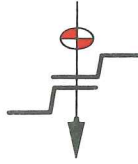


Schwabke-Shiskin



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GREEN CITY MIAMI

WATER, SEWER AND FP&L UTILITY STUDY

Prepared By:

Schwabke-Shiskin & Associates, Inc. (EB #87)

John C. Tello, P.E. #71567
Ass't. Vice President

State of Florida Registered Engineer

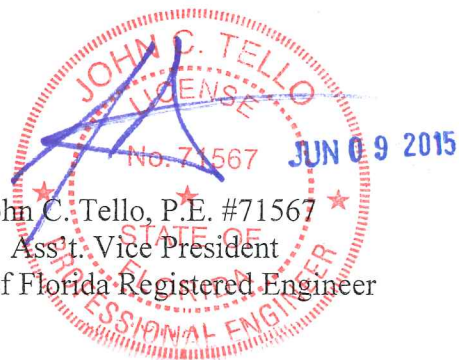


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Sanitary Sewer Force Main	APPENDIX C

INTRODUCTION

SECTION 1

I. Introduction

The Green City Miami project is a proposed major mixed-use development that will encompass approximately 860 Acres of Southwest Miami Dade County. The project is bounded by SW 167th Avenue to the East, by Krome Avenue to the West, by SW 64th Street on the North, and by Kendall Drive on the South (see Site Location Map).

The master plan for the project will consist of six district neighborhoods:

- Downtown located off Kendall Drive with high density mixed-use residential
- Mid-Town located in the center with medium density
- Eastside Village
- The Preserve
- Park Village located off 64th Street with low density
- Sport Village

See Table 1 below for a project summary.

