

**AMENDMENT NO. 1
TO
AGREEMENT BETWEEN OWNER AND CONSULTANT
DR-905**

WHEREAS, an Agreement was entered into as of August 23, 2017 between **THE MAYOR AND ALDERMEN OF THE CITY OF SAVANNAH (OWNER)** and **THOMAS & HUTTON ENGINEERING, CO. (CONSULTANT)** for the SPRINGFIELD BASIN – MODEL CALIBRATION, POTENTIAL FLOODPLAIN MITIGATION AREAS AND GEMA PROJECTS DR-905 (PROJECT).

WHEREAS, the scope of the Project has been increased to include the following:

- Providing additional consulting services required to update the Springfield Basin Calibrated XPSWMM model to include a proposed development build-out scenario for the Lower Springfield Canal Basin.
- Other scope of services required of City Stormwater to meet their strategic plan goals for the Springfield Basin.

The proposed expanded scope of services and justification is detailed in the attached Exhibit "A".

NOW THEREFORE, the OWNER and CONSULTANT agree to amend the PROJECT scope as described herein and to increase the basic services from \$82,500.00 to \$130,380.00 for an increase of \$47,880.00.

IN WITNESS WHEREOF, the parties hereto have made and executed this Amendment this _____ day of _____, 2018.

**THE MAYOR AND ALDERMEN OF THE
CITY OF SAVANNAH, GEORGIA**

Witness

City Manager

THOMAS & HUTTON ENGINEERING CO.

Witness

Benny K. Jones, Jr., PE

Benny K. Jones, Jr., PE
Senior Vice President/COO

Notary Public

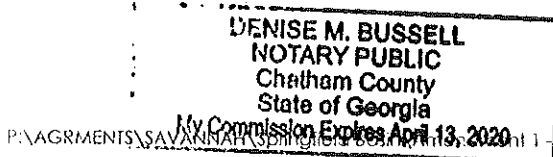


Exhibit "A"

AMENDED SCOPE OF SERVICES

For:

Amendment No. 1 to the Springfield Canal/Basin Project (DR-905)

GENERAL

WHEREAS, the OWNER has requested the CONSULTANT to provide additional consulting services required to update the Springfield Basin Calibrated XPSWMM model to include a proposed development build-out scenario for the Lower Springfield Canal Basin.

NOW, THEREFORE the OWNER and ENGINEER agree to amend the project to include the following amended services. Scope includes additional general study services, and is specifically limited to, the following:

DESCRIPTION OF ADDITIONAL SERVICES:

This project includes revision to the Springfield Canal Basin Calibrated XPSWMM model, performed by Thomas & Hutton in December 2017, to simulate the effects of anticipated, proposed development within the Lower Springfield Canal Basin. In general, the additional services include providing additional hydrologic and hydraulic calculations, XPSWMM model revisions and a summary technical memorandum with canal improvement exhibits.

1. SCOPE OF SERVICES

A. General Consulting Phases

1. Project Team Meetings

The Consultant shall provide attend two (2) project team meetings and conference calls at the request of the Owner. Services shall be provided on a Time and Expense basis.

B. General Study/Report Phases

1. Springfield Canal Basin XPSWMM Calibrated Model – Lower Springfield Canal Proposed Development Scenario

Model Revisions

The Consultant will provide consulting services to revise the 2017 calibrated XPSWMM model for the Springfield Canal to simulate the effects of anticipated, proposed development within the Lower Springfield Canal Basin. The Lower Springfield Canal Basin extends along the Springfield Canal immediately downstream of Bowles Ford Park to the existing Springfield Canal pump station. Using the calibrated Springfield Canal XPSWMM model performed by the Consultant in December 2017,

Consultant will revise the hydrology parameters and simulate the effects from the revised hydrology and decreased floodplain storage due to anticipated, proposed development.

Anticipated, proposed development within the Lower Springfield Canal Basin includes:

- The proposed arena to be located on the existing "City Lot" and adjacent parcel to the north. The arena development will include site improvements to develop the arena including a multi-story, above-ground parking structure. Conceptual improvements for the arena are illustrated in Exhibit B.
- Urban, commercial development on the Tenenbaum property located to the east of the arena site. Conceptual improvements are illustrated in Exhibit C.
- Park areas located north of the arena site, immediately south of Louisville Road. Conceptual improvements are illustrated in Exhibit C.
- Gwinnett Street widening in the vicinity of the Springfield Canal.
- Commercial development located on the Paxton property, south of Gwinnett Street as shown in Exhibit C.
- Development on Georgia Ports Authority property, with development program provided by Georgia Ports Authority.
- Proposed development of 703 Louisville Road.

