

**15 November 2021** 

Capital Area Council of Governments 6800 Burleson Road, Building 310, Suite 165 Austin, TX 78744-2306 Phone: (512) 916-6000 / Fax: (512) 916-6001 Attn: Sheila Jennings

#### Statement of Qualifications for

# AMBIENT AIR QUALITY MONITORING SERVICES

Capital Area Council of Governments Air Quality Monitoring Station

think go to

Submitted by



Weston Solutions, Inc. 5301 Southwest Parkway, Suite 450 Austin, TX 78735 Phone: (512) 651-7100 / Fax: (512) 651-7101



Weston Solutions, Inc. 5301 Southwest Parkway, Suite 450 Austin, TX 78735 Tel: (512) 651-7100 Fax: (713) 651-7101

15 November 2021

Ms. Sheila Jennings Capital Area Council of Governments 6800 Burleson Road Building 310, Suite 165 Austin, TX 78744 ELECTRONIC SUBMISSION

#### **RE:** Request for Proposals, Ambient Air Quality Monitoring Services

Ms. Jennings,

Weston Solutions, Inc. (WESTON<sup>®</sup>), is pleased to present our Statement of Qualifications (SOQ) in response to your Request for Proposal (RFP) for ambient air quality monitoring services. WESTON has been serving government and commercial clients in Central Texas since 1991. We are a premier provider of environmental consulting services to local, state, and federal government clients as well as utility, industrial, and commercial clients. We have a long history as a consultant for the Texas Commission on Environmental Quality (TCEQ), the City of Austin, Austin Energy, and other area clients. We are currently operating the eight ozone monitors described in the RFP for the Capital Area Council of Governments (CAPCOG), and we welcome the opportunity to continue to serve your organization.

WESTON will service CAPCOG primarily from our Austin office. WESTON's Texas staff consists of 149 employees trained in the disciplines of air quality monitoring; emission testing; environmental science; environmental, civil, and construction engineering; and other associated technical areas. As a 100% employee-owned corporation, WESTON delivers integrated, sustainable solutions for air quality monitoring, management; compliance and permitting; as well as a broad range of environmental consulting services.

Our staff includes Mr. Brad White, Ambient Air Quality Monitoring Program Manager. Mr. White is currently managing our work for CAPCOG, and he is an expert in the operation and maintenance (O&M) of ambient air monitors. Mr. White has an excellent team of air monitoring technicians to support this contract. In addition to CAPCOG, Mr. White and our team are currently providing ambient air quality monitoring services under contract to TCEQ, CPS Energy, Alamo Area Council of Governments (AACOG), and other clients.

WESTON appreciates the opportunity to present our proposal to operate the CAPCOG ambient air quality monitoring stations. If you have any questions or need additional information, please contact me at (210) 488-7358.

Very truly yours, Weston Solutions, Inc.

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Ashby McMullan, P.E. Client Account Manager

Attachment



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## 1. EXECUTIVE SUMMARY

Weston Solutions, Inc. (WESTON<sup>®</sup>) will service Capital Area Council of Governments (CAPCOG) primarily from our Austin office. WESTON's Texas staff consists of over 149 employees trained in the disciplines of air quality monitoring; emissions testing; environmental science; environmental, civil, and construction engineering; and other associated technical areas. We understand CAPCOG's goals for the project for data completeness and compliance with data quality objectives for all parameters. We have an established team and delivery model for CAPCOG, and we provided 97% data completeness under our current contract.

#### Why Choose WESTON?

- We currently hold CAPCOG's Ambient Air Quality Monitoring Contract, and we are familiar with the equipment and stations.
- ✓ We are experts with ambient air quality monitoring instrumentation O&M, and the TCEQ LEADS and U.S. EPA AirNow communication systems.
- Our experience will result in efficient service, with no "start-up curve."

Our team is led by Mr. Brad White, Ambient Air Quality Monitoring Program Manager. Mr. White is supported by WESTON's established national Air Quality Management Team, which has supported our clients' ambient and other air monitoring needs for more than 40 years. We believe that the combination of Mr. White's experience and knowledge, WESTON's technical expertise in ambient air monitoring, and our local Austin staff, will provide CAPCOG with the most valuable team for this contract. We are cost-effective, and we are excited to deliver the same high level of service that Mr. White has delivered to CAPCOG on our current contract.

Mr. White will be supported by a strong team of local operators experienced with CAPCOG's equipment and monitoring stations. Our operators, Karen O'Neal and Christobal Carrasco, have monitor-specific training and are qualified through testing provided by TCEQ. WESTON also has a dedicated maintenance and repair technician available in Texas in the event significant repairs to the equipment are necessary. If CAPCOG has a need to analyze for additional parameters, to make other changes to their system, or to meet other consulting needs, WESTON has ambient air monitoring experts available nationally to assist the team. In addition to CAPCOG's program, our team is currently providing services for monitoring networks operated by TCEQ, CPS Energy, and AACOG.

WESTON has carefully reviewed the scope of services requested in the RFP and has prepared a work plan describing how we will start up new stations, prepare all stations for operation beginning 01 March 2022, perform routine maintenance, calibrate ozone monitors, confirm the TCEQ Leading Environmental Display System (LEADS) and EPA AirNow systems are functioning, and shut down and decommission stations as needed. These are routine services performed by our team that will be conducted in accordance with CAPCOG's manual, or TCEQ's Standard Operating Procedures (SOPs).

WESTON is experienced with TCEQ's LEADS and we will ensure that CAPCOG's data is being transmitted to and received by the TCEQ's LEADS and EPA's AirNow websites. We brought CAPCOG's current monitors online in the AirNow system in the spring of 2020. WESTON has very strong data management and monitor communication experience, and we are well prepared to assist CAPCOG with reporting air quality data with high data returns in any format.

If awarded, WESTON will bring an energetic and technically skilled team to service CAPCOG's monitoring system. This is routine work for our Central Texas staff. We understand the critical nature of the real-time reporting from this system, and we will ensure that the system exceeds CAPCOG's expectations for run time and data quality.



## 2. ORGANIZATIONAL PROFILE

#### 2.1 WESTON'S HISTORY

WESTON has been actively engaged in the business of providing ambient air monitoring services for over 40 years, and we have been operating CAPCOG's network since 2019. WESTON has been responsible for installing, calibrating, operating, troubleshooting, and auditing a wide variety of continuous ambient air monitoring equipment. Pollutants that have been monitored include ozone, NO/NO<sub>2</sub>/NOx, SO<sub>2</sub>, CO, CO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and black carbon.

#### 2.2 PRIMARY BUSINESS

Established in 1957, WESTON is a premier provider of environmental and infrastructure services serving federal, state, and local governments, as well as utility, industrial, and commercial clients. WESTON is headquartered in West Chester, Pennsylvania, with 24 offices nationwide, including Texas offices in Austin, San Antonio, Frisco, and Houston. WESTON's Texas staff consists of 149 employees trained in the disciplines of air quality monitoring; emission testing; environmental science; environmental, geological, chemical, civil, mechanical, construction, and structural engineering; geology and hydrogeology; chemistry; data management; and other associated technical areas.

#### 2.3 FORMER/CURRENT CUSTOMERS

WESTON has 30 years of experience in Central Texas. Our most relevant, current clients include:

- CAPCOG Ambient Air Monitoring Services Operate and maintain eight meteorological and ozone continuous air monitoring stations (CAMS) for CAPCOG in the greater Austin area. Includes the operation of eight smart-sensor instruments that monitor for PM<sub>2.5</sub>.
- TCEQ WESTON has worked for TCEQ continuously since 1991, and we are currently operating 12 stations in their State or Local Air Monitoring Stations (SLAMS) network and the PM<sub>2.5</sub> program ambient air monitoring stations. These CAMS all report data through TCEQ LEADS. We are performing all preventative maintenance inspections (PMI), laboratory control checks (LCC), calibrations, and verifications on station equipment under each of these contracts.
- AACOG Ambient and Meteorological Monitoring Operate four existing CAMS and two new CAMS that we installed for AACOG. For the existing CAMS, WESTON added meteorological towers and NOx monitors and smart sensors to monitor PM<sub>2.5</sub>. We have also commissioned a seventh station with an AutoGC instrument for VOCs, as well as NOx and SO<sub>2</sub> monitors.
- CPS Energy Services include operating 14 CAMS monitoring several pollutants for over 3 years including ozone-season operations including daily operation, data validation, routine calibration, preventative maintenance and repairs, security monitoring, grounds maintenance, and reporting.
- City of Austin, Austin Energy WESTON has worked as a consultant for the City of Austin and for Austin Energy for over 23 years. We are compliant with their site-specific access requirements which include badging and background checks.

#### 2.4 OWNERSHIP INFORMATION

WESTON is an employee-owned corporation and is not a small business or a Historically Underutilized Business in the State of Texas.

DUNS Number: <u>04-4519429</u>; Physical & Mailing Address: <u>5301 SW Pkwy</u>, Ste 450, Austin, TX 78735 Primary Contact Name (for the contract): <u>Ashby McMullan</u>, P.E., Client Account Manager Office Phone (Primary Contact): <u>(512) 651-7100</u>; Cell Phone (Primary Contact): <u>(210) 488-7358</u> Primary Contact Fax Number: <u>(512) 651-7101</u>; E-mail: <u>Ashby.McMullan@WestonSolutions.com</u>

Weston Solutions, Inc.



## 3. WORK PLAN

WESTON has reviewed CAPCOG's scope of work (SOW) for the contract, including tasks to establish new stations; to calibrate, operate and maintain eight stations; to validate data; to report data to TCEQ LEADS and EPA's AirNow via the data logging system (Envidas); and to shut down the stations at the end of the monitoring year. We have also evaluated the contingency scope items. We have provided a work plan below to address these items in a cost-effective manner, while reporting high-quality valid data.

# 3.1 TASK 1: OPERATION AND MAINTENANCE OF O<sub>3</sub> AND METEOROLOGICAL EQUIPMENT AT ALL EIGHT STATIONS

#### 3.1.1 Subtask 1.1: Site Setups

In order to ensure all eight sites are operational by 01 March 2022, WESTON will perform the following tasks at CAMS 614, 690, 1604, 1612, 1613, 1619, 1620, and 1675:

- Stations ozone analyzers, meteorological instruments, phone system, modem, battery back-up, and air conditioning equipment, as applicable, will be powered "on".
- Phone line and modem connections will be verified by dialing in from an external source to verify system communication with TCEQ and AirNow.
- The PurpleAir Sensor will be connected to Wi-Fi and checked to ensure proper reporting to ww2.PurpleAir.com
- Sample lines and filters will be changed on each analyzer.
- Line voltages and amperages will be measured to verify steady operation.
- Heating and air conditioning system will be verified operational.
- Initial five-point calibrations will be performed using WESTON's calibration equipment, followed by precision checks.
- WESTON will verify that data is being transmitted to and received by the TCEQ's LEADS and EPA's AirNow websites.
- WESTON will verify that data is being reported out to the TCEQ and EPA websites.
- CAPCOG will be notified that the sites are operational and functioning properly.
- Meteorological equipment will be tested, as outlined below.

The meteorological measurement systems will be calibrated as described in the EPA Quality Assurance (QA) Handbook, at site start-up each season. Air temperature measurement systems will be calibrated against National Institute of Standards and Technology (NIST)-traceable, partial immersion thermometers at three different temperatures in stable thermal masses. The wind speed measurement system will be verified against a certified, variable-speed motor at a minimum of three simulated wind speeds. The wind direction measurement systems will be checked at four known wind directions (90, 180, 270, 360) using the manufacturer's azimuth linearity test fixture. The starting torque of each wind sensor will be assessed using certified torque plates to ensure that the thresholds meet manufacturer's specifications. The



Meteorological Tower



orientation of each wind direction sensor will be measured with respect to true north and magnetic north using a surveyor's transit compass and compensating for the known magnetic declination for each location.

TCEQ and CAPCOG will be notified when the stations are operational and that the reporting of data has been verified on the TCEQ and EPA websites.

Our primary operator has completed the criminal background check and has a current Austin Energy identification badge to facilitate access to CAMS 1619 (Holly Street).

#### 3.1.2 Subtask 1.2: Maintenance

WESTON will maintain all eight monitoring stations owned by CAPCOG from 01 March to 15 November 2022. O&M of the CAMS stations will typically consist of the following activities:

- Reviewing data daily.
- Groundskeeping activities and site cleaning and maintenance.
- Replacement of analyzer sample particulate raceway filter and other expendable items.
- Verification and correction, as required of the interior temperature, flow lines, instrument flow rates, operation of the meteorological tower components, and data transmittal systems.
- Updating of the operator's written logbook and Zeno electronic operator's log.
- Updating CAPCOG on recommendations based on site visits and data check information.
- Correcting problems and issues with site equipment before data loss occurs.

WESTON will perform the same preventative maintenance procedures TCEQ uses, as described in *CAPCOG's 2020-2021 Quality Assurance Project Plan (QAPP)*. Periodic site maintenance such as mowing, weeding, and cleaning, will also be performed. On a scheduled basis, or as required, WESTON will perform maintenance activities per TCEQ SOPs. Tasks may include cleaning of the temperature boom, replacement or repair of wind speed and wind direction sensors, sample line replacement, and replacement of any other failed equipment. WESTON will verify that data is being transmitted to and received by TCEQ's LEADS and EPA's AirNow systems. An inventory will be performed at the beginning of the season at each station.

Monthly audits and equipment calibrations will be performed by WESTON during each month beginning in March and ending in October. The initial start-up and calibration will be performed before 01 March, as outlined in Section 3.1 above. During audits, calibrations, and maintenance, the status of Envidas will be changed to reflect these activities.

TCEQ PMIs 01, 03, 04, 05, and 26 will be followed. The following TCEQ Field Operations Division SOPs will be followed as required:

- TCEQ Thermo Model 49i SOP (located in Rhone/LEADS operating procedures). 49iQ Thermo SOPs will be practiced
- FOSTAT-008: Dasibi Ozone Analyzer Model 1008-AH O&M.
- FOSTAT-025: Met One Instrument Lift.



Entech 1800 cannister sampler, Teledyne SO<sub>2</sub> and H<sub>2</sub>S analyzers and associated instruments



- FOSTAT-029: F460 Wind Speed/Wind Direction Sensors and Temperature Boom.
- FOSTAT-030: Procedure for the field operations of the Teledyne-API Ozone Analyzer Model 400E.
- FOSTAT 030a: Addendum to the Teleydne-API Model 400 Series Ozone Analyzer.