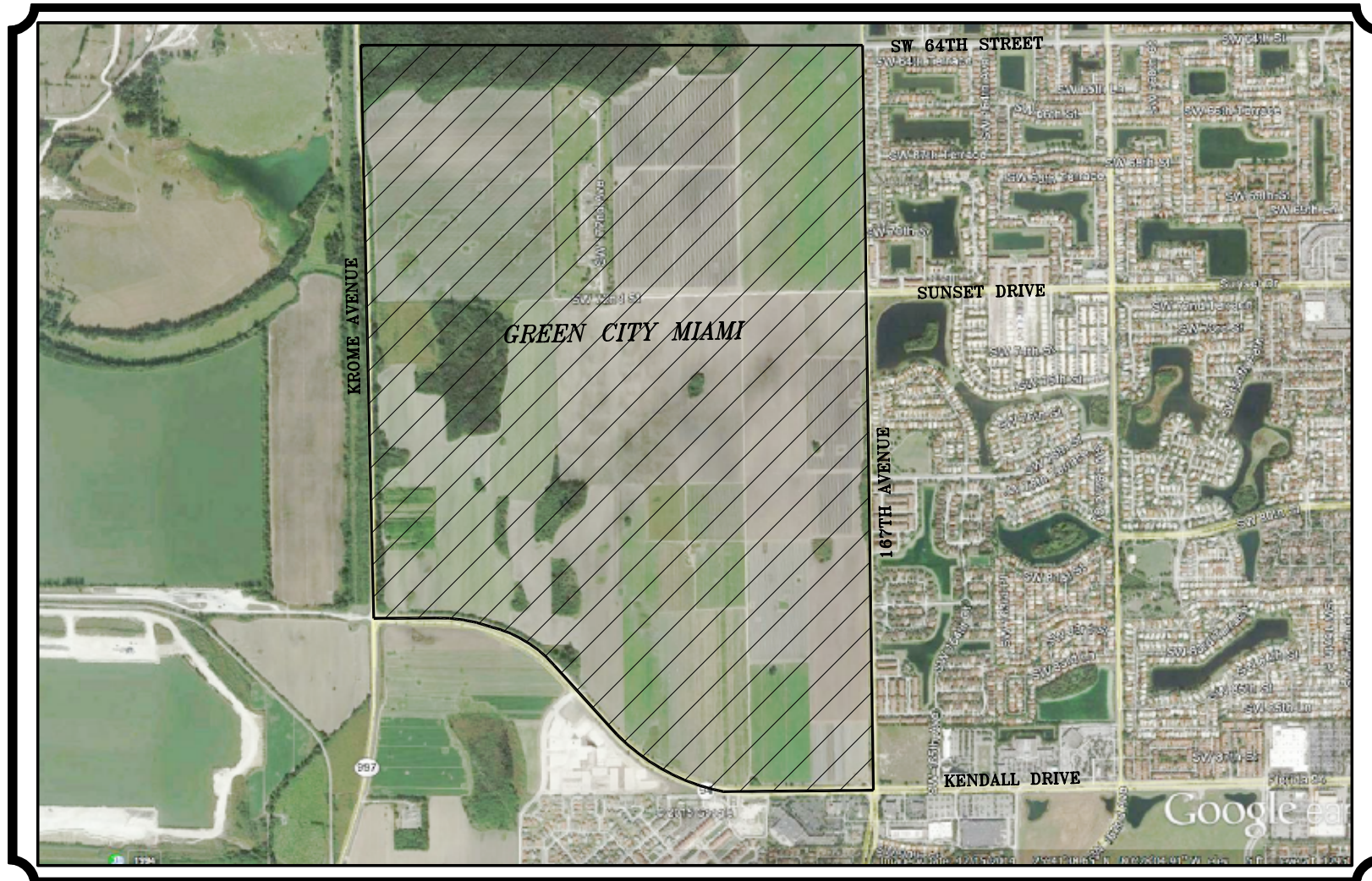
Table 1:
Project Summary

Occupancy	Units	Floor Area (SF)
Retail	-----	1,362,000
Office	-----	925,000
Industrial	-----	350,000
Governmental	-----	150,000
Institutional	-----	225,000
Hotel	-----	500,000
Residential	11,401	-----

LOCATION MAP
SECTION 2

GREEN CITY MIAMI

MIAMI DADE COUNTY, FLORIDA



LOCATION MAP

SEC.39-TWP.54-RNG.41

prepared by

SCHWEBKE-SHISKIN & ASSOCIATES, INC.

3240 CORPORATE WAY, MIRAMAR, FL. 33025

LAND PLANNERS - ENGINEERS - LAND SURVEYORS (LB & CA#87)

TEL: (305)652-7010 FAX: (305)652-8284



WATER DISTRIBUTION SYSTEM
SECTION 3

III. Water Distribution System

A summary of the water mains owned and operated by the Miami-Dade Water and Sewer Department (MDWASD) in the vicinity of the project is shown in Table 2 below. Please also refer to Appendix A for reference.

Table 2:
Existing Water Mains

Location	Between	Water Main
Kendal Drive	SW 167th Ave to 1300 LF East of Krome Ave	24"
SW 167th Ave.	Kendal Drive to SW 64th Street	16"
Sunset Drive	SW 167th Ave to SW 172nd Ave	16"
SW 172nd Ave	Sunset Drive to approximately SW 66th Street	16"

MDWASD will likely require the project to construct offsite water mains to complete a closed loop system around the boundary of the project. The projected offsite water main requirements are depicted in Table 3 below.

In addition to the offsite water main requirements, the project will be required to install onsite water mains looped within the project. MDWASD criteria requires 12" water main along the frontage of all commercial developments and 8" water mains along the frontage of residential developments.

The Fire Code requires fire hydrants to be located no more than 300 feet from proposed buildings or structures for Commercial areas and multi-family residential areas. The code also requires that there be no more than 300 feet between fire hydrants along the frontage of the property, as measured along the water main. Final determination of fire hydrants, water meters, backflow preventers and Siamese connections will need to be determined and approved when a final site plan is prepared.

Table 3:
Potential Water Main Requirements

Roadway	Potential Requirement
Kendall Drive	Construct 1,300 L.F. of 24" Water Main from Existing 24" plug to Krome Avenue
Krome Avenue	Construct 6,200 L.F. of 16" Water Main from Kendal Drive to SW 64th Street
SW 64th Street	Construct 5,300 L.F. of 12" Water Main from Krome Avenue to SW 167th Avenue
Sunset Drive	Construct 2,650 L.F. of 24" Water Main from Krome Avenue to SW 172th Avenue
SW 172nd Avenue	Construct 600 L.F. of 16" Water Main from Existing 16" plug to SW 64th Street

SANITARY SEWER COLLECTION SYSTEM
SECTION 4

IV. Sanitary Sewer Collection System

A summary of the existing sanitary sewer mains adjacent to the property are shown in Table 4 below. Appendix B provides a graphical representation for reference.

