



Posted Date: July 21, 2023

Solicitation No.: B230226JJB

Solicitation Name: Purchase of a Sewage Pump Truck and a Liquid Vacuum Truck

Subject: Addendum Number 3

The following represents clarification, additions, deletions, and/or modifications to the above referenced bid. This addendum shall hereafter be regarded as part of the solicitation. Items not referenced herein remain unchanged, including the response date. Words, phrases or sentences with a strikethrough represent deletions to the original solicitation. Underlined words and bolded, phrases or sentences represent additions to the original solicitation.

1. ATTACHMENTS

- ATTACHMENT A
- ATTACHMENT B

2. QUESTIONS/ANSWERS

| | |
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| 1. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Rotating Safety Hose Reel and Controls</u></p> <ul style="list-style-type: none"> - #9 – allow air actuated locks for the rotating hose reel. (different method of locking the reel) - #11 – allow electric over hydraulic to pay in and out the hose reel (less hydraulic hose, more precise with movement) |
| Answer | <u>This will be accepted.</u> |
| 2. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Water System Tanks</u></p> <ul style="list-style-type: none"> - #1 – allow aluminum water tanks (weldable and more resistant to puncture) |
| Answer | <u>This will be accepted.</u> |
| 3. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Water System Attachments</u></p> <ul style="list-style-type: none"> - #4 – allow digital water pressure gauge (more precise readings) - #6 – allow washdown hose reel max pressure 2500psi in lieu of 500psi (more cleaning pressure). - #10 – allow lateral line cleaning system max pressure 2000 psi in lieu of 1200psi (more cleaning pressure). |
| Answer | <u>This will be accepted.</u> |

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| 4. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Debris Box and Rear Door Assembly</u></p> <ul style="list-style-type: none"> - #2 – allow air routings on side of debris body and air inlet/exhaust separate in lieu of co-located. (provides better material separation and less carryover into blower filters). - #13 – allow fold down racks (additional racks are subframe passenger side w/ horizontal storage). |
| Answer | This will be accepted. |

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| 5. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Positive Displacement 4400 CFM & 18” HG Air Conveyance System</u></p> <ul style="list-style-type: none"> - #2 – allow for four cyclones in lieu of two (airflow is spread out over more cyclones for separating material). - #5 – allow for blower to be driven with a transfer case. (step up transfer case allows blower to be operated with a lower chassis operating RPM at full load). |
| Answer | This will be accepted. |

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| 6. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Electrical System</u></p> <ul style="list-style-type: none"> - #1 – allow for use of CANbus on the sewer module. (streamlines the electrical system and provides more information to the operator, same system used in the chassis). |
| Answer | This will be accepted. |

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| 7. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Hydraulic System</u></p> <ul style="list-style-type: none"> - #4 – allow for hydraulic functions to be powered by PTOs from the transmission. (PTO’s and Hydraulic pumps are only engaged while in work mode). |
| Answer | This will be accepted. |

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| 8. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Rotating Safety Hose Reel and Controls</u></p> <p>Item 6. We utilize single chain drive with the addition of hydraulic shock absorbers to cushion and stop the reel, protecting and ensuring long life of the sprocket, chain, and hydraulic motor.</p> <p>Item 9. Our reel locks into position automatically via hydraulics for operator safety. We exceed this specification.</p> <p>Item 11. Our payout and retrieve is electric over hydraulic, this allow us to run hands-free radio control.</p> |
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| | Item 12. Our reel does incorporate an autolevel wind but in not adjustable. But the roller system rotates to meet the angle required for the application. |
| Answer | Follow spec as posted in solicitation for #6, #9 and #12– Accept #11. |

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| 9. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Water System Pumps</u></p> <p>Item 2. Our water pump and blower run via split shaft PTO and polychain, with lifetime warranty on the drive system. This system is more efficient saving fuel and hydraulic fluid that needs to be changed every 500 hours (100 Gallons of hydraulic fluid wasted into our environment).</p> <p>Item 4. Our water pump is driven mechanically.</p> <p>Item 5. Per OSHA, you would not be driving and operating the jet hose at the same time. If a street flusher option is needed, then the county can specify it.</p> |
| Answer | Follow spec as posted in solicitation for #2 and #4 - Accepted #5. |

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| 10. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Water System Tanks</u></p> <p>Item 1. Our tanks are polygraphite and are roto-molded 3/8” thick.</p> <p>Item 2. Our tanks raise so you can rinse tanks out. Because of this design, we can offer a 5-year warranty on our water pump.</p> |
| Answer | Follow spec as posted in solicitation. |

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| 11. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Water System Attachments</u></p> <p>Item 1. Water recirculation for cold weather protection not required in Florida.</p> |
| Answer | Appears to be a statement and not a question. |

