Memorandum

Date:

June 15, 2017

To:

Gary Hartfield, Division Director Internal Services Department,

Division of Small Business Development

From:

Lester Sola, Director

Miami-Dade Water and Sewer Department

**CONSENT DECREE PROJÉC

Subject:

Review Item: Design-Build Services for the Construction of the Central District Wastewater Treatment Plant Oxygen Production Facility Consent Decree Project

2.27; Project No. DB17-WASD-01

It is recommended that the Small Business Development Division of the Internal Services Department review the attached request for Small Business Enterprise (SBE) measures for Architectural and Engineering (A/E), Construction and Goods and Services (G/S) for the above subject project, in order to proceed with the advertisement and subsequent Design-Builder selection for this project.

The duration of the proposed Design-Build contract is 896 calendar days for each project site. The total maximum compensation for the Design-Build contract is \$42,626,720 which includes the following:

actimated construction cost

•	\$36,009,000	estimated construction cost
0	\$ 2,534,000	estimated engineering and architecture services
•	\$ 1,800,450	construction contingency fee (5%)
•	\$ 253,000	engineering contingency fee (10%)

dedicated allowance 950,000 permitting fees (3%) 1,080,270

#26 000 000

Firms providing engineering services must be certified in the following technical categories and the respective percentages of the disciplines as indicated below:

TECHNICAL	6	TOTAL	
CATEGORY		PERCENTAGE	
(TC)	DESCRIPTION	TC (%)	SBE %
6.03	Water and Sanitary Sewer Systems – Water		
Lead A/E	and Sanitary Sewage Treatment Plants	25.00%	0.00%
11.00	General Structural Engineering		
Lead A/E		12.00%	0.00%
12.00	General Mechanical		
Lead A/E		7.5%	1.50%
13.00	General Electrical		
Lead/A/E		25.00	2.50%

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16.00 Lead A/E	General Civil Engineering	7.5%	1.13%
17.00 Lead A/E	Engineering Construction Management	10.00%	0.00%
9.02 Other	Soils, Foundations and Materials Testing- Geotechnical and Materials Engineering Services	3.00%	3.00%
10.05 Other	Environmental Engineering - Contamination Assessment and Monitoring	3.00%	0.00%
14.00 Other	Architecture	5.00%	5.00%
15.01 Other	Surveying and Mapping -Land Surveying	1.00%	0.00%
	TOTAL	100%	13.13%

Good and Services 1% goal participation may be provided under the following categories:

96897 Wrecking and removal

31530 Coating, Protective

63009 Coating, masonry

63012 Coating, protective, asphalt based

00505 Abrasives equipment and tools

79050 Sod, grass

28500 Electrical Equipment and Supplies

WASD is recommending a 13.13% SBE A/E, 7.15% SBE-Construction and 1% SBE (G/S) good and services participation goals. Attached are WASD's Departmental Input Worksheets, the Minimum Experience and Qualifications requirements and the Scope of Services for your review and approval.

If you have any questions, please contact Patty Palomo, Chief, Intergovernmental Affairs Section at Patty.Palomo@miamidade.gov or 786-552-8040.

DEPARTMENTAL INPUT CONTRACT MEASURE ANALYSIS AND RECOMMENDATION

DATE:

TO:

Gary Hartfield, Division Director

Internal Services Department,

Division of Small Business Development

FROM:

Lester Sola, Director

Water and Sewer Department

CONTRACT TITLE: Design-Build Services for the Central District Wastewater Treatment

Plant Oxygen Production Facility Consent Decree Project 2.27-

Project No. DB17-WASD-01

Construction Cost

\$36,009,000

Construction Contingency 5%

\$ 1,800.450

Dedicated Allowance

950,000

Permitting Fees 3%

\$ 1,080,270

TOTAL:

\$39,839,720

ltem		Subtrade	Estimated Cost	Percent of Construction Cost	SBE Participation
1	CD 2.27	Mobilization	\$967,000	2.69%	0.00%
2	CD 2.27	Performance & Payment Bonds	\$397,000	1.10%	0.00%
3	CD 2.27	F&I Gas Oxygen (GOX) Pipeline & Tie-in	\$249,000	0.69%	0.00%
4	CD 2.27 / CIP	F&I Oxygen Production System Equip & Support System	\$16,916,000	46.97%	0.00%
5	CD 2.27	Site Electrical	\$552,000	1.53%	0.00%
6	CD 2.27	Site Civil	\$2,639,000	7.33%	0.73%
7	CD 2.27	Oxygen Production Facility Building	\$11,983,000	33.28%	3.33%
8	CD 2.27	Record Drawings & Project Closeout	\$82,000	0.23%	0.00%
9	CD 2.27	Construction-Ready Component 1 - Relocation of Electrical Conduits	\$1,325,000	3.68%	1.84%

P a g e 2 Project DB17-WASD-01

Item		Subtrade	Estimated Cost	Percent of Construction Cost	SBE Participation
10	CD 2.27	Construction-Ready Component 2 - Relocation of Utilities	\$519,000	1.44%	0.72%
11	CD 2.27	Construction-Ready Component 3 - Demolition of Odor Control Building	\$380,000	1.06%	0.53%
	Total Con	struction Cost	\$36,009,000	100.00%	7.15%
	Continger Constructi	cy Allowance 5% - on	\$1,800,450		
	Dedicated Allowance (Environmental Investigations)		\$600,000		
		Allowance (Utility Relocations anges in Soil Conditions)	\$350,000		
	Permitting	3%	\$1,080,270		
	including I	mated Construction Cost Dedicated Allowance, icy and Permitting Fees	\$39,839,270		

DEPARTMENTAL INPUT CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Contract/Proj Plant Oxygen	ject Title: <u>Desig</u> Production Faci	n-Build Services fo lity Consent Decree	r the Construe Project 2.27	uction of the	Central	District Wastewat	ter Treatment
Contract/Proj	ject No. <u>DB17-V</u>	VASD-01					
Description: Oxygen Produ	Design-Build Suction Facility Co	Services for the Co ensent Decree Proje	nstruction of ect 2.27	f the Centra	al District	Wastewater Tre	atment Plant
Department:	Miami-Dade Wa	ter and Sewer Dep	artment		<u>C</u> ontact: Phone:	Patty Palomo (786) 552-8040	1
Estimated Co Revenue Bond	ost: <u>\$2,534,000</u> ds Sold, Wastev	, excluding continge vater Renewal Fund	ency Funding	g Source: <u>F</u>	uture W	ASD Revenue Bo	nds, WASD_
			ANALYSIS	S			
Commodity/Ser	vice No		SIC	D:			
		Trade/Comm	odity/Service	Opportunities			
	Contract/F Check Here	Project History of Preview if this is a N	vious Purchase ew Contract/P	es for Previou Purchase with	us Three (no Previo	3) Years bus History	
	Existing	2 nd Ye	<u>ear</u>		1st Year		
Contractor Ethnicity/Race Gender Contract Value COMMENTS: _							
SBE GOAL 13.13% A/E 1 % G/S	_	BID PREFERENCE	<u>NO</u>) MEASURE			
		Analysis fo	or Goal Recon				
	Sub-Trade	Est. Cost \$ \$ Fotal: , \$		% of Ite		Availability	
Basis for Rec 9.02 – 3%; 12	commendation: .00 – 1.50%; 13	WASD proposes the 100 – 2.5%; 14.00 –	nat the goal c · 5%; and 16:	ean be achie :00 –1.13%	ved with	SBE firms assisti	ng with
	ster Sola, Direct ater and Sewer		Small Bus	iness Devel	opment I	Department	Date

DESIGN-BUILD SERVICES FOR THE CENTRAL DISTRICT WASTEWATER TREATMENT PLANT OXYGEN PRODUCTION FACILITY CONSENT DECREE PROJECT 2.27 PROJECT NO. DB17-WASD-01

Miami-Dade County has entered into a Consent Decree (United States District Court for the Southern District of Florida, Case No. 1:12-cv-24400-FAM, hereinafter referred to as "Consent Decree") with the United States, Environmental Protection Agency, the State of Florida, and Florida Department of Environmental Protection (FDEP) (collectively "Regulatory Agencies"), to remediate its aging wastewater infrastructure. This Project is intended to satisfy the requirements identified in the Consent Decree (CD) as CD Project 2.27. The full text of the CD is available online at:

http://www.miamidade.gov/water/library/reports/consent-decree/consent-decree-signed.pdf

It is the intention of the WASD to contract Design-Build services for the construction of the facilities described below. The Design-Builders shall respond to the Request for Design-Build Services by addressing the Scope of Work that includes the CD Projects 2.27, Central District Wastewater Treatment Plant (CDWWTP) Oxygen Production Facility. The Design-Builder shall be familiar with and comply with the requirements of the CD.