Table 4:
Existing Sanitary Sewer Force Mains

Location	Between	Sewer Main
Krome Avenue	SW 64th Street and Sunset Drive	30"
Sunset Drive	Krome Avenue to SW 167th Avenue	30"
SW 167th Avenue	Sunset Drive to Kendal Drive	30"
Kendal Avenue	SW 177th Avenue to SW 167th Avenue	16"

The existing sanitary sewer force mains adjacent to the property and the downstream pump station are not under moratorium at this time and there is no restriction to sanitary sewer in flows. Please see Appendix C for reference. It should be noted, due to the size of the project, a meeting with members of Miami Dade County and MDWASD is needed to confirm capacity.

The project will require onsite gravity sanitary sewer mains with onsite public lift stations and force mains to convey the sanitary sewer effluent to the existing force mains indicated in Table 4. At this time we estimate the construction of at least six sanitary sewer lift stations to serve the project. This calculation is based on MDWASD requirement of one lift station per quarter section of land; site plan constraints and proposed land use could increase the number of lift stations.

Onsite gravity sewer mains will be required throughout the development and will range in size from 8" to 12" mains. Sanitary sewer manholes will be required at all proposed bends with no more than 400 feet of separation measured along the main.

A request for a letter of Sanitary Sewage Capacity Certification must be submitted to the Miami-Dade County DERM Water & Wastewater Section during building permitting phase of the project in order to reserve the necessary allocation for the proposed development. Below, in Table 5, are the estimated water and sewer flow generate rates per Miami-Dade Water and Sewer Department's schedule of daily rates. Further coordination with MDWASD is recommended.

Table 5:
Estimated Water and Sewer Flow Generation
 (Per MDWASD Schedule of Daily Rates)

Type of Occupancy	Quantity (Units or SF)	Usage Rate	Total Average Daily Flow (GPF)	% of Daily Flow
Retail	1,362,000 SF	10 GPD/100 SF	136,200	0.69%
Office	925,000 SF	5 GPD/100 SF	46,250	2.34%
Industrial - Wet	350,000 SF	20 GPD/100 SF	70,000	3.54%
Governmental – County Office	150,000 SF	5 GPD/100 SF	7,500	0.38%
Institutional - School	225,000 SF	12 GPD/100 SF	27,000	1.36%
Hotel	650 Units	100 GPD/Unit	65,000	3.28%
Residential – Mixed-Use	8,541 Units	150 GPD/Unit	1,267,650	64.04%
Residential – Multi-Family	1,080 Units	150 GPD/Unit	162,000	8.18%
Residential - Townhouse	1,780 Units	180 GPD/Unit	320,400	16.19%

