CITY OF NORWICH, DEPARTMENT OF PUBLIC WORKS
ONE CITY PLAZA
NORWICH, NEW YORK

Phone 607-334-1255
Fax 607-334-1254

The City of Norwich DPW is requesting bids for a new Sewer Cleaner Truck.

Sealed bids will be received at the Office of the City Clerk, One City Plaza, Norwich, NY 13815 until February 13th at 2:00 p.m.

Bids shall be submitted in an opaque envelope having clearly marked thereon “Sewer Cleaner Truck Bid” to be opened at City Hall on February 13th at 2:00 p.m

The attached Non-Collusion Affidavit must be completed and submitted with the bid proposal. Bids submitted without the Non-Collusion Affidavit will be rejected.

The City reserves the right to reject any and all bids.

The successful bidder shall deliver the new truck to the City no later than 120 days from order. Manufacturers standard warranty shall be provided for all equipment.

The equipment shall meet or exceed the following attached specifications:

Truck Mounted High Pressure Sewer Cleaner equipped with the following:

Truck:

- 2025 or newer Freightliner M2 or Approved Equal
- Engine Cummins Isb, 250 Hp
- Engine Brake, Block Heater
- Allison 3000RDS, Automatic
- Bumper & Mudflaps
- Hitch receiver
- Chassis Painted White

Engine/Pump:

- FE Meyers 65 gpm @ 2000 psi
- Hydrostatic Drive via World Trans
- Lighted NEMA 4 control panel
- Hour Meter & Tachometer
- Air Purge Valve
- Recirculation System
- Painted Steel Shroud with 3 rollup doors
- 80,000 BTU compartment heater

Hose Reel:

- Rear Mounted Safety Hose Reel Rotating & Telescoping with 700' x 1" Hose capacity
- Hose Reel Painted Black

Water Tank & Fill:

- 1500 gal. black Duraprolene™ Tank 2.5" Fill System
- Two 4” tank drains, one at each front corner with ball valves and cam lock fittings

Rear Compartment Options:

- Automatic Level Wind W/ Hydraulic Up-Down Action
- Footage Meter ~ Mounted On Jet Hose Reel
- Hydraulic Pressure Gauge
- 600' Of Sewer Hose ~ 1" Id @ 2500 Psi
- 1" Rigid Board Insulation Inside Heated Shroud
- Compartment Painted White

Lighting & Control Options:

- Engine/Water Pump Compartment Light
- Led Strobe Lights ~ (8) Flat Mount on Each Corner Of Shroud
- Led Flood Light
- Led Arrow Stick
- Master Pendant Control With 35' Cord ~ With Hose F-N-R Control, Throttle Up/Down
- Variable Speed Control, Water On/Off, Kill Switch, Includes Manifold Hydraulics

Truck Mounting & Misc:

- Air Purge System ~ Powered By Chassis
- Rear Gauge Cluster ~ Volts, Water Temp, Oil Pressure
- Steel Skirting and Aluminum Toolboxes (5)
- Six (6) 18" Dot Safety Cones with Holder

Accessories:

- 10ft Leader Hose
- BB Hose Guide
- Tri-Star (chisel point) nozzle
- DD (high flow) nozzle
- Finned Nozzle extension
- Nozzle Rack
- 25' Fill Hose
- Washdown gun w/ 25' ext. Hose
- Upstream Pulley Guide
- Paper Operator/Owner Manual

Delivery to be within 120 days after order.

Bid Specifications
TRUCK MOUNTED SEWER JETTER

YES **NO**

Please check "YES" or "NO" for each item below. Items checked "YES" must meet specifications exactly. For all items checked "NO", please clearly note differences on a separate sheet of paper. The City reserves the right to review exceptions and judge the possibility of their acceptability. Failure to note exceptions will cause rejection of a said bid.

A. GENERAL:

It is the intent of these specifications to describe the minimum requirements for a new High Pressure Water Jet designed for the removal of sand, dirt, grease, detergents, other materials normally found in grease traps, storm drain, laterals and sanitary pipes. The machine described will be designed to deliver high performance capabilities and provide maximum safety and convenience. All parts not specifically mentioned which are required for complete unit shall conform in design, strength, quality of material, and workmanship to the highest standards of engineering practice.

