



## **Bid Notice**

The Florissant Valley Fire Protection District is accepting sealed bids per specifications to purchase Air Filtration and Purification System designed for Engine Exhaust Removal. This system is to be installed at all three firehouses in the Florissant Valley Fire Protection District.

House 1 661 St. Ferdinand Street Florissant, Missouri 63031

House 2 1925 Pohlman Road Florissant, Missouri 63033

House 3 1910 Shackelford Road Florissant, Missouri 63031

Any bidding organization can schedule an inspection of bays by contacting Battalion Chief Russell Kleffner at 314-837-4894

All bids should be marked "SEALED BID/Air Filtration and Purification System" and mailed or delivered to the Fire District Administrative Office. 661 St. Ferdinand Street Florissant, Missouri 63031 between the hours of 8:00 AM and 4:00 PM Monday through Thursday and 8:00 AM and 3:00 PM on Friday

This will be open for accepting bids starting on April 10, 2024, at 8:00 AM and run until April 26, 2024, at 3:00 PM. The bids will be sealed prior to submission and be opened during the district board meeting on April 30, 2024, at 07:30 AM. The bids will be reviewed after opening and an announcement made as soon as possible.

The Florissant Valley Fire Protection District reserves the right to reject any or all bids, to waive variations or formalities, and to negotiate changes, additions, or deletions. The Florissant Valley Fire Protection District reserves the right to accept the bid it deems to be in the Fire District's best interest and will not necessarily be obligated to accept the lowest bid. The Fire District also reserves the right to extend the timeframe to submit bids, as well as extending the timeframe to

open the bids. If you should have any further questions, then please call 314-837-4894 and ask to speak with Battalion Chief Russell Kleffner.

The Florissant Valley Fire Protection District hereby notifies all bidders that it will affirmatively insure that in any contract entered pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for award.

### **Air Filtration and Purification System**

#### **Designed for Engine Exhaust Removal**

##### **Scope:**

Provide the equipment, delivery, and installation of an air filtration system as specified. The air filtration system shall include an activation system to automatically start the equipment to capture, reduce or eliminate the vehicle exhaust products from the apparatus and contaminants generated by other sources. A peripheral or circular air pattern shall be used to effectively move contaminant from unit to unit. Adequate equipment must be supplied to provide between eight and ten air changes per hour in the entire bay area. This formula for determining the number of units will be used unless otherwise specified. The technology desired to capture diesel exhaust soot and gases is a progressive filtration system explained in the following text. The system shall include a 4-stage filtering process. Such systems shall be engineered by a registered design professional or shall be factory-built equipment designed and sized for the purpose.

##### **First Stage**

Shall be of extended surface pleated type 24 x 24 x 4" (NOM). It shall be rated at MERV 11 tested in accordance with ASHRAE 52.2 Test Standard

##### **Second Stage**

MERV 16, HEPA grade air filter with efficiency based upon 0.3-micron size particle. The filter must trap and retain particles to ensure personnel safety. The filter shall have at least 202 square feet of media area and dust holding capacity of 200 grams. Size shall be 24 x 24 x 12" (NOM).

##### **Third Stage (post optional or remove if necessary)**

Photo-Catalytic Oxidation (PCO) section shall be included equipped with 2 UV lamps of at least 3 milliwatt / CM<sup>2</sup> UV-C 254 nanometers and a titanium dioxide TiO<sub>2</sub> coated grid with a minimum of 70 square feet of TiO<sub>2</sub> covered surface area. This combination converts dangerous carcinogenic substances into harmless substances of CO<sub>2</sub> and water vapor giving maximum protection to fire personnel. This section also destroys airborne viruses and helps in the decontaminating process to keep the apparatus bay area environment fresh and healthy.

##### **Fourth Stage**

The air cleaner shall be equipped with a carbon filter filled with a combination 50/50 blend of activated carbon (fourth stage) and potassium permanganate on zeolite (fifth stage). Flat faced

filters are not acceptable as they produce excessive static pressure resistance. The pollutants from diesel exhaust, unspent diesel fuel, sulfur-based compounds, nitric acid, and nitrogen dioxide shall be absorbed into the material and removed from the air stream. The gas phase chamber shall have at least 26 lbs. of carbon, potassium permanganate, and zeolite blend.

