CITY OF JOPLIN
JOPLIN, MO

RFP-2021-007
Due: April 21, 2021 10:00 a.m.
4th Floor City Hall
Attention: Lynden Lawson

REQUEST FOR PROPOSAL
TRUCK MOUNTED COMBINATION JET/VACUUM MACHINE

Prepared by:

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Assistant Director of Public Works
City Hall, 602 S. Main
Joplin, MO 64801
(417) 624-0820 ext. 560

CITY OF JOPLIN
TERMS AND CONDITIONS
REQUEST FOR PROPOSAL

1. TERMINOLOGY/DEFINITIONS

Whenever the following words and expressions appear in a Request for Proposal (RFP) document or any amendment thereto, the definition or meaning described below shall apply.

a. **Amendment** means a written, official modification to an RFP or to a contract.

b. **Attachment** applies to all forms, which are included with an RFP to incorporate any informational data or requirements related to the performance requirements and/or specifications.

c. **Proposal Opening Date and Time** and similar expressions mean the exact deadline required by the RFP for the physical receipt of sealed bids by the Department in its office.

d. **Offeror** means the person or organization that responds to an RFP by submitting a proposal with prices to provide the equipment, supplies, and/or services as required in the RFP document.

e. **Contract** means a legal and binding agreement between two or more competent parties, for a consideration for the procurement of equipment, supplies, and/or services.

f. **Contractor** means a person or organization who is a successful offeror as a result of an RFP and who enters into a contract.

g. **Exhibit** applies to forms, which are included with an RFP for the offeror to complete and return with the sealed proposal prior to the specified opening date and time.

h. **Request for Proposal (RFP)** means the solicitation document issued by the Public Works Department to potential offerors for the purchase of equipment, supplies, and/or services as described in the document. The definition includes these Terms and Conditions as well as all Pricing Pages, Exhibits, Attachments, and Amendments thereto.

i. **May** means that a certain feature, component or action is permissible, but not required.

j. **Must** means that a certain feature, component, or action is a mandatory condition. Failure to provide or comply will result in a proposal being considered non-responsive.

k. **Pricing Page(s)** applies to the form(s) on which the offeror must state the price(s) applicable for the equipment, supplies, and /or services required in the RFP. The pricing pages must be completed and returned by the offeror with the proposal prior to the specified proposal opening date and time.

l. **RSMo (Revised Statutes of Missouri)** refers to the body of laws enacted by the Legislature, which govern the operations of all agencies of the State of Missouri.

m. **Shall** has the same meaning as the word must.

n. **Should** means that a certain feature, component and/or action is desirable but not mandatory.

2. OPEN COMPETITION/REQUEST FOR PROPOSAL DOCUMENT

a. It shall be the offeror's responsibility to ask questions, request changes or clarification, or otherwise advise the Finance Department if any language, specifications or requirements of an RFP appear to be ambiguous, contradictory, and/or arbitrary, or appear to inadvertently restrict or limit the requirements stated in the RFP to a single source. Any and all communication from offerors regarding specifications, requirements, competitive procurement process, etc., must be directed to the Public Works Department as indicated on the first page of the RFP. Such communication should be received at least seven calendar days prior to the official proposal opening date.

Every attempt shall be made to ensure that the offeror receives an adequate and prompt response. However, in order to maintain a fair and equitable procurement process, all offerors will be advised, via the issuance of an amendment to the RFP of any relevant or pertinent information related to the procurement. Therefore, offerors are advised that unless specified elsewhere in the RFP, any questions received by the Public Works Department less than seven calendar days prior to the RFP opening date may not be answered.

b. Offerors are cautioned that the only official position of the City of Joplin is that position which is stated in writing and issued by the Public Works Department in the RFP or an amendment thereto. No other means of communication, whether oral or written, shall be construed as a formal or official response or statement.

c. During the bidding process all vendors must contact Lynden Lawson the Assistant Director of Public Works for Operations, 417-624-0820 ext. 560 for any questions or clarifications of information contained in this RFP. Vendors are required to refrain from contacting any City employee concerning this RFP, during the course of the bidding process.

d. Submitters shall not contact anyone from the city after the submittal date until the city sends out results of the

selection. This procedure is in place to insure a fair and impartial process during the evaluation period.

e. The City of Joplin monitors all procurement activities to detect any possibility of deliberate restraint of competition, collusion among offerors, price-fixing by offerors, or any other anti-competitive conduct by offerors, which appears to violate state and federal antitrust laws. Any suspected violation shall be referred to the Missouri Attorney General's Office for appropriate action.

f. The RFP is mailed to potential offerors at the current address maintained on the vendor registration file in the Public Works Department. If any portion of the address is incorrect, the bidder must notify the Public Works Department in writing upon receipt of the document. Any subsequent amendment to an RFP shall be mailed to the same address as the original RFP unless otherwise notified.

g. The Public Works Department reserves the right to officially modify or cancel an RFP after issuance. Such a modification shall be identified as an amendment.

3. PREPARATION OF PROPOSALS

a. Offerors **must** examine the entire RFP carefully. Failure to do so shall be at offeror's risk.

b. Unless otherwise specifically stated in the RFP, all specifications and requirements constitute minimum requirements unless proposal is accompanied by a delineation letter stating importance of specifications. All proposals must meet or exceed the stated specifications and requirements.

c. Prices bid shall remain valid for 90 days from bid opening unless otherwise indicated. If the bid is accepted, prices shall be firm for the specified contract period.

4. SUBMISSION OF PROPOSALS

Sealed Formal Proposals - ($15,000 and Over)

a. A proposal submitted by an offeror must (1) be signed by a duly authorized representative of the offeror's organization, (2) contain all information required by the RFP, (3) be priced as required, (4) be sealed in an envelope or container, and (5) be mailed or hand delivered (not faxed) to the Public Works Department and officially clocked in no later than the exact opening time and date specified in the RFP.

b. The sealed envelope or container containing a proposal should be clearly marked on the outside with (1) the official RFP number and (2) the official opening date and time. Different proposals should not be placed in the same envelope.

c. A proposal may only be modified or withdrawn by signed, written notice, which has been received by the Public Works Department prior to the official opening date and time specified. A proposal may also be withdrawn or modified in person by the offeror or its authorized representative, provided proper identification is presented before the official opening date and time. Telephone or telegraphic request to withdraw or modify a proposal shall not be honored.

d. Offerors must sign and return the RFP cover page in order to constitute acceptance by the offeror of all RFP terms and conditions. Failure to do so shall result in rejection of the proposal unless the offeror's full compliance with those documents is indicated elsewhere within the offeror's response.

5. FACSIMILE DOCUMENTS - SEALED FORMAL PROPOSALS

All responses to sealed RFP's and amendments to sealed RFP's, including "no bid" responses and requests to modify a proposal, must be delivered to the Public Works Department in a sealed envelope or container. Submission by unsealed facsimile, telegram or telephone is not acceptable. However, sealed proposals containing faxed pages are acceptable. In addition, requests to withdraw proposals may be submitted by facsimile but must be received by the Public Works Department prior to the official opening date and time specified.

6. SEALED FORMAL PROPOSAL OPENING

a. Sealed formal proposal openings are public on the opening date and at the opening time specified on the RFP document. Only the names of the offerors shall be read at the proposal opening. The contents of the proposals shall not be disclosed.

b. It is the offeror's responsibility to ensure that the proposal is delivered by the official opening date and time to the Public Works Department.

c. Proposals, which are not received by the Public Work Department prior to the official opening date and time, shall be considered late, regardless of the degree of lateness or the reason related thereto, including causes beyond the control of the offeror. Late proposals shall not be opened.

7. EVALUATION/AWARD

a. Any clerical error, apparent on its face, may be corrected by the Public Works Department before contract award. Upon discovering an apparent clerical error, the Public Works Department shall contact the offeror and request written clarification of the intended proposal. The corrections shall be made in the notice of award. Examples of apparent clerical errors are: 1) misplacement of a decimal point; and 2) obvious mistake in designation of unit.

b. Any pricing information submitted by an offeror but not reflected on the pricing page shall be subject to evaluation if deemed by the Public Works Department to be in the best interests of the City of Joplin.

c. Unless otherwise stated in the RFP, cash discounts for prompt payment of invoices shall not be considered in the evaluation of prices. However, such discounts are encouraged to motivate prompt payment.

d. Awards shall be made to the offeror whose proposal (1) complies with all mandatory specifications and requirements of RFP and (2) is the lowest and best proposal, considering price, responsibility of the offeror, and all other evaluation criteria specified in the RFP.

e. In the event all offerors fail to meet the same mandatory requirement in an RFP, the Public Works Department reserves the right, at its sole discretion, to waive that requirement for all offerors and to proceed with the evaluation. In addition, the Public Works Department reserves the right to waive any minor irregularity or technicality found in any individual proposal.

f. When evaluating a proposal, the City of Joplin reserves the right to consider relevant information and fact, whether gained from a proposal, from an offeror, from an offeror's references, or from any other source. The City reserves the right to accept or reject any and all proposals.

g. Negotiations may be conducted with those offerors who submit potentially acceptable proposals. Proposal revisions may be permitted for the purpose of obtaining best and final offers. In conducting negotiations, there shall be no disclosure of any information submitted by competing offerors.

h. Any award of a contract shall be made by written notification from the Public Works Director to the successful offeror. The Public Works Department reserves the right to make awards by item, group of items, all or none, or a combination thereof, with one or more suppliers.

i. Pursuant to Section 610.021 RSMo, proposals and related documents shall not be available for public review until after a contract is executed or all proposals are rejected.

j. The Public Works Department reserves the right to request written clarification of any portion of the offeror's response in order to verify the intent of the offeror. The offeror is cautioned, however, that its response shall be subject to acceptance or rejection without further clarification.