Pursuant to Florida Statutes 287.055, "A Design Criteria Professional who has been selected to prepare the design criteria package is not eligible to render services under a Design-Build contract executed pursuant to the Design Criteria Package." The County reserves the right to disqualify any proposal from a team which includes any subconsultant and/or individual who has played a substantial role in the development of the Design Criteria Package or whose involvement with the Design-Build team would confer upon that team an unfair competitive advantage because of such subconsultant's or member's prior involvement in the Project.

The Design Criteria Professional, Stantec Consulting Services, Inc. (formerly known as MWH Americas, Inc.) and the following subconsultants are not eligible to render Design-Build services for this solicitation: Architects International, Inc.; BND Engineers, Inc.; CDM Smith, Inc.; Geosol, Inc.; F.R. Aleman & Associates, Inc.; Pond and Company; and Tech Environmental, Inc.

In addition, the Prime Consultant and the following subconsultants under Project No. E13-WASD-01R, Professional Services Agreement Program and Construction Management Services Related to the Wastewater system priority projects, are also not eligible to render Design-Build services for this solicitation: AECOM; 300 Engineering Group, PA; Parsons Transportation Group, Inc.; Gannett Fleming, Inc.; and Robayna and Associates, Inc.

The Design-Builder shall provide all resources and professional services to perform the planning, engineering design, permitting, construction, furnishing of all materials, fabrication/installation, labor, and equipment necessary for the construction of all civil/site, process mechanical, architectural, structural, electrical, instrumentation, plumbing, heating, ventilation and air conditioning (HVAC), fire protection, and all other necessary components to facilitate successful design, construction and commissioning of the new Oxygen Production Facility located at the Central District Wastewater Treatment Plant, 3989 Rickenbacker Causeway, Key Biscayne, FL 33149.

The major elements of the project include:

1. A new building to house the two new 90-ton per day (TPD) Vacuum Pressure Swing Adsorption (VPSA) oxygen production units (Oxygen Building 3). The building footprint

- shown in the Contract Documents is based on anticipated equipment space requirements and <u>minimum</u> clearances required by the County. The Design-Builder shall size the building as appropriate for the systems and equipment being supplied, providing the minimum clearances indicated in the Contract Documents and required by the County.
- 2. The building walls shall be constructed of pre-cast concrete un-insulated panels with cast-in-place concrete beams and columns. The roof structure shall be pre-cast concrete twin 'T's'. The finished floor elevations of each area shall comply with requirements set forth in the Contract Documents to comply with WASD's "Design Guide for Hardening Wastewater Treatment Facilities against Flooding from Surge, Sea Level Rise and Extreme Rainfall". The facility shall contain an elevated electrical area, a process equipment area, an operator room, a restroom, a truck bay for loading and unloading of process equipment, an operator parking area, and access roads/paving.
- 3. Two 90 TPD VPSA oxygen production units, which shall fit within the footprint available, and be able to operate under two scenarios: (a) two VPSA units operating together, with cryogenic Unit 3 (Cryo 3) acting as a standby, and (b) one VPSA unit and Cryo 3 operating together, with the second VPSA unit acting as a standby.
- 4. Controls and instrumentation equipment, including programming, reliability demonstration, and performance testing. Design-Builder shall provide I/O list and detailed process description for fabrication of Remote Terminal Units (RTUs) to be provided by County.
- 5. A system to control the dissolved oxygen concentration in the Plant 1 and Plant 2 reactor tanks, which include dissolved oxygen sensors, gaseous oxygen (GOX) flow control valves, Cryogenic oxygen generating unit 3 GOX pressure booster blower, and control system automation.
- 6. Dedicated electrical area to include transformers, feed conduits, and duct banks, to serve the proposed Oxygen Building 3. The Design-Builder is required to coordinate electrical duct bank routing and connections design with Water and Sewer Department (WASD) operation and maintenance staff, and adhere to Consent Decree (CD) design standards, including generation of duct bank plan and profile drawings.
- 7. Site and Civil work including grading, pavements, drainage, yard piping, and building utilities for the project areas.
- 8. Associated electrical equipment, including but not limited to, arc-resistant switchgear, Motor Control Centers (MCCs), electrical accessories/conduits and feeders, and duct banks.
- 9. Climate control and ventilation system appropriate for the facility; minimum requirements are defined in the Contract Documents.
- 10. Fire Protection as per Florida Building Code (FBC) appropriate for the facility; minimum requirements are defined in the Contract Documents.
- 11. Water supply, including backflow preventers, hose bibs for equipment wash-down, floor drains, and other ancillary equipment. Minimum requirements are defined in the Contract Documents.
- 12. Design-Builder shall provide O&M manuals in compliance with the Florida Administrative Code (FAC) 62-600.720 Operation and Maintenance Manual and requirements described in FDEP Form 62-620.910_12 Construction Completion.
- 13. The Design-Builder shall provide all on-site training of WASD Operation and Maintenance staff of the new oxygen production facility in accordance with the minimum requirements described in the Contract Documents.
- 14. Design-Builder will be provided with signed and sealed construction plans, specifications and dry-run permit approvals for three (3) individual construction-ready components related to the site preparation. Design—Builder is responsible for the coordination of the work included in these three (3) components to avoid any conflicts or interferences with the new facility. Design-Builder shall provide construction services for these three (3)

