

RESOLUTION NO. 13-149

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AUTHORIZING THE AWARD OF TASK ORDER NO. 14 FOR CONSTRUCTION ENGINEERING & INSPECTION (CEI) AND FOUR-YEAR POST CONSTRUCTION BIOLOGICAL AND PHYSICAL MONITORING FOR THE RENOURISHMENT OF SMATHERS BEACH PROJECT PHASE II TO ATKINS NORTH AMERICA, INC. ("ATKINS") IN AN AMOUNT NOT TO EXCEED \$193,609.00; AUTHORIZING NECESSARY BUDGET TRANSFERS; PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, the City and Atkins have been working on the completion of the 2011 Smathers Beach Renourishment Project, with permitting and the placement of the final tons of sand on the most easterly 1,000 feet of Smathers Beach anticipated to begin in the summer of 2013; and

WHEREAS, the location of Smathers Beach within the Florida Keys National Marine Sanctuary and requirements contained in permits issued by the Florida Department of Environmental Protection and the United States Army Corps of Engineers necessitate extensive post construction monitoring; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

Section 1: That the City Manager is authorized to execute Task Order No. 14 for Atkins North America, Inc. to provide construction engineering and inspection and four-year post

construction biological and physical monitoring for the renourishment of Smathers Beach Project Phase II in an amount not to exceed \$193,609.00.

Section 2: That a budget transfer through 2017 from fund 103-1900-519.98-03 to 103-1900-519.46-00/EN 1306 is authorized in the amount of \$193,609.00.

Section 3: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held this 4th day of June, 2013.

Authenticated by the presiding officer and Clerk of the Commission on June 6, 2013.

Filed with the Clerk June 6, 2013.



CRAIG CATES, MAYOR

ATTEST:



CHERYL SMITH, CITY CLERK



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

TO: Bob Vitas, City Manager

CC: E. David Fernandez, Asst. City Manager – Operations
Mark Finigan, Asst. City Manager - Administration
Doug Bradshaw, Senior Project Manager

FROM: Janet Muccino, Project Manager

DATE: May 17, 2013

SUBJECT: Approval of Task Order 14 for Construction Engineering & Inspection (CEI) and 4-year post construction biological & physical monitoring for Smathers Beach Phase II to Atkins North America in the amount of \$193,609. Approve a budget transfer from account 103 -1900-519.98-03 to account 103-1900-519-46.

ACTION STATEMENT:

This resolution will approve Task Order 14 to Atkins for CEI of the phase II beach renourishment at Smathers Beach and the post construction physical and biological monitoring as required by Florida Department of Environmental Protection (FDEP) and United States Army Corps of Engineers (USACE) permits in an amount not to exceed \$193,609.

BACKGROUND:

The City and Atkins has been actively working on the completion of the 2011 renourishment project for Smathers Beach; bids were opened on May 8, 2013 for the final 6,033 tons of sand on the most easterly 1,000 feet of Smathers beach. The City has a current USACE permit modification for this phase of beach renourishment and expects to receive the FDEP permit in May 2013. The permits have numerous requirements for pre, during, and post-construction activities which include actions to manage and minimize environmental impacts. Due to the beach being located in the Florida Keys National Marine Sanctuary the permitting agencies require more stringent and frequent monitoring events than for a typical beach. The permits include beach topographic surveys and seagrass monitoring over a period of four years. Staff has worked arduously with, Atkins, to reduce the number of monitoring events and costs wherever possible. As a result FDEP has agreed that the first 3 monitoring events of TO #14 will eliminate the need to budget for the last 3 monitoring events for the 2011 renourishment (res 11-090); this will save the city approximately \$98,000.

PURPOSE AND JUSTIFICATION

Bids for Phase II renourishment of Smathers Beach were opened on May 8, 2013 and will be presented to the commission for award on June 4, 2013. Task Orders for construction, engineering & inspection (CEI) & monitoring must be in place before the renourishment can begin. Atkins has been the city's beach consultants for the past five years and has all the

WETA MUCCHINO SUMMERS 3061203K3

historical data and expertise to perform the work. Atkins is most familiar with the project and staff feels it would be in the city's best interest to approve this task order.

FINANCIAL IMPACT:

The 2013 budgeted amount for phase II sand placement and design & permitting is \$329,150 (City of Key West - \$187,500, TDC - \$187,500). Approval of Task Order # 14 would require a budget transfer of \$193,609 to fully fund the project.

New Project EN 1306 is assigned to Smathers Beach CEI and Monitoring and would be funded through a budget transfer through 2017 from 103-1900-519.98-03/ EN 1306 to 103-1900-519.46-00 / EN 1306 in the amount of \$193,609.

Task Order 14 total of \$193,609 contains CEI and all pre, during and post renourishment monitoring tasks required for all permits over a 5 year period. The scopes of services in the task order are a reasonable reflection of the time, labor and expenses required to perform the work.

Budget Year	Sand Placement	Monitoring	Total Cost
2013	\$329,150	\$83,547*	\$412,697
2014		\$57,276	\$57,276
2015		\$28,638	\$28,638
2016		\$12,074	\$12,074
2017		\$12,074	\$12,074

* includes \$23,936 for Construction Monitoring (CEI)

OPTIONS / ADVANTAGES / DISADVANTAGES:

1. Approve task order 14 to Atkins in the amount of \$193,609 and authorize budget transfer. Atkins has worked on the design & permitting of Smathers since 2011 and has all relative data, maps, etc. Executing this task order will enable the City to proceed with the beach renourishment project on schedule and will utilize the expertise this firm brings.
2. The City Commission can decline to authorize this task order; however, obtaining a new coastal firm would delay the renourishment project which must be completed and reimbursement submitted by September 30, 2013 to comply with TDC grant requirements.
3. The City Commission can choose not to move forward with the renourishment project. This is not recommended by staff. The beach is an important component of our tourism industry, home to not only swimmers, but weddings, water sports and sunbathers.

RECOMMENDATION:

Staff recommends that the City Commission select option 1, the approval of the task order 14 to Atkins in the amount of \$193,609 and budget transfer.

TASK ORDER 14

**CONSTRUCTION MONITORING SERVICES AND
PERMIT COMPLIANCE
SMATHERS BEACH, KEY WEST, FLORIDA**

CONTRACT NO. 11-051

General

Atkins is assisting the City of Key West (City) with obtaining a Consolidated Joint Coastal Permit (JCP) and a Sovereign Submerged Lands Authorization for the continued maintenance of Smathers Beach located within the City limits. This permit (No: 0129031-005-JC) will authorize the periodic placement of beach compatible sand along the 3,000 foot Smathers Beach over a 10-year period. 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 USACE Department of the Army (DA) permit is pending approval so Atkins is working with that agency to modify an existing permit to allow for sand placement in the near-term.

