,000	\$42,000
11	Outfall Control Structure	1	EA.	\$10,000	\$10,000
12	Outfall Headwall	1	EA.	\$15,000	\$15,000
13	Pollution Retardant Baffle	12	EA.	\$240	\$3,000
14	Utility Adjustments	1	L.S.	\$9,004	\$10,000
15	Professional Services	1	L.S.	\$89,454	\$90,000
16	Contingency	1	L.S.	\$52,620	\$53,000
TOTAL					\$670,000

## Notes:

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2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## Drainage Sub-basin 41

Location: Drainage sub-basin 41 is generally located south of SW 173rd Street, north of SW 174th Street, west of Old Cutler Road, and east of SW 77th Avenue. Drainage sub-basin 41 is part of the C100-C-20 Miami-Dade County basin.

Existing and Future Conditions: Figure 9 shows existing conditions for drainage sub-basin 41. The sub-basin consists of approximately 30.13 acres of existing detached single-family residential development with approximately 4,560 linear feet of roadway, including SW 173rd Street, SW 174th Street, SW 77th Avenue (Palmetto Road), SW 74th Avenue, SW 74th Court, and SW 73rd Court. The drainage system in this sub-basin includes two existing outfall connections on SW 174th Street, but the outfalls are only connected to local catch basins. Other areas of the sub-basin are closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.

No complaints were reported in this area by the Village as part of this update or from Miami-Dade County as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 173rd Street, SW 174th Street, and SW 73rd Court. The location of these deficiencies can be seen in Figure 9.

The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process. The Village completed a local drainage repair on SW 174th Street just east of SW 77th Avenue (Palmetto Road).



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 7.92 feet to a high of approximately 13.83 feet NGVD. It was assumed that the building finish elevations range from 8.59 feet (eight inches above the lowest crown of road) to 14.60 feet (eight inches above highest crown of road). The lowest edge of road is 7.67 feet. Pervious area elevations were assumed to range from 7.77 feet (one inch above the lowest edge of road) to 13.93 feet (highest edge of road).



Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 41 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 41, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

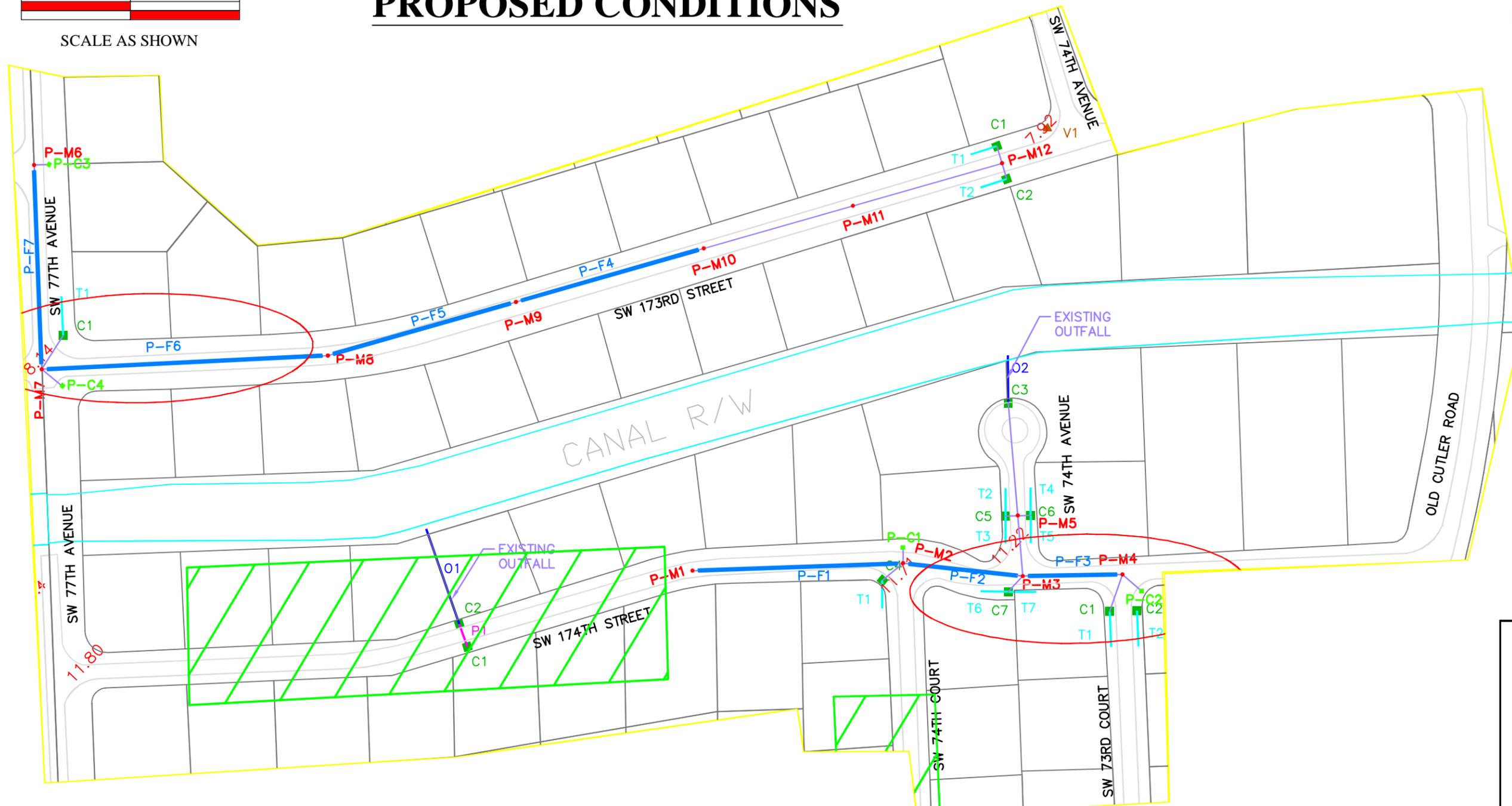
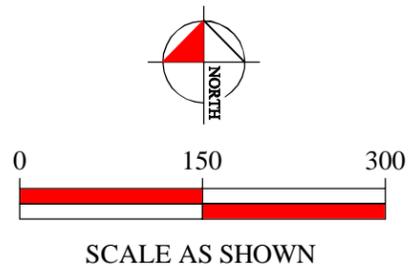
*Table 10: Drainage Sub-basin 41 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.69 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	2.68 feet above lowest finish floor elevation (FFE)
Total Above Goal	4.37 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 41 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 9: DRAINAGE SUB-BASIN #41 PROPOSED CONDITIONS



LEGEND	
Catch Basin (C1)	■
French Drain (F1)	—
Trench (T1)	—
Pipe (P1)	—
Outfall (O1)	—
Sub-Basin Boundary	—
Manhole (M1)	●
Elevation	0.00
Proposed Catch Basin (P-C1)	■
Proposed French Drain (P-F1)	—
Proposed Manhole (P-M1)	●
Proposed Pipe	—
Flooding across roadway observed by KHA	○
Local drainage improvements complete	▨

### PROPOSED MODIFICATIONS

- Add 1,700 LF 18" French Drain / Exfiltration Trench
- Add 2,000 LF of 18" Storm Sewer Pipe (HDPE)
- Add 350 LF of 15" Storm Sewer Pipe (HDPE)
- Add 4 Catch Basins
- Add 12 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 7.67
- Min. Roadway Centerline Elevation 7.92
- Min. Building FFE 8.59



Last Revised August 25, 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales, outfalls, and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally in good condition, but would benefit from resurfacing. Improvements to drainage infrastructure will be needed to address these inadequacies. SW 77th Court is a cul-de-sac just west of the sub-basin 41 limits, but may provide an opportunity to install an outfall connection if needed. No existing outfall was observed.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins, pipes, outfalls, and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 9. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. An analysis of the existing outfall capacities should be performed to evaluate the need for potential outfall improvements as well as the benefits of an additional outfall on SW 77th Court. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.



Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins

using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 11: Drainage Sub-basin 41 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	17.88	16.57	1.31
Total Nitrogen	140.87	126.08	14.79
Total Suspended Solids	1,688.61	1,529.04	159.57

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 12: Drainage Sub-basin 41 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$17,253	\$18,000
2	Mobilization	1	L.S.	\$57,510	\$58,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$5,751	\$6,000
4	Asphalt Concrete Surface Course	13,000	S.Y.	\$8	\$104,000
5	Inlet Apron (Asphalt)	11	S.Y.	\$8	\$100
6	15" Diameter Polyethylene Pipe	350	L.F.	\$70	\$25,000
7	18" Diameter Polyethylene Pipe	2,000	L.F.	\$85	\$170,000
8	18" French Drain Exfiltration Trench	1,700	L.F.	\$100	\$170,000
9	Manhole	12	EA.	\$5,500	\$66,000
10	Catch Basin Inlet	4	EA.	\$6,000	\$24,000
11	Pollution Retardant Baffle	14	EA.	\$240	\$4,000
12	Utility Adjustments	1	L.S.	\$11,262	\$12,000
13	Professional Services	1	L.S.	\$111,707	\$112,000
14	Contingency	1	L.S.	\$65,710	\$66,000
TOTAL					\$840,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## Drainage Sub-basin 42

Location: Drainage sub-basin 42 is generally located south of SW 168th Street (Richmond Drive), north of SW 171st Street, west of SW 76th Avenue, and east of SW 77th Avenue (Palmetto Road). Drainage sub-basin 42 is part of the C100C-E-11 Miami-Dade County basin.

Existing and Future Conditions: Figure 10 shows existing conditions for drainage sub-basin 42.

The sub-basin consists of approximately 17.37 acres of existing detached single-family residential development with approximately 3,160 linear feet of roadway, including SW 168th Terrace, SW 169th Street, SW 169th Terrace, SW 170th Street, SW 77th Avenue (Palmetto Road) and SW 76th Avenue. The drainage system in this sub-basin includes two existing outfall connections on the cul-de-sacs on SW 168<sup>th</sup> Terrace and SW 169<sup>th</sup> Terrace, but the outfalls are only connected to local catch basins. Other areas of the sub-basin are closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways. This sub-basin includes a two-way single lane section on SW 76<sup>th</sup> Avenue.



No complaints were reported in this area by the Village as part of this update or from Miami-Dade County as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 170th Street and SW 77th Avenue and on SW 169<sup>th</sup> Street and SW 76<sup>th</sup> Avenue. The location of these deficiencies can be seen in Figure 10. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 6.32 feet to a high of approximately 9.60 feet NGVD. It was assumed that the

building finish elevations range from 6.99 feet (eight inches above the lowest crown of road) to 10.37 feet (eight inches above highest crown of road). The lowest edge of road is 6.07 feet. Pervious area elevations were assumed to range from 6.17 feet (one inch above the lowest edge of road) to 9.70 feet (highest edge of road).

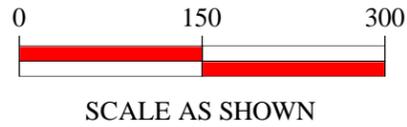


Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 42 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 42, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

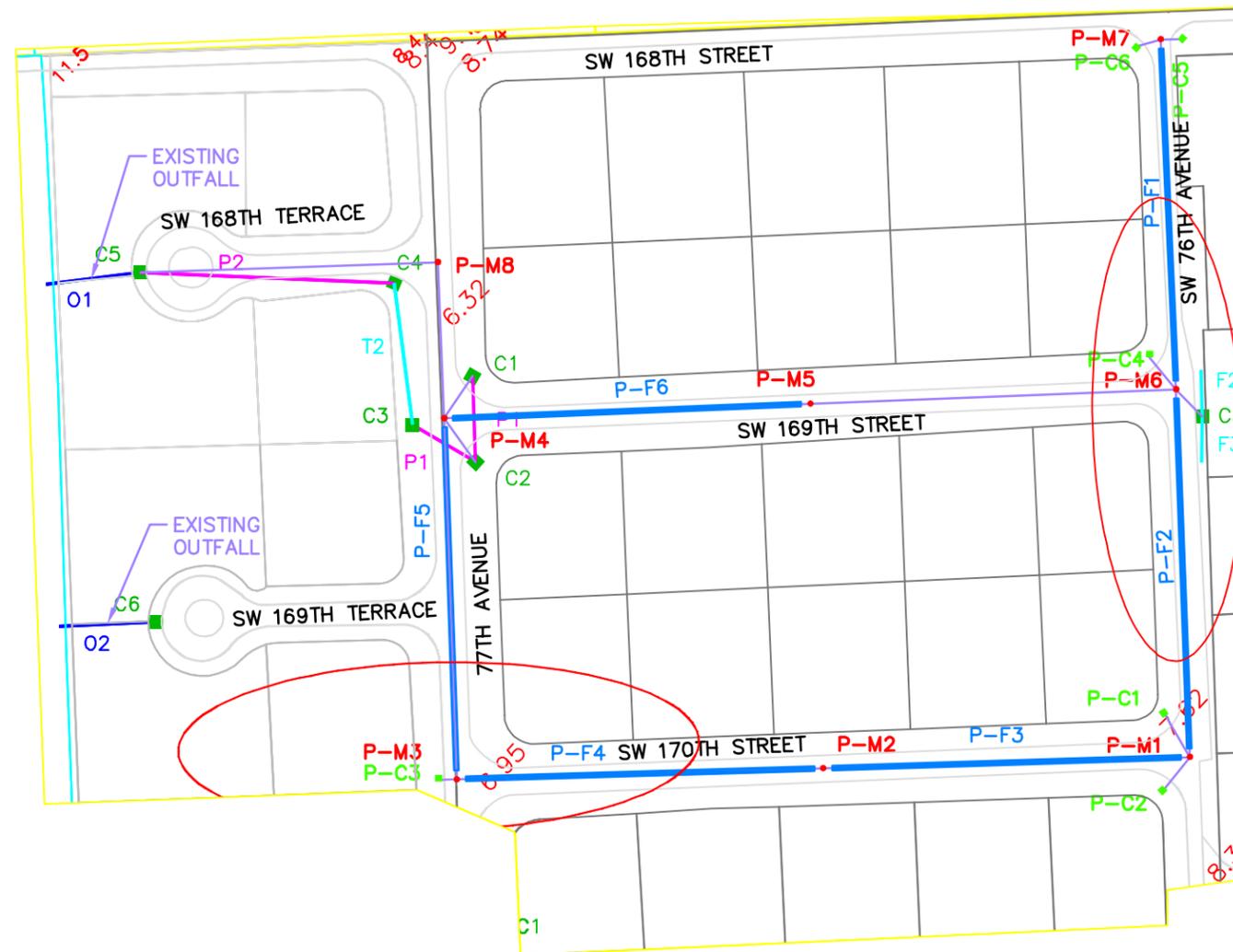
*Table 13: Drainage Sub-basin 42 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.23 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	1.97 feet above lowest finish floor elevation (FFE)
Total Above Goal	3.20 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 42 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 10: DRAINAGE SUB-BASIN #42 PROPOSED CONDITIONS



## LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	

### PROPOSED MODIFICATIONS

- Add 1,800 LF 18" French Drain / Exfiltration Trench
- Add 800 LF of 18" Storm Sewer Pipe (HDPE)
- Add 300 LF of 15" Storm Sewer Pipe (HDPE)
- Add 6 Catch Basins
- Add 8 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 6.07
- Min. Roadway Centerline Elevation 6.32
- Min. Building FFE 6.99

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales, outfalls, and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins, pipes, outfalls, and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 10. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. An analysis of the existing outfall capacities should be performed to evaluate the need for potential outfall improvements. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 14: Drainage Sub-basin 42 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	10.34	9.58	0.76
Total Nitrogen	81.43	72.88	8.55
Total Suspended Solids	976.14	883.89	92.25

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 15: Drainage Sub-basin 42 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$12,996	\$13,000
2	Mobilization	1	L.S.	\$43,320	\$44,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$4,332	\$5,000
4	Asphalt Concrete Surface Course	9,000	S.Y.	\$8	\$72,000
5	Inlet Apron (Asphalt)	17	S.Y.	\$8	\$200
6	15" Diameter Polyethylene Pipe	300	L.F.	\$70	\$21,000
7	18" Diameter Polyethylene Pipe	800	L.F.	\$85	\$68,000
8	18" French Drain Exfiltration Trench	1,800	L.F.	\$100	\$180,000
9	Manhole	8	EA.	\$5,500	\$44,000
10	Catch Basin Inlet	6	EA.	\$6,000	\$36,000
11	Pollution Retardant Baffle	12	EA.	\$240	\$3,000
12	Utility Adjustments	1	L.S.	\$8,484	\$9,000
13	Professional Services	1	L.S.	\$84,184	\$85,000
14	Contingency	1	L.S.	\$49,520	\$50,000
TOTAL					\$630,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

### Drainage Sub-basin 43

Location: Drainage sub-basin 43 is generally located south of SW 165th Terrace, north of SW 168th Street (Richmond Drive), west of SW 72<sup>nd</sup> Avenue, and east of SW 77th Avenue (Palmetto Road). Drainage sub-basin 42 is part of the C100C-E-10 Miami-Dade County basin.

Existing and Future Conditions: Figure 11 shows existing conditions for drainage sub-basin 43.

The sub-basin consists of approximately 40.87 acres of existing detached single-family residential development with approximately 8,350 linear feet of roadway, including SW 165th Terrace, SW 166th Street, SW 166th Terrace, SW 167th Street, SW 77th Avenue (Palmetto Road), SW 74th Court, SW 74th Avenue, and SW 72<sup>nd</sup> Avenue. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.



Complaints were reported in this area by the Village at SW 167<sup>th</sup> Street and on Old Cutler Road. Complaints from Miami-Dade County were identified in drainage sub-basin 43 as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 166th Street, SW 166<sup>th</sup> Terrace and SW 74th Court. The location of these deficiencies can be seen in Figure 11. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 7.10 feet to a high of approximately 12.80 feet NGVD. It was assumed that the building finish elevations range from 7.77 feet (eight inches above the lowest crown of road) to 13.57 feet (eight inches above highest crown of road). The lowest edge of road is 6.85 feet.