8. CONTRACT/PURCHASE ORDER

a. By submitting a proposal, the offeror agrees to furnish any and all equipment, supplies and/or services specified in the RFP, at the prices quoted, pursuant to all requirements and specifications contained therein.

b. A binding contract shall consist of: (1) the RFP and any amendments thereto, (2) the contractor's response (proposal) to the RFP, and (3) Public Works Department's acceptance of the response (proposal) by "Notice of Award" (for ongoing provision of equipment, supplies, and/or services) or by "purchase order."

c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services.

d. The contract expresses the complete agreement of the parties and performance shall be governed solely by the specifications and requirements contained therein. Any change, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representatives of the contractor and the City of Joplin or by a purchase order change order prior to the effective date of such modification. The contractor expressly and explicitly understands and agrees that no other method and/or no other document including correspondence, acts, and oral communications by or from any person, shall be used or construed as an amendment/change order to the contract.

e. Offerors may submit more than one (1) bid for different equipment that they possess in their inventory.

9. APPLICABLE LAWS AND REGULATIONS

a. The contract shall be construed according to the laws of the State of Missouri. The contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract to the extent that the same may be applicable.

b. To the extent that a provision of the contract is contrary to the Constitution or laws of the State of Missouri or of the United States, the provisions shall be void and unenforceable. However, the balance of the contract shall remain in force between the parties unless terminated by consent of both the contractor and the Public Works Department.

c. The contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri and other regulatory agencies, as may be required by law or regulations.

10. CONFLICT OF INTEREST

a. Officials and employees of the City of Joplin, its governing body, or any other public officials of the State of Missouri must comply with provisions of the Joplin City Code as well as Sections 105.452 and 105.454 RSMo regarding conflict of interest.

b. The contractor hereby covenants that at the time of the submission of the proposal the contractor has no other contractual relationships, which would create any actual or perceived conflict of interest. The contractor further agrees that during the term of the contract neither the contractor nor any of its employees shall acquire any other contractual relationships, which create such a conflict.

11. REMEDIES AND RIGHTS

a. No provision in the contract shall be construed, expressly or implied, as a waiver by the City of Joplin of any existing or future right and/or remedy available by law in the event of any claim by the City of Joplin of the contractor's default or breach of contract.

b. The contractor agrees and understands that the contract shall constitute an assignment by the contractor to the City

of Joplin of all rights, title and interest in and to all causes of action that the contractor may have under the antitrust laws of the United States or the State of Missouri for which causes of action have accrued or will accrue as the result of or in relation to the particular equipment, supplies, and/or services purchased or procured by the contractor in the fulfillment of the contract with the City of Joplin.

12. CANCELLATION OF CONTRACT

a. In the event of material breach of the contractual obligations by the contractor, the Public Works Department may cancel the contract. At its sole discretion, the Public Works Department may give the contractor an opportunity to cure the breach or to explain how the breach will be cured. The actual cure must be completed within no more than 10 working days from notification, or at a minimum the contractor must provide the Public Works Department within 10 working days from notification a written plan detailing how the contractor intends to cure the breach.

b. If the contractor fails to cure the breach or if circumstances demand immediate action, the Public Works Director will issue a notice of cancellation terminating the contract immediately.

c. If the Public Works Department cancels the contract for breach, the Public Works Department reserves the right to obtain the equipment, supplies, and/or services to be provided pursuant to the contract from other sources and upon such terms and in such manner as the Department deems appropriate and charge the contractor for any additional costs incurred thereby.

13. COMMUNICATIONS AND NOTICES

Any written notice to the contractor shall be deemed sufficient when deposited in the Unites States mail postage prepaid, transmitted by facsimile, or hand-carried and presented to an authorized employee of the contractor at the contractor's address as listed in the contract.

14. NON-DISCRIMINATION AND AFFIRMATIVE ACTION

In connection with the furnishing of equipment, supplies, and/or services under the contract, the contractor and all subcontractors shall agree not to discriminate against recipients of services or employees or applicants for employment on the basis of race, color, religion, national origin, sex, age, disability, or veteran status. If the contractor or subcontractor employs at least 50 persons, they shall have and maintain an affirmative action program, which shall include:

a. A written policy statement committing the organization to affirmative action and assigning management responsibilities and procedures for evaluation and dissemination.

b. The identification of a person designated to handle affirmative action;

c. The establishment of non-discriminatory selection standards, objective measures to analyze recruitment, an upward mobility system, a wage and salary structure, and standards applicable to layoff, recall, discharge, demotion, and discipline.

d. The exclusion of discrimination from all collective bargaining agreements; and,

e. Performance of an internal audit of the reporting system to monitor execution and to provide for future planning. If discrimination by a contractor is found to exist, the Public Works Department shall take appropriate enforcement action which may include, but not necessarily be limited to, cancellation of the contract, removal from all offeror's lists issued by the Public Works Department until corrective action by the contractor is made and ensured, and referral to the attorney General's Office, whichever enforcement action may be deemed most appropriate.

15. AMERICANS WITH DISABILITIES ACT

In connection with the furnishing of equipment, supplies, and/or services under the contract, the contractor and all subcontractors shall comply with all applicable requirements and provision of the Americans with Disabilities Act. (ADA).

16. TITLES

Titles of paragraphs used herein are for the purpose of facilitating reference only and shall not be construed to infer a contractual construction of language.

INTRODUCTION AND GENERAL INFORMATION

1.INTRODUCTION

1.1 The City of Joplin, Missouri, is seeking proposals for the purchase of a TRUCK MOUNTED COMBINATION JET/VACUUM MACHINE. This bid will be a lump sum and include the truck, options, equipment preparation, manufacturing, and delivery of the vehicle. The city has listed items below required for this contract. It is the intent of this RFP not to be exclusive, but to be more inclusive of companies submitting their own designs, diagrams, specifications, schematics, diagrams, warranty, training and costs so that the evaluators can look at all of the submittals to make the best decision in the interest for the City of Joplin. The submittals are requested for a unit designed for and capable of simultaneous high pressure jetting and vacuuming for the removal of sand, grit, grease, sludge, stones and other materials from sanitary sewers, storm sewers, catch basins, pumping stations, and other facilities. The unit must have a self-contained water supply for use with a high-pressure cleaner for breaking of blockages and removal of material contained therein. The unit must include an air conveying system capable of simultaneous removal of debris flushed to the manhole by the sewer cleaner system, or debris removal from catch basins, sumps, digesters, wet wells, etc. using the single chassis engine as the power source. The vacuum system must include a sealed body for storage and removal of the collected debris. The until must be designed fore ease of maintenance and be fully operational by one man and all controls must be located at an operator's station in front of the truck for convenience and safety. The combination machine must comply with all federal, state and local laws binding upon this type of equipment.

NOTE: Bidders must note their compliance to the specification in the space provided using the words "YES" or "NO". Deviations or changes must be noted and explained in detail on a separate sheet at the end of each section. The use of words such as "exceeds, equal to or not required" will not be acceptable in lieu of a detailed explanation.

1.2 The city requests each of the proposals to include 5 copies for the evaluators for the bid, a schematic of the design, a diagram, repair schedule, equipment replacement if the truck mounted combination jet/vacuum machine is down during the warranty period, and a minimum of a three-year warranty on the equipment and normal warranty from the vehicle manufacture. Together with the terms and conditions to be stipulated in the general contract forms, now adopted by the City of Joplin, as advertised to be let on **2nd day of April 2021** at the following prices to-wit:

2. QUALIFICATIONS

2.1 To qualify as a vendor for furnishing a truck mounted combination jet/vacuum machine:

2.1.1 Materials and Workmanship: The proposer must have furnished equipment that is capable of simultaneous high-pressure jetting and vacuuming at various facilities and has a self-contained water supply with a single chassis engine power source. All equipment, materials, parts and workmanship are required to be furnished, shall be of the highest grade in accordance with modern practice and/or by manufacturers' recommendations as to not void any manufacturer's warranty. The equipment supplied will be new and un-used, except for necessary testing, calibration, and transportation.

2.1.2 References: The proposer must provide three (3) references with contact information of municipalities that the company has provided jet/vacuum trucks and equipment within the last 2 yrs. The equipment to be furnished will be the product of a qualified manufacturer that is regularly engaged in the manufacture and supply of the equipment. A qualified firm will be defined to mean one, which has manufactured and sold ten (10) or more of the specified units during the past five (5) years.

2.1.3 Warranty and Service Manuals: The Contractor must provide bumper to bumper and powertrain warranty for jet/vacuum equipment for a minimum three (3) year period as part of this contract with two (2) Operator manuals and two (2) Service Manuals from the date of delivery. The manufactures and or contractor's standard warranty or guarantee on new equipment will cover all items furnished in accordance with the specification. The Service Manuals will be hard copies that describe in detail the proper operation and maintenance of the equipment furnished under the contract. Electronic copies shall be provided reflecting the material within the hard copy manuals. The manuals will contain current and complete parts for re-ordering, and the equipment actually furnished under this contract will be highlighted to identify exact part and model numbers for each component.

2.1.4 Parts and Service: To best serve the requirements of the Owner, it is the intent of these specifications to secure equipment, which can be properly maintained and serviced without the necessity of stocking an expensive parts inventory or being subjected to long periods of interrupted service due to lack of spare parts. All Bidders submitting proposals must have available at least one (1)-factory parts and service center within the United States. These centers will be staffed with full-

time technical, as well as order and shipping personnel, during regular business hours and days. These factory centers must have toll-free telephone service and be convenient to airfreight, bus, or overnight parcel service. The Bidder will list the nearest factory part and service location, plus any other pertinent information requested, such as number of employees, hours of operation, and asset value of camera related inventory held on site

2.1.5 Electronic Equipment Loaner Policy: The Bidder will maintain rental and/or loaner electronic equipment at service center if unable to repair and have ready to return any component of the system within one (1) week of receipt from the purchaser. The service center will have available a rental or loaner component for immediate shipment. The Bidder will indicate whether a rental charge applies for this equipment and service both during and after warranty. A written policy of the rental practices shall be included with the bid.

