



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC018

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
MICHAEL AUSTIN
304-558-2402

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 **304-472-1750**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
06/16/2008				

BID OPENING DATE: **07/23/2008** **BID OPENING TIME 01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
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<p>62,000 GVW CAB AND CHASSIS, DUMP BODY</p> <p>OPEN END CONTRACT</p> <p>TO PROVIDE 62,000 GVW CAB AND CHASSIS DUMP BODY, HYDRAULIC SYSTEM PER THE ATTACHED SPECIFICATIONS.</p> <p>THERE WILL BE A MANDATORY PRE-BID CONFERENCE AT THE STATE CAPITAL COMPLEX, BUILDING 15, 2019 WASHINGTON ST. EAST, CHARLESTON WV 25305 AT 10:00 AM ON 07/10/2008. FAILURE TO ATTEND THE PRE-BID WILL RESULT IN BID DISQUALIFICATION.</p> <p>QUESTIONS: QUESTIONS MUST BE RECEIVED BY CLOSE OF BUSINESS (5:00 PM EST) ON THURSDAY 07/03/08. NO FURTHER QUESTIONS WILL BE ACCEPTED AFTER THE DATE STATED.</p> <p>SEND YOUR QUESTIONS TO: PURCHASING DIVISION ATTENTION MICHAEL AUSTIN 2019 WASHINGTON STREET EAST CHARLESTON, WV 25305</p> <p>QUESTIONS MAY BE SENT VIA FAX, E-MAIL OR REGULAR MAIL E-MAIL: MICHAEL.D.AUSTIN@WV.GOV FAX: 304-558-4115</p> <p>IT IS THE VENDORS RESPONSIBILITY TO VERIFY THAT THEIR QUESTIONS HAVE BEEN RECEIVED BY CALLING 304-558-2402.</p> <p>EXHIBIT 2</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA Business Associate Addendum** - The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

SIGNED BID TO:

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
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	304-472-1750

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<p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING THIRTY (30) DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS, AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK).</p>						

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<p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIES BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN EQUIPMENT CONTRACT ORDER (FORM NUMBER WV-35) FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL WV-35 MUST BE SENT TO THE PURCHASING DIVISION OF THE DEPARTMENT OF ADMINISTRATION. AFTER APPROVAL AND ENCUMBRANCE, ONE COPY OF THE PURCHASE ORDER WILL BE RETURNED TO THE SPENDING UNIT AND ONE COPY FORWARDED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT. NO ORDER IS VALID UNLESS APPROVED AND ENCUMBERED BY THE PURCHASING DIVISION.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.</p> <p>REV. 9/98</p> <p>EXHIBIT 4</p> <p>LOCAL GOVERNMENT BODIES: UNLESS THE VENDOR INDICATES IN THE BID HIS REFUSAL TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST</p>						

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<p>CLEARLY INDICATE SUCH REFUSAL IN HIS BID. SUCH REFUSAL SHALL NOT PREJUDICE THE AWARD OF THIS CONTRACT IN ANY MANNER.</p> <p>REV. 3/88</p> <p>EXHIBIT 6</p> <p>PRICE ADJUSTMENT PROVISION: THE STATE OF WEST VIRGINIA WILL CONSIDER BIDS THAT CONTAIN PROVISIONS FOR PRICE ADJUSTMENTS PRIOR TO THE ORIGINAL EXPIRATION OF THE CONTRACT, PROVIDED THAT SUCH PRICE ADJUSTMENT COVERS BOTH UPWARD AND DOWNWARD MOVEMENT OF THE COMMODITY PRICE, AND THAT ADJUSTMENT IS BASED ON THE "PASS THROUGH" INCREASE OR DECREASE OF RAW MATERIALS AND/OR LABOR, WHICH MAKE UP ALL OR A SUBSTANTIAL PART OF A PRODUCT. ADJUSTMENTS ARE TO BE BASED UPON AN ACTUAL DOLLAR FIGURE, NOT A PERCENTAGE. ALL PRICE ADJUSTMENT REQUESTS MUST BE SUBSTANTIATED IN A MANNER ACCEPTABLE TO THE DIRECTOR PURCHASING, E.G. GOVERNMENTAL BENCH MARKS, GENERAL MARKET INCREASE, PUBLISHED PRICE LISTS. SUCH REQUESTS FOR AND INCREASE SHOULD BE RECEIVED IN WRITING BY THE DIRECTOR OF PURCHASING AT LEAST 30 DAYS IN ADVANCE OF THE EFFECTIVE DATE OF THE INCREASE. ANY TIME THE VENDOR REQUESTS A PRICE ADJUSTMENT, THE PURCHASING DIVISION MAY EITHER ACCEPT THE PRICE ADJUSTMENT AND AMEND THE CONTRACT ACCORDINGLY OR REJECT THE ADJUSTMENT IN ITS ENTIRETY AND CANCEL THE CONTRACT.</p> <p>EXHIBIT 10</p>						
				REQUISITION NO.:		

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<p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NO.'S:</p> <p>NO. 1</p> <p>NO. 2</p> <p>NO. 3</p> <p>NO. 4</p> <p>NO. 5</p> <p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p>..... SIGNATURE </p> <p>..... COMPANY</p>						

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	REV. 11/96					
	VENDOR PREFERENCE CERTIFICATE					
	CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS).					
	A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:					
	<input type="checkbox"/> BIDDER IS AN INDIVIDUAL RESIDENT VENDOR AND HAS RESIDED CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR <input type="checkbox"/> BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-QUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR 80% OF THE OWNERSHIP INTEREST OF BIDDER IS HELD BY ANOTHER INDIVIDUAL, PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR WHO HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR <input type="checkbox"/> BIDDER IS A CORPORATION NONRESIDENT VENDOR WHICH HAS AN AFFILIATE OR SUBSIDIARY WHICH EMPLOYS A MINIMUM OF ONE HUNDRED STATE RESIDENTS AND WHICH					

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<p>HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA CONTINUOUSLY FOR THE FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS A RESIDENT VENDOR WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES WORKING ON THE PROJECT BEING BID ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID;</p> <p>OR</p> <p>() BIDDER IS A NONRESIDENT VENDOR EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS OR IS A NONRESIDENT VENDOR WITH AN AFFILIATE OR SUBSIDIARY WHICH MAINTAINS ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES OR BIDDERS' AFFILIATE'S OR SUBSIDIARY'S EMPLOYEES ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & REVENUE DETERMINES THAT A BIDDER RECEIVING PREFERENCE HAS FAILED TO CONTINUE TO MEET THE REQUIREMENTS FOR SUCH PREFERENCE, THE SECRETARY MAY ORDER THE DIRECTOR OF PURCHASING TO: (A) RESCIND THE CONTRACT OR PURCHASE ORDER ISSUED; OR (B) ASSESS A PENALTY AGAINST SUCH BIDDER IN AN AMOUNT NOT TO EXCEED 5% OF THE BID AMOUNT AND THAT SUCH PENALTY WILL BE PAID TO THE CONTRACTING AGENCY OR DEDUCTED FROM ANY UNPAID BALANCE ON THE</p>						

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<p>CONTRACT OR PURCHASE ORDER.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF PURCHASING APPROPRIATE INFORMATION VERIFYING THAT BIDDER HAS PAID THE REQUIRED BUSINESS TAXES, PROVIDED THAT SUCH INFORMATION DOES NOT CONTAIN THE AMOUNTS OF TAXES PAID NOR ANY OTHER INFORMATION DEEMED BY THE TAX COMMISSIONER TO BE CONFIDENTIAL.</p> <p>UNDER PENALTY OF LAW FOR FALSE SWEARING (WEST VIRGINIA CODE 61-5-3), BIDDER HEREBY CERTIFIES THAT THIS CERTIFICATE IS TRUE AND ACCURATE IN ALL RESPECTS; AND THAT IF A CONTRACT IS ISSUED TO BIDDER AND IF ANYTHING CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p> <p>BIDDER: -----</p> <p>DATE: -----</p> <p>SIGNED: -----</p> <p>TITLE: -----</p> <p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B".</p>						

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	(REV. 12/00)					
	<p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 33</p> <p>RFQ. NO.: 708EC018</p> <p>BID OPENING DATE: 07/24/2008</p> <p>BID OPENING TIME: 1:30 PM</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:</p> <p>-----</p> <p>CONTACT PERSON (PLEASE PRINT CLEARLY):</p> <p>-----</p>					