Pervious area elevations were assumed to range from 6.95 feet (one inch above the lowest edge of road) to 12.90 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 43 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 43, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

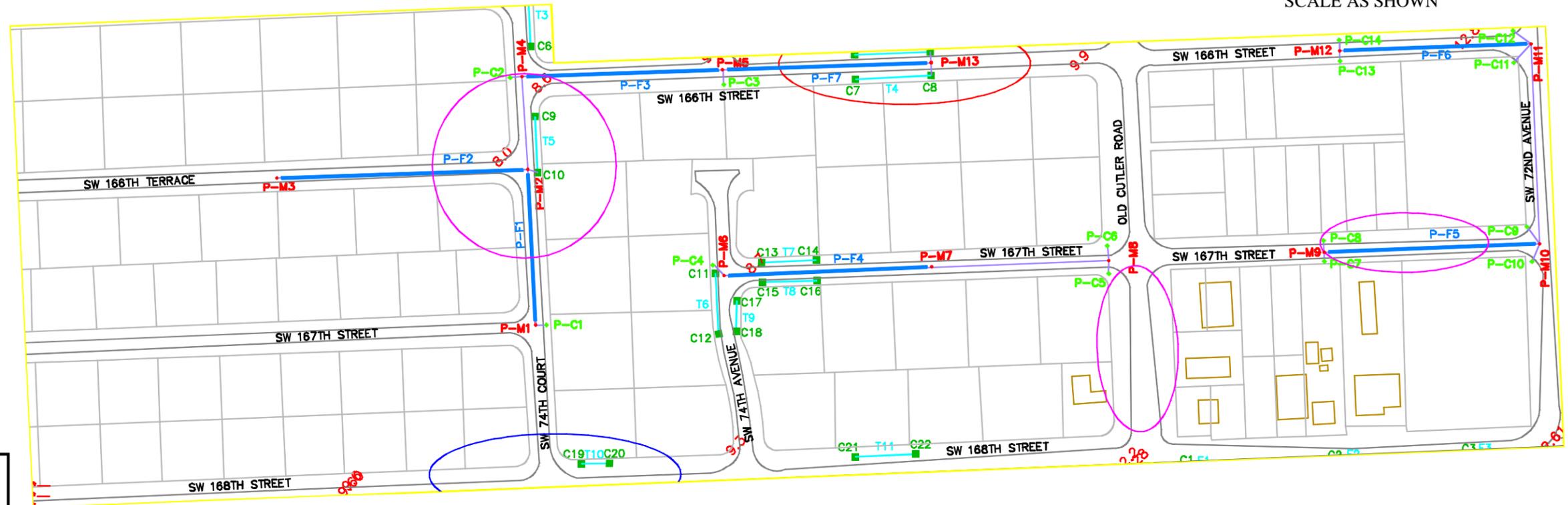
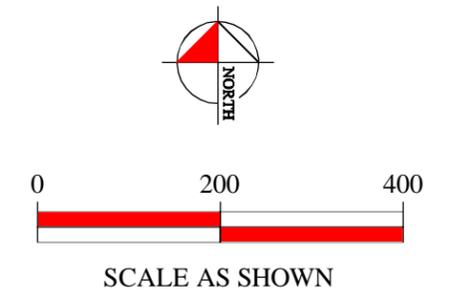
*Table 16: Drainage Sub-basin 43 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.78 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	2.83 feet above lowest finish floor elevation (FFE)
Total Above Goal	4.61 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 43 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 11: DRAINAGE SUB-BASIN #43 PROPOSED CONDITIONS



## LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	0.00
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	
Flooding on Miami-Dade County roadways	
Flooding reported by the Village	

### PROPOSED MODIFICATIONS

- Add 2,350 LF 18" French Drain / Exfiltration Trench
- Add 850 LF of 18" Storm Sewer Pipe (HDPE)
- Add 400 LF of 15" Storm Sewer Pipe (HDPE)
- Add 14 Catch Basins
- Add 13 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 6.85
- Min. Roadway Centerline Elevation 7.10
- Min. Building FFE 7.77



Last Revised August 25 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 11. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.



Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 17: Drainage Sub-basin 43 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	24.29	22.51	1.79
Total Nitrogen	191.41	171.31	20.10
Total Suspended Solids	2,294.49	2,077.66	216.83

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 18: Drainage Sub-basin 43 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$19,482	\$20,000
2	Mobilization	1	L.S.	\$64,940	\$65,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$6,494	\$7,000
4	Asphalt Concrete Surface Course	17,500	S.Y.	\$8	\$140,000
5	Inlet Apron (Asphalt)	39	S.Y.	\$8	\$400
6	15" Diameter Polyethylene Pipe	400	L.F.	\$70	\$28,000
7	18" Diameter Polyethylene Pipe	850	L.F.	\$85	\$73,000
8	18" French Drain Exfiltration Trench	2,350	L.F.	\$100	\$235,000
9	Manhole	13	EA.	\$5,500	\$72,000
10	Catch Basin Inlet	14	EA.	\$6,000	\$84,000
11	Pollution Retardant Baffle	14	EA.	\$240	\$4,000
12	Utility Adjustments	1	L.S.	\$12,728	\$13,000
13	Professional Services	1	L.S.	\$126,038	\$127,000
14	Contingency	1	L.S.	\$74,140	\$75,000
TOTAL					\$940,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## Drainage Sub-basin 44

Location: Drainage sub-basin 44 is generally located south of SW 164th Street, north of SW 166th Street, west of SW 72<sup>nd</sup> Avenue, and east of SW 77th Avenue (Palmetto Road). Drainage sub-basin 44 is part of the C100C-E-10 Miami-Dade County basin.

Existing and Future Conditions: Figure 12 shows existing conditions for drainage sub-basin 44. The sub-basin consists of approximately 34.01 acres of existing detached single-family residential development with approximately 7,070 linear feet of roadway, including SW 164th Street, SW 164<sup>th</sup> Terrace, SW 165th Street, SW 165<sup>th</sup> Terrace, SW 77th Avenue (Palmetto Road), SW 76th Avenue, SW 75th Avenue, SW 74th Court, SW 74th Avenue, and SW 72<sup>nd</sup> Avenue. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways. SW 167th Street appears to be elevated compared to the adjacent roadways.



No complaints were reported in this area by the Village as part of this update or from Miami-Dade County as part of the original master plan. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 164th Street, and SW 74th Avenue. The location of these deficiencies can be seen in Figure 12. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.

Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 5.90 feet to a high of approximately 12.80 feet NGVD. It was assumed that the building finish elevations range from 6.57 feet (eight inches above the lowest crown of road) to 13.57 feet (eight inches above highest crown of road). The lowest edge of road is 5.65 feet. Pervious area elevations were assumed to range from 5.75 feet (one inch above the lowest edge of road) to 12.9 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 44 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 44, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

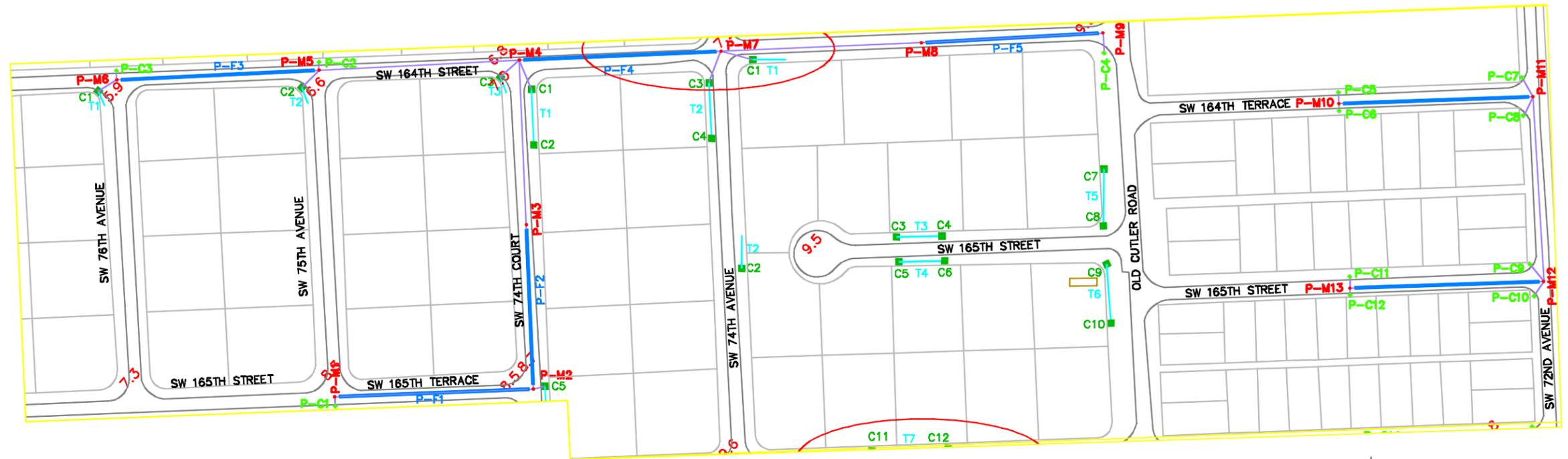
*Table 19: Drainage Sub-basin 44 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.58 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	2.32 feet above lowest finish floor elevation (FFE)
Total Above Goal	3.90 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 44 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 12: DRAINAGE SUB-BASIN #44 PROPOSED CONDITIONS



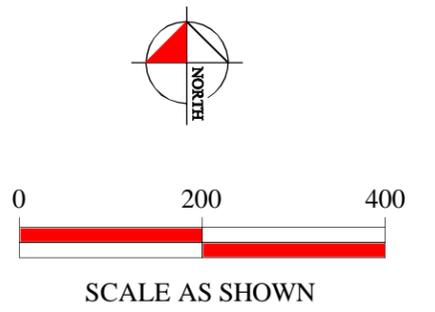
LEGEND	
Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding across roadway observed by KHA	

**PROPOSED MODIFICATIONS**

- Add 2,150 LF 18" French Drain / Exfiltration Trench
- Add 1,350 LF of 18" Storm Sewer Pipe (HDPE)
- Add 550 LF of 15" Storm Sewer Pipe (HDPE)
- Add 12 Catch Basins
- Add 13 Manholes

**PERFORMANCE GOAL CRITERIA**

- Min. Roadway EOP Elevation 5.65
- Min. Roadway Centerline Elevation 5.90
- Min. Building FFE 6.57



Last Revised August 25, 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally in good condition, but would benefit from resurfacing. Improvements to drainage infrastructure will be needed to address these inadequacies.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 12. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.



Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 20: Drainage Sub-basin 44 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	20.20	18.71	1.48
Total Nitrogen	159.12	142.41	16.71
Total Suspended Solids	1,907.40	1,727.15	180.25

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 21: Drainage Sub-basin 44 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$20,739	\$21,000
2	Mobilization	1	L.S.	\$69,130	\$70,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$6,913	\$7,000
4	Asphalt Concrete Surface Course	20,000	S.Y.	\$8	\$160,000
5	Inlet Apron (Asphalt)	34	S.Y.	\$8	\$300
6	15" Diameter Polyethylene Pipe	550	L.F.	\$70	\$39,000
7	18" Diameter Polyethylene Pipe	1,350	L.F.	\$85	\$115,000
8	18" French Drain Exfiltration Trench	2,150	L.F.	\$100	\$215,000
9	Manhole	13	EA.	\$5,500	\$72,000
10	Catch Basin Inlet	12	EA.	\$6,000	\$72,000
11	Pollution Retardant Baffle	14	EA.	\$240	\$4,000
12	Utility Adjustments	1	L.S.	\$13,546	\$14,000
13	Professional Services	1	L.S.	\$134,181	\$135,000
14	Contingency	1	L.S.	\$78,930	\$79,000
TOTAL					\$1,000,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

### Drainage Sub-basin 57/96

Location: Drainage sub-basin 57/96 is generally located south of SW 155th Terrace, north of SW 160th Street, west of SW 92nd Avenue, and east of SW 87th Avenue. Drainage sub-basin 57/96 is part of the C100C-N-11 Miami-Dade County basin.

Existing and Future Conditions: Figure 13 shows existing conditions for drainage sub-basin 57/96. The sub-basin consists of approximately 55.34 acres of existing residential development with approximately 8,820 linear feet of roadway, including SW 155th Terrace, SW 156th Terrace, SW 157th Street, SW 158th Street, SW 159th Street, SW 160th Street, 92nd Avenue, SW 90th Avenue, SW 89th Avenue, SW 88th Court, SW 88th Avenue, SW 87th Court, and SW 87th Avenue. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.



The Village reported extensive flooding on SW 88th Court and SW 159th Street in drainage sub-basin 96. In our investigation, Kimley-Horn found flooding extending across the entire roadway width on SW 87th Court. The location of these deficiencies can be seen in Figure 13. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process. The Village has a localized flooding project proposed at the intersection of SW 88th Avenue and SW 156th Terrace.

Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 7.70 feet to a high of approximately 10.00 feet NGVD. It was assumed that the building finish elevations range from 8.37 feet (eight inches above the lowest crown of road) to 10.77 feet (eight inches above highest crown of road). The lowest



edge of road is 7.45 feet. Pervious area elevations were assumed to range from 7.55 feet (one inch above the lowest edge of road) to 10.10 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 57/96 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 57/96, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

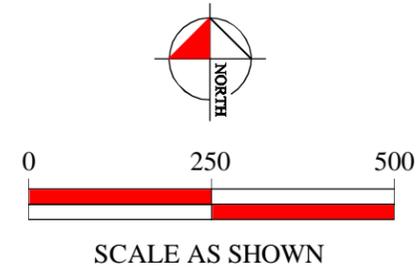
*Table 22: Drainage Sub-basin 57/96 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.10 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	1.60 feet above lowest finish floor elevation (FFE)
Total Above Goal	2.70 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 57/96 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 13: DRAINAGE SUB-BASIN #57/96 PROPOSED CONDITIONS

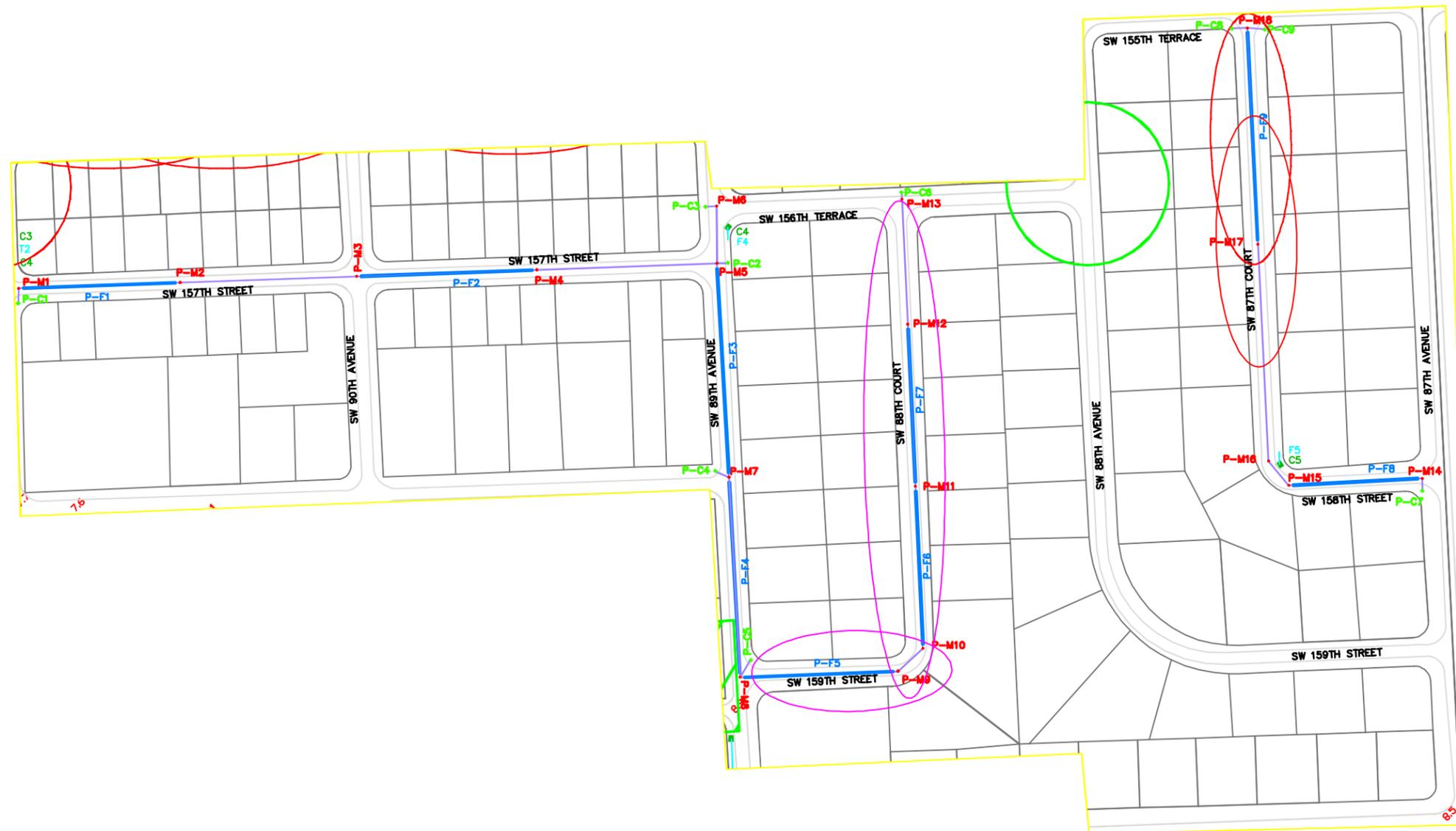


### PROPOSED MODIFICATIONS

- Add 2,900 LF 18" French Drain / Exfiltration Trench
- Add 1,600 LF of 18" Storm Sewer Pipe (HDPE)
- Add 300 LF of 15" Storm Sewer Pipe (HDPE)
- Add 9 Catch Basins
- Add 18 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 7.45
- Min. Roadway Centerline Elevation 7.70
- Min. Building FFE 8.37



## LEGEND

- Catch Basin (C1) ■
- French Drain (F1) — — —
- Trench (T1) — — —
- Pipe (P1) — — —
- Outfall (O1) — — —
- Sub-Basin Boundary — — —
- Manhole (M1) ●
- Elevation 0.00
- Proposed Catch Basin (P-C1) ■
- Proposed French Drain (P-F1) — — —
- Proposed Manhole (P-M1) ●
- Proposed Pipe — — —
- Flooding reported by the Village ○
- Flooding across roadway observed by KHA ○
- Flooding to be mitigated by projects under design or construction. ○
- Local drainage improvements complete ▨

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. SW 88th Avenue and SW 159th Street have recently been paved, but pavement condition within the remaining portions of the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies.

Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 13. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 23: Drainage Sub-basin 57/96 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	32.85	30.43	2.41
Total Nitrogen	258.80	231.63	27.17
Total Suspended Solids	3,102.33	2,809.16	293.17

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 24: Drainage Sub-basin 57/96 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$22,686	\$23,000
2	Mobilization	1	L.S.	\$75,620	\$76,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$7,562	\$8,000
4	Asphalt Concrete Surface Course	17,000	S.Y.	\$8	\$136,000
5	Inlet Apron (Asphalt)	25	S.Y.	\$8	\$200
6	15" Diameter Polyethylene Pipe	300	L.F.	\$70	\$21,000
7	18" Diameter Polyethylene Pipe	1,600	L.F.	\$85	\$136,000
8	18" French Drain Exfiltration Trench	2,900	L.F.	\$100	\$290,000
9	Manhole	18	EA.	\$5,500	\$99,000
10	Catch Basin Inlet	9	EA.	\$6,000	\$54,000
11	Pollution Retardant Baffle	18	EA.	\$240	\$5,000
12	Utility Adjustments	1	L.S.	\$14,824	\$15,000
13	Professional Services	1	L.S.	\$146,744	\$147,000
14	Contingency	1	L.S.	\$86,320	\$87,000
TOTAL					\$1,100,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

### Drainage Sub-basin 59/60

Location: Drainage sub-basin 59/60 is generally SW 82nd Avenue from NW 152nd Street to SW 160th Street and a localized improvement at the intersection of SW 160th Street and SW 81st Avenue. Drainage sub-basin 59/60 is part of the C100C-W-7 Miami-Dade County basin. It includes portions of the Cutler, Banyan Cove, Banyan Woods, and Old Cutler Palms subdivisions.

Existing and Future Conditions: Figure 14 shows existing conditions for drainage sub-basin 59/60. The sub-basin consists of approximately 40.97 acres of existing detached single-family residential development with approximately 7,520 linear feet of roadway, including SW 82nd Avenue, SW 81st Avenue, SW 155th Street, SW 156<sup>th</sup> Street, SW 158th Terrace, and SW 160th Street. The drainage system in this sub-basin is a closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways.



The Village of Palmetto Bay reported severe flooding complaints on SW 82nd Avenue and localized flooding on SW 160th Street west of SW 80th Avenue. The location of these deficiencies can be seen in Figure 14. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process. The Village installed a traffic circle with localized drainage improvements at the intersection of SW 160th Street and SW 82nd Avenue, as well as a second localized drainage improvement on SW 80th Avenue just south of SW 152nd Street.



Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 9.40 feet to a high of approximately 11.00 feet NGVD. It was assumed that the building finish elevations range from 10.07 feet (eight inches above the lowest crown of road) to 11.77 feet (eight inches above highest crown of road). The lowest edge of road is 9.15 feet. Pervious area elevations were assumed to range from 9.25 feet (one inch above the lowest edge of road) to 11.10 feet (highest edge of road).

Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 59/60 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 59/60, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

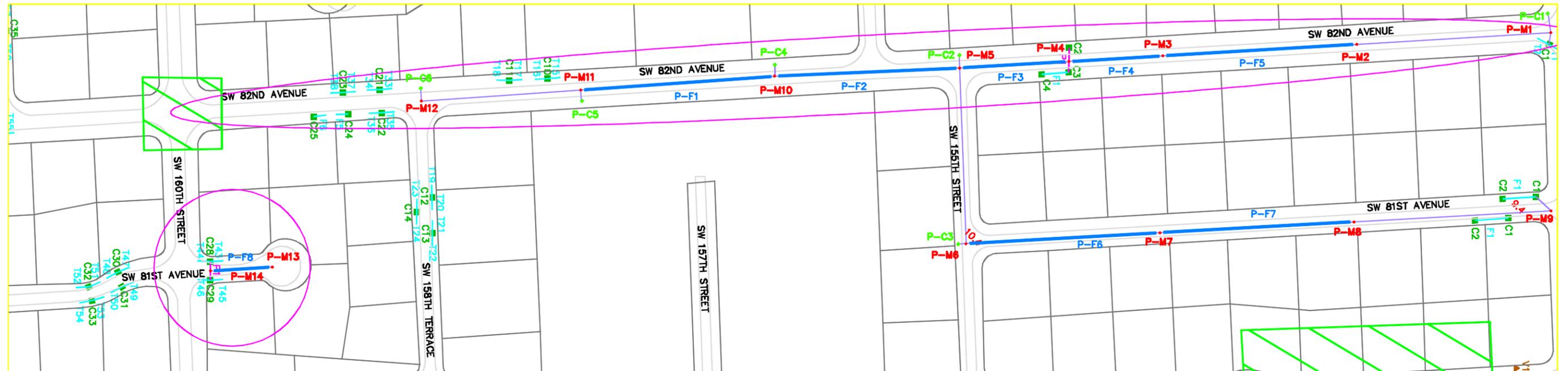
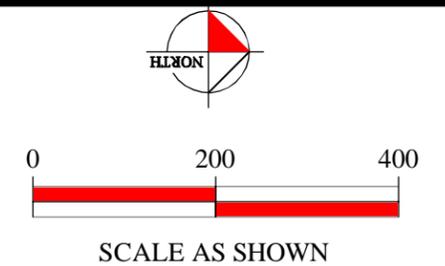
*Table 25: Drainage Sub-basin 59/60 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	0.93 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	1.26 feet above lowest finish floor elevation (FFE)
Total Above Goal	2.19 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 59/60 exceed allowable levels and the sub-basin does not meet the performance goal criteria.



# FIGURE 14: DRAINAGE SUB-BASIN #59/60 PROPOSED CONDITIONS



### PROPOSED MODIFICATIONS

- Add 2,300 LF 18" French Drain / Exfiltration Trench
- Add 1,500 LF of 18" Storm Sewer Pipe (HDPE)
- Add 300 LF of 15" Storm Sewer Pipe (HDPE)
- Add 6 Catch Basins
- Add 14 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 9.15
- Min. Roadway Centerline Elevation 9.40
- Min. Building FFE 10.07

### LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding reported by the Village	
Local drainage improvements complete	

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage



infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies.

Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins and pipes and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 14. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 26: Drainage Sub-basin 59/60 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	24.35	22.56	1.79
Total Nitrogen	191.88	171.73	20.15
Total Suspended Solids	2,300.10	2,082.74	217.36

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 27: Drainage Sub-basin 59/60 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$18,636	\$19,000
2	Mobilization	1	L.S.	\$62,120	\$63,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$6,212	\$7,000
4	Asphalt Concrete Surface Course	14,000	S.Y.	\$8	\$112,000
5	Inlet Apron (Asphalt)	17	S.Y.	\$8	\$200
6	15" Diameter Polyethylene Pipe	300	L.F.	\$70	\$21,000
7	18" Diameter Polyethylene Pipe	1,500	L.F.	\$85	\$128,000
8	18" French Drain Exfiltration Trench	2,300	L.F.	\$100	\$230,000
9	Manhole	14	EA.	\$5,500	\$77,000
10	Catch Basin Inlet	6	EA.	\$6,000	\$36,000
11	Pollution Retardant Baffle	16	EA.	\$240	\$4,000
12	Utility Adjustments	1	L.S.	\$12,164	\$13,000
13	Professional Services	1	L.S.	\$120,734	\$121,000
14	Contingency	1	L.S.	\$71,020	\$72,000
TOTAL					\$900,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## Drainage Sub-basin 61

Location: Drainage sub-basin 61 is generally located south of SW 155th Street, north of SW 160th Street, west of SW 77th Court, and east of SW 79th Avenue. Drainage sub-basin 61 is part of the C100C-W-7 Miami-Dade County basin.

Existing and Future Conditions: Figure 15 shows existing conditions for drainage sub-basin 61. The sub-basin consists of approximately 26.29 acres of existing detached single-family residential development with approximately 4,770 linear feet of roadway, including SW 155th Street, SW 156th Street, SW 157th Street, SW 158th Street, SW 160th Street, SW 79th Avenue, SW 78th Place, SW 78th Avenue, and SW 77th Court. The drainage system in this sub-basin includes three outfall connections along SW 77th Court, but the outfalls are only connected to local catch basins. Other areas of the sub-basin are closed system with catch basins connected to exfiltration trench located in the vegetated swales along the sides of the roadways. Speed humps are also installed along SW 77th Court and the surrounding area.



The Village of Palmetto Bay reported flooding complaints on SW 156th Street, SW 160th Street, and SW 77th Court. The location of these deficiencies can be seen in Figure 15. The entire sub-basin area was modeled based on data collected as part of the Stormwater Master Plan process.

Based on available GIS data, the existing crown of road elevations ranges from a low of approximately 7.30 feet to a high of approximately 12.50 feet NGVD. It was assumed that the building finish elevations range from 7.97 feet (eight inches above the lowest crown of road) to 13.27 feet (eight inches above highest crown of road). The lowest edge of road is 7.05 feet. Pervious area elevations were assumed to



range from 7.15 feet (one inch above the lowest edge of road) to 12.60 feet (highest edge of road).

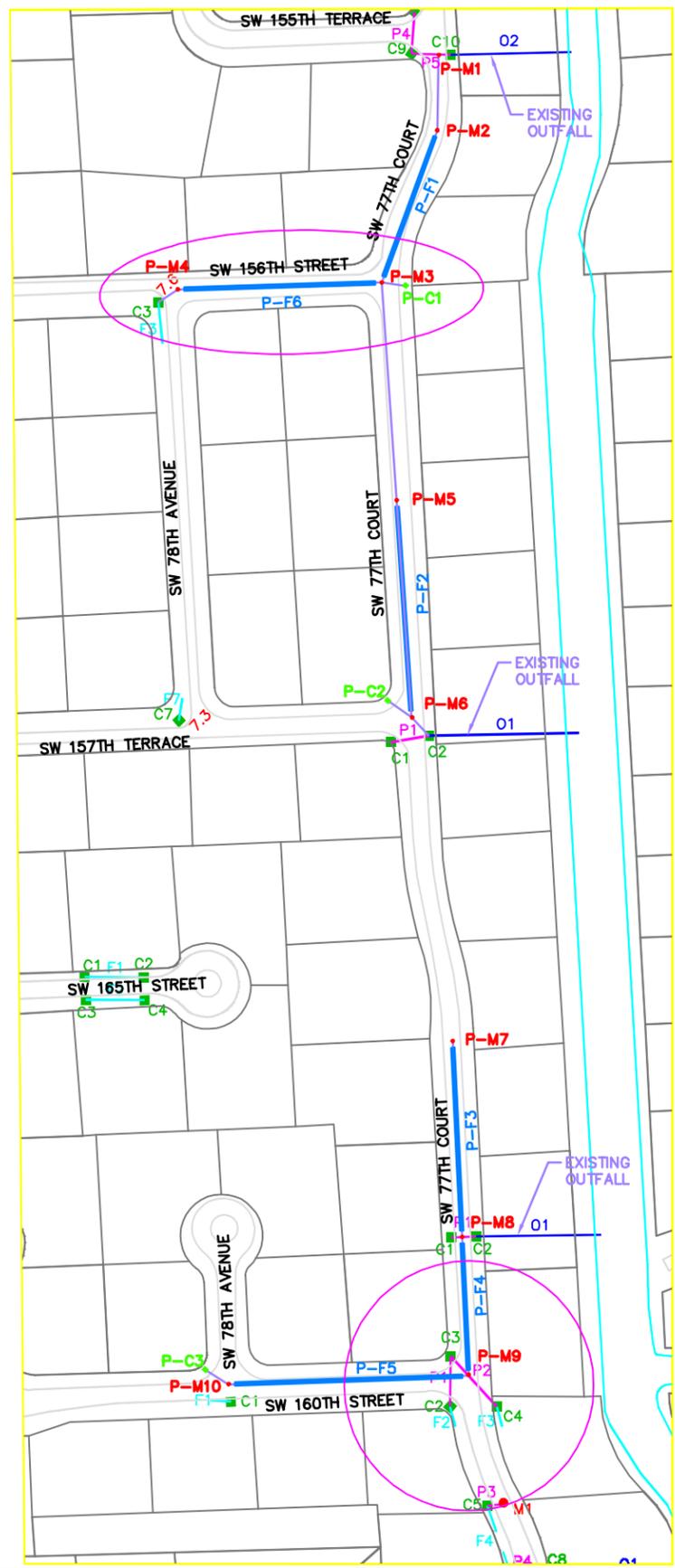
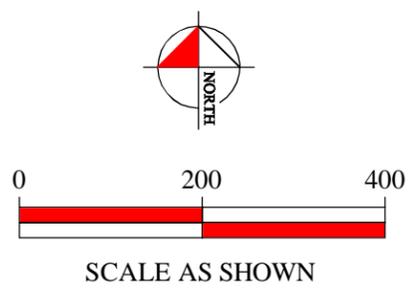
Performance Goal Analysis: Based on the available information described above, calculations were made for drainage sub-basin 61 to compare the existing conditions with the previously stated performance goals. The detailed calculations can be found in Appendix A. Based on the detailed hydrologic and hydraulic calculations for drainage sub-basin 61, the sub-basin is subject to flooding during all design storm events. The table below shows the performance of the sub-basin versus performance goals.

*Table 28: Drainage Sub-basin 61 – Performance Goal Analysis for Existing Conditions*

Design Storm Event	Flood Stage Elevation Above Performance Goal Criteria
5-year, 24-hour	1.81 feet above lowest crown of road for collector and local roadways
100-year, 72-hour	2.85 feet above lowest finish floor elevation (FFE)
Total Above Goal	4.66 feet above performance goal criteria

The flood stages shown above for drainage sub-basin 61 exceed allowable levels and the sub-basin does not meet the performance goal criteria.

# FIGURE 15: DRAINAGE SUB-BASIN #61 PROPOSED CONDITIONS



### PROPOSED MODIFICATIONS

- Add 1,300 LF 18" French Drain / Exfiltration Trench
- Add 400 LF of 18" Storm Sewer Pipe (HDPE)
- Add 150 LF of 15" Storm Sewer Pipe (HDPE)
- Add 3 Catch Basins
- Add 10 Manholes

### PERFORMANCE GOAL CRITERIA

- Min. Roadway EOP Elevation 7.05
- Min. Roadway Centerline Elevation 7.30
- Min. Building FFE 7.97

### LEGEND

Catch Basin (C1)	
French Drain (F1)	
Trench (T1)	
Pipe (P1)	
Outfall (O1)	
Sub-Basin Boundary	
Manhole (M1)	
Elevation	
Proposed Catch Basin (P-C1)	
Proposed French Drain (P-F1)	
Proposed Manhole (P-M1)	
Proposed Pipe	
Flooding reported by the Village	



Last Revised August 25, 2014

Storm Drainage Deficiencies: The catch basins inspected in this sub-basin were observed to be clean, with only limited debris and sediment. As a result, drainage deficiency issues are likely to be a function of limited system capacity and infrastructure age and or condition. Hydrologic and hydraulic calculations for this sub-basin confirmed the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales, outfalls, and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Pavement condition within the sub-basin area is generally average and in need of resurfacing or rehabilitation. Improvements to drainage infrastructure will be needed to address these inadequacies. It is assumed that any speed humps impacted will require replacement as well.



Recommended Drainage Improvements: Clean and flush all sediment and debris from existing catch basins, pipes, outfalls, and adjust catch basin elevations and locations to minimize accumulation of sediment and debris. Install the additional infrastructure depicted in Figure 15. Existing catch basins should be modified or reconstructed as required to provide sediment traps (sumps) and pollution retardant baffles to protect the exfiltration trench. An analysis of the existing outfall capacities should be performed to evaluate the need for potential outfall improvements. Constructing additional catch basins, manholes, culverts, and exfiltration trench is recommended to interconnect the catch basins.

Environmental Impact of Proposed Improvements: A full analysis of the estimated pollutant loading for existing, future, and proposed conditions was prepared for the priority sub-basins using a spreadsheet developed for this purpose (see Appendix B). The table below shows how the proposed improvements will result in a significant reduction in the pollutant load contribution from this sub-basin to the Biscayne Aquifer for three major pollutants.

*Table 29: Drainage Sub-basin 61 – Pollutant Loading Analysis*

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)
Total Phosphorous	15.62	14.47	1.15
Total Nitrogen	123.04	110.12	12.92
Total Suspended Solids	1,474.87	1,335.49	139.38

Capital Improvement Budget: A budget was developed for the proposed stormwater capital improvements.

*Table 30: Drainage Sub-basin 61 – Capital Improvement Budget*

Item	Description	Qty.	Units	Unit Price	Sub-total
1	Maintenance of Traffic	1	L.S.	\$10,623	\$11,000
2	Mobilization	1	L.S.	\$35,410	\$36,000
3	Stormwater Pollution Prevention Plan (SWPPP)	1	L.S.	\$3,541	\$4,000
4	Asphalt Concrete Surface Course	12,000	S.Y.	\$8	\$96,000
5	Inlet Apron (Asphalt)	8	S.Y.	\$8	\$100
6	15" Diameter Polyethylene Pipe	150	L.F.	\$70	\$11,000
7	18" Diameter Polyethylene Pipe	400	L.F.	\$85	\$34,000
8	18" French Drain Exfiltration Trench	1,300	L.F.	\$100	\$130,000
9	Manhole	10	EA.	\$5,500	\$55,000
10	Catch Basin Inlet	3	EA.	\$6,000	\$18,000
11	Pollution Retardant Baffle	12	EA.	\$240	\$3,000
12	Utility Adjustments	1	L.S.	\$6,942	\$7,000
13	Professional Services	1	L.S.	\$68,867	\$69,000
14	Contingency	1	L.S.	\$40,510	\$41,000
TOTAL					\$520,000

## Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
2. Costs do not include inflation or interest costs.
3. Sequence of improvements should be coordinated with roadway CIP.

## CAPITAL IMPROVEMENT PROGRAM

### Background

Kimley-Horn prepared this Capital Improvement Program (CIP) for stormwater improvements to prioritize and set the budgets required to plan, construct, operate, and maintain the Village's Stormwater Management Program. The CIP is a budgetary tool and is intended to provide an order of magnitude for the Village's yearly funding for the implementation of the Stormwater Utility.