B. WATER TANK:

1. Tank shall be constructed of welded/repairable .750", U.V. stabilized Duraprolene™ with a ten (10) year factory warranty. The Duraprolene™ is to be ultraviolet stabilized to prevent material break down. Total tank capacity shall be 1,500 gallons of water with two interconnected 750 gallon tanks. The tanks shall be interconnected within the heated compartment with a 4" crossover pipe. The baffles in the tank will be constructed of .750" Duraprolene™. These baffles will reduce sloshing and distortion by forming internal compartments. Tank bottom will be flat bottom type; pump intake will be located such to allow sediment to settle at tank bottom rather than entering and damaging pump. Entire tank top shall be completely removable for safe access of personnel entry during maintenance.

2. Tanks constructed of steel will not be acceptable due to the potential of water pump damage by rust and corrosion particles.

4. Tanks constructed of steel will not be acceptable due to the potential of water pump damage by rust and corrosion particles.

5. Tank draining shall be provided via a 4" drain valve at each front corner of tanks minimum.

6. All plumbing from water tank to pump inlet shall contain the tank valve, inline filter, and water dump valve.

7. A water level sight gauge shall be provided on both sides of the tank.

8. Tanks must be secured with resilient nylon straps that wrap around tank. Bolt on tanks or tanks secured with metal straps will not be accepted.

9. Rotationally molded tanks or tanks constructed of polyethylene will not be acceptable due to inadequate UV protection and lack of repairability.

C. FILL SYSTEM:

1. Tank filling shall be possible from both curbside and street side.

2. Tank fill system shall utilize a quick disconnect cam lock fitting for 2-1/2" fill hose.

3. The water tank shall have a LED Level Indicator at the operator station that uses pressure transducers. The Indicator will feature nine (9) easy to see super bright LEDs with a wide view lens over the LEDs to provide a viewing angle of 180 degrees. Low Water warnings shall include flashing LEDs at 1/4 tank, and down chasing LEDs when the tank is almost empty. The indicator shall be programmable from the display and shall support self-diagnostics capabilities, self-calibration, and a data-link to connect remote indicators. Water Level Indicators that use float sensors will not be acceptable.

4. A water level sight gauge will be located on street side and on curbside.

YES **NO**

5. A four-inch (4") air gap will be utilized between fill pipe and tank fill opening. The gap will utilize a stainless steel ball float/seating system. The float system is completely rust proof and provides the needed space between the inlet and the tank to protect from siphoning and back flow during hard stops.

6. A 2-1/2" hose storage rack shall be supplied rigid mounted to the machine.

D. WATER PUMP:

1. Pump shall be positive displacement, heavy duty, and single acting Giant Pump having a capacity of at least 65 GPM at 2,000 PSI.
2. Pump shall have solid ceramic plungers and be capable of continuous operation at maximum designed pressure as well as running dry without damage. The run dry feature shall not require any type of clutch or low water warning system.
3. Pump shall consist of three (3) cylinders for smooth operation. In addition, the pump shall be protected from over pressurizing by a pressure relief valve.
4. Blowout disc safety relief systems are not acceptable as they are prone to nuisance failures.
5. The water pump must be located with liquid end facing out to allow servicing the pump at ground level.
6. The water pump shall be direct coupled to a hydraulic motor. Drive systems incorporating any type of flexible coupling or belt drive system are not deemed acceptable due to maintenance related issues.
7. Pump should have an air gap between the crankcase and plunger to prevent water from entering the crankcase in the event of valve failure.
8. Pump suction to be constructed of corrosion resistant piping with integral "Y" strainer for protecting the pump suction.
9. Pump shall be capable of pumping fresh, salt, and brackish water as well as specified chemicals without damage to the pump. In addition, the pump shall be rated for temperatures of at least 120 degrees.
10. As standard equipment, the unit will have a recirculating valve that allows the operator to run water through the entire jetting system during cold weather operation.
11. Pump to be fitted with drain valves for complete draining of water pump. All winterizing drains and wye strainer shall be plumbed so that all water drains into a water tray. Water draining to the deck will not be acceptable.
12. The water pump shall be equipped with a Air Purge System for protection to high-pressure pump and hose during freezing conditions.
13. As standard equipment, the unit will have a recirculating valve that allows the operator to run water through the entire jetting system during cold weather operation.