Using the authorizations anticipated in the pending JCP and the modified DA permit, the City intends to complete the renourishment project of Smathers Beach that started in 2011. The three main task assignments for this task order to assist the City are: 1) construction monitoring, 2) biological monitoring and 3) physical monitoring. No mitigation planning or design is anticipated with this scope of work. The physical and biological monitoring proposed for this task order will be conducted in place of, where appropriate, the ongoing monitoring associated with the 2011 sand placement event.

1.0 Construction Monitoring

1.1 Project Initiation, Contracting Assistance, Meetings

Atkins will review permits for the project and inform the City of all special conditions that have to be adhered to. A concise timeline will be developed and the permits organized into a single composite document with all of the necessary requirements outlined. Atkins will assist the City communicating all relevant permit requirements to the contractor selected to conduct the sand placement.

Atkins will coordinate and participate in the project Kickoff Meeting with the permitting agencies and other designated City staff. The meeting will be held at the City offices.

Points of discussion will include, but are not limited to:

- Exchange of information
- Review permit conditions
- Establishing project, monitoring and construction scheduling goals
- Establish communications plan

Deliverables – Permit summary, Meeting minutes and any required additional submittals as a result of the meeting

1.2 Preconstruction Construction Engineering Inspection

- Facilitate submittal of the City's signed and sealed construction plans to the FDEP.
- Ensure detailed geotechnical reports for the upland borrow site is submitted to FDEP for approval. Information on the material to be placed on the beach shall include grain size analysis from representative points throughout the borrow area. Reports shall provide assurance that the

material is similar to that already existing at the beach site in both coloration and grain size. Reports shall document that all material is free of construction debris, rocks or other foreign matter and does not contain, on average, greater than 10 percent fines passing a No. 200 sieve and shall not contain coarse gravel or cobbles, exclusive of shell material retained by a No. 4 sieve.

- Conduct a pre-construction conference with all contractors, engineer of record, marine turtle permit holder and FDEP staff representative. Other appropriate agency staff and stakeholders may also be invited. The purpose of the meeting is to establish an understanding among all parties as to the requirements of the permit. A minimum 10 days advance written notification to the appropriate agencies and attendees will be provided.
- Provide written notice of commencement to appropriate agencies FDEP, Corps, FWC, FKNMS, etc.) within the time frames addressed to all parties as required by regulatory authorizations.

Marine Sea Turtle Lighting Survey

Stray light being cast upon documented marine sea turtle nesting beaches is a significant factor in the degradation of nesting habitat on the beaches of Florida. In order to monitor for the potential of impact, the following monitoring protocol will be established:

- Identify potential problem sources during the day light hours
- Conduct night time surveys
- Identify problem sources
- Address problem sources and remove stray source from impacting beach prior to construction.

A sea turtle lighting survey will be conducted both pre- and post construction.

Deliverables:

- Meetings - all meeting agendas, notifications and minutes of the meetings.
- Reports and notices – copies of all reports and notices filed with agencies.

1.3 Construction Engineering Inspection Monitoring

Atkins will provide construction engineering and inspection (CEI) services for a period of 14 days. Atkins is well qualified and has a long history working on beach and coastal construction projects throughout the state of Florida. The inspector will be qualified and familiar with coastal projects and environmental resources, beach construction techniques, and turbidity monitoring. The inspector will serve as site supervisor and have the authority to alter construction techniques or shut down operations based on turbidity monitoring results or other observations the inspector deems appropriate. Daily construction monitoring activities will include:

- Conduct daily briefings and weekly meetings with contractor
- Do not allow construction to begin until daily marine turtle monitoring of the area has been conducted
- Ensure the sea turtle nesting monitoring is being conducted and recorded
- Review contractor invoices and provide recommendations to the City
- Daily monitoring and recording of construction activities
- Random visit to stockpile site to observe delivery of sand, random visual assessment of truck volumes with comparison to delivery ticket volumes stated.
- Oversight of placement of sand on the beach and assessment of sand quality to ensure meets standards in plans, specifications and permit documents
- Collection and logging of periodic sand samples for quality assurance Record
- Daily construction monitoring observations documented with photographs.

- Perform turbidity monitoring as required by regulatory authorizations and provide required reports
- Oversee beach tilling and any compaction monitoring, if required
- Provide daily project progress reports to the City
- Maintain copies of project records
- Monitor and advise on placement of erosion control devices
- Prepare final engineers report at conclusion of project and submit along with notice of completion to agencies as required by permits
- Within 30 days following project completion submit appropriate written statement of completion and certification providing confirmation that activities were performed in compliance with the plans, specifications and all conditions of the permit. Any deviations shall be duly noted and described. If completed project is substantially different than permitted plans, substantial deviations shall be noted and provided on a set of as-built drawings.
- Submit required reports to specified regulatory agencies.

2.0 Biological Monitoring

The biological monitoring services described below will be repeated for the post construction monitoring events. The monitoring protocols will follow the agency-approved monitoring plan currently being conducted by Atkins for the 2011 renourishing event at Smathers Beach and will be repeatable for comparison purposes through the end of the monitoring period.

Atkins will compile and review available data, existing permits, reports, maps and aerial photographs pertaining to benthic habitats and associated communities, fisheries, manatees, listed/proposed endangered coral species, and other protected species/critical habitat applicable to the study area. Atkins will gather information through database literature searches, telephone interviews, and meetings with identified sources of information.

Atkins will conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. It is anticipated permit conditions will require biological surveys within 30 days prior to construction (**Task 2.1**), within 14 days post-construction (**Task 2.2**), at six months post-construction (**Task 2.3**), one year post-construction (**Task 2.4**), and two years post-construction (**Task 2.5**). The entire project area will begin with a visual reconnaissance, during which time 2 to 4 Atkins biologists will haphazardly cover the sampling area via snorkel. All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

Deliverable – Biological Monitoring Reports within 30 days of each monitoring event.

3.0 Topographic/Bathymetric Surveys

The physical monitoring services described below will be repeated for the post construction monitoring events. The monitoring protocols will be repeatable for comparison purposes through the end of the monitoring period and will follow the established plan currently being implemented by Atkins as part of the permit compliance for the 2011 Smathers Beach Renourishment project.

