DEPARTMENT INPUT
CONSTRUCTION CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Check applicable Ordinance(s): ☒ 90-143 Responsible Wage and Benefits ☐ 03-237 (formerly 03-1) Community Workforce Program

PROJECT INFORMATION See attachment ☒

Contract/Project/*Work Order No.: S-870
*Reference corresponding project number when submitting a work order

Contract/Project Title: CDWWTP INDUSTRIAL INJECTION WELL SURFACE FACILITIES

Description/Scope of Work: See Attached

Estimated Cost: 30658320 **Funding Source:** Other (specify)

Location of Project (street address or beginning and ending points) i.e. 12345 NE 23rd Ct or Starts at 135 St. ends at 145 St.
3989 Rickenbacker Causeway, Miami-Dade County, Florida 33149

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CWP) See attachment ☐

Engineer/Department or Agency's estimated required workforce for Project ☐ Work Order ☐:

Trade/Skills Required	Est. # of workforce required per trade	Est. # of total days to complete job
N/A		
N/A		
N/A		

Comments:Not Applicable, Project is not in a DTA.

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE) See attachment ☒

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability
0	$	0%	
0	$	0%	
0	$	0%	

RECOMMENDATION

Set-Aside: Level 1 ☐ Level 2 ☐ Level 3 ☐ Trade Set-Aside ☐ Sub-Contractor Goal ☒ Workforce Goal ☐ No Measure ☐

Basis for Recommendation:Availablility among SBE subcontractors.

Date submitted to DBD:09/22/2016
Contact Person:Isaac Smith

Telephone No.:786-552-8989

DEPARTMENTAL INPUT
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION

To: Gary T. Hartfield, Division Director
Internal Services Department
Small Business Development Division

From: Isaac Smith, Manager
Construction Contracts Section

Department: Miami-Dade Water and Sewer Department

Contract Title: CDWWTP INDUSTRIAL INJECTION WELL SURFACE FACILITIES

Contract No.: S-870

Estimate Amount: $30,658,320 [$27,871,200 Construction + $2,787,120 Contingency]

Funding Source: EW 660, Revenue Bonds Sold

Small Business Enterprise – Construction – 4.21%
Analysis for Recommendation (Attached)

Department Head or Authorized Agent

DESCRIPTION OF PROJECT:

This project is one in a series of projects that are being processed under Section 2-8.2.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance.

In general, the project consists of furnishing and installing surface facilities for existing industrial injection wells at the Central District Wastewater Treatment Plant (CDWWTP), located in Virginia Key, 3989 Rickenbacker Causeway, Section 16, Township 54, Range 42, Miami-Dade County, Florida 33149.

The scope of work consists of furnishing all materials, labor and equipment necessary to construct an Industrial Injection Well Pump Station, equip two existing industrial injection wells with wellhead piping, equip a monitoring well with wellhead piping, and install piping and flow interceptor boxes to convey waste stream flows from five separate sources to the Injection Well Pump Station and to convey the pump station discharge to the two injection wells, and all other appurtenant and miscellaneous items and work for a complete, functional and satisfactory installation of the project. The pump station is a two-story building with two below grade wetwells and influent channel. Construction of the below grade wetwells will require design and construction of a cofferdam. The proposed pump station will have a pump room that will house four (4) 900 HP medium voltage (4160 volt) vertical turbine pumps and associated piping, valves, and controls; an air conditioned transformer room that houses four high voltage (13.2 KV) transformers; and an air conditioned electrical room on the second floor that houses switchgear, MCCs, VFDs, and other electrical and control panels. Surge protection for the injection well system is provided by two hydropneumatic surge tanks with associated air compressor system. Pump discharge is controlled by 30" rotary pump control valves with electric/hydraulic valve actuator that is operated by a hydraulic valve accumulator system. The injection wells consist of a slab on grade with 24" ductile iron pipe, valves, magnetic flow meter, and air release valve. High and medium voltage ductbanks will be installed to

connect to the new pump station to the existing Main Switchgear Building.

QUALIFICATIONS OF BIDDERS:

Bidders shall submit proof that his/her firm has at least the minimum successful contract experience as requested below:

A. In addition to submittal requirements stated elsewhere, to qualify for award on this Contract the Bidder shall be experienced in raw sewage pump station construction, including installation of dry pit vertical non-clog pumps, medium voltage electrical power systems, and standby diesel generators. The Bidder shall also be experienced in construction of structures on piles, coffer cell and tremie seal design and construction, and construction methods to minimize noise, dust, and other impacts to surrounding residential neighborhoods.

B. The Bidder must have successfully completed the installation of a minimum of three (3) hydraulic structures within the last ten (10) years meeting the following requirements:

   1. Construction of a wetwell or structure ground floor a minimum of 10 feet below the average ground water level elevation.

