



April 8, 2016

Mr. Andrew S. Roberts, PE, CFM, LEED AP
Stormwater Engineer IV
City of Gainesville Public Works
405 NW 39th Avenue
Box 490, Station 48
Gainesville, FL 32609

Re: Proposal to Provide Environmental Consulting Services to the City of Gainesville for the Depot Park Regional Stormwater Treatment Facility

Dear Mr. Roberts:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), has prepared the following cost proposal to provide Environmental Consulting Services to the City of Gainesville in support of the Florida Department of Environmental Protection (FDEP) Grant Agreement No. S0826. This grant project consists of monitoring the effectiveness of the Depot Park stormwater treatment facilities. The stormwater monitoring of the Depot Park constructed treatment system will be performed under the current continuing services agreement between the City of Gainesville and Amec Foster Wheeler for Professional Environmental Engineering Services.

Project Background

The City of Gainesville (City) constructed a stormwater treatment facility (STF) within a park setting on a 35-acre brownfield site known as Depot Park. The site is located on the southeast quadrant of the intersection of Main Street and Depot Avenue in downtown Gainesville (**Figure 1**). The site underwent significant soil and groundwater remediation to remove contaminants, primarily from a former manufacturing gas plant, as well as contaminants from several leaking underground petroleum product storage tanks and wood preserving chemicals associated with railroad track cross-ties. Site remediation was completed in 2012 and the STF/park construction activities began in 2014 and are ongoing.

The STF consists of pre-treatment baffle boxes, wet detention ponds, sediment fore bays, and a wetland treatment system. The system also includes a recirculation pump between the upstream and downstream ponds to facilitate treatment system circulation and flow through the wetland marsh. Aerators were installed in the ponds to facilitate biological oxygen demand (BOD) removal. Stormwater from approximately 49 acres of downtown Gainesville currently flows to the park through a gravity storm sewer system. The City is currently in the process of constructing a pump station on the Sweetwater Branch that will deliver storm flow from the Sweetwater Branch to the park site for treatment. The basin upstream of the Sweetwater Branch pump station is approximately 730 acres. The pump station is designed to pump the "first flush" of runoff to Depot Park for treatment.

The treated stormwater is discharged to Sweetwater Branch Creek, which in turn flows to Alachua Sink, a water body that is currently impaired with respect to nutrients. The treatment system was designed to remove a significant percentage of the nutrient content of the urban runoff, as well as additional pollutants, such as metals and suspended solids. Reduction in nutrient loading to Alachua Sink is a priority of the Orange Creek Basin Management Action Plan (BMAP). The goal of the BMAP for the

Correspondence:
Amec Foster Wheeler
404 SW 140th Terrace
Newberry, Florida
USA 32669-3000
Tel +1 352 332 3318
Fax +1 352 333 6622

Alachua Sink is to reduce nutrient concentrations to the permissible total maximum daily load (TMDL), allowing the waterbody to achieve Class III water use designation.

The monitoring done under this project will evaluate the treatment effectiveness of the new stormwater management system at Depot Park at each of the main transfer points in the treatment train. **Figure 2** shows the six proposed monitoring sites. Monitoring will be a combination of water quality sampling and debris removal and evaluation, depending on the particular best management practice. This should give a wide range of effectiveness results from the different treatment methods employed at Depot Park. Tasks 1 through 3 provide more detail about the monitoring work being accomplished with the grant agreement.

Scope of Services

Task 1: Quality Assurance Project Plan (QAPP)

Prior to initiating monitoring activities on this project, a draft QAPP will be developed and provided to the FDEP Grant Manager for review and comments. The FDEP will provide comments to the City on the draft QAPP. A final QAPP will be prepared by Amec Foster Wheeler that addresses FDEP concerns. No monitoring work will commence prior to the FDEP's approval of the project QAPP.

FDEP's Standard Operating Procedures (SOP) and quality assurance Chapter 62-160, Florida Administrative Code (F.A.C.), will be followed for the collection, handling, preservation and transport of samples by Amec Foster Wheeler. The QAPP will address ancillary data collection and means for data quality evaluation and reporting. Procedures used to maintain and decontaminate sampling equipment will also be included in the QAPP. The laboratory selected to provide analytical services will be National Environmental Laboratory Accreditation Conference (NELAC) certified for all parameters monitored in this project, and a copy of the NELAC certificate will be provided in the QAPP.

