



September 26, 2017
Tetra Tech Project: 194-5363 Task 4

James W. Bouquet P.E.
Director of Engineering
City of Key West
3140 Flagler Ave
Key West, FL 33040

Reference: Shoreline Armoring at Rest Beach, Florida
Subject: Post Hurricane Irma Additional Engineering Services

Dear Mr. Bouquet:

Please find attached the scope of work for post-Hurricane Irma additional engineering services. Work will be completed under our current Environmental Engineering Services Contract using previously agreed upon terms and conditions. The task budget will not be exceeded without written authorization.

Summary of Budget

Items	Task Title/Task Function	Amount
4.10a	Re-survey Rest Beach (AVIROM Land Surveyors)	\$ 4,395
4.10b	Engineering Services	\$ 35,605
Total Labor and Cost Estimate		\$ 40,000

If you have any questions or require any additional information, please contact me at 772.200.5113.

Sincerely,

Stuart McGahee PE
Project Engineer

cc: Shauna Stotler, Tetra Tech



ATTACHMENT A - SCOPE OF WORK

POST-HURRICANE IRMA ENGINEERING SERVICES

Key West, FL

This proposal has been prepared in accordance with executed General Environmental Engineering Services Agreement between the City of Key West and Tetra Tech, Inc. dated January 13, 2015. The work described herein will be performed on a Time & Expense basis in accordance with the fee schedule established in this agreement. Fees shall be not-to-exceed unless approved in writing by the City of Key West.

Prepared by: TETRA TECH, Inc.
September 26, 2017



759 South Federal Highway, Suite 314 Stuart, FL 34994
Tel 772.781.3400 Fax 772.781.3411 www.tetratech.com



SCOPE OF WORK

Tetra Tech will work with the City of Key West (City) to collect the necessary survey data and updated construction documentation needed to complete the bidding process for the Rest Beach Armoring Project in Key West, Florida. These services are required to account for the shoreline damage resulting from the passing of Hurricane Irma.

PHOTO OF REST BEACH REHABILITATION WORK AFTER HURRICANE IRMA



Insert: Rest Beach September 25, 2017

Task 4.10a Survey

Tetra Tech proposes to work with a local surveyor (AVIROM & Associates, Inc.) and has received a proposal to resurvey Rest Beach. A copy of the AVIROM proposal is attached. The survey is necessary to catalog any changes to the beach resulting from the impact of Hurricane Irma and to update the final plans and project construction documents. The survey is expected to take **2-3 weeks** to complete, and will include the following:

1. Horizontal and vertical control data for upland and extending waterward to -0.4 NAVD
2. Delineation of Mean High Water Line as a contour on the survey
3. Re-Establish two (2) benchmarks on the site in the NAVD 88 datum
4. Update tree survey
5. Update upland improvements survey

Survey Subtotal: \$ 4,395



Task 4.10b Engineering

Tetra Tech will support the City of Key West during the Post-Hurricane Irma mitigation process and will provide engineering services on a not-to-exceed, time and material basis. An initial project budget has been set at \$40,000 and will not be exceeded without written authorization. These services include the following:

1. General Engineering Services
 - Project meetings and conference calls
 - Coordination with surveyor to update the Rest Beach survey

2. Site Visits by Tt to evaluate condition of tie in locations at either side of parcel and make recommendation whether further evaluation may be necessary
 - White street pier and boat ramp
 - Park improvements (covered picnic tables, paving and sidewalks)

3. Update drawing set and specifications
 - May include additional design of covered picnic tables (FEMA requires replacement in kind but we will need to ensure the design meets the current building code).
 - Incorporate surveys into plans (new grading plan, new demo plan, new installation plan), assumes same wall alignment and elevation
 - Revise quantities, cost estimate and specifications (to include covered picnic table, revised demo/installation quantities)

4. Bid Package services
 - Revised presentation
 - Addendums/questions

Subtotal: \$ 35,605

NOT TO EXCEED BUDGET: \$ 40,000



ATTACHMENT B

PROPOSAL FROM AVIROM FOR RESURVEY OF REST BEACH

Received: September 25, 2017





AVIROM & ASSOCIATES, INC.
SURVEYING & MAPPING

September 25, 2017

Via E-Mail: Stuart.McGahee@TetraTech.com

Mr. Stuart McGahee, P.E.
Senior Project Engineer
Tetra Tech
759 South Federal Highway, Suite 314
Stuart, FL 34994

*Re: Rest Beach Park, Key West, Monroe County Florida 33040-Our Job No. 10137
Topographic Survey Update – Post-Irma – Revision 1*

Dear Stuart:

Subsequent to your request we will provide an Updated Topographic Survey at the following site:

Rest Beach, (Alternate Key 1065021, Monroe County Property Appraiser) located at 1300 Atlantic Boulevard, Key West, Monroe County, Florida.

Scope

Limits

The limits shall be from the north edge of White Street Pier to the south, extending westerly to the centerline of Atlantic Boulevard, extending easterly beyond the Mean High Water Line of the Atlantic Ocean to a depth of -0.40 feet and extending northerly to the north line of the parcel boundary.

