

ADVERTISEMENT FOR BIDS

Charter Township of Union

2010 South Lincoln Road

Mt. Pleasant, MI 48858

Separate sealed Bids for the purchase of one (1) 2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy- Duty Chassis Truck will be received by the Charter Township of Union at the Charter Township of Union Public Services Office located at, 5228 South Isabella Road, Mt. Pleasant, Michigan 48858 until 10:00 AM Local Time, Tuesday August 24, 2021, and then at said location publicly opened and read aloud.

The Information for Bidders, may be examined/obtained on the Charter Township of Union website as follows:

[www.uniontownshipmi.com/utilities/rfp](http://www.uniontownshipmi.com/utilities/rfp)

Bids received after the above date and time will not be considered. Fax transmittals and e-mailed Bids will not be accepted.

**The Owner reserves the right to waive any informality or to reject any or all Bids.**

**No Bidder may withdraw their Bid within 90 days after the actual date of Bid opening.**

Charter Township of Union  
Public Services Department



**Department of Public Services**  
5228 South Isabella Road  
Mt. Pleasant, MI 48858  
Phone (989) 772 4600 ext. 224  
Fax (989) 773 1988  
E Mail [ksmith@uniontownshipmi.com](mailto:ksmith@uniontownshipmi.com)

## **Notice to Bidders**

### **Charter Township of Union, Michigan**

#### **2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy-Duty Chassis**

The Charter Township of Union is accepting sealed bids for the purchase of one (1) 2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy- Duty Chassis Truck.

Bids will be accepted until **August 24, 2021**, at, **10:00 am.**, at which time they will be opened and read aloud at the Public Services Department office located at 5228 South Isabella Road, Mt. Pleasant, MI 48858.

To view and download complete specifications, visit the Charter Township of Union website at [www.uniontownshipmi.com/utilities/rfp](http://www.uniontownshipmi.com/utilities/rfp)

Bids are solicited on a lump sum basis.

All bids are to be sealed and clearly marked "Bid for "2021 Heavy-Duty Combination Sewer Cleaner Truck"

The Charter Township of Union reserves the right to accept or reject any and all bids and to select the bid considered most advantageous to the Charter Township of Union.



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## **Charter Township of Union, Michigan**

### **2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy-Duty Chassis**

#### **PURPOSE:**

The intent of this specification is to provide for the purchase of one (1) new and unused single engine combination sewer and catch basin cleaner used for removing all debris commonly found in storm basins and leads and/or sanitary sewer lines and manhole structures using a front mounted operating station. The unit shall consist of a centrifugal compressor vacuum system, a hydraulically driven high pressure water pump, an enclosed sealed body for storage of collected debris and equipped with a self-contained water supply as the source for the water pump system. The unit shall have the capability of operating both vacuum and water system simultaneously at full operating speeds continuously. The Centrifugal Compressor system shall be powered by a hydrostatic drive system.

#### **INSTRUCTION TO BIDDERS**

##### **1. Proposals**

Proposals must be made upon the forms provided, therefore, with the Bid amount both written and shown in figures, and all other data required submitted.

The Proposal, with all Proposal Documents, must be enclosed in a sealed envelope marked as specified in the Notice to Bidders for such Bid and clearly indicating the name and address of the Bidder and must be received by the Public Services Director, Union Township Public Services Building, 5228 South Isabella Road, Mt. Pleasant Michigan 48858, no later than the time and date specified in the Notice to Bidders. At such specified time, proposals shall be publicly opened and read aloud.

##### **2. Basis of Proposals**

Proposals are solicited on the basis of unit price(s) and/or lump sum(s), as specified on the Proposal form.

The Charter Township of Union, (also referred to as "Owner"), reserves the right to accept any Bid, to reject any or all Bids, and to waive any irregularities in the Bids, and to select the Bid considered most advantageous to the Township.



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### **3. Comparison of Bids**

In comparing Bids, consideration shall be given to the time proposed for completion of the Contract, qualifications of Bidder, delivery time, price differentials, alternate Proposals for the alternate items listed in the Proposal (if applicable), and any other pertinent factors.

The Owner reserves the right to make an award to the Bidder whose Proposal is deemed to be in the best interest of the Owner.

### **4. Time**

Time is of the essence in the performance of the Contract, and each Bidder, by submitting a Proposal, certifies his/her acceptance of the time allowed by the Contract for the delivery of the equipment. If bidder is not able to meet time specified in the bid documents, then a detailed schedule for delivery must accompany the bid proposal.

### **5. Equivalent Product**

Bids will be accepted for consideration on any make or model that is equal or superior to the equipment specified. Decisions of equivalency will be at the sole interpretation of the Charter Township of Union Township.

Bidder shall demonstrate a reasonable likeness of the equipment being offered within a reasonable time of request. Equipment demonstrated shall be equipped with all accessories and components required in this specification to ascertain equivalence.

A blanket statement that equipment proposed will meet all requirements will not be sufficient to establish equivalence. Two sets of the original manufacturer's brochures of the proposed unit are to be submitted with the proposal.

### **6. Indemnification**

The Contractor/Vendor shall save and hold harmless the Charter Township of Union and its employees from and against all claims, damages, losses, or expenses, including attorney's fees, arising out of or resulting from the performance of the work; provided that any such claim, damage, loss or expense is caused in whole or in part by any negligent or willful act of omission of the Contractor, subcontractor, employee, or anyone under their direction. The Contractor shall at his/her own expense, defend any and all such actions and shall pay all attorney's fees, costs, and expenses pertaining thereto.