The proposed CIP is based on the findings from the assessment of existing drainage conditions within the Village and the detailed analysis of the ten drainage sub-basins that were identified as priority sub-basins in this Stormwater Master Plan Update. The two primary components of the CIP include operation/maintenance and capital improvements.

The operation and maintenance component is based on the general assessment of the existing drainage conditions within the Village limits. Recommended operation and maintenance procedures were identified as part of the original Stormwater Master Plan and preliminary budgets were established at that time. With the operation and maintenance program implemented, the Village has current cost data for the various components, and the condition of the existing stormwater system indicates the program has been effective.

The capital improvement component is based on the findings of the analysis of the priority sub-basins. Recommended improvements to achieve the stated performance goals were identified for each sub-basin. The recommended improvements were quantified based on the available data and preliminary opinions of probable costs (preliminary budgets) were prepared for each sub-basin. Based on the preliminary budgets, the priority sub-basin improvements were prioritized to provide the proposed CIP. The following is an explanation and summary of each component of the CIP.

## Operation and Maintenance Plan

The intent of the operation and maintenance plan is to maintain the integrity of the stormwater management system. This is accomplished by maintaining the existing stormwater management system to provide the level of service as originally designed. To achieve this goal, periodic observations, routine maintenance, and general improvements are required. This section of the overall report is not intended to provide a complete operation and maintenance manual, but to provide some of the key components and allow sufficient budget to implement these items.

### Catch Basin Maintenance

Catch basin maintenance is a two-step process. This task includes cleaning the external grate to permit stormwater to enter the system and removing sand, silt, and debris from the sedimentation chamber of the intake structure. The catch basins are cleaned using mechanical and manual methods. The Village is currently budgeting to clean 20% of all catch basins annually. However, the Village does monitor areas of heavy foliage and other debris to schedule catch basin maintenance more frequently if required.



### Pipe Flushing and Exfiltration Trench Cleaning

Exfiltration trench is important in the storage, disposal, and water quality treatment of stormwater runoff. Maintenance of exfiltration trench includes removing the sediment, oil, and grease that accumulates in the bottom of the catch basins attached to exfiltration trench and pipes to reduce the amount of these pollutants entering the pipe system and adversely impacting the exfiltration or outfall rate. Even with removal of sediment from the catch basins, over time sediment will build up in drainage pipes. Therefore, the pipes should be cleaned and flushed on a regular basis. Pipe flushing and exfiltration trench cleaning are typically performed in conjunction with catch basin and manhole cleaning and are usually contracted out on an as-needed basis. During these activities, a high-pressure water hose is inserted into the pipe

network. This process flushes debris into the catch basin where it can then be removed. The Village is currently budgeting to flush 20% of all piping, 20% of all exfiltration trench, 50% of all manholes, 50% of all outfall pipes, and 100% of all French drain annually.

#### Canal Maintenance

Local canals play an important role in stormwater disposal. The Village has a five-year interlocal agreement with Miami-Dade County for canal maintenance. Miami-Dade County currently maintains the SW 160th Street Ditch. The Village owns the SW Maral Estates canal and the Bel Aire Section canal. The Village is currently budgeting for canal maintenance.



#### Swale Inspection, Maintenance, and Restoration

Grassed swales and landscaped medians also play an important role in stormwater disposal. Consistent mowing, inspection, and restoration of such features promote stormwater retention and efficient percolation. The Village maintains swales and medians within public roadways and parking lots. Individual business owners and residents are mandated through local codes to maintain their facilities. The Village is currently budgeting for swale inspection, maintenance, and restoration.

#### WASD Utility Fee Collection

All real properties within the jurisdictional boundaries of the Village shall be subject to Stormwater Utility Fee's unless specifically exempted. The Village has an agreement with the Miami Dade Water and Sewer Department (WASD) to include the Village's Stormwater Utility fee on bills for water and sewer service for properties within the Village. WASD bills customers on a monthly or quarterly basis on behalf of the Village and charges the Village a fee to collect the Village's Stormwater Utility Fee. Properties on well water within the Village are billed on an

annual basis by the Village's Finance Department to collect their fair share of Stormwater Utility Fee.

#### Minor Repairs and Improvements

Maintaining the stormwater collection system requires routine improvements and repairs. This task covers a significant spectrum of activities including limited infrastructure projects, repair of collapsed pipes and manholes, replacement of catch basins or catch basin grates, and swale grading to address ponding. As discussed earlier, these projects are typically classified as localized drainage improvements. Localized drainage improvement projects can range from design and permitted projects to maintenance activities in response to an immediate problem using the best methods available.

#### MS4 Permit and CRS Program Activities

To comply with the Miami-Dade County Multiple Separate Storm Sewer System Permit (MS4) administered by the U.S. Environmental Protection Agency and Florida Department of Environmental Protection, the Village must perform certain activities on an annual basis. The preceding maintenance activities are all required by the MS4 Permit. In addition to these maintenance activities, the Village is required to monitor water quality in the canals and prepare a pollutant loading study as part of the MS4 Permit. The Village pays an annual fee to Miami-Dade County DERM for water quality monitoring in the canals. The MS4 Permit also requires annual public outreach activities on water quality and the dangers associated with flooding such as mailings to residents and workshops for the general public, pesticide applicators, and construction contractors.

In addition to the MS4 permit, the Village of Palmetto Bay was accepted into the National Flood Insurance Program (NFIP) in 2008 and submitted a request to join the Community Rating System (CRS) program in 2011. Prior to submitting the application to become a member of the CRS, the Village needs a letter of compliance with the NFIP. Prior to the NFIP preparing that letter, a FEMA regional coordinator will require satisfactory completion of a Community

Assistance Visit (CAV) with the Village. The CAV occurred in 2012 and the Village is currently working with FEMA to obtain their letter of compliance from FEMA. Once the Village becomes a member of the CRS, it can receive credit for public outreach programs dedicated to informing the public about the risks of flooding and steps people can take to protect themselves and their property. Additionally, property owners within the Village can receive a discount on flood insurance. The more credit the Village receives in the CRS, the higher the flood insurance discount.

#### Administrative Expenses

There are two items noted in the budget to provide personnel to oversee the operation and maintenance of the stormwater system. These items are "Professional Services" and "Stormwater Utility Administration." The Professional Services item will include the engineering and legal services associated with developing contract documents and procuring services for drainage improvement projects. The Stormwater Utility Administration item includes general administration, clerical support, program planning, and public awareness.

Unit costs associated with the components discussed throughout the operation and maintenance plan section were provided by Village staff. Table 31 details the Stormwater Utility Annual Operation and Maintenance Budget.

*Table 31: Stormwater Utility Annual Operation and Maintenance Budget*

Item	Quantity	Units	Unit Price	Amount
Storm water Utility Administration	1	L.S.	\$68,400	\$68,400
Clean Catchbasins – 1/5 Annually	315	EA.	\$69	\$21,700
Clean Manholes – 1/2 Annually	179	EA.	\$114	\$20,400
Clean Outfalls – 1/2 Annually	45	EA.	\$171	\$7,700
Clean French Drain and Slab Covered Trench – Annually	75	EA.	\$86	\$6,500
Pipe Flushing – 1/5 Annually	11,400	L.F.	\$2.30	\$26,200
Exfiltration Trench Cleaning – 1/5 Annually	18,580	L.F.	\$2.30	\$42,700
Canal Maintenance	1	L.S.	\$23,300	\$23,300
NPDES MS4 Permit Monitoring Fee to DERM	1	L.S.	\$6,300	\$6,300
Swale Maintenance	1	L.S.	\$30,000	\$30,000
WASD Fee Collection	1	L.S.	\$26,000	\$26,000
Professional Services – Engineering and Legal	1	L.S.	\$25,000	\$25,000
Minor Repairs and Improvements	1	L.S.	\$100,000	\$100,000
Community Rating System – FEMA Program	1	L.S.	\$10,000	\$10,000
Public Outreach and Workshop for MS4 Permit	1	L.S.	\$5,000	\$5,000
QNIP Debt Service Payment	1	L.S.	\$132,700	\$132,700
Total				\$552,000

## Stormwater Capital Improvement Projects

The Capital Improvement Program (CIP) is based on the findings from the analysis of the priority sub-basins. Recommended improvements to achieve the stated performance goals were identified for each sub-basin. The recommended improvements were quantified based on the available data and preliminary opinions of probable costs (preliminary budgets) that were prepared for each sub-basin. Prior to each individual project being implemented, professional services such as surveying, engineering, and permitting will be required and estimates are included within the budgets. The scope of the proposed improvements is subject to change based on actual field survey data and resulting stormwater design calculations necessary to permit the projects.



The following assumptions have been made in the formulation of the budgets for the drainage improvements:

- The budgets include the recommended improvements identified in the analysis of the ten priority sub-basins.
- The budgets include restoration of the roadway impacted by the proposed trenching and a final asphalt overlay or surface course. Costs do not include any additional roadway improvements.
- The budgets do not include any costs of obtaining drainage or construction easements.
- The budgets include a 10% allowance for mobilization and a 3% allowance for maintenance of traffic for each project.
- The budgets include a 10% contingency for each project.

- The budgets include a 17% allowance for surveying, engineering, permitting, and limited construction phase assistance (site observations).
- The budgets do not include any landscape costs for improvements or restoration.

The capital improvement budgets are a preliminary opinion of probable construction costs in the current marketplace. Unit pricing for similar projects constructed by the Village of Palmetto Bay, as well as other nearby municipalities, were used as the basis for the construction budgets. Kimley-Horn has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. The preliminary opinions of probable costs provided herein are based on the information known to Kimley-Horn at this time and represent only the engineer's judgment as a design professional familiar with the construction industry. Kimley-Horn cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its preliminary opinions of probable costs. Based on the preliminary budgets, the priority sub-basin proposed improvements were prioritized to provide the capital improvement program.

*Table 32: Sub-basin Prioritization Matrix*

Priority Ranking	Area	Hydraulic Analysis	Observed Flooding	Complaints	Roadway Condition	Traffic Volumes	Total Score
1	Drainage Sub-basin #59/60	2.19	4	4	3	3	16.19
2	Drainage Sub-basin #61	4.66	2	2	3	1	12.66
3	Drainage Sub-basin #43	4.61	2	2	3	1	12.61
4	Drainage Sub-basin #57/96	2.70	2	2	3	1	10.70
5	Drainage Sub-basin #11	1.70	4	1	3	1	10.70
6	Drainage Sub-basin #41	4.37	3	1	1	1	10.37
7	Drainage Sub-basin #12	3.36	3	2	1	1	10.36
8	Drainage Sub-basin #39	5.23	2	1	1	1	10.23
9	Drainage Sub-basin #42	3.20	2	1	3	1	10.20
10	Drainage Sub-basin #44	3.90	2	1	1	1	8.9

Table 32 shows the priority ranking for the capital improvement projects. With the exception of the hydraulic analysis score, each project was given a score between 1 and 5 in each of the four categories: observed flooding, complaints, roadway condition, and traffic volumes. The scores

were then totaled and the projects were ranked from highest to lowest. The basis for the category scores is detailed below.

#### Hydraulic Analysis

Based on the hydrologic and hydraulic analysis described in the Drainage Sub-basin Analysis section of this report, a number for “total flood stage above performance goal criteria” was determined for each of the sub-basins studied. This number was entered into the table above in the Hydraulic Analysis column.

#### Observed Flooding

- 1 = No flooding observed in sub-basin
- 2 = Roadway flooding observed in less than 1/3 of drainage areas within sub-basin
- 3 = Roadway flooding observed in 1/3 to 1/2 of drainage areas within sub-basin
- 4 = Roadway flooding observed in 1/2 to all but one of the drainage areas within sub-basin
- 5 = Roadway flooding observed in all of the drainage areas within sub-basin

#### Complaints

- 1 = No complaints recorded
- 2 = Complaints recorded for less than 1/3 of drainage areas within sub-basin
- 3 = Complaints recorded for 1/3 to 1/2 of drainage areas within sub-basin
- 4 = Complaints recorded for 1/2 to all but one of the drainage areas within sub-basin
- 5 = Complaints recorded for all drainage areas within the sub-basin

#### Roadway Condition

The ratings for this category are based on a percentage of roadway length in good, average, or poor pavement condition throughout the sub-basin according to the Village’s Roadway Analysis Report.

- 1 = Majority of roadways in sub-basin in “good” condition
- 3 = Majority of roadways in sub-basin in “average” condition
- 5 = Majority of roadways in sub-basin in “poor” condition

Traffic Volumes

The ratings for this category are based on a percentage of roadway length classified as local, collector, or arterial roadways throughout the sub-basin according to the Village's Transportation Master Plan.

- 1 = Majority of roadways in sub-basin are local roadways
- 3 = Majority of roadways in sub-basin are collector roadways
- 5 = Majority of roadways in sub-basin are arterial roadways

The proposed CIP summary and schedule of work is contained in Table 33. Further budget detail for each of the proposed CIP projects can be found in the Drainage Sub-basin Analysis section of this report. Budget detail for the operations and maintenance component can be found in the preceding section. The projects are recommended to be coordinated with the roadway CIP project scheduling to ensure that the drainage improvements are complete before or at the same time as the roadway improvements in the same area.

*Table 33: Stormwater Capital Improvement Program Budget Summary*

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Drainage Sub-basin #11					\$690,000	\$200,000					\$890,000
Drainage Sub-basin #12							\$420,000				\$420,000
Drainage Sub-basin #39								\$670,000			\$670,000
Drainage Sub-basin #41						\$620,000	\$220,000				\$840,000
Drainage Sub-basin #42									\$630,000		\$630,000
Drainage Sub-basin #43			\$940,000								\$940,000
Drainage Sub-basin #44									\$200,000	\$800,000	\$1,000,000
Drainage Sub-basin #57/96				\$880,000	\$220,000						\$1,100,000
Drainage Sub-basin #59/60	\$720,000	\$180,000									\$900,000
Drainage Sub-basin #61		\$520,000									\$520,000
Annual O&M	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$552,000	\$5,520,000
<b>Total</b>	<b>\$1,272,000</b>	<b>\$1,252,000</b>	<b>\$1,492,000</b>	<b>\$1,432,000</b>	<b>\$1,462,000</b>	<b>\$1,372,000</b>	<b>\$1,192,000</b>	<b>\$1,222,000</b>	<b>\$1,382,000</b>	<b>\$1,352,000</b>	<b>\$13,430,000</b>



To: Honorable Mayor and Village Council

Date: January 26, 2015

From: Ron E. Williams, Village Manager

Re: Engineering Services for  
Comprehensive Operational  
Analysis of Village Shuttle Bus  
Services

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO ENGINEERING SERVICES FOR COMPREHENSIVE OPERATIONAL ANALYSIS (COA) OF VILLAGE SHUTTLE BUS SERVICES; AUTHORIZING THE VILLAGE MANAGER TO EXECUTE A PROJECT AGREEMENT WITH THE CORRADINO GROUP, INC. TO PROVIDE THIS SPECIALIZED TRANSIT STUDY AND TO APPROVE EXPENDITURE OF FUNDS IN AN AMOUNT NOT TO EXCEED \$32,000.00; AND PROVIDING FOR AN EFFECTIVE DATE.**

**BACKGROUND AND ANALYSIS:**

In December 2004 as per Resolution No. 04-101, the Village of Palmetto Bay contracted with the Corradino Group for the provision of specialized transit services to potentially support the specific needs of our seniors and youth. The study examined the need and cost of a potential circulator transit service for these specific groups. In 2006, the Corradino Group assisted the Village of Palmetto Bay in launching a much-needed intra-Village bus service in full compliance with Miami-Dade County policy, as directed by the staff of the Citizens' Independent Transportation Trust (CITT) and the County Attorney's Office. The service was designed to increase the number of destinations that can be reached via fixed public routes throughout Palmetto Bay and surrounding areas, as well as to connect with Miami-Dade Transit routes and the very popular busway. This initiative is being paid for with funding provided by the People's Transportation Plan (PTP).

The Village of Palmetto Bay currently operates 2 shuttle routes, route A and B, which operate Monday through Friday.

**Route A:**

10:04 a.m. – 1:50 p.m.

**Route B:**

7:00 a.m. – 8:52a.m.

2:10p.m. – 5:20p.m.

The Village bus service provides public transportation to parks and other principal locations within the boundaries of the Village. There is no fare when using the Village IBUS service. Riders making connection to Miami-Dade Transit and are expected to pay the appropriate fares at time of transfer.

Several changes to improve ridership and provide better connectivity to Miami Dade Transit routes have been made to the Ibus route over the past eight (8) years. The demographics and implementation of transit routes in the neighboring communities should be evaluated to re-establish the general parameters of the Village's current transit system. A comprehensive analysis of the Village's shuttle bus system is needed to provide insight onto how to evolve our current transit system to best serve not only the residents/visitors and existing riders that currently use the Village's shuttle service but develop/design an integrated feeder/shuttle bus service that connects to Miami-Dade Transit at the busway, and potential travel market from the Village of Pinecrest and the Town of Cutler Bay transit service and those local transit stops within the Village that are currently served by the Miami-Dade transit. The study shall explore the market for shuttle service and determine whether the existing routes should be reconfigured, discontinued or consolidated. The potential for other mechanisms for providing the service, including employer sponsored services, vanpools, ridesharing or demand responsive services shall also be examined.

In response to the Village's needs, the Corradino Group responded to the Department of Public Works request for a proposal to undertake a Comprehensive Operational Analysis (COA) of the Village's current shuttle services.

As per Resolution No. 2013-40 approved on May 6, 2013, the Corradino Group is qualified to provide ongoing transportation engineering services for the Village of Palmetto Bay. The Corradino Group developed the original Palmetto Bay systems and the Cutler Bay transit system and was also instrumental in planning and evaluating the Pinecrest system. The firm planned the US-1 Bus lanes, and has performed the most recent alternatives analysis of the US-1 Corridor, as well as has conducted data collection for all of the South Dade MDT Routes. The Corradino Group has extensive information and local knowledge that will be used to minimize data collection efforts and to better serve the Village during this COA.

The Corradino Group in response to the Village's request provided a proposal to perform a COA as it relates to expeditious and efficient completion of the project described hereunder.