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

3.1.1 Data Collection

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

The 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 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

3.1.2 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

It is anticipated permit conditions will require surveys be conducted before construction commences (pre-construction **Task 3.1**) to establish the existing conditions, immediately post construction (**Task 3.2**) for the time-zero baseline, six-months post construction (**Task 3.3**), at one-year post construction (**Task 3.4**), 24 month post-construction (**Task 3.5**), 36 month post-construction (**Task 3.6**), and 48 month post-construction (**Task 3.7**).

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for the Pre construction survey.

Engineering Report

It is anticipated permit compliance will require an engineering study be conducted with the completion of each survey event. Atkins coastal engineers will prepare and submit an engineering report to FDEP with the immediately post construction (**Task 3.2.1**), six-month post construction (**Task 3.3.1**), one-year post

construction (**Task 3.4.1**), 24 month post-construction (**Task 3.5.1**), 36 month post-construction (**Task 3.6.1**), and 48 month post-construction (**Task 3.7.1**) surveys. The report will 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 seagrass. Comparisons of the survey data between monitoring events and will be analyzed using MATLAB computer software.

Deliverables – Engineering Reports prepared within 90 days of completion of the immediately post construction, six-month post construction, and one-year post construction surveys.

Fee

Atkins will perform the scope of services described herein for the estimated total fee of \$193,609.00. Fees will be billed on a time charge basis. Please see the attached schedule for a breakdown of fees.

Atkins will perform the scope of services in accordance with the terms and conditions of our professional services agreement with the City (Contract NO. 11-051).

**Smathers Beach CEI and Permit Compliance
Resolution 11-051 Task Order #14**

Task	Category FY	Rodperson		Instrument Operator I		Tech I		Tech II		Sr Tech I		Sr Tech II		Sr Tech III		Sr Tech IV		Sr Tech V		PTP/Sr. Div Manager	Hours	Cost	
		\$31.00		\$49.00		\$58.00	\$79.00	\$94.00	\$115.00	\$130.00	\$156.00	\$182.00											
1.0 - Construction Monitoring																							
1.1 Project Initiation, Contracting Assistance, Meetings	13																				1	27	\$3,640.00
1.2 Pre-Construction Construction Engineering Inspection	13									8											14	14	\$1,856.00
1.3 Construction Engineering Inspection - 14 days	13									140											158	158	\$18,440.00
																					<i>Subtotal</i>	<i>199</i>	<i>\$23,936.00</i>
2.0 - Biological Monitoring and Reporting																							
2.1 - Pre-Construction	13							52	26	32												149.5	\$15,419.00
2.2 - Immediate Post Construction	13							50	24	30												143.5	\$14,843.00
2.3 - Six-Month Post Construction	14							48	24	27												138.5	\$14,340.00
2.4 - Year-One Post Construction	14							48	24	27												138.5	\$14,340.00
2.5 - Year-Two Post Construction	15							48	24	27												138.5	\$14,340.00
																					<i>Subtotal</i>	<i>708.5</i>	<i>\$73,282.00</i>
3.0 - Hydrographic Data: Topographic/Bathymetric Survey																							
3.1 Survey - Pre-Construction	13	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.2 Survey - Immediate Post Construction	13	20	20	20	20	20	20	20	20	10											2	99	\$7,614.00
3.2.1 Engineering report	13									24												39	\$4,082.00
3.3 Survey - Six-Month Post Construction	14	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.3.1 Engineering report	14									24												39	\$4,082.00
3.4 Survey - One-Year Post Construction	14	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.4.1 Engineering report	14									24												39	\$4,082.00
3.5 - 24 Month Post Construction	15	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.5.1 Engineering report	15									24												39	\$4,082.00
3.6 - 36 Month Post Construction	16	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.6.1 Engineering report	16									24												39	\$4,082.00
3.7 - 48 Month Post Construction	17	20	20	20	20	20	20	20	20	10											2	95	\$7,094.00
3.7.1 Engineering report	17									24												39	\$4,082.00
																					<i>Subtotal</i>	<i>903</i>	<i>\$74,670.00</i>
																					<i>Total Labor</i>	<i>1811</i>	<i>\$171,888.00</i>
																					<i>Total Expenses</i>		<i>\$21,721.00</i>
																					<i>Total</i>		<i>\$193,609.00</i>

Notes:
 1) The categories and rates are derived from Resolution 11-051
 2) Fees will be billed on a time charge basis.

**Smathers Beach CEI and Permit Compliance
Resolution 11-051 Task Order #14**

Item	Unit	Unit Price	Task 1	Task 2	Task 3
Per Diem	day	\$42.00	\$651.00	\$2,520.00	\$2,352.00
Mileage	mile	\$0.565	\$339.00	\$847.50	\$1,186.50
Plane	R/T	At cost			
Tolls	Each	at cost			
Accommodations	per/nite	\$175.00	\$2,625.00	\$7,000.00	\$2,450.00
Jon Boat w/ outboard	day	\$50.00			
Boat to 20'	1/2 day	\$200.00			
Boat to 20'	day	\$350.00			
Boat greater than 20'	day	at cost			
Snorkel Gear	day	\$15.00		\$450.00	
SCUBA Equipment	day	\$40.00			
Geotech Sub	Samples	\$250.00			
Misc Field Supplies	each	\$100.00	\$700.00	\$300.00	\$300.00
Subtotal			\$4,315.00	\$11,117.50	\$6,288.50

Total \$21,721.00

Notes:

- 1) Task 1
 - a) Per Diem - One field person for 15 days (CEI task)
 - b) Accommodations - One field person one room for 15 nights (CEI Task)
- 2) Task 2
 - a) Per Diem - Four field persons for three days for five (5) monitoring events
 - b) Accommodations - Four field persons for two nights for five (5) monitoring events
- 3) Task 3
 - a) Per Diem - Four crew for two days for seven (7) monitoring events
 - b) Accommodations - Four crew two rooms for one night for seven (7) monitoring events

FY	Expenses			Labor			FY Totals
	Task1	Task 2	Task 3	Task 1	Task 2	Task 3	
FY 13	\$4,315.00	\$4,447.00	\$1,796.71	\$23,936.00	\$30,262.00	\$18,790.00	\$72,988.00
FY 14	\$0.00	\$4,447.00	\$1,796.71	\$0.00	\$28,680.00	\$22,352.00	\$51,032.00
FY 15	\$0.00	\$2,223.50	\$898.36	\$0.00	\$14,340.00	\$11,176.00	\$25,516.00
FY 16	\$0.00	\$0.00	\$898.36	\$0.00	\$0.00	\$11,176.00	\$11,176.00
FY 17	\$0.00	\$0.00	\$898.36	\$0.00	\$0.00	\$11,176.00	\$11,176.00
	\$4,315.00	\$11,117.50	\$6,288.50	\$23,936.00	\$73,282.00	\$74,670.00	\$171,888.00

RESOLUTION NO. 11-090

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AUTHORIZING THE AWARD OF TASK ORDER NO. 01 FOR BIOLOGICAL, PHYSICAL, AND CONSTRUCTION MONITORING FOR THE RENOURISHMENT OF SMATHERS BEACH PROJECT TO PBS&J, INC IN AN AMOUNT NOT TO EXCEED \$447,135.77; PROVIDING FOR AN EFFECTIVE DATE

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

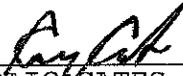
Section 1: That the City Manager is authorized to execute Task Order No. 1 for PBS&J to provide biological, physical and construction monitoring for the renourishment of Smathers Beach Project in an amount not to exceed \$447,135.77.

