

Three Wheel or Four Wheel (Vacuum) or Regenerative Air Street Sweeper – Item #1

General

- The intent of this specification is to secure the latest model and design “Vacuum or Regenerative air street sweeper” with extension broom capable of removing litter, debris, etc. from street surfaces. All items appearing in Manufacturer’s published literature and specifications as standard are assumed to be included in bidder’s proposal.

Cab/Chassis

- Must be diesel engine with shatterproof safety glass, tinted windshield and windows; Dual two-speed windshield wipers and washers with intermittent feature; factory installed AC/Heater and defroster; high back air suspension bucket seats or mid-back in air ride seats for both operator positions.
- Dual operating controls, RH and LH Operator positions with all O.E.M.components, AM/FM radio, LH and RH grab handles, seatbelts, LH and RH electric remote West Coast type outside mirrors, with 8” spot convex mirrors.
- RH gauge package shall be identical to original LH gauge package on dash
- Controls for all drive and sweeping functions shall be in-cab mounted.
- Engine protection system utilizing coolant temperature, oil pressure, etc.
- Minimum H.P. on chassis engine to be 200
- Chassis must have a minimum 32,000 pound GVWR and meet all current emission and motor vehicle standards

Electrical System, 12 Volt

- Complete 12 volt electrical system with a min. of 120 amp alternator and min. dual 925 CCA batteries
- Sealed multiple beam headlights with dimmer switch, combination stop, tail, backup and directional signals, hazard warning flashers, clearance lights, front side marker lights, inside cab dome light and instrument lights.
- (Preferred) Wiring harnesses are to be color coded with a preference for hot stamping and labeling a min. of every 12”.
- Battery box/holder(s) shall be mounted to frame rail easily accessible.

Brakes

- Full air, service complete, cam type
- Parking brake to be spring set with air release

Steering

- Full power hydraulic

Sweeping/Cleaning Equipment

- Hopper, door and internal components shall be constructed of rust proof grade 304 Stainless Steel. All wear areas such as fan housing & pickup head shall be constructed of abrasion resistant steel with epoxy coating, replaceable liners, or other proven means to reduce wear.

Blower Fan & Exhaust

- Fan compartment shall be acoustically lined/sound suppressed and include replaceable wear liner or constructed out of abrasion resistant steel. Fan speed independent of vehicle speed.
- Fan, fan compartment and all drive mechanism shall be housed in an enclosed compartment for safety and additional sound suppression.
- Fan housing shall incorporate an inspection/clean out door.

Side or Gutter Brooms

- Located each side, center of sweeper; hydraulically driven and hydraulic or pneumatic raised, lowered, suspended, adjusted, and tilted with inside cab controls.
- Power tilt gutter brooms on both sides controlled from inside cab.
- Broom contact pattern must remain constant with regards to vertical broom movement due to changes in pavement conditions.

Vacuum Nozzles/(Vacuum Sweepers Only)

- Minimum 10" inside diameter suction hoses; smooth inside bore hoses. Nozzles to be abrasion resistant (AR 400) steel or corrosion resistant alloy with available liners for wear; quick disconnect at pickup head for easy clean out.
- For safety nozzles must automatically raise when truck is placed in reverse.

Pick-Up Sweeping Head/ (Regenerative Air Sweepers Only)

- Minimum of 87" wide with abrasion resistant steel shoes/runners, heavy duty 3/8" thick wall rubber hoses attaching to hopper, quick disconnect on suction hose only, suspended from a minimum of 4 adjustable springs one (1) on each corner of pick-up head or equivalent design.
- For safety head must automatically raise when truck is placed in reverse.
- A quick disconnect shall be located near pickup head for easy clean out.

Water System

- Industrial grade polyethylene, plastic or stainless steel water tank to be standard of manufacturer with filler capacity, strainer and low level indicator. Minimum of four (4) spray nozzles on main broom, two (2) on each side broom, one (1) inside hopper to dampen debris being swept by suction nozzle, and a front spray bar, or additional nozzles for dusty areas being swept, all spray nozzles controlled separately on console inside cab.
- Inside cab 'low' water indicator required.
- Hydrant fill hose required, minimum 15 feet.
- A Stainless Steel mesh filter is required in the water system to prevent spray bars from clogging.

Automatic Lubrication System

- Complete with individually calibrated injector pumps and lines for each grease point. An electronic controller will allow for adjustment of lubrication cycles. A manual override button will provide for testing.

Engine, Sweeper

- Minimum 4-cylinder turbo charged diesel. Engine should have air-cleaner with pre-cleaner, full flow oil filter, variable RPM control, temperature and oil and coolant level shut-off, and emergency shut-off. Must meet minimum federal emissions standards.
- Engine compartment to be easily accessible from left and right for service.
- A shutdown shall be supplied which stops the engine when the hydraulic oil in the reservoir falls below the acceptable level required.

- A shutdown shall be supplied which stops the engine when the engine temperature and oil pressure falls below the acceptable level required.

Hopper

- Air Sweeper Hopper shall be a minimum of 5.8 cubic yard capacity, constructed of grade 304 Stainless Steel (or equivalent) including rear door, screens and dust separator.
- For safety, a hopper load indicator must be provided to warn Operator that chassis is loaded to capacity of chassis suspension.
- To reduce dust during transport and dumping, the hopper must be able to be unloaded without the fan engaged and moving air.

Instruments, Inside Cab Mounted

- Water temperature, oil pressure and diesel gauges for all engines, ammeter, speedometer/odometer, tachometer, electric hour meter for all engines, broom hour meter. All instruments are to be located in cab between seats, centrally located for good vision from operator position(s).

Control Panel

- Shall include all sweeping and auxiliary engine controls. The control panel shall be mounted forward in the truck cab to allow easy viewing and access to all controls from either operator's position.

Arrow Board

- Arrow board specifications are attached. **LED warning lights shall be utilized.** Please list any alternative method and specifications for less cumbersome arrow signaling that will maintain the 6' X 3' size and effectiveness of safety. Price shall not exceed that of standard specifications. All new provisions subject for review by Missouri Department of Transportations Operations Division. ***If any questions, please call the General Services Division.***

Electrical

- All wiring shall be color coded and hot-stamped with function every few inches.
- Control console shall be backlit for nighttime sweeping operation.
- A LED floodlight shall be adjacent to each side and main broom for safety.

Accessories

- A LifeLiner Coating or equivalent epoxy coating complete with repair kit or bolt in replaceable wear liners shall be provided for additional protection of the entire interior surface in the hopper in lieu of Stainless Steel.

Safety Systems

- Backup alarm when transmission is placed in reverse, all sweep functions shall stop rotating and raise-up.
- Two (2) top-mounted **LED warning** lights shall be supplied with light protector. One (1) **LED warning** light to be mounted rear of unit and one (1) **LED warning** light to be mounted rear of cab, but not on cab itself.
- Two (2) flush mounted **LED warning** lights shall be installed in tailgate/bumper, bottom right and left hand corner.
- A back-up camera shall be mounted to rear of hopper with a color monitor mounted in cab to the dash to show Operator performance behind sweeper and for safety when backing up.

Paint

- Color of cab and sweeper to be "Highway Yellow" #13432 or manufacturer's standard safety or industrial yellow over a prime coat. (IF YOU HAVE ANY QUESTIONS REGARDING COLOR PLEASE CONTACT THIS OFFICE.)

Options

- Cab over trucks should include an *option* for a cab jack on the Bid Sheet. A cab jack will assist in raising the cab to prevent personal injury (e.g. Back strain). Ease of operability and safety are important features to MoDOT.