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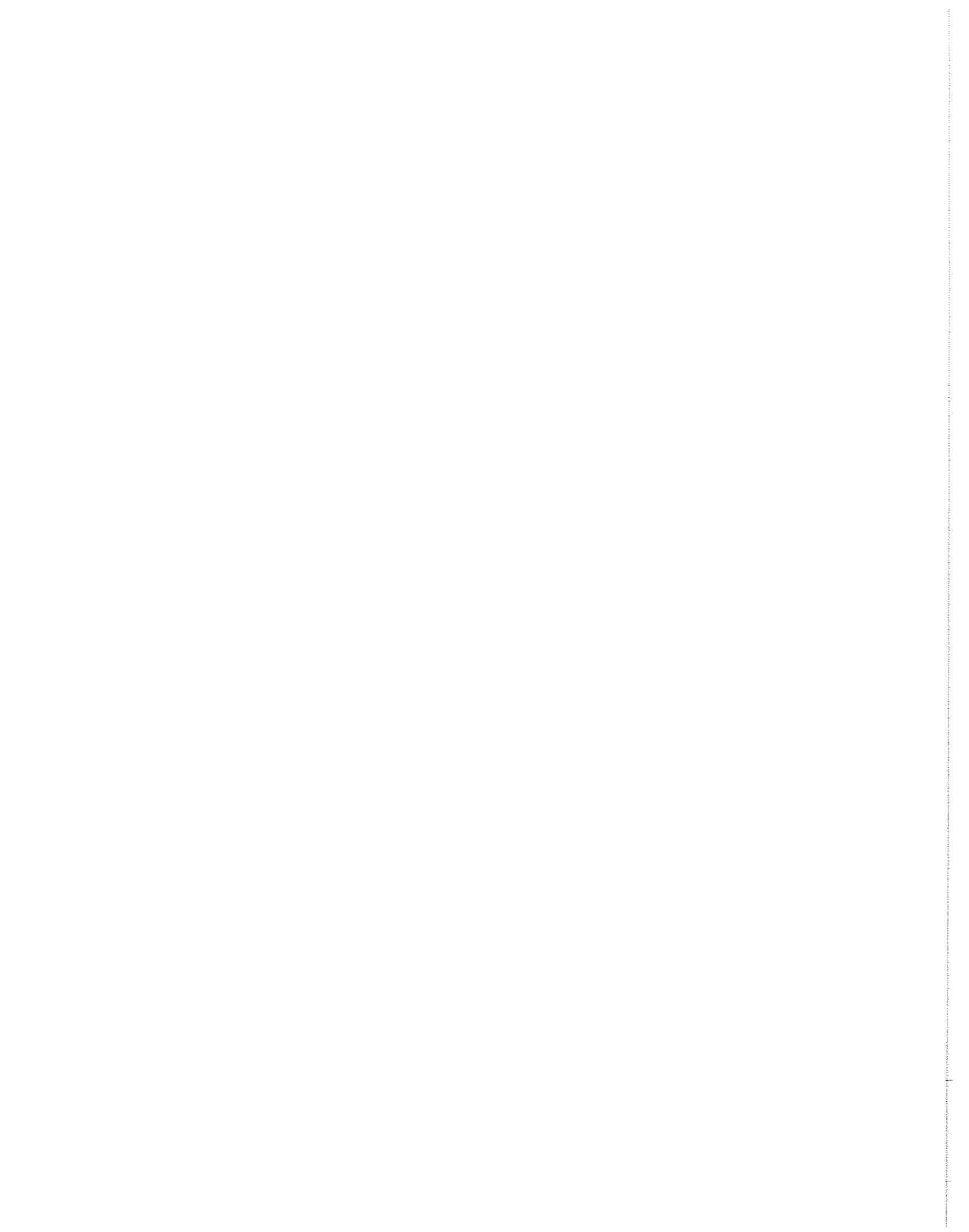
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***** THIS IS THE END OF RFQ 708EC018 ***** TOTAL:						

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
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PROCUREMENT SPECIFICATIONS
NO. 377-2-E

OPEN END CONTRACT
62,000 GVW CAB AND CHASSIS, DUMP BODY, AND HYDRAULIC SYSTEM

1.0 PURPOSE

It is the purpose of these specifications to describe a 62,000 GVW Cab and Chassis, Dump Body, and Hydraulic System (hereinafter referred to as a "dump truck" or a "unit") to be purchased for use by the West Virginia Division of Highways (DOH) on an Open End Contract basis.

2.0 BIDDING PROCEDURES

The current purchasing procedures regarding bidding as established by the Department of Administration, Purchasing Division, shall apply. Failure to submit the "Request for Quotation" forms, complete in its entirety and according to directions indicated, may subject the bidder to disqualification. **Each bid submitted shall also be accompanied by a Bidder's Evaluation Report completed in detail.** Addendums in order, along with exception sheets, should be with Bidder's Evaluation Report. **FAILURE TO SUBMIT THE BIDDER'S EVALUATION REPORT, COMPLETE IN ITS ENTIRETY, MAY RESULT IN AUTOMATIC DISQUALIFICATION.**

3.0 SPECIFICATIONS

The specifications named herein, mandatory and non-mandatory, establish the acceptable level of quality only and are not intended to reflect a preference or favor any particular brand or vendor.

3.1 EXCEPTIONS TO NON-MANDATORY SPECIFICATIONS

Exception to a non-mandatory unit specification may be made by the bidder, providing the exception is not available from the manufacturer. **Any such exception must be noted on the bidder's evaluation report and should be accompanied by supporting documentation/literature from the manufacturer. Any exception must be indicated on a separate attachment to the bidder's evaluation report and labeled as "Exception to Specifications".** The state reserves the right to determine whether the stated exception does or does not reduce the quality and performance of the unit. Failure to provide information for any exceptions may be grounds for rejection of the bid. The state reserves the right to waive minor irregularities in bids or specifications in accordance with §148-1-4(f) of the WV Legislative Rules and Regulations.

3.2 MANDATORY SPECIFICATIONS

All specifications preceded by "shall, will, and/or must" or are stated as a "minimum and/or maximum" are mandatory as stated in Purchasing Divisions Policies and Procedures. Any bid failing to meet any mandatory item shall be immediately disqualified. Failure to respond in the appropriate evaluation section may also be grounds for immediate disqualification at the discretion of the State.

A mandatory pre-bid conference is scheduled for this equipment purchase as stated in the RFQ. Vendors having products with variations or exceptions in specified mandatory items are expected to address any such variations or exceptions during the pre-bid conference. **The State shall review and consider any such variation or exception, and may at its sole discretion, issue an addendum to change mandatory specifications deemed to be in the State's best interest. Bids from any vendor failing to attend the mandatory pre-bid shall be disqualified. Bids containing any variation or exception to a mandatory specification that was not addressed during the pre-bid conference and accepted by the issuance of an Addendum shall be disqualified.**

4.0 REPRESENTATIVE UNIT FOR TEST

The successful vendor must (if specified) provide DOH one (1) completed representative unit to be observed and evaluated on each order to insure compliance with specification. If requested, the time period for testing and evaluation shall be seven (7) working days following receipt of the unit. DOH will incur no obligation for deterioration of surfaces, finishes, seals, and mechanical or electrical parts on the unit resulting from operation and testing within the limits of these specifications; nor will DOH incur obligation for damage to the unit resulting from failure to meet specifications when due care and attention is given by DOH and testing is done within the limits of these specifications. Failure of the pilot unit to satisfactorily meet specifications as bid shall be cause for cancellation of the purchase order, and return of the delivered unit along with all associated equipment to the vendor at the vendor's expense.

4.1 CONDITION OF UNIT(S) UPON DELIVERY

All units must arrive at the prescribed delivery point having been completely preserviced with oil, lubricants, and coolant. All prescribed precautions pertaining to first operations and break-in of the unit are to be posted conspicuously on the unit for ready observance by the operator.

4.2 DELIVERY

Delivery point of the completely assembled representative unit will be the DOH, Equipment Division, Route 33 at Brushy Fork Road, Buckhannon, West Virginia (26201).

The vendor is responsible for guaranteeing delivery of the completed units within the time specified and agreed to by the State. Delivery shall be within 180 calendar days maximum after receipt of purchase agreement. The vendor is responsible for establishing and coordinating delivery terms with allied manufacturers or suppliers. **Delivery terms shall be stated in the bid and the State reserves the right to accept or negotiate such terms.** Failure to reach an agreement may result in rejection of the bid. **The successful bidder shall provide their manufacturer's confirmation of the order to the WVDOH contact person within seven (7) working days after receiving the approved purchase order.**

A completed pilot model for inspection must be provided within 90 calendar days after receipt of the purchase agreement by the successful vendor.

Delivery is an integral part of this specification and failure to comply will be cause to initiate a D.O.T. Administrative Form WV-82, Vendor Performance Form. The WV-82 Form will provide a means of officially notifying the Purchasing Division and the vendor of unsatisfactory performance; such as late deliveries, poor service, inadequate parts supplies, etc.

The decision to initiate subject Form will be at the sole discretion of the D.O.H. Commissioner's established Equipment Review Board.

Issuance of the WV-82 Vendor Complaint Form on unsatisfactory delivery against any vendor will be cause to refuse to consider similar items from those vendors on future Request For Quotations.

(NOTE: Delivery time could be altered due to labor strikes, severe inclement weather conditions, etc.)

5.0 AWARD CRITERIA

- 5.1 DOH will recommend the award in accordance with the RFQ evaluation criteria described in the requisition. **The award shall be made to the lowest unit cost vendor that meets or exceeds the specifications.**

Prices for the units shall be in quantities of 1-25, 26-50, and 51 and over. However, for evaluation purposes, we will use quantities 1-25. DOH reserves the right to place multiple orders in any quantity.

6.0 SPECIFICATIONS AND GUIDELINES - GENERAL

6.1 IDENTIFICATION OF THE UNIT BEING PROPOSED

The bidder must identify the unit by manufacturer, model, series, and year of manufacture, in the bid to enable identification by DOH in the manufacturer's specifications of the proposed unit. The bidder will submit complete descriptive literature of the proposed unit, to establish that the bid is the manufacturer's most current model, including latest engineering improvements, which have been, or will imminently be, regularly advertised and sold on the open market. The unit specified herein and offered to be manufactured after January 1, 2008 and be clearly identified and marked with date of manufacture.

6.2 OPERATING AND SERVICE MANUALS AND PARTS LISTS

An operator's manual must be included with each unit upon delivery. A "line sheet" (if applicable) and Equipment Preventative Maintenance Questionnaire (as shown in X6.2 of the Bidder's Evaluation Report) must be with pilot unit upon delivery. In addition, there must be 12 service, shop, or maintenance manuals; ten (10) to be distributed to the Districts and two (2) for the Equipment Division. Also, there must be 14 parts manuals; ten (10) to be distributed to the Districts and four (4) for Equipment Division use. CD ROM is preferred in lieu of parts manuals.

