

Town Of Virgil compacting push out trailer bid spec

The following technical specifications are intended to describe a minimum quality and quantity of materials, workmanship, and performance. The equipment shall be designed and equipped with such other parts and accessories as are standard and usual for the successful operation of the equipment used for the purpose as stated herein.

CAPACITY AND DIMENSION LIMITATIONS

The trailer shall have a capacity of approximately 95 cubic yards from the face of the ejector panel, when fully retracted, to the tailgate.

The trailer shall not exceed 45' length, 13'-3" height and 8' width.

The intent of the system is to allow the trailer/payload and tractor to comply with the State of weight law allowing a total Gross Vehicle Weight (GVW) of 80,000 pounds. It is necessary to properly distribute load between the trailer tandem and kingpin.

BODY CONSTRUCTION

The side walls and roof panel shall be fabricated of not less than 3/16" 572 Grade 50 sheet steel. The vertical side and lateral roof reinforcements shall be on a maximum of 48" centerline and shall be suitably connected at intersecting points. side post cross members must be 6"x3"x3/16" rectangular tubing astm 500 vertical & horizontal. (Formed sheet metal will not be acceptable) The bottom of side walls connecting to the floor must be welded solid on inside and out to make watertight. The inside sidewall to the floor shall be reinforced by a 3"x3"x3/16" structural angle iron, welded solid, which runs the length of the side of the inside floor. A all side walls and roof shall be made of 6x3x3/16 square tubing minimum of three horizontal rows of reinforcements shall interlace at least the four rear vertical reinforcements. Roof shall have a horizontal brace in the middle of the roof from front to rear. One horizontal brace down the middle of the side wall from front to rear Box braces across the roof shall be in alignment with vertical braces.

The floor material shall be minimum 3/16" 572 Grade 50 sheet steel. with cross-member reinforcements on 16" centerline. Cross members in the floor shall be 4"x2"x3/16" rectangular tube; NO, I-Beam OR FABRICATED CROSSMEMBERS WILL BE ACCEPTABLE. There shall be a 5"x3"x1/4" angle iron rub rail welded to the outside tubing cross members. The Trailer crossmembers shall have (2) 1/4"x4" flat bar vertical stiffeners inserted between cross members full length of trailer. The front 1/3 cross members of the Trailer shall be on 12" centers with (3) 3/16"x 4" plates perpendicular to each cross member.

The front of trailer shall have barn doors to completely close with two steel hinged doors (barn doors) with a lock, trailer front is to be able to fully open for maintenance. shall have a 12"x3/16" reinforced plate across the front for clean out. The front of the trailer shall be designed to

prevent leakage of liquids and the escape waste materials while at the same time providing access to clean and maintain the compaction/ejection assembly, the engine, and the hydraulic system.

The top loading door shall be one piece, hydraulically operated in a horizontal position. The top door shall be constructed of no less than 3/16" high tensile steel with 2"x3"x3/16" structural rectangular tubing reinforcements. The top door shall travel on a solid steel track located on either side of the roof of the trailer. The opening is to be a minimum of 86" x 96" and shall be placed near the front of the trailer to accommodate top loading, self-compacting and rear self-ejecting operations. Extra floor reinforcement shall be provided under the top-loading door. Drive side of rear trailer in front of tires there shall be a ladder to the roof of the trailer.

Side Access door shall be minimum of 48" tall x 24" wide, open and closed will be manual with locks to prevent opening when compacting trailer. Door located on the passenger side behind the ram.

The tailgate shall be constructed 2"x4"x3/16" Rectangular tubing for framing of the door in-lieu structural channel. (2) vertical and (3) horizontal supports shall be 2" x 4" x 3/16" The hinge must be 1.5" solid round steel bar material and must run full length of the door, with 5 hinge securements made out 1/2" plate (minimum). Manual locks shall be heavy duty, ratchet style with a minimum of 5 locking points on the door. Ratchets must be located on driver side. The door arrangement shall be designed to accommodate both self-compacting and self-ejecting operations. The door shall have a neoprene watertight seal extending across the bottom and 18" up each sidewall. Rear door shall have 2 hydraulically activated cylinders to open and close rear door located on hinge side of trailer.