E. ROTATING SAFETY HOSE REEL AND CONTROLS:

1. The Safety Reel will rotate a full 180 degrees providing easy access to manholes. The 180 degree rotation will enable the operator to position the machine out of the traffic pattern and provide protection while operating the machine. The rotating ability of the hose reel allows the operator to manipulate the hose reel into various positions depending on location of manhole. This allows for proper positioning of the hose reel without backing up or repositioning the sewer machine. The hose reel is mounted on an industrial swivel bearing that is sealed and eliminates contamination from dirt. This industrial swivel bearing shall have minimum requirements of 7.88 I.D., 14" O.D., and 2" thickness. The industrial swivel bearing shall have a minimum load bearing weight of 5,000 ft.-lbs. The bearing design shall have no wear points except the greasable ball bearings and the races, which are constructed of hardened steel to minimize wear. The bearing design minimizes any friction for easy pivoting. The rotating hose reel will lock into position using a spring-loaded safety pin at 2" intervals.

YES	NO		
		2.	The hose reel shall be constructed of 1/4” steel, designed to withstand maximum working pressure without distortion.
		3.	Hose reel shall have a capacity of 800’ of 3/4” or 700' of 1" high-pressure sewer hose.
		4.	The outside diameter of the hose reel drum shall not exceed 42” for standard capacity hose reel and 52" for high capacity hose reel.
		5.	Outer edges of reel shall have a rolled, flanged edge with a minimum width of 1-1/2" to add strength and to eliminate damage to hose by sharp reel edges. Reels without rolled edges are not acceptable.
		6.	The design of the reel shall include a minimum 1/4" deep "shoulder" machined into the shaft that traps the reel between the bearing blocks on the either side of the reel. This shoulder eliminates side-to-side movement of the reel and prevent the shaft from sliding out from the reel and creating a safety hazard. In addition, the shoulders shall improve the ability of the system to handle any thrust (side) loads on the reel assembly.
		7.	The center of the reel shall include at least three baffle structures that reinforce the center of the drum. The reel shall be specially designed to handle all the loads that have been measured during cleaning operations, including the pull force from the operation of the nozzle, and the compressive forces from the pressurization of the hose.
		8.	The reel shall be an enclosed structure with no moving parts and no hoses exposed to the outside of the reel. This will protect the hoses and minimize the chance of injuries due to moving parts. Exposed hoses shall not be acceptable.
		9.	All hose connections must be accessible to allow tightening without removing the sewer hose.
		10.	All hoses used to supply the hose reel or its hydraulic system shall be flexible and shall be fully enclosed in a shroud and routed underneath the reel structure below the reel drum. The hoses shall be fully secured and protected against chafing and rubbing.
		11.	The reel shall be driven with hydraulic power in both directions. The hydraulic drive shall have sufficient power to retract the hose when fully extended into the pipe with the cleaning nozzle in operation.
		12.	A hydraulic valve shall be provided to allow freewheeling of the hose reel with the engine on or off.
		13.	The hydraulic drive motor that powers the hose reel shall be of a floating mount design and NOT integral to the reel support system. A standard duty set screw ball bearing must be utilized to support both sides of the reel. Units that utilize the reel drive motor as a part of the reel weight bearing system are not acceptable. Reel shall be direct drive, no chains or sprockets are to be associated with the drive system.
		14.	Reel rotation shall have a dampened start stop to avoid abrubt action when using remote control.
		15.	The hydraulic controls for the hose reel will consist of: a variable reel speed control and forward/neutral/reverse/detent directional control.
		16.	Controls shall be mounted in a watertight NEMA 4 enclosure on the rotating hose reel control panel shall consist of: work mode switch, water pump switch, throttle control, hour meter, water pressure dial, reel speed dial, pendant switch, light switches, and water level indicator. Some controls may be option content dependant.
		17.	All control wiring shall be color coded to function.
		18.	The control panel will have a digital display water pressure gauge.
		19.	The control panel will have an LED light to illuminate the control panel during operation.
		20.	The Sewer Hose Reel shall be equipped with an Automatic Level Wind, which allows for “hands-free” winding of sewer hose onto the hose reel. This option will incorporate a drive system, which scrolls a pivoting four roller head back and forth across the hose reel for proper winding of sewer hose onto reel. Four roller heads shall be easily calibrated left and right without the need for tools. The system is equipped with a hydraulic controlled elevation system, which incorporates dual cylinders and a pivot arm to raise and lower the level wind guide depending on location of manhole. Level Wind raises/lowers minimum of 45 degrees.