individual construction-ready components and shall coordinate said construction with the construction of the new facility.

The major elements of these construction components are described below:

- a. The Design-Builder shall provide all resources and professional services to perform the permitting, construction, furnishing of all materials, fabrication/installation, labor, and equipment necessary for the relocation and demolition of electrical conduits, as provided in a separate Construction-Ready Component No. 1.
- b. The Design-Builder shall provide all resources and professional services to perform the permitting, construction, furnishing of all materials, fabrication/installation, labor, and equipment necessary for the relocation and demolition of utilities, as provided in a separate Construction-Ready Component No. 2.
- c. The Design-Builder shall provide all resources and professional services to perform the permitting, construction, furnishing of all materials, fabrication/installation, labor, and equipment necessary for the demolition of the existing odor control building (Air Scrubber Building no. 4) and associated foul air piping, as provided in a separate Construction-Ready Component No. 3.

LIQUIDATED DAMAGES

This project is mandated by a Consent Decree which has established construction schedule milestones that are critical for completion of this construction contract. These milestones have either "Consent Decree Liquidated Damages", "Contract Liquidated Damages" or both associated with them.

For the purpose of satisfying Construction Completion, the definition of "Substantial Completion" contained in this contract shall be modified to include the definition of "Construction Completion" as defined below. In the event of a conflict between these two definitions, the more restrictive definition shall apply.

Construction Completion shall mean completion of construction and installation of equipment or infrastructure such that the equipment or infrastructure has successfully completed all testing and has been placed in operation, and is expected to both function and perform as designed. This specifically includes all control systems and instrumentation necessary for normal operations are in place and operational. Miscellaneous items related to construction activities, such as restoration of surrounding areas or installation of other items not necessary for the equipment or infrastructure to function and perform as designed, is not required to be completed prior to Miami-Dade Water and Sewer Department certifying that the project has met Construction Completion.

Contract Liquidated Damages

Liquidated Damages for the timely completion of this contract shall be as specified in the General Terms and Conditions, Article 8 "Contract Time", paragraph F "Liquidated Damages and Liquidated Indirect Costs" and shall be set at \$5,000 per day, including weekends and holidays, which sum is a fair and reasonable sum for all indirect costs as may be borne by the County due to the Contractor exceeding the Construction Time of the Contract and represents the actual damages which the County will have sustained per day by failure of the Contractor to complete the work within said specified times, it being agreed that said sum is not a penalty but is the stipulated amount of damage sustained by the County in the event of such default by the Contractor. Failure to complete work on or before Substantial Completion Milestones per the table below shall result in Liquidated Damages.