Maintenance activities will take place every 2 weeks during the ozone season. These maintenance activities will typically be handled by one staff member over three standard workdays. Monthly audits and equipment calibrations will be performed at each station by a trained and competent staff member. WESTON maintains several staff members capable of providing this service. The monthly audits and equipment calibrations will typically be performed by one person over 3 days.

Non-routine maintenance required because of problems that may arise throughout the performance period will be accounted for under the "contingencies" subtask.

#### 3.1.3 Subtask 1.3: Calibrations

Calibration of Ozone Monitors: Each month beginning in March and ending in October, calibrations, and Quality Assurance/Quality Control (QA/QC) checks will be performed on each monitor to ensure measurement and data quality objectives (DQOs) are being met and to validate the data recorded by the measurement system. The calibrations and QA/QC checks will be manually performed and recorded using the on-site data logger and Envidas along with the central data acquisition and processing software (TCEQ LEADS), which CAPCOG currently uses. If any issues are encountered with the analyzers during the QA/QC and calibration procedures, the issues will be identified, and corrective action will be taken with the objective of minimizing system downtime and data loss. The activities will be scheduled in such a way so as not to interfere with data collection during suspected peak ozone readings. Before mobilizing to the site for equipment calibrations, the ozone trend will be monitored to determine if the analyzers are measuring a peak ozone event. If calibration of the analyzers will be delayed due to a peak



ozone event, CAPCOG will be notified by the Program Manager or Project Manager, and the calibrations will be re-scheduled. Calibrations will be scheduled well in advance of the calibration deadline to account for potential calibration delays due to peak ozone trends.

In situ calibration of the ozone monitors will be performed using a transfer standard provided by WESTON. WESTON's standards (from Thermo Model 165 ozone generators, and a Thermo 49C primary standard) will be calibrated against TCEQ's transfer standard annually following TCEQ specifications, policies and procedures to ensure its accuracy.

Each analyzer will be calibrated as follows:

- All monitors will receive a five-point calibration prior to 01 March 2022, as outlined in Section 3.1.
- Following start-up, a five-point calibration will be performed by WESTON once each month beginning in March and ending in October. Calibrations will occur no sooner than 15 days apart or no later than 45 days apart at each station.
- A five-point calibration will be performed on each analyzer between 15 November and 30 November as part of the site shut-down, as outlined in Section 3.5.
- The challenge gas concentration will be maintained for three full data logger averages (at least 15 minutes). During these data checks, the data logger will be set to flag ozone data "QAS" indicating quality assurance is being performed.



- WESTON will check for ozone zero data at least once per month on each instrument. The instrument zero offset will be adjusted if the offset is found to be 5 parts per billion (ppb) or greater.
- If an instrument requires a zero-setting adjustment, a zero-instrument check will be performed before and after the adjustment.

Other tasks to be performed include:

- Replacing air sampling lines once each ozone season.
- Visiting each monitor twice per month to perform replace filter; sample system integrity checks, including sample inlet and inline water trap; clean and maintain; etc.

Each month, WESTON will provide CAPCOG with a schedule of activities performed at all monitors and a current invoice. These will be included in the final report at the end of the ozone season.

**Calibration of Meteorological Monitors:** The calibration of the meteorological monitors will be as follows:

- The meteorological measurement system will be calibrated during installation, replacement, maintenance, and/or repair.
- The initial meteorological monitor calibration will be performed before 01 March 2022, as outlined in Section 3.1.

#### 3.1.4 Subtask 1.4: Data Validation

WESTON will analyze and validate the data for accuracy will verify proper communication of the data to the air quality data monitoring systems as required to prevent or minimize data loss. The procedures described in CAPCOG's 2020-2021 QAPP will be followed. Data validation tasks will include:

- Daily review of sampling data that is being reported to the air quality data reporting systems (LEADS and AirNow). During the review, the WESTON data validator will confirm that all data is properly collected and reported. Duties will include looking for flagged data, missing data, data anomalies, communication issues, calibration status, etc.
- Data from each station will be compared to the other stations to check for anomalous data that does not compare well to the other stations.
- Once per month, a review of the entire previous month's data will be performed. The air quality data reporting systems will be updated with entries as needed during this review.
- Data will be checked to ensure proper data flagging and data completeness.

WESTON personnel supporting this project have completed training and are very familiar with SOP DQRP\_016, covering data validation procedures. This SOP is the latest revision of the SOP for LEADS, and the version that TCEQ uses to validate data. WESTON personnel are experienced with the LEADS system, including working in the backend of the system. The team that WESTON is proposing to support CAPCOG is currently staffing projects that incorporate the use of LEADS in SOWs like those covered in this RFP, including one project for a private municipality and three others for TCEQ.

WESTON will maintain regular communication with CAPCOG. In the event our maintenance activities are delayed, or we see an issue through the data validation process, we will contact CAPCOG to discuss the situation and propose corrective actions to get the data back on track.

#### 3.1.5 Subtask 1.5: Site Shutdowns

Between 16 November 2022 and 30 November 2022, WESTON will shut off and secure all equipment. Shut-down procedures will include the following tasks:



- A final five-point calibration will be performed on each monitor.
- All monitors will be powered down and disconnected from the power source.
- Sample lines and filter enclosures will be disconnected.
- Facilities will be secured and verified.
- A year-end inventory will be performed, noting all CAPCOG-owned equipment located at measurement sites and WESTON's warehouse facilities. This inventory will be incorporated into the final monthly report for the ozone season, as described under subtask 3.6 below.

WESTON understands that CAPCOG staff may require that some of the equipment be returned to CAPCOG offices, and that some equipment be stored at WESTON facilities. WESTON is prepared to deliver the equipment to CAPCOG offices and/or WESTON facilities as directed during the site shut-down process. WESTON anticipates that site shutdown will be performed by two staff members over approximately 3 days.

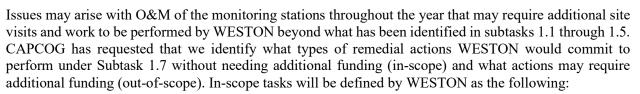
#### 3.1.6 Subtask 1.6: Monthly Reports

As required by CAPCOG, monthly reports will be submitted by the tenth day of each month along with each monthly invoice that documents WESTON's work on subtask 1.1 through 1.5. The reports will include the following items:

- Data completeness statistics.
- Calibration results.
- Operator logs.
- Deviations from the approved QAPP.
- Data validation procedures employed during the month.
- Any other information or data needed by CAPCOG to verify that DQOs were met and that any issues were addressed.

The reports will be issued by e-mail.

#### 3.1.7 Subtask 1.7: Operational Contingencies



- Any task that can be completed as part of the normally scheduled maintenance trip, as outlined in Sections 3.1.1, 3.1.2, and 3.1.5 above.
- Any task, diagnostic action, or repair that can be performed within 30 minutes during the normally scheduled maintenance task.
- Any task that does not incur additional costs of materials above what is normal and expected, such as consumable items like filters and tubing.

WESTON proposes keeping the same terms in the 2022 contract that were provided in the 2019 contract. As outlined in the CAPCOG RFP, WESTON proposes CAPCOG provide a \$300 per month contingency



**CAPCOG Monitoring Station** 



allowance, with a requirement that WESTON document any such contingencies in the monthly bill. WESTON will only be reimbursed for documented expenses, with any unused amount rolling over to the next month. WESTON may conduct repairs and incur other costs up to a maximum of \$300 per invoice and up to \$3,000 for Subtask 1.7 without securing prior approval of CAPCOG's project representative. Any tangible property purchased under Subtask 1.7 shall be considered the property of CAPCOG, and WESTON will provide all necessary information for CAPCOG's inventory of any tangible property purchased under Subtask 1.7 valued at more than \$100.

WESTON will seek approval and a work order from CAPCOG prior to commencing work for anything exceeding this established allowance

#### 3.2 TASK 2: ENSURING THE REPORTING OF THE PURPLEAIR PM<sub>2.5</sub> SENSORS

WESTON staff is well versed in the operation of the PurpleAir  $PM_{2.5}$  sensors and the PurpleAir website (ww2.purpleair.com). Being highly experienced in locating, checking, and retrieving the latest data from the website, WESTON can ensure the data continues to report with minimal downtime. If a PURPLEAIR sensor is to stop reporting data, WESTON staff will troubleshoot the sensors connection to the on-site wireless connection. If the issue persists, WESTON staff will coordinate with CAPCOG staff to remedy the issue as soon as possible.

#### 3.3 TASK 3 (CONTINGENCY TASK): ESTABLISHING NEW O<sub>3</sub> MONITORING STATIONS

If CAPCOG can secure new site leases for new O<sub>3</sub> monitoring locations, WESTON will completely shut down and remove the equipment from the old O<sub>3</sub> monitoring station and transport all the equipment and the cargo trailer to the designated new O<sub>3</sub> monitoring location. Upon arrival, WESTON will set up all instrumentation and monitoring at the new monitoring location, including connecting power and making any improvements needed to facilitate operation. WESTON will ensure that all data is being collected and that communication equipment is working properly. WESTON will perform a five-point calibration to the O<sub>3</sub> analyzer, test and ensure meteorological equipment is in properly working order, and fill out a new site AMSIS form, as well as take new site photographs to be updated in TCEQ's LEADS Site information would also be updated in Envidas so that EPA's AirNow system remains current with correct, active site information.

#### 3.4 TASK 4 (CONTINGENCY TASK): SITE DECOMMISSIONS

If CAPCOG were to decide to discontinue  $O_3$  monitoring at any or all eight stations at or before the end of 2022, WESTON will fully decommission the site or sites and will deliver all equipment to CAPCOG. WESTON will go through the steps to ensure that sites are listed as decommissioned in LEADs and that they are not present as an Active monitoring site in the AirNow system.

#### 3.5 TASK 5 (CONTINGENCY TASK): INSTALLATION AND MAINTENANCE OF A PM<sub>2.5</sub> MONITOR AT A NEW SITE OR EXISTING O<sub>3</sub> MONITORING SITE

If CAPCOG decides to establish research-grade  $PM_{2.5}$  monitors at new or existing O<sub>3</sub> sites, WESTON will install and maintain all the equipment necessary to operate the  $PM_{2.5}$  monitor. WESTON is recommending, and has extensive experience operating, a Thermo Tapered Element Oscillating Microbalance (TEOM). Maintenance includes monthly and quarterly flow verifications, mass flow filter changes, vacuum pump flow checks, and inline pump filter checks. The routine maintenance will be performed during scheduled visits to the site. Weekly TEOM status checks can be performed either in person during routine visits or remotely through Thermo iPort software. The instrument will be connected to Envidas via network cable and datalink on the site modem.



# 3.6 TASK 6 (CONTINGENCY TASK): INSTALLATION AND MAINTENANCE OF NITROGEN OXIDES (NO<sub>x</sub>) MONITOR AT AN EXISTING O<sub>3</sub> MONITORING SITE

If CAPCOG decides to establish research-grade NOx monitors at new or existing O<sub>3</sub> sites, WESTON will install and maintain all the equipment necessary to operate a NOx monitoring location. WESTON recommends the use of Thermo 42i or 42iQ analyzers. WESTON will set up the NOx instrumentation and ensure that data is being collected and communication equipment is working properly. WESTON will perform a five-point calibration to the NOx Analyzer, which will be under the same maintenance schedule as the O<sub>3</sub> monitors. Maintenance tasks include routine raceway filter changes and monthly five-point calibrations. If an adjustment is made to the NOx analyzer, a five-point calibration will follow. WESTON owns Tanabyte Multigas Calibrators and has the appropriate EPA-certified gas standards appropriate for these five-point NOx calibrations. WESTON also has Thermo 42 model analyzers for rent, if needed, under this contingency task.



## 4. BUDGET NARRATIVE

WESTON has reviewed the SOW requested in the CAPCOG RFP. Applying our experience operating similar systems in Central Texas with our expertise in maintenance, validation, and experience using TCEQ's LEADS and the Envidas communication systems, allows WESTON to develop a cost-effective approach to implement CAPCOG's ambient air quality monitoring program.

WESTON's proposed pricing for the tasks outlined in the RFP is provided in a separate Excel workbook, titled "Weston Solutions – 2021 Air Quality Monitoring Services RFP Budget Workbook." In addition, a breakdown of the unit labor rates, and travel costs used to develop those prices are provided in **Table 4-1**. **Table 4-2** provides a more detailed breakdown for tasks shown. Please note that WESTON rounded off the values in the pricing workbook to facilitate invoicing, leading to minor discrepancies between the workbook and tables.

A discussion of the development of costs for each task follows.

Table 4-1, Labor Rates							
ltem	Unit Rate						
Labor Rate (per hour)							
Project Manager	\$125.00						
Technical Manager	\$125.00						
Operator	\$64.00						
Operator	\$64.00						
Repair Tech	\$84.00						
Financial Analyst	\$95.00						
Administrative Support	\$55.00						
Travel Costs							
POV Mileage (miles)	\$0.58						
Per Diem (per day)	\$150.00						
Per Diem (per day)	\$40.00						

#### Task 1: O&M of O<sub>3</sub> and Meteorological Equipment at All Eight Stations

#### Subtask 1.1: Site Setups

The costs developed for O&M setup include support effort for the following:

- Access coordination to the equipment and data.
- Inventory of equipment.
- Development of the project Health and Safety Plan (HASP).
- Initial start-up.

The Project Manager will travel from Houston to accompany the local Austin technician to perform site setups. All administrative and travel costs are included in the per-site costs.

#### Subtask 1.2 and 1.3: Maintenance and Calibrations

The costs for these tasks encompass routine visits for maintenance during the ozone season. As calibrations were performed during the same trip for routine maintenance, travel costs and labor were split between the two subtasks based on expected, relative level of effort. These total costs were then broken down by station. It is assumed that the Project Manager will make at least two trips for QA or to address unexpected technical issues during the ozone season.

#### Subtask 1.4: Data Validation

It was assumed that 3 hours a week would be required for the 37-week ozone season. Project support effort was also apportioned to this subtask.

#### Subtask 1.5: Site Shutdowns

Costs were developed for the Project Manager to accompany the local Austin technician to perform the tasks necessary to shut down each location. Project support effort was also apportioned to this subtask. The costs were then broken down by station in the same manner as Tasks 1.2 and 1.3.

#### Subtask 1.6: Monthly Reports

Effort is budgeted for WESTON's Project Manager and Technical Air Quality Staff to produce monthly reports, with administrative assistance.