YES	NO		
____	____	21.	An LED flood light will be equipped on the hose reel to illuminate work area**.**
____	____	22.	The unit will be supplied with a Referance Counter that includes a digital screen with LCD display. The Referance Counter measures the rotation of the hose reel and takes into account the diameter of the hose, the length of the hose, and the diameter of the hose reel drum. Based on that information, the Referance Counter calculates the progress of the nozzle to the accuracy of +/- 10% and sends this information to the display screen. The Referance Counter operates on 12 volts. The Digital Distance Counter should be capable of displaying either English or Spanish language and distances in either feet or meters.

F. SEWER HOSE:

____	____	1.	The unit will be supplied with 600' x 1" 2500 PSI sewer cleaner hose capable of cleaning residential, commercial, or sanitary service lines, storm lines, culverts, drainage tiles, and other open conducts.

G. HYDROSTATIC DRIVE SYSTEM:

____	____	1.	The water pump will be driven by a hydrostatic system, which is powered by the truck engine via a PTO mounted to the transmission. The PTO drives a shaft, which powers a hydrostatic transmission pump. This hydrostatic transmission pump is responsible for driving a hydraulic motor, which drives the water pump. Mounted to the hydrostatic pump is a hydraulic pump, which is responsible for supplying power to all hydraulic functions including the hydraulic motor that drives the hose reel. The hydrostat must be controlled via electronically controlled by two seperate signals.
____	____	2.	Cable or other means of manual pump controls are not permitted.
____	____	3.	Transfer cases are not permissable. Truck must be in neutral for operation. This eliminates the safety risk of the truck unexpectingly moving which has caused fatalities from other manufacturers.
____	____	4.	PTO shall be constant mesh allowing for water recirculation at highway speeds. This is to prevent stagnent water from freezing during cold temperature.
____	____	5.	The hydraulic oil reserve capacity will be at least thirty (30) U.S. gallons with oil temperature indicator. This unit will also be equipped with low hydraulic oil indicator light located at the operator's station to signal loss of hydraulic oil. The return line hydraulic filter shall be cartridge style and integral to the reservoir.
____	____	6.	The hydraulic oil shall be cooled by a high efficiency air to oil heat exchange system. Systems utilizing shell in tube water to oil coolers are not acceptable do to risk of freezing and water contamination of hydraulic oil.
____	____	7.	Shut-off valves will be installed on the suction lines of facilitate servicing of the hydraulic pump without the need of draining.
____	____	8.	The hydraulic oil reservoir, hydraulic cooler, water pump, and rear hydraulic motor are to be mounted above the chassis frame rails in the enclosed, heated pump compartment located at the rear of the water tank.

H. PIPING:

____	____	1.	All piping systems subjected to high pressure shall use zinc chromate plated steel or stainless steel fittings with minimum burst pressure of four times the system pressure. Hoses working pressure ratings shall exceed the maximum system pressure.
____	____	2.	A strainer with a minimum of 80/20 mesh screen shall be installed in the suction line at a location accessible for cleaning.
____	____	3.	All piping shall be installed to drain by gravity through suitable openings equipped with plugs, drain cocks, or ball valves.
____	____	4.	Pressure to the cleaning nozzle, shall be regulated by an overload relief valve.

