

ATTACHMENT A SCOPE OF WORK

Project Title: DEPOT PARK REGIONAL STORMWATER TREATMENT FACILITY

Project Summary: This grant project consists of monitoring the effectiveness of the City of Gainesville Depot Park stormwater management facilities. The construction of the facilities is the match for the grant.

The City of Gainesville 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 manufactured gas plant, with secondary 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 STF/park construction activities began in 2014.

The STF consists of pretreatment baffle boxes, two wet detention ponds with sediment forebays, and a wetland marsh connecting the upstream and downstream wet detention ponds. 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 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 upstream basin contributing flows to the Sweetwater Branch at the pump station location 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 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.

TASK 1

Task Title: Quality Assurance Project Plan (QAPP)

Task Description: Prior to initiating monitoring activities on this project, a draft Quality Assurance Project Plan (QAPP) will be developed and provided to the Department Grant Manager for review and comments. The Department’s standard operating procedures (SOP) and quality assurance Rule 62-160 will be followed for the collection, handling, preservation and transport of samples by the city’s consultant ECT. The QAPP will address ancillary data collection and means for data quality evaluation and reporting. Procedures used to maintain and decontaminate sampling equipment also will be included in the QAPP. The laboratory selected to provide analytical services will be 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:

- 1 – Inlet side of downtown Gainesville baffle box
- 2 – Inlet side of Sweetwater Branch baffle box

- 3 – Phase II Pond discharge
- 4 – Wetland Marsh discharge
- 5 – Phase I Pond Recirculation to Phase II Pond
- 6 – Discharge from site

Storm Sampling: ECT will collect samples from nine (9) 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 ISCO Avalanche 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 also can serve in conjunction with the rain gauge 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 degrees Celsius 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 Total Maximum Daily Load (TMDL) Grant application, which is the source of funding for this project, storm event samples will be analyzed for the following:

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

Appropriate analytical methods with suitable detection limits will be used to allow comparison with surface water quality standards as published in FAC, Chapter 62-302.

In addition to storm sampling, ECT will coordinate with City of Gainesville Public Works in order to be on site during the quarterly baffle box maintenance events with the city staffs. ECT will measure the sediment thickness in the baffle box, document the amount of material collected in the filtration screen,

and take photographs as necessary. Public Works staff will document the weight of material collected and provide that to ECT.

Task Deliverables: Draft Quality Assurance Project Plan (QAPP) for review and comment; Final QAPP
Task Performance Measures: The Department Grant Manager or Quality Assurance staff will review and provide comments on the Draft QAPP. The Final QAPP will be reviewed to ensure that comments on the draft were given consideration in the final version.
Task Timeline: Month 1 – Month 3; Task must be completed and deliverables received by the Department by the end of Month 3.
Task Budget: \$10,652 Grant Funding – Contractual Budget Category

TASK 2

Task Title: Site Preparation and Installation
Task Description: ECT 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 perform the monitoring for this project. ECT 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 tested prior to completing the installation. The monitoring site will be set up according to the details outlined in the approved QAPP.
Task Deliverables: Station setup report with dated before and after photographs of each of the six sampling stations
Task Performance Measures: The Department Grant Manager will review the report and photographs to assure that the monitoring installation setup has been completed as outlined in the approved QAPP.
Task Timeline: Month 4 – Month 5; Task must be completed and deliverables received by the Department by the end of Month 5.
Task Budget: \$21,548 Grant Funding – Contractual Budget Category

TASK 3

Task Title: Quarterly Monitoring
Task Description: ECT will continuously collect rainfall, level, and flow data, as well as collect composite flow-weighted stormwater samples that meet the conditions outlined in the QAPP for four (4) quarters and document the materials removed from the baffle boxes. After each quarter, ECT 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.
Task Deliverables: Quarterly monitoring reports due 30 days following the end of each three month period, starting with the first full month following Month 5 of the grant agreement
Task Performance Measures: The Department Grant Manager will review the quarterly monitoring reports to verify and quantify progress and resolve any problems.
Task Timeline: Month 6-19; Task must be completed and deliverables received by the Department by the end of Month 19.
Task Budget: Quarterly Budget - \$40,856 Grant Funding – Contractual Budget Category
Total Task Budget - \$163,424 Grant Funding – Contractual Budget Category

NOTE: The quarterly costs may exceed or under run the anticipated amount, as long as the total cost of the four (4) quarters does not exceed the total Task 3 budget. If more than three samples are collected in a quarterly period, a prorated amount from the following quarter may be billed to cover project expenses. Also, if any element of the monitoring plan is not implemented, the analytical costs associated with that element will be backed out in accordance with the subcontracted cost schedule.

TASK 4

Task Title: Demobilization of Monitoring Equipment and Final Monitoring Report
Task Description: ECT will demobilize from the Depot Park monitoring site by removing all of the

company’s sampling equipment. ECT 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 stormwater system function better if any or all of the treatment system fails to meet performance expectations with respect to pollutant load reductions.

Task Deliverables: Final monitoring report (electronic copy and two paper copies)

Task Performance Measures: The Department 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.

Task Timeline: Month 19 – Month 20; Task must be completed and deliverables received by the Department by the end of Month 20.

Task Budget: \$4,273 Grant Funding – Contractual Budget Category

TASK 5

Task Title: Project Administration and Grant Match Documentation

Task Description: The City of Gainesville staff will be responsible for all administration duties related to the grant project. The staff will provide quarterly progress reports to the Department Grant Manager independent of the quarterly monitoring reports that will be submitted as deliverables for the monitoring tasks. The city will be responsible for submitting reimbursement requests and adequate backup documentation for auditing purposes.

