

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.: Project No. DB14-WASD-09

*Reference corresponding project number when submitting a work order

Contract/Project Title: Design-Build Services for Installation of a 36-Inch Diameter Sanitary Sewer Force Main in N.W. 107 Avenue from N.W. 7 Street to N.W. 25 Street - Project No. DB14-WASD-09

Description/Scope of Work: Replacement of an existing 24-inch force main in the project corridor.

Estimated Cost: \$7,955,935 **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.
Along roadway corridor of NW 107 Avenue from NW 7 Street to NW 25 Street in the City of Doral, FL

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
Water Line	4	365
Masonry-Sidewalk, Curb & Gutter	2	180

Comments:Funding Sources - Water Renewal and Replacemetn Fund, Future WASD Revenue Bonds, WASD 2013 Revenue Bonds and WASD Revenue Bonds Sold

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: Trade avilability & project scope

Date submitted to DBD: 02/26/2015

Contact Person: Patty David

Telephone No.: 786-552-8040

Memorandum



Date: March 13, 2015

To: Gary Hartfield, Director
Small Business Development

From: Lester Sola, Director
Internal Services Department 

Subject: Review Item: Design-Build Services for Installation of a 36-Inch Diameter Sanitary Sewer Force Main in N.W. 107 Avenue from N.W. 7 Street to N.W. 25 Street; Project No. DB14-WASD-09

It is recommended that the Small Business Development division of Internal Services Department review the attached request for Small Business Enterprise 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 607 calendar days. The total compensation for the design-build contract is \$7,955,935 which includes the following:

- \$6,646,562 estimated construction cost;
- \$ 697,889 estimated engineering cost;
- \$ 332,328 contingency fees for construction (5%);
- \$ 69,789 contingency fees for engineering (10%);
- \$ 209,367 permitting fees.

Scope of Services

The scope of services shall include, but is not limited to, surveying, geotechnical investigations, engineering, design, technical specifications, permitting, construction, testing and commissioning services, and customer coordination for a new 36-inch diameter sanitary sewer force main. The project consists of replacing the existing 24-inch force main in N.W. 107 Avenue from south of N.W. 7 Street to N.W. 25 Street with a new 36-inch force main, connecting existing force mains into the new 36-inch force main along the project route, and tie-in of the new 36-inch force main into the existing force main system in order to reduce system operating pressures and increase system capacity within the area.

The Project includes the following main elements:

- Furnish and install approximately 7,900 linear feet of 36-inch diameter ductile Iron Pipe (DIP) with ceramic epoxy lining for sanitary sewer force main service. Pipe material shall be in accordance with AWWA C151;
- Furnish and install all ancillary piping, tie-in connections, and temporary bypass pumping and piping, required to facilitate successful construction and commissioning the new 36-inch force main without any interruption of service to the existing Miami-Dade Water and Sewer customers;
- Furnish and install a 48-inch diameter steel casing under an active railroad using trenchless construction installation;
- Provide jacking and receiving pits for the trenchless casing and carrier pipe installation;
- Furnish and install 36-inch carrier pipe, casing spacers, and ancillary materials for trenchless installation;

- Connect to existing 36- inch force main, in N.W. 107 Avenue, south of N.W. 7 Street and making connection using solid sleeve adapters;
- Connect to existing 20-inch force main at N.W. 25 Street, with tapping valve, tapping sleeve and reducer;
- Provide all required valves and piping to facilitate connection of existing force mains to the new 36-inch force main;
- Construct access manhole assemblies, as required by the Engineer;
- Provide air release valve assemblies at all high points on the new force main and tributary force mains as required;
- Relocate of existing utilities in conflict with the alignment of the force main; as required by the Engineer;
- Remove, transport, salvage and/or legal disposal of construction and demolition materials including asphalt pavement, concrete pavement, misc. concrete, unsuitable backfill material, pipe, valves, and sod;
- Sheeting and shoring ordered left in place by the engineer;
- Furnish and place suitable backfill for pipe bedding and backfill, as required by the Engineer;
- Construct and restore pedestrian curb ramps and detectable warning surfaces, temporary and permanent replacement or relocation of any utilities, pavement, sidewalk, curb & gutter, valley gutter, tree, landscaping, sod, pavement markings, and/or driveway damaged during construction to a condition equal to or better than at the start of construction;
- Furnish all materials, equipment, supplies, and labor necessary for cleaning, testing, commissioning, and placing the new force mains into service;
- Abandon in-place of existing 24-inch force main upon completion and acceptance of the new Work, including dewatering of the existing sewage force main, hauling and legal disposal of wastewater, cleaning the existing pipe, and filling it with grout;
- Design, permit, and maintain all required vehicle and pedestrian traffic control measures; and
- Provide all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

The design and construction services rendered by the Design-Builder shall result in a complete, functional, and operable piping project.