   2. Structure construction required installation of sheet piling, coffercell, and tremie seal with a minimum tremie seal volume of 200 cubic yards.

C. The Bidder shall have successfully completed the installation of a minimum of three (3) large pump stations within the last ten (10) years meeting the following requirements:

   1. Installation of medium voltage pumps, minimum 500 horsepower

D. The Bidder or Bidder's Electrical Subcontractor shall have successfully completed a minimum of three (3) projects demonstrating experience with medium voltage power within the last five (5) years meeting. These three (3) projects shall include installation of a minimum of two of the following items:

   1. Medium voltage transformers

   2. Medium voltage switchgear

   3. Medium voltage variable frequency drives

   4. Medium voltage motors

LICENSES: The types of licenses required are: State General Contractor, General Engineering Contractor and/or other categories as applicable by Chapter 489 of the Florida Statutes or Chapter 10 of Miami-Dade County Code.

COMMUNITY WORKFORCE PROGRAM

CWP PARTICIPATION: Not Applicable, project is not located in a DTA.

ANALYSIS FOR SBE CONSTRUCTION CONTRACT S-870				
Item No.	Description	Unit Price	% of Construction	SBE Availability (1)
1	MOBILIZATION: Mobilization, Shop Drawing Submittal, etc.	$ 2,706,600.00	8.83%	
2	GENERAL SITEWORK: Site Preparation, Field Office Preparation, etc.	$ 66,300.00	0.22%	0.22%
3	SITE CIVIL: Yard piping, valves & fittings	$ 86,000.00	0.28%	0.28%
4	PUMP STATION FOUNDATION: Augercast concrete piles, test piles, dewatering, coffercell, etc.	$ 1,903,800.00	6.21%	
5	PUMP STATION: Injection Well Pump Station Building structure	$ 4,973,100.00	16.22%	
6	ARCHITECTURAL: Pump Station Architectural & Finish	$ 363,300.00	1.18%	1.18%
7	CENTRIFUGAL PUMPS: Four (4) centrifugal vertical non clog pumps and four (4) 900 HP, 4160 volt motors with Variable Frequency Drives (VFD's)	$ 7,551,900.00	24.63%	
8	PUMP INSTALLATION: Installation of four (4) 5 mgd, centrifugal vertical non-clog pumps and four (4) 900 HP, 440 RPM, 4160 volt motors	$ 1,005,100.00	3.28%	
9	PUMP CONTROL: Four (4) pump control rotary ball valves with electrical/hydraulic valve actuator, and appurtenances	$ 1,658,500.00	5.41%	
10	INSTRUMENTATION & MISC. EQUIP: Instrumentation, SCADA, hydraulic valve accumulator system, electrical	$ 852,800.00	2.78%	
11	PUMP STATION INTERIOR PIPING: Interior flanged piping, fittings and accessories	$ 546,600.00	1.78%	
12	WASTE STREAM STRUCTURES: Precast waste stream structures, station discharge manholes, concrete flow interceptor boxes, etc.	$ 2,167,300.00	7.07%	
13	INJECTION WELL WELLHEAD: Industrial injection well wellhead, fittings, couplings, flow meter, monitoring accessories and appurtenances	$ 410,400.00	1.34%	
14	PUMP STATION ELECTRICAL: Transformers, Switchgear, Main Bus, MCC, ATS, and all other medium voltage electrical equipment	$ 1,969,900.00	6.43%	
15	GENERAL ELECTRICAL: Lighting, conduits, wiring, etc.	$ 245,000.00	0.80%	0.80%
16	PAVING WORK: Asphalt paving restoration, tack coat, etc.	$ 530,600.00	1.73%	1.73%
17	SYSTEMS INTEGRATION: Systems Integration, Field Instruments, Start-up, etc	$ 834,000.00	2.72%	
	PROJECT SUBTOTAL	$ 27,871,200.00		SBE
	CONTINGENCY ALLOWANCE	$ 2,787,120.00	9.09%	CONS
	SBE TOTAL	**$ 30,658,320.00**	100.00%	**4.21%**
	(1) See Attachment 1 for SBE Construction			

ATTACHMENT 1 - BREAKDOWN OF SBE-CONS

Bid Item	Component	Amount
2	**GENERAL SITEWORK**	
	Field office preparation	$ 10,800.00
	Field office mobilization	$ 26,400.00
	Site preparation	$ 29,100.00
	Total	$ 66,300.00
Bid Item	Component	Amount
3	**SITE CIVIL**	
	Installation of piping, valves and fittings	$ 86,000.00
	Total	$ 86,000.00
Bid Item	Component	Amount
6	**Architectural Components**	
	Masonry at Stair wells	$ 12,500.00
	Openings	$ 18,600.00
	Finishes & Coatings	$ 22,700.00
	Inst'n Ready Mix Concrete -4,500 psi	$ 500.00
	Excavation and disposal work	$ 83,100.00
	Civil work	$ 154,100.00
	Clean fill	$ 71,800.00
	Total	$ 363,300.00
Bid Item	Component	Amount
15	**GENERAL ELECTRICAL**	
	Lighting, conduits, wiring and gen. electrical	$ 245,000.00
	Total	$ 245,000.00
Bid Item	Component	Amount
16	**PAVING WORK**	
	Paving demolition, installation and tack coat	$ 530,600.00
	Total	$ 530,600.00