Monitoring Locations: In order to determine the effectiveness of the STF to reduce pollutant loads, sampling of each treatment component during storm events will be conducted. **Figure 2** provides a schematic of the STF and the proposed monitoring locations. The treatment system will be monitored at six strategic locations throughout the treatment train. These sampling locations are identified as follows:

- ▶ Site 1- Inlet side of downtown Gainesville baffle box
- ▶ Site 2- Inlet side of Sweetwater Branch baffle box
- ▶ Site 3- Phase II Pond discharge
- ▶ Site 4- Wetland Marsh discharge
- ▶ Site 5- Phase I Pond Recirculation to Phase II Pond
- ▶ Site 6- Discharge from site to Sweetwater Branch

Storm Sampling: Amec Foster Wheeler will collect samples from nine storm events at each of the six sampling locations. A maximum of two samples per station shall be collected per month to evaluate seasonal variability on water quality. Samples shall be flow-weighted composites representative of the storm hydrograph.

Storm event sample collection will be done using automated composite samplers. The samplers will be interfaced with several peripheral devices including:

- ▶ A rain gauge to continuously monitor rainfall, as well as activate the sampler's collection program after a threshold rainfall total occurs;
- ▶ A stage/velocity sensor to continuously monitor water conveyance structures (e.g. pipe, swale, ditch, etc.) to provide flow volume data for pollutant load calculations. This device, in conjunction with the rain gauge, can also serve to activate the sampling program when a threshold stage is reached. Additionally, this device will pace the samplers in order to collect flow-proportioned composite samples; and,
- ▶ A cellular modem to provide remote access to flow and rainfall data, and to notify designated project team members that the sampler has initiated sample collection.

The rainfall and stage/velocity data will be transmitted to the sampler's data logger for a permanent record of these metrics. These data can be accessed via the modem or can be downloaded to a laptop computer/tablet on site or remotely.

The sampler will have a refrigerated composite sample container compartment. The refrigeration system is activated upon collection of the first composite sub-sample and can maintain the sample at 4°C for up to 48 hours. The system can use either AC power where available or DC power provided by deep-cycle 12-volt batteries.

Per the analytical parameters listed in the TMDL Grant Application, which is the source of funding for this project, storm event samples will be analyzed for the following:

- ▶ Total Cadmium
- ▶ Total Copper
- ▶ Total Hardness
- ▶ Total Kjeldahl Nitrogen
- ▶ Total Phosphorus
- ▶ Total Suspended Solids
- ▶ Fecal Coliform
- ▶ Total Chromium
- ▶ Total Zinc
- ▶ Nitrate + Nitrite
- ▶ Total Ammonia
- ▶ Orthophosphate
- ▶ Oil & Grease

Appropriate analytical methods with suitable detection limits will be used to allow comparison with surface water quality standards as published in Chapter 62-302, F.A.C. In addition to storm sampling, Amec Foster Wheeler will coordinate with the City in order to be on site during the quarterly baffle box maintenance events with City staff. Amec Foster Wheeler will measure the sediment thickness in the baffle box, document the amount of material collected in the filtration screen, and take photographs as necessary. City staff will document the weight of material collected and provide that to Amec Foster Wheeler.

Deliverables: Draft QAPP in Word format for review and comment; Final FDEP-approved QAPP in Word and Adobe formats

Performance Measures: The FDEP Grant Manager or FDEP Quality Assurance staff will review the draft QAPP for compliance with this agreement and the quality assurance requirements and provide comments to the City as needed. The Final QAPP will be reviewed to ensure that comments on the draft were given consideration in the final version.

Timeline: Task will be completed and final deliverables received by the FDEP by July 15, 2016.

Budget: \$10,652 Grant Funding - Contractual Services.