### **7. Interpretation of Documents**

If any Bidder is in doubt as to the true meaning of any part of the Plans, Specifications or any Contract Document, he/she may submit to the Owner a written request for an interpretation thereof. Any interpretation made in response to such query shall be made only by Addendum, duly issued, and a copy of such Addendum shall be posted on our website no later than five



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days prior to bid due date. The Owner shall not be responsible for any other explanation or interpretation of the Contract Documents.

## **8. Execution of Bid Proposal**

A Bid Proposal must be signed by the individual making it and who is duly authorized by the vendor to submit such proposal/bid on their behalf.

A Bid Proposal, which is signed by a partnership, shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there should be attached to the Bid, a Power of Attorney evidencing authority to sign the Bid Proposal in the name of the partnership and such Power of Attorney shall be signed by all partners of the partnership.

A Bid Proposal, which is signed for a corporation should have the correct corporate name thereof and the signature of the President, or other authorized officer(s)/individual of the corporation, manually written below the corporate name and on the line indicating "By:

\_\_\_\_\_."

## **9. Delivery**

The successful Bidder shall deliver equipment and/or materials as specified to the Charter Township of Union, within **180 days** of acceptance of bid to 4795 S Mission Road Mt. Pleasant, MI 48858, or as specified in the proposal. The proposal amount should include delivery F.O.B to Mt. Pleasant. All equipment, literature, manuals, warranty papers, and any other items listed in the specifications of the equipment or materials, must be delivered before payment in accordance with this contract. If bidder is not able to meet the time specified in the bid documents for delivery, then a detailed schedule for delivery must accompany the bid proposal.

## **10. Miscellaneous**

When delivered, the vehicle shall comply with all applicable MDOT, EPA, OSHA and FMVSS regulations and all provisions of the Michigan Vehicle Code as they apply to vehicles of this division.

## **10. Special Provisions**

- All bids shall be in strict accordance with all provisions contained herein and shall comply with the specifications attached hereto.
- Bids shall be submitted on the printed forms provided for that purpose.
- Bid forms shall be completed in full.
- The complete set of proposal documents shall be submitted with the proposal.



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- Exceptions shall be explained in detail on a separate page.
- A bidder shall not stipulate in his proposal any condition not contained in the proposal documents.
- Any qualifying statements or conditions may be considered irregular and as not being responsive to the Advertisement for Bids.
- Each bidder shall furnish with his proposal two copies of descriptive literature on the equipment being bid and the manufacturer's specifications in complete detail. Said brochure and manufacturer's specifications shall be sufficiently detailed to permit proper evaluation of bid.
- When delivered the truck shall be complete in all parts and ready for immediate use.
- The manufacturer shall warranty the truck and equipment against defective materials and workmanship per specifications.
- A statement providing the period of warranty coverage in both mileage/hours and in calendar time shall be provided and shall state any exclusions of units/parts.
- Any item not specifically excluded in this statement shall be fully covered by the warranty.
- Any defects shall be promptly corrected without cost to the Charter Township of Union.
- No charges will be allowed for taxes. The Charter Township of Union is exempt from all Federal, State and Local taxes. The successful bidder will be provided with a copy of the Charter Township of Union Tax Exempt Form upon award of bid.
- The completed unit shall be equipped with the manufacture's equipment and accessories which are included as standard in the published literature for the unit. No such item of equipment or accessory shall be removed or omitted for the reason that it was not specified. Standard product items may be removed only where it is necessary to install other items in lieu thereof in order to comply with these specifications.
- All articles provided shall be new, unused and of current design and production.

Questions regarding the bid documents and/or technical items contained in these specifications should be directed in writing via e-mail at least five days prior to bid opening date to:

John Bebow  
Charter Township of Union  
Utility Foreman  
[jbebow@uniontownshipmi.com](mailto:jbebow@uniontownshipmi.com)  
cc: [ksmith@uniontownshipmi.com](mailto:ksmith@uniontownshipmi.com)



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**11. Affidavits**

The Affidavits included in these Contract Documents must be executed and submitted with the bid.

**Charter Township of Union, Michigan**

**2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy-Duty Chassis**

**Proposal**

**TO:** Office of the Public Services Director  
 Charter Township of Union  
 5228 South Isabella Road  
 Mt. Pleasant, MI 48858

**BID DATE:** August 24, 2021  
**TIME:** 10:00 a.m.

In accordance with the specifications and other bid requirements heretofore provided, the undersigned agrees to provide the below listed bid items at the price(s) set forth below.

**This is a firm bid and not subject to withdrawal or change for a period of ninety (90) days.**

<b><u>QTY</u></b>	<b><u>BID ITEM</u></b>	<b><u>TOTAL</u></b>
<b>1</b>	<b>2021 Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy-Duty Chassis Truck.</b>	

Lump Sum Per bid specifications 1 each \$ \_\_\_\_\_  
**TOTAL \$** \_\_\_\_\_  
 (Figures)

(Written)

\_\_\_\_\_ and \_\_\_\_\_/100 Dollars.

**Respectfully Submitted,**

COMPANY: \_\_\_\_\_ DATE \_\_\_\_\_



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ADDRESS: \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TELEPHONE \_\_\_\_\_ FAX \_\_\_\_\_

AUTHORIZED SIGNATURE \_\_\_\_\_

PRINT OR TYPE NAME & TITLE \_\_\_\_\_

EMAIL \_\_\_\_\_





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Bidders are required to complete the certification at the end of this section of the bid by signing in the provided space. This section verifies that the unit complies with the listed specifications. Any deviations from the bid specifications or bid documents shall be fully disclosed and provided on a separate sheet outlining all deviations. Failure to do so will deem the proposal incomplete and will not be considered.



