

Design

Date: July 10, 2013

To: Jack Osterholt, Director
Department of Regulatory and Economic Resources

From: John W. Renfrow, P.E., Director *[Signature]*
Miami-Dade Water and Sewer Department

Subject: Review Item: Design-Build Services for Gravity Sewer Interceptors for Pump Station No. 3, Project No. DB13-WASD-01

It is recommended that the Small Business Development division of the Department of Regulatory and Economic Resources review the attached request for Community Business Enterprise (CBE) and Community Small Business Enterprise (CSBE) measures for the above mentioned project, in order to proceed with the advertisement and subsequent consultant selection for this project.

The duration of the proposed design-build contract is 488 calendar days. The estimated total compensation for the design-build contract is \$ 15,293,700, which includes the following:

- \$12,871,200 estimated construction cost;
- \$ 1,078,900 estimated engineering cost ;
- \$ 643,600 contingency fees in accordance with Ordinance 00-65;
- \$ 300,000 dedicated allowance;
- \$ 400,000 permitting fees.

ENGINEERING SERVICES: The scope of engineering services will include, but is not limited to, engineering, design, permitting, and inspection to support the construction, installation, testing and commissioning activities associated with the construction of new gravity sewer interceptors to Pump Station No. 3. Engineering and design services will be required to address the following project elements:

- Approximately 600 linear feet of tunnel boring to install a 54-inch internal diameter pipeline, to be constructed with inert/non-corrosive material, along S.W. 11th Street from S.W. 2nd Avenue to Pump Station 3.
- Approximately 2,400 linear feet of tunnel boring to install a 48-inch internal diameter pipeline, to be constructed with inert/non-corrosive material, along S.W. 2nd Avenue and S.W. 13th Street, from S.W. 11th Street to Brickell Avenue.
- Approximately 1,400 linear feet of tunnel boring to install a 36-inch internal diameter pipeline, to be constructed with inert/non-corrosive material, along S.W. 2nd Avenue, from S.W. 7th Street to S.W. 11th Street.
- Approximately 700 linear feet of tunnel boring to install a 30-inch internal diameter pipeline, to be constructed with inert/non-corrosive material, along S.W. 8th Street, from S.W. 1st Avenue to S.W. 2nd Avenue.

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The firms providing these services must be certified in the following technical categories and the respective percentages of the disciplines as indicated below:

Technical Category No.	Description	Total Percentage	CBE Percentage
3.02A PRIME	Highway Systems- Tunnel Design	45%	0%
3.04	Traffic Engineering Studies	0.5%	0.5%
3.05	Traffic Counts	0.5%	0.5%
6.01 PRIME	Water and Sanitary Sewer Systems- Water Distribution and Sanitary Sewage Collection and Transmission Systems	15.5%	0%
9.01	Soils, Foundations and Materials Testing- Drilling, Subsurface Investigations and Seismographic Services	1.0%	1%
9.02	Soils, Foundations and Materials Testing- Geotechnical and Materials Engineering Services	2.0%	2%
9.03	Soils, Foundations and Materials Testing- Concrete and Asphalt Testing Services	0.5%	0.5%
9.04	Soils, Foundations and Materials Testing- Non-Destructive Testing and Inspections	0.5%	0.5%
10.02	Geology Services	1.0%	1.0%
10.05	Environmental Engineering- Contamination Assessment and Monitoring	0.5%	0.5%
11	General Structural Engineering	10.0%	0%
15.01	Surveying and Mapping - Land Surveying	2.0%	2%
15.03	Surveying and Mapping - Underground Utility Location	1.0%	1%
16 PRIME	General Civil Engineering	15.0%	5%
17	Engineering Construction Management	5.0%	2%
	TOTAL	100%	16.5%

CONSTRUCTION SERVICES: The scope of services will include, but is not limited to, providing all the materials, labor, and equipment as well as the management, supervision, quality control, cost and schedule controls, and safety services for the construction/installation of all tunneled piping including launch and retrieval shafts, manholes, junctions, ancillary piping, and tie-in connections to facilitate successful construction and commissioning of the new gravity sewer interceptors for Pump Station 3 located at the intersection of S.W. 3rd Avenue and S.W. 11th Street in the City of Miami.

It is the intent of Miami-Dade Water and Sewer Department (WASD) to obtain a complete functional, satisfactory and legally-operable design and fully permitted installation of the new gravity sewer interceptors to Pump Station 3. WASD is recommending a 16.5% CBE and 11.2% CSBE participation goal. Attached are WASD's Departmental Input Worksheets and CBE and CSBE minimum requirements for your review and approval.