Task 2: Site Preparation and Installation

Amec Foster Wheeler will prepare all equipment for deployment to the Depot Park monitoring site. Equipment will include composite samplers, velocity and/or ultrasonic level sensors, rain gauges, batteries, enclosures, solar panels, and any other required equipment needed to install monitoring equipment and perform the monitoring for this project. Amec Foster Wheeler will deliver and install the equipment at the six sampling sites listed in Task 1 and shown on **Figure 2**. The equipment then will be programmed with site-specific information in order to collect level and discharge data. All equipment will be calibrated and tested prior to completing the installation. The monitoring site will be set up according to the details outlined in the approved QAPP.

Deliverables: Station setup report with dated, before and after, photographs of each of the six sampling stations.

Performance Measures: The FDEP Grant Manager will review the report and photographs to assure that the monitoring installation setup has been completed as outlined in the approved QAPP.

Timeline: Task must be completed and deliverables received by the FDEP by August 31, 2016.

Budget: \$21,548 Grant Funding - Contractual Services.

Task 3: Quarterly Monitoring

Amec Foster Wheeler will collect continuous rainfall, level, and flow data, as well as collect composite flow weighted stormwater samples that meet the conditions outlined in the QAPP with regards to rainfall for four quarters. They also will document the materials removed from the baffle boxes. After each quarter, Amec Foster Wheeler will prepare a quarterly report. The quarterly report will present the results of the quarter's efforts toward monitoring and will include monitoring data, laboratory results, baffle box materials removal results, pollutant removal efficiency calculations for STF components, compliance results with respect to adherence to monitoring quality assurance protocols, any problems encountered during the quarter, and resolutions implemented. Quarterly monitoring reports will be submitted to the FDEP no later than 30 days following the end of each three calendar month period.

Task 3 is split into four quarters. Each quarter will provide deliverables and have performance measures as outlined below. The estimated budgets by quarter based on the most desired monitoring circumstances are outlined below. Quarter 1 (Q1) budget includes collecting three sets of samples. Quarters 2 through 4 (Q2, Q3, and Q4) are based on collecting two sets of samples per quarter. The cost per sample (not including fixed monthly costs) is \$12,158.20. No more than three sets of samples shall be collected per quarter. If more or less samples are collected in any quarter due to lack of rainfall or an abundance of rainfall or because of other unexpected complications out of the control of the City or their consultants, a prorated amount will be charged based on the per sample cost of \$12,158.20. Also, if any element of the monitoring plan is not implemented, the analytical costs associated with that element will be backed out of the costs in accordance with the subcontracted cost schedule. The per sample costs include labor associated with collecting the samples, lab costs, data analysis, system maintenance, and a prorated amount for quarterly monitoring report writing. A maximum of nine sets of samples will be collected for this project.

Quarter 1 (Q1)

Deliverables: Quarterly report containing monitoring data, laboratory results, baffle box materials removal results, pollutant removal efficiency calculations for STF components, and compliance results.

Performance Measures: The FDEP Grant Manager will review the quarterly monitoring reports to verify and quantify progress and resolve any problems.

Timeline: Task must be completed and deliverables received by the FDEP by December 31, 2016.

Budget: \$49,974.60 Grant Funding -Contractual Services.

Quarter 2 (Q2)

Deliverables: Quarterly report containing monitoring data, laboratory results, baffle box materials removal results, pollutant removal efficiency calculations for STF components, and compliance results.

Performance Measures: The FDEP Grant Manager will review the quarterly monitoring reports to verify and quantify progress and resolve any problems.

Timeline: Task must be completed and deliverables received by the FDEP by March 31, 2017.

Budget: \$37,816.403 Grant Funding -Contractual Services.

Quarter 3 (Q3)

Deliverables: Quarterly report containing monitoring data, laboratory results, baffle box materials removal results, pollutant removal efficiency calculations for STF components, and compliance results.

Performance Measures: The FDEP Grant Manager will review the quarterly monitoring reports to verify and quantify progress and resolve any problems.

Timeline: Task must be completed and deliverables received by the FDEP by June 30, 2017.

Budget: \$37,816.40 Grant Funding -Contractual Services.

Quarter 4 (Q4)

Deliverables: Quarterly report containing monitoring data, laboratory results, baffle box materials removal results, pollutant removal efficiency calculations for STF components, and compliance results.