#### **Task 1 – Data Collection**

**Ridership** –conduct comprehensive counts of bus ridership from FY 14-15 for the Village of Pinecrest, Town of Cutler Bay and Miami Dade Transit routes that run within the boundary of the Village. It is anticipated that the successful proposer will not be required to conduct additional counts.

**Passenger Survey** – A comprehensive passenger survey on all shuttle routes will be conducted to obtain information about the demographics of the riders, trip origin and destination and attitudes about the service. A reasonable sample must be obtained for each route. The survey results will be tabulated and analyzed in a technical memorandum.

Run Time Analysis – The study shall examine how the shuttles spend their time traveling from route origin to destination, to determine the cause and extent of delays and opportunities for improving running times. Possible rerouting, traffic signal retiming or traffic signal priority to improve running times without negatively impacting ridership shall be examined. The results shall be analyzed in a technical memorandum.

**Task 2 – Study Oversight/Public Outreach**

A Steering Committee will be formed consisting of Public Works Transit Operations, Planning and Zoning, Miami-Dade Transit, Village of Pinecrest Transit Operations, and Town of Cutler Bay Transit Operations. The Steering Committee will provide oversight to the study process at key junctures. There will also be meetings to inform the general public about the study and to solicit their input. Publicity for the public meetings will focus on the riders and potential riders of the shuttles. The Village will publicize the meetings and arrange meeting locations. It is estimated that 2 or 3 public meetings will be held. Interviews shall also be conducted with businesses, churches, and public schools to obtain information about origins and destinations of possible commuters. Summaries of all meetings and interviews shall be provided.

**Task 3 – Market Analysis**

Using the data and information from Tasks I and II, and additional data sources as necessary, the successful proposer shall determine the market for shuttle service in the Village of Palmetto Bay. A technical memo on the projected demand for service shall be provided.

**Task 4 – Conduct an Individual Route Analysis for each Shuttle Route and Identify Service Improvements/Alternatives**

Opportunities to improve service, increase operating efficiency, reconfigure routes, provide new routes and eliminate/consolidate routes shall be determined. The potential for changes in scheduling (i.e. – time of day, reduced headways, etc.), and span of service shall be evaluated.

The successful proposer shall also identify opportunities for providing alternative service to the existing shuttles that would serve the same markets, such as fixed routes with flexible/fixed schedule traveling in a fixed direction and/or bidirectional. The operating and financial implications of the proposed service changes shall be identified. The frequency of these services, and the types of services offered, may vary to reflect particular demand dynamics, such as season, day of week, and time of day. It is the goal of the Shuttle to provide convenient, user friendly service within the Village of Palmetto Bay in a cost effective manner. The recommendations shall be provided in technical memorandum.

Input	Output
Survey	Demand Analysis
Road Map	Routing + Stops
Standard + Travel Time	Frequency + Timetable
Shuttle Buses + Travel Time	(3) Buses + Scheduling
Operators	Scheduling Drivers
Communication	Caller Information

Advertise Routes

County Transit, Website/E-Current/Facebook, &  
Brochures

Pilot Test Routes

Operational Routes

Update

Change Route if Needed

### **Task 5 – Final Report**

The final report shall synthesize information from previous tasks and provide an overall plan for best serving the market for shuttle bus service that connects to Miami-Dade Transit at the busway, and between the Village of Pinecrest and the Town of Cutler Bay. The final report shall consist of an executive summary further detailing existing shuttle conditions and proposed shuttle service conceptual plan. Transit ridership survey and de Fleet requirements and capital and operating costs shall be provided. All study products shall be provided in electronic format. A conceptual design for the recommended route, map and schedule improvements shall be prepared by the consultant. Promotional material for route enhancements shall be designed under the scope of this project.

The final report shall also include the following information:

- a) Shuttle Demand Forecast
- b) Service Concept
- c) Survey Results
- d) Equipment (types of buses that might meet the transportation needs)
- e) Operating Structure
- f) Operating Costs
- g) Sources of Operating Revenues

The Administration is requesting authorization to enter into an agreement with the Corradino Group for the purpose of evaluating the Ibus shuttle service and provide insight into how to develop a transit system that best serve the residents and visitors of Palmetto Bay. Transit is a key issue because alternatives need to be provided as roadway capacity continues to diminish.

### **FISCAL/BUDGETARY IMPACT:**

Twenty percent of the Peoples Transportation Plan money is to go to transit use. The Village budgets this item under "Special Revenue Fund-Transit Sales Tax" in an amount not to exceed \$32,000 in the Fiscal Year 2014-2015.

### **RECOMMENDATION:**

Approval is recommended.

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO ENGINEERING SERVICES FOR COMPREHENSIVE OPERATIONAL ANALYSIS (COA) OF VILLAGE SHUTTLE BUS SERVICES; AUTHORIZING THE VILLAGE MANAGER TO EXECUTE A PROJECT AGREEMENT WITH THE CORRADINO GROUP, INC. TO PROVIDE THIS SPECIALIZED TRANSIT STUDY AND TO APPROVE EXPENDITURE OF FUNDS IN AN AMOUNT NOT TO EXCEED \$32,000.00; AND PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, in December 2004 as per Resolution No. 04-101, the Village of Palmetto Bay contracted with the Corradino Group for the provision of specialized transit services to potentially support the specific needs of our seniors and youth,; and,

**WHEREAS**, in 2006, the Corradino Group assisted the Village of Palmetto Bay in launching a much-needed intra-Village bus service in full compliance with Miami-Dade County policy; and,

**WHEREAS**, the Village of Palmetto Bay currently operates 2 shuttle routes, route A and B, which operate Monday through Friday; and,

**WHEREAS**, the demographics and implementation of transit routes in the neighboring communities should be evaluated to re-establish the general parameters of the Village's current transit system, and;

**WHEREAS**, a comprehensive analysis of the Village's shuttle bus system is needed to provide insight onto how to evolve our current transit system to best serve not only the residents/visitors and existing riders that currently use the Village's shuttle service but develop/design an integrated feeder/shuttle bus service that connects to Miami-Dade Transit at the busway, and potential travel market from the Village of Pinecrest and the Town of Cutler Bay transit service and those local transit stops within the Village that are currently served by the Miami-Dade transit.; and,

**WHEREAS**, the Corradino Group in response to the Village's request provided a proposal to perform a COA as it relates to expeditious and efficient completion of the project; and,

**WHEREAS**, as per resolution No. 2013-40 approved on May 6, 2013, the Corradino Group is qualified to provide ongoing transportation engineering services for the Village of Palmetto Bay; and,

**WHEREAS**, the Corradino Group developed the original Palmetto Bay system and the Cutler Bay transit system and was also instrumental in planning and evaluating the Pinecrest system. The firm planned the US-1 Bus lanes, and has performed the most recent alternatives

analysis of the US-1 Corridor, as well as has conducted data collection for all of the South Dade MDT Routes ; and,

**WHEREAS**, the Administration is requesting authorization to enter into an agreement with the Corradino Group for the purpose of evaluating the Ibus shuttle service and provide insight into how to develop a transit system that best serve the residents and visitors of Palmetto Bay; and,

**WHEREAS**, the Village budget this item under "Special Revenue Fund-Transit Sales Tax" in an amount not to exceed \$32,000 in the Fiscal Year 2014-2015; and,

**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

**Section 1.** The Village Manager is authorized to execute an agreement with the Corradino Group to provide Transportation Engineering Services to complete a comprehensive analysis of the Village's shuttle bus system in an amount not to exceed \$23,000.

**Section 2.** This resolution shall take effect immediately upon approval.

PASSED AND ADOPTED this \_\_\_\_\_ day of February 2015.

Attest: \_\_\_\_\_  
Meighan J. Alexander  
Village Clerk

\_\_\_\_\_  
Eugene Flinn  
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY FOR THE USE AND RELIANCE OF THE VILLAGE OF PALMETTO BAY, FLORIDA ONLY:

\_\_\_\_\_  
Dexter W. Lehtinen  
Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Karyn Cunningham \_\_\_\_\_

Council Member Tim Schaffer \_\_\_\_\_

Council Member Larissa Siegel Lara \_\_\_\_\_

Vice-Mayor John DuBois \_\_\_\_\_

Mayor Eugene Flinn \_\_\_\_\_

**RESOLUTION NO. 2013-40**

**A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO PROFESSIONAL SERVICES; APPROVING THE QUALIFICATION OF FIRMS TO PROVIDE TRANSPORTATION PLANNING & ENGINEERING SERVICES, ENGINEERING SERVICES FOR ELECTRICAL ENGINEERING, MECHANICAL ENGINEERING & PLUMBING SYSTEMS, STRUCTURAL ENGINEERING, LANDSCAPE ARCHITECTURE, GENERAL PLANNING SERVICES, ARCHITECTURE, GENERAL CIVIL ENGINEERING SERVICES TO THE VILLAGE; AUTHORIZING THE VILLAGE MANAGER TO ENTER INTO CONTRACT NEGOTIATIONS WITH THE CORRADINO GROUP, INC., FLORIDA TRANSPORTATION ENGINEERING, INC., MARLIN ENGINEERING, WOLFBERG ALVAREZ AND PARTNERS, AMEC, PISTORINO & ALAM CONSULTING ENGINEERS, INC., STANTEC CONSULTING SERVICES, INC., NARMEL ENGINEERING, INC., O'LEARY RICHARDS DESIGN ASSOC., INC., KIMLEY-HORN & ASSOCIATES, INC., CALVIN, GIORDANO & ASSOC., INC., BERMELLO AJAMIL & PARTNERS, INC., AND KEITH & SCHNARS, P.A.; PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, in order to implement recommended improvements to the Village as outlined in its Stormwater Master Plan, Transportation Master Plan, Parks Master Plan, and Comprehensive Master Plan, the need for quick response and professional expertise is required; and

**WHEREAS**, a Request for Qualifications (RFQ) 2013-PW-100 was issued for qualified firms or teams of firms to obtain Professional Services in 7 service areas; and

**WHEREAS**, pursuant to Chapter 287.055, Florida Statutes, the Village will retain consultants to provide professional services in Transportation Planning & Engineering Services, Electrical Engineering, Mechanical Engineering & Plumbing Systems, Structural Engineering, Landscape Architecture, General Planning Services, Architecture, and General Civil Engineering; and

**WHEREAS**, in order to fulfill the needs of quick response and professional expertise, the Village intends to retain three (3) Consultants in each Service Area; and

**WHEREAS**, the Village conducted a mandatory Pre-RFQ response meeting on February 25, 2013 at the Edward & Arlene Feller Community Room; in response to the Village of Palmetto Bay's RFQ # 2013-PW-100, a total of 59 responses were received from many experienced, talented and highly capable firms; and

**WHEREAS**, as a result of the two part screening process and deliberations, the selection committee is recommending and requesting Village Council approval of the 3 highest ranking firms in accordance with the attached evaluation tabulation for each service area; and

**WHEREAS**, it should be noted that, along with the Village's overall desire to continue to implement the recommendations of its Master Plans, there are also legislative requirements (Chapter 287.055, Florida Statute) that must be adhered to by municipalities; and

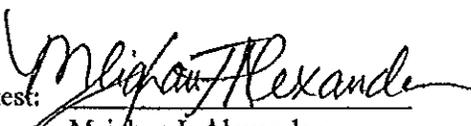
**WHEREAS**, the eventual contracting for these services is in the best interest of Village improvements and in certain instances their end products are mandated; and

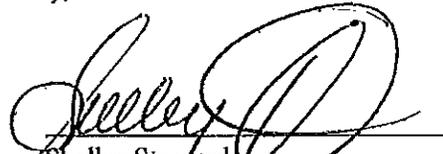
**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:**

**Section 1.** The Village Manager is authorized to enter into contract negotiations with the selected Consultants to provide professional engineering services.

**Section 2.** This Resolution shall become effective immediately.

PASSED AND ADOPTED this 6<sup>th</sup> day of May, 2013.

Attest:   
Meighan J. Alexander  
Village Clerk

  
Shelley Stanczyk  
Mayor

APPROVED AS TO FORM:

  
Eve A. Boutsis,  
FIGUEROA & BOUTSIS, P.A., as Office  
of the Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Patrick Fiore	<u>YES</u>
Council Member Tim Schaffer	<u>YES</u>
Council Member Joan Lindsay	<u>YES</u>
Vice-Mayor John DuBois	<u>YES</u>
Mayor Shelley Stanczyk	<u>YES</u>

# VILLAGE OF PALMETTO BAY REQUEST FOR QUOTE



Project Title:            **Engineering Services for Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services**

Issued:                    Monday, December 15, 2014

Due Date:                 Friday, December 19, 2014

## 1.0 Introduction

The Village of Palmetto Bay (Village) Public Works Department, Division of Transit Operations is seeking proposals from qualified consulting firms to undertake a COA of its shuttle services. It is the intent of the Village to hire a pre-qualified consultant who is knowledgeable in planning, engineering, design and operation of transit systems; intermodal connections including but not limited to bus (local), bus rapid transit, automobile, bicycle and pedestrian; function, transportation modeling, ridership forecasting, and capital and operating cost analysis for transit supportive development opportunities within the Village of Palmetto Bay.

## 2.0 Background

The Village of Palmetto Bay currently operates two (2) shuttle routes. In 2006, the Village of Palmetto Bay launched a much-needed intra-Village bus service in full compliance with Miami-Dade County policy, as directed by the staff of the Citizens' Independent Transportation Trust (CITT) and the County Attorney's Office. The service was designed to increase the number of destinations that can be reached via fixed public routes throughout Palmetto Bay and surrounding areas, as well as to connect with Miami-Dade Transit routes and the very popular busway. This initiative is being paid for with funding provided by the People's Transportation Plan (PTP).

### **Shuttle Bus Schedule**

Both Route Routes A and B operate Monday through Friday

#### **Route A:**

10:04 a.m. – 1:50 p.m.

#### **Route B:**

7:00 a.m. – 8:52a.m.

2:10p.m. – 5:20p.m.

The Village bus service also provides public transportation to parks within the boundaries of the Village. There is no fare when using the Village IBUS service. Riders making connection to Miami-Dade Transit are expected to pay the appropriate fares at time of transfer.

### **3.0 Scope of Work**

The purpose of the COA is to determine not only how best to serve the residents/visitors and existing riders that currently use the Village's shuttle service but develop/design an integrated feeder/shuttle bus service that connects to Miami-Dade Transit at the busway, and potential travel market from the Village of Pinecrest and the Town of Cutler Bay transit service and those local transit stop within the Village that are currently served by the Miami-Dade transit shuttle services. The study shall explore the market for shuttle service and determine whether the existing routes should be reconfigured, discontinued or consolidated. The potential for other mechanisms for providing the service, including employer sponsored services, vanpools, ridesharing or demand responsive services shall also be examined.

The Consultant shall provide expertise during all elements of the Comprehensive Operational Analysis (COA) as it relates to expeditious and efficient completion of the project described hereunder.

#### **Consultant Responsibility**

The consultant(s) chosen for this project shall be responsible for the following tasks:

##### **Task 1 – Data Collection**

**Ridership** –conduct comprehensive counts of bus ridership from FY 14-15 for the Village of Pinecrest, Town of Cutler Bay and Miami Dade Transit routes that run within the boundary of the Village. It is anticipated that the successful proposer will not be required to conduct additional counts.

**Passenger Survey** – A comprehensive passenger survey on all shuttle routes will be conducted to obtain information about the demographics of the riders, trip origin and destination and thoughts about the service. A reasonable sample must be obtained for each route. The survey results will be tabulated and analyzed in a technical memorandum.

**Run Time Analysis** – The study shall examine how the shuttles spend their time traveling from route origin to destination, to determine the cause and extent of delays and opportunities for improving running times. Possible rerouting, traffic signal retiming or traffic signal priority to improve running times without negatively impacting ridership shall be examined. The results shall be analyzed in a technical memorandum.

##### **Task 2 – Study Oversight/Public Outreach**

A Steering Committee will be formed consisting of Public Works Transit Operations, Planning and Zoning, Miami-Dade Transit, Village of Pinecrest Transit Operations, and Town of Cutler Bay Transit Operations. The Steering Committee will provide oversight to the study process at key junctures. There will also be meetings to inform the general public about the study and to solicit their input. Publicity for the public meetings will focus on the riders and potential riders of the shuttles. The Village will publicize the meetings and arrange meeting locations. It is estimated that 2 or 3 public meetings will be held. Interviews shall also be conducted with businesses, churches, and public schools to obtain information about origins and destinations of possible commuters. Minutes/summaries of all meetings and interviews shall be provided.

### Task 3 – Market Analysis

Using the data and information from Tasks I and II, and additional data sources as necessary, the successful proposer shall determine the market for shuttle service in the Village of Palmetto Bay. A technical memo on the projected demand for service shall be provided.

### Task 4 – Conduct an Individual Route Analysis for each Shuttle Route and Identify Service Improvements/Alternatives

Opportunities to improve service, increase operating efficiency, reconfigure routes, provide new routes and eliminate/consolidate routes shall be determined. The potential for changes in scheduling (i.e. – time of day, reduced headways, etc.), and span of service shall be evaluated.

The successful proposer shall also identify opportunities for providing alternative service to the existing shuttles that would serve the same markets, such as fixed routes with flexible/fixed schedule traveling in a fixed direction and/or bidirectional. The operating and financial implications of the proposed service changes shall be identified. The frequency of these services, and the types of services offered, may vary to reflect particular demand dynamics, such as season, day of week, and time of day. It is the goal of the Shuttle to provide convenient, user friendly service within the Village of Palmetto Bay in a cost effective manner. The recommendations shall be provided in technical memorandum.

<b>Input</b>	<b>Output</b>
Survey	Demand Analysis
Road Map	Routing + Stops
Standard + Travel Time	Frequency + Timetable
Shuttle Buses +Travel Time	(3) Buses + Scheduling
Operators	Scheduling Drivers
Communication	Caller Information
Advertise Routes	County Transit, Website/E-Current/Facebook, & Brochures
Pilot Test Routes	Operational Routes
Update	Change Route if Needed

### Task 5 – Final Report

The final report shall combine information from previous tasks and provide an overall plan for best serving the market for shuttle bus service that connects to Miami-Dade Transit at the busway, and between the Village of Pinecrest and the Town of Cutler Bay. The final report shall consist of an executive summary further detailing existing shuttle conditions and proposed shuttle service conceptual plan. Transit ridership survey , fleet requirements and capital and operating costs shall be provided. All study products shall be provided in electronic format. A conceptual design for the recommended route, map and schedule improvements shall be prepared by the consultant. Promotional material for route enhancements shall be designed under the scope of this project.

