

Savannah International Airport
Southeast Quadrant Stormwater Master Plan
Amendment to Include Georgia Air National Guard Facility
Scope of Services
URS
5/18/18

The Savannah International Airport has requested that the URS Corporation provide additional services to the stormwater master plan for the Airport Southeast Quadrant under the current task order identified as Task Order No. 12. The additional services include expanding the study area to include the contributing drainage area to the area occupied by the Georgia Air National Guard (ANG) at the Savannah Hilton Head International Airport. The contributing drainage area to the ANG facility is identified in the “*Base Stormwater Management Master Plan*” prepared by Thomas and Hutton in January 2015.

The existing stormwater pond located at the southeast corner of the ANG facility at the corner of Dean Forest Road and Davidson Drive is currently being considered for expansion into the adjacent wetland located in the ANG facility north of the stormwater pond to accommodate the future aviation related redevelopment in addition of future redevelopment at the ANG facility. The following tasks are included as an amendment to the URS stormwater master plan scope of services:

Task 1 Data Collection and Review

The “*Base Stormwater Management Master Plan*” prepared by Thomas and Hutton in January 2015 will be reviewed along with soils, landuse, floodplain and topographical data at the ANG facility. URS will request that the Savannah International Airport also provide the existing condition and proposed condition hydrologic and hydraulic models prepared by Thomas and Hutton utilizing the XP-SWMM computer software for the preparation of the Base Stormwater Master Plan.

Task 2 Field Review

One field visit will be made to the ANG facility area to determine existing site and drainage conditions, inspect the existing stormwater pond proposed for expansion, inspect the wetland where the existing stormwater pond is proposed to be expanded, inspect outfall locations, determine drainage constraints and identify any existing drainage structures that need to be surveyed.

Task 3 **Survey Services**

URS will utilize a sub-contractor identified as the SURVEYOR in this scope of services to perform the survey services. URS will evaluate data collected in Task 1 and observed during the site reconnaissance in Task 2 for information pertaining to vertical elevation data and horizontal location data for drainage elements comprised of drainage structures, ditches, swales, storm sewer pipes, stormwater ponds etc. URS will identify drainage elements with no vertical elevation and horizontal location data and present them to the SURVEYOR. The SURVEYOR will survey drainage structures, ditches, swales, storm sewer pipes, stormwater ponds etc. identified by URS. The quantity of drainage elements in need of survey is unknown at this time. A survey allowance is included in the proposed fee estimate.

Task 4 **Hydrologic/Hydraulic Modeling**

The modeling efforts will involve developing the following two hydrologic/hydraulic hydrodynamic stormwater computer models using the latest version of the Interconnected Pond Routing (ICPR) Version 3.10 computer program by Streamline Technologies.

1. Update Existing Condition Model, and
2. Proposed Condition Model,

The existing condition hydrologic/hydraulic model created for the SE Quadrant will be updated to include the drainage area associated with the ANG facility. The update to the existing condition model will include adding all of the primary existing drainage systems comprised of sub-basins, drainage nodes, and reaches within the drainage area associated with the ANG facility. Drainage parameters for the proposed project for existing and proposed conditions will be developed including: drainage basin delineation, time of concentrations, curve numbers, rainfall volumes, design storm events, offsite flows, stormwater detention volumes and routing, tailwater elevation, etc. The proposed model design storm events will meet the FAA, Chatham County, and City of Savannah requirements and will include the 5, 10, 25, 50 and 100-year storm events.

The drainage area will be sub-divided into smaller sub-basins that contribute stormwater runoff to a particular drainage node. Drainage nodes will consist of existing stormwater ponds, existing natural depressions where stormwater runoff collects, open channels, swales, wetlands, drainage inlets and manholes. The drainage nodes will be interconnected with reaches. Reaches are

pipes, ditches, swales, weirs, drop structures, and rating curves. The number of sub-basins drainage nodes and reaches to be modeled will be determined after all data is collected and the site reconnaissance is complete as described in Tasks 1 and 2 in this scope of service.

The proposed condition model will be a modification of the existing condition model by including the changes in land use from the new development at the ANG facility identified in the *Base Stormwater Management Master Plan* prepared by Thomas and Hutton. URS will also include a conceptual design to expand the existing stormwater pond at the ANG facility to accommodate the treatment and attenuation of stormwater runoff from the Southeast Quadrant area to meet City of Savannah stormwater criteria.

