



CITY OF BRISTOL, VIRGINIA

REQUEST FOR BIDS

BRISTOL INTEGRATED SOLID WASTE  
MANAGEMENT FACILITY LANDFILL GAS  
OPERATION, MONITORING, AND  
MAINTENANCE SERVICES

SW-23-011

ISSUE DATE: NOVEMBER 17, 2022

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## **SECTION ONE**

### **1.1 Purpose and Background**

The City of Bristol, Virginia (City) is requesting bids from qualified contractors to perform landfill gas (LFG) collection and control system (GCCS) operation, monitoring, and maintenance (OM&M) services for the City's Integrated Solid Waste Management Facility (ISWMF). The project shall be performed in accordance with criteria set forth in the contract documents which shall include these documents. This document contains general information relating to the evaluation process, selection criteria, and mandatory requirements that must be addressed for a bid to receive consideration.

The City owns and operates an ISWMF that includes a municipal solid waste landfill constructed in a former quarry pit. The GCCS is installed for the primary purpose of controlling emissions in accordance with air quality regulations, controlling LFG migration and odors, and providing LFG to fuel a LFG to energy plant or a utility flare. The GCCS is critical for removing perched liquids, gases, and heat in order to manage elevated temperature conditions in the quarry landfill. The GCCS conveys LFG to a main blower/flare station consisting of utility flares, blowers, a moisture separator, and ancillary devices. The GCCS incorporates a variety of gas collection devices to meet LFG management goals for the facility and the requirements of the new Source Performance Standards/Emission Guidelines (NSPS/EG) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP).

The GCCS must be monitored and balanced, as necessary, on at least a monthly basis. However, more frequent monitoring and inspection of the LFG system is warranted due to the malodorous conditions being experienced at the site as well as the potential elevated temperature conditions. As part of the GCCS operation, various non-routine operations and maintenance services may be required, such as, but not limited to, LFG wellhead apparatus modifications and repairs, liquid management system and pump maintenance, investigation and repair of blower/flare station issues, moving and re-grading of above ground pipes as a result of landfill settlement, or other tasks as directed.

### **1.2 Scope**

This project is to perform OM&M services on the LFG system at the City's ISWMF located in Bristol, Virginia. The ISWMF consists of various municipal solid waste management units including three (3) solid waste landfills. It is anticipated that in order to effectively maintain GCCS operation and to provide services in a safe and efficient manner, a full-time crew of two field personnel led by an experienced on-site Project Manager will need to be dedicated to the ISWMF. The team is to meet with the City regularly (at least bi-weekly, and more often

as needed) to discuss current operating conditions, issues and progress, and to evaluate, plan, and schedule activities necessary to operate and maintain the system. This will include, but not be limited to:

- Confirm proper operation of the system components.
- Confirm/initiate appropriate measures required to maintain regulatory compliance.
- Provide recommendations to improve system operation.
- Set LFG flow targets and other operational objectives.
- Plan and schedule O&M goals and activities.

The LFG collection system currently consists of 60 wells, approximately 18 of which are equipped with dedicated pumps to keep them dewatered to enhance gas collection. This project is for monthly services from January 1, 2023 to January 1, 2026.

### **1.2.1 – TASK 1 WEEKLY ROUTINE GCCS OM&M**

Perform routine OM&M services on the entire GCCS at the ISWFMF to maintain operation of the LFG collection system and to comply with monitoring requirements of the NSPS/EG, Virginia Rule 4-43.1, GHG MRR, and National Emissions Standards for Hazardous Air Pollutants (NESHAP) published in the Code of Federal Regulations (CFR) at 40 CFR §63.1961(a). The weekly OM&M activities, duties, and action items will be governed and influenced by the primary objectives for the LFG collection and control system, which are: 1) Comply with applicable regulatory requirements; 2) Manage the elevated temperature conditions; 3) Odor mitigation, abatement, and control; and 4) Supply LFG as fuel to the LFG energy plant. This will be accomplished as follows:

#### **BLOWER/FLARE STATION MONITORING**

Once each work day (Monday-Friday, excluding holidays), coordinate with City personnel and the energy plant personnel and monitor the blower/flare station (BFS). Data will be collected and recorded for the following:

- Operating status of the energy plant and flare as indicated on the control panel.
- Gas composition, including methane, carbon dioxide, oxygen, and balance gas (assumed to be nitrogen).
- Pressure (vacuum) at the BFS inlet, knockout pot inlet and outlet, blower inlet and outlet, flare inlet, and flame arrester.
- Gas flow and temperature.
- Obtain the BFS operational parameters (vacuum, discharge pressure, LFG flow, flare pilot and main flame temperature, etc.) from the datalogger or SCADA recorded at 15-minute intervals on a weekly basis.
- Document the piping and valve configuration between the City's BFS and the

- energy plant to confirm operational scenarios.
- Check operational status (energy plant only, energy plant and BFS simultaneously).
- Perform monitoring of the LFG treatment system components (compression, filtration, and dewatering) to confirm compliance with the City's treatment system monitoring plan.
- Weather, including barometric pressure conditions.

Based upon monitoring data at the BFS, adjustments will be made via the PLC/HMI (or manual isolation valves) to increase or decrease applied vacuum and correlating flow to achieve operational objectives.

Scheduled routine maintenance items (based on manufacturer's recommendations and/or field experience) will be conducted throughout the month and may include:

- Check the blower inlet and outlet bearings; lubricate per factory specifications.
- Check and confirm the automatic shutoff valve operation and compressed nitrogen supply level.
- Check manually-operated butterfly valves for proper workability.
- Check the flare spark plug and propane re-ignition system operation.
- Periodic leak check of system components.
- Test the automatic restart function to verify proper operation sequence.
- Check the condensate knockout pot and fill condensate traps with water as necessary.

All other maintenance deemed necessary will be conducted.

### **LEG Wellfield Monitoring**

Inspecting, adjusting, and monitoring approximately 35 existing LFG extraction wellheads plus any additional gas wells that are added in the Permit #588 Landfill, along with the condensate sumps connected to the Quarry Landfill LFG collection system once each per week is required. Inspection and monitoring approximately 20 LFG extraction wellheads in the Permit #221 and the Permit #498 Landfills, along with the condensate sumps, once per month is required. Data will be collected and recorded for the following:

- Gas composition, including methane, carbon dioxide, oxygen, and balance gas (assumed to be nitrogen).
- Pressure (vacuum). Pressure exceedances (i.e. non-negative pressures) will be noted and addressed in accordance with requirements under NESHAP [40 CFR §60.1960(a)(3)].

- Flow.
- Wellhead gas temperature. Gas temperature exceedances (levels above 145°F or an applicable HOV) will be noted and addressed in accordance with requirements under NESHAP [40 CFR §60.1960(a)(4)]. Enhanced monitoring, if required, as described in 40 CFR §60.1960(a)(4) will be performed via Task 2, Non-Routine Operations and Monitoring.
- Well pump cycle counter readings.

In conjunction with the LFG wellhead monitoring, adjustments will be made at each wellhead as required to achieve operational objectives. Specifically, the operational status of each dedicated well dewatering pump will be confirmed, and, if non-functional, an attempt to re-activate the pump through various techniques will be performed on at least a weekly basis. In addition, it will be confirmed that the dewatering liquids discharge points (poly-tank sidewall force main and entrance sewer manhole) are contributing wastewater flows. Field personnel will pull, clean, test, and reinstall all pneumatic pumps at the ISWMF as wells are being raised, when they become non-functional, or on a quarterly basis. Pumps removed for cleaning or repair shall be replaced with a functioning spare pump so the well can be brought back into service in a timely manner while the other pump is being serviced. The removed pumps will then be cleaned and assessed for damage and repairs. Pricing for typical pump repairs and replacement, including labor, should be included in the bid package. The pumps are QED Environmental Systems "Autopump AP4 Ultra" and an assortment of Pump One pumps.

If a wellhead exceeds its applicable pressure or temperature limits, readily available corrective actions (such as, but not limited to, wellhead adjustments) will be initiated within five (5) calendar days. If the corrective actions do not mitigate the exceedance within fifteen (15) calendar days of the first measurement of exceedance, the City will be notified and actions will be coordinated to correct the exceedance within the required 120 calendar days. To the extent possible, corrective actions will be performed using the resources available through the regularly assigned personnel for the project. If additional resources are required beyond those available, the resources will be provided under the terms of Task 2, Non-Routine Operations and Monitoring.

