

**ARKANSAS STATE HIGHWAY COMMISSION  
AHTD-EQUIPMENT AND PROCUREMENT DIVISION  
BID INVITATION**

Contract Number: H-17-333H

**BID OPENING LOCATION:**  
AHTD Equipment and  
Procurement Division  
11302 West Baseline Road  
Little Rock, AR 72209

**MAIL TO:**  
AHTD Equipment and  
Procurement Division  
P.O. Box 2261  
Little Rock, AR 72203

**DELIVER TO:**  
AHTD Equipment and  
Procurement Division  
11302 West Baseline Road  
Little Rock, AR 72209

Bid Opening Date: May 23, 2017 Time: 11:00 a.m.

Sealed bids for furnishing the commodities and/or services described below, subject to the Standard Bid Conditions of this Bid Invitation will be received at the above-noted mail and delivery locations until the above-noted bid opening date and time, and then publicly opened at the above-noted bid opening location. **Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected. Late bids and unsigned bids will not be considered.**

In compliance with this Bid Invitation and subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name: \_\_\_\_\_

Name (Type or Print): \_\_\_\_\_

Address: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

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

E-Mail: \_\_\_\_\_

Federal Tax ID or Social Security No.: \_\_\_\_\_

**Signature:** \_\_\_\_\_

Signature must be legible, original (not photocopied) and in ink.  
Unsigned bids will be rejected.

**Sewer Flusher**

The Arkansas Highway and Transportation Department (hereafter called the AHTD) will receive bids for a **Sewer Flusher, Trailer Mounted.**

Bid prices shall include delivery of all **Equipment** to the AHTD at the F.O.B. location(s) shown on attached Bid Sheet.

Contract may be renewed or extended upon mutual agreement of the parties, but shall not exceed limitations allowed by Arkansas State Procurement Law.

**All bidders should complete and return the Eligible Bidder Certification (Attachment A) and Disclosure Form (see Page 2 of Standard Bid Conditions – Item 18) issued with this bid. A current copy of the DFA Illegal Immigrant Contractor Disclosure Certification (see Page 1 of Standard Bid Conditions – Item 17) should also be submitted with bid.**

**Literature Submittals – Item A2 of Bid Specifications shall supersede Item #11 of Standard Bid Conditions.**

**Bid Bond** in the amount of \$1,000 required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 4 on page 1 of Standard Bid Conditions.

**Performance Bond** in the amount of 5% of the total awarded to the respective bidders must be furnished within 10 days after receipt of notice of intent to award as a guarantee of delivery in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 4 on page 1 of Standard Bid Conditions.

Bidder shall specify guaranteed delivery date for all vehicles/equipment in the space provided under each item number for which a price is being submitted. Successful bidder shall furnish Warranty Data for each vehicle/equipment delivered. The Warranty Data shall contain all necessary information such as motor and/or serial numbers and shall be signed by the selling dealer at the time vehicle/equipment is delivered to the Highway Department. Certificate of Origin, Federal Excise Tax Exemption Certificates, Odometer Disclosure Statement and five (5) copies of the Invoice for each vehicle/equipment to be furnished to Equipment & Procurement Division, P.O. Box 2261, Little Rock, AR 72203.

The successful bidder will be required to complete delivery within **180** days after award.

Bids and Specifications are available on-line by going to the AHTD Web Site – [www.arkansashighways.com](http://www.arkansashighways.com) and clicking on “Commodities and Services Bids/Contracts Information”. Tabulations will also be available at this site after award of bid/contract. If you have any questions, call this office at 501-569-2667.

64-7195

**ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARKANSAS  
AHTD-EQUIPMENT AND PROCUREMENT DIVISION**

**BID SHEET**

**Contract No.: H-17-333H**

**BIDDER:** \_\_\_\_\_

1. **1** – Sewer Flusher, Trailer mounted,  
to meet AHTD Spec. **17-376-226**.

