



HOLTZ CONSULTING ENGINEERS, INC

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October 31, 2018

Mr. Leighton Walker  
Utilities Engineer  
City of Riviera Beach Utility District  
600 West Blue Heron Boulevard  
Riviera Beach, FL 33404

Subject: **City of Riviera Beach  
C-17 Canal Crossing Replacement**

Dear Mr. Walker,

We are pleased to offer the following proposal for the C-17 Canal Crossing Replacement Project. The project includes site investigation services for the underground locating, surveying, geotechnical investigation, and engineering services for the design, permitting, and bidding of the replacement of the C-17 Canal force main aerial crossing with a new subaqueous HDPE force main installed via horizontal directional drilling located to the north of the existing aerial crossing. The Scope of Services will consist of the following tasks:

### **Task 1 – Subsurface Utility Locating**

Under this task, Holtz Consulting Engineers (HCE) will contract with Blood Hound Underground Utility Locators to provide utility locating services for key existing buried utilities utilizing ground penetrating radar in order to obtain depth, diameter, and material information for the existing buried utilities to identify potential design conflicts and aid in the protection of these existing facilities during construction. These underground utility markings will be captured by the surveyor under Task 2 and depicted on the survey and the design drawings.

Task 1 - Deliverables:

1. Information obtained from underground utility locating will be depicted on the survey deliverable provided under Task 2.

### **Task 2 - Topographic Survey**

Under this task, HCE will contract with Brown & Phillips, Inc., to perform a topographic survey of the existing force main aerial crossing as well as the area north of the existing crossing where the proposed directional drill subaqueous crossing will connect the existing 16” force main on the west side of the canal with the existing 8” force main on the east side. The survey limits will extend approximately 1,000 feet from the center of the canal, and include:



- 2.1 Obtaining horizontal and vertical control for using information published by the Palm Beach County Survey Department utilizing State Plane Coordinates for horizontal control and the North American Vertical Datum of 1988 (NAVD 88) for vertical control.
- 2.2 Location of visible fixed improvements within the project area site, depicting the horizontal location and vertical location of surface features and facilities such as manholes and inverts, valve vault, piping, control panels, fences, power poles, buildings, etc.
- 2.3 Location of above ground existing utilities: FP&L, BellSouth, Cable TV, Natural Gas, Potable Water (valves, fire hydrants, and meters), Force Mains (valves), Sanitary Sewer, Reclaimed Water Mains (valves), Storm Sewers. Including invert elevations, pipe size, type and direction for storm and sanitary infrastructure.
- 2.4 Providing and reference site benchmarks. Elevations to be referenced to an existing established City or County Benchmark.
- 2.5 Platted boundary lines, easements, and rights-of-way will be shown on the survey, but this proposal does not include performing any title searches.
- 2.6 A cross section of the C-17 Canal and canal bottom profile.

#### Task 2 - Deliverables

1. Copy of Topographic Survey

#### **Task 3 – Geotechnical Engineering Services**

This task will include performing a subsurface exploration and geotechnical study to obtain subsurface soil information necessary for the proper design of the new directional drill under the C-17 Canal. The work includes two standard penetration test (SPT) borings to a depth of 40 feet below grade by Radise International, LC. (one SPT on each side of the C-17 Canal). A geotechnical report summarizing the results of the borings will be provided and incorporated into the Contract Documents. The report will include the location and depth of the borings, visual classification of the recovered samples, and compressive strength test results on rock as necessary.