Should you have any questions, please contact Patty David, A/E Professional Services Manager at (786) 552-8040 or email at pattyd@miamidade.gov with copy to Isaac Smith at ismit01@miamidade.gov, (786) 268-5196.

Attachments

DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Contract/Project Title: Design-Build Services for Gravity Sewer Interceptors for Pump Station No. 3

Contract/Project No. DB13-WASD-01

Description: Design-Build Services for Gravity Sewer Interceptors for Pump Station No. 3

DEPARTMENT: Miami-Dade Water and Sewer Department **CONTACT:** Patty David **PHONE:** (786) 552-8040

Estimated Cost: \$ 1,078,900 **Funding Source:** WASD Plant Expansion Fund

ANALYSIS

Commodity/Service No. _____ SIC: _____

Trade/Commodity/Service Opportunities

Contract/Project History of Previous Purchases for Previous Three (3) Years
Check Here if this is a New Contract/Purchase with no Previous History

Existing 2nd Year 1st Year

Contractor	_____	_____	_____
Ethnicity/Race	_____	_____	_____
Gender	_____	_____	_____
Contract Value	_____	_____	_____

COMMENTS: _____

RECOMMENDATIONS

<u>CBE GOAL</u>	<u>BID PREFERENCE</u>	<u>NO MEASURE</u>
<u>16.5</u> %	_____	_____

Analysis for Goal Recommendation

<u>Sub-Trade</u>	<u>Est. Cost</u>	<u>% of Item to Base Bid</u>	<u>Availability</u>
_____	\$ _____	_____	_____
_____	\$ _____	_____	_____
_____	\$ _____	_____	_____
Total:	\$ _____	_____	_____

Basis for Recommendation: WASD proposes that the goal can be achieved with CBE firms assisting with 3.04 – 0.5% ; 3.05 - 0.5%; 9.01 – 1%; 9.02 - 2%; 9.03 – 0.5%; 9.04 – 0.5%; 10.02 – 1%; 10.05 – 0.5%; 15.01 - 2%; 15.03 - 1%; 16.00 - 5% and 17.00 - 2%


 By Department
 John W. Renfrew, P.E., Director

 Date: Regulatory and Economic Resources

CBE RECOMMENDATION
Minimum Requirements
Design-Build Services for the Gravity Sewer
Interceptor for Pump Station No. 3

MINIMUM EXPERIENCE AND QUALIFICATION:

Qualifications and Experience for the Design-Builder, Lead Constructors and Lead Designers

Minimum Project Experience and Past Performance: The proposed Design-Builder shall demonstrate its project team experience by presenting the qualifications and capabilities of the Design-Builder, Lead Constructor(s) and Lead Designer(s) supported by listing projects completed within the last ten (10) years, including projects that are at least 50% complete, prior to the required submittal date of the solicitation, that demonstrate related minimum project experience as indicated below:

- 1) Design-Builder
 - i. The Design-Builder shall demonstrate that it has performed and/or managed as a prime contractor or Design-Builder the construction of at least three (3) microtunnel projects, one of which was a minimum length of 1,200 linear feet with a minimum of 48-inch inside diameter.
 - ii. The Design-Builder may also qualify for any of the Lead Constructor requirements.

- 2) Lead Designer(s):
 - i. The Lead Designer firm who will design the tunnel bore must have designed at least three (3) tunneling projects, including one (1) project consisting of a minimum 1,200-foot length and 48-inch inside diameter.
 - ii. The Lead Designer firm performing design for the deep shafts shall have designed at least two (2) deep shafts to support a tunnel boring operation of at least 25-foot deep (below grade).
 - iii. The Lead Designer(s) providing services under technical certification categories herein must have designed or managed at least two (2) projects that were completed within the last ten (10) years involving the following project elements: tunnelling, large diameter pipeline installation and construction of deep shafts.

Lead Designer(s) may qualify for one (1) or more of the above Lead Designer requirements.

Categories indicated below as "Prime" are those categories expected that the Lead Designer shall possess.