2.1.6 The City reserves the right to reject any RFP after review, based upon collateral evaluation, and existing market. The City reserves the right to rescind the appointment of Contractor should the relationship become unsatisfactory. This will require a majority vote of the City Council. Exceptions to the component list and specification requirements, or failure to submit requested information may be considered sufficient cause for rejection of the proposal. The specifications describe the components and /or system that are necessary to meet the performance requirement of the Owner. Alternate Bids must meet the intent of the specifications, and any deviations to the specification will be clearly communicated in written form the delineation and the specification that was delineated from. **This shall be included with the bid.**

2.1.7 Information to be furnished by Bidder: Each Bidder will furnish the information listed in the General Notice at the time the Bid is submitted. Failure to include all required information may be cause for rejection of the Bid (Proposal)

2.1.8 Pre-Contract Demonstration of the Equipment: The Owner will have the right to have each Bidder (Contractor), demonstrated the exact equipment that will be supplied within in two (2) weeks after notification following the opening of Bids. Failure to demonstrate the exact equipment may be just cause for disqualification of the proposal.

2.1.9 Training: The Contractor/Manufacturer will fully instruct the Owners personnel in the operation and maintenance of the equipment furnished, after delivery, at no additional cost to the Owner. The instruction period will be sufficient duration (minimum two (2) days) to fully familiarize the Owners operating personnel with all elements of the equipment, and the appropriate maintenance of the equipment and related parts. This instruction and testing will be conducted by trained personnel of the Contractor/Manufacturer and will include full instruction in equipment operation, field procedures, use of office software, and techniques of use, maintenance, troubleshooting, and record and logging of field information.

2.1.10 Payment to the Contractor: Full payment under this contract will be made by the Owner in a single, lump sum payment within thirty (30) calendar days after the successful completion of all contract requirements by the Contractor. The contract requirement will include the required furnishing, installation, and demonstration of the equipment and accessories as specified herein, including the furnishing of the required training and service manuals, and the vehicle title.

2.1.11 Time of Contract Completion: The Contractor will furnish, install, deliver, and successfully demonstrated all equipment as specified herein; provide the required training; and provide the required service manuals within one hundred and twenty (120) calendar days after issuance of Notice to Proceed.

2.1.12 Note: City reserves the right to substantially add or delete from contract.

2.1.13 In the event of the failure of the undersigned to enter into such contract within fifteen (15) days of the award, then the deposit or certified check of five percent (5%) of the total bid amount as surety is therefore forfeited to the City of Joplin

3. PROCEDURAL INSTRUCTIONS:

3.1 A detailed list of components required is included and is the basis on which the Contractors proposal is made. This specification is not to be interpreted as restrictive, but rather as a measure of the safety, quality and performance against which all inspection systems bid will be compared. Delineations from the specifications shall be included with the bid and is the responsibility of the bidder to communicate in written form the delineation/s and the specification that it delineate/s from.

3.2 It is required that the proposal be completed in its entirety.

3.3 If a service cannot be met by a proposer, then the term "No Proposal" should be entered on the Proposal Form for that specific requirement. Equivalent alternative proposals will be considered.

3.4 Proposals must be submitted in a sealed envelope or package bearing the title "City of Joplin, Truck Mounted Combination Jet/Vacuum Machine, "RFP-2021-007" along with the proposer's name and address. The proposer shall return five (5) copies of completed proposal forms and other required information to Lynden Lawson, Assistant Director of Public Works-Operations, City of Joplin, 602 South Main Street, Joplin, MO 64801, no later than **10am on Wednesday, April 21st, 2021**. It is the responsibility of the proposer to ensure that the proposal arrives on time at the correct location. The proposal must be valid for a period of 90 days from the date of receipt by the Assistant Director of Public Works-Operations.

3.5 All proposals and information included therein or attached thereto submitted in response to this RFP shall become public record upon proposal opening and will be available for review upon request.

3.6 The Assistant Director of Public Works-Operations office shall be the only contact for any or all aspects of this RFP. Questions should be directed to Lynden Lawson, Assistant Director of Public Works-Operations, e-mail address: LLawson@joplinmo.org.

3.7 The City reserves the right to reject any or all proposals, to waive any non-material irregularities or informalities in any RFP, and to accept or reject any item or combination of items.

3.8 If the Contractor does not execute an agreement within ten (10) working days of Council passage of a resolution awarding contract, the City may give notice to the Contractor of the City's intent to select the next most qualified "proposing contractor" or call for new proposals, whichever the Assistant Director of Public Works-Operations deems appropriate.

4. SELECTION PROCESS AND EVALUATION PROCESS:

Awards shall be made to the offeror whose proposal (1) complies with all mandatory specifications and requirements of RFP and (2) is the lowest and best proposal, considering price, responsibility of the offeror, and all other evaluation criteria specified in the RFP.

5. SPECIFICATIONS:

The intent of this specification is to define the minimum requirements of the City of Joplin for a vacuum air conveying sewer cleaner.

General: This unit is designed for and capable of simultaneous high-pressure jetting and vacuuming for the removal of sand, grit grease, sludge, stones and other materials from sanitary sewers, storm sewers, catch basins, pumping stations, and other facilities. The unit will have a self-contained water supply for use with a high-pressure cleaner for breaking of blockages and removal of material contained therein. The unit will include an air conveying system capable of simultaneous removal of debris flushed to the manhole by the sewer cleaner system, or debris removal from catch basins, sumps, digesters, wet wells, etc. using the single chassis engine as the power source. The vacuum system will include a sealed body for storage and removal of the collected debris. The unit will be designed for ease of maintenance and be fully operational by one man and all controls will be located at an operator's station in front of the truck for convenience and safety. Specifications should meet or exceed the following criteria:

	DEBRIS BODY SECTION 1	YES	NO	OTHER
1	Debris body shall be 12 cubic yards			
2	Construction: Shall be a dual radius designed vessel using high strength ASTM A572 grade 50 steel, 1/4" upper and lower radius section, 1/4" sidewalls, Front bulkhead and 3/8" rear bulkhead. Minimum yield strength of 50,000psi			
3	Warranty: A lifetime limited warranty on the entire debris body section.			
4	Debris tank mounted via 3-point mounting system to allow flexing. Two rear hinges and one front dump cylinder mounting point			
5	Dumping and door controls shall be located forward of the debris body on the drivers side.			
6	Debris inlet tube shall enter at top front of tank and continue into tank and extend 3/4 of the specified tank length. Airflow shall then exit at the front of tank for best possible material separation and reduced carryover of material into the air.			
7	Debris entering the body shall fist hit directly into a replaceable deflector plate at the rear of the unit to decrease the wear on the rear door area of the tank. This should be made from abrasion resistant steel for added life.			
8	Shall have a float type automatic vacuum shutdown system with a stainless-steel ball housed in a Carbon / Stainless steel cage.			
9	Shall have a float type debris level indicator w/stainless steel ball with external grease fitting.			
10	The hoist cylinder shall be a single post type with NTEA performance range; double-acting cylinder pins must be removable with retaining bolts. It shall provide a minimum lifting capacity of 56,000 lbs. and a minimum dump angle of 50 degrees. The hoist cylinder shall have safety check valves to prevent collapse from hydraulic failure.			
11	The debris body and water tanks shall be affixed on an independent frame, separate from the chassis and power frame.			
12	Safety body prop shall be supplied to secure the body during repairs in the up position. This support shall support both sides of the tank and be an "H" shaped item for added support to both sides of the body. This prop will be safely deployed while the operator stands on the ground outside the frame rails in a safe position on the driver side of the unit.			

	DEBRIS BODY SECTION 1 CONT.	YES	NO	OTHER
13	The debris body will be equipped with a full flow internal tank flusher system consisting of a minimum of (7) stainless steel nozzles mounted at the front bottom of the debris body, sized to utilize the water pump at 85 gpm @ 2000 psi to clean the debris body. A high-pressure ball valve will be installed at high pressure manifold to control water to the tank flush and plumbed from manifold to tank flush.			
14	The vessel shall be hot dip galvanized in accordance with ASTM A123 standards, including a three (3) step preparatory wash or 304 Stainless Steel with a lifetime limited warranty shall be included. A pro-rated warranty will not be accepted. A lifetime warranty in lieu of stated materials will not be accepted.			

	DEBRIS BODY TAILGATE SECTION 2	YES	NO	OTHER
1	Tailgate shall hydraulically lock/unlock, raise, and lower door using one hydraulic cylinder to perform the function. Cylinder shall be equipped with check valve mounted on the cylinder for safety.			
2	Rear door lock and open shall use one one cylinder for decreased maintenance and no need to adjust timing circuits.			
3	Rear door shall be constructed of 1/2” high strength steel ASTM A572 grade 50 steel.			
4	Lock receivers shall also be shimmed for adjustment as seal wears.			
5	Tailgate locking wedges shall have a reverse bevel to maintain a mechanical lock if hydraulic pressure should be lost for any reason.			
6	A replaceable reversible neoprene seal shall be supplied.			
7	Tailgate hinges and pins: Shall be bolted to enable shim adjustment with grease fittings.			
8	Tailgate shall hydraulically open to full width and height.			
9	External rear door safety prop shall be provided as a secondary device to hold the door open for cleaning of debris body or inspection.			
10	Decant 6" knife valve shall be mounted at lowest point of rear door, 20' x 6" lay flat hose with rack.			
11	6” cam lock shall be on decant lay flat hose and valve.			