Section 2: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held this 15 day of March, 2011.

Authenticated by the presiding officer and Clerk of the Commission on March 16, 2011.

Filed with the Clerk March 16, 2011.



CRAIG CATES, MAYOR

ATTEST:



CHERYL SMITH, CITY CLERK



THE CITY OF KEY WEST

3140 Flagler Ave Key West, FL 33040 (305) 809-3792

M E M O R A N D U M

TO: Mayor and City Commissioners

FROM: Doug Bradshaw, Senior Project Manager

TO: Jim Scholl, City Manager
E. David Fernandez, Asst. City Manager – Operations
Mark Finigan, Asst. City Manager - Administration

DATE: March 15, 2011

SUBJECT: Smathers Beach Renourishment Project

On tonight's City Commission meeting is award of a Task Order to PBS&J for oversight of the Smather's Beach renourishment project. There are significant requirements in both the FDEP and USACE permits which extend up to 48-months after the sand placement. The tasking of this project falls under Consultants Competitive Negotiation Act (CCNA) which allows the City to negotiate with a professional engineering firm for the scope of services. We have several under contract who we could go to first for those negotiations. If we can't come to terms with that firm we stop those negotiations and we go to the next one. CCNA prevents us from going back to the first one once we start negotiations with the second firm.

The City had worked with GM Selby since December 2006 to secure the USACE permit for allowing us to place sand on the beach. The FDEP permit is in place but expires in July 2011 and will need renewing after completion of this project. Securing the USACE permit was a long drawn out process that became increasingly frustrating to City Management. There was a pattern that is well documented that indicates the two parties did not have a productive working relationship which may have delayed issuance of the permit. A significant error in the permit that was issued involved it only being a 5-year when it should have been a 10-year permit. GM Selby was unable to correct this issue on behalf of the City. GM Selby has also been working on securing the USACE permit for Rest Beach. On this project there is a pattern of the USACE requesting additional information (RAIs) and GM Selby failing to provide the response or complete responses. On numerous occasions USACE had to ask for the same information in consecutive RAIs.

When it came to the task order of overseeing the sand placement and the significant permit requirements of monitoring, data collection, mapping, reporting, etc., GM Selby was first considered and Janet Muccino in engineering received a preliminary cost estimate for the work but again after being promised the USACE permit several

times and not delivering, Management chose to not negotiate any further with GM Selby and instead negotiate with PBS&J. Again, once this occurs CCNA prevents the City from going back to GM Selby.

GM Selby has sent a letter to the Mayor indicating that they could perform the work cheaper than PBS&J. Based on their preliminary cost estimate that was completed before issuance of the USACE and a cost estimate that they, in their last meeting with the City, have admitted needed revising, that may be the case. Additionally prior to submitting the letter to the Mayor, they had the knowledge of the cost in the PBS&J task order. This goes against the spirit of CCNA. CCNA prevents us from "shopping" price among professional engineering firms and there is that chance that price may increase once you go to the 2nd firm.

In the case of GM Selby, it has never been about cost. Management believes that GM Selby is not the most qualified firm to take the City through the beach renourishment project. There are the performance issues as indicated above and the USACE has indicated to the City that there are problems in their working relationship with GM Selby which may cause delays in issuance of permits. The City has worked exclusively with GM Selby for the past 6 years in obtaining permits for both Smathers and Rest beaches. That process has at times been extremely painful and frustrating and Management feels it is time to make a change.

PBS&J has vast experience working with FDEP and USACE and every indication is that their working relationship is very productive. Their fee for the work does appear to be about 17% higher than GM Selby, but again the decision to not task GM Selby with the work was not based on cost



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

M
E
M
O
R
A
N
D
U
M

TO: Jim Scholl, City Manager
CC: E. David Fernandez, Asst. City Manager – Operations
Mark Finigan, Asst. City Manager - Administration
FROM: Doug Bradshaw, Senior Project Manager
DATE: March 2, 2011

SUBJECT: Approval of Task Order No. 01 Biological, Physical, and Construction Monitoring for the Renourishment of Smathers Beach Project to PBS&J. for \$447,135.77 and approval of necessary general fund budget transfers.

ACTION STATEMENT:

This resolution will approve Task Order No. 01 and necessary for general environmental consulting services for the supervision of the beach renourishment at Smathers Beach and the physical and biological monitoring as required by Florida Department of Environmental Protection (FDEP) and United States Army Corps of Engineers (USACE) permits in an amount not to exceed \$447,135.77 to PBS&J.

BACKGROUND:

The City of Key West constructed Smathers Beach in the early 1960's by excavating rock out 500 feet on the waterside of the South Roosevelt Blvd Seawall and replacing with sand. The beach eroded over the years and by the 1980's it was mostly cap rock on the beach and large chunks of rocks in the water. The City and County spent over \$2 million in permitting and mitigation and finally obtained the renourishment permits in 1998. Renourishment occurred in 2000 with protective beach fill along 3,000 feet of the previously nourished Smathers Beach area. Funding for the renourishment came from the USACE, FDEP, TDC and City of Key West.

Smathers beach has continued to erode since the renourishment in 2000. The City has rebuilt the protective berms above mean high water (MHW) after most hurricane events but the beach below MHW has not been renourished and is eroding and rocky.

The City has been actively working on a complete renourishment project for Smather's Beach. The City has issued and received bids from contractors for the sand placement for the beach renourishment project and expects the work to begin this spring/summer. The City has a current FDEP and USACE permit (see attachments) for the proposed beach renourishment project. The permits have numerous requirements for pre, during, and post-construction activities which include actions to manage and minimize environmental damage. Due to the beach being located in the Florida Keys National Marine Sanctuary (FKNMS) the agencies require more monitoring than for a typical beach. The permits include 8 beach topographic surveys and seagrass studies over a period of 4 years. The

City is working arduously through its consultant PBS&J to reduce the number of monitoring events if possible.

