

August 3, 2020

*Sent Via Email*

Johnnie Yongue, Project Manager  
City of Key West  
Engineering Services  
1300 White Street  
Key West, FL 33040

**Re: Smathers Beach Post-Construction Biological and Physical Monitoring Services  
for Permit Compliance  
Environmental Engineering Agreement No. 20-039  
Task Order No. 01 - Smathers Beach Post-Construction Annual Monitoring  
Services**

Mr. Yongue,

Pursuant to the request from the City of Key West, Atkins is providing the enclosed Task Order to provide Professional Services under the above-referenced agreement.

If you have any questions, please contact the undersigned at your convenience.

Sincerely,  
ATKINS



Beth Zimmer  
Senior Scientist II

Cc: Steven McAlearney, City of Key West  
Mark Henry, Atkins

## **TASK ORDER NO. 01**

### **SMATHERS BEACH BIOLOGICAL AND PHYSICAL MONITORING SERVICES FOR PERMIT COMPLIANCE SMATHERS BEACH POST-CONSTRUCTION ANNUAL MONITORING**

#### **AGREEMENT NO. 20-039**

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#### **General**

The City of Key West (City) manages many public beaches along its shoreline, of which Smathers Beach is the largest and a popular attraction used by local residents and tourists. Smathers Beach is located along South Roosevelt Boulevard on the southern coast of Key West. Atkins North America, Inc. (Atkins) assisted the City with obtaining the Consolidated Joint Coastal Permit (JCP) and Sovereign Submerged Lands Authorization from the Florida Department of Environmental Protection (FDEP) (permit No: 0129031-005-JC), and the U.S. Army Corps of Engineers (USACE) Department of the Army (DA) permit (permit No: SAJ-1998-01677) for the continued maintenance of Smathers Beach. The JCP, issued on July 12, 2013, and the DA permit, issued on September 28, 2017, authorize the periodic placement of beach compatible sand along the approximately 3,000-linear foot beach over a 15-year period and 10-year period, respectively.

The initial beach restoration project involved the placement of 36,000 cubic yards of sand and mitigated for 5.2 acres of seagrass habitat at a site known as the Blimp Pad in 2000. The City previously nourished Smathers Beach in 2011 (western and central portion) and 2013 (eastern portion). Since that time, the beach has experienced erosional forces which have resulted in a reduction in beach width. The City placed 20,760 tons of sand on Smathers Beach in May-June 2019 to nourish the beach within the permitted fill template.

In accordance with the DA permit requirements and the Florida Keys National Marine Sanctuary project-specific permit FKNMS-2019-030, a specific biological and physical monitoring schedule is required after each sand placement event. Per this required monitoring schedule, Atkins has previously provided the City with permit compliance monitoring to complete the pre-construction monitoring event, during construction monitoring event, post construction monitoring event, and 6-month post construction monitoring event. The City has requested that Atkins provide professional environmental engineering services to complete additional required Smathers Beach permit compliance monitoring tasks (i.e., the Year-One Post-construction Year-Two Post-construction annual monitoring events). The following is the scope and fee for the delivery of these services.

#### **Purpose**

The purpose of this Task Order is to provide professional environmental engineering services for post-construction biological and physical monitoring at Smathers Beach. The scope of services will entail: conducting biological assessments and physical monitoring surveys of Smathers Beach to determine the effects on the nearshore and offshore environment from the 2019 sand placement event. This Task Order includes the following Scope of Services to be performed by Atkins under the terms of Agreement No. 20-039.

## 1. SCOPE OF SERVICES

### **Task 1 – Project Initiation, Permit Compliance, Project Management**

- Atkins will attend project kick-off meetings, including both internal meetings regarding the beach monitoring events, and kick-off meetings with the City.
- Atkins will complete necessary project management tasks and will participate in phone calls and/or emails with the City to discuss the overall project goals, timelines, and status.
- Atkins will meet internally to properly allocate its resources and discuss project scheduling based on the timelines discussed with the City.