	DEBRIS BODY TAILGAIT SECTION 2 CONT.	YES	NO	OTHER
12	Blaster valve for 6" decant to assist in unplugging shall be supplied.			
13	Internal decant screen shall be stainless steel, hinged to swing away for easy cleaning shall be supplied.			
14	Debris tank shall also be equipped with 4" hydraulic pump off system capable of pumping 710GPM @ 10' head while vacuuming if needed or independently. 4" ball valve and male cam lock on outlet.			
15	4' knife valve shall be installed on inlet of pump.			
16	Internal pump screen shall be stainless steel, hinged to swing away for easy cleaning.			
17	3" decant line plumb to the front of the unit with ball valve at front bumper shall be supplied. Ball valve shall be equipped with male cam lock and include jumper hose at rear with cam locks to hook pump to decant line at rear.			
18	A female cam lock with 15' of 3" lay flat hose to fit ball valve shall be supplied.			
19	A bolt-on carbon steel splash shield around sides and bottom of tailgate shall be supplied.			
	WATER TANKS SECTION 3	YES	NO	OTHER
1	Capacity: U. S. Gallons. 1500			
2	Constructed of ¼" shell and baffles, ½" end plates aluminum or stainless steel only			
3	Water tank shall have a lifetime limited warranty against corrosion, cracking, material, and workmanship			
4	Each tank shall be equipped with 2" ball valve low point drains, internal baffles and a six (6) inch crossover tube between tanks for quick and level filling.			
5	Water- tanks shall not rise with the debris body while dumping. Water tanks that raise with the debris body are un-acceptable due to dump site safety concerns			
6	Water-tanks shall not share common wall with debris tank and will be easily removed in the event of replacement or repair.			
7	Tanks shall be located above chassis frame rails to provide a flooded inlet to the water pump and protection from road damage and off-road uses and for ease of service to drive line components. Units that starve the pump and do not allow for a flooded inlet are not acceptable			

	WATER TANKS SECTION 3 CONT.	YES	NO	OTHER
8	Anti-siphon device w/4" air gap, and fill hose storage rack shall be supplied.			
9	Water tank electronic level indicator in front control panel shall be supplied.			
10	Water tank fill line shall include a “Y” strainer with stainless steel screen.			
11	Auto continuous fill system shall be supplied and use the current CanBus system for controls. Separate switch's and relays that are unreliable as unacceptable			
	HIGH PRESSURE WATER SYSTEM SECTION 4	YES	NO	OTHER
1	Water pump shall produce 87 GPM @ 2000 PSI.			
2	Water pump will be a General triplex pump for simple and cost-effective service.			
3	Water Pump shall be a triplex, plunger style, smooth, flow design. Pumps that require accumulators will not be accepted due to increased maintenance.			
4	Starting from high pressure side of water pump 1” I.D. plumbing shall be used up to hose reel, including water manifold, control valve and swivels.			
5	Swivel shall be designed so it can be tightened as it wears and be rebuilt.			
6	The water pump shall be driven from chassis engine via transmission, heavy duty transfer case and hydrostatic drive.			
7	Water pump speed shall be fully adjustable without changing the engine RPM and shall provide a variable flow system with the change of the nozzle. Controls for starting and stopping the water pump and varying the flow and pressure shall be at the control panel. The water pump hydrostatic system shall have a capacity of 6,000 PSI and 85 GPM. An integral oil to water heat exchanger with a 143,000 BTU per hour rating shall be included.			
8	Water pump flow should be adjustable from 5gpm to 85gpm variable flow without the use of water bypass valves that are prone to wear. Unit must be certified for 85gpm flow at the customer location measured at the tip of the hose while the pressure on the machine display is at 2,000psi			

	HIGH PRESSURE WATER SYSTEM SECTION 4 CONT.	YES	NO	OTHER
9	Water pump shall run independently from vacuum pump.			
10	Water pump shall be equipped with full flow adjustable pressure regulator.			
11	Water pump and vacuum system shall be able to simultaneously be used up to hose reel, including water manifold, control valve and swivels. while achieving maximum vacuum.			
12	Pump shall be in a position, so it has a positive feed from water tanks. Pump shall also be located so mechanic does not have to remove pump from truck to repack when necessary and there shall be no obstructions in front of pump for easy access.			
13	One adjustable handgun with quick disconnect fitting connection located at high pressure manifold and a 50’ foot hose with quick disconnects shall be supplied.			
14	A self-winding handgun reel with 50' of 1/2" hose shall be supplied.			
15	Pump shall be equipped with drain valves on compression chamber and at the low-pressure side at the bottom center of the pump.			
16	Front mount hose reel low point drain shall be supplied.			
17	Water system shall have a cold weather recirculation system driven by a 12-volt electric pump and isolated from main water system by manual ball valves. System must be capable of circulating 20 GPM of pressurized water through entire water system and hose reel without the use of chassis engine.			
18	Pressure and flow controls shall be located at the operator's station and all the handheld remotes			
19	The entire high-pressure water system shall have an air purge system to dewater all plumbing for winterization. The air shall be supplied by chassis air system that is isolated by a high-pressure ball valve and check valve.			
19	Hydro Excavation System using main pump shall be a smooth operation throughout the PSI range from 0-2,000psi and variable flow of 15-20 gpm. System will have a 1/2" x 50' spring rewind hose reel and a pistol grip style handgun w/ Lance and 3 additional sections of extension pipe, 4 feet long.			

	VACUUM SYSTEM SECTION 5	YES	NO	OTHER
1	The blower shall be a vertical mounted Dresser/Roots 8x24 PUMP, 4000CFM @18"HG (245"H20) 200HP@2470 W/(2) VAC Reliefs. Vertical mount of the blower will allow for a smoother transition of air thru the vacuum system without the need of using a drop box below the blower that disrupts the airflow entering the blower for a less efficient operation.			
2	Dual vacuum relief valves shall be supplied.			
3	The blower shall be driven from chassis engine via transmission and heavy-duty transfer case. Direct drive via drive shaft.			
4	The cyclone separator shall be built out high strength ASTM A572 grade 50 steel, capable of separating material from air stream,			
5	Separator shall remove down to 50-micron particles or coarser and not require any additional pleated filters that will add to the service and maintenance expense of the machine over the life of the unit.			
6	The cyclone shall be 24” wide x 75” high and taper down to a dropout box 18” x 18” x 18” including a clean out hatch.			
7	The cyclone separator shall be galvanized coated and offer a Lifetime warranty against corrosion for the cyclone and drop box.			
8	The blower shall contain a high efficiency exhaust silencer with a rain cap. It will have a built-in tube rack that will hold four (4) 8” diameter suction tubes for a total of 24’ of tubes.			
9	The vacuum system shall have an air operated 6" vacuum relief valve which vents ambient air to blower intake to relieve vacuum in the body and suction tubes/hoses.			
10	Dropout box shall have a two (2) inch drain with ball valve.			
11	A stainless-steel removable strainer basket shall be installed before blower inlet.			
12	Non-skid steps with handgrips allowing safe passage from ground level to a work platform at top of unit shall be supplied.			
13	Cyclone Separator hot dip galvanized or constructed of 304 stainless steel shall be supplied.			

	VACUUM SYSTEM SECTION 5 CONT.	YES	NO	OTHER
15	Blower temperature gauge shall be supplied.			
16	Blower temperature gauge hooked to a 6"' air operated vacuum relief valve that opens and allows ambient air to cool blower shall be supplied.			
17	Silencer shall have a two (2) inch drain with ball valve.			

	BOOM SYSTEM SECTION 6	YES	NO	OTHER
1	Boom shall be designed for front-end operation with hose mounted and stored at front bumper.			
2	Hydraulically powered up/down, left/right, and in/out shall be accomplished with a single joystick.			
3	Boom shall have a total extended length of 24 feet 11 inches from centerline of the unit. Boom coverage area 552 sq. ft. submit diagram.			
4	I, 000 lb. boom lifting capacity with dual hydraulic lift cylinders. Max. lift capacity shall apply even when boom is fully extended.			
5	Boom shall swing 90 degrees to each side of the truck via a hydraulic driven worm gear. Hydraulic cylinders to rotate boom are unacceptable due to creep issues on inclines.			
6	Pick-up Hose: 8" ID, front end operation and stored at front of the unit shall be supplied.			
7	Boom shall remain stationary and not raise with debris body.			
8	All connections between debris body and vacuum system shall be self-aligning via a spring floating mechanism that maintains alignment during uneven ground operations.			
9	Boom with steel elbow shall extend and retract without affecting the length of the pickup hose. Rubber hose in place of steel elbow will not be accepted.			
10	Will be equipped with a true tube in a tube boom telescoping section with a travel of eight (8) feet six (6) inches shall be supplied.			
11	Air operated 8” slide valve located on boom inlet to block off vacuum and build up vacuum in tank for sudden burst of vacuum, controls located at operator control station shall be supplied.			

	BOOM SYSTEM SECTION 6 CONT.	YES	NO	OTHER
12	Boom, Body and Hose reel shall have an emergency 12-volt dc electric hydraulic power pack to bypass system so boom, body and hose reel can be moved in the event of engine or hydraulic failure. Manual hand pump systems will not be accepted.			
13	Extra heavy-duty boom elbow shall have a preformed C channel welded to the outside radius of the outside of elbow shall be supplied.			