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**BID SPECIFICIATIONS FOR COMBINATION SEWER CLEANER VACUUM TRUCK**

**Model Year:** 2021

**Class:** Combination Single Engine Dual Stage Sewer Cleaner with Hydrostatic Driven Vacuum System Mounted on a Heavy-Duty Chassis Truck.

**GENERAL**

The specification herein states the minimum requirements of the Charter Township of Union. All bids must be regular in every respect. Unauthorized conditions, limitations, or provisions shall be cause for rejection. Any bid not prepared and submitted in accordance with the bid document and specification, or any bid lacking sufficient technical literature to enable the Union Township to make a reasonable determination of compliance to the specification will be considered "non-responsive" and grounds for rejection.

	COMPLY	
	YES	NO
<b>SUBFRAME</b>		
<i>The equipment shall be of modular design consisting of vacuum system, water tanks system, debris body and drive system.</i>		
<i>A sub frame shall be fabricated to the exact dimensions of the truck chassis for mounting of modular components.</i>		
<i>All components of the module shall attach to the sub frame and not directly to the chassis.</i>		
<i>Sub frame shall be designed to ASME standards for maximum applied loads, chassis frame movement and even distribution of weight to the chassis and suspension.</i>		
<i>Sub frame shall be continuous and uninterrupted from back of cab to end of frame.</i>		
<b>DEBRIS BODY</b>		
<i>The body shall be cylindrical having a minimum usable capacity of 10 cubic yards.</i>		
<i>The body shall be capable of a 48" dump height. Dump height of 48" must be achieved without the use of scissor lift mechanism.</i>		
<i>The debris storage body shall be constructed with a minimum 3/16" corrosion and abrasion resistant Ex-Ten steel.</i>		
<i>The debris storage body shall have a minimum yield point of 50,000 PSI and a minimum tensile strength of 70,000 PSI.</i>		
<i>Body shall have a rear door that is hinged at the top and is equipped with a replaceable neoprene type seal. Adjustable for periodic compensation of door seal wear.</i>		
<i>Dual outward mounted rear door props shall be included as standard to prevent operator from entering door swing path when engaging rear door prop.</i>		
<i>For optimal particulate separation, vacuum shall be drawn from separate ports in the top of the debris body.</i>		
<i>Body shall be dumped by raising the body to a 50-degree angle utilizing a forward mounted, double acting hydraulic dump cylinder.</i>		
<i>Dump controls, accessory controls, e-stop control shall be provided at a central curb side location directly behind the cab of the truck.</i>		
<i>For stability and safety, dumping must be accomplished while the pivot point of the body remains fixed to the subframe.</i>		



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<p>Industrial style rear debris body door shall be flat and shall open and close hydraulically by cylinders mounted at the top of the body. Door shall open 50 degrees from the fully closed position. Door shall be unlocked, opened, closed, and locked by a failsafe hydraulically activated sequential positive locking system, cam operated by a single hydraulic cylinder, with all controls located behind truck cab, forward of the debris body, so operator is not subject to sewage when dumping.</p>		
<p>Debris body shall have a body flush out system with a fan-type spray nozzle located in the front wall of the debris body to aid in the flushing of heavy debris. The nozzle shall also utilize (2) spray nozzles to flush the front most area of the debris body. System must produce a flow of 80GPM. Control valve shall be on the curb side of the unit.</p>		
<p>Body shall have a float type automatic shut-off system protecting the Fan System with (2) 10" stainless steel shut-off balls located in the debris body. Each float ball housing shall be within a non-corrosive slide-out screen assembly and be accessed without the use of tools.</p>		
<p>The debris body shall be equipped with a rear door drain to drain off excess liquids while retaining solids and shall include a manually operated 6" knife valve with cam-lock coupler and 25' of lay flat hose having camlock quick connects.</p>		
<p>The debris body shall be equipped with a rear door drain at bottom dead center to drain off excess liquids with an internal screen to prevent large solids from passing. A manually operated 6" knife valve with cam-lock coupler and 25' of lay flat hose having camlock quick connects shall be included at this location.</p>		
<p>Debris body shall have 450 GPM, 3" submersible trash pump, internally mounted in the forward body wall, with 3" x 25' lay-flat hose, hose storage basket and 3" shutoff lever gate valve. System shall be turned on/off with selector valve at curbside controls.</p>		
<p>Plumbing with 3" PVC pipe shall be provided from the trash pump to the curbside mid-ship with 3" x 25' drain hose having camlock quick connect fittings and shutoff valve.</p>		
<p>(4) Dual vertical (cyclone) centrifugal separators shall be installed in-line between the debris body and the air mover, (2) per side for each debris body discharge port. Each dual separator shall include large fallout chamber cleanout door.</p>		
<p>For safety, a minimum of (5) vacuum tubes shall be stored on curbside storage racks to minimize operator exposure to traffic side of unit. Shall include quick release retainer handles (no bungees or clamps).</p>		
<p>A curbside, folding 3-pipe rack shall be provided, constructed of steel tubing, spring assisted. Shall include quick release retainer handles (no bungees or clamps).</p>		
<p>A fixed rear door mounted 2-pipe rack shall be provided. Shall include quick release retainer handles (no bungees or clamps).</p>		
<p>(2) Pipe Storage Racks on rear door with quick releases.</p>		
<p>A splash shield shall be mounted around the lower 60% of door opening to direct liquid and debris away from the chassis. Shield shall be minimum 10" deep bolted assembly with no openings.</p>		
<p>A lubrication manifold system shall be provided to allow ground level greasing of boom lift and swing cylinders, float level indicator, top rear door hinges and debris body hoist cylinder pins.</p>		
<p>A plastic lube chart shall be provided to call out when specific points on the unit should be greased.</p>		
<p>A 10" valve with 2" vent to atmosphere, electrically activated, air operated valve debris body vacuum relief system shall be located in the inlet of the vacuum system to allow the venting of the tank and relieve vacuum at the debris intake hose.</p>		
<p>A debris inlet deflector distributing load evenly in debris body shall be included.</p>		
<p><b>WATER TANKS</b></p>		