### **Task 2 – Biological and Sediment Monitoring and Reporting**

In 2018, Atkins conducted a pre-construction field assessment to locate, delineate and characterize existing benthic resources (e.g., seagrasses, sand bottom, hardbottom, corals, etc.) within the benthic survey areas at Smathers Beach. This full beach assessment updated the assessment conducted by Atkins in 2011. Noticeable changes to the nearshore habitats in the marine survey area were observed and an updated benthic resource map was developed for use in future beach nourishment biological monitoring. This updated map will ensure proper reporting of possible impacts to the resources in the nearshore environment from the proposed sand placement. Knowledge of the existing resources can be used to determine the potential for impacts from construction and the potential for compensatory mitigation.

In association with the most recent sand placement conducted May 21-June 5, 2019, Atkins has already completed the following biological assessment events per the permit requirements: 1) the pre-construction biological assessment conducted May 13-17, 2019; 2) the during-construction biological monitoring assessment conducted June 4, 2019; 3) the post-construction biological monitoring assessment conducted October 14-17, 2019; and 4) the six-month post-construction biological monitoring assessment conducted May 18-22, 2020.

Two biological monitoring events will be conducted under this Task Order (Task 2.1 and 2.2):

- **Task 2.1 - Year-One Post-construction Biological Annual Monitoring and Reporting (includes sediment monitoring)**
- **Task 2.2 - Year-Two Post-construction Biological Annual Monitoring and Reporting**

For these assessments, Atkins will conduct surveys following the protocols approved in the *Smathers Beach Renourishment Project Biological and Physical Monitoring Plan* (Plan) dated April 18, 2019. For both the Year-One and Year-Two assessments, Atkins will document the nearshore edge of seagrass using a GPS unit with sub-meter accuracy. In addition, during both assessments, Atkins will survey at predetermined 1-m<sup>2</sup> quadrat locations along the existing survey transect lines, identifying and recording the condition of individual coral colonies with diameters >4.0 inches. Each coral of appropriate size will be documented for future reference in the event that mitigation is required. A map of the coral colony quadrat locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. Per the Plan, during the Year-One Post-construction monitoring event, sediment sampling will also be conducted along the existing survey transect lines and the samples sent to a laboratory for analysis to monitor for potential migration of placed beach fill beyond the permitted template. The Plan does not include a sediment sampling requirement at the Year-Two Post-construction monitoring event.

### Deliverables

- Atkins will prepare and submit a biological assessment report to the regulatory agencies for each annual physical monitoring event included in this Task Order (Task 2.1 and 2.2). Biological assessment reports within 60 days of each monitoring event. The biological assessment reports will be submitted to the City for review and comment prior to submission to the USACE and FKNMS.

### **Task 3 – Physical Monitoring and Reporting (Hydrographic Topographic/Bathymetric Surveys)**

In accordance with the Plan, topographic and bathymetric profile surveys of Smathers Beach and offshore are to be conducted prior to construction, within 60 days following construction, then annually for a period of three (3) years, then biennially until the next beach nourishment event or the expiration of the project design life, whichever occurs first.

Per the Plan, Atkins has previously completed the required pre-construction and post-construction physical monitoring and reporting. Two physical monitoring events will be conducted under this Task Order (Task 3.1 and 3.2):

- **Task 3.1 - Year-One Post-Construction Annual Physical Monitoring.** To be conducted approximately one year following the construction completion date.
- **Task 3.2 - Year-Two Post-Construction Annual Physical Monitoring.** To be conducted approximately two years following the construction completion date.

### Hydrographic Surveys

In order to conduct surveying activities, a network of control stations will be established or recovered in the proposed survey area with both vertical and horizontal values. The network will consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points will be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. The existing Permanent Reference Control Monuments established for Smathers Beach will be used for this monitoring. The network of control stations will include temporary benchmarks (3<sup>rd</sup> order vertical/horizontal) and physical ground topography points (3<sup>rd</sup> order vertical/horizontal). The ground topography points will be either digital, differential, or trigonometric measurements.

All work performed will meet or exceed USACE requirements, FDEP requirements, and Florida Minimal Technical Standards of Chapter 472.027 F.S. Rule 5J-17 Florida Administrative Code.