During the routine monitoring, system components will be checked for proper configuration and operation. This is especially necessary with above-grade piping networks. Damage or malfunctions will be recorded and reported to the City. Minor items, such as damaged or deteriorated monitoring ports, loose hose clamps, etc., will be completed as part of routine maintenance. Major items will be completed under Task 3, Non-Routine Maintenance and Repairs and will be reported to the City prior to leaving the Landfill. Routine minor maintenance will include:

- Check the monitoring ports and replace if damaged.

- Check the flex hose clamps and tighten as required.
- Check the flow control valve for smooth operation.
- Check for air/gas leaks around the flanges, valves, and fittings and remediate as required.

During routine monitoring of the wellfield, any changes to the Landfill will be noted and reported to the City. Such changes, whether caused by vandalism, landfill settlement, or inadvertent damage from Landfill activities, will be reported immediately to the City.

### **RECHECK MONITORING**

Data will be reviewed following each routine monitoring event and an attempt will be made to clear or remedy NESHAP exceedances on the same day. In the event that exceedances cannot be corrected on the same day, the required recheck monitoring will be performed within the five (5) and fifteen (15) calendar day windows. If available corrective actions do not mitigate the exceedance within 15 calendar days of the first measurement of exceedance, the City will be notified and activities will be coordinated to correct the exceedance within the required 120 calendar days.

### **DATA REVIEW, ORGANIZING, AND REPORTING**

Once each month, a letter report will be prepared and delivered via email to the City containing the collected data and a summary of on-site activities performed during the reporting period. The report will also be posted to a web-based secure database. The City will be contacted once each month to review:

- Gas collection system data.
- Blower/Flare Station data.
- Dewatering pump operational data.
- Regulatory compliance issues.
- Wellfield and collection piping re-configuration planning and execution strategies.
- General operations.

Based upon the data review and a meeting with the City, activities necessary to operate and maintain the system will be evaluated, planned, and scheduled. This will include, but not be limited to:

- Confirm proper operation of the system components.
- Confirm/initiate appropriate measures required to maintain NESHAP compliance.

- Provide recommendations to improve system operation and increase the effectiveness of LFG, dewatering liquids, and heat extraction and removal.
- Set LFG flow targets and make extraction point adjustments.
- Plan and schedule routine and non-routine operation and maintenance goals and activities.

### **ONLINE DATABASE**

All data collected will be maintained in an online database to facilitate organized storage, ready access to information, and enhanced interpretation, such as, but not limited to, the tracking of long-term trends. Hosted on a secure server, the LFG data will be readily available to facilitate regulatory compliance and to provide rapid access to all monitoring results. The database will be customized to store electronic data uploaded from instruments such as the Landtec Gem-5000. The database will be formatted such that record searches and queries are efficient and easy to create. Data output will be performed via Microsoft Excel workbooks and the output will be customizable upon direction from the City.

### **1.2.2 – TASK 2 NON-ROUTINE OPERATIONS AND MONITORING**

Non-Routine Operations and Monitoring include additional tasks identified during the routine work that requires additional manpower or resources beyond that provided by the on-site crew. This work includes items such as, but not limited to:

- Enhanced monitoring carbon monoxide lab analysis required by NESHAP on wells with temperature exceedances.
- Additional well field monitoring and adjustment in response to evidence of elevated temperature conditions or the presence of other atypical circumstances.
- Investigation of flare station shutdowns or catastrophic failure of collection system components requiring the use of specialized crews.

These tasks are necessary to meet operation goals or regulatory compliance requirements, but are of unpredictable need and frequency. Non-Routine Operations and Monitoring services that cannot be handled by on-site personnel will be performed on a Time and Materials (T&M) basis and will only be performed subsequent to notification to and authorization from the City.