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| 12. | <p>In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?:</p> <p><u>Debris Box and Rear Door Assembly</u></p> <p>Item 1. Our steel is A36 boiler plate steel and our tank includes a lifetime warranty.</p> <p>Item 5. Our door is domed, exceeding the flat profile door.</p> <p>Item 7. Our door gasket is mounted to rim of the tank, so you do not have to replace the gasket upside down.</p> <p>Item 9. We utilize a single float ball in our design.</p> <p>Item 10. We utilize a single cylinder with fall arrester safety control.</p> <p>Item 13. We utilize a quick clamp to hold tubes in place and have other options.</p> |
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| | Item 14. Our storage trays are alongside the water tanks. |
| Answer | Follow spec as posted in solicitation for #9, #10, #13 – Accept #1 #5, #7, #14. |
| 13. | In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?: <u>Hydraulic Boom Assembly</u> Item 6. Rotation of our boom is a boom gear and worm gear driven hydraulically. |
| Answer | Follow spec as posted in solicitation. |
| 14. | In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?: <u>Positive Displacement 440 CFM & 18”HG Air Conveyance System</u> Item 5. Our blower is driven by polychain with lifetime warranty. Item 6. We do not drive and vacuum at the same time. It poses safety risk. Item 11. We drive our system through transmission while in 4th gear hold. This is standard in the industry. |
| Answer | Follow spec as posted in solicitation #5 - #5 and #11 appear to be statements not questions. |
| 15. | In reference to the spec on Attachment 7.1, can you review the following alternates to the bid specifications?: <u>Hydraulic System</u> Item 1. We drive our blower and water pump via polychain. Lifetime warranty included. Item 4. We drive our hydraulic blower and water pump via polychain and split shaft PTO. |
| Answer | Follow spec as posted in solicitation. |
| 16. | Please see attached spec list with options, with reasoning on page 9 and 10. |
| Answer | Attachment A is to be considered as an acceptable specification. |
| 17. | Attached for your review are specifications for a substitution on bid #B230226JJB for the Sewage Pump Truck. These specifications describe the Vac-Con model VPD3616LHAEN/1300. |
| Answer | Attachment B is to be considered as an acceptable specification. |

BIDDER/PROPOSER IS ADVISED, YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS ADDENDUM WHEN SUBMITTING A BID/PROPOSAL. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN THE BIDDER/PROPOSER BEING CONSIDERED NON-RESPONSIVE.

ALL OTHER TERMS AND CONDITIONS OF THE SOLICITATION DOCUMENTS ARE AND SHALL REMAIN THE SAME.

Jake Bond

Jake Bond
Procurement Analyst Direct Line: 239-533-8898
Lee County Procurement Management

ATTACHMENT A



Proposal Summary



Gapvax Vacuum Excavator

Single Engine Air Mover Vacuum Excavation Machine with Positive Displacement Vacuum System
Mounted on a Heavy-Duty Truck Chassis

MC1312/1511 by GapVax Inc.

Solicitation Number: B230226JJB

Solicitation Name: Purchase of a Sewage Pump Truck and a Liquid Vacuum Truck

Bidder Name & Contact Information: Evervac Equipment, Austen Everett, (352) 213-7675, AEverett@EvervacFL.com

Evervac Equipment would like to thank you for the opportunity to present the **GapVax MC Combination Truck**. We acknowledge addendum 1 & 2 that were posted on July 7, 2023, with the bid package due by July 28th, 2023.

Evervac Equipment is Florida's sole provider of GapVax Sewer Cleaning Equipment, Aries Pipeline Inspection Cameras, Hathorn Push Cameras, NozzTeq Jetting Nozzles, and CrewPlex Headsets, as well as a host of parts, tools and accessories for all your needs.

Evervac Equipment prides itself on our local parts, service, and training capabilities. Our full-service Dealership in Florida includes GapVax and Aries repair technicians, extensive parts inventory, mobile parts and service, turnkey maintenance packages, leasing options, and much more... we are ready to service your every need.