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<i>The water tanks shall be manufactured from a non-corrosive material to prevent rust yet still provide for maximum strength.</i>		
<i>The water tank material shall require no internal coating and shall be repairable if patching is required.</i>		
<i>The water tanks shall be easily removed from the subframe to provide complete access to the truck chassis for maintenance purposes.</i>		
<i>The water tanks shall be adequately vented and connected to provide complete filling.</i>		
<i>The water tanks shall be totally separate from the debris tanks and provide no structural support.</i>		
<i>The water tanks shall share no common walls with the debris tanks to prevent corrosion.</i>		
<i>The water tanks shall come equipped with an anti-siphon device and 25' of hydrant fill hose and fittings.</i>		
<i>The water tanks shall carry a 10-year warranty against corrosion or cracking.</i>		
<i>All water tanks shall be fully baffled to form a maximum compartment storage of 150 gallons for each compartment. Union Township has determined that for the stability of the vehicle when turning and stopping and for safety of personnel that systems baffled at 150 maximum gallon compartments are preferred. Exceptions of requirement shall be explained in detail accompanied with detailed engineering drawings.</i>		
<i>The water tank shall be located for the lowest possible center of gravity while providing 100% gravity flooded intakes to water pump.</i>		
<i>Fresh water shall enter the tanks through an in line 6" air gap, all aluminum covered anti-siphon device.</i>		
<i>Water level sight tubes of non-yellowing plastic shall be installed on both tanks.</i>		
<i>The sides of these water tanks shall not extend more than 48" out from the centerline of the truck chassis.</i>		
<i>A fresh water drain system shall be provided to completely drain the freshwater system from one location utilizing the 3" Y-strainer on the pump.</i>		
<i>A minimum 6" connection between tanks shall be provided.</i>		
<i>For stability safety, the water tanks shall not elevate with debris body during dump cycle.</i>		
<i>A low water alarm with indicator on control screen shall alert operator when water storage has reached an operator set remaining water level.</i>		
<i>A 3 in-line "Y" trap strainer shall be located at inlet of water tank fill airgap.</i>		
<i>A 3 in-line "Y" trap stainless steel strainer shall be located between the water cells and water pump.</i>		
<i>A 3" Gate Valve shall be provided at water pump.</i>		
<i>Water tank must be a certified metered capacity of 1000 gallons. Certification shall be necessary upon delivery.</i>		
<i>Water tanks shall be constructed of 1/8" aluminum with baffled compartments maximum 150 gallons each.</i>		
<i>Liquid Float Level Indicator shall be provided.</i>		
<b>WATER PUMP SYSTEM</b>		
<i>For most efficient use of horsepower and reduced fuel consumption, high pressure rodder pump shall be hydraulically driven via (2) variable displacement pumps</i>		
<i>Hydraulic powered rodder pump via (2) variable displacement hydraulic pumps utilizing (2) 10-bolt PTO's.</i>		
<i>High pressure water pump shall be rated capable of continuous delivery of 100 GPM at 2500 PSI (submit manufacturer support documentation).</i>		



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High-pressure water (rodder) pump system shall be completely controlled through the range with use of the MultiFlow Control and throttle located on the control panel.		
Digital flow meter shall be displayed in front LCD display. Flow meter shall be capable of displaying system flow in all pump operating modes. In addition, a low water alarm shall be provided.		
Water pump speed to remain fully adjustable via an independent operator input regardless of the selected vacuum drive speed.		
Variable flow systems routing water back-to-tank are not considered equal due to additional wear, horsepower and fuel consumption. Any deviation from this drive requirement should have full explanation of horsepower consumption.		
Water (rodder) pump shall include smooth and pulsation operation mode feature without altering pump flow.		
When required to assist nozzle breaking through obstructions, water pump "pulsation mode" shall provide a forward-acting nozzle surge. Pulsation surge wave shall allow nozzle to punch forward 2" to 18" depending on flow dynamics and length of hose in sewer pipe.		
Explanation of forward-acting pulsation method shall be submitted with bid or explained below. Systems that require the use of air induction into the water pump shall not be accepted.		
Water pump location shall provide a flooded gravity suction inlet to eliminate potential cavitation damage.		
An oil to water heat exchanger will be provided in the water system to cool all hydraulic fluids on the unit. State horsepower requirement to operate hydraulics at full speed:		
The water pump shall provide precise 0-80 GPM controlled flow at variable pressure up to 2500 PSI.		
An extreme cold weather recirculation system - minimum 25 GPM via transmission PTO at chassis engine idle speed.		
A hydro-pneumatic nitrogen charged accumulator system shall be provided with all control valves, piping and hoses for either continuous flow or jackhammer rodding. Accumulator shall be a 2.5-gallon capacity and 1000 to 2500 PSI pressure rating.		
Two (2) 1/2" high pressure ball valves shall be provided for draining the water pump and flushing sediment from the bottom of the pump.		
A nozzle rack accommodating (3) nozzles shall be provided in curbside toolbox. The nozzles shall be labeled on storage rack for pipe size/flow and application.		
System shall be relieved to protect operator.		
Handgun shall be supplied that allows for changing of flow pattern from a fine mist to a steady stream.		
Handgun shall come equipped with quick connect couplers.		
An additional 1" water relief valve shall be provided.		
A mid-ship quick disconnect handgun couplers shall be provided.		
A water pump hour meter shall be provided.		
A high-pressure hose reel capable of operating at system pressure shall be provided.		
<b>VACUUM/VACUUM DRIVE SYSTEM</b>		
Vacuum shall be provided by compressing air within a two-stage 38" diameter centrifugal compressor.		
Compressor fans to be constructed of non-corrosive material.		
Each centrifugal compressor fan shall be constructed of non-corrosive, hardened chrome blades.		
Centrifugal compressor shall be warranted against corrosion for five years.		
The outer housing shall be constructed of 1/4" spun steel.		