Performance Measures: The FDEP Grant Manager will review the quarterly monitoring reports to verify and quantify progress and resolve any problems.

Timeline: Task must be completed and deliverables received by the FDEP by September 30, 2017.

Budget: \$37,816.40 Grant Funding -Contractual Services.

Task 4: Demobilization of Monitoring Equipment and Final Monitoring Report

Amec Foster Wheeler will demobilize from the Depot Park monitoring site by removing all of the company's sampling equipment. Amec Foster Wheeler will prepare a final monitoring report. The final report will combine the results of the year's monitoring efforts to determine the effectiveness of the Depot Park stormwater treatment facilities. The report will synthesize the overall treatment system monitoring results and the results for each treatment system component monitored. Pollutant removal efficiency calculations for the STF components and the system as a whole will be provided. The final report may include a summary of quality assurance protocols, problems encountered during monitoring, and the resolutions implemented, if the quarterly monitoring reports are included in the final report as appendices. Otherwise, the final report should go into greater details about the project issues in order to present a full story of the project. The final report should include conclusions regarding improvements needed to make any part of the storm water system function better if any or all of the treatment system fails to meet performance expectations with respect to pollutant load reductions.

Deliverables: Final monitoring report in Word and Adobe formats (electronic copy and one paper copy for the City).

Performance Measures: The FDEP Grant Manager will review the final monitoring report prepared by the consultants and submitted by the City to assure it properly represents the monitoring efforts of the four quarters and is completely understandable in its conclusions. The FDEP's Grant Manager will notify the City of acceptance of the final report.

Timeline: Task must be completed and deliverables received by the FDEP by October 31, 2017.

Budget: \$4,273 Grant Funding -Contractual Services.

Costs

Amec Foster Wheeler has estimated the costs for the proposed activities to be \$199,897 on a lump sum basis. Invoicing will be conducted at completion of each Task.

Amec Foster Wheeler will perform the above scope of services for the following fees:

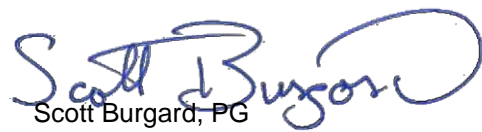
Task No.	Category	Grant Funding
1	Contractual Services	\$10,652.00
2	Contractual Services	\$21,548.00
3	Quarter 1 (Q1) Contractual Services	\$49,974.60
	Quarter 2 (Q2) Contractual Services	\$37,816.40
	Quarter 3 (Q3) Contractual Services	\$37,816.40
	Quarter 4 (Q4) Contractual Services	\$37,816.40
	Total for Task 3	\$163,423.80
4	Contractual Services	\$4,273.00
Total		\$199,897.00

Please do not hesitate to contact our office with any questions or comments.

Sincerely,
Amec Foster Wheeler Environment & Infrastructure, Inc.