* **NOTE: MANUALS SHALL BE DELIVERED UPON COMPLETION OF DELIVERY OF TOTAL UNITS. FAILURE TO DO SO WILL DELAY PAYMENT.**

6.3 TRAINING:

Manufacturers and/or dealers will be required to stage a thorough seminar on the subjects of Preventative Maintenance, Operator and Mechanic Training. **In order to keep the operators and mechanics updated, the successful vendor shall conduct training with each purchase order against this open end contract.** Training is preferred within 2 working days after delivery of the pilot unit on the individual purchase order.

Manufacturers and/or dealers shall be required to furnish the Training Academy with one (1) Operator's Manual to be shipped direct to WVDOH Training Academy, Post Office Box 610, Buckhannon, West Virginia 26201 prior to delivery of the pilot.

The seminar to be held at the W. Va. Division of Highways, Equipment Division, Buckhannon, West Virginia.

6.4 PREVENTIVE MAINTENANCE AND OPERATOR PROCEDURES:

Manufacturers and/or dealers will be required to submit to the Equipment Division, in addition to the operating and service manuals, booklets and pamphlets explaining the Preventive Maintenance and Operator Procedures to be used by the operators of this equipment, and must include such things as daily prestart inspection procedure, service schedule, and routine maintenance required, safety precautions, etc.

The successful vendor shall furnish all training aids; i.e., videos, projectors, etc. required in conducting the training.

6.5 WARRANTY AND SERVICE POLICY

The Manufacturers warranty or service policy is to apply to the unit. Such warranty or service policy is to be recognized at any authorized unit dealer, representing manufacturer of proposed unit throughout the State of West Virginia. The applicable warranty or service policy will not be contingent upon obtaining routine service, lubrication, and servicing of the unit from factory authorized agencies. It will be the responsibility of the bidder to have available labor to repair or replace any defective replacement parts, components and materials, and to have available those replacement parts, components, and/or materials found to be defective during the terms of the warranty period. The bidder should state the labor rates, locations where parts will be stocked, availability of parts, and discounts offered for parts, when terms of the warranty offer a pro-rated cost for parts and labor. In addition, the successful bidder should offer field work to repair or replace defective parts, components, and materials found to be defective during the terms of the warranty and should provide mechanic's travel rates, mileage charges, field mechanic rates, and any surcharge for miscellaneous items, if applicable, for field work during the warranty period. Submit to Division of Highways any technical or engineering improvements during the term of the warranty. **The unit must be accompanied upon delivery by the unit's manufacturer's executed warranty or service policy.**

Warranty shown shall be minimum warranty provided.

A mandatory minimum two (2) year bumper to bumper basic parts and labor warranty excluding abuse and normal wear items is required for this unit.

Engine: 3 years/100,000 miles 100% parts and labor.

THE "WARRANTY AND SERVICE POLICY QUESTIONNAIRE" ATTACHED IN THE BIDDER'S EVALUATION REPORT MUST BE COMPLETED IN ITS ENTIRETY BY THE SUCCESSFUL BIDDER OR MANUFACTURER PRIOR TO DELIVERY OF THE PILOT MODEL. (SEE SECTION X6.5 OF BIDDER'S EVALUATION REPORT).

6.6 EVALUATION COMMITTEE REQUIREMENTS

Detailed component specifications, product literature, component models, required for specification compliance determination by the Evaluation Committee should be provided with each bid. Any information supplied that is contrary to/or conflicting with the specifications and/or attached Bidders Evaluation Report may be sufficient cause for rejection of bid.

6.7 UNSPECIFIED ACCESSORIES & FEATURES

All parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, must be furnished with each unit and required to conform to strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry.

All parts and accessories advertised and regularly supplied as standard shall be included, except those which would represent duplication of these specified, and except those which, by specification, are not to be furnished. All standard safety features, required by Federal and State Law, shall be included.

7.0 SPECIFICATIONS OF THE QUOTED UNIT ARE AS FOLLOWS:

Any bid that fails to meet the mandatory features shall be immediately rejected.

8.0 SPECIFICATIONS - CAB & CHASSIS

8.1 **The GVWR rating shall be 62,000 Lbs. minimum rating**

8.2 Cab to Axle Dimension: Approximately 116 Inches usable

8.2.1 **After frame length shall be no less than 60 inches minimum**

8.3 Wheelbase: Approximately 194 Inches

8.3.1 Wheel base and CA dimension may be adjusted to provide the optimum legal weight distribution.

8.3.2 **BBC (Bumper to Back of Cab) 111.9 inch minimum to 120 inch maximum dimension excluding frame extension.**

- 8.4 Frame: The manufacturer shall provide a frame that meets or exceeds all Federal requirements for G.V.W.R. specified that extends forward beyond the grille a minimum of 14 inches. Frame shall conform to the following:**
- 8.4.1 Frame material to be minimum 110,000 PSI yield strength. Frame extension to be “parent rail” material.**
 - 8.4.2 R.B.M.: Minimum 2.6 million Ins./Lb. Per rail (Approximate Ratings) Bidder to submit shop drawings pertaining to frame construction and frame extension. An integral frame and frame extension is preferred**
 - 8.4.2.1 Where engine and radiator adjustments are required, a minimum of 1.4 million in lb. per rail (RBM) will be accepted.**
 - 8.4.3 Main frame and any required liners to be either straight channel or offset channel, full length.**
 - 8.4.4 Minimum frame RBM to be approved by manufacturers Engineering Department. Bolt-on or welded extension will not be accepted.**
 - 8.4.5 Front frame shall accommodate the Department’s standard hydraulic PTO shaft and pump, and the plow frame. It shall provide easy service accessibility.**
- 8.5 Cab: The cab to be the manufacturers standard steel and/or fiberglass. Hood to be tilt hood and fenders either steel and/or fiberglass and shall be provided with rear air bag suspension**
- 8.5.1 Cab Door Locks, Both Doors, keyed alike**
 - 8.5.2 Dual Sun Visors**
 - 8.5.3 Arm Rests, Both Sides**
 - 8.5.4 Seats: Fully adjustable air ride high back with head rest, cloth covered both left hand and right hand sides. Minimum of 12 inch clearance between seats.**
 - 8.5.5 Floor Mats: Rubber floor mats throughout cab area with non-absorbent backing under the mats.**
 - 8.5.6 Turn Signals: Manufacturers Standard with hazard warning switch.**

- 8.5.7 Heater and Defroster: Fresh Air Type, Heaviest Duty
- 8.5.8 Windshield Wipers and Washers: Manufacturer's heaviest duty with intermittent feature with manufacturers largest reservoir filled with antifreeze type solvent
- 8.5.9 Instruments:
All instruments dash-mounted except where specified otherwise.
All standard instruments to be supplied, including but not limited to the following:
 - 8.5.9.1 Coolant, oil pressure gauges, to have both dial type readout and either an audible or visual alarm to warn operator when safe operating conditions are exceeded.
 - 8.5.9.2 Voltmeter or Ammeter
 - 8.5.9.3 Engine RPM Tachometer
 - 8.5.9.4 Speedometer with Odometer
 - 8.5.9.4.1 Provisions for dual speedometer leads shall be made available.**
 - 8.5.9.5 Primary Air Pressure Gauge
 - 8.5.9.6 Auxiliary Air Pressure Gauge (may be combined with 8.5.9.5)
 - 8.5.9.7 Air filter manufacturers heaviest duty dual element type that meets all requirements of extended engine warranty.

- 8.5.9.7.1 The air intake system to be fitted with inside/outside air. Actuated by “air” valve.
- 8.5.9.8 If unit is equipped with front air intake, a cable control valve to enable operator to divert air intake to engine compartment during plowing application to be provided**
- 8.5.9.9 Air Filter Restriction Indicator gauge shall be dash mounted**
- 8.5.9.10 Engine Hourmeter (Controlled by engine operation, not by key switch).
- 8.5.9.11 Fuel level reading.
- 8.5.9.12 Parking brake to be dash controlled with indicator light
- 8.5.9.13 Manufacturers best sound/weather insulation package for proposed cab
- 8.5.9.14 Outside temperature control with in cab digital read out shall be accomplished without the use of mirrors**
- 8.5.10 Rearview Mirrors:
 - 8.5.10.1 Mirrors to be West Coast Type, approximately 7" x 16" power adjustable with convex spot mirror.
 - 8.5.10.2 Both mirrors to be heated type with stainless steel or aluminum hardware, heads, and fasteners.
- 8.5.11 Grab Handle: Right Hand and Left Hand Sides of Cab, Rear of Door Opening
- 8.5.12 Air horns, with snow shields, cab mounted with adequate clearance for future installation of body cab shield.
- 8.5.13 Unit to include lockable hand operated throttle control or electronic control for idle up and idle down for hydraulic flow rate.
- 8.5.14 Manufacturer should provide for stationary grille or grille with cutout area to allow tilt hood to clear snow plow mount. Stone/gravel guard to be provided.
- 8.5.15 Air Conditioning: Manufacturers standard package for model bid. “APADS” to specified air condition system
- 8.5.16 Radio: AM/FM stereo with weatherband radio feature