#### Subtask 1.7: Operational Contingencies

Operational contingencies were budgeted at \$300 per month for supplies. This assumes that typical repairs can be conducted during routine visits. If additional budget is required, WESTON will contact CAPCOG to discuss options.

#### Task 2: Ensuring the Reporting of the PurpleAir PM<sub>2.5</sub> Sensors

Costs associated with ensuring the reporting of the PurpleAir sensors were developed by understanding the level of effort needed to check and verify that the PurpleAir Sensors are connected to the wireless communications on-site. This would occur during site visits and routine website data checks. If there is a connectivity issue, WESTON staff will troubleshoot the issue during a site visit.

#### Task 3 (Contingency Task): Establishing New O<sub>3</sub> Monitoring Stations

The cost for Task 3 is budgeted to take 2 days. During the first day of establishing a new O<sub>3</sub> station, the site will be fully set up, connected to Envidas, and flagged into maintenance mode so that it can start polling data. The instrumentation would be allowed to warm up overnight. On the second day of establishing the New O<sub>3</sub> Monitoring station, a site five-point calibration will take place during which the O<sub>3</sub> analyzer will be flagged to calibration in Envidas. After ensuring all other instrumentation is performing optimally, WESTON will create a new site AMSIS form for TCEQ and will create a new site in Envidas. Ultimately before the site is established, WESTON will update the AMSIS form for TCEQ with the appropriate photographs after the site is fully established.

#### Task 4 (Contingency Task): Site Decommissions

Analogous to Task 3, costs were developed for the decommissioning of all the sites. Labor, travel, and administrative costs are included in the per-site costs presented.

## Task 5 (Contingency Task): Installation and Maintenance of a $PM_{2.5}$ Monitor at a New Site or Existing O<sub>3</sub> Monitoring Site

The cost associated with Task 5 includes setup, labor, and travel. WESTON has supplied a quote for Thermo TEOM 1405. The maintenance would take place during a routine site visit to either an existing station or a new established station. The TEOM 1405 can be purchased for \$20,996. This price includes the instruments, pumps, consumables, and a 1-year warranty through Thermo.

# Task 6 (Contingency Task): Installation and Maintenance of Nitrogen Oxides (NOx) Monitor at an Existing O<sub>3</sub> Monitoring Site

The cost associated with Task 6 includes setup, labor, and travel. WESTON has supplied a quote for Thermo 42iQ, which WESTON has extensive experience operating. The maintenance would take place during a routine site visit to an existing station. The Thermo 42iQ can be purchased for \$16,252 through Thermo with a 1-year warranty. If needed, a NOx analyzer can be rented through WESTON for \$15 per day.

**Additional Tasks:** Additional tasks may be needed during the ozone season. The effort for additional tasks were proposed to be conducted using the same labor and travel rates presented in **Table 4-1**. Repair work would be completed under the Operator or Repair Technician category.

Given that the types of repairs and the number of hours can vary widely, based on the equipment, WESTON will likely need to bring the equipment into the shop to develop a cost estimate for approval by CAPCOG. Any necessary parts would be marked up by 10% to cover the cost of procurement, shipping, etc. If a special trip would be required to transport the equipment, those costs would also be included. Generally, WESTON will make every attempt to reduce travel costs by combining trips.



#### Weston Solutions, Inc. – Statement of Qualifications (SOQ) Ambient Air Quality Monitoring Services

#### Table 4-2, Cost Breakdown

		Sub	task 1.1	Sul	btask 1.2	Su	ibtask 1.3	Su	btask 1.4	Su	ubtasl	k 1.5	Sub	task 1.6		Task 2 porting of	٦	TASK 3	1	TASK 5	۱	Fask 6
ltem	Unit Rate	Site	Set-Ups		ntenance (per year)		/ Calibrations per year)	Data	Validation	Site	Shut-	Downs	Month	ly Reports	Pu	rpleAir 2.5 Sensors		ablish New oring Station		tion of PM 2.5 Monitor		ation of Nox Monitor
Labor Rate (per hour)		Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units		mount	Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units	Amount
Project Manager	\$125.00	12.0	\$ 1,500.00	40.0	\$ 5,000.00	-	\$ -	17.0	\$ 4,250.00	24.0	\$	3,000.00	24.0	\$ 3,000.00	12.0	\$ 1,500.00	12.0	\$ 1,500.00	12.0	\$ 1,500.00	12.0	\$ 1,500.00
Technical Manager	\$125.00	-	ş -	-	ş -	-	\$ -	-	ş -	-	\$	-	-	\$ -	-	ş -	-	ş -	4.0	\$ 500.00	4.0	
Operator	\$64.00	60.0	\$ 3,840.00	337	\$ 21,542.40	224	\$ 14,361.60	100.0	\$ 6,400.00	60.0	\$	3,840.00	60.0	\$ 3,840.00	24.0	\$ 1,536.00	24.0	\$ 1,536.00	27.0	\$ 1,728.00	27.0	
Operator	\$64.00	-	ş -	-	ş -	-	ş -	-	ş -	-	\$	-	-	\$ -	-	ş -	-	ş -	24.0	\$ 1,536.00	24.0	\$ 1,536.00
Repair Tech	\$84.00	-	s -	-	\$ -	-	s -	-	ş -	-	\$	-	-	\$ -	-	\$	-	s -	-	\$ -	-	\$ -
Financial Analyst	\$95.00	2.0	\$ 190.00	20.0	\$ 1,900.00	-	\$ -	-	ş -	-	\$	-	-	\$-	-	\$ -	2.0	\$ 190.00	1.0	\$ 95.00	1.0	\$ 95.00
Administrative	\$55.00	-	ş -	-	ş -	-	ş -	-	ş -	-	\$	-	-	ş -	-	ş -	-	ş -	-	ş -	-	ş -
Labor Total			\$ 5,530.00		\$ 28,442.40		\$ 14,361.60		\$ 10,650.00		\$	6,840.00		\$ 6,840.00		\$ 3,036.00		\$ 3,226.00		\$ 5,359.00		\$ 5,359.00
Subcontractor Costs																						
Calibration/Troubleshoo	ting		ş -		ş -		\$ 3,168.00		ş -		\$	-		\$ -		s -		\$ 792.00		ş -		\$-
Subcontractor Total			\$ -		ş -		\$ 3,168.00		\$ -		\$	-		\$ -		\$ -		\$ 792.00		\$ -		\$ -
Travel Costs																						
POV Mileage (miles)	\$0.58	750	\$ 474.38	5,800	\$ 3,668.50	####	\$ 2,277.00	-	ş -	750	\$	474.38	-	\$ -	-	ş -	300	\$ 189.75	700	\$ 442.75	700	\$ 442.75
Per Diem (per day)	\$150.00	-	ş -	1	\$ 165.00	-	\$ -	-	ş -	-	\$	-	-	\$ -	-	\$ -	-	s -	1	\$ 165.00	1	\$ 165.00
Per Diem (per day)	\$40.00	-	ş -	1	\$ 44.00	-	\$ -	-	ş -	-	\$		-	\$ -	-	\$	-	s -	1	\$ 44.00	1	\$ 44.00
Travel Total			\$ 474.38		\$ 3,877.50		\$ 2,277.00		\$ -		\$	474.38		\$ -		\$-		\$ 189.75		\$ 651.75		\$ 651.75
	Estimate	Cost	\$ 6,004.38		\$ 32,319.90		\$ 19,806.60		\$ 10,650.00		\$	7,314.38		\$ 6,840.00		\$ 3,036.00		\$ 4,207.75		\$ 6,010.75		\$ 6,010.75
	U.S. D.S.		£ 750.00		£ 175.00		£ 200.00		¢ 450.00			045.00		£ 000.00		£ 45.00		£ 4 200 00		£ 0.040.00		£ 0.040.00
	Unit Price	2	\$ 750.00		\$ 475.00		\$ 290.00		\$ 150.00		\$	915.00		\$ 680.00		\$ 45.00		\$ 4,200.00		\$ 6,010.00		\$ 6,010.00

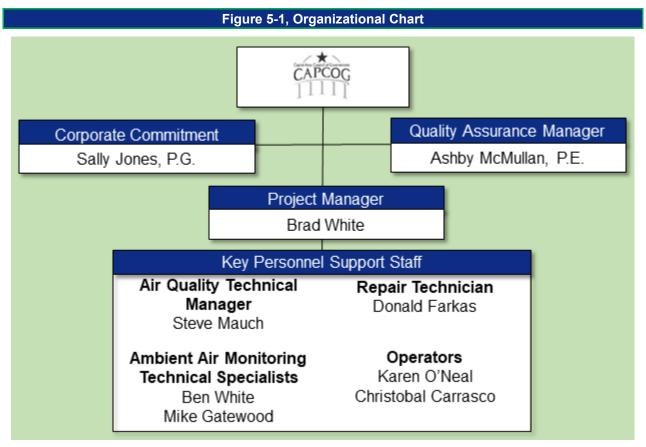


## 5. MANAGEMENT PLAN, QUALIFICATIONS, AND KEY STAFF

WESTON will serve CAPCOG primarily from our Austin, Texas office, with support from Houston and San Antonio, as needed. We are proposing the same team that is currently serving CAPCOG with ambient air monitoring services. The Texas staff operates as a cohesive team on projects throughout Texas to provide the skills and experience required to execute projects specifically tailored to meet our clients' environmental service needs.

#### 5.1 KEY STAFF ROLES

WESTON's proposed CAPCOG team of key personnel is led by staff in our Austin office, with support from our San Antonio and Houston offices. WESTON proposes that **Mr. Brad White serve as our Project Manager** and primary point-of-contact for work under the contract. Mr. White has over 16 years of experience delivering ambient air monitoring consulting services in Texas, including extensive experience managing large, diverse teams. The WESTON team is presented on the organizational chart below (**Figure 5-1**).



#### 5.2 TIME ALLOCATION FOR STAFF

WESTON has evaluated the SOW and has estimated the level of effort that is anticipated to complete the project. Routine system maintenance is estimated to require 2-3 days a week, depending on the sample collection schedule. This work will be performed by our team of technicians in Central Texas and will require 40% to 60% of a person's time, depending on the weekly schedule. WESTON plans to continue



using Karen O'Neal and Christobal Carrasco as operators as they are Operators on the current contract. The operators will be supported on complex maintenance or repair tasks by Ben White and Mike Gatewood, our Technical Specialists. Mr. White and Mr. Gatewood have extensive experience with O&M, reporting, and data validation of ambient air quality monitoring stations. This team is based in Central Texas and has capacity to provide responsive service if problems arise. Additionally, Steve Mauch is an ambient air quality monitoring expert and is available to the team to assist with unusual issues or data quality concerns. Brad White will be WESTON's Project Manager, and it is expected that he will work on the project each week, as needed, to ensure work is completed on time and to ensure that WESTON meets CAPCOG's expectations for data quality and system run time. Ashby McMullan, P.E. will be available as needed to assist with resource allocation or troubleshooting, if necessary. Additionally, **Table 5**-1 presents the key personnel team members' level of commitment.

Table 5-1, Ke	ey Personnel Team Members' Lev	vel of Commitment		
Name	Role	Level of Commitment		
Sally Jones, P.G.	Corporate Commitment	As needed		
Ashby McMullan, P.E.	Quality Assurance Manager	As needed		
Brad White	Project Manager	2-4 hours/week		
Steve Mauch	Air Quality Technical Manager	As needed		
Donald Farkas	Repair Technician	As needed		
Ben White	Technical Specialist	As needed		
Mike Gatewood	Technical Specialist	As needed		
Karen O'Neal	Primary Operator	2-3 days per week when scheduled		
Christobal Carrasco	Primary Operator	2-3 days per week when scheduled		

#### 5.3 STAFF WORK HISTORY AND QUALIFICATIONS

WESTON is pleased to provide detailed resumes for our key personnel in **Attachment A**. These resumes demonstrate the relevant experience each of our key team members possess to provide the SOW services.

CAPCOG recently rated our service under the current contract, and summarized as follows:

"Over the entire contract, CAPCOG would give WESTON a grade of "A." CAPCOG is satisfied with WESTON's work, and WESTON met all contractual expectations with clear communication". The team we have proposed for this contract has the best experience in the region for monitoring, maintaining, and repairing ambient monitoring equipment, including direct and relevant experience with both monitoring and maintaining monitoring stations. WESTON is confident that this team will exceed CAPCOG's expectations and will uphold our reputation for quality and responsiveness.

WESTON has a positive reputation with TCEQ, has a

long history of performing projects in Texas, and has an exceptional track record of the successful submittal of reports to TCEQ. WESTON performs projects the right way, with a commitment to safety, quality, and the environment. WESTON is proud of our 60-year history of backing this commitment.

WESTON is currently using the TCEQ's LEADS system on CAMS stations we are operating for TCEQ in Laredo, Waco, and Midland, and for CPS Energy and AACOG in San Antonio. Brad White, Ben White, and Mike Gatewood are highly skilled at applying and troubleshooting of LEADS. Additionally, Karen O'Neal and Christobal Carrasco are also experienced with routine use of the system.



**Sally Jones, P.G.** is a Senior Vice President with WESTON and will provide the Corporate Commitment needed to execute this contract. In this role, she will be responsible for assuring that all of WESTON resources are available and all the operational expectations are met or exceeded.

Ashby McMullan, P.E. will serve as WESTON'S QA Manager and will be the point-of-contact for contract-related issues. He is a licensed Professional Engineer in the State of Texas (No. 83501) with 28 years of environmental management experience in Texas. As QA Manager, Mr. McMullan will have overall responsibility for service to CAPCOG and will ensure that WESTON maintains a complete and effective project team and is in compliance with the contract and programmatic requirements. He has experience as a QA Manager for a variety of consulting and remediation programs and his recent program management experience includes the TCEQ Laredo, Waco and Midland CAMS contracts, the TCEQ Assessment, Investigation and Remediation Services (AIRS) Contract, the Dry Cleaner Site Activities (DCSA) Contract, and the Alamo Area Council of Governments CAMS Contract.