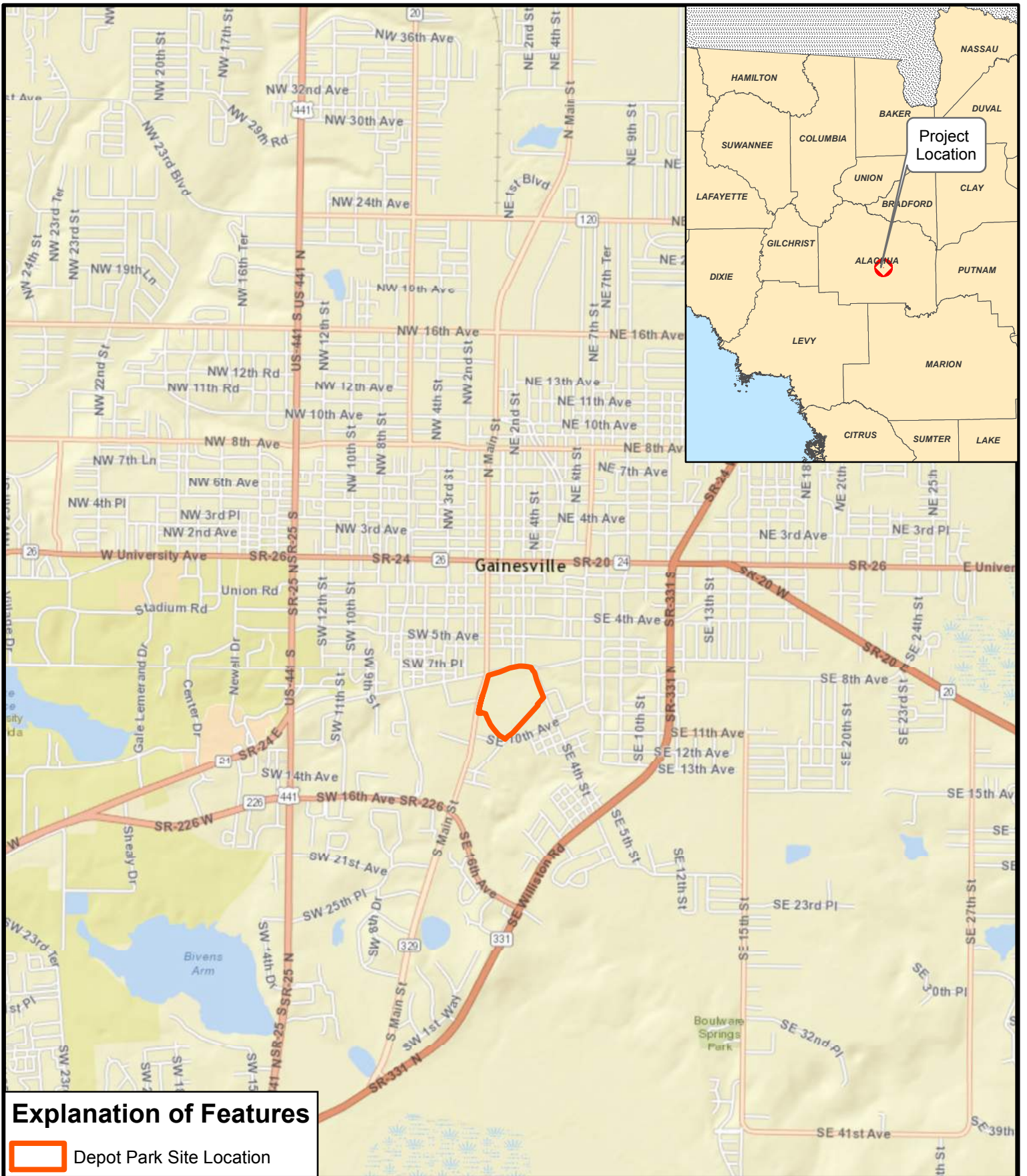


Tiffany Davies, PE
Senior Engineer
Direct Tel: +1 352 332 3318
Direct Fax: +1 352 333 6622
E-mail: tiffany.davies@amecfw.com



Scott Burgard, PG
Principal Geologist
Direct Tel: +1 352 333 1631
Direct Fax: +1 352 333 6622
E-mail: scott.burgard@amecfw.com