Trailer shall have a 4" x 4" x 3/8" square tubing rear push bumper which is sufficiently designed and constructed so that heavy equipment at the landfill can push the trailer out of soft spots at the landfill if stuck.

The Trailer must be equipped with an external ladder to access the top of the Trailer. Lower half of the ladder must fold up and must be able to be secured in this raised position.

RUNNING GEAR

The Trailer shall be equipped with tandem axles, each axle shall be minimum 5" round, with 5/8" wall, rated at not less than 25,000 pounds capacity with 10-hole uni-mount 10-hole hub piloted and cast drum assembly.

Brakes shall be full air 16-1/2"x7" with quick disconnect couplers mounted at front of Trailer. The Trailer shall be equipped with anti-skid system. The brakes must be Wabco style 2S1M ABS Compatible. Front axle must have sensors and tone-rings on axle. Axles shall be equipment with self-adjusting slack adjusters, and 30/30 spring brake chambers.

Wheels shall be 22.5" ten (10) hole bud type with single piece tubeless rim, tires 11R – 22.5, 16 ply transport tubeless type. One (1) spare tire with rim shall be furnished with the trailer. The trailer shall be equipped with a suitable spare tire rack attached to the underside of the trailer.

Suspension shall be a minimum of 50,000 lbs capacity. Suspension shall be a Hutch style H9700 3-leaf Spring Suspension. The suspension will be mounted a 10" I-beam sub-frame that will allow proper height and stability for suspension to be tied to floor of the trailer. Sub frame must be welded solid to floor of trailer.

Mud flaps shall be standard rubber composition at rear conforming to State law.

King pin shall be located approximately 36" from front of Trailer and the king pin plate shall be 1/2" all welded to Trailer cross members.

A two-speed crank type landing gear with a minimum static load capacity of 180,000 pounds shall be provided, with the crank handle installed on the curb side of the trailer. Landing gear Must be properly supported with heavy duty braces to withstand the Full loading operation of the trailer.

HYDRAULIC SYSTEM

The hydraulic system shall consist of hydraulic cylinders, lines, hoses, relief valves, reservoir, filters, and any other items necessary for the successful operation of the equipment. All components of hydraulic system shall be appropriately sized and configured to ensure successful operation of the system, including but not limited to:

- a. Filter system and all lines and hoses shall be sized to handle peak oil flowrate including the flowrate experienced during retraction of the telescoping cylinder.
- b. Unit shall have a 130-gallon tank mounted on front of Trailer with high-flow return line filters.

Hydraulic valve shall be an electric over hydraulic valve, directional valve to include manual and electrical actuation. Rated to 50 gpm. Manual and Electric for wireless capabilities. Must have (1) 1" main pressure in, and (2) 1-1/4" return lines with pilot for quick ejector blade return. (1) function for Ram, (1) function for top door. Located at front drivers' side of trailer.

Hydraulic system shall be designed and configured for ease of maintenance and ease of access, including but not limited to:

- a. Site glass with thermometer or approved equal shall be installed on reservoir tank. (2) tank mounted return filter (1) Rated 50 GPM (1) Rated 90 GPM.
- b. Hydraulic reservoir tank must be accessible and must have a large access port on side so that the entire tank can be cleaned out through the access port Must have a screw type filler cap/breather

The power source for the hydraulic system shall be a Kohler - 2504TCR 74HP @ 2600RPM. Kohler model 2504, T4, fully enclosed, black power unit with SAE "B" pad pump drive, instruments on 5' extension, and manuals. 3 year / 2000-hour warranty. Or approved equal, with all listed standard equipment, including but not limited to, battery, an

electric starter SAE3, Housing Instrument Panel, Manifold Muffler, Oil Bath Air Cleaner, automatic speed adjustment, safety shutdowns for failure, and sealed wiring harness. Ability to turnkey to "auto" or "remote" mode to flip a switch and turn engine on and off Ability to throttle at remote location, Able to provide turnkey power for wireless remote system.

The diesel engine shall be mounted on the front of trailer and be completely enclosed by front doors. A gear type hydraulic P-50 pump sized to operate the system with reservoir shall be coupled directly to the engine.

