

TASK ORDER 2-21 STM
ENGINEERING SERVICES FOR THE CITY OF KEY WEST STORMWATER
MASTER PLAN 2021 UPDATE

This TASK ORDER 2-21 STM is issued under the terms and conditions of the AGREEMENT TO FURNISH GENERAL ENGINEERING SERVICES TO THE CITY OF KEY WEST ("AGREEMENT") between the City of Key West ("CITY") and CH2M HILL, Engineers, Inc. ("CONSULTANT") dated November 3, 2017 which is incorporated herein by this reference.

A. SCOPE OF SERVICES

Specific services which the CONSULTANT agrees to furnish are summarized on the attached statement entitled TASK ORDER 2-21 STM "SCOPE OF SERVICES." The "Scope of Services" defines the work effort anticipated for the Task Order.

This Task Order, when executed, shall be incorporated in and shall become an integral part of the November 3, 2017, Master Agreement.

B. TIME OF COMPLETION

Work under this Task Order will begin immediately following acceptance and completed expeditiously subject to coordination with the City of Key West staff.

C. COMPENSATION

Compensation for the labor portions of TASK ORDER 2-21 STM, Tasks C and D will be on a lump sum fee basis as stipulated in Article 5, Paragraph 5.1.1 of the AGREEMENT. Compensation for subconsultants and all expenses will be on a Cost Reimbursable-Per Diem basis as stipulated in Article 5, Paragraph 5.1.2 of the AGREEMENT. The estimated compensation is shown on the attached statement entitled TASK ORDER 2-21 STM COMPENSATION.

D. ACCEPTANCE

By signature, the parties each accept the provisions of this TASK ORDER 2-21 STM and authorize the CONSULTANT to proceed at the direction of the CITY's representative in accordance with the "SCOPE OF SERVICES." Start date for this project will be no later than two (2) days after execution of this authorization.

For CH2M HILL ENGINEERS, INC.

For CITY OF KEY WEST

By: 

By: _____

Sirpa H. Hall, P.E.
Senior Business Vice President

Patti McLaughlin
City Manager



Dated the ____ day of _____, 2021

Elaine Tolon, P.E.
Key West Project Manager

ATTEST: _____

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SCOPE OF SERVICES

Project Background

The City of Key West completed a comprehensive Stormwater Master Plan in 2011 which prioritized stormwater projects that could be implemented to address the City's stormwater management needs. Over the last 10 years several of the prioritized projects from the plan have been constructed. To support the designs, computer simulation modeling has improved by adding more detail around projects. There have been sufficient changes to justify updating the City's inventory and stormwater master plan (SWMP) to reevaluate the capital improvement plan to continue moving the City's Stormwater Program forward in an efficient manner. Updated information is needed for new facilities and the elevations of the existing stormwater pipes may need to be verified in selected areas.

The City of Key West Utilities chose to implement the SWMP project in 2 phases, split over 2 fiscal years. The Phase 1 work under Tasks A and B occurred in FY 20. This Task Order 2-21 is to complete Phase 2, listed as Tasks C and D as presented in Scope of Services below.

Purpose

The objectives of this SWMP update are as follows:

- *Consolidate and include recent and proposed projects under development (completed, Phase 1, Task A)*
- *Develop a an updated ICPR computer simulation model to include projects and knowledge since 2011 (completed, Phase 1, Task B)*
- *Develop a prioritized list of subbasins with flooding problems (completed, Phase 1, Task B)*
- Identify new projects to reduce flooding generated by rainfall (not storm surge). (Task C)
- Develop conceptual design and cost estimates for a set of projects that could be funded for design in the near future. (Task C)
- Develop a SWMP Report (Task D)

Project Description

Phase 1 (completed):

- Tasks A and B were completed under Task Order 3-20
 - Task A Information Collection
 - Task B Hydrologic/Hydraulic Simulation

Phase 2 (this Task Order):

- Task C Alternative Analysis
- Task D Planning Report Preparation

Scope of Services

Task C Alternative Analysis

The CONSULTANT will prepare a list of recommended projects throughout the City based on previously recommended projects, existing conditions, depth of flooding, and engineering judgment. Projects will be grouped into basins, subbasins or intersections, depending on their scope.