PURPOSE AND JUSTIFICATION

In order to begin the project, the City must task a consultant to oversee construction and complete the requirements of the permits. Without the required monitoring, the beach cannot be renourished.

OPTIONS / ADVANTAGES / DISADVANTAGES:

1. Approve task order for PBS&J in the amount of \$447,135.77 and authorize necessary general fund budget transfers. PBS&J. has an existing agreement with the City for general environmental consulting services. Executing this task order will enable the City to proceed with the beach renourishment project on schedule and will utilize the expertise this firm brings.
2. The City Commission can decline to authorize this task order; however, obtaining a new coastal firm would delay the project which must be complete by July 6, 2011 which is when the FDEP permit expires.
3. The City Commission can choose not to move forward with the renourishment project. This is not recommended by staff. The beach is an important component of our tourism industry, home to not only swimmers, but weddings, water sports and sunbathers. The Key West beaches are promoted by the TDC and having a rocky beach and small beach is less than optimal. Smaller hotels, motels, guest house and inns all rely on beaches for guest recreation as they do not have their own beaches.

FINANCIAL IMPACT:

This task order is for \$447,135.77. The task order contains all tasks required pre, during and post renourishment for both permits.

The budgeted amount for the renourishing project including sand placement and monitoring/CEI is \$903,200 for budget year 2010-2011. (City of Key West - \$370,100, TDC - \$103,900, and DEP - \$429,200). Total cost for the project during budget year 2010-2011 is \$963,450 which requires a budget transfer of \$60,500 from the general fund reserves to cover the project.

Budget Year	Sand Placement	Monitoring/CEI	Total Cost	Available Funds	+/-
2010-2011	\$743,574	\$219,876	\$963,450	\$903,000	-\$60,450
2011-2012		\$128,790	\$128,790	*	-\$128,790
2012-2013		\$53,410	\$53,410	*	-\$53,410
2013-2014		\$22,530	\$22,530	*	-\$22,530
2014-2015		\$22,530	\$22,530	*	-\$22,530

*The City will need to budget funds to cover the cost of the project during these years

RECOMMENDATION:

Staff recommends that the City Commission select option 1, the approval of the task order to PBS&J in the amount of \$447,135.77 and authorize necessary general fund budget transfers.



an Atkins company

March 1, 2011

Doug Bradshaw
201 William St., 2nd Floor
Key West, FL 33040

Re: Smathers Beach Renourishment Monitoring

Mr. Bradshaw:

The City of Key West (City) previously selected PBS&J in February 2008 as an approved contractor to furnish general environmental services to the City. Per Article 6.1 (A), the City Commission extended this agreement by the execution of Resolution 110-051.

PBS&J has been requested to provide services for the above referenced project. In support of this project, please find attached supporting detailed cost estimates and task order information for submission to and for the approval of the City Commission. The cost estimate is being provided as a guide for the future.

Thank you in advance for your consideration of this extension request. If you have any questions or need additional assistance, please do not hesitate to contact me at (305) 514-3387.

We are available to commence work on this task immediately.

Sincerely,

A handwritten signature in black ink, appearing to read 'Adam R. Gelber'.

Adam R. Gelber
Group Manager
PBS&J

TASK ORDER 01

CONSTRUCTION MONITORING SERVICES SMATHERS BEACH, KEY WEST, FLORIDA

CONTRACT NO. 11-051

General

The City of Key West (City) was issued a Consolidated Joint Coastal Permit (JCP) and a Sovereign Submerged Lands Authorization in July 1998 through permit number 0129031-001-JC. This permit authorizes periodic placement of sand along the 3,000 foot Smathers Beach within the City limits. 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 USACE permit application is pending approval. The three main task assignments for this task order are: 1) construction monitoring, 2) biological monitoring and 3) physical monitoring.

1.0 Kick Off Meeting

PBS&J will participate in the Kickoff Meeting with the City and other designated agencies/individuals. Anticipated date of _____ to be held at a location to be determined. Prior to this meeting PBS&J will develop concise timeline and organize the permits into a single composite document with all of the necessary requirements.

Points of discussion will include, but are not limited to:

- Exchange of information
- Establishing definitive project, monitoring and construction scheduling goals
- Agency negotiations approach
- Establish communications plan
- Establish health and safety plan

Deliverable – Meeting minutes and any required additional submittals as a result of the meeting

2.0 Agency Coordination/Negotiation

Currently the FDEP and the USACE are requiring multiple monitoring events at inconsistent intervals. The pre-, post- and 12 month post-construction surveys are common to the requirements of both regulatory agencies, but additional intermittent intervals are defined by either agency at 4, 6, and 8 months post construction. PBS&J will meet with the regulatory agencies in order to seek relief from survey intensive requirements and attempt to negotiate a common monitoring schedule that is both effective and practical. The objective of this task is to reduce to the monitoring requirements of both agency authorizations to be consistent with each other and occur at the pre-, post- and 12 month post-construction timeframes. PBS&J will coordinate meetings with the regulatory agencies in order to facilitate this process.

Deliverable – Documentation of the meetings and results of those meeting.

3.0 Preconstruction Activities

The biological and physical monitoring services described below will be repeated for the post construction monitoring events with the exclusion of the sea turtle nesting monitoring. The monitoring protocols should be established based on the information in Section 5.1 so that they will be repeatable for comparison purposes through the end of the monitoring period. If a mitigation plan is required, the

resource investigation associated with the mitigation plan development will serve as the preconstruction survey.

3.1 Biological Monitoring

PBS&J will compile and review available data, existing permits, reports, maps and aerial photographs pertaining to benthic habitats and associated communities, fisheries, manatees, listed/proposed endangered coral species, and other protected species/critical habitat applicable to the study area. PBS&J will gather information through database literature searches, telephone interviews, and meetings with identified sources of information.

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel. All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

3.2 Topographic/Bathymetric Surveys

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

3.2.1 Data Resolution

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

3.2.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

3.2.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for the Pre construction survey.

3.3 Marine Sea Turtle Lighting Survey

Stray light being cast upon documented marine sea turtle nesting beaches is a significant factor in the degradation of nesting habitat on the beaches of Florida. In order to monitor for the potential of impact, the following monitoring protocol will be established.