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<i>Compressor housing shall be equipped with a drain not exceeding 2" diameter.</i>		
<i>Complete compressor and housing assembly shall be warranted against materials and workmanship for five years.</i>		
<i>Transfer case shall be activated by air via a one touch control located in cab with animated confirmation on screen.</i>		
<i>The compressor Hydrostatic Drive system shall utilize electronic controls located at the front operator station. The system shall be controlled on/ off with a switch that may be engaged or disengaged at any operating speed.</i>		
<i>The compressor controls will have a speed selection switch at the operator station to control compressor speed; manual levers on the hydrostatic pump to control compressor speed will not be accepted.</i>		
<i>The centrifugal compressor should be driven direct through a helical gear type step-up transmission drive with a step-up ratio 2 to 1.</i>		
<i>Hydraulic shut off valves shall be provided at the suction, return and filter lines to permit servicing of the hydraulic system.</i>		
<i>The drive shaft shall be supported via ball bearings and gears.</i>		
<i>Compressor shall be driven from a closed loop hydrostatic drive system utilizing available chassis power via split-shaft transfer case. The transfer case shall drive a variable displacement hydrostatic pump to energize a closed loop.</i>		
<i>The pump shall be mounted directly to the split shift transfer case. The pump will have a B10 life Rating of 10,000 hours continuous duty.</i>		
<i>The hydraulic motor powering the compressor shall be a bent axis, bi-directional motor. Motor speed shall not exceed 2,500 RPM.</i>		
<i>The hydrostatic drive system shall utilize electronic soft start speed control to manage ramping speed.</i>		
<i>The control system shall provide a mode selection switch to control the compression drive in low vacuum, combination mode and full vacuum settings.</i>		
<i>The gear drive should attach directly to the rotor shaft without the use of multiple stage V-belts or jack shafts.</i>		
<i>The gears and bearings shall be lubricated with splash lubrication system, requiring no manual greasing.</i>		
<i>The drive system shall not utilize pillow block bearings that require excessive daily greasing.</i>		
<b>VACUUM BOOM SYSTEM</b>		
<i>Vacuum hose shall be designed for front operation with hose mounted and stored at front mounted workstation. The hose must also allow for transport with a 5' catch basin tube attached for quick setup. The hose must also be able to be transported fully retracted to eliminate any obstruction to a drivers view of the road. A front mounted location is required for ease of positioning vacuum hose as well as minimizing need for operator to swing hose into traffic.</i>		
<i>All connections between debris body and vacuum system will be of the self-adjusting pressure fitting type.</i>		
<i>Vacuum hose will remain stationary and not rise with debris body.</i>		
<i>A sub-frame mounted cab guard shall be mounted behind cab with boom rest cradle.</i>		
<i>All vacuum pipes shall be connected to vacuum pick up tube and extension pipes by adjustable over-center quick clamps to join the aluminum flanges on pipes.</i>		
<i>One (1) quick clamp for each pipe supplied shall be provided.</i>		
<i>Boom pedestal shall be directly mounted to module subframe.</i>		
<i>Boom support used for travel mode shall not interfere with access or require removal to tilt hood forward.</i>		



