



May 29, 2025

To:
Town of Erie
645 Holbrook Street
Erie, CO 80516

Attn: David Frank

Year 2025-2028 3.5-years Cost Proposal for Continuing the Operation of the Erie Community Center (ECC)
Air Quality Monitoring Station and the Implementation and Operation of a Dispersed Sampling
Network

Dear Mr. Frank,

Thank you for your inquiry about a cost estimate for providing air quality monitoring to the Town of Erie. Please find below a cost proposal for a 3.5-years contract spanning July 1, 2025, to December 31, 2028. The following work is included:

- A. Continuation of the air quality monitoring at the Erie Community Center (ECC) that is currently under contract with the Town of Erie. The proposed work will continue the monitoring of all variables and pollutants, with the same real-time data reporting that was implemented at the beginning of the program in the summer of 2021. We have again quoted the monitoring of ozone and particulate matter (PM) following 'regulatory-grade' protocols. This entails adhering to instrument configuration, calibration, and maintenance protocols as mandated by the EPA, and followed by the Colorado Department of Public Health and Environment (CDPHE). Both measurements have been audited by CDPHE and were found to fully meet regulatory quality requirements. The monitoring of volatile organic compounds (VOCs) relies on operation of a gas chromatography-flame ionization instrument. This will provide sensitive and VOC-specific monitoring of a series of primary oil and natural gas hydrocarbons. A minimum of twenty-five species of the most prominent VOCs observed in ambient will be reported. Quantification of VOCs will follow the protocol and be based on the calibration scale of the World Meteorological Organization Global Atmospheric Watch program with calibration standards from the U.K. National Physics Laboratory.

This bid includes automated data processing and reporting to the Erie project web portal that was implemented and is maintained by Boulder AIR (<https://www.bouldair.com/erie.htm>). In addition, data from the Erie monitoring will be included in the AirLive Combined Northern Colorado Front Range website (<https://www.bouldair.com/NoCoFrontRange.htm>). All historical data can be viewed and analyzed at the Boulder AIR Interactive Data Analysis Tool (<https://bouldairtools.com/interactive/>). Final, fully quality-controlled VOCs data will be submitted to AMTIC, the EPA Ambient Monitoring Archive for Hazardous Air Pollutants (<https://www.epa.gov/amtic/amtic-ambient-monitoring-archive-haps>); data for all other chemical measurements will be submitted to the EBAS (<https://ebas.nilu.no/>) archive.

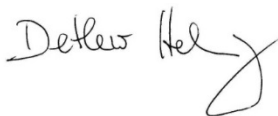
The cost for all monitoring and associated services for July 1, 2025 – December 31, 2025, will be the same as for the current January 1 – June 30, 2025, contract (\$113,600). Rates for 2026 will increase by 3% to adjust for inflation. However, Boulder AIR will drop the rate for methane monitoring by 20% effective January 1, 2026. Furthermore, we have eliminated the charge for the security system operation and maintenance. With these reduced charges, the January 1 – December 31, 2026, budget comes in at \$224,631, which is 3% lower than 2025 charges. Rates for 2027 and 2028 factor in a 3% increase per year to adjust for the anticipated rate of inflation.

- B. Acquisition, installation, and operation of five SGS SmartSense solar powered (with battery backup) air monitoring stations (<https://www.sgsgalson.com/smart-sense-home/>). Monitored variables will include wind speed, wind direction, air temperature, particulate matter (PM1, PM2.5, PM10) and total VOCs by photoionization detection (PID). Each station will be equipped with a sampling trigger mechanism and air sampling canister to collect whole air samples when elevated VOC signals are detected by the PID. In case the current contract for continuous air quality monitoring with Boulder AIR at ECC is renewed, then, at no cost to Erie, one additional station will be installed at ECC in parallel to the real time methane, VOCs, and PM2.5 monitoring to provide comparison between the two methods and additional quality control of the SmartSense air sampling.
- C. Analysis of up to 15 trigger canister samples per year collected by the SmartSense stations (B) for methane and VOCs, using the same instrumentation and quality assurance as under A. In the case that more than 15 trigger events (and samples) are collected, additional trigger canister deployments and analyses will be charged \$400 per sample.
- D. Real-time reporting of the SmartSense data to the public SGS LiveView data portal (<https://www.sgsgalson.com/sgs-liveview/>).
- E. Preparation and analysis of a maximum of ten grab sampling Summa canisters per year. Additional grab sampling canister deployments and analyses will be charged \$400 per sample.
- F. Pollution event analyses and event reports, one annual report, presentation to the Town of Erie Council.
- G. Boulder AIR commits to conduct all monitoring listed above at $\geq 95\%$ uptimes.

