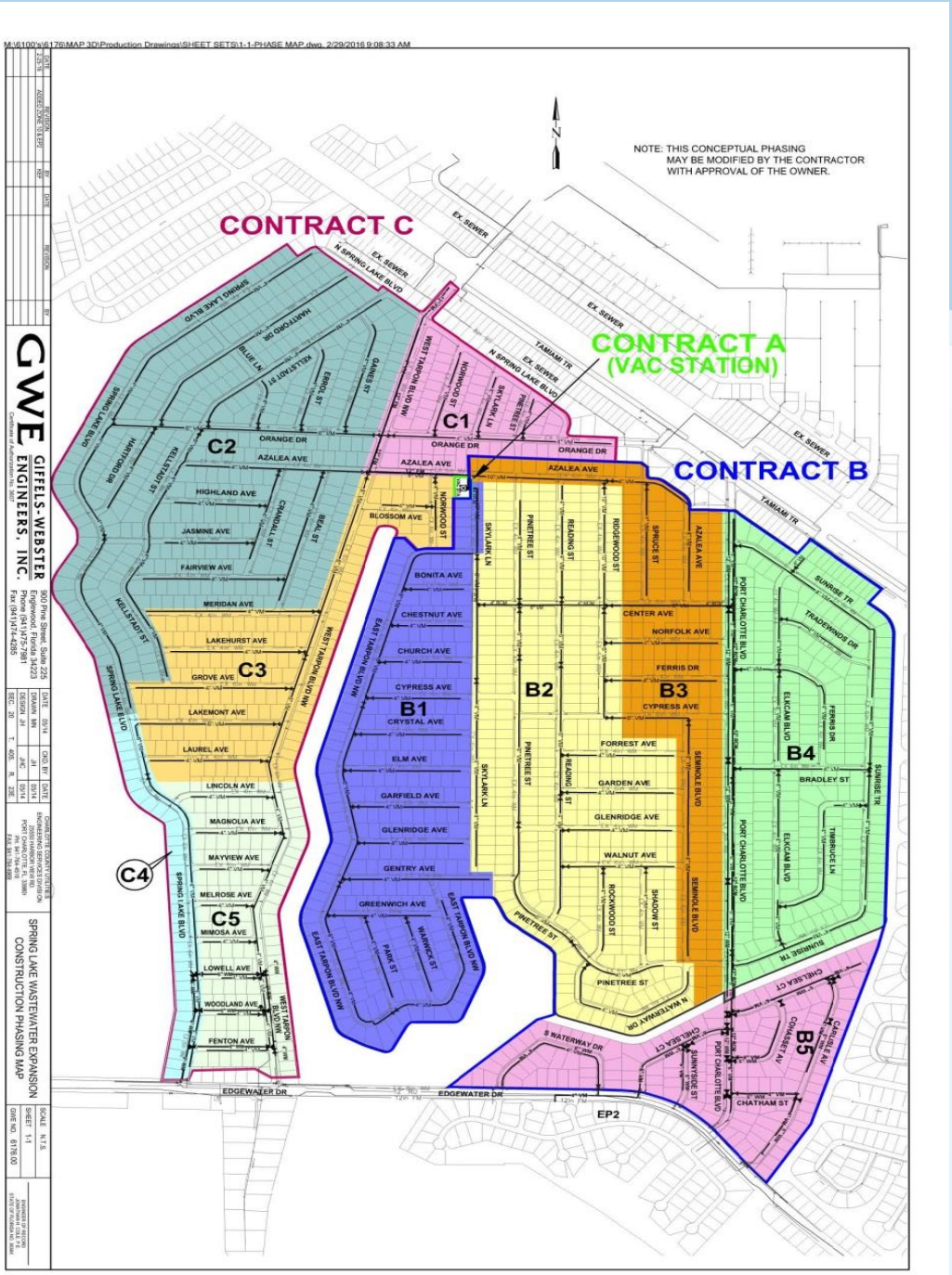
Charlotte Harbor Water Quality Initiative