**Unit Cabinet:**

The cabinet shall be manufactured with 16-gauge steel and be of one-piece construction which contains the filter group and the blower assembly. Cabinets of two-piece construction bolted, clasped, or riveted together are not preferred. This process weakens the cabinet and subjects the cabinet to undo stress. For ease and safety, the unit must have both filter and blower compartment access doors. Door access panels shall be fully hinged for entry to filters and motor blower compartments. Unit shall be equipped with four-way adjustable diffuser grilles manufactured of extruded aluminum. Cabinet finish must be proven durable, must have green LED run light as well as Red LED filter change indicator visible from the floor level.

**Motor Blower:**

Shall be direct-drive, forward curved blades; 1 HP 1075 RPM, dual voltage 208/230v, 9 amps, single phase, permanent split – capacitor motor, automatic reset thermal protection.

**Sound Level – dB Rating:**

Unit sound level rating shall not exceed 65db at 6 ½' under the unit. Provide certification with the bid.

**Automatic Mode:**

The circuit is activated when a vehicle passes and blocks the photoelectric sensor, or the panel detects another input programed to start the system. At that point, the motors will start to sequence on with a 3-5 second delay between motors. This reduces inrush currents to reduce the possibility of tripping the circuit protections on the main power panel. The motors will run for the predetermined time from the last input signal which can be set between 1-60 minutes of run time. This time can also be set in the field, if necessary. In manual mode the motors will run continuously.

**Time Boost:**

The unit shall provide a time boost setting to provide a preset amount of run time for the motor to operate. This will start the system for one run cycle while leaving it in auto mode It functions only as follows: Upon depressing the Time Boost the motors will sequence on and run for a predetermined length of time unless the system's stop is pushed, or the unit is switch is changed to the Manual mode. In either case, it causes the Time Boost to reset.

**Certification:**

The product must be UL or ETL certified as a complete assembly. This will ensure that the product has met all the safety standards of the Occupational Safety and Health Administration. The entire product shall be manufactured and assembled in an ISO9001-2015 facility. Certifications must accompany the bid.

#### **Electrical Control Panel:**

Control panel shall be a polycarbonate NEMA 4X rated enclosure. The panel must be UL or ETL certified as a complete assembly. The panel shall have an optional capability to be locked. Panel shall incorporate a touch display, which shows when the system is running, and when wired to the filter relay in the ACDs (Air Cleaning Device), has the ability to show when the filters need to be changed. An internal programmable CPU shall provide easy operational changes. The control panel shall incorporate sequential motor starting; inputs for long range photo electric sensors, CO/NO2 sensor, and magnetic door switches.

#### **Empirical Data:**

The bidding company shall provide empirical data relating to the removal of exhaust and the effectiveness to include but not limited to Carbon Monoxide, diesel engine exhaust, and diesel particulate matter.

#### **Electrical Work:**

All associated electrical work will be contracted at prevailing wage rate with preference to union electricians. All associated electrical work should be included in this bid.

#### **Warranty:**

The unit shall include a Limited lifetime warranty on parts and workmanship with a minimum 2 (two) year labor warranty. Warranty only valid with purchase of filters from your representative. If there is any extended warranty beyond this information along with pricing shall be included.

#### **Extended Service Agreement:**

The bidder agrees to provide options for extended service agreement at the time of submission. This is to include filter changes, along with any other options needed to maintain the systems and extend the life of the systems.

#### **References and Installation Proof of Performance:**

The manufacturer must show that they have supplied at least 25 like units to at least 10 separate emergency response fire departments. The manufacturer and supplier must be ISO 9001-2015 certified and provide a current up-to-date certificate. The certification must include of the following: the provision of design, manufacture, assembly, supply, installation, and servicing of air cleaning systems.

Does your bid comply with the specifications as written? Yes \_\_\_\_\_ NO \_\_\_\_\_

Does your proposal include an exception to this requirement? Yes \_\_\_\_\_ NO \_\_\_\_\_

### Anti-Collusion Statement

By signing this bid, the bidder agrees that the bid is made without any agreement with any other person or firm making a bid to the Florissant Valley Fire Protection District.

This bid form shall be filled out and returned with the bid.

Name of Bidder \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip Code \_\_\_\_\_

Terms \_\_\_\_\_

Pricing:

House 1 \_\_\_\_\_

House 2 \_\_\_\_\_

House 3 \_\_\_\_\_

Total for all three Houses \_\_\_\_\_

Extended warranties \_\_\_\_\_

Maintenance/Service

Agreements \_\_\_\_\_

Does your bid have any exceptions, clarifications, or variances from our specifications?

Yes \_\_\_\_\_ NO \_\_\_\_\_

If yes, please include a separate summary sheet to explain.

Signature of Bidder \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_