

**DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION**

Rev 1

New contract
 OTR
 CO
 SS
 BW
 Emergency
 Previous Contract/Project No.
BW9459.0/11

Re-Bid
 Other (Government Access)
 LIVING WAGE APPLIES: YES NO

Requisition/Project No: ROWS13000009 TERM OF CONTRACT: 1 years with 0 one-year options-to-renew

Requisition/Project Title: 3D Land Based Reflection Seismic Survey

Description:

The Miami-Dade Water and Sewer Department is requesting the services of Walker Marine Geophysical Company, LLC to perform 3D seismic reflection surveys.

The purpose of this sole source acquisition is to establish a contract for seismic surveys prior to the construction of a deep injection well for the disposal of centrate and scrubber gas at the Central District Wastewater Treatment Plant in order to comply with Florida Statutes. Walker Marine Geophysical Company is the only firm that provide the required USGS services needed for this highly specialized project. (See the attached scope of work that will be performed by the vendor).

User Department(s): Miami Dade Water and Sewer Department

Issuing Department: ISD Contact Person: Celeste S. Walker Phone: 305-375-5683

Estimated Cost: \$98,500.00 Funding Source: WASD Proprietary Revenue REVENUE GENERATING: No

ANALYSIS

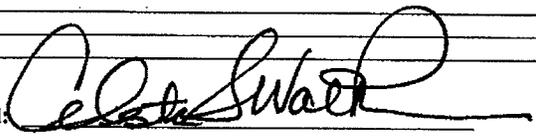
Commodity/Service No:	SIC:		
Trade/Commodity/Service Opportunities			
Contract/Project History of Previous Purchases For Previous Three (3) Years Check Here <input type="checkbox"/> If this is a New Contract/Purchase with no Previous History			
	EXISTING	2ND YEAR	3RD YEAR
Contractor:	Walker Marine Geophysical Co., LLC		
Small Business Enterprise:			
Contract Value:	\$97,850.00		
Comments:			
Continued on another page (s): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

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 BUSINESS DEV.
 2013 MAR 22 PM 4:19

RECOMMENDATIONS

SBE	Set-Aside	Sub-Contractor Goal	Bid Preference	Selection Factor
		%		
		%		

Basis of Recommendation:

Signed:  Date to SBD: 03/22/13

Date Returned to DPM: _____

**MDWASD SEISMIC-REFLECTION SURVEY
STATEMENT OF PROPOSED WORK**

Purpose:

Miami-Dade Water and Sewer Department (MDWASD) will be constructing a centrate disposal well to dispose of centrate industrial waste generated by the Central District Wastewater Treatment Plant (CDWWTP), in order to comply with Florida Statutes Title XXIX Chapter 403.086. The centrate disposal well will be an industrial wastewater deep injection well which will inject the centrate wastewater into a permeable zone known as the Boulder Zone in the Floridan aquifer, approximately 3000 feet below land surface at CDWWTP

Florida Statute 403.086(9) finds that "elimination of ocean outfalls as a primary means of domestic wastewater discharge are in the public interest." In response to requirements associated with this statute, MDWASD is considering transitioning the treated wastewater disposal protocol at the CDWWTP from existing ocean outfall to several alternative disposal scenarios that include injection into the Floridan Aquifer System and Cretaceous formations. The CDWWTP is located in Miami-Dade County on Virginia Key, 3989 Rickenbacker Causeway, Key Biscayne, Florida 33149. A significant data deficiency exists for the intermediate confining unit (ICU), Floridan aquifer system (FAS), sub-Floridan confining unit, and Cretaceous formations beneath the CDWWTP. As part of obtaining the data necessary to evaluate these geologic and hydrologic units beneath the CDWWTP, the centrate disposal well will also serve as an exploratory well into the Cretaceous formations. In order to meet the Florida Statute 403.086 deadline, the centrate disposal well is planned to be drilled beginning approximately in December, 2013.

Selection of the most favorable drilling location for the centrate disposal well requires substantial additional characterization of geologic and hydrogeologic properties of the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations. The objectives of the proposed work is to provide a land-based 3D seismic-reflection survey that produces a 3D geologic and hydrogeologic framework beneath the CDWWTP that will inform the drilling contractor of (1) where to best site the centrate disposal well, (2) drilling hazards, and (3) casing depths, hydraulic testing depths, and coring depths for the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations before and during drilling of centrate disposal well at the CDWWTP.

Scope of Work:

Acquisition, processing, and interpretation of land-based reflection-seismic profiles will test the presence of fractures, faults, and/or karst collapse structures in the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations. This seismic task will be accomplished by: (1) acquisition of 3D high-resolution land-based reflection seismic data at the CDWWTP, at Virginia Key, (2) processing of the data, and (3) analysis of the seismic data.