The final report shall also include the following information:

- Shuttle Demand Forecast
- Service Concept

- Survey Results
- Equipment (types of buses that might meet the transportation needs)
- Operating Structure
- Operating Costs
- Sources of Operating Revenues

#### 4.0 Project Schedule

The final design of the project must be completed by April 2015.

#### 5.0 Responses

Firm shall submit one (1) hard copy OR one (1) electronic copy of the response (via email), which shall contain the following information:

1. Scope of services
2. Proposed fees for the scope of work identified herein, broken down by required tasks
3. Total Proposed fees (Price Form attached)

Responses are due on or before the close of business on Friday, December 19<sup>th</sup>, 2014. Late responses will not be accepted. Responses may be faxed, emailed or delivered to the contact provided below.

Fax: 305-259-1290

Email: [KBada@palmettobay-fl.gov](mailto:KBada@palmettobay-fl.gov)

Address: Village of Palmetto Bay  
Attn: Kristy Bada  
9705 E Hibiscus Street  
Palmetto Bay, FL 33157

Questions concerning this request are to be addressed via email to [KBada@palmettobay-fl.gov](mailto:KBada@palmettobay-fl.gov).

Sincerely,



Kristy Bada, Procurement Specialist  
Village of Palmetto Bay



## PRICE FORM

Project Title: **Engineering Services for Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services**

Issued: Monday, December 15, 2014

Due Date: Friday, December 19, 2014

Item No.	Project Name	Total for Professional Services
COA1415	Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services	
<i>TOTAL</i>		

Signature of Official: \_\_\_\_\_

Name (typed): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Vendor: \_\_\_\_\_

# THE CORRADINO GROUP

Kristy Bada  
Village of Palmetto Bay  
Palmetto Bay, FL 331579705 East Hibiscus Street,  
Palmetto Bay, Florida 33157  
Tel: 305.259.1234 Email: KBada@palmettobay-fl.gov

**RE: Engineering Services for Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services.**

Ms. Bada,

This is a proposal by The Corradino Group to provide a Comprehensive Operational Analysis of the iBus Service. In 2006, Corradino assisted the Village of Palmetto Bay in launching an intra-Village shuttle (iBus) to increase the mobility of residents and visitors, and provide for better accessibility of Village destinations via a fixed public transit route.

We understand that the purpose of this Comprehensive Operational Analysis is to evaluate the iBus shuttle service and provide insight into how it can evolve to best serve the residents and visitors of Palmetto Bay. Integral to this scope of services is the evaluation and development of an integrated feeder/shuttle bus system which connects to the US-1 Busway and to the transit circulators of the Village of Pinecrest and the Town of Cutler Bay. This study explores the existing and potential market for shuttle service within the Village of Palmetto Bay in order to:

- Determine whether the two existing routes should be reconfigured, discontinued, or consolidated.
- Evaluate the current operating model in light of the fiscal and market needs inherent in future development.

The Corradino Group, over its four decade existence, has focused on transit work. Few local firms are as well suited for this project as Corradino. We have developed the Cutler Bay and Palmetto Bay systems. Joe Corradino was instrumental in planning and evaluating the Pinecrest system as an elected official in that community. The firm planned the US-1 Bus lanes, and has performed the most recent alternatives analysis of the US-1 Corridor, as well as has conducted data collection for all of the South Dade MDT Routes. The Village and Corradino have won awards for the Palmetto Bay Transportation Master Plan and the Bicycle and Pedestrian Master Plan. Corradino has studied transportation, traffic, transit, bicycle and pedestrian movement, as well as land use, zoning and development in every community in South Dade. A large aspect of this success has been the firm's ability to work with the citizens of the community in a highly constructive manner. Corradino understand the community from its participation in the various area organizations, such as the Economic Development Council of South Dade and Chamber South.

Our transit projects have ranged from:

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- Local municipal circulator programs in Miami Dade County, not only here in Palmetto Bay, but in Miami Beach, Hialeah, Hialeah Gardens, Doral, Miami Gardens, and Cutler Bay.
- Heavy rail projects in Los Angeles and Miami;
- Light rail and people mover systems in Detroit;
- Bus rapid transit systems here on the Busways and I-95 Express;
- Statewide performance measures for transit systems in Florida, Michigan Illinois, Indiana, Ohio, and Kentucky;
- Siting of transit centers in: Coastal Link, Jupiter to Miami; Cleveland, Ohio; Springfield, Ill.; Missoula, Mont.; Jackson and Meridian, Miss., Muskegon and Traverse City, Mich.; and, Miami, Fla.

We feel we are the best for this job because, as you can see, we know transit and we know Palmetto Bay. We are very excited to have this opportunity to work with the Village staff again on this important project.

If the notice to proceed can be provided in early January 2015, this project can be concluded by April of 2015. It can be completed within 90 days for a cost of \$32,000.

## **Proposed Scope of Services:**

This scope of services addresses each of the aspects specified in the RFP as well as those most relevant in a traditional COA for what the Village is trying to achieve. Each task contains a time line and proposed fee for the individual task. The total time frame is summarized in a table, and the Price form is attached.

### **Task 1 – Data Collection:**

**Time Frame: Day 1 – 30**

**Cost: \$11,000**

Task 1 will provide for the data collection and analysis of existing conditions relevant to the evaluation of iBus operations.

### ***Route Background Information:***

The project will begin by documenting the existing status of the routes, including stops and transfer locations. This data will be mapped in GIS.

### ***Ridership:***

A key aspect of the ridership analysis is the evaluation of ridership counts to understand and assess current/potential transfer locations. Ridership counts of Miami-Dade Transit routes within

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the Village of Palmetto Bay will be obtained, as will those ridership counts for the Village of Pinecrest and the Town of Cutler Bay circulators. This will assist in determining the potential riders from those communities to destinations within Palmetto Bay.

The boarding and alighting survey is major undertaking and an extremely important data item, as it is necessary to support the Market Demand Analysis in Task 3. The boarding and alighting data will be used to examine route productivity issues, key trip generators, vehicle requirements, potential transfer opportunities, and the like. Corradino has conducted numerous boarding and alighting surveys for systems of all sizes including massive regional systems, most recently for the City of Rockford Illinois. The firm typically uses hand-held tablets and computers with all stops, routes and trips preprogrammed.

This will be done with surveyors riding each route on each loop and collecting data throughout the day. The Boarding's and alighting's will be time-stamped as they are collected to allow for the calculation of run time per trip and segment, schedule adherence and average speed. Data will be downloaded from the handheld or tablet devices and compiled into a ridership database that can then be queried to determine key performance factors such as total and average ridership by trip and route, boarding by stop, segment and trip and time of day, maximum load point, etc. The database will also be linked to a GIS-based map to graphically depict data such as boarding's and alighting's by stop, load factors and route productivity by segment.

## *Passenger Survey:*

An onboard passenger interview survey will be conducted in order to generate a profile of the Palmetto Bay Circulator passengers; determine origins and destinations, trip frequency, and customer satisfaction; and, document the need for additional services and service coverage. The surveys will be conducted as passengers board the buses. Each route will be surveyed. The data can then be factored up to match ridership levels by route to obtain and form a profile of Palmetto Bay iBus passengers and trip characteristics. Corradino will provide all survey materials and tabulate all results. Using the data collected and industry standards and practices, a service standards policy will be developed to monitor each route's productivity. The survey results will be tabulated and analyzed.

## *Run Time Analysis:*

A Run Time Analysis of each route shall be conducted, and will examine route's timetable. This study will factor in an evaluation of potential causes of delay through a review of existing traffic data, including roadway segments and at intersections along the circulator routes. The results of the analysis will be analyzed in Technical Memorandum 1, and will include a review of possible rerouting options, traffic signal retiming, or traffic signal priority for the routes.

**Technical Memorandum No. 1** will provide the results of Task 1 and include the ridership counts, findings and data associated with the boarding and alighting survey and accompanying service standards policy for monitory route productivity, the passenger onboard survey, and the Run Time Analysis. Technical Memorandum No. 1 will be submitted in in hard copy and

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electronically. Corradino will also provide the Village of Palmetto Bay with all survey databases.

## **Task 2 – Study Oversight/Public Outreach:**

**Time Frame: Day 1 – Project Conclusion**

**Cost: \$3,000**

Task 2 will provide for the study oversight and the public engagement components of the COA.

A kickoff meeting will be held with Village staff after the NTP within one week.

A steering committee will be formed consisting of Public Works Transit Operations, Planning and Zoning, Miami-Dade Transit, Village of Pinecrest Transit Operations, and Town of Cutler Bay Transit Operations. Meetings with the steering committee will be held at the start of the study after the NTP has been issued, after the submission of the draft Market Analysis technical memo, prior to the final draft of the report, and as desired by Village staff.

Three (3) public meetings will be held to inform the general public about the study and to solicit their input, and will be publicized to encourage current and potential riders to attend.

Stakeholder meetings are critical to a good transit plan. Interviews with major stakeholders, such as schools, businesses, churches, and service and community organizations located in Palmetto Bay will be conducted. During these meetings, it will be important to document the needs of the groups that the stakeholders represent, the vision of what they would like services to look like in the future (types of services and service area), and any upcoming developments within their organization or the group that they represent that would generate changes in the need for transportation. Minutes/summaries of all meetings and interviews shall be provided.

## **Task 3 – Market Analysis:**

**Time Frame: Day 20 – 50**

**Cost: \$9,000**

Task 3 will evaluate the market for shuttle service within the Village of Palmetto Bay.

The Corradino Team will review the existing ridership profile and identify any unmet segments of the transit market. The market analysis will utilize ridership, survey, and community input data from Tasks I and II, in conjunction with data on the current and future land use in the Village to determine transit generators. In addition, census and survey data indicating the demographic make-up of the community and ridership, current iBus data, and the potential coverage of the iBus system in relation to the coverage area of existing transportation systems shall be utilized to determine the potential between existing marketed services and future needs.

*Review Roadway, Land Use and Demographic Factors*

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The Corradino Team will review roadway, land use and demographic changes in Palmetto Bay. Existing roadways and sidewalks data will be utilized to determine access points to the circulator and potential routing options. Land use changes will be accounted for by reviewing applicable land use plans and meeting with Planning and Zoning department staff. This data will provide a picture of past changes and also an idea of changes to come in the future, and where new transit generators are planned. Any new transit generators identified will be mapped and can then be compared to the existing service area and any potential expansion areas.

## *Community Conditions Summary*

Using data from the onboard passenger interview survey in Task I and national trends, a summary of the potential transit market characteristics by population, employment, type of land development, age, school enrollment, auto ownership and the like will be developed.

## *Community/Ridership Attitude Assessment*

Using data collected during the Task I onboard passenger interviews and stakeholder input sessions, perceptions of the existing system will be documented, as well as, the strengths and weaknesses of the existing services. In addition, stakeholder and rider priorities for service will also be documented.

## *Service Demand*

Based on the demand for service and population in the existing service area, demand for mass transportation services within Palmetto Bay will be calculated. Using population projections, the anticipated demand for services will be calculated for the upcoming five-year period. New markets outside the existing service area will be documented.

The product of Task 3 will be **Technical Memorandum No. 2**, detailing the projected demand for service. Technical Memorandum No. 2 will be submitted in in hard copy and electronically. It will be submitted in draft form for review and comment by Village staff. A revised final version will be submitted incorporating Village staff comments.

## **Task 4 – Conduct an Individual Route Analysis for each Shuttle Route and Identify Service Improvements/Alternatives:**

**Time Frame: Day 30 – 60**

**Cost: \$9,000**

Task 4 will evaluate opportunities to improve service, increase operating efficiency, reconfigure routes, provide new routes, and/or eliminate/consolidate routes as necessary.

## *Review Palmetto Bay iBus Data*

Corradino will review all available Palmetto Bay iBus data as a means of documenting the history of changes in ridership, route productivity, funding and the like. The data will also assist in documenting the starting point for potential system changes and improvements. Data to be collected will include but not be limited to: the annual operating budget, daily service

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requirements, demographic/travel patterns, headway sheets, highway/street network information, listings of equipment and facilities, any prior marketing surveys and materials, operator labor agreements, passenger counts and fare classification, planned road improvements, productivity factors, public timetable and system route maps, route performance reports, route travel time data, work rules, and any other needed data.

## *Evaluate Each Specific Route*

As part of Task 4, Corradino will evaluate each route in terms of performance and generators and create a profile of each route. The purpose of this task is to take the data collected in Tasks 1 and 3 and use it to evaluate the existing conditions. The Corradino Team will build upon any service modifications identified in previous tasks and incorporate any transfer point relocations as necessary for improved efficiency and connectivity with other route systems. Both routes in the Palmetto Bay system will be evaluated. As part of this task, The Corradino Team will also plot current and future shelter placement needs on a map. It may not necessarily be applicable in Palmetto Bay, but as with any changes to a transit system, consideration will be given to Title VI and Environmental Justice regulations and guidance.

Corradino will work with Village Staff to develop criteria upon which to evaluate current performance and potential service alternatives. The evaluation criteria will be a mix of qualitative and quantitative criteria. Local performance expectations will make up the qualitative component of the evaluation criteria, while thresholds based on current performance standards, and the operating experience of other local systems will be the basis for the quantitative component of the evaluation criteria. The proposed set of evaluation criteria will be submitted to the Village staff for review and approval.

## *Current Performance Review*

This will be done on a route by route basis using data collected during Task 1. Using the boarding and alighting data, route productivity can be shown by stop and also by route segment. A profile of each route will be developed, listing the route's strengths and weaknesses along with accompanying graphics that will visually show ridership activity along the route. An analysis of this type can clearly point to the development of more productive routing.

Routes are typically evaluated for productivity in terms of passengers per hour and/or passengers per mile. This will be compared with other municipal systems in the regional as well as with MDT routes in the area.

## *Performance Trendline/Performance Measures*

Using the boarding and alighting data collected in Task 1 and revenue hours and/or miles by route and combining this with industry standards and practices, performance measures will be established. In addition, a Service Standards Policy will be developed that can be used to monitor the productivity of each route. This Service Standards Policy will guide the Village of Palmetto Bay in determining how and when to modify service if a route is not performing at an acceptable level.

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## *Internal Cost Reduction*

An efficiency and effectiveness study on dwell times will be conducted. Time-related data from the boarding and alighting counts and Run Time Analysis will be used to conduct this analysis. A set of recommendations including potential internal cost reductions will be developed. It is possible that additional route coverage can be substituted for some dwell times or that by eliminating inefficient segments of routes and re-routing, some locations with excessive dwell times may be eliminated.

## *Alternative Route Structures*

Based on the projected demand for transit services as well as new transit generators identified through the review of growth areas conducted during Task 1, alternative route structures that will most effectively serve current and projected needs will be developed for each route. The potential for changes in scheduling (i.e. time of day, reduced headways, etc.) and span of service shall be evaluated as a component of alternative route structuring. The alternative route structures will be based on population and location of transit generators, both existing and future. All alternative routing structures will be detailed in terms of cost. A cost allocation model will be developed for Palmetto Bay that breaks down the fixed and variable costs for the service by cost per hour, cost per mile and cost per peak vehicle. These incremental costs can then be used to determine the cost impact of modifying existing routes and also adding new service. Capital needs will also be included such as the cost of additional vehicles and facilities if needed.

Evaluation of Route Structures will, at a minimum, consider:

- The need for deviated routes as opposed to standard fixed routes with complementary paratransit;
- Benefits and detriments of linking routes;
- Analysis of transfer locations/times to determine the efficiency of route connectivity; and,
- Assessment of the feasibility of express and limited stop services.

The Corradino Team will utilize the results of Task 3 to conduct an analysis of expansion opportunities to areas not currently served by the shuttle. The expansion analysis will include consideration of how expansion will impact the existing system.

Service alternatives will be evaluated based on the following three scenarios:

- A cost neutral scenario that is consistent with existing funding levels; and,
- An expansion scenario that includes alternatives and services that exceed the existing funding levels; and,
- A reduction scenario that could be put in place in the event of funding cuts that would minimize ridership impacts.

The service alternatives and scenarios will all be mapped as applicable and include both capital and operating costs, vehicle, equipment and facility requirements, potential funding sources and

# THE CORRADINO GROUP

a proposed timeline for implementation. The Corradino Team will detail all costs incurred for each alternative. These will include all operating costs as well as capital costs.

## *Alternative Modes*

Corradino will compare Village services to other transportation alternatives including the automobile, ridesharing, cycling and walking. The costs, advantages and disadvantages of each mode will be quantified using accepted industry calculations. All evaluation methods will be thoroughly referenced. The potential for other mechanisms for service provisions, such as employer sponsored services, vanpools, ridesharing, or demand response services shall also be examined.

## *Implementation Plan*

Corradino will develop suggested changes to the preferred alternative(s) and review them with the Village staff. The proposed plan will then be documented with the preferred alternative(s) and any necessary modifications.

The product of Task 4 will be **Technical Memorandum No. 3**. It will document all results and findings from Task 4, including the final set of evaluation criteria and the recommended preferred alternative. It will be submitted in draft form for review by the Village staff. Upon review and any required edits, a brief Executive Summary will be developed.

## Task 5 – Final Report:

**Time Frame: Day 90**

**Cost: \$1,000**

Corradino will provide a final report to the Village of Palmetto Bay which will combine information from previous tasks and provide an overall plan which connects to Miami-Dade Transit at the US-1 busway, and to the Village of Pinecrest and the Town of Cutler Bay Circulators. Corradino will provide an executive summary detailing existing shuttle conditions, fleet requirements, and proposed capital and operating costs. A conceptual design for the recommended route, map, and schedule improvements will be prepared along with promotional materials for route enhancements. All study products will be provided in electronic format.

