BUILD SPECIFICATIONS

300 GALLON TRAILER MOUNTED JET RODDER
MODEL 3744

INTENT:
This specification describes a system that will use high-pressure water to clean and maintain sewer lines. The unit should be trailer mounted and able to transport self-contained water to worksite. The unit should use an auxiliary engine, water pump, and hose reel assembly to direct water into a sewer line.

The required system is a 300-gallon high-pressure water sewer jetter, mounted on a single axle trailer. The machine will be equipped with a self-contained, non-corrosive, non-metallic water tank supply as the water source for the high-pressure pump. The entire system shall be capable of being operated by one man, with all operating controls for high-pressure and hose reel mounted on a single control panel at the rear of the machine for operator safety.

GENERAL TERMS:
All equipment furnished under this contract shall be new and current production. Accessories not specifically mentioned herein, but necessary to furnish complete unit ready for use, shall also be included. Unit and shall conform to the best practice known to the body trade in design, quality of material and workmanship. The equipment furnished shall be manufactured in the USA.

PARTS MANUAL:
Bidder shall furnish complete parts, maintenance, and operator's manual with each body sold.

STATE DELIVERY TIME: TBD

TANK:

The capacity of the tank shall be at least 300 gallons

Construction shall be black high-density polyethylene with ultraviolet inhibitors to prevent undue brittleness when exposed to sunlight and shall be of round design for additional strength.. White or clear tanks will not be acceptable due to algae growth from sunlight. Tank shall have sight gauge visible from operator's station. The sight gauge shall be connected to the tank on the top and the bottom of the gauge. Open-ended gauges are not acceptable.

The tank shall have a minimum 10-year standard manufacturer's warranty.

A 2 ½" overhead- type tank filling assembly shall be located on the curbside. A positive air gap anti- siphon system shall be incorporated to protect the potable water supply. A 25' X 2" curb side filler hose with fittings and carrying rack.

The tank shall be vented and fitted with a suitable removable port to permit inspection and access into the tank.

The system shall incorporate a suction line and a sloped bottom tank to permit utilizing the entire bottom portion of the tank and settling chamber for heavy materials and to eliminate the possibility of these materials reaching the pump.

A final strainer shall be provided in the main water pump feed line. The strainer cap shall be removable by hand. Strainers requiring tools to remove the cap are unacceptable.

The tank shall be mounted in such a manner as to prohibit torsional racking of the frame from transmitting through the tank.

Tie down aluminum straps to be provided. Nylon tie down straps will not be accepted.

The tank shall have a minimum 2 ½" ball valve for isolating the filter strainer. Gate valves are not acceptable

PUMP:

The pump drive to be direct belt drive design. The pump shall have a minimum 2-year standard manufacturer's warranty.

The pump shall be Triplex positive displacement, heavy duty, single acting triple plunger type. It shall be installed to operate at 25 GPM at 4000 PSI.

Valves shall be hardened stainless steel disc type with stainless steel valve springs. Stainless Steel constructed Manifold (Fluid End)

To prevent friction loss, the water pressure line from water pump to the hose reel shall have no swivels or elbows.

The plungers shall be ceramic. Hardened steel shall not be accepted.

Wash down system to be equipped on trailer to Include:

- Hand Gun to operate 500 to 800 psi maximum
- 25 ft hand gun hose with quick connects on operator control panel

ARTICULATING HOSE REEL ASSEMBLY (Single Reel):

The unit shall be equipped with a hose reel having a capacity of 800" of 1/2" hose.

The hose reel shall be constructed of a minimum of 3/8" steel Minimum to withstand maximum working pressure without distortion. A hose footage counter to be supplied on unit.

The hose reel shall be driven by hydraulic power in both directions. The hydraulic drive shall have sufficient power to retract the hose when fully extended into the sewer with the cleaning nozzle in operation.

A hose guide shall be provided to permit proper alignment of the hose on the reel. The guide shall be pinned in place when not in use.

The hose reel articulation shall not require any hose swivels to assist in the movement of the reel. Units requiring additional swivels will not be acceptable.

The reel shall be so constructed that there are no elbows or fittings inside the drum to hinder winding and to cause maintenance problems. The hose shall enter the reel through the side flange to permit ease in winding and to minimize the possibility of damage to the hose.

The hose shall have a minimal I.D. of 1/2" minimum and rated minimum burst pressure of 10000 PSI.

The hose reel shall Hydraulically articulate 90 degrees to each side of center. The reel shall articulate on a heavy-duty worm gear. For operator's safety and ease of operation, the hose reel shall hydraulically lock in any position throughout its travel.