**Brad White** is proposed as WESTON's Project Manager and CAPCOG's primary project point-of-contact. He has more than 16 years of experience in the ambient air quality arena, specializing in PM<sub>2.5</sub>, PM<sub>10</sub>, total suspended particulates (TSP), PUF, portable sampling unit (PSU) sampling, as well as Continuous Air monitoring for O<sub>3</sub>, CO, NOX, NO<sub>2</sub>, NO, SO<sub>2</sub>, and VOC Canister Sampling. He has worked on TCEQ CAMS contracts including Laredo, Midland and Waco where the sites had meteorological towers with wind speed, wind direction, and ambient temperature, and he has performed all PMI Manual maintenance, LCCs, calibrations, and verifications on station equipment. He has worked on TCEQ CAMS contracts including Laredo, Midland, and Waco where the sites had meteorological towers with wind direction, and ambient temperature all PMI Manual maintenance, LCCs, calibrations, and verifications on station equipment. He has worked on TCEQ can ambient temperature, and he has performed all PMI Manual maintenance, LCCs, calibrations, and verifications on station equipment. He also has extensive experience with the use and troubleshooting of TCEQ's LEADS monitor communication system. Mr. White has worked on contracts for CAPCOG, AACOG, and CPS and has 7 years of experience as the Field Supervisor (contractor) for BIOWATCH, City of Austin. **He is trained in and experienced with the EPA AirNow system and LEAD.** 

**Steve Mauch** is proposed as an Air Quality Technical Manager. Mr. Mauch has 33 years of professional experience delivering air quality (including ambient air monitoring, meteorological monitoring, and deposition measurements) services. He is an expert in the design and operation of meteorological systems and CAMS, including real-time data acquisition and processing; in the automation of data collection using electronic data loggers and communications; and in creating customized processing programs for binary files, text files, and continuous RS-232 data streams from instruments. Mr. Mauch specializes in developing spreadsheets, databases, and computer programs for automating data processing, display, and analysis.

Mr. Mauch will provide independent reviews of audits, verification reports, calibration reports, and/or LCC reports prior to submittal of these documents to CAPCOG as required. He will also assist with technical expertise to troubleshoot problems or to assist CAPCOG with monitoring for other compounds.

Ben White and Mike Gatewood will serve as Ambient Air Monitoring Technical Specialists. They are both trained in and experienced with the EPA AirNow system and LEAD.

Mr. White has over 20 years of experience operating and maintaining CAMS in Central Texas. With his former company, he was responsible for stations operated by several state and local government agencies, universities, and Native American reservations. He is familiar with state-of-the-art instrumentation used to monitor pollutants, including ozone, H<sub>2</sub>S, O<sub>3</sub>, CO, SO<sub>2</sub>, NO, NO<sub>2</sub>, NOx, PM, and all meteorological parameters. Mr. White verified that daily station information was transmitted to TCEQ in the LEADS system.

Mr. Mike Gatewood has over 40 years of experience operating and maintaining CAMS around Texas. He is familiar with state-of-the-art instrumentation used to monitor pollutants, including ozone, H<sub>2</sub>S, O<sub>3</sub>, CO, SO<sub>2</sub>, NO, NO<sub>2</sub>, NOx, PM, and all meteorological parameters.



Mr. White and Mr. Gatewood will help with new equipment installations, 45-day maintenance tasks (LCCs), and more complex equipment repairs, as applicable. They will provide CAPCOG CAMS-specific training to the operators to promote their autonomous O&M of these systems. They, with assistance from the operators, will also perform audits, verifications, calibrations, and LCCs.

**Donald Farkas** will serve as the Instrument Repair Technician for this contract. Mr. Farkas has over 10 years of experience operating air quality measurement instruments and works as one of our instrument maintenance and repair technicians.

Karen O'Neal and Christobal Carrasco will serve as Primary Operators on this contract. They are both working on the current CAPCOG contract as well as TCEQ CAMS sites and are trained in and experienced with the EPA AirNow system and LEAD.

Ms. O'Neal has more than 8 years of experience and has worked on CAMS where the sites had meteorological towers that monitored wind speed, wind direction, and ambient temperature. She has also performed all PMI, manual maintenance, calibrations, and verifications on ambient air monitoring equipment. She is trained in data validation using TCEQ's manual validation system and is very knowledgeable in pulling data from LEADS for completing reports for our clients.

Mr. Carrasco has 8 years of experience performing data acquisition, calibrations, and field testing. He has 5 years of experience with preventive maintenance, operating, maintaining, and technical troubleshooting air monitoring instrumentation including ambient air and continuous and non-continuous instrumentation air monitoring equipment. Mr. Carrasco will make routine visits to the station for system operation, as well as provide maintenance on the required scheduled and unscheduled system repairs.

#### 5.4 OTHER QUALIFIED STAFF

WESTON maintains a regional equipment store (RES) Warehouse team, which provides fully outfitted mobile emissions testing laboratories that support projects throughout the United States. This staff and equipment are available for CAPCOG's work to supplement our Central Texas operators, if needed. All equipment necessary to support CAPCOG equipment is stored and maintained in the WESTON RES warehouse. The warehouse is maintained by a warehouse manager who has extensive knowledge and training in analyzer and air monitoring system maintenance and repair, allowing for a preventative rather than reactive approach to equipment malfunctions.

Additionally, WESTON'S IAS team maintains a staff of approximately 50 people and 16 mobile laboratories at our Alabama and Pennsylvania warehouses. These resources and our expertise can be drawn upon as needed to support large scopes of work or complex issues.

WESTON's IAS Team has trained staff and maintains a comprehensive inventory of ambient air sampling and meteorological monitoring equipment necessary to provide ambient air quality and meteorological monitoring services, including continuous air quality monitoring stations, comprehensive community exposure assessments, fence-line monitoring programs, wind energy studies, and emergency response (ER) ambient monitoring in WESTON's local RES facilities.

A dedicated WESTON reporting team works to ensure that reports are tracked, prepared, and delivered on time. The reporting team is available to our customers to assist with solving issues or answering questions that our customers may have, and to ensure responsiveness to our clients.





## 6. **REFERENCES**

The references provided below can speak directly about WESTON's ability to complete the same type of ambient air quality monitoring service as those identified in the RFP.

Texas Commission on Environmental Quality (TCEQ) – P.O. Box 13087, Austin, TX 78711 Point of Contact: Romeo Rubiano; (512) 239-6364; romeo.rubiano@tceq.texas.gov

*Project Description:* WESTON is operating 12 CAMS for TCEQ that include  $O_3$ , CO trace level analyzers, VOC Canister Samplers, Wedding PM<sub>10</sub> and TSP samplers, and TEOM PM<sub>2.5</sub>. The sites also have meteorological towers with wind speed, wind direction, and ambient temperature. WESTON is also performing all PMI LCC, calibrations, and verifications on station equipment. The data is transmitted to TCEQ using the LEADS system.



**CPS Energy -** P.O. Box 1771, San Antonio, TX 78247 **Point of Contact:** Thomas Brotherman; (210) 353-3924; tmbrotherman@cpsenergy.com

*Project Description:* Mr. White managed CPS Energy's ambient air monitoring stations from 2007 to 2017 prior to his employment with WESTON. In addition, WESTON currently holds a 5-year ambient air monitoring contract with CPS Energy. Under this contract, WESTON is performing O&M of CPS Energy's eight CAMS, including ozone-season operations. This contract includes daily operation; data validation; routine calibration, preventative maintenance, and repairs; security monitoring; grounds maintenance; and reporting.

Alamo Area Council of Governments (AACOG) – 8700 Tesoro Dr., Suite 160, San Antonio, TX 78217 Point of Contact: Lyle Hufstetler; (210) 362-5225; <u>LHufstetler@aacog.com</u>

*Project Description:* WESTON has a new contract with AACOG to operate four existing CAMS and two new CAMS. For the existing CAMS, WESTON added meteorological towers and NOx monitors. We began operation of the existing stations and the new instruments in 2020. We installed equipment for a new station in April 2021. We installed a second station (August 2021) that provides meteorological data and monitors NOx, sulfur dioxide (SO<sub>2</sub>), and VOCs using a PerkinElmer AutoGC system.

P.H. Glatfelter Company - 228 South Main Street, Spring Grove, PA 17362 Point of Contact: Bradley Martin; (717) 225-4711 Ext. 2685; <u>Bradley.Martin@glatfelter.com</u>

*Project Description:* WESTON is currently performing a long term ambient SO<sub>2</sub> monitoring program for P.H. Glatfelter Company. The data is entered into the EPA system through PADEP (Pennsylvania).



# 7. ATTACHMENTS (REQUIRED CERTIFICATION FORMS)

The required certification forms and insurance information requested in the CACOG RFP, have been provided as Attachment B.

The required certification forms include:

- Certification of Compliance with Small, Disadvantaged, Minority, Women-Owned, and Historically Underutilized Business Policy
- Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion for Lower-Tier Covered Transactions
- Certification Regarding Lobbying
- Conflict of Interest Questionnaire
- Form 1295 Certificate of Interested Parties

WESTON's insurance certificates are included as Attachment C.





WESTON's budget is provided as an independent Excel spreadsheet file and is attached to our electronic submittal per the RFP requirement.

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 690 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1604 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1612 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1613 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1619 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1620 Set-Up	\$750.00	Seasons	1	February	\$750.00
CAMS 1675 Set-Up	\$750.00	Seasons	1	February	\$750.00
Total for Set-Ups	n/a	n/a	n/a	n/a	\$6,000.00

#### Budget for Subtask 1.1: Ozone Monitoring Site Set-Ups

#### Budget for Subtask 1.2: Ozone Monitoring Site Maintenance

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 690 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1604 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1612 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1613 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1619 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1620 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
CAMS 1675 Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
Total for Site Maintenance	n/a	n/a	n/a	n/a	\$32,300.00

# Budget for Subtask 1.3: Ozone Monitoring Monthly Calibrations

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 690 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1604 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1612 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1613 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1619 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1620 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
CAMS 1675 Calibrations	\$290.00	Months	8	Mar. 1 – Oct. 31	\$2,320.00
Total for Site Calibrations	n/a	n/a	n/a	n/a	\$18,560.00

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 690 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1604 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1612 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1613 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1619 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1620 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
CAMS 1675 Data Validations	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
Total for Data Validation	n/a	n/a	n/a	n/a	\$10,200.00

#### Budget for Subtask 1.4: Ozone Monitoring Data Validation

#### Budget for Subtask 1.5: Ozone Monitoring Site Shut Downs

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 690 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1604 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1612 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1613 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1619 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1620 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
CAMS 1675 Shut Down	\$915.00	Seasons	1	Nov. 16 – Nov. 30	\$915.00
Total for Shut Downs	n/a	n/a	n/a	n/a	\$7,320.00

# Budget for Subtask 1.6: Monthly Ozone Monitoring Reports

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
2022 Monthly Reports	\$680.00	Report	10	March – December	\$6,800.00
Total for Reports	n/a	n/a	n/a	n/a	\$6,800.00

#### **Budget for Subtask 1.7: Operational Contingencies**

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
				February –	
Labor Contingencies	\$0.00	Hours	TBD	December	\$0.00
				February –	
Travel Contingencies	\$0.00	Miles	TBD	December	\$0.00
				February –	
Supply Contingencies	\$3,300.00	TBD	TBD	December	\$3,300.00
Total for Contingencies	n/a	n/a	n/a	n/a	\$3,300.00

#### Task 1: Ozone Monitoring Total

Subtask	Total Cost
Subtask 1.1: Ozone Monitoring Site Set-Ups	\$6,000.00
Subtask 1.2: Ozone Monitoring Site Maintenance	\$32,300.00
Subtask 1.1: Ozone Monitoring Monthly Calibrations	\$18,560.00
Subtask 1.4: Ozone Monitoring Data Validation	\$10,200.00
Subtask 1.5: Ozone Monitoring Site Shut Downs	\$7,320.00
Subtask 1.6: Monthly Ozone Monitoring Reports	\$6,800.00
Subtask 1.7: Operational Contingencies	\$3,300.00
TASK 1: OZONE MONITORING TOTAL	\$84,480.00

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 690 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1604 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1612 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1613 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1619 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1620 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
CAMS 1675 PurpleAir Check	\$45.00	Months	8.5	Mar. 1 – Nov. 15	\$382.50
Total for Site PurpleAir Check	n/a	n/a	n/a	n/a	\$3,060.00

#### Budget for Task 2: Ensuring the Reporting of the PurpleAir PM2.5 Sensors

#### Budget for Contingency Task 3: Establishing New Ozone Monitoring Stations

Budget for Task 3, One-Time Costs: Site Set-Up of a New Ozone Monitoring Station

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
Full New Ozone Site Set-Up	\$4,200.00	Seasons	1	TBD by CAPCOG	\$4,200.00
Total for Task 3 One-Time Costs	n/a	n/a	n/a	n/a	\$4,200.00

#### Budget for Task 3, Recurring Costs: Subtasks 1.1 - 1.5

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
Task 1.1: Site Set-Up	\$750.00	Seasons	1	February	\$750.00
Task 1.2: Maintenance	\$475.00	Months	8.5	Mar. 1 – Nov. 15	\$4,037.50
Task 1.1: Calibrations	\$285.00	Months	8	Mar. 1 – Oct. 31	\$2,280.00
Task 1.4: Data Validation	\$150.00	Months	8.5	Mar. 1 – Nov. 15	\$1,275.00
Task 1.5: Site Shut-Downs	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
Total for Task 3 Recurring Costs	n/a	n/a	n/a	n/a	\$9,242.50

Task 3 Budget Summary

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
Total for Task 3 One-Time Costs	n/a	n/a	n/a	n/a	\$4,200.00
Total for Task 3 Recurring Costs	n/a	n/a	n/a	n/a	\$9,242.50
Total for Task 3 All Costs	n/a	n/a	n/a	n/a	\$13,442.50

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
CAMS 614 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 690 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1604 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1612 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1613 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1619 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1620 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
CAMS 1675 Decommission	\$900.00	Seasons	1	Nov. 16 – Nov. 30	\$900.00
Total for Decommissions	n/a	n/a	n/a	n/a	\$7,200.00

#### Budget for Contingency Task 4: Site Decommissioning

#### Budget for Contingency Task 5: Installation and Maintenance of a PM2.5 Monitor

Budget for Task 5, One-Time Costs: Installation of a New PM2.5 Monitor

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
New PM2.5 Monitor Install and Set-Up	\$6,010.00	Seasons	1	TBD by CAPCOG	\$6,010.00
Total for Task 5 One-Time Costs	n/a	n/a	n/a	n/a	\$6,010.00

Budget for Task 5, Recurring Costs for PM2.5 Monitor Maintenance and Data Validation