East and West Spring Lakes

Project Update

April 12, 2016


M:\6100's\6176\MAP 3D\Production Drawings\SHEET SETS\1-1-PHASE MAP.dwg, 2/29/2016 9:08:33 AM
NOTE: THIS CONCEPTUAL PHASING MAY BE MODIFIED BY THE CONTRACTOR WITH APPROVAL OF THE OWNER.
CONTRACT C
CONTRACT A (VAC STATION)
CONTRACT B
C1
C2
C3
C4
C5
B1
B2
B3
B4
B5
EP2
N SPRING LAKE BLVD
SPRING LAKE BLVD
EX. SEWER
TAMIAMI TR
ORANGE DR
AZALEA AVE
HIGHLAND AVE
JASMINE AVE
FAIRVIEW AVE
MERIDAN AVE
LAKEHURST AVE
GROVE AVE
LAKEMONT AVE
LAUREL AVE
LINCOLN AVE
MAGNOLIA AVE
MAYVIEW AVE
MELROSE AVE
MIMOSA AVE
LOWELL AVE
WOODLAND AVE
FENTON AVE
BLOSSOM AVE
BONITA AVE
CHESTNUT AVE
CHURCH AVE
CYPRESS AVE
CRYSTAL AVE
ELM AVE
GARFIELD AVE
GLENRIDGE AVE
GENTRY AVE
GREENWICH AVE
CENTER AVE
NORFOLK AVE
FERRIS DR
FORREST AVE
GARDEN AVE
WALNUT AVE
PINETREE ST
BRADLEY ST
SUNRISE TR
EDGEWATER DR
CHATHAM ST
S WATERWAY DR
N WATERWAY DR
WEST TARPON BLVD NW
EAST TARPON BLVD NW
NORWOOD ST
SKYLARK LN
READING ST
RIDGEWOOD ST
SPRUCE ST
SEMINOLE BLVD
ROCKWOOD ST
SHADOW ST
PORT CHARLOTTE BLVD
ELKCAM BLVD
TIMBERLOCE LN
TRADEWINDS DR
FERRIS DR
CHELSEA CT
CHANNEL AV
SUNNYRIDE ST
CHARLOTTE AV
GWE GIFFELS-WEBSTER ENGINEERS, INC.
SPRING LAKE WASTEWATER EXPANSION CONSTRUCTION PHASING MAP
SCALE N.T.S.
SHEET 1-1
DWG NO. 6176.00

Re-cap public outreach

- Prior to start of initial construction, public outreach was conducted on 4 occasions

- Customers can sign up to receive construction updates from www.SpringlakesProject.com

Status of Project

- Definition of Project-
  - Central Sewer Service for approximately 1914 occupied lots and 434 vacant lots
- Contract A-Vacuum Station
  - Estimated Total Cost (construction/equipment): $1.98M
  - Estimated Completion and start up April 2016
- Contract B-Guymann Construction
  - Estimated Total Cost (construction/equipment): $9.98M
  - Estimated Completion date: February 2017
  - Approximately 976 occupied lots 235 vacant lots

Status of Project

- Contract C-Stevens and Layton
  - Total Cost (construction/equipment): $6.76M
  - Estimated Completion date: August 2016
  - Approximately 591 occupied lots 174 vacant lots
- Contract D – TBD anticipated bid date August
  - 60% preliminary engineering design complete
  - Complete water main replacement
  - Total Cost (Estimate): $5.25M
  - Approximately 347 occupied lots 25 vacant lots

Contract A: Vacuum Lift Station Installation

How does the Vacuum System work?

- When 10 gallons of wastewater collects in the sump, the AIRVAC valve opens and differential pressure propels the contents into the vacuum main.
- Wastewater travels at 15 to 18 feet per second in the vacuum main to the vacuum station. The vacuum main is laid in a sawtooth fashion to ensure adequate negative pressure at the end of each line.
- At the vacuum station, vacuum pumps cycle on and off as needed to maintain a constant level of vacuum on the entire system. Wastewater enters the collection tank and when the tank fills to a predetermined level, sewage pumps transfer the contents to the treatment plant via a force main.