- Identify potential problem sources during the day light hours
- Conduct night time surveys
- Identify problem sources
- Address problem sources and remove stray source from impacting beach prior to construction

3.4 Preconstruction CEI

- Facilitate submittal of the City's signed and sealed construction plans to the FDEP.
- Submit detailed geotechnical reports provided by the Contractor for the upland borrow site. Information on the material to be placed on the beach shall include grain size analysis from representative points throughout the borrow area. Reports shall provide assurance that the material is similar to that already existing at the beach site in both coloration and grain size. Reports shall document that all material is free of construction debris, rocks or other foreign matter and does not contain, on average, greater than 10 percent fines passing a No. 200 sieve and shall not contain coarse gravel or cobbles, exclusive of shell material retained by a No. 4 sieve.
- Conduct a pre-construction conference with all contractors, engineer of record, marine turtle permit holder and FDEP staff representative. Other appropriate agency staff and stakeholders may also be invited. The purpose of the meeting is to establish an understanding among all parties as to the requirements of the permit. A minimum 10 days advance written notification to the appropriate agencies and attendees will be provided.
- Provide written notice of commencement to appropriate agencies FDEP, Corps, FWC, FKNMS, etc.) within the time frames addressed to all parties as required by regulatory authorizations.
- Marine Sea Turtle Lighting Survey
- Biological Monitoring per Section 3.1.

Deliverables:

- Meetings - all meeting agendas, notifications and minutes of the meetings.

- Reports and notices – copies of all reports and notices filed with agencies.

4.0 Construction Engineering Inspection Monitoring

PBS&J will provide construction engineering and inspection (CE&I) services for a period of 20 days. If additional time is required, additional funding will come from Task 14. PBS&J is well qualified and has a long history working on beach and coastal construction projects throughout the state of Florida. An inspector will be onsite during construction for an estimated duration of 20 days, tentatively scheduled to begin _____. The inspector will be qualified and familiar with coastal projects and environmental resources, beach construction techniques, and turbidity monitoring. The inspector will serve as site supervisor and have the authority to alter construction techniques or shut down operations based on turbidity monitoring results or other observations the inspector deems appropriate. Daily construction monitoring activities will include:

- Conduct daily briefings and weekly meetings with contractor
- Do not allow construction to begin until daily marine turtle monitoring of the area has been conducted
- Review contractor invoices and provide recommendations to the City
- Daily monitoring and recording of construction activities
- Random visit to stockpile site to observe delivery of sand, random visual assessment of truck volumes with comparison to delivery ticket volumes stated.
- Oversight of placement of sand on the beach and assessment of sand quality to ensure meets standards in plans, specifications and permit documents
- Collection and logging of periodic sand samples for quality assurance Record
- Daily construction monitoring observations documented with photographs.
- Perform turbidity monitoring as required by regulatory authorizations and provide required reports
- Oversee beach tilling and any compaction monitoring, if required
- Prepare weekly project progress reports to the City
- Maintain copies of project records
- Monitor and advise on placement of erosion control devices
- Prepare final engineers report at conclusion of project and submit along with notice of completion to agencies as required by permits
- Within 30 days following project completion submit appropriate written statement of completion and certification providing confirmation that activities were performed in compliance with the plans, specifications and all conditions of the permit. Any deviations shall be duly noted and described. If completed project is substantially different than permitted plans, substantial deviations shall be noted and provided on a set of as-built drawings.
- Submit required reports to specified regulatory agencies.
- Train City staff to take turbidity samples for the one week post construction monitoring.

5.0 Post Construction Monitoring

The post construction biological and physical monitoring will be based on the repeatable program established for the preconstruction physical and biological monitoring. Biological

5.1 Biological Immediate Post Construction

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel. All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a

Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

5.2 Topographic/Bathymetric Immediate Post Construction

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

5.2.1 Data Resolution

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

5.2.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

5.2.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for immediate post construction survey.

5.3 Turtle Lighting Survey

Stray light being cast upon documented marine sea turtle nesting beaches is a significant factor in the degradation of nesting habitat on the beaches of Florida. In order to monitor for the potential of impact, the following monitoring protocol will be established.

- Identify potential problem sources during the day light hours
- Conduct night time surveys
- Identify problem sources
- Address problem sources and remove stray source from impacting beach during construction

6.0 4 Month Post Construction Monitoring

6.1 Biological Post Construction

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel. All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

7.0 6 Month Post Construction Monitoring

7.1 Topographic/Bathymetric Post Construction

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

7.1.1 Data Resolution

The topographic data will be collected at 100 intervals not to exceed 25 ft. along the profile and all grade breaks and attributed items along the profile sufficient to describe

the profile. All survey data shall be provided in digital form and used to produce a Digital Terrain Model (DTM) map at 0.5 ft contour intervals and tied to the Mean High Water line as approved by FDEP.

7.1.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

7.1.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for immediate post construction survey.

8.0 8 Month Post Construction Monitoring

8.1 Biological Post Construction

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

9.0 12-Month Post Construction Monitoring

9.1 Biological 12-Month Post Construction

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the

operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

Deliverable – Detailed report describing, comparing and contrasting conditions from post construction monitoring efforts and the results from this effort.

10.0 24 Month Post Construction

10.1 Biological 24-Month Post Construction

PBS&J shall conduct field investigations to locate, delineate and characterize existing benthic resources, e.g. seagrasses, sandbottom, hardbottom, corals, etc., within the marine survey areas. The entire project area will begin with a visual reconnaissance, during which time 2 to 4 PBSJ biologists will haphazardly cover the sampling area via snorkel. All individual coral colonies with diameters >4.0 in (>10.2 cm) within the survey area will be identified and mapped using a Trimble Geo-XT handheld DGPS unit, running ArcPad 7.0. Each coral will have a representative photograph taken for future reference for constructability purposes, if mitigation is required. Polygonal contour vertices will be identified by snorkelers in the water and recorded by the operator of the Trimble floating adjacent to the biologist. Successive polygons will then be added to the shapefile until the entire project area has been sufficiently mapped. All hardbottom outcroppings or edges will be mapped using the same technology. A map of the individual coral colony locations will be produced and incorporated into the bathymetry and seagrass data using Geographical Information System (GIS) software. All submerged lands within the 550 foot buffer will be intensively sampled for seagrass occurrence using an agency approved approach. The objectives of the survey will be (1) to produce a detailed, species-specific map capable of estimating impact acreage, and (2) to quantify the distribution of seagrass within the project area using NMFS/NOAA methods (National Marine Fisheries Service 2002).