Milestones	Description	Duration	Liquidated Damages
1A	Substantial Completion for Construction-Ready Components 1 through 3	290	\$5000/day
1B	Construction Completion for VPSA No. 1 (CD Project 2.27)	656	\$5000/day ⁽¹⁾
1C	Construction Completion for VPSA No. 2 (Non-CD Components) ⁽²⁾ and Project Substantial Completion	818	\$5000/day
1D	Project Final Completion	896	\$5000/day

- (1) The above Liquidated Damages are specifically related to Contract Time. Additional Liquidated Damages may be incurred as noted elsewhere in this contract.
- (2) Non-CD Components defined as system components not required for the continuous

Consent Decree Liquidated Damages

Miami-Dade County has entered into a Consent Decree (United States District Court for the Southern District of Florida, Case No. 1:12-cv-24400-FAM, herein referred to as Consent Decree) with the United States, Environmental Protection Agency, the State of Florida, and Florida Department of Environmental Protection (FDEP) (collectively "Regulatory Agencies"), to remediate its aging wastewater infrastructure. This project is intended to satisfy the requirements identified in the Consent Decree as CD Project 2.27. The full text of the Consent Decree is available online at:

http://www.miamidade.gov/water/library/reports/consent-decree/consent-decree-signed.pdf

The CD provides that the Regulatory Agencies may impose stipulated penalties against Miami-Dade County for failure to meet the above deadline and for certain Sanitary Sewer Overflows (SSOs). In the event the Regulatory Agencies impose such penalties against Miami-Dade County, and such penalties are a result of the Design- Builder's lack of performance, failure to meet Construction Completion or a SSO that occurs during construction, the Design-Builder shall be liable to the County for such amounts as additional LD ("Consent Decree Liquated Damages") ("CDLD"). Please note these CDLD are in addition to the LD as specified previously and may be assessed separately and/or in combination with contract LD.

(a) Failure to complete work on or before Construction Completion per table below shall result in CD LD as listed below.

CD Project No.	Construction Completion Date
2.27*	December 30, 2019

^{*}Note: Construction Completion for CD 2.27 is defined as construction completion for VPSA No. 1 including an installed, tested and operable system, in compliance with codes and regulations.

Period of Noncompliance per Violation per Day

One (1) to fourteen (14) days	\$1,000
Fifteen (15) to thirty days (30) days	\$2,000
Thirty-one (31) to sixty (60) days	\$3,000
Sixty-one (61) to one hundred eighty (180) days	\$4,000
More than one hundred eighty (180) days	\$5,000

(b) CDLD for each SSO reaching waters of the United States due to a release of wastewater caused by Design- Builder may be assessed as:

Description	Before	After
Description	4/09/2019	4/09/2019

1 to 10,000 gallons	\$1,000	\$1,000
10,000 to 250,000 gallons	\$2,000	\$4,000
250,000 to 1,000,000 gallons	\$5,000	\$10,000
Greater than 1,000,0000 gallons	\$10,000	\$20,000

(c) CDLD for each SSO NOT reaching waters of the United States due to a release caused by Design-Builder may be assessed as:

Description	Before 4/09/2019	After 4/09/2019
1 to 10,000 gallons	\$500	\$500
10,000 to 250,000 gallons	\$1,000	\$2,000
250,000 to 1,000,000 gallons	\$2,500	\$5,000
Greater than 1,000,0000 gallons	\$5,000	\$10,000

DESIGN-BUILD SERVICES FOR THE CENTRAL DISTRICT WASTEWATER TREATMENT PLANT OXYGEN PRODUCTION FACILITY CONSENT DECREE PROJECT 2.27 PROJECT NO. DB17-WASD-01

EXPERIENCE AND QUALIFICATIONS

The proposed Design-Builder shall demonstrate its Project team experience by presenting the qualifications and capabilities of each Design-Build Team member firm, for projects completed within the last ten (10) years from the date of this solicitation, including projects that may be at least fifty percent (50%) complete prior to the required submission date of this Request Design-Build Services Step 1 (1) solicitation, that demonstrate related minimum project experience as indicated below.