#### Task 3 - Deliverables:

1. A geotechnical report summarizing the results of the geotechnical investigation will be provided.



#### Task 4 – Engineering Design

- 4.1 HCE will provide engineering services consisting of preparation of construction plans and specifications for the removal/demolition of the existing force main aerial crossing including concrete piles, and installation of a new HDPE force main to be installed under the C-17 Canal via horizontal directional drill method. The new HDPE force main will be located approximately 70 feet north of the existing aerial crossing and will be approximately 600 feet long and connect to the existing 16” force main on the west side of the canal and to the existing 8” force main on the east side of the canal.
- 4.2 Work will include the preparation of drawings and specifications for the replacement, the connections to the existing force main, and associated site work; attendance at meetings, site visits, coordination with other utilities within the vicinity, and preparation of construction cost estimates.
- 4.3 Approximately ten (10) design drawings will be provided for this project. Plan sheets will be prepared at a 1”= 20’ scale. The preliminary drawing list is as follows:

G-1	Cover
G-2	Sheet Index and General Notes
G-3	Legend
G-4	Location Map and Key Sheet
C-1	Force Main Plan and Profile
C-2	Force Main Plan and Profile
C-3	Connection Details
C-4 to C-6	Civil/Mechanical Detail Sheets 1 through 3
- 4.4 HCE will prepare an Engineer’s Opinion of Probable Construction Cost at the 60%, 90%, and 100% design stages. These cost estimates will be provided with the 60%, 90%, and 100% complete submittal packages.
- 4.5 HCE will provide one (1) full size (24” x 36”) set and two (2) half size (11” x 17”) sets of plans for review and comment by the City at the 60%, 90, and 100% complete stages. The submittals will also include a draft outline of the specifications table of contents with the 60% complete submittal, and an updated table of contents and complete draft of the technical specifications sections with the 90% complete submittal. HCE will also provide CAD files and PDF files of the final (100% complete) drawings and specifications.

#### Task 4 Deliverables:

1. 60% complete drawing and specifications and cost estimate.



2. 90% complete drawing and specifications and cost estimate.
3. 100% complete drawing and specifications and final cost estimate.

#### **Task 5 – Permitting Services**

- 5.1 HCE shall prepare permit applications for construction of the project and submit to the following agencies:
  - Palm Beach County Health Department (PBCHD)
  - Palm Beach County Engineering (Garden Rd right-of-way)
  - South Florida Water Management District (SFWMD)
- 5.2 HCE will coordinate with the permitting agency during the review process on a regular basis in an effort to keep the project on schedule and respond to their review comments. HCE will respond to Requests for Additional Information (RAI) during the permitting process. It is anticipated that no more than two (2) RAI's will be issued by the permitting agencies.
- 5.3 Permit fees will be paid for by HCE and the City shall reimburse HCE for the actual cost of the permit fees.

#### **Task 5 Deliverables:**

1. Copies of all permits obtained.

#### **Task 6 – Bidding Assistance**

Under this task, HCE will perform the following activities:

- 6.1 Prepare bid documents.
  - 6.2 Prepare bid advertisement and provide bid documents to bidders.
  - 6.3 Conduct a pre-bid meeting and issue meeting minutes to all plan holders.
  - 6.4 Respond to questions bidders may have concerning the bid documents.
  - 6.5 Issue addenda as necessary to clarify the bid documents.
  - 6.6 Maintain a plan-holders list.
  - 6.7 Attend bid opening and prepare bid tabulation form.
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- 6.8 Evaluate bids and prepare recommendation of award to the lowest responsive, responsible bidder.
- 6.9 Prepare Contractor's Notice of Award.
- 6.10 Prepare and review executed contract documents.
- 6.11 Prepare Contractor's Notice to Proceed.

Task 6 Deliverables:

- 1. Addenda as necessary.
- 2. Bid tabulation form.
- 3. Written recommendation for award of the contract.
- 4. Copy of Notice of Award and Notice to Proceed.
- 5. Executed Contract Documents

**SCHEDULE**

The above tasks will be completed according to following schedule:

Task 1 - Subsurface Utility Locating	30 days from NTP
Task 2 – Topographic Survey	45 days from NTP
Task 3 – Geotechnical Engineering Services	45 days from NTP
Task 4 – Engineering Design	
60% Design Submittal	45 days from receipt of survey
90% Design Submittal	30 days from receipt of City comments on the 60% Submittal
100% Design Submittal	15 days from receipt of City comments on the 90% Submittal
Task 5 – Permitting	Applications submitted with the 90% plans
Task 6 – Bidding Assistance	Throughout bid process



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## COMPENSATION

Compensation will be in accordance with the attached budget summary (Attachment A) for a lump sum amount of \$57,770.50. Monthly progress payments will be authorized based on percent complete as determined by HCE and approved by the City.