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A control station shall be equipped with a control joystick for all directions as well as a safety emergency shut-down button, which shall automatically eliminate power to boom.		
The vacuum boom shall have a heavy-duty flexible hose assembly joining the transition pipe to the debris body make break, and a 7" heavy duty hose at the suction end of the boom.		
Boom shall rotate 180 degrees and shall be operated by an electric over hydraulic system. Lift and swing movements shall be actuated by hydraulic cylinders.		
Hydraulic telescopic boom with 180-degree rotation shall be located at the front workstation in its retracted position, providing 282" minimum reach off the longitudinal axis of unit, providing a boom work area will be 850 square feet. The moving boom hose shall be 7" x 279" with yellow liner for durability. The boom hose shall hydraulically telescope a minimum of 10 feet forward from the operator's station storage position and shall have the ability to extend the hose downward 15' vertically without activating the hydraulic up/down function.		
A joystick for hydraulic control of the boom shall be installed on hose reel front panel.		
A removeable 4" diameter storage "Post" to stabilize the lower boom hose during transport. Storage device shall not interfere with raising hood.		
A cordless remote boom control system equipped to activate boom functions, throttle, water pump on/off, hose reel in/out, hose reel speed, vacuum relief on/off and emergency disengagement e-stop shall be provided.		
A rotatable inlet hose for telescopic/extendable boom shall be provided.		
A detailed engineering drawing must be supplied showing the relationship of the hose reel in relation with the vacuum boom range of motion. Drawing shall show module mounted on chassis, full arc of vacuum hose both retracted and extended, full rotation of arc for hose reel in the extended position and dimension all arc lengths of vacuum boom retracted and extended. Drawing shall highlight intersection areas whereby combination cleaning is possible (within full arc on telescoping boom system).		
A coupling shall be welded into the inner boom tube to allow for a high-pressure hose to be hooked up to this location to be able to wash debris out of the boom tube.		
<b>HOSE REEL</b>		
Hose reel assembly shall be direct frame mounted.		
Hose reel assembly shall be mounted on an independent frame that can be removed from brackets attached permanently to front of main truck frame members.		
Reel will be manufactured out of 1/4" spun steel for added structural strength and shall require no internal or external reinforcements that could damage rodder hose.		
Hose reel shall be driven by adjustable gear reduction chain and sprocket assembly.		
Hose reel shall operate at full rotational speed while chassis engine is at idle.		
Hydraulic Telescoping Rotating Hose Reel - 800' capacity of 1" hose,		
The front mounted hose reel shall telescope 15" forward down centerline of truck.		
Entire reel assembly shall rotate 270 degrees on a large diameter ball bearing.		
Hose reel shall include a dual locking device to positively lock reel in any position across operating range.		
The hose reel shall rotate about the reel assembly centerline so the reel shall never extend beyond the truck width. Reel coverage diagram shall be submitted with bid.		
Controls shall be accessible on both sides of the hose reel via a mounting station for the belly pack wireless remote control, allowing operator to work at either side of unit for safety purposes.		
600' x 1" Piranha Sewer Hose / 2500 Psi shall be provided		



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An automatic hose level wind scroll device shall be supplied. An air-cylinder actuated pinch-roller shall exert downward pressure across full width of reel to retain hose on reel when encountering nozzle blockages.		
An air-cylinder actuated pinch-roller shall exert downward pressure across full width of reel to retain hose on reel when encountering nozzle blockages. Pinch roller must be activated via a one touch, backlit button with lighted feedback on the control panel.		
Digital footage counter displaying footage values shall be provided. System must be capable of resetting value to ensure operator safety. Accuracy to within one percent of actual distance, Large easy to read LCD screen located on the front control panel screen.		
10' Leader Hose		
<b>WASHDOWN EQUIPMENT</b>		
A handgun with 1/2" x 35' hose shall be provided at mid-ship to allow the operator to deliver water to area served by pick up hose and to the inside of the debris body for clean out.		
Hand sprayer with adjustable spray-pattern to be provided with trigger-style gun.		
<b>FRONT OPERATING STATION AND CONTROLS</b>		
Primary operator station will be located at front of hose reel.		
All operator controls should be located on a single control panel that can be rotated on a 90-degree arc for an operator customizable location. The control panel shall also feature the ability to raise and lower through a range of not less than 8 inches to accommodate operators of different height.		
Station shall include a touch enabled display screen (at least 7") with corresponding tactile buttons for reading critical machine data including (hose footage, hose reel speed settings, water pressure, water flow. Air mover information, chassis data, mode indicator, chassis fuel level, and diagnostic controls), Back lit button keypads with, laser etched function icons, and 4 light feedback indicators. These buttons shall operate the following functions: All setup functions (remote/panel selector, work lights, hose reel extend/retract, hose reel lock, and pinch roller activation) and Vacuum functions. Additionally, there will be separate sealed rocker switches for Water Pump on/off and throttle up/down. There shall be a multi flow control dial for controlling the full range of the water pump.		
There shall be a hose reel joystick to control the pay in and pay out of the hose reel, this joystick shall offer speed control that increases the further the joystick is moved in either direction. There shall be an additional hose reel speed dial for setting specific speed ranges of the reel. There shall be a boom joystick that controls all function of the boom including up/down, left/right, and extend/retract. There shall be a E-Stop button to bring all machine functions to full stop.		
Tachometer and hour meter for chassis engine provided at control station shall be provided.		
Tachometer and hour meter for Centrifugal compressor at control station shall be provided.		
All Hydraulic Functions - Color Coded, Sealed Electric/Hydraulic NEMA 4 switches shall be provided.		
Fan Engagement/Vacuum Relief - Sealed Electric/Air NEMA 4 Switch shall be provided.		
Water pump hour meter shall be provided.		
PTO hour meter shall be provided.		
A temperature light and alarm shall be provided. Light and alarm will be activated when hydraulic temperature reaches 180 F.		