**Data Resolution** - The topographic data will be collected at 100 intervals not to exceed 25 feet along the existing profiles and all grade breaks and attributed items along the profile sufficient to describe each profile. All survey data will be provided in digital form and used to produce a Digital Terrain Model (DTM) map at 0.5-foot contour intervals and tied to the Mean High Water (MHW) line as approved by FDEP.

**Data Collection** - The Topographic data will be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 feet landward of the established MHW line as approved by the FDEP or to the edge of pavement of the abutting roadway.

### Engineering Study and Report

An engineering study will be conducted to summarize the performance of the nourishment project, analyze shoreline and volumetric changes, identify erosion and accretion patterns, and identify any adverse impacts as a result of the project, specifically related to direct burial of

benthic habitats. Comparisons of the survey data between monitoring events will be analyzed using MATLAB computer software.

#### Deliverables

- Atkins will prepare and submit an engineering report to the regulatory agencies for each annual physical monitoring event included in this Task Order (Task 3.1 and 3.2). The Engineering Report will be prepared within 90 days of completion of each annual hydrographic and topographic survey. The reports will be submitted to the City for review and comment prior to submission to FDEP and USACE.

## **2. ASSUMPTIONS**

The following assumptions apply.

- Fair weather prevails during field work.
- City and agencies review document submissions in a timely manner.
- Mitigation alternatives analysis for benthic habitat impacts, or mitigation plan development is not included in this scope of services.
- Existing Permanent Reference Control Monuments are easily located and undamaged.

## **3. SCHEDULE**

Atkins will perform the Scope of Services as outlined herein based on the following schedule: The task deliverables will be submitted within 60 calendar days from receipt of a formal notice to proceed (NTP) in the form of an approved Work Order.

## **4. COMPENSATION**

Atkins will perform the Scope of Services subject to the assumptions and qualifications on a time and materials basis of **one hundred forty-two thousand seventy-six dollars (\$142,076.00)**, adjusted for rounding.

The basis of the time and materials fee is provided as **Attachment A**. The job categories, hourly billing rates, and allowance for reimbursable expenses are in conformance with Environmental Engineering Agreement No. 20-039. Atkins will invoice for the services on a monthly basis on the hours spent and expenses incurred as of the date of the invoice.

## **5. APPROVAL**

Your signature below indicates that you accept and agree to with the scope and conditions associated with the above outline Task Order.

\_\_\_\_\_  
**CITY MANAGER (PRINTED NAME)**

\_\_\_\_\_  
**(DATE)**

\_\_\_\_\_  
**CITY MANAGER (SIGNATURE)**

## **Attachment A**

**Smathers Beach Post-Construction Annual Permit Compliance Monitoring**  
**Agreement 20-039 Task Order No. 01**

Task	Category	FY	Rodperson Field Tech	Tech I	Tech II	Surveyor I	Sr Tech I	Sr Tech II	PM/PE	Sr. Tech III	Sr PM	Sr Tech Profess.	PTP/Sr. Div Manager	Hours	Cost
			\$50.00	\$75.00	\$85.00	\$95.00	\$115.00	\$130.00	\$150.00	\$165.00	\$175.00	\$205.00	\$250.00		
<b>1.0 - Project Initiation and Permit Compliance</b>															
1.1 Project Initiation, Meetings, Project Management	20								16		3		1	20	\$3,175.00
													<i>Subtotal</i>	20	\$3,175.00
<b>2.0 - Biological Monitoring and Reporting</b>															
2.1 - Year-One Post-Construction Assessment and Reporting															
2.1.1 Biological Assessment	20			84	80			24	32					220	\$21,020.00
2.1.2 Report Preparation and Permit Compliance	20				26		30	16	10		2			84	\$9,590.00
2.2 - Year-Two Post-Construction Assessment and Reporting															
2.2.1 Biological Assessment	21			84	80				10					174	\$14,600.00
2.2.2 Report Preparation and Permit Compliance	21				26		30	16	10		2			84	\$9,590.00
													<i>Subtotal</i>	562	\$54,800.00
<b>3.0 - Physical Monitoring and Reporting</b>															
3.1 Year-One Post-Construction Physical Monitoring															
3.1.1 Hydrographic Survey	20		80			40	32	16	4	2			2	176	\$14,990.00
3.1.2 Engineering report	20						40	24	4		4			72	\$9,020.00
3.2 Year-Two Post-Construction Physical Monitoring															
3.2.1 Hydrographic Survey	21		80			40	32	16	4	2			2	176	\$14,990.00
3.2.2 Engineering report	21						40	32	4		4			80	\$10,060.00
													<i>Subtotal</i>	504	\$49,060.00
													<i>Total Labor</i>	1086	\$107,035.00
													<i>Total Expenses</i>		\$35,040.50
													<i>Total</i>		\$142,075.50