The city staff will provide match documentation for the Depot Park construction work to the Department Grant Manager at the earliest possible time after grant agreement execution to avoid retainage being held on reimbursement requests. Documentation will consist of financial records showing city payments for construction work completed after the city was notified of its TMDL grant award, as well as the certification authorizing use of the system and the certified as-builts (electronic format) for the entire stormwater project at Depot Park.

Task Deliverables: Financial records showing city payments for Depot Park stormwater treatment facilities construction work; certification authorizing use of the stormwater system; and, the certified as-builts (electronic format) for the Depot Park stormwater treatment system

Task Performance Measures: The Department Grant Manager will review the as-builts and certification authorization for system use to ensure the treatment system is completed as described in the grant application package. The Department Grant Manager will review the financial records provided by the city staff to be sure they represent the Depot Park stormwater treatment system construction work, to be sure the city paid for the work that is being counted as grant match, and to sure that all costs are allowable under state laws.

Task Budget: \$199,897 Match funding – Contractual Budget Category

PROJECT BUDGET BY CATEGORY

Category	TMDL Grant Funding	City of Gainesville Match Funding
CONTRACTUAL	\$199,897	\$199,897
TOTAL TMDL PROJECT BUDGET:	\$399,794	

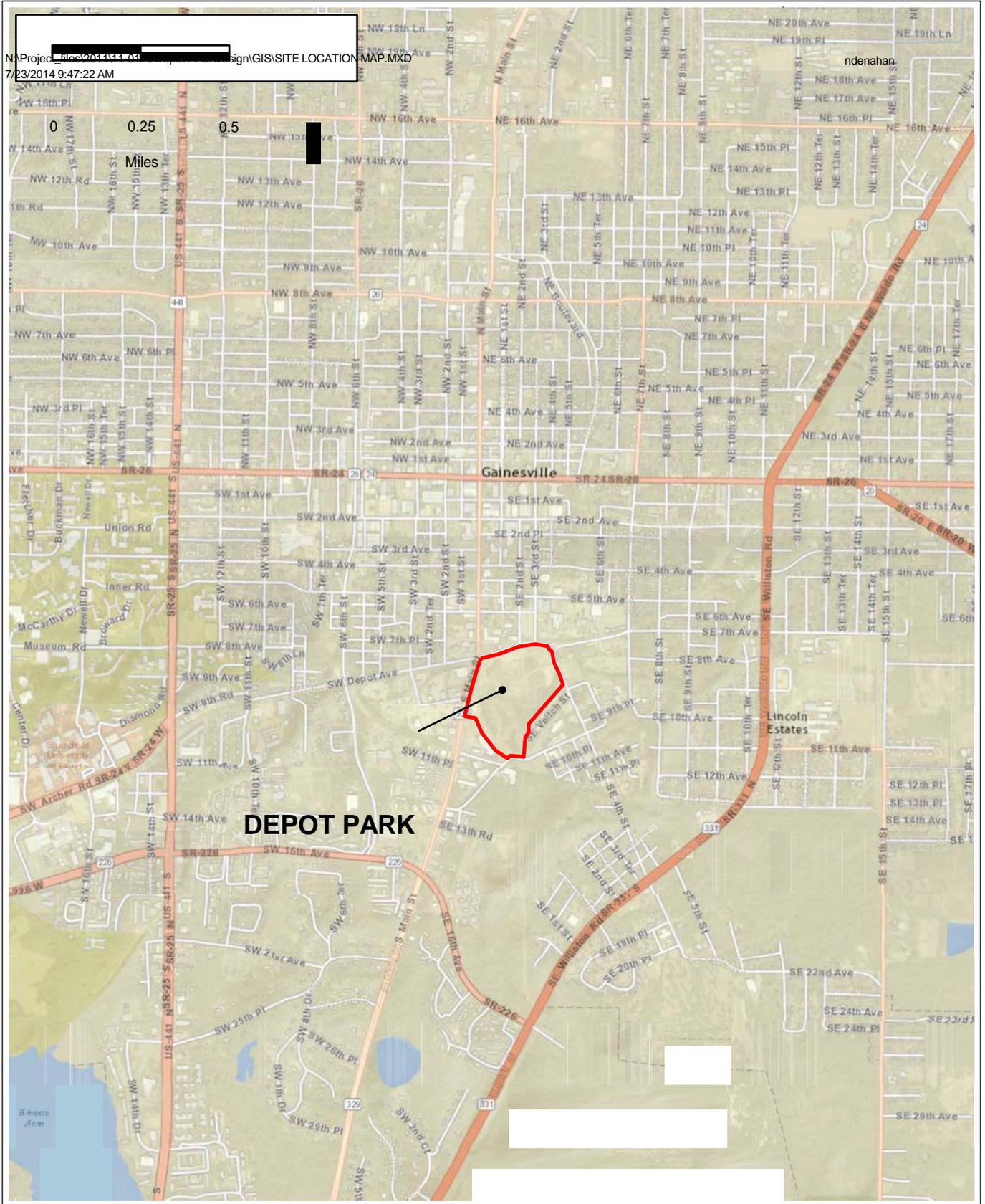


FIGURE 1
DEPOT PARK SITE LOCATION

Sources: ECT, 2014



Figure 2: Depot Park Stormwater Treatment Facility and Monitoring Locations