FP&L
SECTION 5

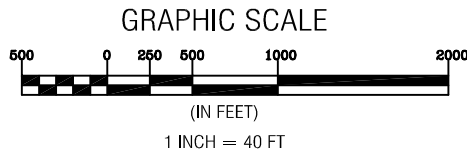
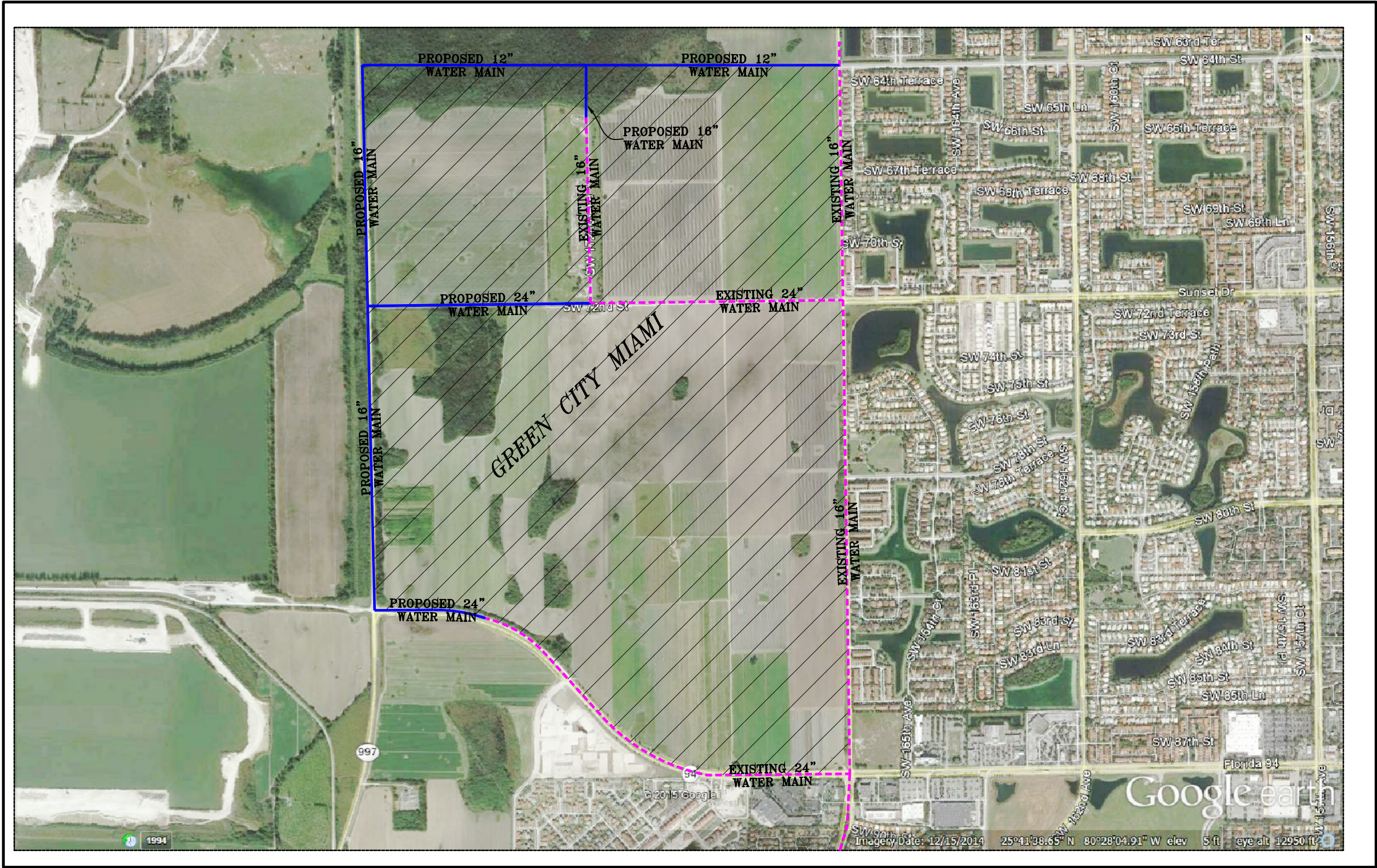
Y. Florida Power & Light (FP&L)

Schwebke-Shiskin & Associates, Inc. held a meeting with Jose Palomo and Monica Munoz from FP&L's Major Projects & Construction Services Department to discuss the power and infrastructure needs of the Green City Miami project.

It is assumed that this project will be built out in phases, beginning with the Southeast corner of the project, nearest Kendall Drive. This will allow FP&L to provide power to the project off existing infrastructure and transmission lines while additional infrastructure and a sub-station are added. FP&L anticipates that there will be an eventual need to build a new sub-station to meet all the energy demands of this new development. The new sub-station will need approximately 3-5 acres of land to either be purchased by or donated to FP&L for power generation. This new sub-station would take about 3-4 years to build.

It was decided that once the County Commission approved the application to move the Urban Development Boundary line, Schwebke-Shiskin would contact Jose at FP&L to have another meeting to discuss this project again in greater detail. However, in the meantime, FP&L did provide a letter stating their willingness of and capability to provide Green City Miami with electrical power. This letter is attached in the Appendix D.

APPENDIX A



LEGEND

DENOTES EXISTING WATER MAIN-

DENOTES PROPOSED WATER MAIN-



REVISIONS	
Date	Remarks

GREEN CITY MIAMI

OFFSITE WATER MAIN SKETCH

SECTION 31, TOWNSHIP 54 SOUTH, RANGE 39 EAST

NOTE: I, the undersigned, being a duly Licensed Professional Engineer or Professional Surveyor, do hereby certify that this is a true and correct copy of the original as the same was filed for record in the public records of the State of Florida.