Sincerely,

HOLTZ CONSULTING ENGINEERS, INC.

A handwritten signature in blue ink, appearing to read 'SFW', is positioned above the typed name.

Stephen Fowler, P.E.  
Associate Engineer

Attachment A: City of Riviera Beach C-17 Force Main Crossing

Task	Item	Principal	Senior Project Manager	Engineer	Senior Designer	Senior Construction Specialist	Clerical	Subconsultant	Item Cost (Note Subconsultant fee is marked up 10%)	Task Cost	
		\$190	\$170	\$105	\$110	\$135	\$55	--			
		Hours					Fees				
1. Subsurface Utility Locating	Underground Utility Locates		2				0.5	\$1,440.00	\$1,951.50	\$1,951.50	
2. Surveying Services	Topographic Survey		2	2			0.5	\$3,960.00	\$4,933.50	\$4,933.50	
3. Geotechnical Engineering Services	Geotechnical Investigation		1				0.5	\$7,830.00	\$8,810.50	\$8,810.50	
4. Engineering Design	Prepare Agenda, Attend Kickoff Meeting with City and Site Visits	2.5	2.5	3					\$1,215.00	\$34,235.00	
	60% General Drawings	0.5	6	6	8				\$2,625.00		
	60% Demolition Drawings	0.5	5	10	10				\$3,095.00		
	60% Civil and Mechanical Drawings	4	18	24	40				\$10,740.00		
	60% Specifications	0.5	2	6			2		\$1,175.00		
	60% Cost Estimate		1	2					\$380.00		
	90% General Drawings	0.5	1	1	8				\$1,250.00		
	90% Demolition Drawings	0.5	2	2	10				\$1,745.00		
	90% Civil and Mechanical Drawings	0.5	6	8	22				\$4,375.00		
	90% Specifications	0.5	2	4			1		\$910.00		
	90% Cost Estimate		1	1					\$275.00		
	100% General Drawings	0.5	1	1	2				\$590.00		
	100% Demolition Drawings	0.5	1	1	3				\$700.00		
	100% Civil and Mechanical Drawings	0.5	4	8	6				\$2,275.00		
	100% Specifications	1	1	4			1		\$835.00		
100% Cost Estimate		0.5	1					\$190.00			
	Meetings with Agendas and Minutes (including submittal review meetings, 4 meetings total)		6	8					\$1,860.00		
5. Permitting Services	Prepare PBCHD Permit Application	1	2	2					\$740.00	\$4,985.00	
	PBCHD RFI Response		0.5	1					\$190.00		
	Coordination and Closeout with PBCHD		1	2					\$380.00		
	Prepare PBCHD Permit Application	1	2	2					\$740.00		
	PBCHD RFI Response		0.5	1					\$190.00		
	Coordination and Closeout with PBCHD		1	2					\$380.00		
	Prepare SFWMD Permit Application	1	3	3					\$1,015.00		
	SFWMD RFI Response		1	1					\$275.00		
	Coordination and Closeout with SFWMD		1	1					\$275.00		
	Permit Application Fee Allowance								\$800.00		
6. Bidding Assistance	Assist City in bidding	1	4	2					\$1,080.00	\$2,855.00	
	Issue Addenda		1	1					\$275.00		
	Pre-bid meeting and minutes		2	2.5					\$602.50		
	Bid tabulation and recommendations of award	1	1	1.5					\$517.50		
	Assist with Contract Execution		1	2					\$380.00		
		17.5	86	116	109		5.5	\$13,230.00			
									Sub		
									HCE		
									\$44,541		
									<b>Total Engineering Fee</b>	<b>\$57,770.50</b>	