	ELECTRICAL SYSTEM SECTION 7	YES	NO	OTHER
1	IP66 sealed exterior electrical controls and wiring harness w/ protective cover shall be supplied that exceeds NEMA 4 standards.			
2	Unit wire harness must be supplied with Deutsch IPD environmentally sealed, waterproof, electrical connectors protect your electrical system from dirt, dust, mud, water, vibration, and rough terrain. IP66 rated connectors.			
	HOSE REEL SYSTEM SECTION 8	YES	NO	OTHER
1	The front mounted reel shall have the ability to articulate 230 degrees across the front of the unit, with a capacity of 800 feet of 1" hose.			
2	800 feet of 1" x 2500-PSI sewer hose shall be supplied on the reel.			
3	10' of 1" black leader hose rated at 2,500 psi min shall be supplied on the reel.			
4	The operator will easily be able to rotate and lock the reel at any angle desired within the rotation.			
5	Hose reel shall rotate on a turntable slewing bearing with a friction brake that can be applied in any rotated position.			
6	Hose reel brake band will be air actuated and adjustable by means of a turnbuckle.			
7	The hose reel shall be hydraulically powered in both directions by a hydraulic motor coupled directly to a planetary gearbox.			
8	Hose reel speed control shall be a proportional joystick controller to regulate the rotational speed of the reel in both directions.			
9	Hose reel shall be mounted in the center of the chassis frame rails and not rotate out of centerline of frame rails into traffic for safety concerns.			

	HOSE REEL SECTION 8 CONT.	YES	NO	OTHER
10	The hose reel shall tilt forward for access to the truck engine via hydraulic cylinder powered by an electric/power pack.			
11	Electric power pack shall run independently from main system.			
12	Power pack shall operate whether truck engine is running or not.			
13	Automatic Level wind shall be installed with dual hose roller.			
14	Control box will be able to easily be moved in the field from one side to the other of the reel for easier operator control no matter what position the reel is in.			

	CONTROL SYSTEM SECTION 9	YES	NO	OTHER
1	Control system shall be a CanBus j1937 system interlaced into the truck chassis ECU			
2	All controls on this unit shall be proportional controls to allow safe movement of reel and boom functions by allowing the speed to easily be varied buy the amount of pressure you apply to the joystick / button			
3	Hose reel controls can me moved to either left or right side of the reel for user preference to allow the controls to be positioned is a safe area no matter the angle of the reel.			
4	Control panel area should have a door to protect the controls and display from road debris.			
5	Hose reel control panel shall have a remote shifter for Transfer case to engage and disengage blower, from the hose reel control panel. Safety switches installed on transfer case.			

	CONTROL SYSTEM – IN THE CAB SECTION 10	YES	NO	OTHER
a	_Transfer Case Road Mode/Work Mode			
b	_Rear arrow board / stick ON/OFF/ _ LEFT/RIGHT			
c	_Strobes ON/OFF			
d	_Water Recirculate ON/OFF			

	CONTROL SYSTEM- HOSE REEL CONTROL BOX SECTION 11	YES	NO	OTHER
a	_Emergency Stop			
b	_Throttle control ON/OFF_INC/DEC			
c	_Water pump ON/OFF_INC/DEC			
d	_Hose Reel IN/OUT w/Proportional speed control			
e	_Boom IN/OUT_UP/DOWN_EXTEND/RETRACT w/Proportional speed control			
f	_Vac Relief OPEN/CLOSE			
g	_Vac Booster Valve OPEN/CLOSE			
h	_Blower ON/OFF (with safety RPM interlock supplied to protect the engagement)			
i	_Work Light ON/OFF			
j	_Reel Tilt UP/DOWN			
k	_Control location PANEL/REMOTE			
l	_Low Water-High Debris alarm and light with override ON/OFF control			
m	_Low Air Pressure alarm			
n	_System fault light			

	CONTROL DISPLAY – HOSE REEL CONTROL BOX SECTION 12	YES	NO	OTHER
a	_LCD display with 32 output microprocessor control (expandable) W/J1939 CAN communication			
b	_Chassis RPM			
c	_Water Pump percentage			
d	_Water Pump pressure			
e	_Water Tank Level			
f	_Vac Level (InHg)			
g	_Hour Meter Blower			

	CONTROL DISPLAY – HOSE REEL CONTROL BOX SECTION 12 CONT.	YES	NO	OTHER
h	_ Hour Meter Water Pump			
i	_Hour Meter Chassis			
j	_Blower Temp Gauge (With blower safety auto-vacuum relief. In the event a blower overheats the vacuum relief will trigger and allow ambient air to enter to cool the blower)			
k	_Hose Reel Electronic Footage			

	WIRED CONTROL- FUNCTIONS SECTION 13	YES	NO	OTHER
2	Fully proportional speed controls of all functions on the remote.			
a	_Emergency Stop			
b	_Throttle control ON/OFF_INC/DEC			
c	_Water pump ON/OFF_INC/DEC			
d	_Hose Reel IN/OUT w/Proportional speed control			
e	_Boom IN/OUT_UP/DOWN_EXTEND/RETRACT w/Proportional speed control			
f	_Vac Relief OPEN/CLOSE			
G	_Vac Booster Valve OPEN/CLOSE			

	WIRELESS CONTROL – FUNCTIONS SECTION 14	YES	NO	OTHER
1	Wireless control that will have a minimum range unobstructed of 500'			
2	Fully proportional speed controls of all functions on the remote.			
a	_Emergency Stop			
b	_Throttle control ON/OFF_INC/DEC			
c	_Water pump ON/OFF_INC/DEC			
d	_Hose Reel IN/OUT w/Proportional speed control			
e	_Boom IN/OUT_UP/DOWN_EXTEND/RETRACT w/Proportional speed control			

	WIRELESS CONTROL – FUNCTIONS SECTION 14- CONT.	YES	NO	OTHER
f	_Vac Relief OPEN/CLOSE			
g	_Vac Booster Valve OPEN/CLOSE			

	WIRELESS CONTROL DISPLAY SECTION 15	YES	NO	OTHER
1	Wireless control that will have a minimum range unobstructed of 500'			
a	_LCD display			
b	_Chassis RPM			
c	_Water Pump percentage			
d	_Water Pump pressure			
e	_Water Tank Level			
f	_Vac Level (InHg)			
g	_Hour Meter Blower			
h	_Hour Meter Water Pump			
i	_Hour Meter Chassis			
j	_Blower Temp Gauge			
k	_Hose Reel Electronic Footage			

	BEHIND CAB CONTROLS SECTION 16	YES	NO	OTHER
a	_Debris body UP/DOWN manual valve			
b	_Debris door UNLOCK-OPEN / LOCK-CLOSE manual valve			
c	_Trash Pump ON/OFF manual valve			
d	_Hydraulic Pressure Gauge			

	LIGHTING SECTION 17	YES	NO	OTHER
1	2 boom work lights LED mounted near boom elbow to illuminate the work area.			
2	6 LED lights mounted on the body mid, front, rear on each side.			
3	2 LED lights rear facing mounted high on the rear of the body.			
4	Control panel light for illuminating the control panel area.			
5	2 Mirror mounted strobe light			
6	2 strobe lights 1 each side mounted on the top rear area of each side water tank.			
7	Rear mounted traffic advisor bar type LED Whelan TACF85			
	GREASE FITTINGS SECTION 18	YES	NO	OTHER
1	All grease points shall be marked and easily greased via standard zerk fittings at ground level			
2	Hose reel grease manifold will lube points to one easy location.			
3	Boom grease manifold with all lube points plumbed to ground level shall be supplied			
4	Tailgate grease manifold with all lube points plumbed to ground level shall be supplied			
5	Float Ball indicator shall be plumbed to ground level shall be supplied			
6	Lube chart outlining lube points of the unit shall be supplied affixed to the truck in the area of the lube manifold			

	TOOL STORAGE SECTION 19	YES	NO	OTHER
1	Two (2) aluminum toolbox's 20" x 20" x 60" shall be supplied in a location not requiring personnel to climb, crawl to use it.			
2	One (1) behind the cab toolbox 16.5" x 42" x 60" single door driver side. Shall 2 adjustable sliding drawers.			
3	Two (2) aluminum front bumper toolboxes mounted on inside of front bumper.			
4	Additional two (2) tube rack shall be mounted on rear door.			
5	24 feet of 8'aluminum tubing. With crown nozzle shall be supplied.			

	TOOL STORAGE SECTION 19 CONT.	YES	NO	OTHER
6	Vac tubing will have Ring-Lock style ends			
7	15 and 30-degree sewer nozzles shall be supplied.			
8	Manhole bottom hose guide Tiger tail shall be supplied			
9	One (1) set of Operation & Maintenance manuals shall be supplied. Additional vac unit electronic manuals will be available online at no charge.			
10	A 25' x 2-1/2" fill hose shall be supplied with storage spot on outside of toolbox			
11	Traffic Cone Holder shall be supplied.			
12	Catch basin hook for lifting grates shall be installed on the end of the boom for lifting items rates.			

	MOUNTING SECTION 20	YES	NO	OTHER
1	The unit shall be mounted on a factory approved chassis.			
	TRAINING SECTION 21	YES	NO	OTHER
1	Will include a factory authorized training person for 2 days. The purpose shall be to train operating and maintenance personnel on the proper O & M procedures.			
	PAINT SECTION 22	YES	NO	OTHER
1	The unit shall be powder coated singular color to match the city's color specification.			
	<u>Powder Coat Specifications to include:</u>			
2	Components fabricated from steel plate are blasted with a 50-grit metal abrasive prior to powder coating to assure complete removal of mill scale and to provide the texture needed for good adhesion.			
3	• Sheet metal is purchased pickled and oiled. Pickling is an acid treatment that removes mill scale and leaves a smooth finish. A light oil film is applied to prevent corrosion.			