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

A/E TECHNICAL CERTIFICATIONS REQUIREMENTS

Technical Categories	Description	% of Work	CBE%
6.01 Prime	WATER AND SANITARY SEWER SYSTEMS - WATER DISTRIBUTION AND SANITARY SEWAGE COLLECTION AND TRANSMISSION	30	0
16.00 Prime	GENERAL CIVIL ENGINEERING	30	0
3.02A	HIGHWAY SYSTEMS – TUNNEL DESIGN	1	0

3.04	HIGHWAY SYSTEMS - TRAFFIC ENGINEERING STUDIES	5	5
9.02	SOILS, FOUNDATIONS AND MATERIALS TESTING - GEOTECHNICAL AND MATERIALS ENGINEERING SERVICES	2	2
9.03	SOILS, FOUNDATIONS AND MATERIALS TESTING – CONCRETE AND ASPHALT TESTING SERVICES	1	1
9.04	SOILS, FOUNDATIONS AND MATERIALS TESTING – NON-DESTRUCTIVE TESTING AND INSPECTIONS	1	1
10.05	ENVIRONMENTAL ENGINEERING - CONTAMINATION ASSESSMENT AND MONITORING	1	1
11.00	GENERAL STRUCTURAL ENGINEERING	1	-
12.00	GENERAL MECHANICAL ENGINEERING	5	-
15.01	SURVEYING AND MAPPING - LAND SURVEYING	3	3
15.03	UNDERGROUND UTILITY LOCATION	5	-
17.00	ENGINEERING CONSTRUCTION MANAGEMENT	15	-
	Total	100%	13%

WASD is recommending a 13% SBE A/E, 8.3% SBE Construction, and 2% SBE goods/services goal participation. Attached are WASD's Departmental Input Worksheets and Minimum Experience requirements for your review and approval.

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

Attachments

**DEPARTMENTAL INPUT
CONTRACT MEASURE ANALYSIS AND RECOMMENDATION**

TO: Gary Hartfield, Director
Small Business Development

FROM: Lester Sola, Director,
Water and Sewer Department



DATE: March 13, 2015

CONTRACT TITLE: Design-Build Services for Installation of a 36-Inch Diameter Sanitary Sewer Force Main at N.W. 107 Avenue from N.W. 7 Street to N.W. 25 Street; Project No. DB14-WASD-09

Construction Cost	\$6,646,562
Construction Contingency 5%	\$ 332,328
Permitting Fees 3%	\$ 209,367
TOTAL:	\$7,188,257

ITEM	SUBTRADE	ESTIMATED COST	% OF CONSTRUCTION COST	CSBE AVAILABILITY
1	Water main construction (includes mobilization, furnish and installation, tapping and connections, trenchless construction, bypass pumping, utility relocation, dewatering, demolition, valves, and assemblies)	\$5,527,750	83.3%	
2	Pavement Restoration	\$341,312	5.1%	5.1%
3	Miscellaneous restorations (sidewalks, curb & gutter)	\$75,000	1.1%	1.1%
4	Flowable Fill/Abandonment of Existing 24-inch FM	\$142,500	2.1%	2.1%
5	Maintenance of Traffic	\$560,000	8.4%	
	Total Construction Cost	\$6,646,562	100%	8.3%
	Contingency Allowance 5%	\$332,328		
	Permitting	\$209,367		
	Total Estimated Construction Cost including Contingency and Permitting Fees	\$7,188,257		

EXHIBIT A

MINIMUM EXPERIENCE AND QUALIFICATIONS Design-Build Services for Installation of a 36-inch Diameter Sanitary Sewer Force Main at N.W. 107 Avenue from N.W. 7 Street to N.W. 25 Street; Project No. DB14-WASD-09

EXPERIENCE AND QUALIFICATIONS

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 (RDBS) Step 1 solicitation, that demonstrate related minimum project experience as indicated below:

Qualifications and Experience of Lead Constructor(s):

- (a) Construction firm performing open cut installation work must have a minimum of five (5) years total industry experience from the date of this solicitation. It also must have successfully constructed at least three (3) pressure pipeline projects of similar size and complexity in an urban environment consisting of a minimum of ten thousand (10,000) combined total linear feet of installation and minimum 36-inch nominal diameter pipe.
- (b) Construction firm performing trenchless installation of the casing pipe must have a minimum of five (5) years total industry experience from the date of this solicitation. It must also have successfully constructed at least three (3) trenchless projects utilizing a similar construction method and consisting of jacking similar type of casing pipe selected by the Design-Build team for this project, and/or completed a minimum of three (3) separate trenchless installations with a combined length of one thousand (1,000) linear feet. To qualify, each of these installations must have been a minimum of four (4) feet internal diameter in soft ground below the groundwater and at least two (2) of the installations completed in ground conditions similar to those expected to be encountered on this project.
- (c) Construction firm performing the shaft construction shall have successfully constructed at least three (3) shafts that were at least twenty-five (25) feet below ground surface. At least two (2) of these shafts must have been extended below groundwater and required means of controlling inflow and bottom heave of the shaft.
- (d) Design-Builder must submit evidence of Lead Constructors and Pipe Installation Crews past performance completing projects of similar size and complexity on schedule and to the satisfaction of the facility owner.