DEPARTMENTAL INPUT
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION

To: Gary T. Hartfield, Division Director
Internal Services Department
Small Business Development Division

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Department: Miami-Dade Water and Sewer Department

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Small Business Enterprise – Goods & Services – 2.89%
Analysis for Recommendation (Attached)

Department Head or Authorized Agent

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CONSIDERATIONS FOR ANALYSIS:

1. The project involves the construction of a proposed Industrial Injection Well Pump Station. This undertaking includes furnishing and installation of very large, expensive equipment, such as: four (4) 900 horsepower pumps, 4160 Volt motors with variable frequency drives, rotary pump control valves with electric/hydraulic valve actuators, medium voltage switchgear and motor control centers

2. The project also involves specialized construction, as the entire structure will be constructed on a series of auger cast piles. Also the installation of sheet piling, dewatering and a coffercell will be required for the construction of the station's wetwell.

3. The Injection Well Pump Station (IWPS) will receive and blend five (5) waste streams as identified below:
    a. Leachate from the adjacent Virginia Key Landfill Groundwater Remediation System being constructed by others
    b. Plant 1 Digester Gas Scrubbers waste water
    c. Plant 2 Digester Gas Scrubbers waste water
    d. Sludge Dewatering Centrate
    e. Plant 2 Treated Secondary Effluent

    These waste streams will be blended in the IWPS influent channel/wetwells and pumped to the injection wells.

4. The work is located at an existing wastewater treatment plant which remain operational during construction of this project. The work consists of furnishing all materials, labor, and equipment necessary for the IWPS and surface facilities for two (2) existing injection wells and one (1) existing monitoring well.

5. The project also includes the design and construction of a cofferdam for construction of the IWPS, including: furnishing signed and sealed engineering documents for the design of the cofferdam; furnishing and installing all sheeting, shoring, piles, concrete, backfill, and other components required for the cofferdam construction; conducting any additional geotechnical borings and testing to complete the design of the cofferdam; earthwork, excavation, dewatering, backfill, and compaction.

6. The Department has evaluated the project for possible opportunities for participation in the area of SBE – Goods and Services. Based on the scope and nature of the work, we have concluded that there are a wide range of opportunities for participation on this project. The recommended areas of participation for SBE Goods & Services providers includes the possible areas:

Analysis for Small Business Enterprise – Goods and Services Recommendation				
Item	Goods & Services	Prime Contractor	Sub-Contractor	SBE Availability
1.	**GOODS**:			
	900 Horsepower Pumps	X		
	4160 Volt Motors with VFD	X		
	Mechanical Equipment	X		
	Hydro-pneumatic Systems	X		
	Rotary Pump Control Vales	X		
	Electrical Switchgear	X		
	Variable Frequency Drives	X		
	Instrumentation & Controls		X	
	Piping & Fittings		X	X
	Backfill & Bedding		X	X
	Woodwork/Cabinet			
2.	**SERVICES**			
	Structural	X		X
	Electrical	X	X	X
	Instrumentation		X	
	Sheet Piling	X	X	
	Auger Cast Piling		X	
	Testing & Compaction		X	
	Paving		X	X
	Demolition		X	X
	Civil Site work		X	X
	Systems Integration		X	
	Utility Piping		X	X
	Finishing		X	X
	Painting		X	X
	Mill work		X	X
	Masonry		X	X

BREAKDOWN OF SBE-GOODS & SERVICES - 2.89%

Item	Amount
Temporary utilities	$ 80,269.16
Field office equipment	$ 42,623.62
Site preparation	$ 21,191.06
Office Consumables	$ 38,529.19
Janitorial Services	$ 9,632.30
Pipe, valves and fittings	$ 43,700.00
Masonry at Stair wells	$ 29,800.00
Access Ladders	$ 12,900.00
Stair Handrail	$ 7,500.00
Counter and Cabinet	$ 600.00
Scupper and Downspouts	$ 14,900.00
Openings	$ 37,000.00
Finishes & Coatings	$ 18,800.00
Ready Mix Concrete	$ 3,900.00
Clean fill	$ 71,800.00
Wiring, Conduits & Electrical Equip & Supplies	$ 453,700.00
Total	$ 886,800.00