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
PM2.5 Monitor Maintenance	\$64.00	Months	8.5	Mar. 1 – Nov. 15	\$544.00
PM2.5 Monitor Calibrations	\$64.00	Months	8	Mar. 1 – Oct. 31	\$512.00
PM2.5 Data Validation	\$64.00	Months	8.5	Mar. 1 – Nov. 15	\$544.00
PM2.5 Monitor Shut-Down	\$256.00	Seasons	1	Nov. 16 – Nov. 30	\$256.00
Total for Task 5 Recurring Costs	n/a	n/a	n/a	n/a	\$1,856.00

Task 5 Budget Summary

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
Total for Task 5 One-Time Costs	n/a	n/a	n/a	n/a	\$6,010.00
Total for Task 5 Recurring Costs	n/a	n/a	n/a	n/a	\$1,856.00
Total for Task 5 All Costs	n/a	n/a	n/a	n/a	\$7,866.00

#### Budget for Contingency Task 6: Installation and Maintenance of a NOX Monitor

Budget for Task 6, One-Time Costs: Installation of a New NOX Monitor

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
New NOX Monitor Install and Set-Up	\$6,010.00	Seasons	1	TBD by CAPCOG	\$6,010.00
Total for Task 6 One-Time Costs	n/a	n/a	n/a	n/a	\$6,010.00

Budget for Task 6, Recurring Costs for NOX Monitor Maintenance and Data Validation

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
NOX Monitor Maintenance	\$64.00	Months	8.5	Mar. 1 – Nov. 15	\$544.00
NOX Monitor Calibrations	\$64.00	Months	8	Mar. 1 – Oct. 31	\$512.00
NOX Data Validation	\$64.00	Months	8.5	Mar. 1 – Nov. 15	\$544.00
NOX Monitor Shut-Down	\$256.00	Seasons	1	Nov. 16 – Nov. 30	\$256.00
Total for Task 6 Recurring Costs	n/a	n/a	n/a	n/a	\$1,856.00

Task 6 Budget Summary

Description	Per-Unit Cost	Units	Quantity	Period (2022)	Total Cost
Total for Task 6 One-Time Costs	n/a	n/a	n/a	n/a	\$6,010.00
Total for Task 6 Recurring Costs	n/a	n/a	n/a	n/a	\$1,856.00
Total for Task 6 All Costs	n/a	n/a	n/a	n/a	\$7,866.00

#### Budget Summary by Task for Tasks 1 – 2

Task	Total Cost
Task 1: Operation and Maintenance of O3 and Meteorological Stations	\$84,480.00
Task 2: Ensuring the Reporting of the PurpleAir PM2.5 Sensors	\$3,060.00
CONTRACT TOTAL FOR TASKS 1-2	\$87,540.00

#### Budget Summary by Task for Contingency Tasks 3-6

Task	Total Cost
Task 3: Establishing New Ozone Monitoring Stations	\$13,442.50
Task 4: Site Decommissions	\$7,200.00
Task 5: Installation and Maintenance of a PM2.5 Monitor	\$7,866.00
Task 6: Installation and Maintenance of a NOX Monitor	\$7,866.00
CONTRACT TOTAL FOR CONTINGENCY TASKS 3-6	\$36,374.50



ATTACHMENT A

### RESUMES



Personnel Name:	Project Role:
Sally Jones, P.G., Senior VP	Corporate Commitment
Education	Credentials
M.B.A., Business Administration; M.S., Geology; B.S., Geology	<b>Registrations:</b> Professional Geologist (PG), PA (#PG-002364-G), NY (#001005)
	<b>Training:</b> 40-Hour Hazardous Waste Site Training Course, OSHA 29 CFR 1910.120(e)(3); 8-Hour Hazardous Waste Refresher Course, OSHA 29 CFR 1910.120(e)(8)

Ms. Jones has over 30 years of experience conducting site assessments, regulatory compliance audits, facility records review, historical background searches, soil and groundwater investigations, remediation, liability assessments, and negotiation support. As Senior Vice President, she is in charge of operational oversight of all commercial, state, and local governmental client operations for the entire Eastern United States. She mentors and oversees program and project staff and ensures the sufficient allocation of resources for client satisfaction and project execution.

#### **PROJECT EXPERIENCE**

In her role as Corporate Sponsor, Ms. Jones will:

- 1. Engage the client team frequently to verify performance
- 2. Gain an in-depth understanding of the client's needs and expectations over the course of the contract or project
- 3. Take corrective action, as needed, such as diversifying or improving our team, improving quality processes, and engaging technical expertise within or outside of WESTON to enhance our team
- 4. Ensure that the WESTON team remains consistent and available
- 5. Become personally involved in any significant contract challenge to ensure that a satisfactory resolution is achieved

Ms. Jones has recently served in this capacity for the following clients and contracts:

- Port Authority of NY and NJ Call-In Contract for Environmental and Engineering Services
- Confidential NJ Utility Client Master Services Contracts Manufactured Gas Plant, Solar, Licensed Site Remediation Professional (LSRP) Services
- The City of New York Department of Sanitation (DSNY) Post-Closure Support Services for Fresh Kills Landfill
- NYC Department of Design and Construction (NYCDDC) Environmental Remediation Services
- City of Newark Environmental and Engineering Services relating to remediation and redevelopment of Brownfield sites
- Superior Court of NJ/NJ Department of Environmental Protection (NJDEP) Regulatory Expert support and Oversight of the remediation of 20 chromium sites
- U.S. Army Corps of Engineers (USACE) Remediation of the Former Raritan Arsenal and Atlantic City Formerly Used Defense Site (FUDS)
- Several long-term industrial clients



Personnel Name:	Project Role:
Ashby McMullan, P.E., CAPM	Quality Assurance Manager
Education	Credentials
M.B.A., Finance; B.S., Petroleum Engineering	<b>Registrations:</b> Professional Engineer (P.E.) (No. 83501), TX; Corrective Action Project Manager (CAPM) (No. 1599), TX

Ashby McMullan is a licensed Professional Engineer in the State of Texas (No. 83501) with over 25 years of environmental management experience in Texas. He has experience as a QA Manager for a variety of consulting and remediation programs, and his recent program management experience includes CAPCOG's current Ambient Air Management Contract, AACOG Ambient and Meteorological Monitoring Contract, TCEQ Laredo, Midland, and Waco CAMS; the TCEQ Assessment, Investigation and Remediation Services (AIRS) Contract; the Dry Cleaner Site Activities (DCSA) Contract; and the City of San Antonio (COSA) Environmental Consulting Contract.

#### **PROJECT EXPERIENCE**

Ambient Air Quality Monitoring, Austin, TX, CAPCOG, QA Manager. Providing contract management and senior oversight of WESTON's team as they perform daily O&M of ozone stations colocated with meteorological towers that monitor wind speed, wind direction, and ambient temperature. Mr. McMullan works to ensure our team's services exceed CAPCOG's expectations for data quality and uptime.

**Midland CAMS, Midland, TX, TCEQ, QA Manager.** WESTON started up three new CAMS in Region 7 Midland, Texas. Operations include H<sub>2</sub>S and SO<sub>2</sub> analyzers, VOC canister samplers. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature. Mr. McMullan is managing the project team to ensure WESTON starts these stations up on schedule, meeting service requirements for monitoring, maintenance, and data quality.

**Operation of Waco Area CAMS, Waco, TX, TCEQ, QA Manager.** Provides quality management for project that includes operating three CAMS in the Waco area, including O<sub>3</sub>, SO<sub>2</sub>, CO analyzers, various calibrators, full meteorological towers, and TEOM 1405a PM<sub>2.5</sub> instruments. All sites are using SUTRON data loggers. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature. WESTON has been performing all PMIs, LCCs, calibrations, and verifications to station equipment in a timely fashion, in accordance with the contract schedule. Data capture has averaged close to 100%, with data loss primarily attributable to instrumentation being placed into P-code and Q-code for demonstration and training purposes, as well as calibrations and verifications. Mr. White leads a team of knowledgeable and experienced field staff facilitate quick responses to client requests, as well as troubleshoot and provide quick mitigation of maintenance issues.

Alamo Area CAMS, San Antonio, TX, AACOG, QA Manager. WESTON has a new contract with AACOG to operate four existing CAMS and to start up two new CAMS. For the existing CAMS, are collecting data and we added meteorological towers and NOx monitors. The two new stations include met and NOx data, and one of the new stations also monitor SO<sub>2</sub> and VOCs with an auto-GC system. Mr. McMullan oversees the team to ensure schedule commitments are met, and that data meets quality objectives.

Laredo CAMS, Various Locations, TX, TCEQ, QA Manager. WESTON is operating three CAMS for TCEQ (Laredo Vidaurri [C44], Laredo Bridge [C66], and World Trade Bridge [C313]) in Laredo, Texas.



The sites also have meteorological towers. Mr. McMullan oversees the project team to ensure WESTON meets and exceeds client expectations for service delivery (monitoring and maintenance, data delivery, and contract requirements).

**Dry Cleaner Remediation Program (DCRP) Site Activities Contract, Statewide, TCEQ, QA Manager.** Responsible for client service management of indefinite quantity contract for site assessment of dry cleaner facilities in the TCEQ DCRP. Scope includes receptor surveys, Phase II Environmental Site Assessments (ESAs), Texas Risk Reduction Program reporting, and contaminated soil removals. Currently working on more than 25 sites, primarily in Houston and Dallas. Serves as initial point of contact for client. Develops scope and cost proposals, monitors schedule of field work and deliverables, provides QA of reports, and ensures client objectives are met. Work includes closure of the first four properties for TCEQ under the DCRP.

**Superfund Assessment, Investigation and Remediation Services (AIRS) Contract, TCEQ, Program Manager/QA Manager.** WESTON holds a task order contract for investigation and remediation services for the Texas state Superfund Program. Mr. McMullan serves as the Program Manager for the contract, developing scope, reviewing proposals and deliverables, and confirming client satisfaction. All work is performed under TCEQ's program QAPP, which conforms to EPA Region 6 standards for CERCLA. Recent projects include the Dona Park Neighborhood Removal Action that included establishing and operating a real-time ambient air monitoring system, to ensure the neighborhood was not affected by the remediation of an adjacent industrial facility. As QA Manager, provided QA review of deliverables.

**Brownfields Site Assessment Contract, Houston, TX, City of Houston (COH), QA Manager.** Responsible for client service management for indefinite quantity contract for environmental assessment of properties in the COH's Brownfields Remediation Program. Scope includes Phase I and Phase II ESAs. Scope also includes compliance and closure under the TRRP and remediation planning. The Brownfields Program operates under grant funding EPA, through both petroleum and hazardous substances grants. WESTON prepared a program QAPP for use with all projects, streamlining the EPA Work Plan review/approval process. Completed assessments on over 20 properties, including a major economic development project east of downtown Houston encompassing six city blocks. Serves as initial point of contact for COH, develops scope and cost proposals, monitors schedule and provides QA review of all deliverables.

**Environmental Services Contract, General Services Department, COH, Client Service Manager** (CSM). WESTON holds an environmental consulting services contract with COH, providing services including asbestos-containing material (ACM) investigations, Phase I and Phase II ESAs, TRRP and LPST report preparation, response action plans (RAPs), preparation of plans and specifications, and construction oversight. Mr. McMullan has served as a PM and CSM for the City's contracts for over 8 years; evaluating low-cost alternatives for compliance, developing scope, monitoring schedule and budget, and reviewing deliverables. Projects have included the closure of an LPST release at Mandell Park, site assessment at San Felipe Park, a Phase I and Phase II ESA at the Municipal Court Building, and many others.

Various Texas Locations, Texas Department of Transportation (TxDOT), Contract Manager. Responsible for client service management for indefinite quantity contract for environmental investigation, engineering, and removal services for TxDOT right-of-way and maintenance facility projects. Primary scope consists of site investigation (SI); construction monitoring; contaminated soil and groundwater management; UST assessment, removal, and closure; and risk-based assessment and closure of contaminated properties under TRRP. Develops scope, manages work authorizations, ensures schedules are met, and provides QA. Completed assignments on more than 25 projects.



Personnel Name:	Project Role:		
Brad White	Project Manager		
Education	Credentials		
B.A., General Studies	<ul> <li>Registrations: Hazardous Materials Technician/Specialist, OSHA; USCG Boat Captain's License (No. USA000342468); Transportation Workers Identification Credential (TWIC), Transportation Security Administration</li> <li>Training: 40-Hour Hazardous Waste Site Training Course, OSHA 29 CFR 1910.120(e)(3); 8-Hour Managers and Supervisors Course, OSHA 29 CFR 1910.120(e)(4); 8-Hour Hazardous Waste Refresher Course, OSHA 29 CFR 1910.120(e)(8); 10-Hour Construction Training Course; MET ONE BAM 1022, TCEQ; TCEQ FOSTAT 044 Total Suspended Particulate High Volume, TCEQ; TCEQ FOSTAT 012 Entech 1800 Canister Sampler (VOC), TCEQ; TCEQ FOSTAT 043 PM 10 High Volume Samplers, TCEQ; TCEQ FOSTAT 010 TEOM Particulate Sampler, TCEQ</li> <li>Associations: Air and Waste Management Association (Gulf Coast Chapter)</li> </ul>		

**Brad White** has over 16 years of management and technical experience in the ambient air quality arena, specializing in PM<sub>2.5</sub>, PM<sub>10</sub>, PUF, TSP, PSU sampling, as well as continuous air monitoring for O<sub>3</sub>, CO, H<sub>2</sub>S, NO<sub>x</sub>, NO<sub>2</sub>, NO, SO<sub>2</sub>, and VOC canister sampling. He is currently managing and providing technical expertise as team lead on CAPCOG, AACOG, CPS Energy, and TCEQ CAMS contracts including Laredo, Midland, and Waco. He is also providing technical support on TCEQ CAMS contracts, including Laredo and Midland's new monitoring sites where the sites have meteorological towers that monitor for wind speed, wind direction, and ambient temperature, and he has successfully performed all PMI manual maintenance, LCCs, calibrations, and verifications on station equipment. He also has extensive experience with the use and troubleshooting of TCEQ's LEADS monitor communication system. Mr. White also has 7 years of experience as the Field Supervisor (contractor) for BioWatch, City of Austin.

## **PROJECT EXPERIENCE**

Ambient Air Quality Monitoring, Austin, TX, CAPCOG, Project Manager. Operates and performs oversight of other employees as they performed daily O&M of ozone stations colocated with meteorological towers that monitor wind speed, wind direction, and ambient temperature.

Ambient Air Quality Monitoring/Ozone Station O&M, San Antonio, TX, AACOG, Project Manager. Performs daily O&M of ozone stations colocated with meteorological towers equipped with wind speed, wind direction, and ambient temperature.