Updated Topographic Survey

Establish a minimum of two (2) North American Vertical Datum of 1988 (NAVD 88) benchmarks at the site, referenced to a published Benchmark Network by the National Geodetic Survey (NGS). The benchmarks shall also be horizontally referenced to the North American Datum of 1983 (NAD 83-2011) Epoch 2010.00, and tied to the National Geodetic Survey Geodetic Control Network.

Obtain sufficient elevations to define the existing topography in detail, including significant grade changes. Additional spot elevations to the damaged sidewalks and concrete pads that are breaking off and falling down the vertical escarpment shall be obtained. The elevations shall be referenced to the North American Vertical Datum of 1988 (NAVD 88) and tied to the National Geodetic Survey (NGS) benchmark network as required by the Department of Environmental Protection. Spot elevations shall be taken along the crown of the adjacent road to define the highest point and to correlate with the previous topographic survey.

We shall re-locate above ground improvements including, but not limited to pavement, ramps, driveways, steps, gates, top of curb, bottom of curb, flow line, edge of pavement, bottom of gutter, front of walk, back of walk, to provide an overlap with the previous survey including the location of above ground evidence of utility. Utility locations will include rim elevations, fire hydrants, water valves, meter boxes, vaults, electrical outlets and irrigation system. We will also locate wells and main irrigation valves, but will not locate individual sprinkler heads.

There is no provision for the excavation, probing or location of underground utilities, structures or improvements. Utilities shall be located to the extent that they are above ground and visible. There is no provision in this contract to enter structures to obtain information.

All work shall be performed in accordance with the Standards of Practice as defined in Chapter 5J-17, Florida Administrative Code.

This survey will not be a Mean High Water Survey pursuant to the Coastal Mapping Act of 1974, Chapter .177, Part II Florida Statutes. We will map the Mean High Water Line as a contour and delineate it on our drawing.

Tree Survey:

We will locate all indigenous and protected specimen trees having a 3" and larger caliper diameter at breast height relative to the boundary, with the tree species listed to the best of knowledge and ability of the surveyor (without the benefit of a botanist or landscape architect). It is the responsibility of the end user to verify the identity of the species.

The location of shrubbery and landscaping is not included in this proposal. Large, bunched groups of trees shall be located as clusters with a count and diameter listed. We will not locate exotic or non-native species.

The Tree Survey is based on performing the field work in conjunction with the topographic survey.

Deliverable

We shall provide four (4) signed and sealed hard copies of the survey, including an electronic PDF file and an AutoCAD 2014 or lower drawing file of the survey.

Time Frame

We can mobilize to the site within one (1) week after receipt of an executed contract and have the

project completed within three (3) weeks after the fieldwork, which is anticipated to take three days.

Fee:

The itemized fees to perform the above services are lump sum based on:

1. Topographic Survey

Survey Field Crew - 20 hours @ \$125.00 per hour	\$ 2,500.00
CADD Drafting - 17 hours @ \$85.00 per hour	\$ 1,445.00
Professional Land Surveyor - 3 hour @ \$100.00 per hour	\$ 300.00

2. Principal

Administrative/Billing - 1 hour @ \$150.00 per hour	\$ 150.00	
TOTAL		\$ 4,395.00

General Conditions:

- 1. All invoices are due and payable in full upon receipt. Surveyor reserves the right to withhold certified prints and files to client or client's consultants until payment is made in full. If payment is not received within 10 days of the invoice date, a late charge may be added to the invoice in an amount not to exceed 1½ percent per month on the outstanding balance. If payment is not received within 45 days of the invoice date, Surveyor may terminate this agreement or suspend work under the agreement until payments have been made in full. The undersigned agrees to pay reasonable attorney fees up to 50% and all costs and expenses incurred by Avirom & Associates, Inc. in the collection of any past due obligation of the undersigned pursuant hereto.*
- 2. Electronic data files furnished by Avirom & Associates, Inc. in connection with this project are instruments of service. All original instruments of service shall be retained by Avirom & Associates, Inc. and will remain their property, with all common law, statutory and other reserved rights, including copyright, in those instruments. This information provided in the instruments of service is proprietary and will not be shared with others without prior written consent. The client may request reproducible copies, and all original documents upon payment of all outstanding invoices, and expenses.*
- 3. Copies in excess of four prints, Federal Express, deliveries and out-of-pocket expenses will be charged to client at cost. Additional prints will be charged at \$5.00 per print.*
- 4. Revisions to survey requested by governmental agencies that are more stringent than Standards of Practice as set forth in Chapter 5J-17 FAC pursuant to Section 472 Florida Statutes will be an additional expense to client based on our current contracted hourly rates.*

We thank you for the opportunity to submit this proposal and we look forward to working with

AVIROM & ASSOCIATES, INC.

you on this project.

Should you have any questions or comments, please feel free to contact me.

Respectfully,



Keith M. Chee-A-Tow, P.L.S.
Project Surveyor

If this proposal is acceptable, please execute the signature below and return one (1) copy for our files.

THESE CONDITIONS ARE ACCEPTABLE, AND I HEREBY AUTHORIZE YOU TO PROCEED.

Mr. Stuart McGahee, P.E.
Tetra Tech

Date