- 8.5.17 Glass: Manufacturers tinted safety glass (all locations)
- 8.5.17.1 Dual power windows
- 8.5.18 Manufacturers engine cover or dash mounted extended two (2) cup drink holder.
- 8.5.19 Front mudflaps to be manufacturers standard for unit bid.
- 8.5.20 Emergency triangle warning kit, with hold down (KD610-464S, KD Lamp Co. or equal, stowed (fastened) in the cab. (Check with DOH representative before mounting)
- 8.5.21 Manufacturers tilt steering column with cruise control feature or provide locking hand operated throttle, steering wheel approximately 18 inches diameter
- 8.5.22 Fire extinguisher - rechargeable with vehicle mount. Mounted in the cab for easy and quick access. 2A-10B-C or equal
- 8.5.23 Accessories not indicated above but are included in the manufacturer's standard cab shall be provided.**
- 8.5.24 Successful vendor shall provide WVDOH with complete list of all filters required for normal maintenance on proposed unit.**
- 8.6 Engine: Engine manufacturer to make provisions for front mounted hydraulic pump to crankshaft pulley.
 - 8.6.1.1 Engine Diesel - Minimum - 365 HP - Peak Torque 1450. ft. minimum.**
 - 8.6.1.2 In block engine heater 1500 Watt
 - 8.6.1.2.1 The electrical cable from the heater to plug to be one piece and waterproof, location - left side under driver door.
 - 8.6.1.3 In line fuel heater with thermostatically controlled by-pass maintain #2 diesel fuel temperature above cloud point before diesel fuel passes through the filter. Zero Start Model 820-8751 and thermostat Model 820-8786 as manufactured by Phillips Tenro Company or approved equal.
 - 8.6.1.3.1 Engine fuel system to be equipped with primer pump
 - 8.6.1.4 Exhaust:
 - 8.6.1.4.1 A single vertical exhaust pipe with underbody muffler that will meet all Federal noise abatement requirements. Exhaust to the passenger (right) side of unit.

- 8.6.1.4.2** The tail pipe must be shielded or insulated to protect personnel from burns when entering or exiting the cab. The shield to be 180 degrees to 360 degrees and shall be of non-rustable material such as stainless steel or aluminum. Riker or equal.
- 8.6.1.4.3 Exhaust pipe with rain cap or exhaust turn out
- 8.6.2** Jacob's Engine Brake Model #411 or equivalent shall be provided.
- 8.6.3 The engine components facing wheel areas, on both sides, and the areas to the rear of wheels to be shielded by means of rubber skirts supported by easily removable steel rods.
- 8.7** **Cooling System: The cooling system must be capable of maintaining engine temperature within the manufacturer's recommended range during continuous operation.**
- 8.7.1** The system shall incorporate a thermostat and bypass for warm up and shall be filled with permanent OAT (organic acid technology) type extended life antifreeze or equal rated to a-30°F or lower. Low silicate type antifreeze for diesel engine only.
- 8.7.2 The largest factory available engine cooling capacity compatible with engines and transmission referenced and for continuous high engine output under extreme temperatures and/or operating conditions due to prolonged snow plowing operations in low gears.
- 8.7.3 Unit to be fitted with provisions for visually monitoring coolant without necessitating removal of the cap from the radiator or expansion tank.
- 8.7.4** The radiator mounting shall provide adequate clearance to facilitate the installation of a crankshaft driven PTO drive shaft.
- 8.7.5** The distance between the extreme tip of the radiator fan blade and the centerline of the crankshaft to be a minimum of three inches (3") to insure adequate clearance for PTO drive shaft.
- 8.7.6 Radiator screen guard to protect radiator from foreign objects
- 8.8 Fuel Tanks:
- 8.8.1 Safety type fuel tank as per the requirements of FMVSS.
- 8.8.2 Single aluminum 100 US gallon (usable) **minimum total capacity**, frame mounted.
- 8.8.3 Driver and passenger entrance steps - grated self cleaning safety step

- 8.8.3.1 All edges to be banded (skirting) on the outer perimeter.
- 8.8.3.2 Top of the first step approximately 21 inches above ground.
- 8.8.4 System to be a top draw and top return line.
- 8.9 Electrical System:
- 8.9.1 Type: Manufacturer's 12 volt negative ground system with manufacturers radio interference suppression.
- 8.9.1.1 Circuit breaker equipped, in easily accessible location, weatherproof.
- 8.9.2 Four (4), heavy duty - 12 volt batteries, maintenance free
- 8.9.2.1 Reserve Capacity: 640 minutes (@ 80 degrees F)
- 8.9.2.2 Cold Crank AMPS: 2500 total (@ 0 degrees F)
- 8.9.3 Alternator Capacity: 110 AMPS minimum with internal regulator.**
- 8.9.4 Wiring: To be heavy duty hypalon type or equal in heavy duty sheathing, bundled with lacing cords or non-metallic tie straps
- 8.9.5 Lighting: Provisions shall be made available for all required lighting on completed unit (number, location, and color) to conform to the West Virginia Motor Vehicle Code.**
- 8.9.6 Auxiliary snow plow/salt spreader lighting package:
- 8.9.6.1 Successful vendor shall be required to make provisions in the left rear in back of the cab for manufacturers approved wiring and weather proof disconnect plug (Cole Hersee No. 12081 or equal) to operate the following lights on truck mounted chemical spreader (NOT TO BE PROVIDED):**
1. One sealed beam flood lamp
 2. Left and right combination brake/turn and tail lights
 3. One strobe warning light
- 8.9.7 Manufacturer or successful vendor shall be required to make provisions for manufacture approved wiring and weatherproof disconnect plug (Weather Pac in line six (6) pin connector - Part Number 12010975) with approximately three (3) foot "pigtail" to operate combination left and right turn/park lights/auxiliary headlights.**

- 8.9.7.1 Provisions for weatherproof disconnect plug should be located at lower left front grille-bumper area. All wiring connections to be weatherproof with wiring encased in wire looms. Exact location should be discussed with WVDOH representative before pilot review.
- 8.9.7.2 A 7-way trailer connection light socket to be mounted at rear of truck frame. Plug to be Cole Hersee Part No. 12081 or approved equal.
- 8.10 Power Train Overview:
Lubricants for front axle hubs and differentials, manual transmission, transfer cases, and all rear differentials shall meet or exceed all appropriate MIL and SAE specifications for synthetic lubricants and should have all plugs identified as synthetic or painted red.
- 8.10.1 Transmission: **Allison 4500RDS or equal shall be provided with manufacturer transmission oil cooler**
- 8.10.1.1 Transmission torque capacity shall meet or exceed specified engine torque**
- 8.11 Driveline:
- 8.11.1 Should be Spicer 1810 series main/1710 Interaxle Model J400S driveline or equal.
- 8.12 Rear Axle:
- 8.12.1 To be:
 Eaton DS462P or equal
 Rockwell RT46-160-P
 Mack S440 (46,000 lb. with pump)
- 8.12.2 Four (4) wheel dual reduction equipped with inner axle power divider
- 8.12.3 Ratio: Gear ratio to be determined by bidder; however, these vehicles to be capable of a top speed of approximately 70 MPH
- 8.12.4 Aluminum or lightweight housing is not acceptable.
- 8.12.5 Stemco Guardian rear wheel seals or equal
- 8.12.6 Drain plug, magnetic
- 8.13 Front Suspension:
- 8.13.1 10,000 lb. capacity at ground each front spring, total spring capacity 20,000 lb.

- 8.13.2 The front spring pins or bearings/bushing to be furnished with 360 degree grease grooves to insure adequate lubricant penetration.
- 8.13.3 Spring hangers to be heavy castings with sufficient pin and bearing surface to render trouble free service.
- 8.14 Rear Suspension: Hendrickson RT463 or equal
- 8.15 Front Axle should be:
 - 8.15.1 Capacity: 18,000 lbs. minimum**
 - 8.15.1.1 The front axle, drag links, and tie rods to have grease zerks installed.
 - 8.15.2 Heavy Duty Shock Absorbers
 - 8.15.3 Front Wheel Seals to be oil lubricated type. (Stemco or equal)
 - 8.15.4 Proposed unit must provide adequate tire clearance at maximum turning angles.**
- 8.16 Brakes should be:
 - 8.16.1 Type: Full Air, with manufacturers ABS in compliance with the most current FMVSS requirements.
 - 8.16.2 Compressor: Manufacturer's selected model. 16.5 cu. ft. minimum**
 - 8.16.3 Service Brake Size: (Approximate)
 - 8.16.3.1 Front: 16 ½ inch x 5 inch or 16 ½ inch x 6 inch "S" cam or a power front disc brake system providing equal performance.
 - 8.16.3.2 Quick change type single or double anchor pin if drum type brakes are furnished.
 - 8.16.3.3 Rear: 16 ½ inch x 7 inch "S" cam with quick change type single or double pin.
 - 8.16.4 Drum brakes to have automatic slack adjusters and be clearance sensing type only, with adjustment on application of the brake
 - 8.16.5 Parking Brake: Rear wheel spring type, MGM IR-IS Series or equal – severe service spring brakes
 - 8.16.5.1 Parking brake to provide modulated emergency braking via the foot valve in the event of a rear service system failure.
 - 8.16.6 Air dryer with heater **minimum 20 inches above road surface**. Bendix AD-9 or equal with spin on desiccant cartridge or equivalent. Installation made in concurrence with the air compressor manufacturer's recommendations.