**Midland/Odessa CAMS, Midland, TX, TCEQ, Project Manager.** Currently oversees field activities at two new CAMS in Region 7 Midland, Texas. Operations include H<sub>2</sub>S and SO<sub>2</sub> analyzers and VOC Canister Samplers. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature. Ensures high performance on all PMIs, LCCs, calibrations, quarterly audits, and verifications on station equipment. He also makes sure that TCEQ receives the site PMI Tracker monthly.

**Laredo CAMS, Laredo, TX, TCEQ, Ambient Air Quality Project Manager/Technical Specialist.** Currently oversees field activities at three CAMS. Operations include O<sub>3</sub>, CO trace level analyzers, VOC Canister Samplers, Wedding PM<sub>10</sub> and TSP samplers, and Met One BAM 1022 PM<sub>2.5</sub>. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature. Ensures high performance on all PMIs, LCCs, calibrations, quarterly audits, and verifications on station equipment.



**Operation of Waco Area CAMS, Waco, TX, TCEQ, Project Manager.** Currently manages the project that includes operating three CAMS in the Waco area, including O<sub>3</sub>, SO<sub>2</sub>, CO analyzers, various calibrators, full meteorological towers, and TEOM 1405a PM<sub>2.5</sub> instruments. All sites are using SUTRON data loggers. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature. WESTON has been performing all PMIs, LCCs, calibrations, and verifications to station equipment in a timely fashion, in accordance with the contract schedule. Data capture has averaged close to 100%, with data loss primarily attributable to instrumentation being placed into P-code and Q-code for demonstration and training purposes, as well as calibrations and verifications. Mr. White leads a team of knowledgeable and experienced field staff facilitate quick responses to client requests, as well as troubleshoot and provide quick mitigation of maintenance issues.

**Ozone Station O&M, San Antonio, TX, AACOG, Project Manager.** Performed daily O&M of ozone stations colocated with meteorological towers that monitor wind speed, wind direction, and ambient temperature.

Before his employment at WESTON Mr. White worked on the following projects:

Ambient Air Quality Monitoring, Austin, TX, CAPCOG, Field Supervisor. Operated and performed oversight of other employees as they performed daily O&M of ozone stations colocated with meteorological towers equipped with wind speed, wind direction, and ambient temperature.

Ambient Air Quality Monitoring, San Antonio, TX, AACOG, Field Supervisor. Performed daily O&M of ozone stations collocated with meteorological towers that monitor wind speed, wind direction, and ambient temperature.

**Continuous Air Monitoring, Waco, TX, TCEQ, Operator.** Operated a CAMS in Waco, Texas, Operated  $O_3$ , CO trace level,  $SO_2$  trace level, NO,  $NO_2$ ,  $NO_X$  trace level Analyzers, VOC Canister Samplers, and TEOM PM<sub>2.5</sub>. The site also had meteorological towers with wind speed, wind direction, and ambient temperature. Performed all PMI, LCC, calibrations, and verifications on station equipment.

**Continuous Air Monitoring, San Antonio, TX, CPS Energy, Operator.** Operated two CAMS, five PM<sub>2.5</sub>, and TSP sites for CPS Energy, Operated O<sub>3</sub>, CO trace level, SO<sub>2</sub> trace level, NO, NO<sub>2</sub>, NO<sub>X</sub> trace level analyzers, and TEOM PM<sub>2.5</sub>. The site also had meteorological towers with wind speed, wind direction, rain gauge, and ambient temperature. Performed all PMI, LCC, calibrations, and verifications on station equipment.

**CAMS Operations, TX, Project Manager/Field Supervisor.** Monitored and performed preventive maintenance to CAMS, including CO, NO, NO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, and SO<sub>2</sub>; meteorological towers with wind speed, wind direction, and ambient temperature; and PM<sub>-10</sub> and PM<sub>-2.5</sub> (TEOM, BAM, 1022, TSI DustTrak). Performed quarterly and monthly audits/verifications, LCC to Calibration methods. Replaced and/or rebuilt carbon vein pumps for PM<sub>-10</sub> and TSP units.

**Biowatch Field Operations, Austin, TX, TCEQ, Field Supervisor.** Oversaw all Biowatch field operations. Managed coworkers on route collection, collected samples, and turned samples into the state health department for speciation. Set up and maintained sites and established SOPs. Performed all maintenance to PSUs.

Northern California Emergency Fire Response, Windsor, CA, EPA Region 9, Air Monitoring Team Lead. Led WESTON team members in the operation of air monitoring equipment and data collection systems. Teams conducted mobile air monitoring. Teams collected data on  $PM_{10}$ ,  $PM_{2.5}$ , and TSP associated with the ash from the wildfires.



Personnel Name:	Project Role:			
Steve Mauch	Air Quality Technical Manager			
Education	Credentials			
B.S., Atmospheric Science	<b>Training:</b> Emission Testing Practice (ETP) Modular Safety Training; Shipping and Transporting Dangerous Goods – Administrative/Field Personnel; Manual of Procedures for Shipping and Transporting Dangerous Goods Training Course, 49 CFR 172 Subpart H; 40-Hour Hazardous Waste Site Training Course; OSHA 29 CFR 1910.120(e)(3); OSHA 29 CFR 1910.120(e)(4); 8-Hour Hazardous Waste Refresher Course, OSHA 29 CFR 1910.120(e)(8)			

**Steve Mauch** has more than 31 years of professional experience delivering ambient air monitoring, meteorological monitoring, and deposition measurements services. Mr. Mauch is an expert in the design and operation of meteorological and continuous air monitoring systems, including real-time data acquisition and processing; in the automation of data collection using electronic data loggers and communications; and in creating customized processing programs for binary files, text files, and continuous RS-232 data streams from instruments. Mr. Mauch specializes in developing spreadsheets, databases, and computer programs for automating data processing, display, and analysis.

## **PROJECT EXPERIENCE**

Air Monitoring Projects, Laredo CAMS, TX, TCEQ, Technical Specialist. Provided technical assistance and data analysis at system startup.

**Real-Time Local Air Monitoring System, Corpus Christi, TX, TCEQ, Technical Leader/Project Scientist.** Designed and implemented a real-time air monitoring data telemetry system and Web pages to support agency oversight during the demolition of a former zinc smelting facility adjacent to the Dona Park neighborhood. Air monitoring network consisted of two -EBAM-1020 and three E-BAM monitors for PM<sub>10</sub> and PM<sub>2.5</sub>. Data from the monitors were used to generate real-time e-mail alerts of high-concentration events to on-site and agency personnel. A real-time website presented the raw readings from the active monitors and meteorological data, updated every 15 minutes, for viewing by TCEQ and other agencies. A publicly accessible Web page presented the historically reviewed, hourly data from the monitors and was summarized daily. Responsible for programming the data loggers to provide real-time alerts and to average 15-minute TCEQ meteorological data sent directly to the logger by File Transfer Protocol (FTP). Responsible for designing the agency and public Web data displays.

**Sulfur Dioxide Ambient Air Monitoring, Spring Grove, PA, P.H. Glatfelter Co. and Magnesita Refractories Co., Technical Leader/Project Scientist.** Designed and implemented a 3-year ambient air SO<sub>2</sub> monitoring program to fulfill the requirements of the EPA Data Requirements Rule requiring large SO<sub>2</sub> sources to model or monitor local SO<sub>2</sub> levels to help implement the 1-hour SO<sub>2</sub> National Ambient Air Quality Standards. WESTON operates a single station, continuously monitoring SO<sub>2</sub> and meteorology for the clients, under oversight by the PADEP Bureau of Air Quality, Division of Air Quality Monitoring. Prepared a QAPP; implemented a data acquisition system, including automation of daily Level 1 zero/span checks and weekly precision checks; configured system to provide parallel, live raw data access to PADEP. Performed daily data review and validation and prepared quarterly reports to PADEP; validated that hourly and 5-minute data are supplied to PADEP in AQS-ready format for uploading to PADEP's systems.

Real-Time PM<sub>10</sub> Monitoring, Arkansas, Confidential Client Manufacturing Facility, Project Scientist. Programmed network of Campbell Scientific, Inc. data loggers to record data from a network



of three Thermo Scientific TEOM continuous monitors and a meteorological station at a manufacturing facility, including a logger-hosted Web page displaying current conditions. The data logger automatically sends e-mail and text notifications to lists of users whenever  $PM_{10}$  action levels are exceeded or there are equipment issues. Provides daily data review and validation of continuous  $PM_{10}$  and meteorological data. Prepares quarterly data reports.

Ambient Air Monitoring Support, Montgomery Township, NJ, Air Monitoring Technical Lead. Developed ambient air monitoring strategy and plan in support of an asbestos-insulated pipe removal at the redevelopment site. Project required the use of three monitoring stations deployable to new locations each day with shifting work zones and wind directions. Used radio telemetry between stations to determine alarms; alarms were issued in real-time by calling a cellular phone from upwind station. Implemented RespondFast<sup>SM</sup> real-time monitoring database for data management and developed programs and spreadsheet macros to use this database for generating wind roses and daily reports. Developed software tool to visually design daily monitor deployments based on forecasted wind direction in combination with work zone length and orientation.

Local Air Monitoring System, Sun City, AZ, Maricopa County Air Quality Department, RespondFast Real-Time Monitoring System Oversight. Provided support for the installation and operation of a six-station local air monitoring system for PM<sub>2.5</sub> and PM<sub>10</sub>. E-BAM continuous particulate monitors were used. Network was established in the vicinity of several local sand and gravel manufacturing operations in response to local resident air quality concerns. A meteorological station was located at one of the stations. Stations were polled daily by wireless CDMA modems with the data uploaded automatically to a RespondFast real-time monitoring database. Also provided remote support for RespondFast real-time monitoring system and data QA for the course of the project.

General Meteorological Monitoring, Various Locations, Multiple Clients, Project Scientist. Performed meteorological monitoring in support of prevention of significant deterioration permitting and ambient air sampling projects. Types of installations range from short-term tripods to long-term multilevel tall towers (100 meter), and Doppler sonic detection and ranging. Involved in all phases of monitoring, including equipment selection, system design, datalogger programming, installation, auditing, and routine data review and reporting.

**Bridgeport Hydrogen Sulfide Air Monitoring, Bridgeport, IL, EPA Region 5 START, Technical Lead/Project Scientist.** EPA maintained a four-station air-monitoring network to evaluate and document the H<sub>2</sub>S and SO<sub>2</sub> concentrations in the area around Bridgeport, IL. All stations had H<sub>2</sub>S analyzers, and one location was also equipped with a SO<sub>2</sub> analyzer. Designed and implemented an upgrade to existing data collection systems to provide Internet-based real-time data accessibility and e-mail alerts. Installed Campbell Scientific, Inc. data loggers to replace data loggers. Data telemetry was via cellular Internet-enabled modems. Programmed CSI data loggers and integrated data collection into SQL Server-based real-time data management system. Database automatically provided e-mail notifications to multiple stakeholders when threshold concentrations were exceeded. Developed Web pages to provide interactive tabular and chart summaries of data.

**Deepwater Horizon Oil Release Response, Southern Louisiana, EPA Region 6 START, Project Scientist/Technical Leader.** Supported data telemetry and data management for a nine-station network of ambient air monitors and a short-term  $H_2S$  monitor deployed in coastal areas of southeast Louisiana in response to the release. Network included three areas, each with three stations continuously recording ambient  $PM_{10}$  and VOC concentrations using E-BAM and MiniRAE PIDs. Data from each three-station group were telemetered back to the respective local command centers by cellular modems and TCP-IP. Developed real-time displays using Campbell Scientific, Inc. systems to provide readouts remotely at command centers. Developed a program to transfer hourly data retrieved via TCP-IP cellular modem from a continuous ambient  $H_2S$  analyzer to the EPA AirNow system in real-time by FTP.



Personnel Name:	Project Role:
Ben White	Air Monitoring Technical Specialist

Credentials

**Training:** Certificate Ambient Air Training, TCEQ; Monitoring Operations Division Ambient Air Training (at highest level from the TCEQ); Texas Wastewater Operator C Certificate; Continuing Education Courses from Palo Alto, Texas A&M; Engineering Extension, San Antonio Community College, New Horizons Computer Training Centers, EPA - PM<sub>-2.5</sub>.; 40-hour HAZWOPER certification with 8-hour refresher updates; Forklift Certification; Lockout/Tagout; Confined Space training; Basic Industrial Electricity (National Education Schools); Class C Wastewater license; Resource Conservation and Recovery Act (RCRA) awareness training; Coursework toward Microsoft MCSE; A+ Certification; Industrial Safety; Water Utility Calculations

**Memberships/Organizations:** Air & Waste Management Association (A&WMA); South Texas Association of Environmental Professionals (STAEP); Texas Water Utilities Association (TWUA)

**Mr. Ben White** has over 20 years of experience operating and maintaining CAMS in San Antonio and surrounding communities. He is currently operating stations for CPS Energy and AACOG under subcontract to WESTON, as well as sites at universities and Native American reservations. State-of-theart instrumentation is used to monitor pollutants such as ozone, carbon monoxide, sulfur dioxide, nitric oxide, nitrogen dioxide, oxides of nitrogen, particulate matter, and all meteorological parameters. Mr. White has verified that daily station information is transmitted to the TCEQ where it is collected and posted to the agency's website.

As an owner of Dios Dados, Mr. White operated and maintained CAMS for TCEQ, CPS Energy, AACOG, and other Texas agencies from 2003 to 2018. Mr. White has a long working history with ambient air monitoring in Texas, and he is familiar with the instrumentation and communication systems used by TCEQ.

As an employee of Operational Technologies Corporation (OpTech) from September 1997 to April 2003, Mr. White successfully performed project development, design engineering, and site installation for several Air and Water Monitoring projects for various state and local government entities.

## **PROJECT EXPERIENCE**

Mr. White's project experience before working with WESTON:

Air Monitoring Projects, Waco, TX, TCEQ, Project Manager. As an owner of Dios Dados, Mr. White was responsible for all aspects of this project under an earlier contract vehicle. He verified that daily station information was transmitted to TCEQ where it was collected and posted to the agency's website. Oversaw all field activities of operators at the monitoring site. These activities included performing routine PMIs to the installation of replacement TEOMs. Mr. White also performed LCCs on the analyzers at the station and performed monthly and quarterly verifications to the stations' PM<sub>2.5</sub>.