### **1.2.3 – TASK 3 NON-ROUTINE MAINTENANCE AND REPAIRS**

Non-Routine Maintenance and Repairs consist of corrective repair or maintenance work identified during the routine work. This work could include items such as, but not limited to:

- Well riser pipe and collection piping (including air/force main piping) modifications, relocation, reconfiguration, and movements.
- Resetting of pipe supports.
- Repair/replacement of broken valves and wellheads.
- Repair or relocation of lateral lines.
- Repair or replacement of non-working pneumatic pumps identified during the routine visits.
- Unscheduled emergency response to flare station shutdowns or catastrophic failure of collection system components.

This work is essential for proper system operation and compliance with regulations, but it is not possible to predict. When possible, Non-Routine Maintenance and Repair services will be performed by the dedicated personnel on-site. Non-Routine Maintenance and Repair tasks that require additional manpower or resources beyond that provided by the on-site personnel will be performed on a Time and Materials (T&M) basis subsequent to notification to and authorization from the City. Fee estimates are to be provided to the City for specific Non-Routine Maintenance and Repair work. The work would proceed after written authorization from the City.

### **1.3 Closing Date and Time**

Sealed bids will be received by the Office of the Purchasing Agent of the City of Bristol Virginia, Room 208, City Hall, 300 Lee Street, Bristol, Virginia not later than 2:00 P.M. on Thursday, December 1, 2022. Bids will not be received after this time and date. The completed and signed bid sheet shall be returned in an envelope or package, sealed and addressed as follows:

**City of Bristol, VA  
Attention: Emily Compton, Procurement Specialist  
300 Lee Street  
Bristol, VA 24201  
Bid for Bristol ISWWMF LFG OM&M Services  
Due Date: 2:00 P.M., December 1, 2022  
ITB# SW-23-011**

### **1.4 Contract Documents**

The Bid Request, including plans and specifications, will be available in PDF format by request from the Director of Public Works, 2515 Valley Drive, Bristol, Virginia 24201, or by email at [jacob.chandler@bristolva.org](mailto:jacob.chandler@bristolva.org) beginning Tuesday, November 17, 2022.

## **1.5 Inquiries**

All questions requesting interpretation or clarity to the Contract Documents must be submitted in writing to the Director of Public Works, 2515 Valley Drive, Bristol, Virginia 24201, or by email at [jacob.chandler@bristolva.org](mailto:jacob.chandler@bristolva.org). Interpretations or clarifications considered necessary in response to such questions will be provided by Addenda emailed to all parties recorded by the City as having received the Contract Documents. Questions received after November 28, 2022 may not be answered. Verbal or other interpretations or clarifications will be without legal effect. Addenda may be issued to correct, clarify or change the Contract Documents at the discretion of the Director of Public Works.

## **1.6 Site Evaluation**

The site is open for inspection by any contractor submitting a quote. Anyone making a site visit must check in at the Scale House.

## **1.7 Evaluation of Bids**

Evaluation of Bids will be based on criteria set forth in this document. The award will be made to the most qualified, responsive, and responsible contractor.

## **1.8 Rejection of Bids**

The City reserves the right to reject any and all bids, and accept the most qualified, responsive, and responsible contractor providing the bid. The City reserves the right to discard all bids which are nonconforming, nonresponsive, or conditional.

## **SECTION TWO**

### **2.1 General Instructions and Specifications**

#### **2.1.1 Insurance Requirements**

The Contractor shall provide certificates of insurance for her or his firm and that of the subcontractor(s), which names the City of Bristol, Virginia, its officers, agents and employees as *additional insureds*. This coverage shall be reflected on the Certificates of Insurance (including any endorsements and riders thereto) which will be provided to the City. Each Certificate of Insurance shall require that notice be given to the City of Bristol, Virginia thirty (30) days prior to cancellation or material change in the policies.

Coverage shall be not less than the following amounts:

General Liability

General Aggregate	\$1,000,000
Product Comp/OPS Aggregate	\$1,000,000
Personal and ADV Injury	\$1,000,000
Each Occurrence	\$1,000,000
Fire Damage (1 Fire)	\$50,000
Medical Expense (1 person)	\$5,000

Automobile Liability

Any Auto	\$1,000,000
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Excess Liability

Each Occurrence/Aggregate	\$1,000,000
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**2.1.2 The Agreement**

The project shall be subject to the terms of an Agreement mutually agreed upon between the City and the Contractor, and to the content of this Request for Bids which is made a part of the Agreement by reference as though included verbatim.