At the request of the CITY, the use of the pumped emergency outfalls at Simonton, George St., and Patricia and Ashby pressurized wells will be evaluated and the impacts discussed in the final report. Some Low Impact Development (LID) concepts may be included, but because of the limited available space, it is anticipated there to be minor opportunity to implement these LID concepts. A Workshop 1 meeting will be held with the CITY to preview and discuss the list of recommended projects and the ranking methods. The list of projects may be modified based on CITY comments. For scoping purpose, up to 7 projects will be taken forward for alternative analysis.

The CONSULTANT will develop the 7 selected projects for inclusion into the computer model. The model elements are expected to include new inlets, pipes, gravity wells, water quality treatment boxes, pressurized well systems, and pump stations. A Workshop 2 meeting with the CITY will be held to review the effectiveness of the 7 projects. No adjustments are anticipated in the model following the Workshop 2 meeting.

The CONSULTANT will prepare conceptual construction cost estimates of the projects at Class 5 accuracy as defined by the American Association of Cost Engineers. Tables will be developed to rank the projects depending on factors such as number of households affected, length of road treated, does the project improve adjacent basin flooding, and similar criteria that was used previously in the 2011 SWMP.

A brief Technical Memorandum will be prepared with tables and figures describing the proposed alternatives.

Deliverables:

- Workshop 1 and 2, Agenda and meeting minutes , pdf, email
- Draft and final Technical Memorandum, pdf, email

Task D Planning Report Preparation

- The CONSULTANT will prepare draft report containing the SWMP for CITY review based on the previous Technical Memorandums. The report shall contain the study purpose, data collection description, project descriptions, modeling of existing and future conditions, ranking process, conceptual cost estimates, and project rankings. Appendices will be available for review during the draft report upon request.

- The CITY and CONSULTANT will meet to discuss the comments. The Consultant will prepare the Agenda and Meeting minutes.
- The CONSULTANT will address one set of CITY comments on the draft report and prepare a Final Report with attachments. The draft report will be delivered electronically for CITY review and comment. The final report will include both electronic and hard copy reports.
- The CONSULTANT will prepare a draft and final PowerPoint presentation (PPT) for the City to use for public meetings. The CITY will review a draft PPT. The CONSULTANT will meet with the City to discuss the comments. The PPT will be finalized and provided to the CITY.
- The CONSULTANT will present PPT at one public meeting in Key West.

Deliverables:

- Draft SWMP report, pdf, email. Some attachments may not be ready for the draft.
- Final SWMP report with attachments, pdf and 3 hard copies
- Draft PowerPoint file for review
- Final Power Point file
- Agenda and meeting minutes, 2 meetings, pdf
- Presentation of the PPT file at a public meeting

Assumptions

The following assumptions were used in the development of this Task Order

- The CITY is evaluating Sea Level Rise Policy. The potential changes in policy may affect the nature of the projects to be developed or the criteria to use. Phase 2 will incorporate the policy considerations. The schedule for CITY policy review is about May 2021.
- All electronic deliverables will utilize Adobe format (pdf), or another common software format as noted in scope.
- Meetings will normally be held utilizing online resources (Microsoft Teams, or similar) for all or some of the attendees.
- The CITY maintains records and collects GIS data pertinent to its operations. GIS and GPS data will be obtained and provided by CITY.
- The geographic extent of the SWMP updates will be limited to the main island of Key West and Stock Island, not including Navy facilities, or Fleming Key. The airport internal drainage will not be studied, only to the extent that it may affect CITY drainage. Stock Island was studied separately in 2011 by CH2M. No changes are known or anticipated for Stock Island. This area's previous hydrologic model will be updated to version 4 and new simulations run for reference purposes.
- The previous input data files to ICPR are available and will be used as the basis of the computer modeling. Importation of the input does not allow geographic registering the data (no x, y coordinates). Adjustments will be made using aerial photographs to approximate the drainage nodes. Typically, one node will represent an intersection or subbasin.