**Air Monitoring Projects, San Antonio, TX, CPS Energy, Project Manager.** As an owner of Dios Dados, Mr. White managed this contract under a previous contract. Mr. White verified that daily station information is transmitted to the TCEQ where it is collected and posted to the agency's website. Operates nine CAMS and five PM<sub>2.5</sub> and TSP sites for CPS Energy. Operated O<sub>3</sub>, CO trace level, SO<sub>2</sub> trace level, NO, NO<sub>2</sub>, NO<sub>x</sub> trace level analyzers, and TEOM PM<sub>2.5</sub>. The sites also have meteorological towers that monitor wind speed, wind direction, precipitation, and ambient temperature. Performed all PMIs, calibrations, and verifications on station equipment. Ensures all third-party audits were scheduled, and all



instrumentation routinely passed without issue. Mr. White also performed the installations for most of the CPS sites still currently operating.

Air Monitoring Projects, San Antonio Area, TX, AACOG, Project Manager. Under an earlier contract, Mr. White verified that daily station information was transmitted to TCEQ where it was collected and posted to the agency's website. Operated eight ozone CAMS. The sites also had meteorological towers that monitored wind speed, wind direction, precipitation, and ambient temperature. Performed all PMIs, 3-point and 5-point manual ozone calibrations, verifications, and station startup calibrations and audits on station equipment. Mr. White also oversaw that monthly reports and data validation were completed in a timely manner monthly.

**Air Monitoring Projects, Austin Area, TX, CAPCOG, Project Manager.** Under an earlier contract, Mr. White verified that daily station information was transmitted to TCEQ where it was collected and posted to the agency's website. Operated eight ozone CAMS. The sites also had meteorological towers that monitored wind speed, wind direction, precipitation, and ambient temperature. Performed all PMIs, 5-point manual ozone calibrations, verifications, and station start-up CALs and audits on station equipment. Mr. White was also responsible for relocating sites as new sites were selected around the greater Austin area. Mr. White also oversaw that monthly reports and data validation were completed in a timely manner monthly.

**Air Monitoring Projects, Laredo CAMS, TX, TCEQ, Project Manager.** Under a previous version of the contract, Mr. White was responsible for all aspects of this project. He verified that daily station information was transmitted to TCEQ where it was collected and posted to the agency's website. Oversaw all field activities of operators at the monitoring site. These activities included making sure all PMIs were performed when due. Mr. White also performed LCCs on the analyzers at the C 44 Laredo Vidaurri and performed monthly and quarterly verifications to the stations PM<sub>2.5</sub> and PM<sub>-108</sub> at C 44, C 66, and C 313. He worked very hard to ensure high data return rates

Air Monitoring Projects, TexAQS II Various Locations, TX, TCEQ, Project Manager. Mr. White built and operated 10 sites around Texas for the TexAQS II Air Quality Study. These sites were equipped with Nephelometers and Trace Gas instrumentation. Mr. White oversaw the installations and operation of these sites at various locations around Texas. Some of these sites were in very remote places such as Guadalupe Mountain State Park and San Saba, Texas. He was able to ensure a high success of data capture during these projects.



Personnel Name:	Project Role:		
Mike Gatewood         Air Monitoring Technical Specialist			
Credentials			

**Training:** 40-Hour Hazardous Waste Site Training Course, OSHA 29 CFR 1910.120(e)(3); OSHA 29 CFR 1910.120(e)(4); 8-Hour Hazardous Waste Refresher Course, OSHA 29 CFR 1910.120(e)(8) currently expired

Memberships/Organizations: Air & Waste Management Association (A&WMA)

**Mr. Mike Gatewood** has over 40 years of experience operating and maintaining CAMS around Texas. He operates and maintains CAMS in Houston and surrounding communities stretching into Central Texas. He is currently operating stations for TCEQ under subcontract to WESTON. He has knowledge and experience with state-of-the-art instrumentation is used to monitor pollutants such as ozone, carbon monoxide, sulfur dioxide, nitric oxide, nitrogen dioxide, oxides of nitrogen, particulate matter, and all meteorological parameters. Mr. Gatewood has verified that daily station information is transmitted to TCEQ where it is collected and posted to the agency's website.

Mr. Gatewood has provided operational and maintenance support for air quality and met programs and has performed advanced instrument repair to the component level on ambient air monitoring equipment at TCEQ. Mr. Gatewood worked at The Texas Commission on Environmental Quality for over 20 years. While at TCEQ he provided technical operations, repairs and maintenance and served as the lead technician and trainer of complex ambient air monitoring equipment in Region 12, Houston, TX. Provided operation and maintenance of continuous ambient air monitoring equipment for criteria, PM (Particulate Matter), Gas Chromatography, upper air using Vaisala Lap-3000 Wind Profiler along with Graph XM software, Vaisala CL31 Ceilometer and other monitoring associated instrumentation.

Along with overseeing the placement and startup of new stations in the region, Mr. Gatewood assisted with contracts and contractors on the requirements of the new sites. He also assisted the team leaders in planning and budgeting for the operations of the local PAMS network. He reviewed technical data reports, siting criteria, QA/QC, and other highly complex reports. He presented information on the ambient monitoring program to technical and nontechnical public regulated community and TCEQ staff along with facilitating continuous air monitoring station site tours. He also served as the technical specialist for TCEQ's Sunset Commission review at the regional level. He served on training committees and as a trainer for numerous types of instrumentation in Austin for the states Ambient Air Monitoring Training Program. He also served as the Co-chair and Chair of the Ambient Air Monitoring Committee.

## **PROJECT EXPERIENCE**

Waco-Area Continuous Air Monitoring Services, Waco, TX, TCEQ, Air Monitoring Technical Specialist/Operator. Responsible for loading sampling media; collecting samples; troubleshooting; and performing verifications and calibrations, preventive maintenance, and site maintenance for Waco CAMS. All work completed in accordance with applicable SOPs and associated guidance/checklists.

**Midland/Odessa CAMS, Midland, TX, TCEQ, Technician/Operator.** Operations include H<sub>2</sub>S and SO<sub>2</sub> analyzers and VOC Canister Samplers. The sites also have meteorological towers that monitor wind speed, wind direction, and ambient temperature.

Mr. Gatewood's project experience before working with WESTON:

Air Quality and Meteorological Programs, Various Locations throughout Texas, Houston Multiple Clients in Regional Monitoring (HRM) Program, Air Monitoring Technical Specialist (Employed



**by Radian).** Provided operational, calibration and maintenance support for air quality and met programs. Along with the HRM program, supported Standard Oil Chemical, Cypress Minerals, Enron Corporation, Multitrade, Exxon VOC study, TACB Radsonde/LAP 3000 study and the TACB Surface Monitoring for the COAST program. Performed upper air LAP 3000 sampling along with weather balloon releases on an offshore platform in the Gulf of Mexico. Many of these studies utilized Mr. Gatewood's knowledge of inhalable particulate monitoring, gas chromatography, upper air monitoring and modeling, toxic pollutant monitoring with charcoal tubes, and canister sampling. Prepared and operated particulate samplers to access dioxin contamination at an EPA Superfund site in the Houston area. Also assisted in the design and implementation of HRM's Emergency Accidental Release system and VOC sampling system.

Air Quality and Meteorological Programs, Various Locations throughout Texas, Multiple Clients in HRM Program, Air Monitoring Technical Specialist (Employed by Radian). Provided operational, calibration, and maintenance support for air quality and met programs. Designed and built a calibration system that was used for carbon monoxide testing. Along with the HRM program, performed special contract monitoring operations for Houston Lighting and Power, University of Texas, EPA, and the Texas Air Control Board.

Air Quality and Meteorological Programs, Various Locations in Texas, Multiple Clients, Operational and Maintenance Support, Air Monitoring Technical Specialist (Employed by Radian). Provided operational and maintenance support for air quality and met programs. Building and installation of air monitoring equipment used for the Houston Regional Monitoring (HRM) program along with the South Texas Ozone study.



Personnel Name:	Project Role:				
Don Farkas	Repair Technician				
Credentials					

**Training:** IATA/DOT Shipping and Transporting Dangerous Goods – Level 1 Field Staff (refresher every two years); Behavior Based Safety; Fleet Defense Alert Driving Initial

Mr. Farkas has over 30 years of experience operating air quality measurement instruments and works now as one of our instrument maintenance and repair technicians.

Mr. Farkas's professional experience and responsibilities includes:

- Oversees the QA/QC of WESTON's field equipment.
- Enforces 100% quality turn-around on equipment repairs.
- Maintains inventory on instrument and equipment consumables.
- Creates and modifies SOPs for equipment.
- Set-up equipment to WESTON and client specifications.
- Repairs/modifies/updates analyzer fleet.
- Trains staff on equipment in office and on-site.
- Troubleshoots and assists technical calls.
- Trains technicians on safe and proper handling of equipment during checkouts.
- Set up and operate Continuous Air Monitoring Systems (CAMS)
- Set up and operate Continuous Emission Monitoring Systems (CEMS).
- Program CEMS for automatic calibration and daily reports.
- Constructs Mobile FTIR enclosures.
- Shipping and receiving.

Proficient in the following equipment:

- MKS FTIR
- SRI GC
- Agilant Mini GC
- Thermo Analyzers 41-55
- Ametek
- Testo
- Ecom
- Thermo TVA 1000/2020
- JUM
- VIG
- Servomex
- Teledyne
- California Analytical
- PQ
- E-BAM
- AutoMET

- Tish Hi-VOL
- MAK
- Environics
- ADI 3080
- Shortridge
- Dilution Panels
- Flow Panels
- Various Hot/Cold Probes
- Heated Sample Lines
- Heated Controllers
- Various Sample Pumps
- Heated Filters
- M&C
- ECS Datalogger
- Honeywell



Personnel Name:	Project Role:		
Karen O'Neal	Operator		
Credentials			

**Training:** First Aid/CPR/AED Initial; 40-Hour Hazardous Waste Site Training Course, OSHA 29 CFR 1910.120(e)(3); Bloodborne Pathogens Refresher Training, OSHA 29 CFR 1910.1030

**Karen O'Neal** is a site operator and electrical/mechanical grade technician with over 13 years of experience operating, maintaining (including preventative maintenance), and troubleshooting continuous and non-continuous air monitoring instrumentation, as well as meteorological hardware and electronic monitoring equipment. She is proficient in the use of Volt/Ohm meters, dry gas meters, calibration/audit equipment, and personal computers. She routinely schedules maintenance on equipment, creates and maintains client inventory reports, and has the technical abilities to repair, calibrate, run, and monitor various types of air monitoring equipment. She validates data using the TCEQ ManVal program and creates quarterly report deliverables. She currently has access to TCEQ VPN data for reports.

## **PROJECT EXPERIENCE**

Air Monitoring, Multiple Locations, CAPCOG, Primary Field Technician IV and Operator. Under this contract, WESTON operates and maintains CAPCOG's eight ambient air quality monitoring stations. Responsible for performing data validation using the TCEQ ManVal program and creating quarterly report deliverables. Responsibilities include serving as the Primary Operator; duties include maintaining and monitoring sites; monthly calibrations of monitoring equipment at each site; coordinating any repairs needed at any of the sites; site inventory; preventative maintenance on equipment per SOPs; general site maintenance such as mowing, weeding, pest control; start up and shut down of equipment and sites during each ozone season; and creating monthly reports for invoicing.

Air Monitoring, Multiple Locations, CAPCOG, Primary Field Technician IV and Operator. Under this contract, WESTON operates and maintains CAPCOG's eight ambient air quality monitoring stations. Responsible for performing data validation using the TCEQ ManVal program and creating quarterly report deliverables. Responsibilities include backup for the Primary Operator whose duties include maintaining and monitoring sites; monthly calibrations of monitoring equipment at each site; coordinating any repairs needed at any of the sites; site inventory; preventative maintenance on equipment per SOPs; general site maintenance such as mowing, weeding, pest control; start up and shut down of equipment and sites during each ozone season; and creating monthly reports for invoicing.

**Laredo CAMS, Various Locations in Texas, TCEQ, Operator.** Responsible for loading sampling media; collecting samples; troubleshooting; and performing verifications and calibrations, preventive maintenance, and site maintenance for Laredo CAMS 44, 66, and 313. All work completed in accordance with applicable SOPs and associated guidance/checklists.

**Waco-Area CAMS, Waco, TX, TCEQ, Operator.** Responsible for loading sampling media; collecting samples; troubleshooting; and performing verifications and calibrations, preventive maintenance, and site maintenance for Waco CAMS. All work completed in accordance with applicable SOPs and associated guidance/checklists.

**CAMS, Multiple Locations, AACOG, Primary Field Technician IV and Operator.** Under this contract, operate four existing CAMS and start up two new CAMS. For the existing CAMS, WESTON added meteorological towers and NOx monitors and smart sensors to monitor PM<sub>2.5</sub>. We are in the process of commissioning a seventh station with an AutoGC instrument for VOCs, and the station will also include



NOx and SO<sub>2</sub> monitors. Ms. O'Neal performs all PMI, manual maintenance, calibrations, and verifications on ambient air monitoring equipment.

Ambient Air Monitoring Stations, San Antonio, TX, CPS Energy, Field Technician IV and Operator. Responsible for performing data validation using the TCEQ ManVal program and creating quarterly report deliverables. Responsibilities include backup for Primary Operator maintaining and monitoring sites; monthly calibrations of monitoring equipment at each site; performing monthly and quarterly QA audits on PM<sub>2.5</sub> analyzer; conducting preventative maintenance on equipment; start up and shut down of equipment and sites during each ozone season; validating data; and creating quarterly reports. All work completed in accordance with applicable SOPs and associated guidance/checklists.



Personnel Name:	Project Role:			
Christobal Carrasco	Operator			
Education	Credentials			
A.A., Network Administration; Certificate, Network Technologies Program; Certificate, New Horizons Computer Learning Center	<ul> <li>Registration: Asbestos Project Manager; Asbestos Air Monitoring Technician (No. 603565); Asbestos Inspector (No. 706975).</li> <li>Training: Abatement Contractor Supervisor Program, Abatement Air Monitoring Program, and Abatement Inspector Program—Scientific Investigation &amp; Instruction Institute; 40-Hour Hazardous Waste Operations Training; 8-Hour Hazardous Waste Operations Refresher Training</li> </ul>			

**Christobal "Chris" Carrasco** has 8 years of experience performing data acquisition, calibrations, and field testing. He has performed these functions for AACOG working for his previous employer. He has 5 years of experience with preventive maintenance and experience operating, maintaining, and technical troubleshooting air monitoring instrumentation, including ambient air and continuous and non-continuous instrumentation air monitoring equipment. He is trained and experienced in working with TCEQ's LEADS.