10.2 Topographic/Bathymetric Post Construction

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

10.2.1 Data Resolution

The topographic data will be collected at 100 intervals not to exceed 25 ft. along the profile and all grade breaks and attributed items along the profile sufficient to describe

the profile. All survey data shall be provided in digital form and used to produce a Digital Terrain Model (DTM) map at 0.5 ft contour intervals and tied to the Mean High Water line as approved by FDEP.

10.2.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

10.2.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for 12-month survey.

11.0 36 Month Post Construction

11.1 Topographic/Bathymetric Post Construction

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

11.1.1 Data Resolution

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

11.1.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

11.1.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for 12-month survey.

12.0 48 Month Post Construction

12.1 Topographic/Bathymetric Post Construction

In order to conduct surveying activities a network of control stations shall be established or recovered in the proposed survey area with both vertical and horizontal values. The network shall consist of Local 2nd Order, Class 2 vertical (both NAVD88 and NGVD29), Tidal Bench Marks and Horizontal (NAD83) control points. Vertical points shall be tied into the Tidal Bench Mark in the area and the horizontal control points shall be tied into the Florida GPS Network. Permanent Reference Control Monuments (brass disc in concrete) shall be established at 500 ft intervals along the length of project. The network of control stations shall include temporary benchmarks (3rd order vertical/horizontal) and physical ground topography points (3rd order vertical/horizontal). The ground topography points shall 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.

12.1.1 Data Resolution

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

12.1.2 Data Collection

The Topographic data shall be collected seaward out to approximate 600 feet in order to establish continuity with offshore data and landward to no less than 150 landward of the established Mean High Water line as approved by the FDEP or to the edge of pavement of the abutting roadway.

12.1.3 Procedural Control

The surveyor shall outline and maintain a schedule for planned data collection and itemize all procedures including quality control and instrumentation to be followed during the pre and immediate post construction survey, DTM map with cut and fill calculations will required to be performed and again at the 6 and 12 month monitoring period.

Deliverables - All survey data shall be provided in digital form and used to produce the DTM map. Signed and sealed surveys by a Professional Land Surveyor will be submitted for 12-month survey.

**Smathers Beach Monitoring
Resolution 11-051 Task Order #01**

Task	Category	Rodperson		Instrument Operator I	Tech I	Tech II	Sr Tech I	Sr Tech II	Sr Tech III	Sr Tech IV	Sr Tech V	FTP/Sr. Div Manager	Hours	Cost
		II	\$29.00											
1.0 - Project Kick Off														
1.1 Project Organization							16		8		4	4	32	\$4,260.00
1.2 Meet with City Staff							24		12			12	48	\$6,540.00
												Subtotal	48	\$10,800.00
2.0 - Agency Coordination/Negotiation														
2.1 Establish agency meeting							4		4		4		8	\$1,140.00
2.2 Negotiate for minimizing monitoring							8		4		8		20	\$2,780.00
												Subtotal	28	\$3,920.00
3.0 - Preconstruction Activities (Baseline)														
3.1 Biological														
3.1.1 Biological Monitoring														
3.1.2 Biological Reporting							65	55	55		4		248	\$24,990.00
3.2 Topographic/Bathymetric Survey							80	16	2				102	\$8,130.00
3.2.1 Establish Survey Controls			24				24	12		3		16	103	\$8,954.00
3.2.2 Data Collection			32				32						96	\$5,312.00
3.2.3 Procedural Control							24	16		3		4	47	\$5,170.00
3.2.4 Deliver DTM map signed and sealed							16			4		2	22	\$2,440.00
3.3 Sea Turtle Lighting Survey														
3.3.1 Survey							4		4				8	\$940.00
3.4 Preconstruction CEI														
3.4.1 CEI Coordination									16				16	\$2,000.00
												Subtotal	642	\$57,936.00
4.0 - Construction Engineering Inspection														
4.1 On-site coordination to extend 20 days								176					176	\$19,360.00
4.2 Biological Monitoring- limited survey							48	28	4				112	\$10,140.00
												Subtotal	288	\$29,500.00
5.0 - Post Construction Monitoring														
5.1 Biological - Immediate Post														
5.1.1 Biological Monitoring							65	55	55		4		244	\$24,550.00
5.1.2 Biological Reporting							56	16	2				78	\$6,330.00
5.2 Topographic/Bathymetric Survey (As-Builts)														
5.2.1 Review Survey Controls			10				10	2		2		16	50	\$5,380.00
5.2.2 Data Collection			32				32					1.5	96	\$5,312.00
5.2.3 Procedural Control							24	16		3			44.5	\$4,670.00
5.2.4 Deliver DTM map signed and sealed							16	48		4		1	69	\$7,520.00
												Subtotal	581.5	\$53,762.00
6.0 - 4 Month Post Construction														
6.1 Biological - Immediate Post														
6.1.1 Biological Monitoring							65	55	55		4		244	\$24,550.00
6.1.2 Biological Reporting							56	16	2				78	\$6,330.00
												Subtotal	322	\$30,880.00

**Smathers Beach Monitoring
Resolution 11-051 Task Order #01**

Task	Category	Rodperson II	Instrument Operator I	Tech I	Tech II	Sr Tech I	Sr Tech II	Sr Tech III	Sr Tech IV	Sr Tech V	PTP/Sr. Div Manager	Hours	Cost
		\$29.00	\$47.00	\$55.00	\$75.00	\$90.00	\$110.00	\$125.00	\$150.00	\$175.00	\$200.00		
7.0 - 6 Month Post Construction													
7.1 Topographic/Bathymetric Survey													
7.1.1 Review Survey Controls		8	8			8			2		2	28	\$2,028.00
7.1.2 Data Collection		32	32			32			3		1.5	97.5	\$5,612.00
7.1.3 Procedural Control						24	16		4		1.5	44.5	\$4,670.00
7.1.4 Deliver DTM map signed and sealed						16	16				1	27	\$4,000.00
											Subtotal	207	\$16,310.00
8.0 - 8 Month Post Construction													
8.1 Biological - Immediate Post													
8.1.1 Biological Monitoring				65		55	65	55		4		244	\$24,550.00
8.1.2 Biological Reporting				56		16	4	2				78	\$6,330.00
											Subtotal	322	\$30,880.00
9.0 - 12 Month Post Construction													
9.1 Biological - Immediate Post													
9.1.1 Biological Monitoring				65		55	65	55		4		244	\$24,550.00
9.1.2 Biological Reporting				56		16	4	2				78	\$6,330.00
											Subtotal	322	\$30,880.00
10.0 - 24 Month Post Construction													
10.1 Biological - Immediate Post													
10.1.1 Biological Monitoring				65		55	65	55		4		244	\$24,550.00
10.1.2 Biological Reporting				56		16	4	2				78	\$6,330.00
10.2 Topographic/Bathymetric Survey													
10.2.1 Review Survey Controls		16	16			16	6		3		2	59	\$4,166.00
10.2.3 Data Collection		32	32			32			4		2.5	98.5	\$5,812.00
10.2.4 Procedural Control						24	16		6		4	48	\$5,320.00
10.2.5 Deliver DTM map signed and sealed						16	16				2	40	\$4,500.00
											Subtotal	567.5	\$50,678.00
11.0 - 36 Month Topographic/Bathymetric													
11.1 Review Survey Controls		16	16			16	6		3		2	59	\$4,166.00
11.2 Data Collection		32	32			32			4		2.5	98.5	\$5,812.00
11.3 Procedural Control						24	16		6		4	48	\$5,320.00
11.4 Deliver DTM map signed and sealed						16	16				2	40	\$4,500.00
											Subtotal	245.5	\$19,798.00
12.0 - 48 Month Topographic/Bathymetric													
12.1 Review Survey Controls		16	16			16	6		3		2	59	\$4,166.00
12.2 Data Collection		32	32			32			4		2.5	98.5	\$5,812.00
12.3 Procedural Control						24	16		6		4	48	\$5,320.00
12.4 Deliver DTM map signed and sealed						16	16				2	40	\$4,500.00
											Subtotal	245.5	\$19,798.00
13.0 Project Management													
13.1 Maintaining Schedule and Budget							120	40				160	\$18,200.00