- 8.16.6.1 All electrical connectors for drain valve and air dryer to be covered with heat shrink material or have sealed connections.
- 8.16.7 Manufacturer's standard air tanks for service brakes; auxiliary tank for parking brake.
- 8.16.8 Low air pressure warning light and buzzer
- 8.16.9 Rear service brake chambers and spring brake chambers mounted to provide adequate clearance for tire chains and backing into bituminous paving machines. Factory installation, only.
- 8.16.10 Brake dust covers to be installed on all wheels
- 8.16.11 Unit to be equipped with hand control valve, tractor protection valve, with provisions for installation of glad hands at rear of truck to enable unit to pull air brake operated equipment trailer
- 8.17 Tires and Wheels:
 - 8.17.1 **The truck shall be equipped with hub piloted steel disc wheels for tubeless tires.**
 - 8.17.2 The wheel end to be equipped with outboard cast brake drums, and 15 degree tubeless steel wheels, hub piloted, 10 hole - 285.75mm bolt circle with 22mm two-piece flange nuts.
 - 8.17.3 Front:
 - 8.17.3.1 Wheels:
22.5 x 9.0, 10 hole - 285.75mm bolt circle with 220mm bore, tubeless steel disc wheel rated at 10,000 lbs. **at a maximum inflation pressure of 130 PSIG.**
Accuride part number 29039 or equivalent
 - 8.17.3.2 Tires: 31580R22.5 - 20 ply - (10,200 weight rating)
 - 8.17.4 Rear:
 - 8.17.4.1 Wheels:
22.5 x 8.25, 10 hole - 285.75mm bolt circle with 220mm bore, tubeless steel disc wheel rated at 7,500 lbs. **at a maximum inflation pressure of 120 PSIG.**
Accuride part number 28828.
 - 8.17.4.2 Tires: 11R22.5H
 - 8.17.4.3 **The dual rear wheel/tire assembly shall have clearance between the tires, which permits the use of dual tire chains.**
 - 8.17.5 Wheel-Guard Separators

8.17.6 Tires (No substitute. **All tires shall be radials.**)

<u>Manufacturer</u>	<u>Front Tire</u>	<u>Rear Tire</u>
Goodyear	G-291	G-244 MSD
Michelin	PILOT XZY-1	XDY-1

8.18 Steering:

8.18.1 Power steering: Dual integral or single integral type hydraulic power steering with right wheel power-assist cylinder.

8.18.2 Steering system: (flow, pressure, relief valve, etc.) To be selected considering the full front -GVWR axle loading. Ross or Sheppard gear assembly.

8.18.3 Hydraulic supply pump: Vane type or roller type with sufficient oil flow to permit one (1) steering wheel revolution per second with front axle loaded to rated capacity, with plow on, in a "park" condition. Vickers V-20, Eaton or Borg Warner.

8.18.4 The pump should not be the integral filter type unit.

8.18.5 Power steering reservoir: "Remote mounted", **minimum 2 quart capacity**, incorporating a filter which is easy to remove and replace.

8.18.6 The remote filter referenced above to be factory mounted, certified, and engineering approved in conjunction with the appropriate pump.

8.19 Unit shall include all other features considered as standard equipment but not specifically addressed above.

8.20 Paint: (See enclosed diagram for color reference) - The unit should be painted as described:

8.20.1 Cab exterior and interior: Federal Standard White 595 A (No. 17875)

8.20.2 Grille: Manufacturer's standard grille paint similar to silver or aluminum in color. Grilles made from bright finish or bright plated material do not require painting.

8.20.3. Wheel paint shall be topcoat painted with TGIC Polyester Powder Paint MLD-82008 High Gloss Gray or equal applied over Cathodic Electro-Disposition Gray Primer or equal.

8.20.4 Manufacturer's standard plant procedures for cleaning, degreasing, preparing, priming and painting are sufficient to meet the requirements for painting of cab (white). **Cab will not be painted white over top another finish color.**

- 8.20.5 The Department reserves the right to view larger paint samples after award of contract and the right to require subtle color changes in both the blue and white paint. Such changes, if any, **will only be used for selecting a suitable paint color to match the WVDOH logo.**
- 8.20.6 In order to test the adhesive quality of the paint, the DOH may, at its option, require that the vendor measure adhesion by the criteria set forth in ASTM D3359-74, Method B. A rating of less than 4 on this test would be deemed unacceptable.
- 8.21 Detail/Decorative Stripes with Logo:
- 8.21.1 Width: to be 4 inches
- 8.21.2 WVDOH logo (to be supplied by WVDOH) is attached (black and white copy) and is approximately 7 inches tall by 7 inches wide. Area behind logo and within ½ inches of logo is not to be striped. Stripes should be cut to follow contour of logo, in lieu of straight cut.
- 8.21.3 Striping material to meet the requirements of ASTM D4956-91 Type V sheeting, a super high-intensity retroreflective sheeting consisting of microprismatic retroreflective elements. **The conspicuity sheeting must meet the requirement of NHSTA, DOT, 49CFR, Part 571 Federal Motor Vehicle safety standards for conspicuity sheeting and be "DOT approved".**
- 8.21.4 The sheeting for both applications above should not be more than .008 inch thick having approximately 47,000 microprisms per square inch and shall come with an aggressive high tack pressure sensitive adhesive, reflexite or equal.
- 8.21.5 Upper stripe color: Dark Blue
- 8.21.6 Lower stripe color: Light Gold
- 8.21.7 Bidder should consult with the WVDOH on proposal for striping before inspection of pilot model.
- 8.21.8 Bidder should attach proposed paint plan with this bid. It should include chips or samples of proposed paints as well as a proposed striping detail on a cab silhouette sheet. Bidder may modify attached striping plan to fit his particular cab shape.
- 8.22 Vendor must certify that the unit offered will meet or exceed the "Occupational Safety and Health Act of 1970" and subsequent amendments.**

- 8.23 Advertising: No visible decals or nameplates or painted on names representing the manufacturer or model number or trademark should appear on the exterior of the unit. Logos created through the stamping or casting process of manufacture are acceptable.
- 8.24 Preventive Maintenance and Operator's Training School
- 8.24.1 Manufacturers and/or dealers will be required to stage a thorough seminar on the subjects Preventive Maintenance and Operator Training. The seminar should be held at the Equipment Division.
- 8.24.2 To make the program complete, we need, in addition to the operating and service manuals, booklets and pamphlets explaining the Preventive Maintenance and Operator Training procedures to be used by the operators of this equipment. Must include such things as daily pre-start, inspection procedure, service schedule and routine maintenance required, safety precautions, etc.
- 8.24.3 The successful vendor shall furnish all training aids; i.e. videos, projectors, etc., required in conducting the training.**
- 9.0 SPECIFICATIONS - Dump Body
- 9.0.1 Dump body capacity to be minimum of 13 cu. yd. water level**
- 9.0.2 Sideboard pockets and tailgate height should provide additional capacities of 2 - 5 cu. yd.
- 9.0.3 Front body bulkhead to be 3/16 inch AR 400 steel with **minimum 190,000 PSI yield strength**
- 9.0.4 Rear corner post to be full depth one-piece construction from top of tailgate to bottom of rear bolster.
- 9.0.5 Rear bolster to be one piece, full width
- 9.0.6 Spreader strap retainers to be adequately welded on both sides
- 9.0.7 Cab shield to have built in tarp deflector, full width of body have sufficient clearance to ensure shield will not hit exhaust when dumping on uneven terrain. Stack clearance on chassis is to be chassis supplier's responsibility.
- 9.0.8 Two (2) front frame mounted tow hooks or eyes.

9.1 Dimensions:

9.1.1 Inside length of body not to exceed 162 inches

9.1.2 Inside width: 86 inches minimum

9.1.3 Outside width: 96 inches maximum at rub rail

9.1.4 Basic side height: 44 inches (measure from floor to top rail)

9.1.5 Tailgate height: 52 inches (measure from floor to top rail)

9.1.6 Body overhang: 10 inches - 18 inches (measure from center of hinge pin)

9.1.7 Cab protector: 24 inches approximate with adequate clearance for cab mounted air horns

9.1.8 Cab protector to be sloped rearward for drainage purposes

9.2 Construction of the dump bed sides, front, head, and tailgate shall conform to the following minimum specifications:

9.2.1 Floor: 1/4 inch minimum AR400 190,000 PSI yield strength steel with four (4) inch radius built into floor, all one piece. No welded seams.

9.2.2 Sides: 10 Gauge minimum AR400 190,000 PSI yield strength steel thickness

9.2.3 Tailgate Plate: 3/16 inch minimum AR400 190,000 PSI yield strength steel

9.2.4 Top Rail: 3/16 inch thickness

9.2.5 Bottom Rail: 3/16 inch thickness

9.2.6 Cab Protector: 10 Gauge

9.2.7 Longitudinal: 8 inch x 13 lb, ft, I-beams

9.3 All welding inside the dump body should be continuous, not skip welded. All rails and posts to be continuous welded and completely closed.

9.3.1 Seven (7) gauge Grade 50, 4 3/4 inch x 12 inch full depth rear corner posts are tied to an eight (8) inch formed channel rear apron. This joint is further reinforced with a 1/4 inch plate which helps prevent flexing in this critical area and strengthens latch assembly.

9.3.2 Cab protector sides, formed with gussets, should extend forward approximately 24 inches. **Clearance above highest point of cab should be three (3) inches minimum.**

9.3.3 One (1) horizontal side brace, weld on, dirt shedding sloped side brace connected to front and rear corner posts.

9.3.4 All seams welded solid.

9.4 Hydraulic Hoist: Shall be Telescopic Hoist with internal dog house of 13 inches maximum.

9.4.1 Shall be Trunnion Mount to bottom of dump body, not at top of doghouse

9.4.2 Telescopic hoist shall be no less than N.T.E.A. Class 90 double acting with 26 ton capacity

9.4.3 Single hoist cylinder to be trunnion mount

9.4.4 Hoist cylinder shall have three (3) stages with approximately 130 inches of stroke with a five (5) inch diameter first stage at bottom. No inverted cylinder permitted - Part number MALHOIT CS-130-5.5-3 or equal.