	PAINT SECTION 22 CONT.	YES	NO	OTHER
4	• Sheet metal components go through a 4-stage wash system prior to powder coating. The wash stages use a spray rather than a dip. The spray provides not only chemical treatment, but also mechanical cleaning. The four stages are: (1) an acid wash to clean and lightly etch all surfaces including welds and thermal cut edges to assure the best adhesion, (2) a rinse to neutralize the acid and clean the parts, (3) iron phosphate treatment (4) a final rinse.			
5	• Powder is applied electrostatically to assure the most uniform application including hard to reach areas.			
6	• Lighter gage sheet metal components are baked at 425 deg F for 40 minutes. Heavier gage components fabricated from plate are baked a 425 deg F for 90 minutes.			
7	• Final film thickness is 3 mils minimum.			
8	• Coating is fully cured upon cool down to room temperature.			
9	• Film thickness of 3.0-6.0 mils with Polyester TGIC Powder coating electrostatic applied to meet the following ASTM specifications.			
10	• D3363 pencil hardness to be a minimum of “4H”			
11	• ASTM D3359 Coating to substrate adhesion,			
12	• ASTM D523 Topcoat Gloss.			
13	• ASTM B117 Salt Spray, 500 Hours max of 1/8” creep.			
14	• ASTM D3359 method “B” for 4B-5B compliance cross hatch Adhesion.			
15	• ASTM D1308 Chemical Resistance			

	WARRANTY / SERVICE SECTION 23	YES	NO	OTHER
1	The unit shall have a minimum of one-year warranty against defects in material and workmanship. The warranty will cover both parts and labor. All other warranties that exceed one year shall apply. This warranty service will be at the costumer’s location and free of charge to the customer.			
2	Extended warranty with on-site service for 5 years included.			
3	Water Tanks. Aluminum Water Tanks shall have a limited Lifetime warranty.			

	WARRANTY / SERVICE SECTION 23 CONT.	YES	NO	OTHER
4	Cyclone Separator. Stainless or Galvanized Cyclone body shall have a limited Lifetime warranty.			
5	Debris Body. Stainless Steel or Galvanized Debris Body shall have a limited Lifetime warranty.			
6	Water Pump shall come with a 5-year warranty and 30 min run dry guarantee. Documentation shall be provided.			

	FREIGHTLINER SPECIFICATIONS SECTION 24	YES	NO	OTHER
1	108SD Conventional Chassis, 2021 Model Year, Set back Axel Truck, Straight Back Provision, LH Primary Steering Location			
2	Domiciled, USA 50 States (Including CA and Carb Opt-in States			
3	Utility/Repair/Maintenance Service			
4	Terrain/Duty: 100% (All) of the time, in transit, is spend on paved roads			
5	Maximum 8% Expected Grade			
6	Smooth Concrete or Asphalt Pavement- Most sever in-transit (Between sites) road surface.			
7	Freightliner SD Vocational Warranty			
8	Expected Front Axel(s) load: 20000.0 lbs.			
9	Expected rear drive axle(s) load: 46000.0 lbs.			
10	Expected gross vehicle weight capacity: 66000.0 lbs.			

	TRUCK SERVICE SECTION 25	YES	NO	OTHER
1	Sewer / Industrial Vacuum Body			
	ENGINE SECTION 26	YES	NO	OTHER
1	CUM L9 370 HP @ 2000 RPM, 2100 GOV RPM, 1250 LB/FT @ 1400 RPM			

	ELECTRONIC PARAMETERS SECTION 27	YES	NO	OTHER
1	69 MPH ROAD SPEED LIMIT			
2	CRUISE CONTROL SPEED LIMIT SAME AS ROAD SPEED LIMIT			
3	PTO MODE ENGINE RPM LIMIT - 1100 RPM			
4	PTO MODE BRAKE OVERRIDE - SERVICE BRAKE APPLIED			
5	PTO RPM WITH CRUISE SET SWITCH - 700 RPM			
6	PTO RPM WITH CRUISE RESUME SWITCH - 800 RPM			
7	PTO MODE CANCEL VEHICLE SPEED - 5 MPH			
8	PTO GOVERNOR RAMP RATE - 250 RPM PER SECOND			
9	FUEL DOSING OF AFTERTREATMENT ENABLED IN PTO MODE-CLEANS HYDROCARBONS AT HIGH TEMPERATURES ONLY			
10	ONE REMOTE PTO SPEED			
11	PTO SPEED 1 SETTING - 900 RPM			
12	PTO MINIMUM RPM – 700			
13	REGEN INHIBIT SPEED THRESHOLD - 0 MPH			

	ENGINE EQUIPMENT SECTION 28	YES	NO	OTHER
1	2016-2019 ONBOARD DIAGNOSTICS/2010 EPA/CARB/FINAL GHG17 CONFIGURATION			
2	2008 CARB EMISSION CERTIFICATION - CLEAN IDLE (INCLUDES 6X4 INCH LABEL ON LOWER FORWARD CORNER OF DRIVER DOOR)			
3	STANDARD OIL PAN			
4	OIL FILL AND DIPSTICK LOCATED FOR ENHANCED SERVICEABILITY			
5	SIDE OF HOOD AIR INTAKE WITH FIREWALL MOUNTED DONALDSON AIR CLEANER			
6	DR 12V 160 AMP 28-SI QUADRAMOUNT PAD ALTERNATOR WITH REMOTE BATTERY VOLT SENSE			

	ENGINE EQUIPMENT SECTION 28 CONT.	YES	NO	OTHER
7	(2) DTNA GENUINE, FLOODED STARTING, MIN 2000CCA, 370RC, THREADED STUD BATTERIES			
8	BATTERY BOX FRAME MOUNTED			
9	STANDARD BATTERY JUMPERS			
10	SINGLE BATTERY BOX FRAME MOUNTED LH SIDE UNDER CAB			
11	WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN			
12	NON-POLISHED BATTERY BOX COVER			
13	NO CAB AUXILIARY POWER WIRING			
14	POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT			
15	CUMMINS TURBOCHARGED 18.7 CFM AIR COMPRESSOR WITH INTERNAL Safety VALVE			
16	ELECTRONIC ENGINE INTEGRAL SHUTDOWN PROTECTION SYSTEM			
17	CUMMINS EXHAUST BRAKE INTEGRAL WITH VARIABLE GEOMETRY TURBO WITH ON/OFF DASH SWITCH			
18	RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE			
19	ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH			
20	INTEGRATED STACK AND B-PILLAR PIPE WITH MINIMUM STACK PROTRUSION ABOVE CAB			
21	RH CURVED VERTICAL TAILPIPE B-PILLAR MOUNTED ROUTED FROM STEP			
22	4 GALLON DIESEL EXHAUST FLUID TANK 5			
23	100 PERCENT DIESEL EXHAUST FLUID FILL			
24	STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING			
25	LH MEDIUM DUTY STANDARD DIESEL EXHAUST FLUID TANK LOCATION			

	ENGINE EQUIPMENT SECTION 28 CONT.	YES	NO	OTHER
26	STANDARD DIESEL EXHAUST FLUID TANK CAP			
27	ALUMINUM AFTERTREATMENT DEVICE/MUFFLER/TAILPIPE SHIELD(S)			
28	HORTON DRIVEMASTER ADVANTAGE ON/OFF FAN DRIVE			
29	AUTOMATIC FAN CONTROL WITH DASH SWITCH AND INDICATOR LIGHT, NON-ENGINE MOUNTED			
30	CUMMINS SPIN ON FUEL FILTER			
31	COMBINATION FULL FLOW/BYPASS OIL FILTER			
32	1115 SQUARE INCH ALUMINUM RADIATOR			
33	ANTIFREEZE TO -34F, ETHYLENE GLYCOL PRE-CHARGED SCA HEAVY DUTY COOLANT			
34	GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT			
35	CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES			
36	RADIATOR DRAIN VALVE			
37	ELECTRIC GRID AIR INTAKE WARMER			
38	DELCO 12V 38MT HD STARTER WITH INTEGRATED MAGNETIC SWITCH			

	TRANSMISSION SECTION 29	YES	NO	OTHER
1	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION			
	TRANSMISSION EQUIPMENT SECTION 30	YES	NO	OTHER
1	ALLISON VOCATIONAL PACKAGE 150 - AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODEL RDS			
2	ALLISON VOCATIONAL RATING FOR ON/OFF HIGHWAY APPLICATIONS AVAILABLE WITH ALL PRODUCT FAMILIES			
3	PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			

	TRANSMISSION EQUIPMENT SECTION 30 CONT.	YES	NO	OTHER
4	SECONDARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			
5	S5 PERFORMANCE LIMITING PRIMARY SHIFT SCHEDULE, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			
6	S5 PERFORMANCE LIMITING SECONDARY SHIFT SCHEDULE, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			
7	2100 RPM PRIMARY MODE SHIFT SPEED			
8	2100 RPM SECONDARY MODE SHIFT SPEED			
9	FUEL SENSE 2.0 DISABLED - PERFORMANCE - TABLE BASED			
10	DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES			
11	ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR FIREWALL MOUNTED			
12	(2) CUSTOMER INSTALLED CHELSEA 280 SERIES PTO'S			
13	PTO MOUNTING, LH AND RH SIDES OF MAIN TRANSMISSION			
14	MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN			
15	PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED			
16	TRANSMISSION PROGNOSTICS - ENABLED 2013			
17	WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK			
18	TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK			
19	SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)			

	FRONT AXLE AND EQUIPMENT SECTION 31	YES	NO	OTHER
1	DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE			
2	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			
3	NON-ASBESTOS FRONT BRAKE LINING			
4	CONMET CAST IRON FRONT BRAKE DRUMS			
5	FRONT BRAKE DUST SHIELDS			
6	FRONT OIL SEALS			
7	VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS – OIL			
8	STANDARD SPINDLE NUTS FOR ALL AXLES			
9	MERITOR AUTOMATIC FRONT SLACK ADJUSTERS			
10	STANDARD KING PIN BUSHINGS			
11	TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR			
12	POWER STEERING PUMP			
13	4 QUART POWER STEERING RESERVOIR 5			
14	OIL/AIR POWER STEERING COOLER			
15	ORGANIC SAE 80/90 FRONT AXLE LUBE			