ITEM	BREAKDOWN	% of Design	CBE %
Prime	Highway Systems - Tunnel Design	45	0
3.02A			
	Specialty experience in the design of minimum 3-foot inside diameter tunnel in geologies with limestone/rock formation and a high water table and the selection/procurement of Tunnel Boring Machines (TBMs).		
	Special capability in the design of small diameter (less than 12-inches) non-rigid pipe using Horizontal Directional Drill (HDD) methods in geologies with limestone/rock formations and a high water table.		
3.04	Traffic Engineering Studies	0.5	0.5
	Special capability in the study of operational problems and the determination of traffic operational improvements for efficiency and safety. Studies shall include those for signing, marking and signal inventories; signal warrant and intersection analysis; travel time and delay studies,		
3.05	Traffic Counts	0.5	0.5
	Special capability in conducting 24 hour, one to three day counts for approximately 450 permanent traffic count stations annually, or one-day 24-hour traffic counts.		
Prime	Water and Sanitary Sewer Systems – Water Distribution	15	0
6.01	and Sanitary Sewage Collection and Transmission Systems		
	Specialty knowledge in design, construction, and testing of: large diameter gravity mains (36-inches and larger) installed as a carrier in a casing or tunnel, or via open cut methods; and smaller diameter (less than 12-inches) HDD pipe installations.		
9.01	Soils, Foundations and Materials Testing - Drilling, Subsurface Investigations and Seismographic Services	1	1
	Specialty knowledge in the performance of geotechnical explorations in the uplands and the development and implementation of instrumentation and monitoring programs to measure settlement of surfaces, structures, utilities, and water levels.		
9.02	Soils, Foundations and Materials Testing – Geotechnical and Materials Engineering Services	2	2
	Providing material testing and quality assurance services for product acceptance. Testing for reliability/durability, water-tightness and densities of tunnel and piping systems.		

ITEM	BREAKDOWN	% of Design	CBE %
9.03	Soils, Foundations and Materials Testing – Concrete and Asphalt Testing Services	0.5	0.5
	Providing quality assurance and testing services for concrete and pavement installations. Testing to include compressive strength, slump, air, density, and proctor tests for product acceptance.		
9.04	Soils, Foundations and Materials Testing – Non-Destructive Testing and Inspections	0.5	0.5
10.02	Geology Services	1	1
10.5	Environmental Engineering - Contamination Assessment and Monitoring	0.5	0.5
	Providing services such as environmental permitting, contamination screening, soil and ground water sampling, site characterization, and developing and implementing environmental remedial action plans, if required.		
11.00	General Structural Engineering	10	0
	Structural design of deep water-tight shafts, with minimum depth of 20-feet, and in conditions with high water table and requiring tremie plugs and rock anchor supports; concrete segmental liners and their associated connections; thrust restraints for pipes in tunnel and in a trench.		
15.01	Surveying and Mapping - Land Surveying	2	2
	Surveying and mapping services related to establishing alignment and grades for deep tunnels, temporary/permanent/subterranean easements, marine surveying, and construction progress and as-built surveys.		
15.03	Survey and Mapping - Underground Utility Location	1	1
	Understanding of mapping and survey requirements based on MDWASD standards and knowledge of the utility verification process.		
Prime	General Civil Engineering	15	5
16.00			
	Understanding of general civil and site requirements such as paving, grade, drainage, and landscaping to support site development for the construction trailers and material staging areas, and restoration of golf courses and greenways.		
17	Engineering Construction Management	5	2

ITEM	BREAKDOWN	% of Design	CBE %
Administration of single or multiple construction/installation contracts for engineering projects. This specialty also includes the inspection and certification of the construction of engineering elements projects. Staff shall include at least one (1) professional engineer registered with the Florida State Board of Professional Engineers.			
TOTAL ENGINEERING		100%	16.5%

CSBE RECOMMENDATION
Minimum Requirements

- 3) Lead Constructors: Minimum requirements are for projects completed within the last ten (10) years, including projects that may be at least 50% complete prior to the required submittal date of the solicitation. There are no minimum requirements for CSBE contractors. Lead Constructors must demonstrate related minimum project experience as indicated below:
- i. The Lead Constructor firm performing the tunnel boring work must have constructed at least five (5) tunneling projects of similar complexity to this project. A minimum total of 2500 linear feet of microtunnel installation is required, including one (1) project consisting of a microtunnel installation with a minimum length of 1,200 linear feet and 48-inch nominal diameter.
 - ii. The Lead Constructor firm performing the shaft construction shall have constructed at least four (4) deep shafts (i.e. at least 15 feet below ground), two (2) of which were to at least 30 foot deep (below grade).
 - iii. The Lead Constructor firm performing the open cut installation of 54-inch pipe shall demonstrate having performed at least two (2) projects utilizing open cut methods with pipe of 48-inches inside diameter or larger, including one project having a total installed length of at least 1,000 linear feet.
 - iv. The Lead Constructor within the Design-build entity may qualify for one (1) or more of the above requirements, and shall at a minimum qualify for Item i. described above

Build



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**CSBE RECOMMENDATION
Minimum Requirements**

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