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Front control screen shall display a water level indicator to show level of water through the range of the tank.		
Front control screen shall display the debris body level.		
<b>IN CAB CONTROLS</b>		
All In cab controls are to be located on a single in cab control screen. This shall be a 7" full color display screen. It shall utilize 12 back lit tactile (glove ready) buttons on the sides of the screen as well as feature touch screen operation.		
All Back up camera Features shall be displayed on the In Cab Control Screen.		
All work lights shall be able to be activated or deactivated in cab with on screen controls.		
All safety strobes and beacons shall be controlled via on screen controller		
Jet or Combo mode shall be activated via one touch button on the control panel.		
Control screen must display an on-screen representation of the chassis drive system and must animate to show as drive systems activate or deactivate.		
Recirculation must be activated on the in-cab control screen and visibly show that it is always active.		
<b>ELECTRICAL &amp; SAFETY LIGHTING</b>		
The entire system shall be vapor sealed to eliminate moisture damage, "Nema-4" type or equal.		
IQAN Electronic Package: Chassis Tachometer, Blower Tachometer, Operating Mode, PTO Mode, Hydraulic Oil Temperature shutdown, Hose Reel Speed, Water Pressure, and E-Stop shall be included. E-Stop activation must turn off rodder pump, shutdown Hydraulics, set chassis throttle to idle, stop vacuum E-stop must be located at each operator interface, including hose reel controls, pendant control, wireless control (if equipped) Diagnostics for basic machine functions and all inputs and outputs shall be accessible via the display. Advanced diagnostics, updates, data retrieval, and remote diagnostics will be available via PC or Bluetooth connection.		
Logs, reports, and hour meters will be accessible via the display.		
All electrical connections shall be void of exposed wires or terminals nor should they be painted. Paint process shall be completed prior to installation of wiring.		
All wiring shall be color-coded and encased in conduit to sealed terminal boxes with circuit breakers.		
All other lights required by State and Federal Laws.		
Handheld, Pistol Grip LED Spotlight with rechargeable Lithium-Ion battery.		
(2) L.E.D. Boom work lights shall be provided.		
L.E.D. Lights, Clearance, Back-Up, Stop, Tail & Turn shall be provided.		
Mid-Ship L.E.D Bubble Type Turn Signals Shall be Provided		
A LED arrow stick shall be installed at the rear of the unit to provide directional control for approaching traffic.		
<b>SAFETY EQUIPMENT</b>		
E-stop shall be located at each operator interface location. Standard locations to include front hose reel, mid-ship curbside dump controls, & wireless controller (if equipped.)		
Electrical system controls shall be configured to allow for single point operation only. Upon engagement of controls at specified locations, additional controls shall be disabled.		
Electrical system must enable self-check to ensure all switches are in home position prior to critical function enablement. System must "lock out" controls when switch is not in home position.		
(1) Emergency Flare Kit		



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(1) 5# Fire Extinguisher.		
7" dash monitor, 1-camera system shall be provided. A rear back-up color camera with 130 deg viewing angle shall be provided. Camera to have automatic activation when the unit is switched to reverse.		
Digital water pressure shall be displayed in front LCD display. Pressure gauge shall be capable of displaying water system pressure in all pump operating modes.		
<b>SEWER TOOLS AND ACCESSORIES</b>		
(1) 30-degree Sand Nozzle		
(1) 30-degree Sanitary Nozzle plus one (1) Bulldog Antiblast Nozzle by ENZ		
(1) 15-degree Penetrator Nozzle		
(1) 1" Small finned nozzle pipe skid		
<b>VACUUM TOOLS AND ACCESSORIES</b>		
The basic vacuum tube package shall include the following:		
(1) 7" x 3' aluminum pipe		
(2) 7" x 5' aluminum pipe		
(1) 7" x 6'6" catch basin tube		
(4) 7" quick clamps		
<b>CHASSIS EQUIPMENT AND STORAGE</b>		
Two (2) front tow hooks shall be provided.		
Two (2) rear tow hooks shall be provided.		
Aluminum Toolbox - Behind Cab (14" wide x 36" high x 96" deep)		
(1) Aluminum Toolbox with nozzle storage and dump controls mounted curbside shall be provided.		
(2) 18 In. x 16 In. x 12 In. Aluminum Toolbox - Front Bumper shall be provided.		
<b>MODULE FINISH</b>		
Painting of the module shall be with a DuPont Imron Elite Polyurethane Enamel Topcoat. Application is to be a wet topcoat applied to a dried and sanded primer base.		
<b>CHASSIS SPECIFICATION</b>		
The unit shall be a new model. No discontinued models will be accepted		
The unit shall be equipped with a Peterbilt 348 Conventional Cab Chassis		
The unit shall be equipped with a diesel engine, with an PX-9; 370 HP @ 1900 RPM		
Set Back Axle		
The unit shall be equipped with an Allison 3000 RDS Automatic Transmission with PTO Provision		
The unit shall be equipped with a Dana Spicer D2000 20,000# Single Front Axle		
The unit shall be equipped with a 20,000# Taper leaf Front Suspension		
The unit shall be equipped with a Dana Spicer S26-190 26,000# Single Rear Axle		
The unit shall be equipped with a 22,000# Bendix Air Cam Rear Suspension		
The unit shall have a wheelbase of 244 inches		
The unit shall have a 10.75X3.5X.375-inch steel frame		
The unit shall have a 5/16-inch C-Channel inner frame reinforcement		
The unit shall have a 38-inch rear frame overhang		
<b>Hydro Excavation</b>		
Hydro excavation spray gun with four (4)-foot, six (6) - foot, and eight (8) - foot lances – three (3) hydro nozzles of varying jet configurations and vac tubes		



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<b>Module, Chassis, Specification Options Total:</b>	\$
Available Discounts:	\$
<b>Module, Chassis, Specified Options and Discount Total:</b>	<b>\$</b>
Additional Equipment Options Total:	\$
<b>Total with Module, Chassis, Specified Options, and additional options:</b>	<b>\$</b>
Freight and PDI:	
Field Training:	
<b>Module, Chassis, Specified Options, Discounts, Freight and PDI, and Field Training Grand Total:</b>	

**Charter Township of Union Sourcewell Account Number:102232**

**Training:** A two (2) day factory training course for ten (10) Utility Department personnel, to be conducted at the Charter Township of Union facilities, no exemptions, will be provided with travel and lodging expenses included.