FOB: 1 ea. - AHTD – District 4 Headquarters, 808 Frontier Road, Barling, AR 72923

Bid Price (Do not include any Local, State or Federal Taxes)

**Sewer Flusher** proposed as meeting specifications:

Make \_\_\_\_\_ Model \_\_\_\_\_ Warranty \_\_\_\_\_ Each \$ \_\_\_\_\_

Guaranteed Delivery Date \_\_\_\_\_

Additional Units may be purchased at the same pricing and  
conditions through \_\_\_\_\_  
(Date)

**BID TOTAL \$** \_\_\_\_\_

## STANDARD BID CONDITIONS

1. **GENERAL:** Any special terms and conditions included in the invitation for bid override these standard terms and conditions. The standard terms and conditions and any special terms and conditions become part of any contract entered into if any or all parts of the bid are accepted by the Arkansas State Highway and Transportation Department (AHTD).
2. **ACCEPTANCE AND REJECTION:** AHTD reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
3. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
4. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
5. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
6. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
7. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
8. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
9. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
10. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.

11. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
12. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
13. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
14. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
15. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).
16. **NOTICE OF NONDISCRIMINATION:** The Arkansas State Highway Commission through the AHTD complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the AHTD does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the AHTD's programs and activities, as well as the hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the AHTD's nondiscrimination policies may be directed to Joanna P. McFadden Section Head – EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501)569-2298, (Voice/TTY 711), or the following email address: [joanna.mcfadden@ahtd.ar.gov](mailto:joanna.mcfadden@ahtd.ar.gov). Free language assistance for Limited English Proficient individuals is available upon request. This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.
17. **PROHIBITION OF EMPLOYMENT OF ILLEGAL IMMIGRANTS:** Pursuant to Arkansas Code Annotated 19-11-105, all bidders must certify prior to award of a contract that they **do not** employ or contract with any illegal immigrant(s) in its contract with the state. Bidders shall certify online at <https://www.ark.org/dfa/immigrant/index.php>.
18. **DISCLOSURE:** Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that order, **shall** be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy **shall** be subject to all legal remedies available to the agency.

ATTACHMENT A

**ELIGIBLE BIDDER CERTIFICATION**

The Bidder represents and warrants for itself, its employees and its subcontractors and certifies they:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding thus Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph two (2) of this Certification;
4. Have not within a one-year period preceding this application/Bid had one or more public transactions (Federal, State, or local) terminated for cause or default; and

The Bidder represents, warrants and acknowledges the understanding that restrictions placed on the employment of labor or on the scale of pay for the work on a contract will be the requirements of the Fair Labor Standards Act (Federal Wage-Hour Law) of 1938, 28 USC §201 et seq., and other applicable labor laws.

The person executing this Certification further represents, warrants and affirms the truthfulness and accuracy of the contents of the statements submitted on or with this Certification and understands that the provisions of 31 USC §3801 et seq. are applicable thereto.

\_\_\_\_\_

BIDDER NAME

BY: \_\_\_\_\_

Signature

TITLE: \_\_\_\_\_

## CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency.

SUBCONTRACTOR:

SUBCONTRACTOR NAME:

Yes  No

IS THIS FOR:

TAXPAYER ID NAME:

Goods?  Services?  Both?

YOUR LAST NAME:

FIRST NAME:

M.I.:

ADDRESS:

CITY:

STATE:

ZIP CODE:

COUNTY:

**AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED:**

### FOR INDIVIDUALS\*

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark ( ✓ )		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and how are they related to you? <small>(i.e., Jane Q. Public, spouse, John Q. Public, Jr., child, etc.)</small>	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

None of the above applies

### FOR AN ENTITY (BUSINESS)\*

Indicate below If any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark ( ✓ )		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership Interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

None of the above applies

## Contract and Grant Disclosure and Certification Form

*Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.*

**As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:**

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.

2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

Signature _____	Title _____	Date _____
Vendor Contact Person _____	Title _____	Phone No. _____

Agency Use Only				
Agency Number _____	Agency Name _____	Agency Contact Person _____	Contact Phone No. _____	Contract or Grant No. _____

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT**

**SPECIFICATION 17-376-226**

**FOR**

**TRAILER MOUNTED SEWER FLUSHING MACHINE**

**A. General Conditions:**

1. **Current Model:** Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.
3. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
4. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point.  
  