Thank you for your consideration,

Austen Everett

President – Evervac Equipment, LLC

Product Description

- GapVax MC Combination Truck
- Year: 2023
- Freightliner 114SD 6x4 – Cummins X12 rated for 455 HP – 66,000 lb GVWR – 20,000 lb Front Axle & 46,000 lb Rear Axle – **Contract met**
- Allison 4500 Series Automatic Transmission - **Contract met**
- Engine operating design speed: 1700 rpm - **Contract met**
- Provisions for FEPTO out-drive with 24" frame extension - **Contract met**
- Provision for REPTO out-drive. - **Contract met**
- Set forward front axle. - **Contract met**
- Driver and passenger air ride seats. - **Contract met**
- 100-gallon fuel tank. - **Contract met**

Debris Body Options

- 11 or 12 usable yard debris tank made of 3/16" ASTM A-572 grade 50 exten steel.
- Full-opening rear tailgate **SEE REASONING 1**
- Body shall be continuously welded for strength and pressure rated for appropriate operating conditions. **Contract met**
- Debris inlet and air exhaust shall be co-located along the central axis of the machine. **Contract met**
- Door gasket to be one piece, 1-1/2" heavy-duty neoprene material and mounted on the rear door w/ the addition of a stainless bead to prevent rusting. **Contract met**
- Stainless steel tailgate sealing rod. **Contract met**
- Four hydraulic/mechanical rear door lock **Contract met**
- Dual tailgate lift cylinders **Contract met**
- Front mounted hoist cylinder, power up & down, 55,000 lb capacity w/ a 50-degree lift angle. **Contract met**
- Three tie-off anchors on top of body **Contract met**
- The air inlet from the tank is to be equipped with a minimum of two automatic shut-off float balls. These floats shall be 10" in diameter and constructed of stainless steel. **Contract met**
- The rear door to be equipped with two (2) hydraulic cylinders to open and close door of the debris tank. **Contract met**
- Five-year warranty on debris tank against rust through, distortion, and cracks **Contract met**
- Debris body flush out system. **Contract met**
- Drain at bottom of tailgate- 6" brass lever with 15' of lay flat hose. **Contract met**
- Decant halfway up tailgate – 6" brass lever valve with handle. **Contract met**
- Float type liquid level indicator on tailgate **Contract met**
- Filter screen for pump off system **Contract met**
- Mounting tabs for curbside ladder **Contract met**

- Long pole holder to accommodate (3) 12' clam diggers. **Contract met**
- Pneumatic tailgate prop (in addition to standard) **Contract met**

Water Tank Options

- 1500 or 1300-gallon water tank made of 3/16" 304 STAINLESS STEEL w/ 10-year warranty **SEE REASONING #1**
- 4" high anti-siphon ring with (4) 2-1/2" holes **Contract met**
- Water tank level sight tube on curbside **Contract met**
- Drain valve at bottom of water tank. **Contract met**
- 3" water strainer w/ stainless steel screen on water tank fill line **Contract met**
- 3" supply line to water pump mounted at rear hinge pin **Contract met**
- Five-year warranty on water tank against rust through, distortion, and cracks **Contract met**
- Upgrade to butterfly valve in 3" supply line **Contract met**

Vacuum System Options

- TRUE 8" diameter vacuum tube system **Contract met**
- Vacuum pump driven via mid-ship mounted split shaft transfer case gearbox. **Contract met**
- Noise & vibration dampening mounts on vacuum pump & transfer case. **Contract met**
- Noise attenuated vacuum pump discharge silencer w/ rain cap & drain. **Contract met**
- 6" safety vacuum relief **Contract met**
- Boom shall be equipped with curved guide plate at operating end for protection of hose during extension and retraction. **Contract met**
- Panic switch function for vacuum **Contract met**
- Upgrade to Roots type PD vacuum pump 4,500 CFM @ 18" HG **Contract met**
- Airflow shall be filtered via TWO individual cyclone separators complete with a clean out chamber located below the cyclone. **Contract met**
- A proprietary stainless-steel Vee-wire safety screen filter w/ additional final filter chamber shall be located immediately prior to the blower intake. Latch for filter access shall be no more than 24" above the top of the chassis frame rail to allow safe and convenient operator. **Contract met plus UPGRADE**
- Latching mechanism for cyclone separator and final filter access shall be no more than 22" above the top of the chassis frame rail to allow safe and convenient operator access.
- The VACUUM airflow system equipped with four (4) VACUUM relief valves, which allow air to enter the system when vacuum exceeds 18" HG. **Contract met plus UPGRADE**
- The Vacuum system shall have the capability of being turned on or off at any RPM. **Contract met**

Water System Options

- Tri-Plex water pump system **Contract met**
- 800 PSI washdown circuit w/ 50' x ½" hose **Contract met**
- Air purge system for primary circuit **Contract met**
- Low point drain valves on water lines **Contract met**
- Shaft-driven, tri-plex water pump that can be customized from 65 GPM-120 GPM at 2000-3000 PSI. **SEE REASONING #5**
- Giant GP8000 series water pump rated for 80 GPM @ 2,500 PSI **Contract met**
- Additional 50' x ½" handgun reel for washdown circuit mounted on front of truck. **Contract met**
- Removable lateral hose reel – 200' x ½" **Contract met**
- Water recirculation for cold weather operation via automatic transmission **Contract met**
- The water pump must be located with liquid end facing out toward the curb. This allows servicing the pump at ground level. Pump must be level with or below the discharge of the lowest water tank on truck (flooded). **Contract met**
- System shall be activated via control located on the unit's control panel. **Contract met**