Task 5 **Environmental Evaluation:**

URS will inspect the wetland at the ANG facility where the proposed pond is prepared for expansion. The limits of the wetland will be delineated based on information gathered during the site visit and aerial interpretations. Potential mitigation options will be discussed. However, conceptual wetland mitigation design will not be included.

Task 6 **Drainage Report:**

The draft report of the SE Quadrant Drainage Area Stormwater Master Plan that was submitted to the Airport for review in February 2018 will be updated to include the existing and proposed drainage conditions and model results to include the ANG facility as indicated in the above drainage tasks. An electronic copy of the draft report will be submitted to the Airport for review and comment. Comments from Airport will be addressed and three (3) copies of the final drainage report and all electronic data will be submitted as the final deliverable.

Task 7 **Meetings and Coordination**

URS will attend one meeting at the Airport and two by teleconference to discuss and review information developed for this project.

Schedule: URS will submit the draft report approximately 6 months from NTP.

Exclusions: The following items are not included in the above proposal or cost estimate:

- Pipe Makers Canal main channel model revisions,

- Consultations with the City of Savannah,
- Airport Southwest Quadrant (Gulfstream Area)
- Environmental permitting services,
- Final design and construction phase services,
- Internal stormwater system design,
- Wetland mitigation design
- Stormwater permitting,
- FEMA flood map revisions.

Savannah Airport Southeast Quadrant Stormwater Master Plan Amendment to Include Georgia Air National Guard Facility URS Corporation																			
	Principal Engineer			Sr. Professional			Professional			Designer/GIS			Administrative			Totals			
	Hr. Rate	Hours	Cost	Hr. Rate	Hours	Cost	Hr. Rate	Hours	Cost	Hr. Rate	Hours	Cost	Hr. Rate	Hours	Cost	Hr. Rate	Hours	Cost	
Coordination Meetings																			
Meeting No. 1 (Teleconference)	\$190	2	\$380																
Meeting No. 2 (Teleconference)	\$190	2	\$380																
Meeting No. 3 (At City)	\$190	8	\$1,520																
Subtotal		3	\$570		12	\$2,100		5	\$650		1	\$100		0	\$0		21	\$3,420	
Data Collection & Review																			
Data Collection / Data Review	\$380	10	\$1,750																
Subtotal		2	\$380		10	\$1,750								1	\$80		13	\$2,210	
Field Review																			
Field Review	\$190	8	\$1,400																
Field Review Memo	\$190	4	\$700																
Subtotal		2	\$380		12	\$2,100		16	\$2,080		0	\$0		1	\$80		31	\$4,640	
Stormwater Treatment Options																			
Stormwater Treatment Options	\$760	12	\$2,100																
Subtotal		4	\$760		12	\$2,100		12	\$1,560		4	\$400		1	\$80		33	\$4,900	
Survey Coordination																			
Survey Coordination	\$190	2	\$380																
Subtotal		1	\$190		2	\$350		4	\$520		4	\$400		1	\$80		12	\$1,540	
Hydrologic/Hydraulic Model Update																			
Existing Conditions Model Update	\$380	20	\$3,500																
Proposed Conditions Model Update	\$380	24	\$4,200																
Subtotal		4	\$760		44	\$7,700		85	\$11,050		20	\$2,000		2	\$160		155	\$21,670	
Environmental Evaluation																			
Environmental Evaluation	\$190	2	\$380																
Subtotal		1	\$190		2	\$350		3	\$390		1	\$100		1	\$80		8	\$1,110	
Drainage Report																			
Existing Drainage	\$190	12	\$2,100																
Proposed Drainage	\$190	12	\$2,100																
Model Results and documentation	\$190	2	\$380																
Draft Report	\$380	8	\$1,400																
Final Report	\$190	8	\$1,400																
Subtotal		6	\$1,140		42	\$7,350		20	\$2,000		18	\$1,800		9	\$720		85	\$13,610	
Labor-Totals		21	\$3,990		126	\$22,050		134	\$17,420		47	\$4,700		15	\$1,200		343	\$55,100	
Expenses																			
Airfare (2 Trips @ \$600/trip)																			
Hotel (4 night)																			
Rental Car (2 days)																			
Meals																			
Parking																			
Printing																			
Expenses Totals																			
Survey Allowance																			
Total																			