Attachments
Figure 1 Project Location
Figure 2 Sampling Points



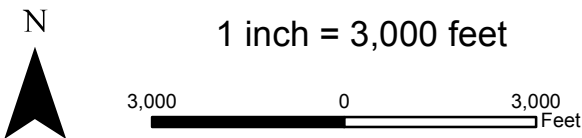
Explanation of Features

 Depot Park Site Location

Source: ESRI Street Map 2012; AAF 2015; AMECFW 2015

Project Location Map

City of Gainesville Depot Park Stormwater Facility

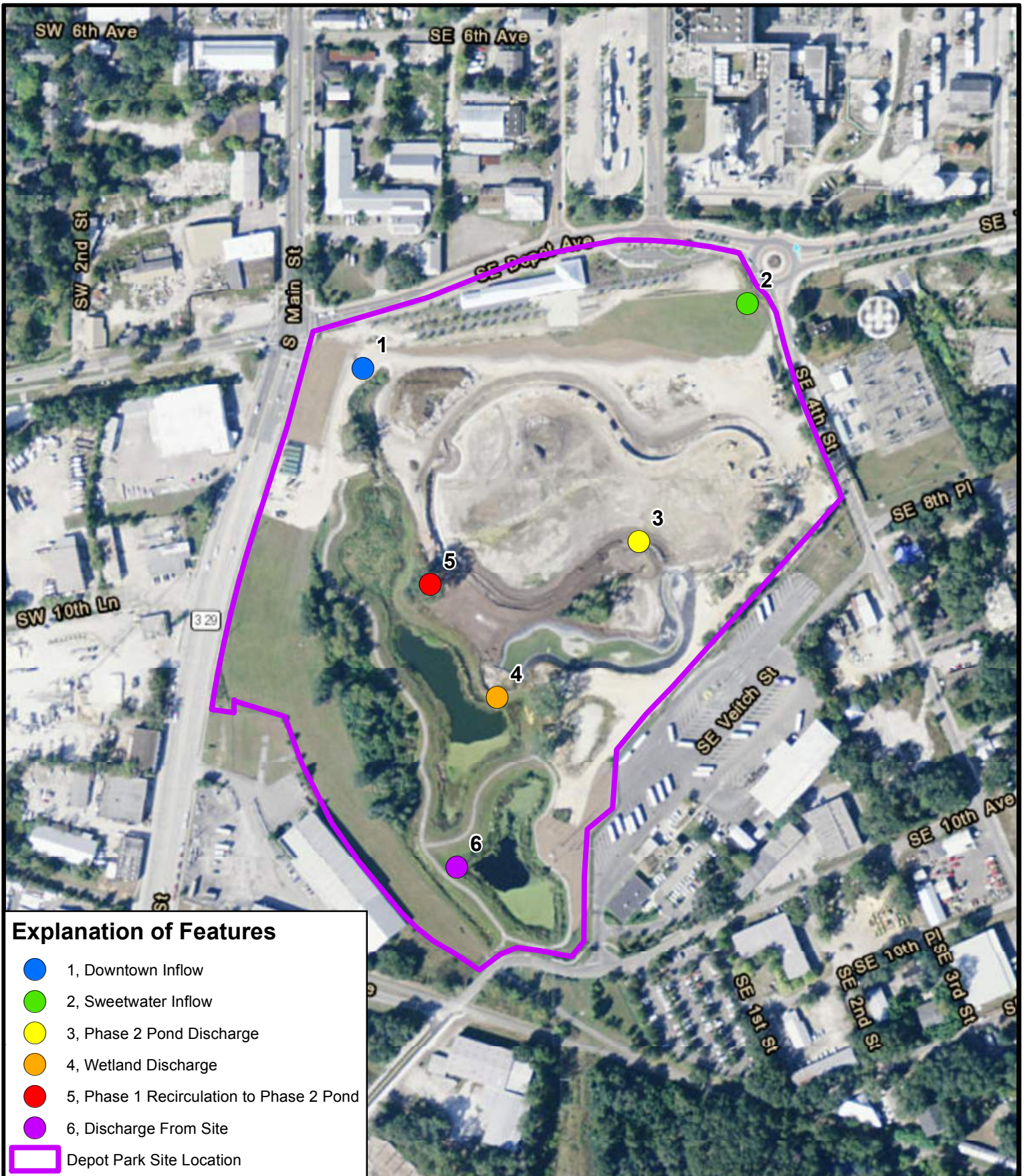


Drawn	Date	Gainesville
DLA	3/31/2016	Florida
Checked	Date	Project No.
TSK	3/31/2016	6063-15-0250

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Figure 1



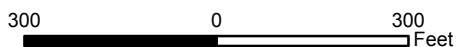
Explanation of Features

- 1, Downtown Inflow
- 2, Sweetwater Inflow
- 3, Phase 2 Pond Discharge
- 4, Wetland Discharge
- 5, Phase 1 Recirculation to Phase 2 Pond
- 6, Discharge From Site
- Depot Park Site Location

Source: ESRI Street Map 2015; AMECFW 2015



1 inch = 300 feet



Monitoring Locations Map

City of Gainesville Depot Park Stormwater Facility

Drawn	Date	Gainesville
DLA	4/4/2016	Florida
Checked	Date	Project No.
TSK	4/4/2016	6063-15-0250

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Figure 1