For purposes of modeling revisions, it is assumed all anticipated, proposed commercial development will be elevated to a minimum elevation 8.0 North American Vertical Datum 1988 (NAVD88). Furthermore, it is assumed the park area will be elevated to elevation 5.5 NAVD88. Any existing floodplain storage will be removed where proposed building footprints are shown in the attached Exhibits.

The model will include the following infrastructure improvements:

1. The removal and replacement of existing culvert and bridges at Louisville Road and the I-16 off ramp with bridges, to facilitate the canal master plan vision and provide increased freeboard from the bridge low chords to the canal water surface elevations.
2. The small bypass around the historic arch downstream of Louisville Road will not be included in the model.
3. A proposed larger canal bypass will be modeled through Georgia Ports Authority property and the expansion of the existing pump station to accommodate the bypass flows for the 100-year, 24-hour storm event.

The Consultant will specifically study conveyance of the Springfield Canal. The Consultant will approximate the geometry of the Springfield Canal that must be obtained to maintain water surface elevations to convey the 100-year, 24-hour storm event without significant flooding, as noted in the 2009 Springfield Canal Improvements Study – Alternative Option 2.

Deliverables

The Consultant shall deliver the following items:

- XPSWMM model for the proposed buildout condition of the Lower Springfield Canal Basin (XPSWMM format)
- Summary Report describing past studies, assumptions, methodology, proposed improvements and proposed channel cross section geometries resulting from the analysis.
- Hydrologic parameter revisions due to the anticipated, proposed build-out scenario, with future development to occur in accordance with Exhibits B & C.
- Lower Springfield Canal Cross Sections as determined from the model simulation results.
- Proposed Canal Improvement Exhibit, as determined from model results.

2. Other Scope of Services

The City has requested the Consultant provide the following additional services related to the existing conditions model update delivered to the City in December 2017.

- ArcMap Shape file of existing conditions inundated areas. It should be noted inundated areas within neighborhoods should be considered approximate since survey information of pipe and channel conveyance data is unavailable.
- Using the ArcMap shape file created from the scope above, a summary of existing conditions, inundated street intersections in tabular format will be provided. This will be completed manually.
- Using the ArcMap shape file created from the scope above, a summary of inundated properties in tabular format. This will be completed by producing a database from GIS, intersecting the inundation shape files with City parcel data. Property inundation shall be based on 2012 LiDAR topographic information.
- One additional hardcopy of the December 2017 mode update report and supporting documentation.

2. ADDITIONAL FEE BUDGETS

Based on the above described additional services, the NOW, THEREFORE the OWNER and Consultant agree to amend the project to include the following amended phases of work and accompanying fees:

<u>Phase</u>	<u>Fee Structure</u>	<u>Fee or Time & Expense Budget</u>
General Consulting Phase		
Project Team Meetings:	Time & Expense – Budget	\$ 2,500.00
General Study/Report Phase		
Model Revisions/Deliverables:	Time & Expense – Budget	\$ 31,320.00
Other Scope of Services	Time & Expense – Budget	\$ 13,560.00
Expenses:	Expense (Materials) – Budget	\$ 500.00
Total Amendment #1	Fee Budget	\$ 47,880.00

3. EXCLUSIONS

Items not included in the scope of services are as follows:

- Additional existing conditions modeling
- Archaeological survey and report
- Wetland delineation, surveys, or permits
- Geotechnical investigation or report
- Phase One or Phase Two Environmental Assessments
- Survey
- Design, Construction Plan Preparation
- Permits
- Accessibility construction compliance verification (ADA related compliance)
- Endangered species survey and report
- Boundary Survey
- Right-of-Way Plats (beyond that described in the above scope of services)
- Subdivision Plat
- Subdivision Plat Approval Process
- Traffic Impact Study
- Hardscape Design
- Landscape Design or Irrigation Design
- Post Construction Survey Services
- Off-site work unless specifically covered in the scope of services
- Approvals or permits other than those related to the scope of work covered by this contract
- Act as an expert witness for legal activities
- Georgia Department of Transportation permits or approvals
- Telephones, cable television, gas, and power distribution systems

These items can be coordinated or provided, if requested by the Owner in writing.