The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD, DVD, USB Drive, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD operators and service technicians on operation and maintenance of machine.  
  
In addition, the successful bidder shall furnish information on any factory service schools which would be available for AHTD service technicians.
6. Shall be assembled, adjusted and made ready for continuous operation at time of delivery.
7. All parts, accessories and tools necessary for satisfactory operation of this unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
9. **Demonstration:** The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
10. **Cooperative Purchasing:** Other tax-supported entities\* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.



\* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

**B. Unit Specifications:**

1. **General:** This specification is intended to cover a trailer mounted high velocity water machine, designed to remove grease, grit and other materials from storm sewer pipes, to be used for the purpose of cleaning highway underdrains and small culverts. Unit shall be capable of cleaning 4" to 36" metal and/or plastic pipe underdrains filled with roots, rodent or insect nests, and soil sediment. Complete unit shall consist of a flusher pump driven by a liquid cooled diesel engine, water tank(s), and rotating dual hose reel assembly with hose, all mounted on a tandem axle trailer.

The manufacturer shall be experienced in the manufacturing of sewer flushing machines, and the flusher pump, water tank and trailer package bid shall be production items in use in the United States for at least three (3) years. The machine and components must meet all federal and state safety regulations

2. **Engine:** Liquid cooled diesel developing a minimum of 105 gross horsepower at rated RPM. Shall be equipped with 12 volt electric system including starter, battery, alternator and ammeter or charge indicator. Shall have electric hour meter, tachometer, approved type air cleaner, oil and fuel filters, approved type governor and muffler. Shall be equipped with oil pressure gauge, water temperature gauge and fuel level gauge. Shall be equipped with an automatic shutdown system which senses low oil pressure or high coolant temperature. Fuel tank shall have a capacity for no less than eight (8) hours of operation. Cooling system shall have anti-freeze protection to -20° F, or lower.
3. **Clutch:** A clutch shall be provided to disengage the high pressure water pump without affecting the operation of the hydraulic system to allow operation of the engine and hose reel without running the water pump. The clutch shall be a heavy duty, lever actuated, over center PTO type. The clutch actuator shall be in easy reach of the operator and shall be capable of engage and disengage the clutch.
4. **Water Pump:** Shall be a heavy duty, positive displacement triplex type pump with an enclosed oil bath crankcase providing a minimum of 60 gpm at no less than 2,000 psi. The water pump shall be equipped with drain valves for protection during freezing conditions. The pump shall be driven by means of a power band belt and sheaves on the engine and pump. Belt adjustment to be accomplished by water pump movement in guide bars without allowing misalignment of the sheaves.
5. **Water Tank(s):** Shall have a minimum liquid capacity of 600 gallons and be equipped with an access opening, internal baffles and method for draining and cleaning the tank(s). The tank(s) shall be constructed of UV stabilized polyethylene with a minimum thickness of 3/8". If multiple tanks are used, vents shall be supplied to allow air pressure equalization.
  - A. **Access Opening:** Tank(s) shall be equipped with access opening(s) having a minimum diameter of 15". The opening(s) shall have a threaded cover the full diameter of the opening and a smaller lid threaded into the cover. Both lids shall be attached to the tank by means of a flexible lead to prevent loss.
  - B. **Water Fill System:** The fill system shall be located on the curb side of the unit and be operable from the outside. The fill system shall have a quick-disconnect fitting for 2-1/2" hose and be complete with a minimum of 20' of fill hose with quick-disconnect fitting at machine and 2-1/2" N.S.T. swivel fitting for hydrant connection. The fill system shall be an approved air gap, anti-siphon design to protect the potable water supply. The fill hose, fire plug wrench and all equipment and tools necessary for filling the water tank(s) shall be provided. The trailer shall be equipped with internal storage for all components and tools for the tank fill system.
  - C. **Tank Drain:** Provisions shall be made for a gate valve or ball valve, reachable from the outside of the unit, in order to drain and clean the tank(s).
  - D. **Water Level Indicator:** A water level sight gauge to show the amount of water in the tank(s) shall be mounted at, or be visible from, the operator's station.
6. **Dual Hose Reel Assembly:** The hose reel assembly shall be a dual reel system located at the rear of the unit. Shall consist of one (1) large articulating reel sized for 1" hose and one (1) small articulating reel sized for 1/2" hose. The large reel shall have a minimum capacity of 450' of 1" ID high pressure hose. The small reel shall have a minimum capacity of 600' of 1/2" ID high pressure hose. The machine shall be delivered with 450' of 1" ID high pressure hose with a minimum burst rating of 5,000 psi mounted on the large reel and with 600' of 1/2" ID high pressure hose with a minimum burst rating of 8,500 psi mounted on the small reel. Both hoses will be equipped with appropriate connectors.