9.4.5 The cylinder shall have wear and corrosion resistant nitrided cylinder tubes.

9.4.6 There shall be a minimum two (2) year cylinder warranty.

9.4.7 A five (5) degree oscillating cylinder collar shall protect the cylinder against inside stress with replaceable greaseless composite bushings at collar pivots.

9.4.8 The body shall have 6 inch x 8 inch x 1/2 inch structural angle rear hinge assembly installed in the truck chassis frame (no hoist subframe).

9.4.9 Two (2) inch 303 stainless steel hinge pins connecting to 2 1/2 inch hinge blocks using replaceable greaseless composite bushings for a minimal pin-to-bushing clearance.

9.5 The following features shall be included:

9.5.1 Warning light (bed raised) dash or console mounted.

9.5.2 Hydraulic oil level reading

9.5.3 Safety decals as required.

- 9.5.4** Mud guards, 10 gauge x 24 inches x 30 inches permanently attached in front of rear wheels.
NOTE: Rear mud flaps will be furnished by the DOH. Dump body vendor to align exhaust stack for bed clearance.
- 9.5.5** Shovel bracket
- 9.5.6** Gussets for 2 inch x 6 inch lumber (rough) located at front and rear posts and mid-rail 2 inch x 6 inch (rough) oak sideboards supplied and bolted through gussets. Painted to match dump body.
- 9.5.7** Air operated tailgate shall be “pancake-type” tailgate release valve. The air chamber shall be Anchor Lock Model #24LS or equal with a spring-over-center latch. Pivot points include stainless steel bushings to reduce seizing.
- 9.5.8** Outside steps on both sides of front of bed
- 9.5.9** Self cleaning safety platform to be non-skid material located on both sides of the dump body.
- 9.5.10** OSHA approved backup alarm, electronic ambient, adjusts to background noise, 112 dba shock mounted at rear
- 9.5.10.1** OSHA approved body support, both sides
- 9.5.11** Slope outside of bottom bed rail
- 9.5.12** Unit to be equipped with 49,000 lb. capacity pintle hook (Holland PH760 or approved equal) centered between rear frame rails. Height from ground level to center line of pintle “eye” to be 32 inches.
- 9.5.13** Air Deflector: Hood mounted, blue or smoke. Deflector manufacturers standard width for the truck mode. Access to front end hood tilt handle to be avoided. Extra handle acceptable.
- 9.6** Lighting: Weather/shock resistant lights LED type with average amp draw between .045-.072. Grote/Truck Light or equal. All connections to have sure snap plug assemblies and epoxy sealed electronics to protect against shock and vibration.
- 9.6.1** All marker lights 2 ½ inch diameter flush mount sealed beam lights with integral reflector mounted in rubber base.
- 9.6.2** All ground wires to be attached with plated steel fasteners, tack weld not allowed.

- 9.6.3 Rear lights to be shock mounted, recessed oval stop, tail, turn, and recessed oval back up lights to be mounted in back post. Strobe lights to be marked and switched from dash board location
- 9.6.4 Center rear I.D. lights three (3) located in truck chassis.
- 9.6.5 Two (2) amber oval LED strobe lights to be mounted at the front corners of the cab protector and two (2) amber oval LED strobe lights mounted at each outside corner of the cab protector. Strobe lights to be marked and switched at dash board location.
Oval cutouts shall be precut by dump body manufacturer.
- 9.6.6 Auxiliary headlights (Signal Stat 640 wk or equal) for snowplowing application to be shock mounted on fender of unit. The successful vendor to consult DOH for mounting position and bracket dimensions.
- 9.6.7 Two (2) oval amber LED strobe lights mounted at top of rear corner posts right and left sides and to be switched in combination with cab protector strobe. (PSE amber, Model oulxslh or equal). **Oval cutouts shall be precut by dump body manufacturer.**
- 9.6.8 Angled hydraulic fittings to be mounted above the lights, and the vertical apron to be cut out above the frame to facilitate their placement.
- 9.6.9 Two (2) front frame mounted tow hooks
- 9.6.10 Lighted license plate bracket
- 9.7 A full length dirt shedding rub rail should extend along each side of the body, sufficient to cover the rear wheels.
- 9.8 There should be the following at the front of both sides of the body on posts:
 - 9.8.1 Tread plate step
 - 9.8.2 Strap type ladder, dirt shedding, non-skid step material located on both sides as low as practical, braced and permanently mounted both sides.
 - 9.8.3 Two (2) grab handles located on the front post.
 - 9.8.4 3/4 inch re-rod tarp rail mounted to bottom rub rail slope with adequate clearance between slope and re-rod from the front post to rear post (tarp rail) welded at each post.
 - 9.8.5 Shall be adequate gusset spacing between rub rail slope and re-rod**

9.9 Tailgate:

- 9.9.1 The tailgate to be hinged at top with flush mount, 1/2 inch flame cut tailgate pivots, one (1) inch pork chop type off-set hardware to achieve maximum opening of tailgate, **but shall have provision for pivoting at bottom.**
- 9.9.2 Top hinge channel should have removable, chain tethered keeper pins.
- 9.9.3 Latching action at bottom of gate should be 3/4 inch latch hooks with 3/8 inch latch plates operable by the truck driver without leaving the truck cab.
- 9.9.4 Gate to be self aligning
- 9.9.5 Tailgate upper and lower latch pins should be 1 1/4 inch diameter hot rolled.
- 9.10 The design and strength characteristics of the entire dump unit to be such that the unit structural members and the hoisting system will not suffer any deformation, damage, or structural failure resulting from raising a distributed full payload.
- 9.11 The location of the dump box pivot point in relation to the rear end of the truck frame and in relation to the rear lip of the box floor **shall be such that the horizontal distance from floor lip to the rear end of frame to be approximately 18 inches.**

9.12 Bumper:

- 9.12.1 The bumper to be formed out of 1/4 inch roll steel and weight approximately 10.20 lbs. per square foot
- 9.12.2 Bumper face to cover all of truck frame (approximately 12 inches) with two (2) flanges of approximately 2.25 inches top and bottom.
- 9.12.3 Bumper to be approximately 94 inches overall width.
- 9.12.4 Bumper to be straight across front from centerline of truck chassis approximately 21 inches each side of centerline, making bumper straight approximately 42 inches long in center with ends swept back approximately 30 degrees and approximately 27 inches each side.
- 9.12.5 Upper and lower flanges to be cut and welded solid at point where bumper is bent and ground off smooth.
- 9.12.6 Bumper to be mounted by two (2) mounting angles bolted to front of truck frame with two (2) 5/8 inch bolts each side.

- 9.12.7 Mount angle to be approximately 1/4 inch x 3 inches x 8 inches long with four (4) 5/8 inch holes
- 9.12.8 Front bumper to be painted Martin Senour Dark Blue #82-5802 or similar
- 9.13 Under Body Tool Box:
- 9.13.1 One (1) tool box to be mounted under body on right side frame rail
- 9.13.2 Tool box to be 18 inches high, 24 inches wide, 18 inches deep cradled by a heavy steel angle frame attached to the truck frame
- 9.13.3 Construction should be of 14 gauge minimum A-60 galvaneal steel with all seams welded**
- 9.13.4 Tool box to have a horizontal hinged fold down door
- 9.13.5 Tool box door should have cable or chain to hold the door in a horizontal position.
- 9.13.6 Tool box to have keyed latch of corrosion resistant hardware, automotive style weather stripping, and a drip rail over the door opening.
- 9.14 Load covering system to be electrically controlled:
- 9.14.1 Electirc motor assembly to include 12 volt direct drive motor with forward and reverse action, cab mounted control switch, resettable circuit breaker.
- 9.14.2 Pivot arm assembly should be constructed in a two (2) piece bent arm configuration of approximately 1 1/4 inch 14 gauge steel tubing.
- 9.14.3 Bent arm extensions to be constructed of minimum of one (1) inch 14 gauge steel tubing.**
- 9.14.4 Rear cross to be constructed of approximately 1 1/4 inch 14 gauge steel tubing.
- 9.14.5 Pivot arm rests to be included.
- 9.14.6 Underbody spring to be extension spring approximately 12 inches in length attached to base of pivot arm and of body with articulating spring mounting bracket.
- 9.14.7 All steel components to be finished with manufacturer's recommended rust preventative system to include a **minimum of adequate primer and paint.**
- 9.14.8 Load covering system to be provided with **minimum of 18 oz. black vinyl tarp to fit dump body.**

9.14.9 Load covering system shall be supplied with all necessary hardware and delivered to the West Virginia Division of Highways as a complete and operational unit.

9.15 Paint:

9.15.1 Dump body to be sandblasted and thoroughly degreased and cleaned prior to painting.

9.15.2 The dump body to be painted with one (1) coat of primer and two (2) coats of finish paint. Finish paint to be Martin Senour Dark Blue #82-5802 or similar. Dump box interior (payload area below rail height) need not be painted.

9.15.2.1 Front bumper: Martin Senour Dark Blue #82-5802 or similar (See drawing)

9.16 Detail/Decorative Stripes with Logo:

9.16.1 Tailgate and dump body sides to be outlined with red/silver pre-stripped conspicuity retroreflective weather resistant striping as specified at Sections 9.19.4 and 9.19.5. **Successful bidder shall consult with the WVDOH of proposed striping before review of pilot model.**

9.16.2 Bidder to describe proposed method of painting in the compliance report. Dump body, for specification location of handrails and handle, grip strut safety platforms, step and overall body characteristics.