The land-based 3D seismic-reflection survey will be focused on a geologic/hydrogeologic section that includes the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations. The 3D seismic-reflection data will be viewable as vertical or horizontal slices through a 3D volume of seismic-reflection parameters, such as amplitude, frequency, and phase. Attribute analysis of the 3D seismic-reflection

volume should include information on the spatial distribution of structural interpretation, karst features, and hydrostratigraphic units. Seismic attributes contain information about how the seismic-reflection wavelet reacts to localized changes in geology.

Acquisition, Processing, and Display: Acquisition includes (1) placement of seismic-reflection data recording nodes in four separate arrays (fig. 1), (2) movement through the nodal arrays with a mobile vibrating seismic source, and (3) recording of the seismic signals gathered at the 160 nodes that compose an array at a single recording instrument. The following specific tasks are associated with seismic-reflection methods used in this project:

Tasks:

1. Seismic-Reflection Survey Acquisition:

Acquisition of a 3D land-based seismic-reflection survey includes mobilization of seismic field equipment, such as, 160 seismic-reflection cable-free recording nodes and a 15,000 pound-force EnviroVibe™ vibrator that is an environmentally-safe sonic-energy source. Seismic-reflection data will be acquired in four stages as the 160 nodes are placed in four separate "patches" or arrays that encompass the CDWWTP (fig. 1). Because of the numerous cultural obstacles at the seismic-survey site, the vibrating seismic-energy source will be driven around buildings and on roads to produce a 3D seismic-reflection survey of the CDWWTP. Surface cultural density throughout the 4 survey array patches and restrictive use of southern 2 array patches (Fig. 1) could compromise 3D coverage, which could result in final production of a 2.5D grid.

2. Data Processing:

The basic processing steps include trace editing, multiple and noise attenuation, near surface muting and dip filtering to remove direct and refracted arrivals, velocity analysis, and the application of several processes—including bandpass filtering, spectral balancing, and spectral whitening—before stacking and migrating the data. A number of post-stack processes to enhance the data may also be applied, as needed.

3. Display:

After data processing, migrated 3D seismic-reflection data will be displayed on electronic files that can be viewed in SMT Kingdom Suite™ software at the USGS as a data volume, and the SEG Y formatted digital sections will be delivered on CDs or external hard drives (HDD).

4. Preliminary Seismic-Reflection Survey Interpretation:

Combined use of seismic-reflection data and nearby wells in SMT Kingdom Suite™ software, will be utilized in a preliminary geologic and hydrogeologic characterization of the rocks of the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations.

5. Final Electronic Seismic 3D or 2.5D Data Volume

Combined use of seismic-reflection data and nearby wells in SMT Kingdom Suite™ software, will be utilized in a final geologic and hydrogeologic characterization of the rocks of the ICU, FAS, sub-Floridan confining unit, and Cretaceous formations. Several selected examples of key interpretive profiles on paper copy will be delivered.

Project Schedule and Penalties:

The project will begin in Fiscal Year 2013 and end in Fiscal Year 2014 with delivery of final operations report.

Description of Task	Start Date	Deadline*
Seismic Acquisition, Data Processing & Display (1,2,3)	June 30, 2013	August 29, 2013
Preliminary Seismic Interpretation (4)	September 2, 2013	October 31, 2013
Final Electronic Seismic 3D or 2.5D Volume (5)	November 1, 2013	September 31, 2014

*Dependent of start date.

Due to the time sensitivity of this project the deadlines above will be enforced. Should the contractor fail to complete the task by the required deadline listed above, the contractor will be subject to penalties of \$1000.00 per day (excluding Saturday, Sunday and holidays) for each (8) hour day the task is not completed.



Figure 1. Location map of CDWWTP on Virginia Key showing four "patches" or arrays (colored squares) where in each of the four colored patches 160 seismic-reflection data recording nodes will be placed as a 15,000 pound-force vibrating sonic source moves through each array of nodes during the acquisition of the 3D seismic survey.

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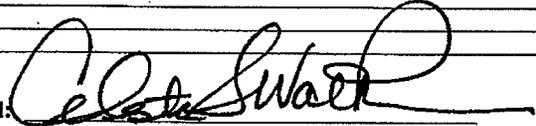
ANALYSIS

Commodity/Service No: _____		SIC: _____	
Trade/Commodity/Service Opportunities			
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Contractor:	Walker Marine Geophysical Co., LLC		
Small Business Enterprise:			
Contract Value:	\$97,850.00		
Comments:			
Continued on another page (s): <u> </u> Yes <input checked="" type="checkbox"/> No			