## **PROJECT EXPERIENCE**

Ambient Air Quality and Ozone Monitoring, Austin, TX, CAPCOG, Field Technician IV. Responsibilities include maintaining and monitoring sites; conducting monthly calibrations of monitoring equipment at each site; coordinating any repairs needed at any of the sites; conducting site inventory, data validation, and preventative maintenance on equipment per SOPs; conducting general site maintenance, such as mowing, weeding, pest control; and conducting start up and shut down of equipment and sites during each ozone season.

**Midland/Odessa Air Monitoring Stations, TCEQ, Midland, TX, Operator.** Mr. Carrasco is currently a Backup Operator for the Midland CAMS. He provides preventive maintenance, operating, maintaining, and technical troubleshooting air monitoring instrumentation including ambient air and continuous and non-continuous instrumentation air monitoring equipment.

Laredo CAMS, Various Locations in Texas, TCEQ, Lead Operator. Responsible for loading sampling media, collecting samples, troubleshooting, performing verifications and calibrations, conducting preventive maintenance, and conducting site maintenance for Laredo CAMS 44, 66, and 313. All work completed in accordance with applicable SOPs and associated guidance/checklists.

Air Monitoring, Multiple Locations, AACOG, Primary Field Technician IV and Operator. Under this contract, operate four existing CAMS and start up two new CAMS. For the existing CAMS, WESTON added meteorological towers and NOx monitors and smart sensors to monitor PM<sub>2.5</sub>. We are in the process of commissioning a seventh station with an AutoGC instrument for VOCs, and the station will also include NOx and SO<sub>2</sub> monitors. He provides preventive maintenance, operating, maintaining, and technical troubleshooting air monitoring instrumentation including ambient air and continuous and non-continuous instrumentation air monitoring equipment.

Ambient Air Monitoring Stations, San Antonio, TX, CPS Energy, Primary Operator. Responsible for loading sampling media, collecting samples, troubleshooting, and performing maintenance activities for CPS Energy TSP stations 622, 625, 626, 59, and 1609. All work completed in accordance with applicable SOPs and associated guidance/checklists.



# ATTACHMENT B

# **CERTIFICATION FORMS**

Weston Solutions, Inc.



#### ATTACHMENT: Certifications

## CERTIFICATION OF COMPLIANCE WITH SMALL, DISADVANTAGED, MINORITY, WOMEN-OWNED, AND HISTORICALLY UNDERUTILIZED BUSINESS POLICY

The undersigned certifies on behalf of the Contractor or Subcontractor that he or she has read Article VI of CAPCOG's Procurement Policy, "Small, Disadvantaged, Minority, Women-Owned and Historically Underutilized Businesses: Federal Assistance or Contract Procurement Requirements," a copy of which is attached to this Exhibit. In addition, the Contractor or Subcontractor agrees to make and demonstrate a good faith effort to include small and minority businesses, women's business enterprises, and labor surplus area firms' participation under a contract in accordance with federal procurements requirements of 2 CFR §200.321. A good faith effort must include the following affirmative steps:

- 1) Placing qualified small and minority businesses and women's business enterprises on solicitation list;
- 2) Assuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- Dividing total requirements, when economically feasible, into smaller task or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- 4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and
- 5) Using the services and assistance as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

Nothing in this provision will be construed to require the utilization of any firm that is either unqualified or unavailable. comply with that policy if it procures goods or services with funds made available under this contract.

Weston Solutions, Inc. Contractor or Subcontractor

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Ashby McMullan, P.E., Client Account Manager Name and Title

Date 13 November 2021



## CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION FOR LOWER-TIER COVERED TRANSACTIONS

### Instructions for Certification

- 1. By signing and submitting this Certification, the lower-tier participant (the "Contractor" or "Subcontractor") is providing the certification set out below.
- 2. This certification is a material representation of fact upon which reliance was placed when the contract was signed. If it is later determined that the Contractor or Subcontractor knowingly rendered an erroneous certification, in addition to other remedies available to the federal government, the department or agency with which this transaction originated may pursue all available remedies, including suspension and/or debarment.
- 3. The Contractor or Subcontractor shall provide immediate written notice to CAPCOG if at any time the Contractor or Subcontractor learns that its certification was erroneous when signed or has become erroneous because of changed circumstances.
- 4. The terms "covered transaction," "debarred," "suspended," ineligible," "lower-tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this Certification, have the meanings set out in the Definitions and Coverages sections of regulations implementing Executive Order 12549. You may contact CAPCOG for assistance in obtaining a copy of those regulations.
- 5. The Contractor or Subcontractor agrees not to knowingly enter into any lower-tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participating in this contract, unless authorized by the department or agency with which this transaction originated.
- 6. The Contractor or Subcontractor also agrees to include this Certification without modification in all lower-tier covered transactions and solicitations for lower-tier covered transactions.
- 7. The Contractor or Subcontractor may rely upon the certification of a prospective participant in a lower-tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. The Contractor or Subcontractor may decide the method and frequency by which it determines the eligibility of its principals. The Contractor or Subcontractor may, but is not required to, check the Nonprocurement List.
- 8. Paragraph 7 does not require establishment of a system of records in order to render in good faith the required Certification. The knowledge and information of the Contractor



or Subcontractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5, if the Contractor or Subcontractor knowingly enters into a lower-tier covered transaction with a person who is debarred, suspended, ineligible, or voluntarily excluded from participating in this contract, in addition to other remedies available to the federal government, the department or agency with which this transaction originated may pursue any available remedies, including suspension and/or debarment.

### Certification

The Contractor or Subcontractor certifies, by participating in this contract, that neither it nor any of its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this contract by any federal department or agency.

If the Contractor or Subcontractor is unable to certify to any of the statements in this Certification, the Contractor or Subcontractor shall furnish CAPCOG a written explanation of it inability.

Weston Solutions, Inc.

Contractor or Subcontractor

am milla

By\_\_

Ashby McMullan, P.E., Client Account Manager Name and Title

Date 13 November 2021

Weston Solutions, Inc.



### **CERTIFICATION REGARDING LOBBYING**

Certification for Contracts, Grants, Loans and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee or a member of Congress in connection with the award of any federal contract, the making of any federal grant or loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit to CAPCOG Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that this Certification be included in all subcontracts under this contract, and that all subcontractors sign and submit to CAPCOG the Certification.

Weston Solutions, Inc.

Contractor or Subcontractor

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Ashby McMullan, P.E., Client Account Manager Name and Title

Date 13 November 2021



## CONFLICT OF INTEREST QUESTIONNAIRE

CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity	FORM CIQ					
This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.	OFFICE USE ONLY					
This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).	Date Received					
By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.						
A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.						
1 Name of vendor who has a business relationship with local governmental entity.						
Not Applicable						
2 Check this box if you are filing an update to a previously filed questionnaire.						
(The law requires that you file an updated completed questionnaire with the app later than the 7th business day after the date on which you became aware that the orig incomplete or inaccurate.)						
Name of local government officer about whom the information in this section is being discl	osed.					
Name of Officer						
This section (item 3 including subparts A, B, C, & D) must be completed for each officer v employment or other business relationship as defined by Section 176.001(1-a), Local Govern pages to this Form CIQ as necessary.						
A. Is the local government officer named in this section receiving or likely to receive taxable i income, from the vendor?	ncome, other than investment					
Yes No						
	B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?					
Yes No						
C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more?						
Yes No	Yes No					
D. Describe each employment or business and family relationship with the local government	officer named in this section.					
A My Mullen 15 N	ovember 2021					
	Date					

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Adopted 8/7/2015



	CERTIFICATE OF INTERESTED PAR	RTIES		FOR	м 1295		
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	Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.	OFFICE USE ONLY CERTIFICATION OF FILING					
1	Name of business entity filing form, and the city, state and country of the business entity's place of business.			Certificate Number: 2021-819008			
	WESTON SOLUTIONS INC Houston, TX United States		Date Filed: 11/01/2021				
2	Name of governmental entity or state agency that is a party to the being filed. Capital Area Council of Governments (CAPCOG)	the contract for which the form is	Date Acknowledged:				
				5			
3	3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract. N/A						
	Request for Proposal: AMBIENT AIR QUALITY MONITORII	NG SERVICES					
4				Nature of			
1	Name of Interested Party	City, State, Country (place of busin	ess)	(check ap Controlling	plicable) Intermediary		
┢				Controlling	internetiary		
	COMPLET	ED ONI IN	F				
F							
F							
F							
F							
5	Check only if there is NO Interested Party.						
6	UNSWORN DECLARATION						
	My name is Ashby McMullan, P.E.	, and my date of	birth is		·		
	My address is						
	(street)	(city) (st	ate)	(zip code)	(country)		
	I declare under penalty of perjury that the foregoing is true and corre	ect.					
Í	Executed in BexarCour	ty State of Texas	13	Inv of Nov	<sub>20</sub> 21		
		nty, State of <u>Texas</u> , on the	 	(month)	, 20 <u></u> . (year)		
		Signature of authorized agent of con (Declarant)	tractinę	) business entity			
Ec	rms provided by Texas Ethics Commission www.e	thics.state.tx.us		Version	V1.1.191b5cd		



ATTACHMENT C

# **INSURANCE CERTIFICATE**



ACORD <sup>®</sup> CERTIF	ICATE OF LIAE		URANC	E		(MM/DD/YYYY) 2/2021
THIS CERTIFICATE IS ISSUED AS A MATTER O CERTIFICATE DOES NOT AFFIRMATIVELY OR BELOW. THIS CERTIFICATE OF INSURANCE REPRESENTATIVE OR PRODUCER, AND THE CE	NEGATIVELY AMEND, E DOES NOT CONSTITUTE ERTIFICATE HOLDER.	EXTEND OR ALT E A CONTRACT	ER THE CO BETWEEN T	VERAGE AFFORDED E THE ISSUING INSURER	BY THE R(S), AU	E POLICIES UTHORIZED
IMPORTANT: If the certificate holder is an ADD If SUBROGATION IS WAIVED, subject to the ter this certificate does not confer rights to the certi	ms and conditions of the	policy, certain p	olicies may			
PRODUCER MARSH USA INC.		CONTACT NAME:	,-			
1717 Arch Street	_ (	PHONE A/C, No, Ext):		FAX (A/C, No):		
Philadelphia, PA 19103 Attn: philadelphia.certs@Marsh.com Fax: 212-948-0360	1	MAIL ADDRESS:				
CN102357761-WS-GAWU-21-22	L.	INSURER A : Greenwich		RDING COVERAGE		NAIC # 22322
INSURED WESTON SOLUTIONS, INC.		NSURER B : Liberty Insu				42404
1400 WESTON WAY		NSURER C : XL Special	ty Insurance Corr	ipany		37885
WEST CHESTER, PA 19380		NSURER D : Liberty Mut	tual Fire Insuranc	e Company		23035
	F	NSURER E :				
COVERAGES CERTIFICATE		NSURER F : CLE-006373679-07		REVISION NUMBER:		
THIS IS TO CERTIFY THAT THE POLICIES OF INSUR INDICATED. NOTWITHSTANDING ANY REQUIREMEN CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, 1	ANCE LISTED BELOW HAVE	E BEEN ISSUED TO F ANY CONTRACT D BY THE POLICIE	OTHE INSURE OR OTHER I S DESCRIBEI	ED NAMED ABOVE FOR T DOCUMENT WITH RESPE	CT TO	WHICH THIS
EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. I INSR TYPE OF INSURANCE ADDL SUBR INSD WWD		EEN REDUCED BY POLICY EFF (MM/DD/YYYY)	DUICY EXD		16	
	POLICY NUMBER GEC300071706	(MM/DD/YYYY) 01/15/2021	(MM/DD/YYYY) 01/15/2022	LIMI	\$	1,000,000
CLAIMS-MADE X OCCUR				DAMAGE TO RENTED PREMISES (Ea occurrence)	\$	1,000,000
				MED EXP (Any one person)	\$	10,000
				PERSONAL & ADV INJURY	\$	1,000,000
GEN'L AGGREGATE LIMIT APPLIES PER:				GENERAL AGGREGATE	\$	2,000,000
X POLICY JECT LOC				PRODUCTS - COMP/OP AGG	\$	2,000,000
	Al2-631-477160-041	01/15/2021	01/15/2022	COM BINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person)	\$ \$	1,000,000
AUTOS ONLY SCHEDULED AUTOS ONLY AUTOS HIRED X NON-OWNED				BODILY INJURY (Per accident)	) \$	
X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY				PROPERTY DAMAGE (Per accident)	\$	
C X UMBRELLA LIAB X OCCUP	UEC004535206	01/15/2021	01/15/2022	EACH OCCURRENCE	\$	3,000,000
X UMBRELLA LIAB X OCCUR     EXCESS LIAB CLAIMS-MADE		01713/2021	O IN TOTE OLL	AGGREGATE	5	3,000,000
DED X RETENTION \$ 10,000					\$	
AND EMPLOYERS' LIABILITY	WA7-63D-477160-011 (AOS)	01/15/2021	01/15/2022	X PER OTH- STATUTE ER		
OFFICER/MEMBEREXCLUDED?	WC7-631-477160-051 (WI)	01/15/2021	01/15/2022	E.L. EACH ACCIDENT	\$	1,000,000
(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below				E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY UMIT	-	1,000,000
				E.L. DISEASE - POLICY DMIT	\$	.,,
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD	101, Additional Remarks Schedule,	may be attached if mor	e space is requir	ed)		
RE: AMBIENT AIR QUALITY MONITORING SERVICES, ESTIMATED F CAPITAL AREA COUNCIL OF GOVERNMENTS ARE INCLUDED AS AI SUBROGATION IS APPLICABLE WHERE REQUIRED BY WRITTEN CI	DDITIONAL INSURED (EXCEPT WO		ON) WHERE REG	UIRED BY WRITTEN CONTRAC	t. Waive	ER OF
CERTIFICATE HOLDER		CANCELLATION				
CAPITAL AREA COUNCIL OF GOVERNMENTS ATTENTION: SHEILA JENNINGS 6800 BURLESON ROAD, BUILDING 310, SUITE 165 AUSTIN, TX 78744-2306		SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.				
	c c	AUTHORIZED REPRESE of Marsh USA Inc.				
	١	Manashi Mukherjee		Marrooni Mul		-
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