Boom Options

- 8" front mounted telescoping boom w/ 27' reach & 180-degree rotation **Contract met**
- 180-degree power rotation via worm drive **Contract met PLUS UPGRADE**
- Dual 4" lift cylinders rated for 1,000 lb lift capacity. **Contract met PLUS UPGRADE**
- Cap protection rack constructed of one-fourth" steel with a spinning profile designed to withstand maximum working pressure without distortion. **Contract met**
- The reel shall be driven with hydraulic power for pay out and retrieve, either with or without the water pump in operation. The hydraulic drive shall have sufficient power to retract the hose when fully extended into the pipe with the cleaning nozzle in operation. **Contract met**
- The hydraulic controls for the rotating hose reel will consist of variable speed control and payout/retrieve directional control. Payout/retrieve levers will be hydraulic, not electric over hydraulic. **Contract met**
- Controls mounted on the rotating hose reel control panel shall be limited to: Engine throttle control, water pump on/off, water pump pressure adjustment, blower on/off, blower speed adjustment, water pressure gauge, vacuum gage, vacuum relief, work light switches, work mode indicator light and low water warning light. **Contract met**

Hose Reel Options

- Hose reel rated for 800' of hose and 3,000 PSI. **Contract met**
- The hose reel will be constructed of one-fourth" steel with a spinning profile designed to withstand maximum working pressure without distortion. **Contract met**

- Reel flanges shall be 1 1/2” and shall be designed to prevent hose damage from contact during all normal working conditions. **Contract met**
- 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. **Contract met**
- The reel shall be driven with hydraulic power for pay out and retrieve, either with or without the water pump in operation. The hydraulic drive shall have sufficient power to retract the hose when fully extended into the pipe with the cleaning nozzle in operation. **Contract met**
- Controls mounted on the rotating hose reel control panel shall be limited to: Engine throttle control, water pump on/off, water pump pressure adjustment, blower on/off, blower speed adjustment, water pressure gauge, vacuum gage, vacuum relief, work light switches, work mode indicator light and low water warning light. **Contract met**
- The hose reel drive system shall utilize a dual chain system as well as a proprietary winch powered unit for extra strength. **Contract met, SEE OPTION 2**
- Exterior hose expansion ribs **Contract met**
- Footage counter on side of spool **Contract met**
- Automatic hose level winder (includes J-Hook style hose guide) **Contract met**
- The hose reel shall have the ability to extend and retract from the front of the truck hydraulically via two telescoping support rails. Reels extending via a pivoting motion or other similar methods will not be deemed acceptable. The hose reel shall extend linearly 14" from the fully retracted position to the fully extended position. **Modified bid spec, SEE OPTION 3**
- The safety reel will rotate a minimum of 180 degrees providing direct alignment to manholes. **SEE OPTION 4**
- 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., fourteen” O.D., and two” 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 greaseable 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 manual, spring-loaded safety pin at 2” intervals. Reel rotation locks utilizing electric, or air actuation are not acceptable. **Contract met. PLUS GAPVAX HAS ONLY REPLACED TWO BEARRINGS IN COMPANY HISTORY DUE TO RUGGEDNESS AND HOSE REEL MOUNT**

Controls, Gauges, & Accessories Options

- Cab-mounted air shift controls for blower, hydraulics, and water pump **Contract met**
- Control panel mounted at front hose reel w/ joystick. **Contract met**
- Operator control panel includes gauges for engine, hydraulics, vacuum, and water pump. **Contract met**

- Panic switch to relieve water pressure & vacuum. **Contract met**
- G2B control system w/ DM340 display includes: **Contract met**
 - Low water shutdown protection
 - High water temperature shutdown protection
 - Engine overspeed protection
 - On-screen diagnostics for water, PTO, & engine levels
- Wireless remote for boom, vacuum, front hose reel water on/off, and front hose reel in/out **Contract met**
- Upgraded AARCOMM trident remote w/ additional wireless transmitter. **Contract met PLUS UPGRADE**
- The module electrical system shall utilize a 12-volt wiring architecture. Multiplexing, including CANbus, shall not be used for any function, measurement, or monitoring purposes on the sewer cleaning module. **Contract met**
- The control panel will be located on the hose reel. All controls shall be mounted in a weather tight NEMA 4 control panel. **Contract met**