YES	NO		
____	____	5.	The water supply for jetting shall be directly controlled by the water pump. No water diverter or directional valves are allowed due to significant wear issues at said valves.
____	____	6.	Recirculation shall be avaible for all jetting circuits at highway speeds. Control for the recirculation system shall be located in the cab. Systems utilizing electric pumps are not acceptable.
____	____	7.	Water delivery to hose reel shall pass through a single 90-degree swivel rotary coupling.
____	____	8.	All water control valves shall be manual. Electropneumatic valves are not acceptable.
____	____	9.	All water control valves shall be centrally located on the curb side of the heated enclosure.
____	____	10.	A quick connect will be available to air purge the system for winterization.

I. TRUCK:

____	____	1.	Manufacturer must be registered with the National Highway Traffic Safety Administration (NHTSA) and the finished machine must comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS).
____	____	2.	The frame shall utilize a modular design (Vari-Flex or equal) approach such that the unit will accept any alteration of hose reel assembly or pump and engine combination without ANY welding. All future product upgrades for hose reel and/or pump and engine combinations MUST bolt in to the existing unit for purposes of easy upgrade-ability.
____	____	3.	The frame shall be heavy gauge steel tubing construction with the outer frame being of a 2"x6" construction. Steel thickness on frame tubes shall be minimum of 3/16".
____	____	4.	Floor decking of rear body will be constructed of 11-gauge steel. Said flooring shall also be treated with a non-skid coating for maximum protection from slipping.
____	____	5.	The frame shall be mounted with flexible, shackle mounts at the front of the module and a rear bumper welded to the frame and rigid bolted to the chassis frame to allow shock protection to the module and secure mounting to the chassis with even load distribution to the chassis.
____	____	6.	The frame shall include a bumper that classifies as rear-end protection compliant to applicable DOT laws.

J. REAR COMPARTMENT:

____	____	1.	Rear compartment shroud will be constructed of steel to protect all components located at the rear of the tank. The Rear compartment shall be designed for total enclosure of major components including the water pump, hydrostatic motor, hose reel with associated plumbing, and sewer hose.
____	____	2.	Rear compartment shroud must be of a one-piece construction including sides and top to allow for easy removal and eliminate any corrosion as the result of bolt together joints and seams. Bolt together designs are not aceptable.
____	____	3.	Rear compartment shroud shall utilize three (3) "upward acting" compartment doors which incorporate a header/counter balance design. The doors made of anodized aluminum panels, which maximize maneuverability, minimize vehicle width and eliminate the safety hazard of open-hinged doors. Panels will have no rollers or cables, will resist rust and will be virtually maintenance free. Doors will include stainless steel, lockable and keyed alike heavy duty handles. The latch system to be a full width one piece lift bar operable by one hand. Each slat must have overlapping end clips to prevent slat from moving side to side. Top and side seals will prevent dust, dirt and moisture from entry compartment. Door shall have a 3" or less diameter counterbalance operator drum to assist in lifting the door. Hinged doors that protrude into work area, invite accident or personal injury, and could result in severe structural damage if vehicle is moved with hinged doors open, cannot be accepted.
____	____	4.	The rear compartment shroud will utilize two deluxe roll-up doors on either side. These doors will measure 48” wide x 52” high. These doors allow for complete access to rear compartment.

YES	NO		
		5.	The rear compartment will utilize a deluxe roll-up door on the rear of unit that will measure 86" wide x 72" high. This door will protect components when closed and allow telescoping extension of hose reel when opened.
		6.	The rear roll-up door will be equipped with an automatic safety switch, which will sound an audible alarm if the hose reel is extended or retracted when the door is not fully open.
		7.	The hose reel shall have the ability to extend out from the rear compartment via a hydraulically powered cylinder.
		8.	The cylinder shall extend the hose reel far enough to close the rear door after extending the reel. This feature allows retention of heat in cold weather operation and washing of the hose reel assembly outside of the rear compartment.
		9.	Hose reel extension shall utilize maintenance free, high density, UHMW slides. Designs utilizing rollers and or bearings are not acceptable due to long term wear.
		10.	Rotating reels using plastic material and/or sliding contact or other wear surfaces for swivel action will not be accepted.
		11.	A repairable, greaseable, 90-degree swivel rotary coupling will be placed in the center of the reel rotation bearing to ease rotation and eliminate twisting of the water supply line when the reel is rotated left and right.
		12.	The rear compartment shall be totally enclosed and heated with an 80,000 BTU heater. The heating of the compartment will prevent accidents and mechanical damage caused by ice build-up in hose (which can lead to hose bursts) and freezing of the high-pressure piping and/or water pump and will enhance overall ease of operations.
		13.	The rear compartment shal have polar pack installed including insulation on the walls and flooring.
		14.	Truck will include eight (8) amber LED strobe lights, of which two (2) are mounted in the grill of the chassis, two (2) are mounted on the curbside of the shroud, two (2) are mounted on the roadside of the shroud, and two (2) are mounted on the rear of the shroud.
		15.	Truck will include an amber LED Arrow Stick mounted to the rear of the shroud.
		16.	Truck unit will be equipped with six (6) D.O.T. safety cones mounted on a cone holder with retaining pin.