RECOMMENDATIONS

SBE	Set-Aside	Sub-Contractor Goal	Bid Preference	Selection Factor
		%		
		%		

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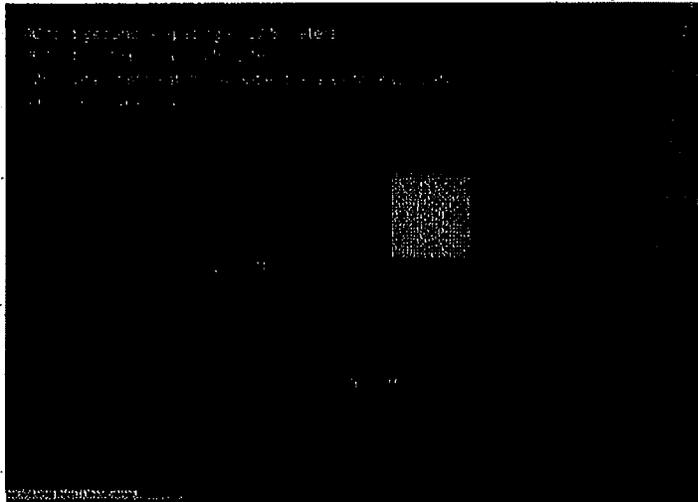


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INTERNAL SERVICES DEPARTMENT
PROCUREMENT MANAGEMENT SERVICES

Justification/Input Document for Non-Competitive Acquisition

It is the policy of Miami-Dade County to consistently purchase goods and services using full and open competition. The citizens of Miami-Dade County are best served when we make sound business decisions based on competitive bids or proposals. Early acquisition planning that includes consultation with Internal Service Department's procurement staff can help avoid delays and facilitates effective market research. However, there may be instances when other than full and open competition may be justified. When a user department(s) determines that other than full and open competition is necessary or in the best interest of the County, appropriate justification for that course of action must be submitted to ISD for approval and execution in order to waive the competitive bid/proposal process.

Please provide the information requested below to support the need and feasibility for waiving the competitive bid/proposal process:

Department:	Miami-Dade Water & Sewer		
Contact Person:	Virginia Walsh	Phone Number:	786-552-8266
Requisition No.:		Estimated Value:	\$98,500.00
Proposed Vendor:	Walker Marine Geophysical Company, LLC		
Previous Contract Number:	BW9429-0/11	Previous Contract Value:	\$97,850.00

Title: 3D Land Based Seismic Reflection Survey

Purpose of the Purchase

Please describe your minimum requirements and the benefits of making the acquisition.

The Miami-Dade Water and Sewer Department (MDWASD) Planning Division needs to conduct a 3D Land Based Seismic Reflection Survey prior to the construction of a deep injection well for the disposal of centrate and scrubber gas at the Central District Wastewater Treatment Plant (CDWWTP) in order to comply with Florida Statutes Chapter 403, Section 086(9)(b). A seismic reflection survey is required at the site prior to construction in order to properly locate the well and assess potential geologic and seismic hazards. MSWASD will be constructing deep injection wells at CDWWTP in order to comply with Ocean Outfall legislation (Senate Bill 1302) and Florida Statutes Chapter 403, Section 086(9)(c) and (d).

Best Interest of the County / Uniqueness of Product

Please provide a detailed description as to why a waiver of formal bidding is in the County's best interest (e.g., product standardization, compatibility, proprietary access or distributorship, how vendor is uniquely qualified to provide the needed product or service, etc.). Please note that a lack of advance planning is not an acceptable justification for a non-competitive acquisition.

Walker Marine has been qualified by the United States Geological Survey (USGS) to acquire data in canals, surface bodies of water and on land because they are the only contractor known to collect high resolution data in shallow water and in an aqueous environment with a hard limestone bottom. Conventional processors cannot capture the very sensitive data nor process it to the level of detail that is required for this seismic survey. Walker Marine acquired the original raw data and has been qualified by the USGS to understand vagaries in the data that



**INTERNAL SERVICES DEPARTMENT
PROCUREMENT MANAGEMENT SERVICES**

are due to special conditions that existed during raw data acquisition and those caused by special environmental conditions. It is in the best interest of the County for WASD to hire Walker Marine directly than go through the USGS who would mark up the service substantially. Additionally, the vendor previously performed work at the North and South District Wastewater Treatment Plants.

Market Research

Please describe your market research and the results thereof. This should include a description of other, similar sources or products available in the market if any and why they are not acceptable.

Walker Marine has been qualified by the USGS to acquire data in canals, surface bodies of water and on land because they are the only contractor known to collect high resolution data in shallow water and in an aqueous environment with a hard limestone bottom. They have been qualified to process very high resolution multi-channel data particularly in the critical areas of near-surface statistics, velocity analysis, shallow migration and marine shooting geometry. Given the specialized nature and level of detail required for this type of work that has been approved by the USGS which is a bureau within the United States Department of Interior, MDWASD abides by the decision of the higher authority and defers to their expertise in these areas.

Proposed Actions

Please describe the actions the department will take to overcome the present barriers to competition prior to any future acquisitions of this product or service.

This specialized service is not ongoing and is not expected to occur on a regular basis.

Virginia Walsh J. Hill BM Galdenkery 3/13/13
Virginia Walsh, Senior Professional Geologist 786-552-8266
Contact Person and Phone Number

John W. Reynolds
Department Director's Approval

3-22-13
Date Approved

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96879*