

TASK ORDER No. 3 - DESIGN SERVICES – PHASE II
DENNIS STREET STORMWATER IMPROVEMENTS
PUMP STATION AND DRAINAGE WELL
CITY OF KEY WEST

BACKGROUND

The City of Key West (CITY) has decided to improve their existing storm water system by constructing a new pump station, stormwater drainage well and associated supporting infrastructure. Currently, the stormwater system consists of approximately 63 permitted outfalls and associated stormwater collection systems, 54 vertical exfiltration drains, 5 pressurized wells, approximately 121 storm water gravity recharge wells, and associated collection and treatment systems.

The stormwater improvements are required in sub-basin 3340 near the Key West High School, which currently has consistent standing water issues. There is an existing gravity well at Dennis Street that is too low to be effective. This new project will achieve the goal of lifting water to a new pressurized drainage well in order to reduce the duration of standing water in the area surrounding the High School.

INTRODUCTION

Black & Veatch (CONSULTANT) has been requested by the CITY to provide detailed design services for the new stormwater pump station and drainage well including a diversion structure and vortex separator upstream of the pump station and backup power for the pumping units. It is anticipated that the new pump station will be located mid-block on Dennis Street between Venetia Street and Blanche Street, but this will be further defined during the conceptual design. The diesel generator will be elevated for flood protection purposes. During the initial design stage, coordination will be required with the High School and nearby properties to determine the feasible location for the generator. The capacity of the drainage system (pump station peak flow) will be determined with the results in the existing storm water model to be provided by the CITY. CONSULTANT will be using the conceptual sizing developed in the model to finalize the design. The stormwater drainage well will be of the standard size used in the existing system, which includes a 24" casing and a depth of 120 feet.

SCOPE OF SERVICES

TASK SERIES 100 – DETAILED DESIGN AND CONSTRUCTION CONTRACT DOCUMENTS

Task 101 – Project Coordination

Project coordination will encompass efforts required for project set-up, resource management, scheduling, invoicing, trend management, and other requirements needed to effectively and efficiently complete the tasks described in this scope of services.

Task 102 - Detailed Design - Construction Documents Level 2

A. Level 2 design shall commence only after the CITY has accepted preliminary design deliverable. Level 2 progress activities are as follows:

- (1) Sections and details showing major equipment
- (2) Structural framing plans and sections
- (3) Power and lighting plans
- (4) Electrical fixture schedules
- (5) Specifications, including front and back end documents
- (6) Underground utility drawings
- (7) Internal quality control review and refinement before delivery to the CITY
- (8) Quality assurance and quality control plan and log update.
- (9) Opinion of probable construction cost
- (10) Project schedule update
- (11) Project trend register update.

B. CONSULTANT will provide two (2) hard copy sets and one (1) electronic set of the Level 2 drawings and specifications to the CITY for review.

C. CONSULTANT will conduct a project review workshop with the CITY to review the Level 2 drawings and specifications. Based on discussions during the workshop, CONSULTANT will refine the drawings and specifications, and incorporate the applicable comments into the next submittal (Level 3).

Task 103 - Detailed Design - Construction Documents Level 3

A. Level 3 design shall commence only after the CITY has accepted the Level 2 deliverables. Level 3 progress activities are as follows:

- (1) Final review set of CAD drawings
- (2) Final review set of specifications and construction contract documents
- (3) Opinion of probable construction cost update
- (4) Internal quality control review and refinement before delivery to the CITY
- (5) Quality assurance and quality control plan and log update.

- (6) Project schedule update
- (7) Project trend register update.
- B. CONSULTANT will provide two (2) hard copy sets and one (1) electronic copy of the Level 3 documents to the CITY for review.
- C. CONSULTANT will conduct a project review workshop with the CITY to review the Level 3 documents. Based on discussions during the workshop, CONSULTANT will refine the documents, if necessary.
- D. CONSULTANT will revise the documents as necessary to reflect any decisions taken at this level and provide the CITY with two (2) hard copy sets and one (1) electronic copy.

Task 104 - Permitting

- A. CONSULTANT will meet with the CITY's personnel and representatives of affected agencies such as utility companies and school district as appropriate to discuss the impact of the project on their facilities and obtain requirements for public protection to be included in contract documents. A level of effort of two (2) meetings, two (2) trips to the CITY's location are included for the affected agencies program. Additional effort will be addressed as supplemental services.
- B. CONSULTANT will provide assistance to the CITY in obtaining the following permits from government agencies:
 - (1) FDEP Permitting
 - (2) SFWMD Permitting
- C. Assistance for the above permits will include:
 - (1) Preparation of applications, exhibits, drawings, and specifications as necessary for the CITY's execution and submittal.
 - (2) Furnishing additional information about the project design.

Task Series 100 Deliverables

The following deliverables are included in Task Series 200:

- Level 2 Design Package (including drawings, specifications, and opinion of probable construction cost).
- Level 2 workshop meeting minutes.
- Level 3 Design Package (including ready-to-advertise drawings, specifications, and opinion of probable construction cost).

- Level 3 workshop meeting minutes.
- FDEP and SFWMD permitting package.

ASSUMPTIONS

1. It is anticipated that the results from the City of Key West Stormwater Master Plan by CH2M Hill dated April 2012 can be used to determine the capacity of the pump station. Additional modeling efforts will be addressed as supplemental services.
2. It is anticipated that existing hydrogeological data for existing wells in Key West is available to design the new well. If that is not the case, a pilot hole may be necessary.
3. It is understood that the well will be considered a drainage well and it will need to be assisted by a pump with sufficient head pressure to lift the water to the well location and cause positive injection into the ground.
4. Total number of trips for Phase II is three.

BUDGET

Tasks 100 as described in this scope of work document would have the following lump sum fees:

TASK SERIES	LUMP SUM FEES
Task 100 – Detailed Design and Construction Contract Documents	\$192,220
Direct Costs	\$6,140
LUMP SUM TOTAL	\$198,360