* (All other comparable Engine and Hydraulic packages must be listed as an exception on bid packet) *

The top loading door (open/close), ejector/compactor panel (ram in and ram out) and engine (start/stop) shall be set up to be controlled by one wireless battery-powered remote, capable of being operated from the dump level of the transfer station (manufacturer must supply transmitter and receiver for wireless remote system). Each trailer/engine must be able to be controlled independently by its own wireless remote. Contractor shall supply one extra/spare remote with the Trailer.

Ejection controls shall be mounted on the front driver side of the trailer. All hydraulic valves and piping shall be mounted on the exterior of the trailer. The trailer shall be equipped with the appropriate hydraulic valve(s) needed for operations.

Trailer shall be equipped with a wireless remote control. operate (1) engine Run, ON/Off (1) Ram In/Out (1) Top door Open/ Close. Transmitter shall be a pocket style waterproof. Receiver and transmitter shall only be for single trailer function. Transmitter shall not be coded for any other trailers.

COMPACTION/EJECTION ASSEMBLY

Ejection of load is to be accomplished by a hydraulic cylinder attached to an ejector compaction panel. Cylinder must be capable of fully ejecting entire contents of body with a single, continuous sweep. Unit shall have a hydraulically actuated ejector compaction panel constructed of 6"x 3"x 3/16" rectangular tubing and 6x3x3/16 Rectangular tubing, cross member reinforcement spaced every 14". Top edge of ejector panel face shall have a 12"x 6x3/16 triangle guide to prevent trash from rolling over the panel and to allow trash fall into hopper and not rest on top of panel. The front face of Ram shall be constructed of 3/16 high tensile grade 50 minimum. The ejector compaction panel shall be carried on a heavy duty "T-track" rail protruding above the Trailer floor at center line, full length of unit. The T-track must be made with minimum 5/8"x10" steel plate. Cylinder guides must side on T-track. The ram slide plate must be a minimum of 3/4 x 90", with 1-1/4 x 24" cylinder mount on slide track. Side wall guide are not acceptable. The panel shall be capable of moving from extreme front of Trailer to the extreme rear of Trailer, affording full capacity payload of Trailer body and complete ejection of payload. Ejection blade must not exceed more than 24" from front of Trailer. Complete ejection cycle not to exceed 2-1/2 minutes. The hydraulic cylinder shall be a five stage, double acting 8-1/2" main bore. Total force exerted on ejector panel shall be 99,000 pounds. Ejector compaction controls shall be mounted at front of Trailer and incorporated with main valve and top door.

The compaction/ejection assembly shall have the capability of reverse action at any intermediate point of travel and be equipped with suitable devices and safeguards to prevent the panel from damaging the rear door during the compaction operation.

Assembly fit to body cross section shall be to tolerances adequate to ensure minimum material by-pass and prevent binding during travel. Maximum gap between compaction ejection panel and trailer side walls shall be 1/2 inch.

* (All other compaction and ejection system designs must be listed as an exception on bid packet) *

EJECTOR/COMPACTOR CYLINDER

The ejector/compactor panel shall be powered by a double-acting, five-stage telescoping cylinder whose largest active stage shall be a minimum of 8-1/2" diameter. Activating thrust on the panel shall be 99,000 pounds minimum.

The cylinder shall be mounted on a horizontal plane parallel to the floor of the Trailer. The cylinder shall ride along a steel T-track rail on the trailer floor. Cylinder carrier guide must be a minimum of 3/4 steel. mounted to the T-track. Wheeled-supports for the cylinder will not be accepted. Tracks mounted to the side walls will not be accepted.

The bottom of the panel and cylinder housing over the T-track must be angled with 2x2x3/8 and sloped to prevent waste from clinging to blade and cylinder housing during ejection operations. Panels and cylinder housings shall effectively discharge the waste load in one push.

PAINTING

All sharp edges shall be grounded smoothly. The trailer shall be thoroughly cleaned to remove all grease, dirt, weld slag or foreign matter and painted with two finish coats of direct to metal Polyurethane. The finished color shall be Black

LIGHTS

The lights shall conform to all State, Federal and I.C.C. regulations. All rear facing lights must be integrated into the tailgate of the trailer.

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Bids may be mailed to the Virgil Town Hall 1176 Church St. Cortland, NY, 13045