- A. Reel Construction: The hose reels shall be constructed with rolled formed, one piece reel flanges and be designed to prevent hose damage from contact during all normal working conditions. The sewer hose shall be connected to the reels on the outside, allowing changing sewer hose without disassembly of the reel inner drum core. The hose reel assembly shall be designed to hydraulically rotate a minimum of 135° for ease in operational and positioning performance and shall lock in a minimum of four positions. The reel assembly shall be securely mounted to a steel platform and rotate on a heavy duty bearing or worm gear. Rotating reels using plastic material for swivel action are not acceptable.
- B. Level Wind Guide: Each reel shall be equipped with a hose level winding guide. The guide shall be hinged and will separate to allow sewer hose to be positioned in the assembly between the rollers after the operator has made the proper setup in the manhole.
- C. Footage Meter: Both hose reel assembly shall be equipped with a footage meter to indicate the amount of hose in use.
- D. Hose Reel Drive: The reels shall be powered in both directions by hydraulic motors, 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. A hose reel hand crank, mounted on the trailer for easy access, shall be provided to retrieve the hose in case hydraulic power is lost.
- E. Hydraulic System: The hydraulic pump for the hose reel hydraulic system shall be driven by the engine either directly or by a drive belt. If the pump is belt driven, a belt tension adjustment shall be provided. The hydraulic pump shall have a minimum rating of 8 gpm at approximately 1,800 psi. The hydraulic system shall be equipped with built-in overload relief, hydraulic oil reservoir, filter and hydraulic hose rated for maximum system pressure. Direction control valves and speed control valves for the hose reels shall be provided at the operator's station. All hydraulic lines shall be shielded from the operator for safety.
7. High Pressure Hand Gun: A high pressure hand gun with a "dead man" trigger shall be furnished. Hand gun shall be complete with a minimum of 25' of no less than ½" ID high pressure hose with quick disconnect fitting. One (1) replaceable orifice shall be installed on the gun. The piping for the hand gun system shall be an integral part of the water pump system and include a quick disconnect fitting located on the outside of the control panel. A relief valve, independent of the sewer cleaning relief valve, shall be included to regulate pressure through the hand gun. Relief valve shall be repairable and adjustable type, set at a maximum of 800 psi for operator safety at full throttle. A high pressure side siphon injector to inject liquid wash detergent shall also be included.
8. Water System Piping: The pump suction and low pressure return lines shall be standard weight with malleable fittings. A stainless steel strainer shall be installed in the pump suction line, located for easy cleaning. All high pressure piping and hose shall provide a minimum 2,000 psi working pressure, but must equal or exceed designed working pressure of machine furnished. A relief valve, adjustable from 0 to no less than 2,000 psi, shall regulate pressure to the cleaning nozzle. This valve shall be the repairable type. A single three-way flow control valve, controlled by one lever at the operator's station and allowing for water flow directly to the hose reel or recirculating back to the water tank, shall be provided. Water shall be supplied to the hose reels through a 90° water swivel constructed with a straight swivel nipple body and a 90° cast metal swivel body. A holding nut shall be threaded into the 90° body providing initial compression on the packing, take-up on worn packing, and disassembly for re-packing. The swivel nipple shall rotate on a minimum of two (2) rows of chrome alloy steel balls and be equipped with an Alemite fitting.
9. Nozzles and Accessories: The following nozzles and accessories shall be furnished:
- 1 ea. - ½" x 15° Standard Nozzle
  - 1 ea. - ½" x 30° Standard Nozzle
  - 1 ea. - 1" x 20° Storm Drain Nozzle ("Big Pete" style)
  - 1 ea. - 1" x 30° Missile Style Nozzle With Forward Jet
  - 1 ea. - 1" Aluminum Sand Nozzle, 15°/35° orifice
  - 1 ea. - 1" Finned Style Nozzle Extension
  - 1 ea. - 1" x 25' Leader Hose
  - 1 ea. - BB Hose Guide
  - 1 ea. - Upstream Pulley Guide