	FRONT SUSPENSION SECTION 32	YES	NO	OTHER
1	20,000# TAPERLEAF FRONT SUSPENSION			
2	GRAPHITE BRONZE BUSHINGS WITH SEALS - FRONT SUSPENSION			
3	NO FRONT SUSPENSION OPTIONS			
4	FRONT SHOCK ABSORBERS			

	REAR AXLE AND EQUIPMENT SECTION 33	YES	NO	OTHER
1	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE			
2	5.63 REAR AXLE RATIO			
3	IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING			
4	JACKSHAFT, TEMPORARY DRIVELINE, FOR CUSTOMER FURNISHED EQUIPMENT, TEMPORARILY INSTALLED FOR SHIPPING TO CUSTOMER/TEM			
5	MXL 176T MERITOR EXTENDED LUBE MAIN DRIVELINE WITH HALF ROUND YOKES			
6	MXL 17T MERITOR EXTENDED LUBE INTERAXLE DRIVELINE WITH HALF ROUND YOKES			
7	(1) INTERAXLE LOCK VALVE FOR TANDEM OR TRIDEM DRIVE AXLES			
8	BLINKING LAMP WITH EACH INTERAXLE LOCK SWITCH, INTERAXLE UNLOCK DEFAULT WITH IGNITION OFF			
9	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			
10	NON-ASBESTOS REAR BRAKE LINING			
11	STANDARD BRAKE CHAMBER LOCATION			
12	CONMET CAST IRON REAR BRAKE DRUMS			
13	REAR BRAKE DUST SHIELDS			
14	REAR OIL SEALS			
15	BENDIX EVERSURE LONGSTROKE 2-DRIVE AXLES SPRING PARKING CHAMBERS			
16	HALDEX AUTOMATIC REAR SLACK ADJUSTERS			
17	ORGANIC SAE 80/90 REAR AXLE LUBE			
18	STANDARD REAR AXLE BREATHER(S)			

	REAR SUSPENSION SECTION 34	YES	NO	OTHER
1	HENDRICKSON RT463 @46,000# REAR SUSPENSION			
2	HENDRICKSON RT/RTE - 7.19" SADDLE			
3	STANDARD AXLE SEATS IN AXLE CLAMP GROUP			
4	54 INCH AXLE SPACING			
5	STEEL BEAMS AND BRONZE CENTER BUSHINGS WITH BAR PIN ADJUSTABLE END CONNECTIONS			
6	FORE/AFT CONTROL RODS			

	BRAKE SYSTEM SECTION 35	YES	NO	OTHER
1	WABCO 4S/4M ABS			
2	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES			
3	FIBER BRAID PARKING BRAKE HOSE			
4	STANDARD BRAKE SYSTEM VALVES			
5	STANDARD AIR SYSTEM PRESSURE PROTECTION SYSTEM			
6	STD U.S. FRONT BRAKE VALVE			
7	RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE			
8	BW AD-IS (DRM) BRAKE LINE AIR DRYER WITH SHIELD, HEATER AND INTEGRAL RESERVOIR			
9	AIR DRYER RESERVOIR MOUNTED			
10	STEEL AIR TANKS MOUNTED AFT INSIDE AND/OR BELOW FRAME JUST FORWARD OF REAR SUSPENSION			
11	CLEAR FRAME RAILS 36 INCHES FROM BACK OF CAB INSIDE/OUTBOARD/BELOW BOTH FRAME RAILS			
12	PULL CABLES ON ALL AIR RESERVOIR(S)			

	TRAILER CONNECTIONS SECTION 36	YES	NO	OTHER
1	UPGRADED CHASSIS MULTIPLEXING UNIT			
2	6700MM (264 INCH) WHEELBASES			
3	7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI			
4	1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT			
5	1650MM (65 INCH) REAR FRAME OVERHANG			
6	FRAME OVERHANG RANGE: 61 INCH TO 70 INCH			
7	24 INCH INTEGRAL FRONT FRAME EXTENSION			
8	CALC'D BACK OF CAB TO REAR SUSP C/L (CA) : 198.23 in			
9	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 195.23 in			
10	CALC'D FRAME LENGTH - OVERALL: 393.94			
11	CALCULATED FRAME SPACE LH SIDE: 101.18 in			
12	CALCULATED FRAME SPACE RH SIDE: 246.06 in			
13	CALC'D SPACE AVAILABLE FOR DECKPLATE: 198.45 in			
14	SQUARE END OF FRAME			
15	FRONT CLOSING CROSSMEMBER			
16	STANDARD WEIGHT ENGINE CROSSMEMBER			
17	STD MIDSHIP XMBR MTD 585MM (23") FROM BOC			
18	STANDARD MIDSHIP #2 C/M			
19	STANDARD REARMOST CROSSMEMBER			
20	STANDARD SUSPENSION CROSSMEMBER			

	CHASSIS EQUIPMENT SECTION 37	YES	NO	OTHER
1	OMIT FRONT BUMPER, CUSTOMER INSTALLED SPECIAL BUMPER, DOES NOT COMPLY WITH FMCSR 393.203			
2	GRADE 8 THREADED HEX HEADED FRAME FASTENERS			
3	DRLG PREP FOR GRADALL PER DRAWING G1 PRE-DRILLED, 4/16/19			
4	D15-28195-000 CENTER PUNCH TO MARK CENTERLINE OF REAR SUSPENSION ON TOP FLANGE OF FRAME			
5	CUSTOMER REQUESTED .DXF "DRIVELINE AND CROSSMEMBER ONLY" LAYOUT			

	FUEL TANKS SECTION 38	YES	NO	OTHER
1	100 GALLON/378 LITER ALUMINUM FUEL TANK - LH			
2	25 INCH DIAMETER FUEL TANK(S)			
3	PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS			
4	FUEL TANK(S) FORWARD			
5	PLAIN STEP FINISH			
6	FUEL TANK CAP(S)			
7	DAVCO 245 FUEL/WATER SEPARATOR WITH 12 VOLT HEAT AND WATER IN FUEL SENSOR			
8	EQUIFLO INBOARD FUEL SYSTEM			
9	NO NATURAL GAS VEHICLE FUEL TANK VENT LINE/STACK			
10	AUXILIARY FUEL SUPPLY AND RETURN PORTS LOCATED ON LH FUEL TANK AUX STANDPIPE TO BE 476MM			
11	HIGH TEMPERATURE REINFORCED NYLON FUEL LINE			

	TIRES SECTION 39	YES	NO	OTHER
1	MICHELIN XFE 425/65R22.5 20 PLY RADIAL FRONT TIRES			
2	MICHELIN X MULTI D 11R22.5 14 PLY RADIAL REAR TIRES			

	HUBS SECTION 40	YES	NO	OTHER
1	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS			
2	CONMET PRESET PLUS PREMIUM IRON REAR HUBS			

	CAB EXTERIOR SECTION 41	YES	NO	OTHER
1	108 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB			
2	AIR CAB MOUNTING			
3	NONREMOVABLE BUGSCREEN MOUNTED BEHIND GRILLE			
4	FRONT FENDERS SET-BACK AXLE			
5	BOLT-ON MOLDED FLEXIBLE FENDER EXTENSIONS			
6	LH AND RH GRAB HANDLES			
7	BRIGHT FINISH RADIATOR SHELL/HOOD BEZEL			
8	STATIONARY BLACK GRILLE WITH BRIGHT ACCENTS			
9	CHROME HOOD MOUNTED AIR INTAKE GRILLE			
10	FIBERGLASS HOOD WITH ACCESS HATCHES			
11	SINGLE 14 INCH ROUND HADLEY AIR HORN UNDER LH DECK			
12	SINGLE ELECTRIC HORN			
13	SINGLE HORN SHIELD			
14	DOOR LOCKS AND IGNITION SWITCH KEYED THE SAME			
15	REAR LICENSE PLATE MOUNT END OF FRAME			
16	HALOGEN COMPOSITE HEADLAMPS WITH BRIGHT BEZELS			
17	LED AERODYNAMIC MARKER LIGHTS			
18	DAYTIME RUNNING LIGHTS - LOW BEAM ONLY			
19	INTEGRAL STOP/TAIL/BACKUP LIGHTS			
20	STANDARD FRONT TURN SIGNAL LAMPS			

	CAB EXTERIOR SECTION 41 CONT.	YES	NO	OTHER
21	NO WORK LIGHT			
22	DUAL WEST COAST BRIGHT FINISH HEATED MIRRORS WITH LH AND RH REMOTE			
23	DOOR MOUNTED MIRRORS			
24	102 INCH EQUIPMENT WIDTH			
25	LH AND RH 8 INCH BRIGHT FINISH CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS			
26	STANDARD SIDE/REAR REFLECTORS			
27	2-STAGE ELECTRIC HORN AND HAZARD LAMP ALERT CONTROLLED BY PARTICULATE FILTER REGENERATION REQUIRED STATUS			
28	63X14 INCH TINTED REAR WINDOW			
29	TINTED DOOR GLASS LH AND RH WITH TINTED NON-OPERATING WING WINDOWS			
30	RH AND LH ELECTRIC POWERED WINDOWS, PASSENGER SWITCHES ON DOOR(S)			
31	TINTED WINDSHIELD			
32	8 LITER WINDSHIELD WASHER RESERVOIR, CAB MOUNTED, WITHOUT FLUID LEVEL INDICATOR			