Lighting Options

- Truck-LITE LED running marker lights **Contract met**
- LED stop/tail/turn light w/ polished stainless-steel boxes. **Contract met**
- (2) boom work lights – HELLA LED work lights **Contract met**
- (2) rear work lights – HELLA LED work lights **Contract met**
- (2) side work lights – HELLA LED work lights **Contract met**
- Rear Whelen ION super LED flashers – 6 light heads – 3 on each side rear **Contract met**
- Rear arrow light – low profile LED arrow stick **Contract met**
- High intensity Led work light on front hose reel for manhole work. **Contract met**

Storage Options

- 25' fire hose basket **Contract met**
- Two galvanized steel tube trays that holds minimum (6) 8" tubes. **Contract met**
- Aluminum, 30" wide x 24" tall x 24" deep, mounted on curbside. All toolboxes shall come complete with rain gutters, "T" handle paddle latches, swing down doors and key locks all keyed to a common key. **Contract met**

Chassis Options

- DOT lighting / fenders/ mud flaps / tailgate safety prop, ICC lights **Contract met**
- Remote actuated body safety prop **Contract met**
- 70 gallons AW-46 hydraulic oil, level/temperature gauge, shutoff on suction **Contract met**
- Rear bumper, triangle kit, fire extinguisher, backup alarm **Contract met**
- Allison 10-bolt PTO upgrade **Contract met**

- Front bumper **Contract met**

Hydraulic System

1. System power shall be provided by single transmission with ample supply power to the water pump drive and the blower drive. **REASONING #6**
2. All hydraulic functions shall be powered from the chassis engine directly. **Contract met**

Paint Options

- Painted with PPG urethane paint. **Contract met**
- Paint frame & parts black **Contract met**
- Fleet finish **Contract met**
- Paint body any color that is Lee counted specified color. **Contract met**
- Paint parts any color that is Lee counted specified color. **Contract met**
- Paint boom, control box and hose reel that is Lee counted specified color. **Contract met**
- Before painting, all metal shall be cleaned and etched with a phosphoric wash to insure permanent bond of primer and paint. **Contract met**
- 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. **Contract met**

Miscellaneous Options

- 25' of vacuum tubing (5) and clamps **Contract met**
- Tiger tail hose guide **Contract met**
- Two Blue Star sewer cleaning nozzles **Contract met**
- Fill hose 25' x 2 1/2" **Contract met**
- 1" Cobra Sewer hose – 2500 PSI x 600' plastic orange **Contract met**
- Hydrant wrench **Contract met**
- (6) traffic cones – 18' DOT certified orange safety cones **Contract met**
- Two camera system – backup camera system w/ 7" color monitor, includes DVR-916 rear and DVR-921 front camera. **Contract met**
- Central lubrication system that will provide a common location that is ground accessible for all grease zirks. **Contract met**
- Delivery & Training



REASONING

1. We utilize a 1300 gallon with 12 yards of debris tank or 1500 gallon with 11 yards of debris tank to keep the center of gravity much lower, allow for more storage, and an easier design for operators/mechanics. We utilize a top-loading debris body design so you fill the entire debris body, instead of the front-loading design where you utilize roughly a yard less. We have calculated that our true 12 yard debris body is equivalent to a competitors 13 yard advertised debris body. By utilizing our overbuild system with a tier 3 nozzle, you can run your truck at 1100-1400 RPM, using much less water and vacuuming less debris, resulting in not needing the 1500 gallons and 15 yards of debris room.
2. In addition to the hose reel being chain driven, we use a Powerful, hydraulic-driven, direct drive winch motor drives the hose reel in and out, instead of a chain and sprocket on the competition. This allows for more power on the hose reel, making it less likely for a nozzle to get stuck in heavy debris.
3. The hose reel is supported by full secondary subframe, FEPTO extension mounted instead of just mounted to the bumper via bolts. This allows for the strongest hose reel on the market that needs no kick stand for support and is so strong it is rated to drive with the hose reel extended out. Further, this gives the highest ground clearance of any truck on the market, with no water or hydraulic hoses hanging below the hose reel.
4. The hose reel rotates 180 degrees around, which allows you to have ample space to drop into the manhole. There is no reason to have 250 degrees.
5. Shaft-driven, tri-plex water pump that can be customized from 65 GPM-120 GPM at 2000-3000 PSI. This pump is strategically located low to optimize water flow and pressure without overheating. The competition uses hydraulically/hydrostatically driven pumps which are more maintenance heavy and prone to overheating both the hydraulics and the water.
6. We utilize a single engine design on our trucks, like the majority of other manufactures, because:
 - a. The high HP engine is more than capable of taking on all of the features on the truck plus more.
 - b. Less maintenance on another engine plus components
 - c. More room for truck accessories
 - d. Less overall weight and footprint
 - e. No need to have a motor with diesel and one with gasoline.
 - f. Many more reasons that can be explained.