**Smathers Beach Monitoring
Resolution 11-051 Task Order #01**

Task	Category	Rodperson II	Instrument Operator I	Tech I	Tech II	Sr Tech I	Sr Tech II	Sr Tech III	Sr Tech IV	Sr Tech V	FTP/Sr. Div Manager	Hours	Cost
		\$29.00	\$47.00	\$35.00	\$75.00	\$90.00	\$110.00	\$125.00	\$150.00	\$175.00	\$200.00		
14.0	Confingency Items												
	Aerial Photography											5%	\$18,667.00
	Other as authorized by City PM												
											Total Labor		\$392,009.00
											Total Expenses		\$35,126.77
											Total		\$447,135.77

Doug Bradshaw

From: Gelber, Adam [agelber@pbsj.com]
Sent: Tuesday, March 01, 2011 3:44 PM
To: Doug Bradshaw
Subject: RE: Smathers Beach Renourishment

I had copied the FY 11 Expenses total cell into the FY 12 Expenses total. Hence the difference of 27090.74

This should work.

	<u>Labor</u>	<u>Expenses</u>	
Task 1	\$10,800.00	\$929.29	
Task 2	\$3,920.00	\$0.00	
Task 3	\$57,936.00	\$8,795.58	
Task 4	\$29,500.00	\$9,372.29	
Task 5	\$53,762.00	\$7,993.58	
Task 13	\$18,200.00	\$0.00	
Task 14	\$18,667.00	\$0.00	
FY 11	\$192,785.00	\$27,090.74	\$219,875.74
Task 6	\$30,880.00	\$5,702.29	
Task 7	\$16,310.00	\$2,732.29	
Task 8	\$30,880.00	\$5,702.29	
Task 9	\$30,880.00	\$5,702.29	
FY 12	\$108,950.00	\$19,839.16	\$128,789.16
Task 10	\$50,678.00	\$2,732.29	
FY 13	\$50,678.00	\$2,732.29	\$53,410.29
Task 11	\$19,798.00	\$2,732.29	
FY 14	\$19,798.00	\$2,732.29	\$22,530.29
Task 12	\$19,798.00	\$2,732.29	
FY 15	\$19,798.00	\$2,732.29	\$22,530.29
			\$447,135.77

Adam Gelber
 Sr Scientist/Group Manager
 PBS&J, an Atkins company
 305-514-3387

This electronic mail communication may contain privileged, confidential, and/or proprietary information which is the property of either The PBSJ Corporation, an Atkins company, or one of its affiliates. If you are not the intended recipient or an authorized agent of the intended recipient please delete this communication and notify the sender that you have received it in error. A list of wholly owned Atkins Group companies can be found at http://www.atkinsglobal.com/terms_and_conditions/index.aspx.

Consider the environment. Please don't print this email unless you really need to.

From: Doug Bradshaw [mailto:dbradsha@keywestcity.com]
Sent: Tuesday, March 01, 2011 1:27 PM

3/1/2011

RESOLUTION NO. 11-051

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, EXERCISING THE TWO-YEAR RENEWAL OPTION CONTAINED IN THE CONTRACT FOR GENERAL ENVIRONMENTAL CONSULTING SERVICES WITH PBS&J, ORIGINALLY APPROVED IN RESOLUTION NO. 08-061; PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, in Resolution No. 08-061, the City Commission approved a three-year contract with a two-year renewal option with PBS&J for general environmental consulting services; and

WHEREAS, the City Commission, having considered staff recommendations, has chosen to renew the contract, for the two year extension period.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

Section 1: That the contract is hereby extended for two years, pursuant to the contract documents approved in Resolution No. 08-061;

Section 2: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held this 15 day of February, 2011.

Authenticated by the presiding officer and Clerk of the Commission on February 16, 2011.

Filed with the Clerk February 16, 2011.



CRAIG CATES, MAYOR

ATTEST:



CHERYL SMITH, CITY CLERK

RESOLUTION NO. 08-061

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, APPROVING THE ATTACHED CONTRACT BETWEEN THE CITY OF KEY WEST AND PBSJ FOR ENVIRONMENTAL CONSULTING SERVICES; PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, the City of Key West previously selected PBSJ as an approved contractor to furnish general environmental consulting services to the City of Key West and directed staff to negotiate a contract with the company; and

WHEREAS, staff and consultants have negotiated the attached contract; and

NOW THEREFORE BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

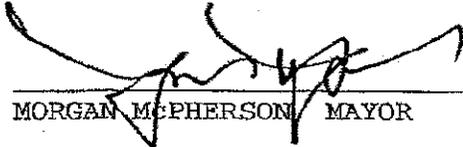
Section 1: That the attached contract between the City of Key West and PBSJ is hereby approved.

Section 2: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held
this 20th day of February, 2008.

Authenticated by the presiding officer and Clerk of the
Commission on February 21, 2008.

Filed with the Clerk February 21, 2008.


MORGAN McPHERSON MAYOR

ATTEST:


CHERYL SMITH, CITY CLERK