Training shall be completed by a factory trained instructor and include hands on instruction. Training shall be focused on safety, operation and maintenance of the equipment.

**Bidder Reference:** To ensure adequate local availability of parts and competent service from experienced suppliers, bids are preferred from vendors who have sold and serviced at least 30 units of same manufacturer within service area of Union Township (located within the State of Michigan) is preferred and should include contacts with phone numbers.

**Warranty Information:**

Bidder must provide full warranty detail information for all equipment and accessories with bid and a summary of the information regarding equipment warranty below:

Minimum engine warranty for all parts and labor on any internally lubricated part of the engine. All harnesses and connectors of the engine control system, IDM, ECM, fuel injectors. Warranty to begin on the date that the completed vehicle is accepted and put into service by the Charter Township of Union \_\_\_\_\_ months, \_\_\_\_\_ hours

Minimum transmission warranty of \_\_\_\_\_ years, \_\_\_\_\_ mileage  
 Emission warranty: \_\_\_\_\_ years, \_\_\_\_\_ miles



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Combination Sewer Cleaner / Vacuum Truck warranted against defects in material and workmanship for a period of \_\_\_\_\_ months

Water Tank Warranty: \_\_\_\_\_ year warranty against corrosion or cracking

Debris Tank Warranty: \_\_\_\_\_ year warranty against leakage

Water Pump Warranty: \_\_\_\_\_ year warranty

**Service:**

Bidder must provide name and address information for factory certified service locations in the State of Michigan for maintenance and repair of all equipment and accessories associated with this bid.

Location of warranty service center and amount of inventory shall be noted which may be verified and inspected.

Amount of OEM parts at this facility: \_\_\_\_\_

Years of servicing equipment being bid: \_\_\_\_\_

Number of factory qualified service technician: \_\_\_\_\_



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**ALL BIDDERS SHALL LIST THE FOLLOWING INFORMATION REGARDING THE TRUCK CHASIS AND EQUIPMENT SUPPLIED**

YEAR OF THE TRUCK	
MAKE OF TRUCK CHASIS	
MODEL OF TRUCK CHASIS	
GVWR	
WHEEL BASE	
ENGINE (INCLUDING HORSE POWER)	
FRONT AXLE (IN LBS)	
FRONT SPRINGS	
ENGINE (MANUFACTURER)	
ENGINE (RATINGS)	
FUEL TANK CAPACITY (IN GALLONS)	
AUTOMATIC TRANSMISSION	
FRONT TIRE AND WHEELS (MANUFACTURER)	
REAR TIRE AND WHEELS (MANUFACTURER)	
FRONT TIRE AND WHEELS (SIZE)	
REAR TIRE AND WHEELS (SIZE)	
SEWER COMBINATION VACUUM TRUCK MANUFACTURER AND MODEL:	
CAB PAINT COLOR	
MODULE PAINT COLOR	

No bidder may withdraw their bid within 90 days after the actual date of bid opening.



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Each bidder shall furnish with his proposal two copies of descriptive literature on the equipment being bid and the manufacturer's specifications in complete detail. Said brochure and manufacturer's specifications shall be sufficiently detailed to permit proper evaluation of bid.

The specification herein states the minimum requirements of the Charter Township of Union. All bids must be regular in every aspect. Unauthorized conditions, limitations, or provisions shall be cause for rejection. Any bid not prepared and submitted in accordance with the bid document and specification, or any bid lacking sufficient technical literature to enable the Charter Township of Union to make reasonable determination of compliance to the specification will be considered "non-responsive" and grounds for rejection.

**This section must be completed and returned with the bid proposal to verify that the unit proposed meets or exceeds the specifications listed above.**

\_\_\_\_\_  
**Specification Verification (name and title)**

\_\_\_\_\_  
**Date**



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(NOTE: These affidavits must be completed and signed by an authorized representative of the bidder)

AFFIDAVITS

Business Status of Bidder

BIDDER/APPLICANT:

Name

Principal place of business

Address

City, State, Zip Code

The Bidder is a:

- Corporation
Partnership
Limited Liability Company
Sole Proprietorship
Other (please explain: )

Corporation

The state of incorporation is:

The registered agent of the corporation in Michigan is:

Name

Address

City, State, Zip

The officers of the corporation are:

President Secretary

Vice President Treasurer

The Corporation is authorized to do business in the State of Michigan

Signed Date



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***Limited Liability Company***

Limited Liability Company The state of registration is:

\_\_\_\_\_

The registered agent of the Limited Liability Company in Michigan is:

Name \_\_\_\_\_

Address \_\_\_\_\_

City State Zip \_\_\_\_\_

The registered office of the Limited Liability Company in Michigan is:

Address \_\_\_\_\_

City State \_\_\_\_\_  
Zip \_\_\_\_\_

The managers and members of the Limited Liability Company are:

\_\_\_\_\_  
Name Name

\_\_\_\_\_  
Address Address

\_\_\_\_\_  
City, State City, State

The LLC is authorized to do business in the State of Michigan

***Sole Proprietorship***

The address of the sole proprietor is:

Address \_\_\_\_\_

City, State \_\_\_\_\_

The sole proprietor transacts business in Illinois under the following assumed names:

\_\_\_\_\_

\_\_\_\_\_  
Signed Date