Vacuum Station Final Touches

Vacuum Station Final Touches

Vacuum Station

Internal View

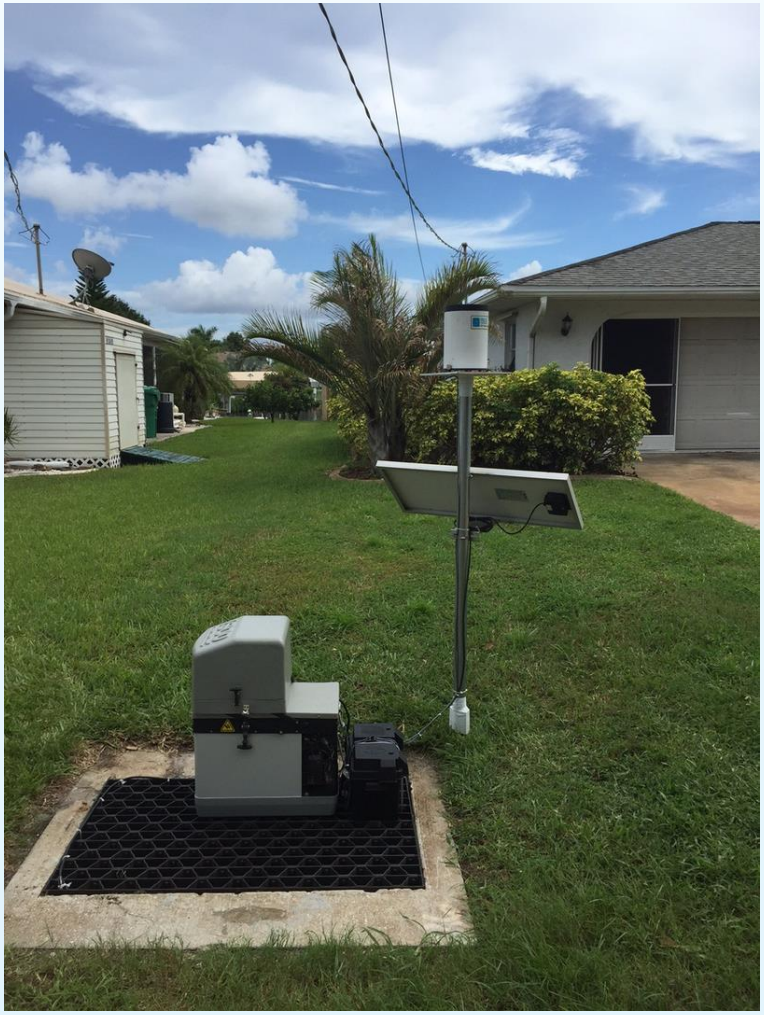
Internal View Vacuum Station

Internal View Vacuum Station

Projected Connection Schedule

- Contract A-Vacuum Station
  - Scheduled for April 2016
- Connections scheduled to begin
  - Contract B
    - May 2016
  - Contract C
    - May 2016
  - Contract D
    - TBD