Additional Reasoning Not Listed

- Transfer case driven blower, shaft driven water pump, minimal hydraulically driven components on the truck (essentially none with major horsepower requirements), allow for continuous duty throughout numerous different types of jobs without worrying about hydraulics overheating. Some competitor's trucks drive either the blower or water pump (or both) with hydraulics and have serious overheating issues -especially in

Florida. In particular, some of these trucks will actually require water on board to operate the truck at all, because in addition relying heavily on hydraulics, they're cooling the hydraulic system with a water heat exchanger. GapVax not only minimizes hydraulically operated components, but also uses air-cooled fans (in addition to an oversized hydraulic tank) to cool their hydraulics. The GapVax combo can be used for tasks like vacuuming all day long with no water on the truck at all.

- The GapVax MC comes standard with many options that are a major upgrade on competitors trucks including: industrial sized silencer (quietest truck on the market), 18" blower, 3/16 stainless steel water tank, 180-degree rotating front hose reel that is mounted to a subframe of the chassis, stainless steel main filter, and manual controls to always keep your truck operable.





ATTACHMENT B

SPECIFICATIONS - COMBINATION SEWER CLEANER

VAC-CON Model: VPD3616LHAEN/1500 (824 at 18")

GENERAL

The machine is capable of removing stones, grit, grease, sludge and other debris from sanitary sewer and/or storm drain lines by the flushing action of high-pressure water. The high-pressure sewer cleaner operates independent of the vacuum system.

The machine is capable of being operated by one person, with all operating controls for high-pressure water pump, hose reel, and vacuum, located at the front of the machine for safety.

DEBRIS BODY

Debris storage body has a minimum usable liquid capacity of 16 cubic yards.

The debris body is round for maximum strength and constructed of ¼ inch ASTM A242 Corten A steel for enhanced corrosion resistance.

The rear door shall be dished and flanged for maximum strength, full opening, hinged at the top with low profile and adjustable style hinges maintaining a 12' maximum overall height. There shall be a 6" diameter liquid drain valve, knife and screen weldment inside for removing excess liquids. Drain will have 10 feet of 6 inch layflat hose.

The rear door shall be supplied with a debris deflector shield located inside the debris tank that encompasses 75 percent of the rear door. The debris deflector shield shall deflect material from rear door and aid in draining off excess liquids. A rear door safety prop shall be provided.

For ease of maintenance there shall be no hydraulic components located inside the debris body or rear door.

The debris body has five (5) externally mounted door locks that lock hydraulically. One manual T bolt is installed for operator safety. Hydraulic operated, heavy duty wedge style door locks shall be installed. The door locks shall be operated by two double acting hydraulic cylinders. The rear door shall also hydraulically open and close (raise and lower) by means of two double acting hydraulic cylinders. The unlocking-opening and the closing-locking operations shall be controlled by a single switch and sequence valve.

Dual steel weldments with stainless steel screen 8" x 28" each providing up to 1200 square inches of added filtration for the vacuum system shall be provided inside the debris tank. These weldments shall be removable and require no cutting or welding.

A double acting power up/power down hydraulic scissors lift mechanism will be provided to raise body to a minimum 50 degree angle. The scissors lift mechanism shall be designed to support a minimum of 24 inches of the debris tank width to provide stability and when dumping on uneven ground. The lift capacity of hydraulic scissors lift cylinder is 56,000 lbs.

Dump controls are located on curbside mid-ship of the unit, well forward of the dumping area for operator safety. A manual override system is provided in case of system failure.

The debris body has a five year warranty. A copy of manufacturer's warranty statement shall be enclosed with bid.

An internal polyethylene float device with external indicator is supplied to show when body is loaded to capacity.

AUTOMATIC VACUUM BREAKER

The automatic vacuum breaker assembly is located inside the body.

The automatic vacuum breaker assembly shall be controlled by an electric over hydraulic circuit. The entire system shall be replaceable via a bolt on assembly. The assembly shall consist of a 12" inlet and two 8" ports that provide air flow to the vacuum system.

A full indication activates an automatic vacuum breaker shut down system that completely shuts down 100 percent of the airflow to the vacuum system to prevent overfilling and wastewater discharge into the atmosphere.

The vacuum breaker system is automatically activated (closed) when the parking brake system is released to eliminate carryover during transit.

The system is controlled/activated, at the front hose reel control station. This enables the operator to pick up large debris with boom and place debris on the road surface. This system can be used for safety in the event suction must be shut off in case of an emergency.