**2.1.3 Approximation of Quantities and Stability of Contract Price(s)**

Contractors providing Bids should be aware that the quantities listed for work and materials are approximate only and are subject to increase or decrease and, whether increased or decreased, the unit price(s) quoted are to remain valid throughout the term of the contract. It is incumbent upon the contractor to independently estimate quantities upon which the contract unit price(s) are based.

**2.1.4 Bids Submittal Instructions as to Method**

Sealed bids for the above-referenced Bristol ISWFM LFG OM&M Services will be received by the City of Bristol, Virginia as stated in *Section 1.3 Closing Date and Time* above.

No Bids will be received or accepted after the above-specified time and date. Bids submitted after the designated hour will be deemed invalid.

When the City gives a Notice of Award to the successful contractor, it will be accompanied by the required number of unsigned counterparts of the Agreement with

all other written Contract Documents attached or referenced. Within five (5) days thereafter, Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to the City with the required Bonds, Certificates of Insurance, and Power of Attorney. Within five (5) days thereafter, the City shall deliver one (1) fully signed counterpart to Contractor.

The City reserves the right to waive any irregularities or to reject any or all submitted bids.

#### **2.1.5 Employment Discrimination**

Contractors must comply with the Code of Virginia, Section 2.2-4311 which prohibits discrimination in employment regarding race, religion, color, sex, national origin, age disability, or other basis prohibited by State law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor.

#### **2.1.6 Drug-free Workplace**

Contractors must comply with the Code of Virginia, Section 2.2-4312 which requires that 1) a drug-free workplace be provided, 2) a statement be posted to notify employees regarding prohibition against the unlawful manufacture, sale, distribution, dispensation, possession or use of a controlled substance or marijuana, 3) all employee solicitations include a statement that the contractor maintains a drug-free workplace, and 4) the foregoing be binding upon each subcontractor or vendor.

#### **2.1.7 Immigration Laws**

During the performance of this contract, the Contractor shall not knowingly employ an unauthorized alien as defined in the Federal Immigration Reform Act of 1986.

#### **2.1.8 Nondiscrimination Assurance**

The City of Bristol, VA in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

## 2.2 **Bid Form**

### **"Bristol ISWFM LFG OM&M Services"**

Instructions:

1. All bids must be submitted on the following form. Failure to complete the bid form in its entirety may cause the submittal to be rejected. The completed bid form must be signed by an authorized representative of the contractor.

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**2.2 BID FORM**

**Project Name: Bristol ISWMF LFG OM&M Services**

Item No	Description	Quantity	Unit	Unit Price	Cost	Comments/Remarks
<b>Task 1</b>	<b>Weekly GCCS OM&amp;M</b>	1	LS			
	<b>Total Monthly Cost for Task 1</b>					
<b>Task 2</b>	<b>Non-Routine Operations and Monitoring</b>					
1	Mobilization/Demobilization	1	LS			
2	Enhanced monitoring carbon monoxide	1	LS			
3	Investigation of flare station shutdowns	1	LS			
	<b>Total Monthly Cost for Task 2</b>					
<b>Task 3</b>	<b>Non-Routine Maintenance and Repairs</b>					
1	Mobilization/Demobilization	1	LS			
2	Pump Extraction/Installation	1	LS			Cost to extract/install pump from well.
3	Pump Assessment	1	LS			Determine if Pump requires repairs.
4	Pump Repairs	1	LS			Show price for ball valve replacement. Provide separate list showing cost breakdown of typical repairs (ball valves, regulators, etc.).
5	Pump Replacement	1	LS			Provide cost for replacement pump.
7	Well Casing Extension	10	LF			
8	Gas Suction Line Extension	10	LF			
9	Condensate Discharge Line Extension	10	LF			
10	Compressed Air Line Extension	10	LF			
11	Well Repair - Flexible Hose Replacement	1	LS			
12	Well Repair - Sample Port Replacement	1	LS			
13	Well Repair - Regulator Replacement	1	LS			
14	Well Repairs - All other	1	LS			
	<b>Total Cost for Task 3</b>					

**AUTHORIZED REPRESENTATIVE:**

**DATE:**