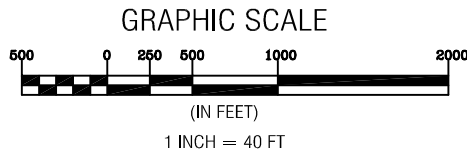
JOHN C. TELLO, P.E. ASST. VICE PRES.
Registered Land Surveyor No. 71567, State of Florida

Schwelke-Shiskin & Associates, Inc.
ENGINEERS
3240 CORPORATE WAY, MIAMI, FLORIDA 33156
TEL: (305) 435-7070 FAX: (305) 435-3288
Scale: 1" = 600'

Drawn By: J.C.T. Date: 04-01-2015
Checked By: J.C.T. Date: 04-01-2015
Order No. File No.

DWG. No: EX-1
Sheet: 1

APPENDIX B



LEGEND

DENOTES EXISTING FORCE MAIN-



REVISIONS	
Date	Remarks

GREEN CITY MIAMI

OFFSITE SEWER MAIN SKETCH

SECTION 31, TOWNSHIP 54 SOUTH, RANGE 39 EAST

NOTE: This drawing is the property of the engineer and is not to be reproduced without his written consent. The engineer is not responsible for any errors or omissions in this drawing.

JOHN C. TELLO, P.E.
Registered Land Surveyor No. 71567
State of Florida

ASST. VICE PRES.
Registered Engineer No. 71567
State of Florida

Schwelke-Shiskin & Associates, Inc.
Civil Engineers
3240 CORPORATE WAY
MIAMI, FLORIDA 33155
TEL: (305) 435-7070 FAX: (305) 435-3288
Scale: 1" = 600'

Drawn By: J.C.T. Date: 04-01-2015
Checked By: J.C.T. Date: 04-01-2015
Order No. File No.

APPENDIX C



User:
AREASR



Pump Station: 30-0559
UNINCORPORATED DADE COUNTY

Station ET

Moratorium: OK OK

☐ Moratorium due to SSO?

☐ HAMA SSO Date of HAMA SSO:

Address: 8700 SW 95 AVE

Current moratorium in effect date: 01/27/2007 * MM/DD/YYYY

Section-Township-Range: 33 - 54 - 40

Generator Y Telemetry Y ET clock Y

Type: A Class: B Speed: 2 H.P.: *

Peak Factor: 2.4

Number of Pumps: 5

Peak Fact	Date:	User
2.4	01/27/200	TRANSFER

NAPOT (hrs): 3.9
Reserved Flow (gpd): 507,428
Proj NAPOT: 4.05 hrs
Used Capacity (%): 40.50

Stn Gross Capacity(gpd): 138,240,000

Station Reduction Factor: .6

Stn Net Cap Certif(gpd): 0

Stn Net Capacity(gpd): 82,944,000

Indicated Flows(gpd): 13,478,400

Date:	MART:	Avg Daily:	Readin	# of Pump	Comments:	Created B	Date:	Modified B	Date:
02/04/201	3.43	13.73	Y	5		AREASR	03/16/201	AREASR	03/16/201
01/05/201	3.27	13.07	Y	5		AREASR	02/17/201	AREASR	02/17/201
12/03/201	4.27	17.07	Y	5		AREASR	01/14/201	AREASR	01/14/201
11/05/201	3.98	15.90	Y	5		AREASR	12/15/201	AREASR	12/15/201
10/03/201	4.19	16.75	Y	5		AREASR	11/14/201	AREASR	11/14/201
09/04/201	4.40	17.61	Y	5		NEUMAR	10/15/201	NEUMAR	10/15/201
08/05/201	5.21	20.84	Y	5		AREASR	09/15/201	AREASR	09/15/201
07/03/201	4.12	16.48	Y	5		AREASR	08/14/201	AREASR	08/14/201

Date: 4/ 3/2015

Mo. NAPOT: 0.00

Monthly Avg. Daily: 00.00

Reading: ☒

Pumps: 5

Comments:

NOTE: All Flows are in GPDs

Print

Save

Return to Results

Process Nightly Job

Update Reading

Delete Reading

Export Data



User:
AREASR



Pump Station: 30-0536
UNINCORPORATED DADE COUNTY

Station ET

Moratorium: OK OK

☐ Moratorium due to SSO?