	CAB INTERIOR SECTION 42	YES	NO	OTHER
1	OPAL GRAY VINYL INTERIOR			
2	MOLDED PLASTIC DOOR PANEL WITHOUT VINYL INSERT WITH ALUMINUM KICKPLATE LOWER DOOR			
3	MOLDED PLASTIC DOOR PANEL WITHOUT VINYL INSERT WITH ALUMINUM KICKPLATE LOWER DOOR			
4	BLACK MATS WITH SINGLE INSULATION			
5	DASH MOUNTED ASH TRAY(S) WITHOUT LIGHTER			
6	FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS WITHOUT NETTING			

	CAB INTERIOR SECTION 42 CONT.	YES	NO	OTHER
7	IN DASH STORAGE BIN			
8	(2) CUP HOLDERS LH AND RH DASH			
9	GRAY/CHARCOAL FLAT DASH			
10	SMART SWITCH EXPANSION MODULE			
11	HEATER, DEFROSTER AND AIR CONDITIONER			
12	STANDARD HVAC DUCTING			
13	MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH			
14	STANDARD HEATER PLUMBING			
15	VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR			
16	BINARY CONTROL, R-134A			
17	STANDARD INSULATION			
18	SOLID-STATE CIRCUIT PROTECTION AND FUSES			
19	12V NEGATIVE GROUND ELECTRICAL SYSTEM			
20	DOME LIGHT WITH 3-WAY SWITCH ACTIVATED BY LH AND RH DOORS			
21	LH AND RH ELECTRIC DOOR LOCKS			
22	(1) 12 VOLT POWER SUPPLY IN DASH (2)			
23	BASIC HIGH BACK AIR SUSPENSION DRIVER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION			
24	BASIC HIGH BACK AIR SUSPENSION PASSENGER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION			
25	DUAL DRIVER AND PASSENGER SEAT ARMRESTS			
26	LH AND RH INTEGRAL DOOR PANEL ARMRESTS			
27	VINYL WITH VINYL INSERT DRIVER SEAT			
28	VINYL WITH VINYL INSERT PASSENGER SEAT			
29	HIGH VISIBILITY ORANGE SEAT BELTS			

	CAB INTERIOR SECTION 42 CONT.	YES	NO	OTHER
30	FIXED STEERING COLUMN			
31	4-SPOKE 18 INCH (450MM) STEERING WHEEL			
32	DRIVER AND PASSENGER INTERIOR SUN VISORS			
33	NO ENTRY/ACCESS/STEP WIRING			

	INSTRUMENTS AND CONTROLS SECTION 43	YES	NO	OTHER
1	GRAY DRIVER INSTRUMENT PANEL			
2	GRAY CENTER INSTRUMENT PANEL			
3	ENGINE REMOTE INTERFACE WITH PARK BRAKE INTERLOCK			
4	BLACK GAUGE BEZELS			
5	LOW AIR PRESSURE INDICATOR LIGHT AND AUDIBLE ALARM			
6	2 INCH PRIMARY AND SECONDARY AIR PRESSURE GAUGES			
7	INTAKE MOUNTED AIR RESTRICTION INDICATOR WITHOUT GRADUATIONS			
8	ELECTRONIC CRUISE CONTROL WITH SWITCHES IN LH SWITCH PANEL			
9	KEY OPERATED IGNITION SWITCH AND INTEGRAL START POSITION; 4 POSITION OFF/RUN/START/ACCESSORY			
10	ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28 LED WARNING LAMPS AND DATA LINKED			
11	HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED BELOW LH DASH			
12	2 INCH ELECTRIC FUEL GAUGE			
13	ENGINE REMOTE INTERFACE FOR REMOTE THROTTLE			
14	ENGINE REMOTE INTERFACE CONNECTOR IN ENGINE COMPARTMENT			

	INSTRUMENTS AND CONTROLS SECTION 43 CONT.	YES	NO	OTHER
15	ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE			
16	2 INCH TRANSMISSION OIL TEMPERATURE GAUGE			
17	ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY			
18	CUSTOMER FURNISHED AND INSTALLED PTO CONTROLS			
19	ELECTRIC ENGINE OIL PRESSURE GAUGE			
20	AM/FM/WB WORLD TUNER RADIO WITH SIRIUS XM, CD PLAYER, BLUETOOTH, IPOD INTERFACE AND USB AND AUXILIARY INPUTS, J1939			
21	DASH MOUNTED RADIO			
22	(2) RADIO SPEAKERS IN CAB			
23	AM/FM ANTENNA MOUNTED ON FORWARD LH ROOF			
24	INTEROPERABLE SDAR ANTENNA			
25	ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITHOUT ODOMETER			
26	STANDARD VEHICLE SPEED SENSOR			
27	ELECTRONIC 3000 RPM TACHOMETER			
28	IGNITION SWITCH CONTROLLED ENGINE STOP			
29	PRE-TRIP LAMP INSPECTION, ALL OUTPUTS FLASH, WITH SMART SWITCH			
30	DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY			
31	SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY			
32	MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SWITCH			
33	ALTERNATING FLASHING HEADLAMP SYSTEM WITH DASH SWITCH AND NO PARK BRAKE INTERLOCK			
34	ONE VALVE PARKING BRAKE SYSTEM WITH WARNING INDICATOR			
35	SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER/WIPER AND HAZARD IN HANDLE			
36	INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS			

	DESIGN SECTION 44	YES	NO	OTHER
1	PAINT: ONE SOLID COLOR			

	COLOR SECTION 45	YES	NO	OTHER
1	CAB COLOR A: L0006EY WHITE ELITE EY			
2	BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT			
3	POWDER WHITE (N0006EA) REAR WHEELS/RIMS (PKWHT21, TKWHT21, W, TW)			
4	STANDARD E COAT/UNDERCOATING			

	CERTIFICATION AND COMPLIANCE SECTION 46	YES	NO	OTHER
1	U.S. FMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS			

	SECONDARY FACTORY OPTIONS SECTION 47	YES	NO	OTHER
1	NO CUSTOMER FURNISHED MATERIAL SPECIFIED			
2	SPECIAL NARRATIVE INSTRUCTIONS			
3	STANDARD ROUTING AND CLIPPING			

	RAW PERFORMANCE DATA SECTION 48	YES	NO	OTHER
1	CALC'D FRAME LENGTH - OVERALL: 393.94			
2	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 195.23 in			
3	CALC'D SPACE AVAILABLE FOR DECKPLATE: 198.45 in			

	EXTENDED WARRANTY SECTION 49	YES	NO	OTHER
1	TOWING: 2 YEARS/UNLIMITED MILES/KM EXTENDED TOWING COVERAGE $550 CAP FEX APPLIES			

	VEHICLE DIMENSIONS SECTION 50	YES	NO	OTHER
1	Wheelbase (545) 6700MM (264 INCH) WHEELBASES			
2	Rear Frame Overhang (552) 1650MM (65 INCH) REAR FRAME OVERHANG			
3	Fifth Wheel (578) NO FIFTH WHEELS			
4	Mounting Location (577) NO FIFTH WHEEL LOCATION			
5	Cab Size (829) 108 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB			
6	Sleeper (682) NO SLEEPER BOX/SLEEPERCAB			
7	Exhaust System (016) RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE			

	VEHICLE SPECIFICATIONS SUMMARY – FRAME RBM SECTION 51	YES	NO	OTHER
1	Wheelbase (545) 6700MM (264 INCH) WHEELBASES			
2	Frame Rails (546) 7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI (546)			
3	Yield Strength (psi) 120000			
4	Section Modulus (per rail) (cu in) 21.6			
5	RBM (per rail) (lbf-in) 2592000			
6	Inner Frame Reinforcement (547) 1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT			
7	Outer Frame Reinforcement (548) NO OUTER FRAME REINFORCEMENT			

	VEHICLE SPEDIFICATIONS SUMMARY – TURNING RADIUS SECTION 52	YES	NO	OTHER
1	Cab Size (829) 108 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB			
2	Wheelbase (545) 6700MM (264 INCH) WHEELBASES			
3	Front Tires (093) MICHELIN XFE 425/65R22.5 20 PLY RADIAL FRONT TIRES Width (in) 16.6			
4	Front Axle (400) DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE Kingpin Intersection (in) 71			
5	Bumper (556) OMIT FRONT BUMPER, CUSTOMER INSTALLED SPECIAL BUMPER, DOES NOT COMPLY WITH FMCSR 393.203 Width (in) 96			
6	Bumper Miter to Front Axle (in) 69.262			
7	Primary Steering Location (003) LH PRIMARY STEERING LOCATION			
8	Steering Gear (536) TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR			
9	Dual Steering Gear RCH45			
10	Ram NONE			
11	Rear Axle (420) RT-46-160 46,000# R-SERIES TANDEM REAR AXLE			
12	Axle Spacing (624) 54 INCH AXLE SPACING			

BID FORM

TO: City of Joplin
Attention: Public Works
602 S. Main St.
Joplin, Missouri 64801

FROM:

_____ (Name of Bidder)

_____

(Address of Bidder)

_____

(Email Address of Bidder)

_____

(Phone Number of Bidder)

2021 Truck Mounted Combination Jet/Vacuum Machine

Bid Number: 2021-007

The Bidder further declares that they have examined the specifications, documents and informed themselves fully in regard to all conditions pertaining to this bid.

All equipment shall comply with the bid document specifications. Of which but are not limited to manufacture recommendation.

Total Base Bid

Base Bid: $_____

Rental charges in warranty period: $_____

Rental charges outside of warranty period:$_____ Standard

Warranty:$_____

Delivery Date:_____

References:

By signing this document, bidder represents they have read and clearly understand the bidding documents and have the authority to enter into this agreement.

(SEAL – if by corporation)

Respectfully submitted by

_____

(Business Name)

_____

(Business Address)

Date_____, 2021

By_____

Title_____