Spring Lakes Storm Event Sample Results



REVISIONS

Spring Lake Monitoring
Charlotte County, Florida

JOHNSON ENGINEERING

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

Phase I Sample Locations

DATE	PROJECT	JOB NO.	SCALE	SHEET

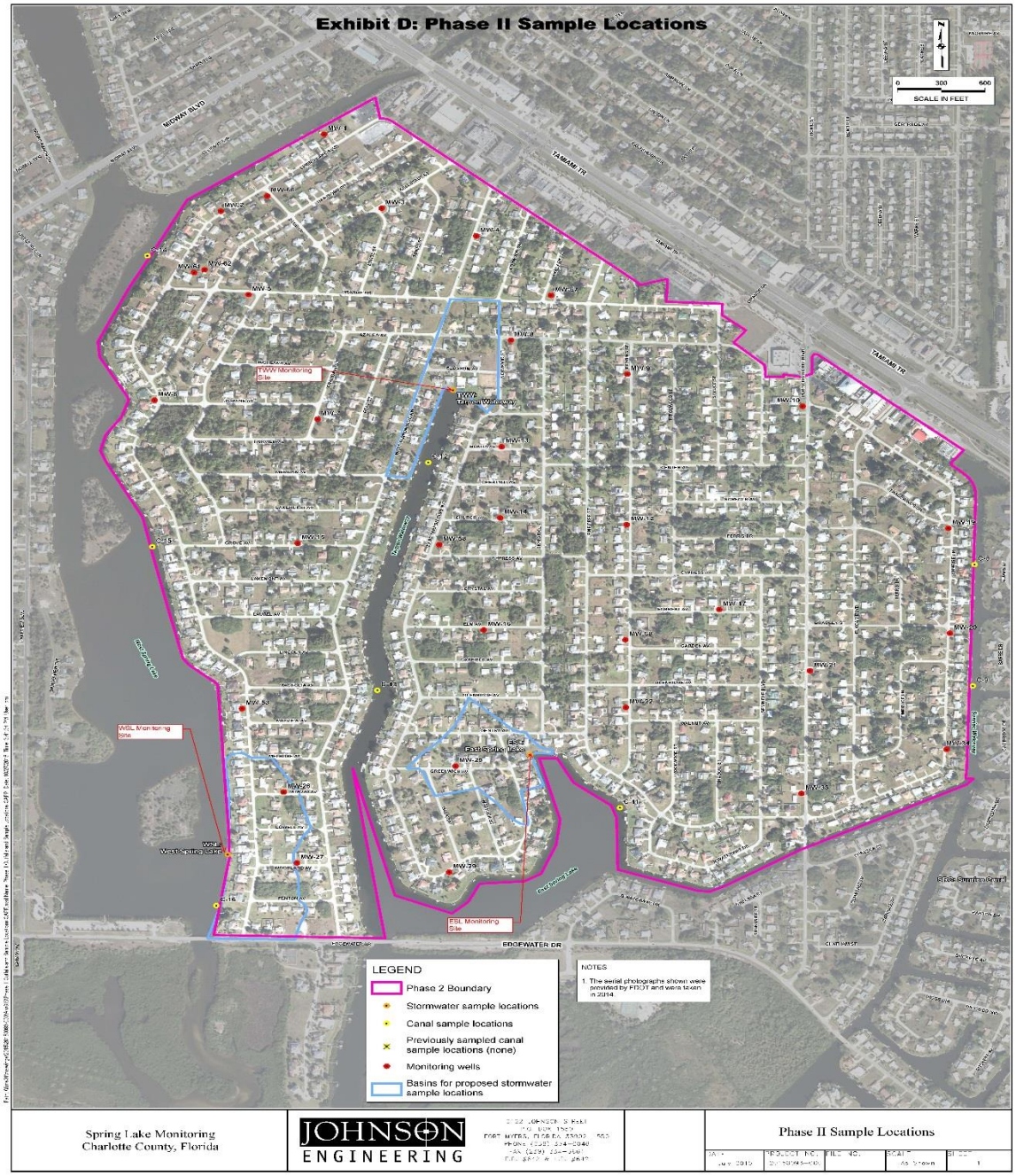


Exhibit D: Phase II Sample Locations
N
0
300
600
SCALE IN FEET
MIDWAY BLVD
TAMIAMI TR
TWW Monitoring Site
TWW Tarpon Wastewater
WSL Monitoring Site
WSL West Spring Lake
ESL Monitoring Site
ESL East Spring Lake
EDGEWATER DR
LEGEND
Phase 2 Boundary
Stormwater sample locations
Canal sample locations
Previously sampled canal sample locations (none)
Monitoring wells
Basins for proposed stormwater sample locations
NOTES
1. The aerial photographs shown were provided by FDOT and were taken in 2014.
Spring Lake Monitoring
Charlotte County, Florida
JOHNSON ENGINEERING
Phase II Sample Locations