☐ HAMA SSO

Date of HAMA SSO:

Address: 8989 SW 117 AVE

Current moratorium in effect date: 01/27/2007 MM/DD/YYYY

Section-Township-Range: 6 - 55 - 40

Generator Y Telemetry Y ET clock Y

Type: A Class: B Speed: V H.P.: +

Peak Factor: 2.4

Number of Pumps: 4

Peak Fact	Date:	User
2.4	01/27/200	TRANSFER

NAPOT (hrs): 5.98
Reserved Flow (gpd): 634,823
Proj NAPOT: 6.22 hrs
Used Capacity (%): 62.20

Stn Gross Capacity(gpd): 89,998,560
Station Reduction Factor: .7
Stn Net Cap Certif(gpd): 0
Stn Net Capacity(gpd): 62,998,992
Indicated Flows(gpd): 15,697,249

Date:	MART:	Avg Daily:	Readin	# of Pump	Comments:	Created B	Date:	Modified B	Date:
02/03/201	5.52	16.56	Y	4		AREASR	03/16/201	AREASR	03/16/201
01/02/201	5.63	16.88	Y	4		AREASR	02/17/201	AREASR	02/17/201
12/01/201	5.59	16.76	Y	4		AREASR	01/14/201	AREASR	01/14/201
11/01/201	5.74	17.21	Y	4		AREASR	12/15/201	AREASR	12/15/201
10/01/201	6.25	18.75	Y	4		AREASR	11/14/201	AREASR	11/14/201
09/02/201	6.59	19.77	Y	4		NEUMAR	10/15/201	NEUMAR	10/15/201
08/01/201	8.28	24.85	Y	4		AREASR	09/15/201	AREASR	09/15/201
07/02/201	5.94	17.81	Y	4		AREASR	08/14/201	AREASR	08/14/201

Date: 4/ 3/2015 Mo. NAPOT: 0.00 Monthly Avg. Daily: 00.00 Reading: ☒ # Pumps: 4

Comments:

NOTE: All Flows are in GPDs.

Print

Save

Return to Results

Process Nightly Job

Update Reading

Delete Reading

Export Data

Pump Station Capacity Estimator Result
→ UNCONDITIONAL ALLOCATION ALLOWED ←

Search Criteria Detailed Result

Sanitary Sewer Utility	30 - UNINCORPORATED DADE COUNTY
Pump Station Number	0225
Proposed Projected Flow (GPD)	10 GPD
Project will require, or is part of, a Sewer Extension	No

20" & 30" FM
Upstream PS

Pump Station Downstream	Pump Station Owner	Pump Station Number	Moratorium Code	Proposed Hrs (Δt)	Projected NAPOT	Proposed NAPOT
Receiving PS	30	0225	OK	0.00	6.92	6.92
↓	30	0536	OK	0.00	6.22	6.22
↓↓	30	TANDEM	OK	0.00	4.25	4.25
↓↓↓	30	SD	--	--	--	--
↓	30	0559	OK	0.00	4.05	4.05
↓↓	30	TANDEM	OK	0.00	4.25	4.25
↓↓↓	30	SD	--	--	--	--

Treatment Plant Codes

CD Central District Treatment Plant
ND North District Treatment Plant
SD South District Treatment Plant
TP Homestead Treatment Plant

Pump Station Acronyms

GDP Gallons Per Day
HAMA High Annual Monthly Average
NAPOT Nominal Avg. Pump Operating Time

Moratorium Codes

AC Approved And Corrected
AH Approved And Corrected - HAMA Limited
AM Absolute Moratorium - NAPOT Above 10. Plan Submitted
CH Conditional Moratorium - HAMA Limited
CM Conditional Moratorium
CN Conditional Moratorium - New Collection System
FH No Allocations - MH GT 10 HAMA Ltd
FN No Allocations - MH GT 10
IM Initial Moratorium
IN Incomplete - Information Missing
OH OK - HAMA Limited

APPENDIX D



Florida Power & Light Company

June 5, 2015

John C. Tello
Schwebke-Shiskin & Associates, Inc.
3240 Corporate Way
Miramar, FL 33025

Re: Green City Miami
Located in Miami, FL and Bounded by SW 64th ST & SW 88th ST & SW 167th AVE & SW 177th AVE

Dear Mr. Tello:

Thank you for contacting FPL early in your planning process. At the present time FPL has sufficient capacity to provide electric service to your property. We have facilities available currently available at this location.

Please advise me early in the planning process once the final plans have been approved. This information will help us to provide you with the best service in accordance with applicable rates, rules and regulations. You may also respond to us through www.fpl.com. Please contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Jose Palomo'.

Jose Palomo

Senior Engineer