1. Design-Builder, Lead Constructor, and Lead Designer:

- a. The Design-Builder shall demonstrate that it has performed and/or managed as a Prime contractor or Design-Builder for the construction of at least one (1) wastewater process project in wastewater treatment plants with rated capacity of not less than fifty (50) million gallons per day (MGD), of comparable scope and complexity.
- b. The Lead Constructor must have constructed at least one (1) process facility of similar size, scope and complexity in wastewater treatment plants.
- c. The Lead Designer must have designed at least one (1) wastewater process project with rated capacity of not less than fifty (50) MGD of comparable scope and complexity.
- d. The Subconsultant(s) to the Designer-Builder or Lead Designer providing services must demonstrate to have project experience at least one (1) project that was completed involving the main project element for which the Subconsultant(s) is being proposed.
- e. Additional Preferred Project Experience and Past Performance: Design-Build Team shall receive higher qualification scores from the Competitive Selection Committee (CSC) if their submitted project experience and past performance can demonstrate the following:
 - i. Listed projects are of similar or greater size and level of complexity.
 - ii. At least one (1) of the listed projects of the proposed Design-Builder entity was designed and constructed through design-build project delivery.
 - iii. The Lead Constructor and Lead Designer have worked together on previous projects and executed successfully.
 - iv. Listed projects demonstrate experience in construction within active operational sites without interruption of services.
 - v. Key Personnel, most significantly the proposed Project Manager, Design Manager and Construction Manager, have served on the Projects listed and their client reference can validate that performance.

2. Industry Experience of Design-Build Team Key Personnel:

The qualifications and industry experience referenced in this section must be met by qualified individual(s) of the Design-Build Team and its Subconsultants. The experience must be demonstrated by direct or substantial involvement of the individual(s) in a capacity that is equivalent to or exceeds the stated minimum requirement. The determination of the individual(s) qualifications and compliance with the experience and qualifications shall be at the sole discretion of the County and the CSC. The CSC may negatively evaluate proposals from firms they determine have failed to meet the required experience and qualification(s):

- a. Minimum fifteen (15) years total industry experience of which five (5) years are in a similarly responsible position for each of the following Key Personnel listed below:
 - Design-Build Project Manager
 - Lead Designer- Design Manager
 - Lead Mechanical Engineer
 - Lead Electrical Engineer
 - Lead Constructor- Construction Manager
 - Construction Superintendent
 - Lead Structural Engineer
 - Lead Geotechnical Engineer
 - Permitting/Compliance Manager
 - Design-Builder Quality Assurance/Quality Control (QA/QC) Manager
 - Design-Builder Safety Manager
 - Project Lead Estimator
- b. Minimum five (5) years total industry experience all in the last ten (10) years in a similarly responsible position for each of the following Key Personnel listed below:
 - Acoustical Engineer
- c. Key Personnel must demonstrate experience with the type work to be performed.
 - Proposers shall identify, in their Statement of Qualifications those State of Florida registered Professional Engineers who will sign and seal construction plans and specifications.
 - 2) Key Personnel resumes shall indicate the individuals' current firm association, their professional qualifications, a minimum of one client reference with contact information, and their role and duration on each project for which they are being credited the related experience.
- 3. Additional Preferred Experience and Past Performance:
 - a) Experience in significant role on a design-build project, especially in a similar role as proposed for this Project.
 - b) References demonstrating abilities in meeting cost, schedule, and quality objectives on previous projects, and maintaining a positive client relationship.
- 4. Design-Builder Safety Record Past Performance:

Minimum past performance as reflected by a three (3) year average for the last three (3) previous full years of the Experience Modification Rate (EMR) for the Design-Builder shall not exceed 1.10 for each firm.

The Design-Builder shall provide EMR data for the previous three (3) full calendar years (2014, 2015, and 2016) on a firm-wide basis and shall be documented by a signed letter with contact information from the firm's insurance carrier, or the insurance carrier's agency representative. Higher qualifications score shall be provided by the Competitive Selection Committee (CSC) for a Design-Builder demonstrating an average EMR lower than other competing Design-Builder firms. Design-Builder shall also provide their OSHA forms 300 and 300A for the last three (3) full calendar years indicating OSHA submitted accident data for evaluation by the CSC as to their frequency and severity.