10. Enclosure and Storage: At a minimum the engine, electrical components and belt drive shall be fully covered by sheet metal enclosures to protect from weather, dirt and vandalism. Shall have air intake grill in front of engine radiator to allow proper cooling of engine. Access doors shall be provided for allow maintenance of the engine and other enclosed components. All access doors shall have lockable latches and be keyed alike. A minimum of one (1) lockable tool storage area of suitable size to contain commonly used tools or any special tools necessary to operate and/or maintain the unit shall be provided. There shall be at least one (1) storage box which is sealed from the weather for storing manuals and other items which need to be kept in a dry location.
11. Controls: All controls shall be within easy reach of the operator to allow control while standing at one location. Controls to be positioned in a way to allow cleaning to be done by one person. Controls, gauges or indicators provided shall include, but shall not be limited to, the following:
  - Keyed ignition switch
  - Electrical or Vernier type throttle
  - Engine oil pressure gauge
  - Engine coolant temperature gauge
  - Tachometer, hour meter and fuel level gauge
  - Ammeter, voltmeter, or charge indicator
  - Water system pressure gauge
  - Hose reel rotation direction control
  - Hose reel speed control
  - Hose reel articulation control
  - Water level sight gauge
  - Water control lever
  - Washdown gun fitting
12. Trailer: Shall be four (4) wheel, tandem axle trailer with spring or torsion type suspension and of durable, heavy duty construction specifically designed to accommodate the sewer flushing machine and equipment. Shall be capable of transporting the assembled unit with filled water tank(s) at normal highway speeds. The completed unit shall distribute the tongue and axle weights over the frame in such a manner as to insure proper towing characteristics and structural integrity.
  - A. Wheels & Tires: Shall have steel disc wheels no less than 15" in diameter equipped with radial tires of adequate size and load range to handle fully assembled unit. A spare wheel and tire shall be provided.
  - B. Tongue: The trailer tongue shall be designed to allow for the use of multiple types of hitches. Hitch shall be adjustable in height to permit towing with a wide range of vehicles. Unit shall be equipped with a 3" pintle eye hitch and a 2-5/16" captive ball type hitch. The 2-5/16 ball hitch shall have a locking device to prevent the tongue from separating from the ball unintentionally.
  - C. Brakes: Shall be equipped with hydraulic surge brakes acting on all wheels. The surge brake system shall include a free backing feature to allow the unit to move freely in reverse.
  - D. Lights & Additional Equipment: Shall have metal fenders, tongue jack, safety chains with hooks, combination stop, tail and turn signal lights and reflectors to meet DOT and ICC regulations, and be complete with six pole round trailer connector including plug for trailer and receptacle for towing vehicle.
13. Color: All exposed surfaces requiring paint shall be properly primed and painted in manufacturer's standard color.
14. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
  - A. Warranty shall include all parts, labor and transportation costs to the location of equipment.
  - B. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
  - C. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.

- D. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
- E. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph “timely manner” means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph “manufacturer” means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph “replacement part” means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.