K. TOOL STORAGE:

		1.	Unit will include five (5) aluminum underbody toolboxes of which two (2) toolboxes in front of the rear axle are minimum 18" x 18" x 30", two toolboxes behind the rear axle are minimum 18" x 18" x 36", and one toolbox across the back of the unit is 10" x 19" x 54". The toolbox will be protected from the effects of water and road dust by a thick, automotive "bulb type" neoprene door seal. A heavy duty handle (locking style) will be provided on toolboxes.
		2.	The toolboxes will be protected from the effects of water and road dust by a thick, automotive "bulb type" neoprene door seal. A heavy duty handle will be provided on toolboxes and will all be keyed the same as the rear compartment shroud doors.

L. CONTROL PANEL:

		1.	All switches and/or engine controls shall be housed in a NEMA 4 enclosure to insure maximum protections against the elements.
		2.	All electrical connections shall be made via water-tight NEMA 4 equivalent splices. All splices shall be soldered and insulated with shrink tubing.
		3.	The main power supply shall have circuit protection and come direct from the chassis's battery. All functions shall de-energize when the ignition switch is turned off. The ignition switch shall be used to energize various relays but not as a main power source.
		4.	A dedicated ground shall be supplied to the control panel to assure a positive ground for all devices. Local grounding of the devices is not acceptable.
		5.	All electrical wiring shall be protected by suitable loom.

YES **NO**

6. All control logic shall be wired to a centerally located module which contains power supply, fuses, and relays for all functions of the machine. Module must be reachable from ground level, specifies fuse/relay locations, and provide a single place for power distribution.

M. HIGH PRESSURE HAND GUN SYSTEM:

1. The clean-up systems will include a wash-down gun, 25' of 1/2" ID hose, and will be equipped with a quick-disconnect fitting near the operator's station.
2. The gun shall be a machine grip with trigger shut-off and guard.
3. The high-pressure hose shall have a rating of 3,000-PSI working pressure and a 12,000 PSI burst pressure.
4. The cleaning system shall have its own relief set at 500 PSI.

N. PAINTING:

1. Before painting, all metal shall be cleaned and etched with a phosphoric wash to insure permanent bond of primer and paint.
2. All components of the unit whether purchased or manufactured shall be BOTH primed and painted prior to assembly in order to assure maximum resistance to corrosion. Painting after the assembly process is NOT acceptable.
3. The unit shall have the frame painted black, shroud painted white, and the hose reel and shall be painted Sewer Equipment Blue.

O. ACCESSORIES:

1. one (1) 10' x 3/4" leader hose
2. one (1) finned nozzle extension
3. one (1) 15 degree penetrator nozzle
4. one (1) 35 degree flushing nozzle
5. one (1) nozzle rack
6. one (1) BB hose guide
7. one (1) Upstream pulley guide
8. one (1) 25' x 2-1/2" fill hose
9. one (1) paper operator's manual

P. CHASSIS:

1. 2025 Freightliner M2 106 PLUS
2. Cummins B6.7 Diesel 250 HP, 660 LB-FT @ 1600 RPM
3. Allison 3000 Automatic Transmission
4. 12,000 Lb Front Axle
5. 21,000 Lb Rear Axle
6. 33,000 GVWR
7. Color: White