9.16.3 WVDOH logo (to be supplied by WVDOH) is attached (black and white copy) and is approximately 7" tall by 7" wide. Area behind logo and within ½" of logo is not to be striped. Stripes should be cut to follow contour of logo, in lieu of straight cut. Striping shall be installed.

9.16.4 Striping material to meet the requirements of ASTM D4956-91 Type V sheeting, a super high-intensity retroreflective sheeting consisting of micropismatic retroreflective elements. **The conspicuity sheeting must meet the requirement of NHSTA, DOT, 49CFR, PART 571 Federal Motor Vehicle safety standards for conspicuity sheeting and be "DOT approved".**

9.16.5 The sheeting for both applications above should not exceed more than .008 inch thick having approximately 47,000 micropisms per square inch and shall come with an aggressive high tack pressure sensitive adhesive, Reflexite or equivalent.

9.16.6 Bidder should attach his proposed paint plan with this bid. It should include chips or samples of proposed paints as well as a proposed striping detail on a cab silhouette sheet. Bidder may modify attached striping plan to fit his particular hood or cab shape.

- 9.16.7 Striping as specified shall be installed by successful bidder.** Bidder should consult with the WVDOH representative on proposal for striping before pilot review.
- 9.17 Dump body shall include all other features considered as standard, but not specifically addressed above.**
- 9.18 Vendor must certify that unit offered will meet or exceed the "Occupational Safety and Health Act of 1970" and subsequent amendments.**

10.0 SPECIFICATIONS – CENTRAL HYDRAULIC SYSTEM

The central hydraulic system described herein is to be designed to operate the following: A front mounted telescopic dump body hoist cylinder, a hydraulically driven integrated salt and abrasive spreader system requiring the simultaneous operation of two (2) hydraulic motors in two (2) different modes with conveyor reverse, a double acting snowplow lifting cylinder, a snowplow power angle system, plow balance system, and an auxiliary equipment drive circuit. **Provisions shall be made for a future add-on hydraulic driven pre-wet system.**

Pre-wet system:

Supplied spreader control must contain the ability to control a closed loop pre-wet system. System must operate using a flow meter feedback circuit. Controller software must allow for adjustability of pre-wet output by the operator, represented in gallons per ton. Information related to pre-wet application rate and total flow in gallons must be displayed on the screen while the pre-wet system is active. (A second control unit in the cab dedicated to pre-wet operation is not acceptable.)

The central hydraulic system shall have a minimum two (2) year basic bumper to bumper parts and labor warranty included.

- 10.1 Pump System:**
- 10.1.1 Pump: Variable volume pressure compensated load sensing axial piston type.**
- 10.1.2 Front mounting flange and main housing/case to be of cast iron construction. Inlet and outlet port section to be of high strength ductile iron with SAE split flange or orb type porting.**

- 10.1.3 Suction port and associated plumbing shall be sized to allow for minimum inlet restriction between the pump and the suction port on the reservoir. Installation must comply with pump manufacturers allowable inlet condition specifications.
***Suction plumbing shall be equal to or greater than pump inlet or suction size.** Example: 32 size equals 2 inch fitting to the industry.
- 10.1.4 Pressure port to be of the SAE split flange or ORB type side mounted for direct bolt mounting of solenoid shut down valve assembly.
- 10.1.5 Case drain and load sense signal ports to be of the SAE O-ring type. Case drain line taken directly to tank without passing through the return line filter.
- 10.1.6 **Input shaft to have a minimum continuous torque rating equal to 200% of the imposed load when pump is operated at maximum engine rpm, maximum displacement and system pressure. Minimum SAE "C" keyed.**
- 10.1.7 Front input shaft bearing of the heavy duty ball or roller type designed for high axial and radial loading. Rear shaft bearing of the high speed and load sleeve type design. Bearings to be fully lubricated by flooded case oil.
- 10.1.8 Ramp/swashplate supported by pressure lubricated bearings of the rocker cam or saddle type for high piston load support. Ramp angle positioning by means of dual servo control cylinders for rapid pump response and precise pump output control.
- 10.1.9 Adjustable load sense and high pressure compensator control valve assembly of the full cartridge or of bolt-on housing design for ease of replacement and repair.
- 10.1.9.1 System design and components to provide flow, pressure and performance requirements stated herein with a **maximum operating load sense differential pressure of 300 PSI and a maximum standby pressure of 350 PSI for maximum efficiency.** If pilot control shifted valving is utilized in the system they are to be designed to be fully functional within this pressure range.
- 10.1.9.2 **High pressure compensator valve to be preset to limit the maximum pump output pressure to the maximum required operating pressure plus load sense differential and margin pressure to prevent premature de-stroking of ramp resulting in reduced or insufficient pump output.**

- 10.1.10 Pump Output:
- Shall be capable of providing hoist cylinder extension required**
- Part number MALHOIT CS-130-5.5-3 or equal – 9.9 gallons to fully extend
- 5 GPM flow rate – 120 seconds to raise
- 10 GPM flow rate – 60 seconds to raise
- 15 GPM flow rate – 40 seconds to raise
- 20 GPM flow rate – 30 seconds to raise
- 25 GPM flow rate – 24 seconds to raise
- 30 GPM flow rate – 20 seconds to raise
- 40 GPM flow rate – 15 seconds to raise
- 10.1.11 Reference Models: Rexroth A10VO Series 31, Parker P2 Series, Vickers PVH800 Discovery Series. These references are given to represent the overall quality of construction, design and performance of the pump to be supplied. It is the responsibility of the bidder to assure compliance with the written specifications herein.
- 10.1.12 **Name of manufacture and model number of proposed pump shall be submitted with bid documents.**
- 10.1.13 **Pump supplied shall be of a manufacture's standard product release and design.** Pump models proprietary to a specific bidder and/or OEM are not acceptable.
- 10.1.14 Pump driveline assembly to be of the keyed shaft design utilizing a 4 bolt driveshaft flange and matching drive yoke on the pump.
- 10.1.14.1 **Driveline to have a minimum continuous torque rating equal to 200% of the imposed load when pump is operating at maximum system requirements. Minimum Spicer 1310 series or equal.**
- 10.1.14.2 Dual journals and yokes to be incorporated to connect the pump shaft and engine drive flange with an angular misalignment no greater than six (6) degrees and not less than two (2) degrees.

- 10.2 Pump Shutdown System:
- 10.2.1 Normally closed, energize to open, solenoid operated control valve of the cartridge and manifold design to be directly bolted to pump pressure port. Solenoid electrical connection of the Packard "Weatherpack" type with "SO" cable wiring.
 - 10.2.2 Valve controlled by a console mounted "Master On" switch with pilot lamp for normal system operation and by a float switch located in hydraulic reservoir to automatically shut off pump pressure port flow to all down stream functions in the event of low hydraulic oil level.
 - 10.2.3 Pressure drop across valve not to exceed 40 PSI at 40 GPM flow when in the switched open position. Nominal valve rating of 50 GPM @ 3,500PSI.
 - 10.2.4 SAE #6 gauge port equipped with Parker Hannifin Model PD361 diagnostic coupling nipple and protective cap provided for pump output pressure testing to be installed in valve manifold and within an easily accessible mounting position.
 - 10.2.5 Valve to be designed to protect the pump from damage when the system is shut down at high pressure and flow operation.
 - 10.2.6 Name of manufacture and model number of proposed valve shall be submitted with bid documents.**
 - 10.2.7 Central control console mounted audio alarm and warning lamp indicating pump pressure/flow shutdown to be provided.
 - 10.2.8 The warning lamp to be a press-to-test light and incorporate a switching system into the automatic shutdown assembly to simulate low oil level, shut off pump output flow and test float switch wiring and connections.
 - 10.2.9 A console mounted electrical override function switch to be provided to allow momentary operation of hydraulic functions in emergency situations.
- 10.3 Directional Control Valve Assembly:
- 10.3.1 Valve to be of the stacked section type and of closed center circuit design.

- 10.3.2** Each work section to be pressure compensated with fully integrated load sense network. Flow output to be relative to spool travel with **preset maximum flow rate obtained at maximum spool stroke to provide feathering control of operated function.**
- 10.3.3 Dump body, snowplow lift and snowplow power angle sections to be of the manual cable shift type. Auxiliary circuit section to be of the electric solenoid shift type. Both ends of each section valve spool to be sealed with weather resistant caps or cable entry bonnets.
- 10.3.4** **Valve assembly flow capacity rating and pressure drop characteristics shall be sufficient to provide for the required pump output and circuit flow rates at the specified maximum load sense differential pressure settings.**
- 10.3.5 All valve ports to be of the SAE O-ring seal type and be of sufficient size to handle required section flow rates at stated load sense differential pressure.
- 10.3.6** **A priority section shall be installed to allow plow to raise in a system over demand situation.**
- 10.3.7 Main pressure inlet relief valve provided to reduce system pressure shock loads. To be preset at pressure so as not to interfere with pump pressure compensator and to prevent premature relief opening at system high demand operation.
- 10.3.8** **If pilot pressure reducing valve is required for solenoid section control, design shall meet operating requirements as set forth in section 10.1.9.1. Pilot supply and tank venting to be internal within the valve assembly sections.**
- 10.3.9 Load sense network high pressure relief provided and preset to limit system maximum operating pressure. Set point to provide proper pressure margin to pump pressure compensator and high pressure relief valve as to prevent premature loss of required flow rates and pressure capability.
- 10.3.10 SAE #6 gauge port equipped with Parker Hannifin PD361 diagnostic coupling nipple with protective cap for load sense testing to be installed in an easily accessible location.
- 10.3.11 Dump body control section to be 4-way three position spring centered cylinder spool for operation of a double acting hoist cylinder.