Notes:

- 1) The categories and rates are derived from Resolution 20-039
- 2) Fees will be billed on a time charge basis.

**Smathers Beach Post-Construction Annual Permit Compliance Monitoring**  
**Agreement 20-039 Task Order No. 01**

Item	Unit	Unit Price	Task 1	Task 2	Task 3
Per Diem <sup>1</sup>	day	\$66.00	--	\$3,036.00	\$1,980.00
Mileage <sup>2</sup>	mile	\$0.575	--	\$862.50	\$690.00
Tolls	each	at cost	--	--	--
Accommodations <sup>3</sup>	per night	\$300.00	--	\$11,400.00	\$7,200.00
Geotech Sub <sup>4</sup>	Sample	\$89.00	--	\$8,722.00	--
Underwater Camera <sup>5</sup>	day	\$30.00	--	\$300.00	--
Snorkel Gear	day	\$15.00	--	\$600.00	--
Misc. Field Supplies <sup>6</sup>	day	\$25.00	--	\$125.00	\$125.00
<b>Subtotal</b>			<b>\$0.00</b>	<b>\$25,045.50</b>	<b>\$9,995.00</b>

**Total                      \$35,040.50**

Notes:

1) Per Diem (M&IE) rate based on GSA FY 2020 Per Diem Rates for Key West

a) Task 2 - Four field persons for five days for two monitoring events (benthic assessment) and two field persons for three days for one monitoring event (sediment sampling)

b) Task 3 - Three field persons for five days for two monitoring events (physical monitoring)

2) Mileage rate based on IRS Standard Mileage Rates for 2020 - two monitoring events each for Task 2 and Task 3, respectively

3) Accommodations rate based on blended 2020 GSA rate for Key West Max lodging for May - December (excluding taxes).

a) Task 2 - Four field persons for four nights for two monitoring events (benthic assessment) and two field persons for three nights for one monitoring event (sediment sampling)

b) Task 3 - Three field persons for four nights for two monitoring events (physical monitoring)

4) Geotech Sub (No mark-up)

a) Task 2 - Analysis of beach material, estimated at 14 samples per transect (seven transects) for one monitoring event

5) Underwater Camera

a) Task 2 - Five days for two monitoring events

6) Snorkel Gear

a) Task 2 - Four field persons for five days for two monitoring events (benthic assessment)

7) Misc. Field Supplies

a) Task 2 - Five days for two monitoring events @ 1/2 rate

b) Task 3 - Five days for two monitoring events @ 1/2 rate

**Fiscal Year Project Cost Breakdown**

FY	Labor				Expenses				FY Totals
	Task1	Task 2	Task 3	Totals	Task1	Task 2	Task 3	Totals	
20	\$3,175.00	\$30,610.00	\$24,010.00	<b>\$57,795.00</b>	\$0.00	\$18,068.00	\$4,997.50	<b>\$23,065.50</b>	<b>\$80,860.50</b>
21	\$0.00	\$24,190.00	\$25,050.00	<b>\$49,240.00</b>	\$0.00	\$6,977.50	\$4,997.50	<b>\$11,975.00</b>	<b>\$61,215.00</b>
	\$3,175.00	\$54,800.00	\$49,060.00	<b>\$107,035.00</b>	\$0.00	\$25,045.50	\$9,995.00	<b>\$35,040.50</b>	<b>\$142,075.50</b>