

GREEN CITY MIAMI
WATER, SEWER AND FP&L UTILITY STUDY

Prepared By:

Schwelke Shiskin & Associates, Inc. (EB # 87)

John C. Tello, P.E. #71567
Ass't. Vice President
State of Florida Registered Engineer

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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	-----

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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



SCALE: N.T.S

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 500 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)
Retail	1,362,000 SF	10 GPD/100 SF	136,200
Office	925,000 SF	5 GPD/100 SF	46,250
Industrial - Wet	350,000 SF	20 GPD/100 SF	70,000
Governmental – County Office	150,000 SF	5 GPD/100 SF	7,500
Institutional - School	225,000 SF	12 GPD/100 SF	27,000
Hotel	650 Units	100 GPD/Unit	65,000
Residential – Mixed-Use	8,541 Units	150 GPD/Unit	1,267,650
Residential – Multi-Family	1,080 Units	150 GPD/Unit	162,000
Residential - Townhouse	1,780 Units	180 GPD/Unit	320,400

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FP&L
SECTION 5

Y. Florida Power & Light

This office has been in contact with FP&L and has provided them with the proposed use breakdown and all other requested information. At this time FP&L's planning department is researching the existing infrastructure and capacity to serve the project. As soon as FP&L provides the required infrastructure to server the project it will be added to this report.

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APPENDIX A

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APPENDIX B

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APPENDIX C



User: AREASR



Pump Station: 30-0559
UNINCORPORATED DADE COUNTY

Station ET

Moratorium: OK

Moratorium due to SSO?

HAMA SSO

Date of HAMA SSO:

Address: 8700 SW 95 AVE

Current moratorium in effect date: 01/27/2007

Section-Township-Range: 33 - 54 - 40

Generator Telemetry ET clock

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:

Moratorium due to SSO?

HAMA SSO Date of HAMA SSO: _____

Address: 8989 SW 117 AVE

Current moratorium in effect date: 01/27/2007

Section-Township-Range: 6 - 55 - 40

Generator Telemetry ET clock

Type: Class: Speed: H.P.:

Peak Factor: 24

Number of Pumps: 4

Peak Fact	Date:	User
24	01/27/2007	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): 82,998,992
 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

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

- GPD 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