POSITIVE DISPLACEMENT BLOWER

A lobe type positive displacement blower shall be provided capable of 5197 CFM's and 18" of Hg. with cyclone separator. Control of the blower regarding start, stop and the rate of vacuum suction is performed from the front of the truck. A vacuum suction breaker disconnect switch is provided to enable operator to pick up large debris with boom and place debris on road surface. The positive displacement blower system shall operate independent of the high-pressure water system.

The compressor is driven by the chassis engine via a closed loop hydrostatic system using a variable piston pump and motor. This system shall include a heat exchanger for extreme ambient conditions and to maintain the pump suction oil temp at 160 deg. F. max. The heat exchanger shall be protected by a 30-micron filter and cold weather by pass valve. Hydrostatic loop filtration shall be accomplished by a 10 Beta micron return filter and a 10-micron Absolute (no bypass) charge filter.

The blower is protected by (2) two 3" diameter vacuum relief valves. The system incorporates an air/water separator and a sound silencer to separate material before it enters blower and to ensure quiet operation.

A means of starting, stopping and varying the vacuum suction from operator station at the front of the machine is provided. The blower is mounted on a frame independent of the water tank. Unit must be capable of vacuuming under water without air induction.

The positive displacement blower shall have a 12-month non-prorated warranty.

VACUUM PICK UP HOSE

The vacuum pickup hose shall be front loading, attached at the front of the machine in order to provide ease of positioning the machine over the manhole, as well as afford maximum safety for the operator.

The 8" hose will be mounted on a boom that will provide a minimum of 18' vertical lift utilizing dual hydraulic cylinder and 230 degree of boom rotation powered hydraulically for non-interrupted smooth movement. Boom to have a lift capacity of 500 lbs. at the front bumper.

The boom will be powered by an electric over hydraulic system: up/down by dual lift cylinders. The right/left movements shall be hydraulic via worm gear rotation.

Control of the boom is by means of a joystick control at the operator's station, requiring no cables at operator's feet for boom operation.

The boom shall hydraulically telescope a minimum of 10 ft. forward from the operator's station. The height of the boom shall not change while the boom is being telescoped.

A manual override system shall be provided for right/left, and up/down functions in case of system failure.

8 inch diameter pipe extensions with clamps will be provided and carried on the truck as follows:

1 6-1/2' Catch Basin Nozzle

1 6' Aluminum Pipe Extension

1 5' Aluminum Pipe Extension

1 3' Aluminum Pipe Extension

WATER SUPPLY

The water tank shall have a minimum usable capacity of 1500 U.S. gallons.

The water tanks shall be constructed of non-corrosive, non-metallic, durable, cross-linked polyethylene to eliminate rust, corrosion, and stress cracking.

The water tanks shall be mounted at and below the truck frame level to provide a low center of gravity for truck stability.

A 2 ½ inch diameter x 25 feet long hydrant hose with hydrant wrench is supplied on the unit.

An anti-syphon fill device is installed on the unit.

Inspection ports shall be provided to fill or to add chemicals to the water system.

A sight gauge to indicate water level is located within sight of the operator station.

The water tanks are protected by a minimum of 11 gauge steel plating mounted below the water tanks for protection against road hazards when unit travels over the road, off the road or to landfills.

The water tanks carry a ten year replacement warranty.

HIGH-PRESSURE WATER PUMP

The high pressure water pump shall be rated to deliver smooth continuous pressure and flow through the entire flow range of the pump. The high pressure pump shall have smooth continuous flow for both the high pressure system and the hand gun system.

A continuous duty flow of 80 GPM. and 2500 PSI shall be provided.

High-pressure relief valves are provided for both the high-pressure system and hand gun system.

The water pump operates independently of the vacuum system and will be powered by hydrostatics.

The water pump is capable of running dry.

Controls for starting and stopping the water pump and to vary the flow and pressure shall be at the front hose reel operator's station.

The high-pressure water pump is equipped with a cold weather drain valve. The valve allows the operator to completely drain the high-pressure pump.

HOSE REEL ASSEMBLY

The hose reel assembly is mounted on the front of the vehicle. The hose reel shall have a minimum of 30" inside diameter with a capacity of 800' x 1" hose. The hose reel is hydraulically powered in both directions by means of a double chain and sprocket drive. The controls for operating the motor have a flow control device to regulate the rotational speed of the reel in both directions. All hydraulic hoses are behind a steel housing to protect operator from hydraulic oil if a hose fails. The hydraulic motor, chain, and sprockets have a protective cover or are mounted on the radiator side of the hose reel for operator safety. The hose reel articulates 180 degrees to the driver's side allowing operator to work in any position through this arc. This allows greater flexibility in truck placement for manholes located in tough areas and provides greater safety to the operator. Reel extends beyond the width of unit for greater flexibility for positioning reel over offset manholes, catch basins, etc. A hydraulically controlled outrigger leg is supplied that comes in contact with the ground at any one position. A warning light is located in the cab to warn the operator that the outrigger leg is not in its transported position prior to moving the unit. A manual bypass system for the hose reel assembly is provided to manually pull the reel assembly away from its transported position. This feature allows operator to check fluids without starting engines.