The reel lock system shall incorporate a fail-safe lock that will only operate with the engine in operation.

HOSE REEL DRIVE SYSTEM:

The hydraulic power for driving the hose reel shall consist of a pump driven by the engine: hydraulic motor with direct drive to the hose reel, an oil filter, oil reservoir, a direction and speed control valve with a built in overload relief, and hydraulic hose rated to withstand the maximum system pressure.

The hydraulic pump shall have a minimum capacity of 8 GPM at 2500 RPM.

The steel oil reservoir tank shall have a minimum capacity of 9 gallons.

The hydraulic oil filter shall be the spin-on, in-line type.

PIPING:

All piping systems subjected to high pressure shall be fabricated of high pressure piping with forged steel fittings. Pump suction lines and low pressure return piping systems may be standard weight pipe with malleable fittings. Heater hoses and vinyl are not acceptable for return hoses.

A strainer shall be installed in the suction line to prevent foreign material from damaging the pump, and at a location permitting ease accessibility for cleaning.

The unit design shall incorporate steel tubing running from the water pump area to the hose reel. This design will provide less down time and quicker repairs. Hoses running the total length of the unit are unacceptable.

Pressure to the sewer-cleaning nozzle shall be regulated by a relief valve adjustable from 0-4000 PSI.

The valve must be repairable; throw away type sealed units are not acceptable

ENGINE AUXILIARY:

The engine shall have a minimum 3 years standard manufacturer's warranty.

The engine shall be a industrial diesel. Tier 4 Water-cooled, heavy duty, industrial type having a rating of min 74 hp.

Engine to have top enclosure for weather protection and open on both sides for ease of maintenance. Engine enclosure to be constructed of aluminum.

The engine shall be installed so that it is easily accessible for maintenance and service.

All required accessories shall be furnished, including:

Instrument Package

12 volt ignition system with alternator and battery

Positive locking, vernier type throttle

Starter with lock starting switch

Replacement cartridge type oil filter

Positive crank case ventilation system

Governor to limit top RPM

CONTROL PANEL:

All gauges, switches, levers, necessary for the operation of the unit, shall be grouped on a single control panel adjacent to the hose reel, so the operator may have complete control of the cleaning operation while standing at one location.

The following instruments and controls shall be included on the control panel:

Keyed engine ignition switch and Positive locking, vernier type throttle

Pressure gauge, Auxiliary engine digital gauge package Tach,Hour ,oil pressure volts

Lever for controlling the speed and direction of the hose reel when moved from a central location

Lever for articulation and locking of hose reel.

Flow control valves for further control of reel speed for safety of operator.

Single lever water control valve shall regulate direction of water to hose reel or return to tank utilizing a high pressure valve assembly.

Hang gun quick connect.

Safety lanyard with operator clip for emergency shutdown.

Auxiliary engine digital gauge package Tach,Hour ,oil pressure volts

The control panel shall articulated with the hose reel when it is articulated for operator' safety and ease of operation

TRAILER

Single torsion axle 6000 LB

Frame, 6” x 3/16” minimum custom rolled industrial channel for operator’s safety Four (2) wheel electric brakes

2-5/16” ball hitch with height adjustment for 4 positions

Fenders shall be constructed of aluminum diamond tread plate.

TWO (2) 7.50 x 16LT 8Ply tires

Safety break-away switch

LIGHTING

Stop Lights
Tail light & direction light (recessed)
DOT/ICC lighting to meet Federal/State laws

STANDARD ACCESSORIES

The following items shall be delivered with the unit as standard accessories:

Toolbox shall be mounted on trailer for access of sewer nozzles, tools, etc., the box and lid will be constructed of aluminum diamond tread plate. The toolbox will be a minimum 52” x 26” x 15.5” and will have a lockable lid.

For the safety of operator and protection of fenders, steps shall be provided for tank inspection construction of fenders to be steel tread plate.

One stainless steel sewer-cleaning nozzle having five 35-degree rearward jets.

One stainless steel sewer-cleaning nozzle having five 15-degree rearward jets.

One skid assembly, 6” long, threaded for hose fittings and nozzles.

400’ high pressure 4000 PSI sewer hose 1/2” I.D.

10’ high pressure 4000 PSI leader hose 1/2” I.D.

“Tiger Tail” hose protector.

Nozzle rack in tool box.

PAINTING

Each component shall be painted/Lined separately prior to assembly.

The entire unit shall be painted/Lined standard Colors.