The final report shall also include the following information:

- Shuttle Demand Forecast
- Service Concept
- Survey Results
- Fleet requirements/Equipment (types of buses that might meet the transportation needs)
- Operating Structure
- Operating Costs
- Sources of Operating Revenues

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Palmetto Bay  
 Comprehensive Operations Analysis  
 Schedule

Task	Cost	Month	January				February				March			
		Day	1	14	21	30	37	45	52	60	67	75	82	90
Task 1: Data Collection	\$ 10,000													
Task 2: Outreach	\$ 3,000													
Task 3: Market Analysis	\$ 9,000													
Task 4: Route Analysis	\$ 9,000													
Task 5: Final Report	\$ 1,000													
	\$ 32,000													

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## PRICE FORM

Project Title: **Engineering Services for Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services**

Issued: **Monday, December 15, 2014**

Due Date: **Friday, December 19, 2014**

Item No.	Project Name	Total for Professional Services
COA1415	Comprehensive Operational Analysis (COA) of Village Shuttle Bus Services	
	TOTAL	\$32,000

Signature of Official: \_\_\_\_\_

Name (typed): Joseph M. Corradino, AKC

Title: President

Date: 12/19/14

Vendor: The Corradino Group

9705 East Hibiscus Street, Palmetto Bay, Florida 33157  
Tel: 305.259.1134 • Fax: 305.259.1090

**RESOLUTION NO. 04-101**

A RESOLUTION OF THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, RELATING TO A CIRCULATOR ASSESSMENT STUDY IN THE VILLAGE OF PALMETTO BAY; AUTHORIZING THE VILLAGE MANAGER TO ENTER INTO CONTRACT WITH THE CORRADINO GROUP, INC. TO PROVIDE THIS SPECIALIZED TRANSIT STUDY AND TO APPROVE EXPENDITURE OF FUNDS IN AN AMOUNT NOT TO EXCEED \$33,000.00; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Village wants to examine the need and cost of a potential circulator transit service in the Village of Palmetto Bay; and

WHEREAS, the legislative requirement of the Peoples Transportation Plan is the expenditure of twenty percent of the funding is designated for transit use; and,

WHEREAS, the Administration has determined that The Corradino Group, Inc., is a capable firm and qualified to provide transit recommendations, and cost for the circulator services that meet the needs of the Village of Palmetto Bay and implementation strategies in accordance with approved recommendations; and

WHEREAS, the Administration desires to select The Corradino Group, Inc., to study the need and the desire for a circulator bus service within the boundaries of the Village; and

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND VILLAGE COUNCIL OF THE VILLAGE OF PALMETTO BAY, FLORIDA, AS FOLLOWS:

Section 1: The Village Manager is authorized to contract for Traffic Engineering Services with The Corradino Group, Inc. and approve expenditure of funds in an amount not to exceed \$33,000 on a study to evaluate potential circulator transit services in the Village of Palmetto Bay.

Section 2: This Resolution shall take effect immediately upon approval.

PASSED and ADOPTED this 6<sup>th</sup> day of December, 2004.

ATTEST: Meighan Pier  
Meighan Pier  
City Clerk

APPROVED: Eugene P. Flinn  
Eugene P. Flinn  
Mayor

READ AND APPROVED AS TO FORM:

Eve A. Boutsis  
Eve A. Boutsis  
Village Attorney

FINAL VOTE AT ADOPTION:

Council Member Ed Feller	<u>YES</u>
Council Member Paul Neidhart	<u>YES</u>
Council Member John Breder	<u>YES</u>
Vice-Mayor Linda Robinson	<u>YES</u>
Mayor Eugene P. Flinn	<u>YES</u>

K:\Users\cpatterson\resolution\December Agenda\circulator transit services.doc

# ***The CORRADINO Group***

## **SCOPE of WORK**

### ***Village of Palmetto Bay Circulator Assessment***

#### **OBJECTIVE:**

The goal of this study is to assess the need and cost of potential circulator transit services in the Village of Palmetto Bay

#### **BACKGROUND:**

As specified in the Palmetto Bay Transportation Master Plan and with the advent of the Peoples Transportation Plan, municipalities in Miami-Dade County have been charged by the citizens of the county to improve local transportation service and options. One of the legislative requirements of the PTP is the expenditure of at least 20% of annual revenues from this tax for transportation projects specifically related to transit.

#### **PREVIOUS WORK:**

Palmetto Bay has not studied the provision of specialized transit within its boundaries. The City believes that the provision of such service, if needed and cost effective, can add to the quality of life of the community.

#### **COST:**

This study can be provided for a cost of \$33,000

#### **METHODOLOGY**

##### **TASK 1: Existing Conditions**

This task will assess the existing conditions in Palmetto Bay as they relate to transportation and transit.

- 1.1 Regional  
This will include a brief history of the City and previous transportation initiatives.
- 1.2 Comprehensive Plan  
An examination of the current Comprehensive Plan particularly the Transportation Element.
- 1.3 Future Growth  
Population projections will be examined to determine potential need.
- 1.4 Current Demographics:  
An examination of demographic and socio-economic conditions will influence transit planning and service delivery issues.
- 1.5 Transit Propensity Analysis:

# **The CORRADINO Group**

This sub-task will provide an understanding of the spatial arrangement of certain demographic characteristics that typically influence transit use. Given resource constraints, transit service will focus where there is the greatest overall need.

## **1.6 Currently MDT Service Level**

An understanding of the existing MDT service is imperative. The idea of this circulator is to enhance existing service, not to duplicate it.

## **1.7 Traffic Generators**

An understanding of land uses, developments, facilities, activity centers, institutions that attract people is important in the location of transit routing.

## **TASK 2: Recommend Circulator System**

Based on the examination of the existing and background conditions, and meetings held with stakeholders, a system will be recommended. The operational characteristics of this system will be developed.

### **2.1 System Routing and Operating Characteristics**

The systems rout will be mapped, headways will be estimated as well as the duration of travel time, and cost in man power and rolling stock, that the system would take to operate.

## **TASK 3: Implementation Strategy**

The general parameters of the proposed system will be examined in greater detail. This will include an analysis of:

- Vehicle Fleet Requirements
- Personnel Requirements

### **3.1 Cost Estimates**

### **3.2 Service Options**

This will deal with the examination of options varying from self operation, utilization of a private operator, or contracting nearby systems, combining systems with adjacent communities or contracting with MDT.

## **TASK 4: Public Involvement**

This task will focus on stakeholder meetings to be held individual or in small groups. Stakeholders may include City staff, administration or leadership, concerned citizens or community activists. Public presentations for discussion will be held before the City Council. A

# ***The CORRADINO Group***

public opinion survey may be developed to gauge desire for such a system.

## **TASK: 5 Final Report**

A final report will be produced as will a PowerPoint presentation of that report. Drafts will be delivered to the City for review. After the final presentation, 10 bound copies will be made available.



# VILLAGE OF PALMETTO BAY

## IBus Circulator Service

### Route A Schedule (Departure Times)

DESTINATION	SW 152 Street / US1	SW 82 Avenue	Coral Reef Park	SW 152 Street / SW 77 AV	SW 144 Street / SW 77 Avenue	SW 136 Street / US1	SW 144 Shopping Plaza / SW 146 Street	Publix US1	SW 152 Street / Busway	SW 152 Street / Avenue	SW 168 Street / SW 82 Avenue	SW 168 Street / SW 87 Avenue	SW 168 Street / SW 92 Avenue	SW 168 Street / SW 94 Avenue	SW 168 Street / SW 94 Avenue	SW 168 Street / US1
A.M. Schedule	10:00 AM	10:04 AM	10:06 AM	10:08 AM	10:10 AM	10:12 AM	10:14 AM	10:18 AM	10:22 AM	10:31 AM	10:35 AM	10:37 AM	10:39 AM	10:41 AM	10:43 AM	10:47 AM
P.M. Schedule	10:57 AM	11:05 AM	11:07 AM	11:09 AM	11:11 AM	11:13 AM	11:15 AM	11:19 AM	11:23 AM	11:32 AM	11:36 AM	11:38 AM	11:40 AM	11:42 AM	11:44 AM	11:48 AM
	11:58 AM	12:06 PM	12:08 PM	12:10 PM	12:12 PM	12:14 PM	12:16 PM	12:20 PM	12:24 PM	12:33 PM	12:37 PM	12:39 PM	12:41 PM	12:43 PM	12:45 PM	12:53 PM
	12:59 PM	1:07 PM	1:09 PM	1:11 PM	1:13 PM	1:15 PM	1:17 PM	1:21 PM	1:25 PM	1:34 PM	1:38 PM	1:40 PM	1:42 PM	1:44 PM	1:46 PM	1:50 PM

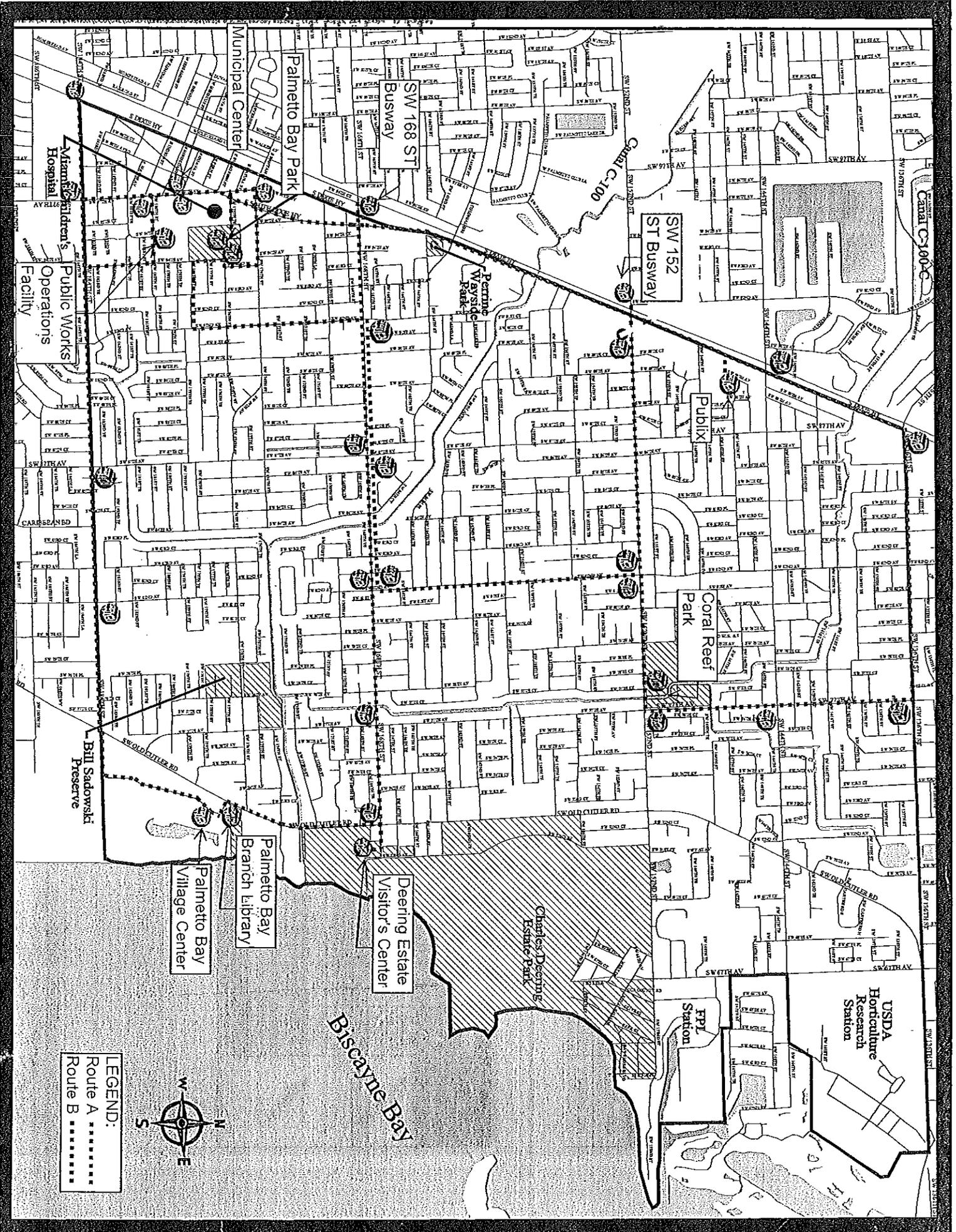
Out of Service @ 1:50 PM

### Route B Schedule (Departure Times)

DESTINATION	SW 168 Street / US1	SW 168 Street / SW 87 Avenue	SW 168 Street / SW 82 Avenue	SW 168 Street / SW 77 Avenue	SW 168 Street / Old Cutler Road	Deering Estate Visitor's Center	Palmetto Bay Library	Palmetto Bay Village Center	SW 184 Street / SW 82 Avenue	SW 184 Street / US1	SW 184 Street / Busway	SW 184 Street / AV Terrace	SW 97 Street / Guava Street	Palmetto Bay Park	Palmetto Bay Municipal Ctr.	Bayan Street / Perrine Avenue	Palmetto Bay Public Works	SW 168 Street / SW 94 Avenue
A.M. Schedule	7:00 AM	7:04 AM	7:06 AM	7:08 AM	7:10 AM	7:12 AM	7:17 AM	7:20 AM	7:22 AM	7:24 AM	7:28 AM	7:30 AM	7:31 AM	7:35 AM	7:40 AM	7:42 AM	7:44 AM	7:46 AM
	8:08 AM	8:12 AM	8:16 AM	8:18 AM	8:20 AM	8:23 AM	8:25 AM	8:27 AM	8:30 AM	8:35 AM	8:37 AM	8:40 AM	8:41 AM	8:45 AM	8:48 AM	8:49 AM	8:51 AM	8:53 AM
	9:08 AM	9:12 AM	9:16 AM	9:18 AM	9:20 AM	9:23 AM	9:25 AM	9:27 AM	9:30 AM	9:35 AM	9:37 AM	9:40 AM	9:41 AM	9:45 AM	9:48 AM	9:49 AM	9:51 AM	9:53 AM
P.M. Schedule	2:38 PM	2:42 PM	2:44 PM	2:46 PM	2:48 PM	2:50 PM	2:53 PM	2:56 PM	2:58 PM	3:00 PM	3:02 PM	3:08 PM	3:10 PM	3:12 PM	3:14 PM	3:16 PM	3:18 PM	3:20 PM
	3:26 PM	3:30 PM	3:32 PM	3:34 PM	3:36 PM	3:38 PM	3:42 PM	3:44 PM	3:46 PM	3:48 PM	3:50 PM	3:54 PM	3:56 PM	3:58 PM	4:00 PM	4:02 PM	4:04 PM	4:06 PM
	4:14 PM	4:18 PM	4:20 PM	4:22 PM	4:24 PM	4:26 PM	4:30 PM	4:32 PM	4:34 PM	4:36 PM	4:38 PM	4:42 PM	4:44 PM	4:46 PM	4:48 PM	4:50 PM	4:52 PM	4:54 PM
	5:20 PM	5:24 PM	5:26 PM	5:28 PM	5:30 PM	5:32 PM	5:36 PM	5:38 PM	5:40 PM	5:42 PM	5:44 PM	5:48 PM	5:50 PM	5:52 PM	5:54 PM	5:56 PM	5:58 PM	6:00 PM

No Bus Service between 8:52 AM - 2:10 PM - Out of Service @ 5:20 PM

IBus Circulator Operates on Weekdays Only  
 IBus Circulator is Out of Service for Village of Palmetto Bay Holidays  
 For More Information Please Visit [WWW.PalmettoBay-FL.GOV](http://WWW.PalmettoBay-FL.GOV)



Miami Children's Hospital  
Public Works Operations Facility

Municipal Center

Palmetto Bay Park

SW 168 ST  
Busway

SW 152  
ST Busway

Permian Wayside Park

Coral Reef Park

Bill Sadowski Preserve

Palmetto Bay Branch Library

Palmetto Bay Village Center

Deering Estate Visitor's Center

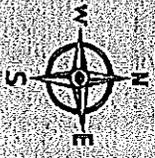
Charles Deering Estate Park

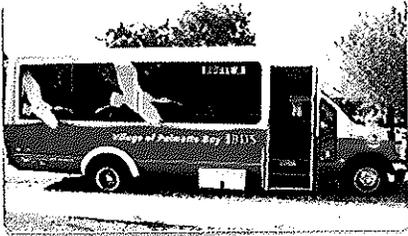
FPL Station

USDA Horticulture Research Station

Biscayne Bay

LEGEND:  
Route A .....  
Route B - - - - -

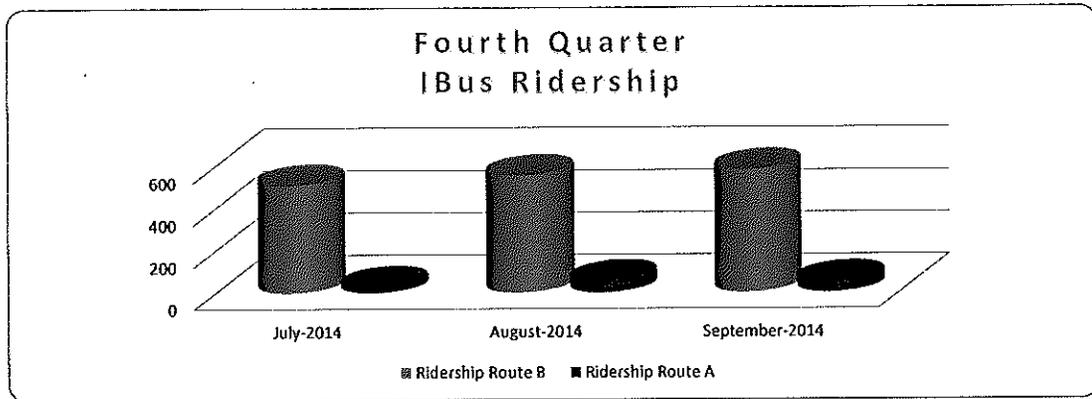




# Village of Palmetto Bay ■ IBUS

## Shuttle Services

Month-Year	Ridership Route A	Ridership Route B	Daily Average
July-2014	27	510	24.4
August-2014	54	554	29.0
September-2014	49	580	30.0
Total	130	1644	27.8



<b>Popular Destinations</b>
Palmetto Bay Village Center ; 7am - 9am & 3pm-5pm
168 ST / Old Cutler Road; 7am - 9am & 3pm-5pm
168 St / Busway; 7am - 9am & 3pm-5pm
Village of Palmetto Bay Branch Library; 3pm-4pm
184 St / Busway; 7am - 9am & 3pm-5pm