JET HOSE

600' x 1" jet rodder hose will be supplied rated for 2500 psi working pressure and 6250 psi burst pressure. A heavy duty hose guide with 25' of nylon rope will be provided. Nozzles shall be hardened steel with replaceable ceramic orifices as follows: 1) Chisel head penetrator & 1) standard sanitary.

MANHOLE CLEANING WATER SYSTEM (HAND GUN)

The high-pressure pump and independent water tank assembly supplied shall be used for manhole cleaning.

A smooth continuous flow of 20 g.p.m. and pressure of 600 p.s.i. shall be provided for ease of operation.

A hand gun pressure relief valve set at 600 p.s.i. shall be provided.

One full functioning hand gun with on/off hand control, replaceable nozzle tip, 12 inch extension, adjustable spray and 50' x 1/2" hose with retractable reel will be provided.

The hand gun will attach to the system via a quick couple connection at the curbside of the unit. To avoid being coiled at the operator's station a hand gun holder will be provided at the front bumper.

HYDRAULIC SYSTEM AND LUBRICATION

The hydraulic system has a 55-gallon capacity.

The hydraulic system shall incorporate a main shut off valve in case of hydraulic failure.

The hydraulic system shall incorporate hydraulic pressure relief valves and pressure gauges for ease of trouble shooting and maintenance.

The unit is equipped on the passenger side, mid-section of the module, with a permanent weatherproof white vinyl lubrication chart that points out lubrication points on the module and specifies what type of lubrication and hydraulic fluids are required. The chart also specifies the frequency of each lubrication point.

Remote plumbed grease fittings are provided for the vacuum compressor, boom rotation, and water pump drive areas.

ACCESSORIES

A minimum twelve (12) month manufacturer's guarantee on the unit will be provided.

An aluminum storage box behind the cab will be provided, 16" x 42" x 96"

- Debris body power flush out system, 8 Jets
- 6" knife valve, lower rear door mounted with cam-lock
- Rear splash shield for debris tank
- Air purge system
- Pre-tank water filter (Y-type)
- Variable flow valve for water system
- Power Guide "Reel Power" level wind guide
- Vertical style, deck mounted pipe rack, holds 3 pipes
- Folding pipe rack holds 3 pieces of pipe, tank mounted, curbside
- 2 Aluminum side mounted tool boxes, 35" x 14" x 24"
- Low water alarm with light
- Lateral Cleaning Kit w/150' x ½" Hose w/Nozzle, Dolly style mounts
- Hose footage counter, standard - drivers side
- Remote boom grease zerk assembly, (accessible from ground level)
- Remote debris tank grease zerk assembly (accessible from ground level)
- Water pump remote oil drain
- 2 Aluminum Rear Mounted Tool Boxes 24"x18"x18"
- Camera System with Color Monitor
- Rear traffic camera
- Front hose reel camera - to view front of hose reel area
- Long handle storage placement - rear of mainframe
- Cone storage rack
- Debris tank drain screen standard drain valve

LIGHTING

The entire module electrical system is vapor sealed to eliminate moisture damage.

All wiring is color-coded, labeled and run in sealed terminal enclosures.

All module circuits are protected by circuit breakers.

Clearance lights and reflectors are furnished in accordance with D.O.T. requirements.

- 6 LED strobes - (2) front bumper, (2) rear bumper, (1) each side mid-body frame
- LED Arrow Board, rear debris tank door mounted
- LED Boom Mounted Flood Lights with Guards
- LED Rear Mounted Flood Lights with Guards
- LED Flood Light - Level Wind Guide

PAINT

Unit paint surfaces are shot blasted, Ambershield zinc primed, sanded and sealed with epoxy primer. Hose reel spool, debris tank and sides of mainframe painted with PPG Delfleet single stage polyurethane paint. All other paintable surfaces coated in PPG Ambershield textured black paint.

Unit shall have reflective White or Blue stripes.

Chassis shall be painted manufacturers standard white with DuPont Imron 5000 polyurethane paint.

TRAINING AND MANUALS

Operator training will be conducted by a factory-trained representative for a minimum of one day at the time of delivery. 2 copies of the operating and maintenance manual for the sewer cleaner module shall be provided upon unit delivery.

CHASSIS

New Freightliner 114SD Chassis

66,000 GVWR

Cummins L9 370 HP Diesel Engine

Allison 3000 Automatic Transmission

Driver and Passenger Air Ride Seats