Qualifications and Experience of Lead Designer(s):

- (a) The Lead Designer firm performing the design of the force main must have a minimum of five (5) years total industry experience from the date of this solicitation. It also must have designed at least three (3) pressure pipeline projects in an urban environment consisting of a minimum of ten thousand (10,000) total linear feet of minimum thirty-six (36) inch nominal diameter.
- (b) The Lead Designer firm who will design the trenchless installation of the casing pipe must have designed at least five (5) trenchless projects consisting of jacking a similar type of casing pipe selected by the Design-Build team for this project. The total length of the reference projects shall be a minimum of one thousand (1,000) linear feet of four (4) foot diameter casing pipe or larger. At least two (2) of the reference projects shall have been designed for construction in ground conditions similar to those expected to be encountered on this project. One (1) of the five (5) reference projects shall have been for casing pipe installation under active railroad tracks.
- (c) The Lead Designer or their Subconsultant firm performing design for the shaft(s) shall have designed one (1) shaft project to support a trenchless construction operation. Depth of the shaft for the reference project shall have been at least twenty-five (25) feet below ground surface.

Qualifications and Experience of Subconsultants:

- (a) Subconsultants to the Design-Builder or Lead Designer must demonstrate that they have designed at least three (3) projects that were successfully completed within the last ten (10) years from the date of the solicitation that involved the principal project element for which the Subconsultant is being proposed, unless the experience and qualifications of the Design-Builder or Lead Designer listed above require otherwise.

Additional Preferred Project Experience and Past Performance:

The Design-Builder teams may receive higher qualification scores from the Competitive Selection Committee if their submitted project experience and past performance demonstrate any of the following project specific experience:

- (a) Listed projects are of a greater size and higher level of complexity.
- (b) Listed projects of the proposed Design-Builder entity were designed and constructed through Design-Build project delivery.
- (c) The Lead Constructor and Lead Designer have worked together on previous projects, particularly on Design-Build projects.
- (d) Listed projects demonstrate capabilities and experience of utilizing soil stabilization and grouting techniques for water control during boring and shaft excavation. (This may be a specialty subcontractor)
- (e) Key personnel, most significantly the proposed Project Manager, Design Manager and Construction Manager, that have served on the reference projects listed and their client references can validate that performance.

Minimum Qualifications and 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 Competitive Selection Committee. The Competitive Selection Committee may negatively evaluate proposals from firms they determine have failed to meet the required experience and qualification(s).

- (a) Minimum ten (10) years total industry experience of which five (5) years in a similarly responsible position for each of the following Key Personnel:
 - 1) Project Manager - Design-Builder
 - 2) Design Manager - Lead Designer
 - 3) Construction Manager - Lead Constructor
 - 4) Superintendent - Trenchless Constructor
 - 5) Superintendent - Shaft Constructor
 - 6) Superintendent - Pipeline Constructor
 - 7) Design Engineer – Lead Pipeline Designer
 - 8) Design Engineer - Lead Trenchless Designer

- (b) Minimum ten (10) years total industry experience of which three (3) years in a similarly responsible position for each of the following Key Personnel:
 - 1) Lead Structural Engineer
 - 2) Lead Geotechnical Engineer
 - 3) Permitting/Compliance Manager
 - 4) Design-Builder Quality Assurance/Quality Control (QA/QC) Manager
 - 5) Design-Builder Safety Manager

- (c) Key Personnel must demonstrate experience with the type of work to be performed.
 - 1) 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 individual's current firm association, their professional qualifications, a client reference with contact information, and their role and duration on each project for which they are being credited the related experience.

Additional Preferred Experience and Past Performance:

- (a) Experience in a significant role on a Design-Build project, especially in a similar role as proposed for this Project.

- (b) Superior references with regard to meeting cost, schedule, and quality objectives on previous projects, and maintaining a positive client relationship.

Design-Builder Safety Record:

Experience Modification Rate (EMR) for the Design-Builder for the pipeline work and the micro-tunnel contractor is recommended to be below 1.10 for each firm.

Design-Builders shall provide EMR data for the previous 3 full calendar years (2011, 2012, and 2013) on a firm-wide basis 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 may be provided by the Competitive Selection Committee for a Design-Builder demonstrating an average EMR lower than other competing Design-Builder firms. Design-Builder shall also provide their Occupational Safety and Health Administration (OSHA) forms 300 and 300A for the last 3 full calendar years indicating OSHA submitted accident data for evaluation by the Competitive Selection Committee as to their frequency and severity.