- No new surveying is included in the SWMP update. Existing data from the CITY inventory or as-built drawings will be used for updating facility information. The accuracy of the GPS elevations may vary but will be about 1-foot or less. Detailed survey are normally accurate to approximately 0.05 foot.
- The location of stormwater facilities is available from literature and CITY GIS.
- The level-of-service for projects will be estimated on a relative basis. Projects will be ranked on relative improvements. It is assumed that there will be wide-spread flooding for storms exceeding a few inches per day.
- No design work or state and county agency coordination is included in this Task Order. Recommendations for project design elements are to be based on the CONSULTANT's recent CITY experience and details of past work.
- Only existing land use shall be used in the hydrologic/hydraulic evaluation of the study area as it is a mature development.
- Assumptions about ponding into lots/parcels will be made on each block included in the model.
- The evaluations will be based on the federal, state and local codes and standards in effect at the start of the project. Any changes in these codes may necessitate a change in scope.
- Cost opinions are based on Association for the Advancement of Cost Engineering Class 5 guidelines (no detailed design). No land costs shall be included in cost estimating for the project. It will be assumed that all linear drainage projects can be in City rights-of-way.
- In providing opinions of cost, financial analyses, economic feasibility projections, for the project, CONSULTANT has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, CONSULTANT makes no warranty that CITY'S actual project costs, financial aspects, economic feasibility, will not vary from CONSULTANT'S opinions, analyses, projections, or estimates and CONSULTANT shall have no liability for such variances.
- Legal, easement, or plat survey or acquisitions will be the responsibility of CITY, it is assumed that the City will acquire an easement for proposed projects.
- No permitting or agency meeting is required.
- CONSULTANT will reasonably rely upon the accuracy, and completeness of any information/data provided by the CITY or other third parties.
- No work on Tasks C and D will be performed without authorization from the CITY
- Schedule shown in attachment B assumes that amendment 1 will be executed and in place when Tasks A and B are completed.

Obligations of the CITY

To assist meeting schedule and budget estimates contained in this proposal, the CITY will provide the following:

- Available drawings and files.
- Prompt review and comment on all deliverables.
- Facilitate access to any required facilities.
- Attendance of key personnel at meeting as requested.
- CITY will assist in obtaining reports or drawings from past designs.

Additional Services

The CONSULTANT will, as directed, provide additional services that are related to the project but not included within this Scope of Services. These and other services can be provided, if desired by the CITY, as an amendment to the Task Order. Work will begin for the Additional Services after receipt of a written notice to proceed from the CITY.

Additional services may include, but are not limited to, the following:

- Additional design services if requested by the CITY
- Bid or construction phase services
- Permitting Services

Compensation

The estimated compensation for TASK ORDER NO. 2-21 STM Tasks C and D is **\$125,536.10**. Compensation listed by task and per diem rate is included as Attachment A.

Schedule

A draft schedule for TASK ORDER NO. 2-21 STM is presented as Attachment B. This schedule is based on a 1-year period of performance. Notice to Proceed for TO 2-21 was assumed to be received in mid-June 2021.

Attachment A

COMPENSATION

City of Key West Stormwater Master Plan 2021 Update

		Engineer 3 (PM)	Engineer 7 (QA)	Engineer 6 (Snr. Resource QC)	Engineer 4 (Modeling Lead)	Engineer 1	Technician 5	Tech. Editor	Clerical	Total	Total
Task No.	Description	\$147.21	\$236.78	\$217.14	\$171.76	\$109.19	\$125.15	\$87.10	\$78.52	Hours	Cost
A	Information Collection										
B	Hydrologic/Hydraulic Simulation										
C	Alternative Analysis	24	72	54	142	226	116	16	4	654	\$97,598.70
	Review Emergency Outfall Impacts		4	2	4	6					
	Projects identification per flood depths	2	4		8	16					
	Alternative analysis - up to 7 projects	16	40	40	90	140	40				
	Results comparison		4		16	24					
	Cost Estimates		8			60					
	TM preparation - draft and final	2	4	4	16	40	16	16	4		
	two (2) meetings	4	8	8	8						
D	Planning Report Preparation	6	16	12	32	40	20	16	4	146	\$21,352.02
	Draft	2	4	4	16	24	16	12			
	Final		4		8	16	4	4	4		
	two (2) meetings	4	8	8	8						
E	Project Management and QC	12	10	3					7	32	\$5,335.38
	Travel and Printing Expenses										\$1,250.00
	Total	42	98	69	174	266	136	32	15	832	\$125,536.10

Attachment B

SCHEDULE

		City of Key West									
		Stormwater Master Plan 2021 Update									
Task No.	Description	Aug-20	Mar-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	
A	Information Collection										
B	Hydrologic/Hydraulic Simulation										
	Sea Level Policy										
C	Alternative Analysis										
	Projects identification per flood depths										
	Alternative analysis - up to 7 projects										
	Results comparison										
	Cost Estimates										
	TM preparation - draft and final										
	two (2) meetings										
D	Planning Report Preparation										
	Draft										
	Final										
	two (2) meetings										