Spring Lakes Storm Event Sample Results

Table 1: Phase I Pre-Construction Sample Results

Date	Site	Ammonia (mg/L)	TKN (mg/L)	TN (mg/L)	Nitrate + Nitrite (mg/L)	TP (mg/L)	Fecal Coliform (col/100mL)	BOD (mg/L)	TSS (mg/L)	Temp (°C)	SpCond (ms/cm)	DO (%)	pH	Turbidity (NTU)
9/29/2015	EWW	0.205	1.050	1.180	0.131	0.751	6,000	2.00	3.9	21.31	4.62**	60.3	7.41	10.03
1/15/2016	SRC	0.015	0.701	0.747	0.046	0.442	1,800	2.15	16.0	20.46	0.14	92.0	7.02	21.88
1/15/2016	EWW	0.071	0.908	1.090	0.180	0.718	23,000	4.44	2.9	15.89	0.18	102.8	7.69	2.63
1/28/2016	SRC	0.072	0.799	0.929	0.130	0.652	780	2.00	0.4	20.35	0.43	74.3	7.04	3.12
2/4/2016	SRC	0.073	1.090	1.200	0.114	0.633	780	4.15***	14.5	18.49	0.70	48.5	6.74	8.44
2/24/2016	SRC	0.112	0.842	0.895	0.053	0.542	No data *	3.17***	34.4	8.50	0.04	76.6	6.53	35.89
2/24/2016	EWW	0.008	0.968	1.140	0.176	0.363	No data *	4.14***	1.1	6.40	0.09	76.0	6.50	1.71

* No fecal coliform data were collected as no water remained at the sample locations when the automated samples were collected.
** Sample likely influenced by the tide as indicated by the specific conductance value above the 4.58 ms/cm freshwater threshold.
*** Sample refrigerated at 4 degrees C for approximately 24 hours.

Table 2: Phase II Pre-Construction Sample Results

Date	Site	Ammonia (mg/L)	TKN (mg/L)	TN (mg/L)	Nitrate + Nitrite (mg/L)	TP (mg/L)	Fecal Coliform (col/100mL)	BOD (mg/L)	TSS (mg/L)	Temp (°C)	SpCond (ms/cm)	DO (%)	pH	Turbidity (NTU)
9/6/2015	TWW	0.060	1.37	1.440	0.069	0.695	700	2.07	0.8	28.26	0.397	82.5	11.65**	2.91
9/6/2015	ESL	0.108	1.78	1.960	0.178	1.450	7,000	7.43	55.3	27.67	0.599	77.0	15.98**	1.70
9/6/2015	WSL	0.136	1.17	1.200	0.031	1.430	1,600	2.00	0.8	28.73	0.378	72.4	15.41**	3.94
9/8/2015	TWW	0.075	1.46	1.550	0.087	0.701	600	2.62	3.6	31.44	0.416	76.8	17.29**	2.22
9/8/2015	ESL	0.299	1.79	1.930	0.142	0.729	800	8.83	1.2	30.17	0.664	80.3	13.64**	2.50
9/8/2015	WSL	0.293	2.11	2.150	0.041	2.120	3,600	4.26	2.5	32.16	0.550	79.0	10.35**	3.58
9/17/2015	TWW	0.081	1.21	1.290	0.084	0.545	500	2.89	2.7	17.88	0.360	78.2	8.94	3.35
9/17/2015	ESL	0.410	1.70	2.090	0.388	0.711	600	4.05	1.9	28.83	0.888	82.3	7.90	6.70
9/17/2015	WSL	0.443	1.93	1.990	0.058	1.950	23,000	2.15	1.7	27.46	0.737	71.4	7.71	2.78
9/29/2015*	TWW	0.206	1.67	1.810	0.142	2.220	48,000	7.41	362.0	7.49	0.110	74.4	8.75	566.00***
9/29/2015*	ESL	0.078	0.79	0.883	0.093	0.606	22,000	4.19	11.4	11.50	0.130	73.6	8.45	10.99
9/29/2015*	WSL	0.212	1.57	1.650	0.079	1.180	24,000	3.71	15.2	12.05	0.140	64.2	8.56	58.62

* All readings were taken from refrigerated automated sampler.
** Invalid reading due to probe malfunction.
*** Sediment in sample.

Questions/Comments