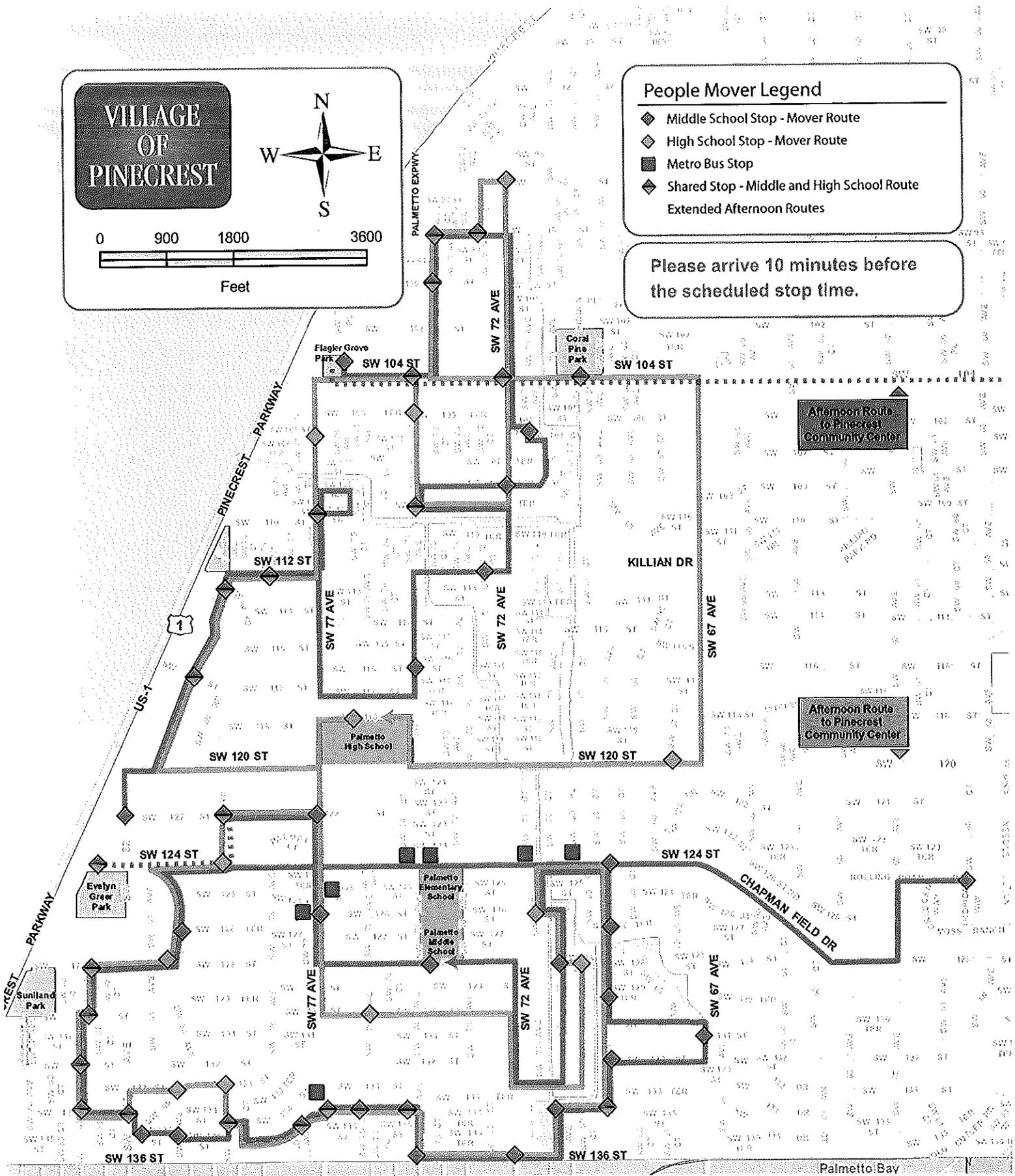
**VILLAGE OF PINECREST**

0 900 1800 3600  
Feet

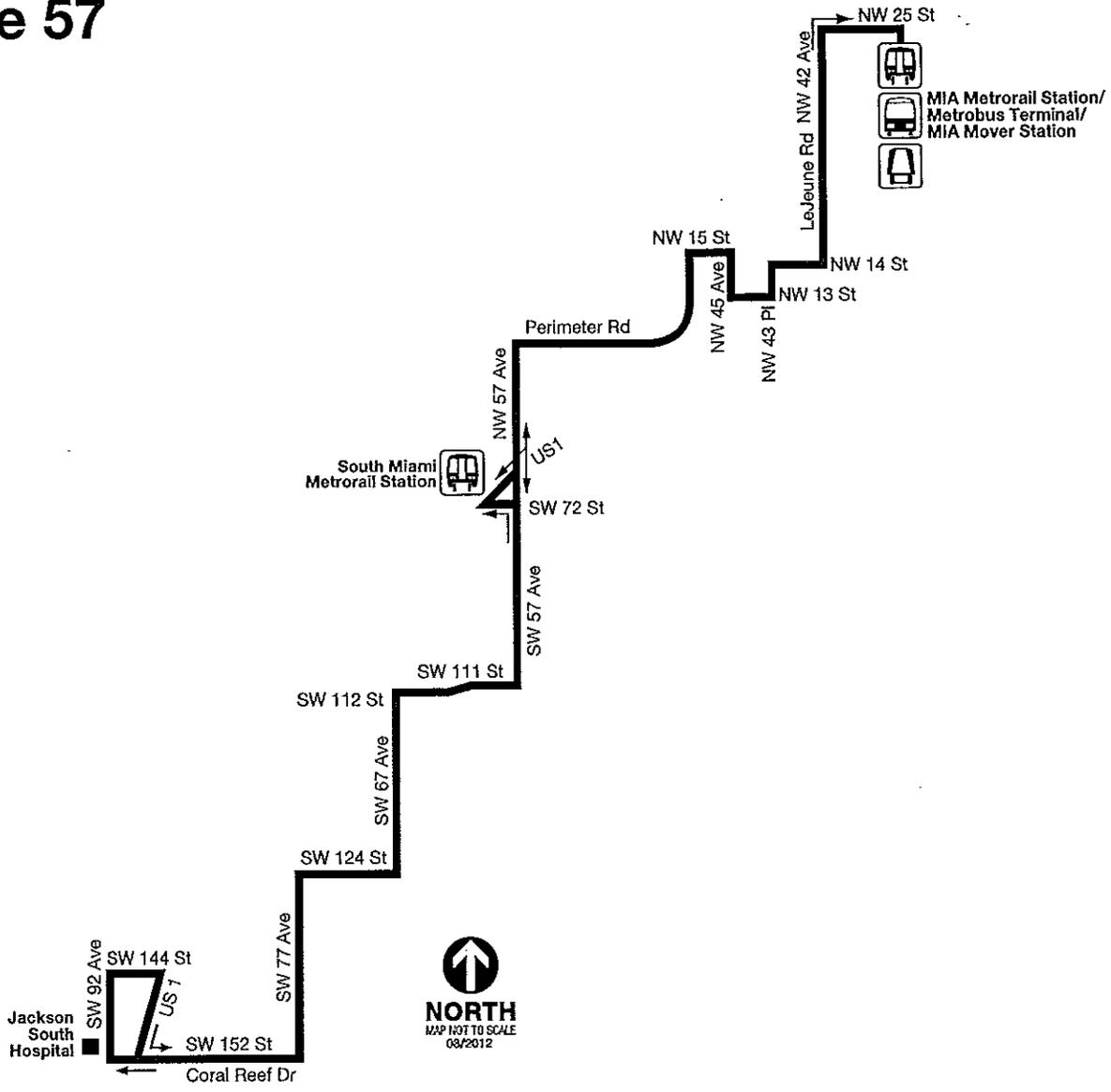
**People Mover Legend**

- ◆ Middle School Stop - Mover Route
- ◆ High School Stop - Mover Route
- Metro Bus Stop
- ◆ Shared Stop - Middle and High School Route  
Extended Afternoon Routes

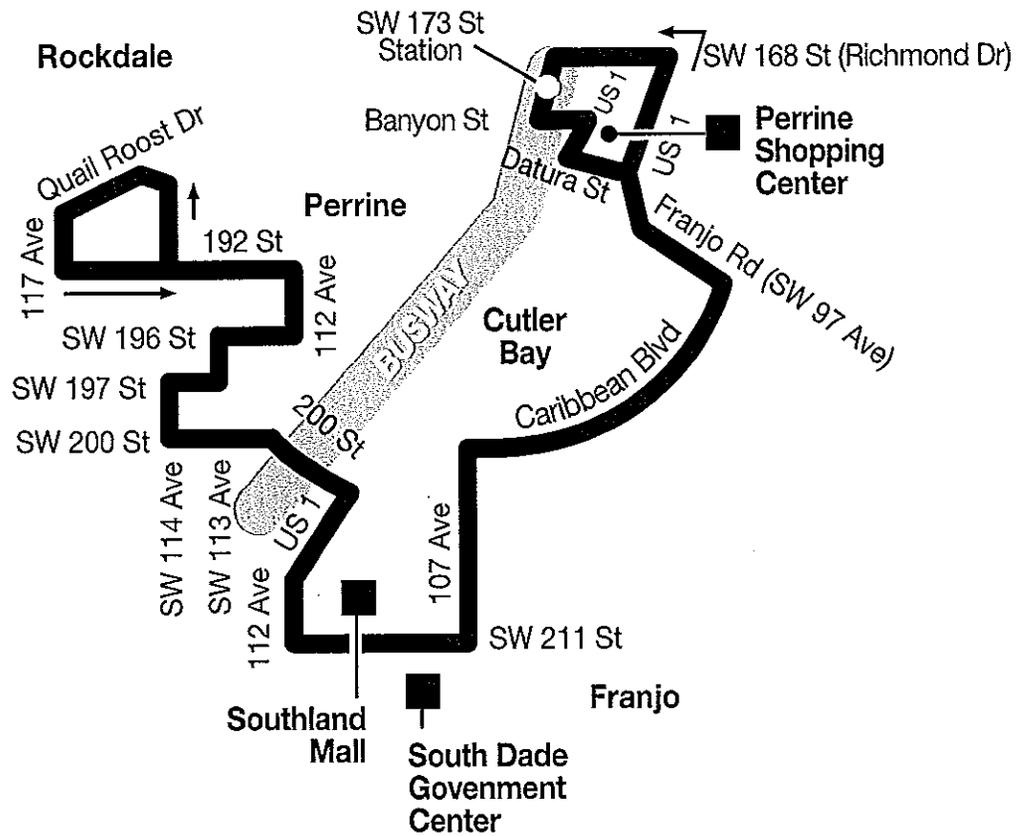
Please arrive 10 minutes before the scheduled stop time.



# Route 57

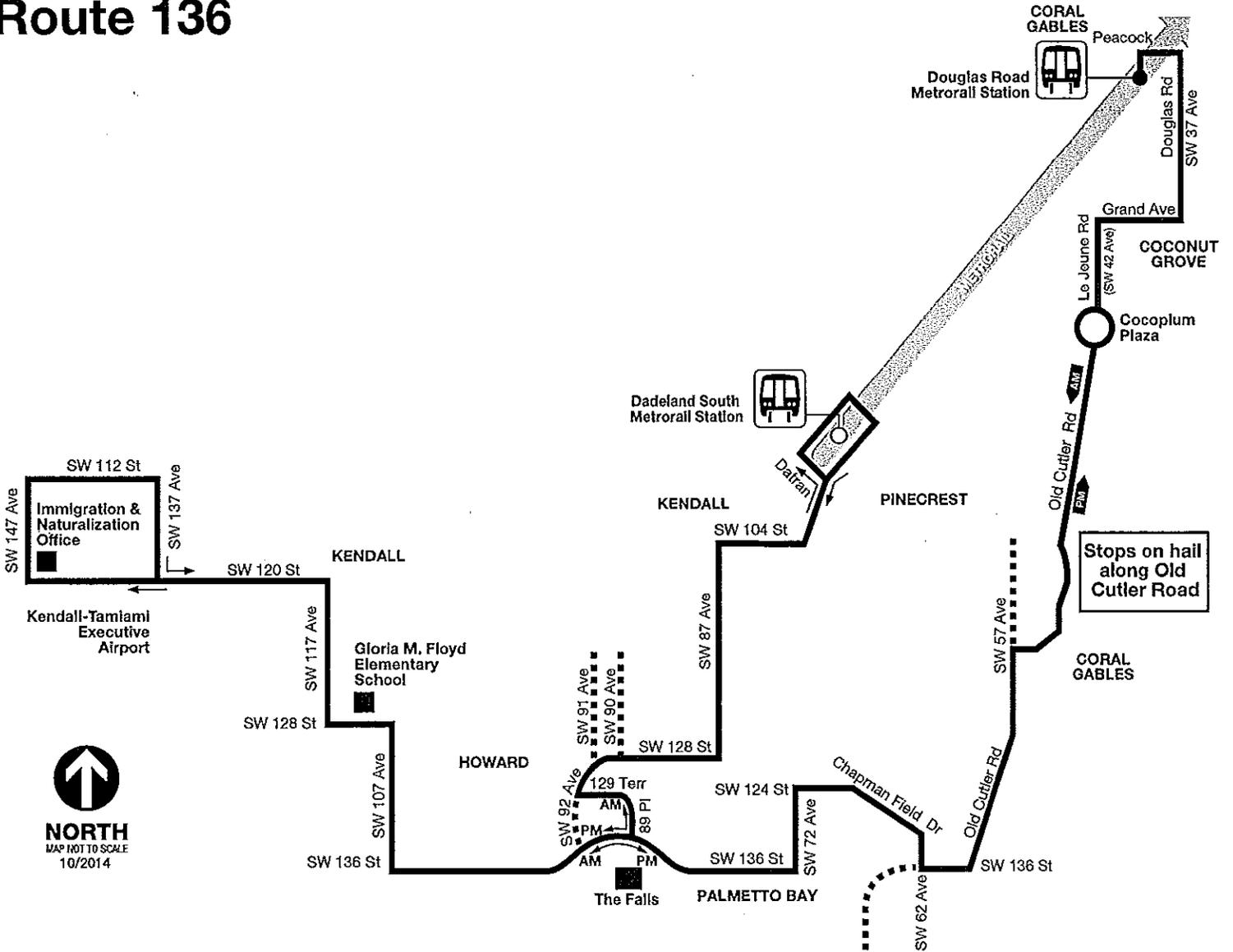


# Route 1



**NORTH**  
MAP NOT TO SCALE  
12/2009

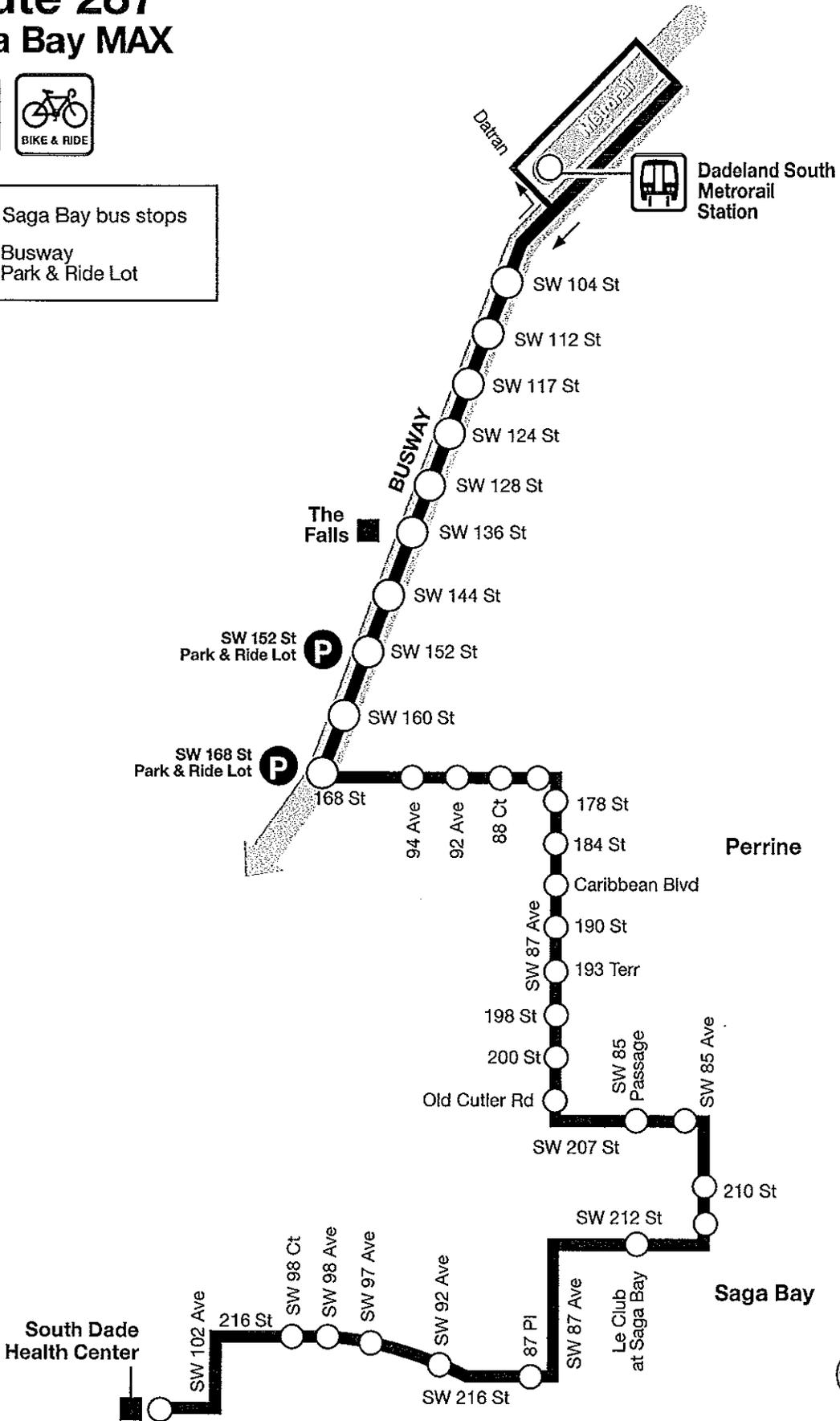
# Route 136



# Route 287 Saga Bay MAX



Saga Bay bus stops  
 Busway Park & Ride Lot



North  
 Map not to scale  
 6/08