A cost breakup of these line items and a summary budget detailing the 6-months costs for July 1 – December 31, 2025, and then the annual costs for years 2026, 2027, 2028 is provided below. For each year, the total cost considers a discount if both the ECC continuous station monitoring and the dispersed sampling program are contracted to Boulder AIR.

We appreciate this opportunity to provide air quality monitoring for the Town of Erie.

Thank you,



Detlev Helmig, PhD
Boulder A.I.R. LLC

Erie Community Center (ECC) Air Monitoring Station:

Town of Erie Community Center (ECC) Air Quality Monitoring, 2025-2028

Item	Variable	2025 rate, full year US\$	2025, July 1 - Dec 31, US\$	2026, full year US\$	2027, full year US\$	2028, full year US\$
1	Ozone, TEI_49, regulatory-grade	17,918	8,959	18,456	19,009	19,579
2	Volatile Organic Compounds (including ethane, ethene, acetylene, propane, propene, i-butane, n-butane, i-pentane, n-pentane, cyclopentane, isoprene, n-hexane, cyclohexane, benzene, n-heptane, toluene, n-octane, o-xylene, ethylbenzene, o-xylene, m-xylene, p-xylene); WMO-grade by gas chromatography - flame ionization detection	105,665	52,833	108,835	112,100	115,463
3	Methane, PICARRO G2301, WMO-grade	35,837	17,919	29,530	30,416	31,328
4	PM_2.5, regulatory-grade, PM_10, GRIMM EDM180	30,102	15,051	31,005	31,935	32,893
5	Meteorological variables (wind speed, wind direction, temperature, relative humidity, radiation), research-	3,584	1,792	3,692	3,802	3,916
6	Webcam for public website images	2,150	1,075	2,215	2,281	2,349
7	Website data reporting, data management, data archiving, event reports	30,000	15,000	30,900	31,827	32,782
Total:		225,256	112,628	224,631	231,370	238,311

Five SGS Dispersed Air Monitoring Stations for Six Months:

Five Meteorology/PID/VOCs Trigger Canister Sampling Stations; July 2025 through December 2025 Budget

Item	Variable	Cost per Unit	Number of Sites	Months	Total Number of Samples	2025 rate (US\$)
1	Acquisition, installation, and operation of SGS PID/trigger solar powered canister sampling stations with meteorology, PM1, PM2.5, PM10, total VOCs	1450	5	6		43,500
2	Trigger canister analysis by gas chromatography for methane and minimum of 30 Volatile Organic Compounds (including ethane, ethene, acetylene, propane, propene, i-butane, n-butane, i-pentane, n-pentane, isoprene, n-hexane, benzene, toluene, o-xylene, ethylbenzene, o-xylene, m-xylene, p-xylene); custom-gas chromatograph with flame ionization detection (FID), 15 canisters per year	400			7.5	3,000
3	Weekly site visits, trigger canister preparation, setup, and collection	250	5	6		7,500
4	Reporting, website maintenance, event analyses	1000		6		6,000
Total						60,000

Summary Budget:

ECC and Dispersed Sampling Network 2025 - 2028 Summary Budget

Program component	July 1, 2025 - Dec. 31, 2025	Jan. 1, 2026 - Dec. 31, 2026	Jan. 1, 2027 - Dec. 31, 2027	Jan. 1, 2028 - Dec. 31, 2028
Town of Erie Community Center (ECC) continuous air quality monitoring	112,628	224,631	231,370	238,311
Five meteorology, PM, PID/VOCs SGS trigger canister sampling stations	60,000	123,600	127,308	131,127
Grab sampling Summa canisters, preparation and GC/FID sample analysis, up to 10 per year	0	0	0	0
ECC - Dispersed network bundle discount	29,000	48,231	49,678	51,168
Total requested funds	143,628	300,000	309,000	318,271