- 10.3.11.1 Full flow workport relief valve installed in power up port. Set point to prevent operating pressure from exceeding hoist cylinder normal operating pressure rating.
- 10.3.11.2 Full flow workport relief valve installed in the power down port, set at 500 PSI to prevent full system pressure on down stroke
- 10.3.12 Snowplow lift control section to be 4-way three position spring centered cylinder spool for operation of a double acting lift cylinder. (Thus, eliminating skip plowing.)
- 10.3.12.1 **Full flow workport relief valve preset at maximum required unlock pressure installed in power down workport. Workport relief valve also to be installed in power up workport if maximum system pressure output setting exceeds normal operating pressure limit of plow lift cylinder.** If three (3) way valve is provided for plow hoist circuit, a full flow work port relief will not be required for the plow lower circuit.
- 10.3.12.2 Adjustable flow control installed to limit downward speed of snowplow. Flow limiting control system preset for proper plow lift speed to be supplied to reduce over demand operation and to increase system efficiency. Flow limit to be determined at time of pilot model review.
- 10.3.13 Snowplow power angle control section to be 4-way three (3) position spring centered motor spool for operation of worm gear driven type reversing system.
- 10.3.13.1 Flow limiting control system preset for proper plow reversing speed to be supplied to reduce over demand operation and to increase system efficiency. Flow limit to be determined at time of pilot model review.
- 10.3.14 Plow Balance Valve:
- 10.3.14.1 **The hydraulic system shall be supplied with a plow balance valve**
- 10.3.14.2 **Valve shall be designed to offset a specific (adjustable) plow weight when activated.**

10.3.14.3 **Plow balance system must not alter the operation of any other hydraulic function** or have an adverse effect on the performance of other hydraulically operated equipment including:

Wing Plow
 Body Hoist
 Plow Hoist or Angle
 Spreader functions

All normal operations of the plow lift/lower functions shall be maintained without additional tasks.

10.3.14.4 **To guarantee safe operation of the vehicle, plow lift must be immediate.**

10.3.14.5 **If solenoid valve coils are used, then they shall have manual override capabilities if needed for continued use when coils fail.**

10.3.14.6 **Manifold valve shall include a pressure test point for use when checking balance pressures.**

10.3.14.7 **Pressure test point must be capable of tapping into the system at pressures of 5000 PSI.**

10.3.15 Auxiliary equipment drive circuit control section to be 3-way three position spring centered solenoid operated motor spool. This circuit to be separate and distinct from the spreader control system.

10.3.15.1 **Flow limiting control system preset to provide a maximum of 22 GPM at a system load pressure of 2200 PSI. Pump shall be capable of supplying this flow rate with engine speed of 1400 RPM.**

10.3.15.2 An inline mounted control valve may be supplied for this operation in place of directional control valve section. **If supplied, proper interconnections and venting of load sense network system shall be provided.**

10.3.15.3 Pressure line to be ¾" SAE 100R2 hose and manifold mounted at rear of chassis and equipped with Parker Hannifin SH6-62 quick disconnect coupler and protective metal plug. Mating nipple SH6-63 with protective cap to be supplied. Mounting location to be determined at time of pilot model review.

- 10.3.15.4 **Name of manufacture and model number of proposed directional and auxiliary circuit valves shall be submitted with bid documents.**
- 10.3.16 **Directional control valve assembly must be located in a combination tank/valve enclosure assembly to protect the hydraulic tank/valve from the elements.**
Reservoir (tank) to be approximately 40 gallon capacity.
- 10.3.17 Pre-Wet Circuit:
- 10.3.17.1 **A separate circuit shall be provided to control an add-on pre-wet system**
- 10.3.17.2 Hydraulic valve may be of the sectional type or of the cartridge style contained in a manifold.
- 10.3.17.3 **If a manifold type valve is to be supplied, it must be attached to the main valve assembly (not separate or “power beyond”).**
- 10.3.17.4 **All wiring to the pre-wet hydraulic circuit shall be provided as part of the system contained in this bid.**
- 10.3.17.5 **Wiring to the control console related to the rest of the pre-wet system (low level float, flow meter connection, etc.) shall be provided as part of the pre-wet package at the time of pre-wet system install (not as part of this bid).**
- 10.4 Spreader Control Valve Assembly:
- 10.4.1 Spinner and conveyor solenoid flow controls to be of the PWM proportional solenoid type and equipped with manual overrides. Overrides to be manually adjustable over operating flow range in the event of electrical system failure.
- 10.4.2 Flow control circuits to be pressure compensated and provide a spinner and pre-wet flow rate of 0-7 GPM and a conveyor flow rate of 0-15 GPM. **Pressure relief valve system shall limit circuits to a maximum of 2200 PSI.**
- 10.4.3 Load sense circuits to be connected to directional control valve network for proper pump control. **Design shall prevent improper high pressure load sense signal and pressure line loading when spreader valve is not in use and when spreader quick disconnects are uncoupled.**

- 10.4.4 PWM solenoid control supplied by microprocessor spreader control system. Solenoids to be capable of 100% PWM signal without failure.
- 10.4.5 Solenoid operated directional control valve and in-cab mounted electrical switch to operate spreader conveyor reverse required for front or rear material discharge selection to be provided.
- 10.4.6 Electrical switching and indicator light for spreader clogged indication to be provided.
- 10.4.7 **Name of manufacture and model number of proposed valve shall be submitted with bid documents.**
- 10.5 Spreader Control System:
 - 10.5.1 Dual flow, ground speed oriented spreader control system to be of the closed loop microprocessor based type with nonvolatile control memory.
 - 10.5.2 Automatic calibration and flexibility of programming are required.
 - 10.5.3 **System must be capable of operation in ground speed oriented closed loop conveyor feed back, open loop, manual set, blast and unload modes and be fully functional in both front and rear material discharge selection.**
 - 10.5.4 Automatic switchover with display indication from closed loop to open loop operation in the event of loss of feed rate sensor signal to be provided.
 - 10.5.5 Control console digital readouts to be capable of displaying actual application rate, vehicle ground speed, distance of spread route driven and total quantity of material spread.
 - 10.5.6 Programming and output cable connection for material and trip information printer and program uploading to be provided.
 - 10.5.7 Control unit to be capable of accumulating such display information up to 999,999 miles and 999,999 tons of discharged material.
 - 10.5.8 Console programming to be capable of selection, calibration and display of four (4) separate spread materials with independent application rates of each material capable of being set to fixed rates or **to rate increments of a preset maximum application rate.**
 - 10.5.9 A variable digital access code lockout for application rate selection and for system operating parameters to be provided. A key switch will be acceptable.

- 10.5.10 **Backlighted switches and LCD screen shall be utilized for on-board programming and for display readout and application rate selection.**
- 10.5.11 **Material spread width to be selectable by no less than a ten (10) position switch with minimum and maximum spinner speed totally programmable through entire flow range. Spinner speed shall be capable of linking to ground speed for on-off control.**
- 10.5.12 **Display must enunciate error message and sound audio alarm when microprocessor system detects any loss of control or accuracy.**
- 10.5.13 **System shall be fully functional at time of delivery.**
- 10.5.14 Truck speed sensor to be compatible with type of speedometer drive system \ supplied on chassis.
- 10.5.15 A built-in ground speed simulator to be provided either internal to the control or located in the control console.
- 10.5.16 **All components required for proper installation and operation of control system onto truck and spreader units must be supplied.**
- 10.5.17 **Name of manufacture and model number of proposed control system shall be submitted with bid documents.**
- 10.6 Central Control Console:
- 10.6.1 To be mounted between seats within easy access of the driver.
- 10.6.1.1 Warning light (bed raised) to be control console mounted
- 10.6.2 **All wiring, valve control cables and electrical harness entry into cab and console shall be sealed with grommets.**
- 10.6.3 Remote control valve levers to be console mounted. All levers to be clearly marked as to their function and operation.
- 10.6.3.1 Remote control levers to operate push-pull type cables with 250” diameter stainless steel rod ends.
- 10.6.3.2 Inner cable member to be 18-8 stainless steel armor wrapped construction with a low resistance nylon liner and polyethylene covered tempered steel wire conduit.

- 10.6.3.3 **Cable to valve connection shall be of the weather resistant bonneted type.**
- 10.6.3.4 **Hoist control lever must be OSHA 1926.601(b)(11) compliant (Hoist interlock).**
- 10.6.4 Central control console or dash mounted rocker switches with indicator lamps to be provided for strobe lights, spreader light and plow lights isolated from all hydraulic system control circuits.
- 10.6.4.1 All interconnections and cables to be installed and ready for operation.
- 10.6.4.2 Hydraulic system automatic shutdown system and control switching to be relay controlled.
- 10.6.4.3 Relay(s) to be mounted within the cab.
- 10.6.4.4 An access plate to internal wiring to be provided.
- 10.7 Hydraulic Reservoir and Valve Enclosure Assembly
:
- 10.7.1 Tank/valve enclosure to be flex mounted to the chassis frame rail.
- 10.7.2 **Tank to be constructed of seven (7) gauge 304 stainless steel minimum.**
- 10.7.3 Tank equipped with a combination oil level sight glass and thermometer.
- 10.7.4 Tank to be equipped with a ten (10) micron filler/breather cap with removable five hundred (500) micron strainer.
- 10.7.5 An internal steel baffle to be provided within the tank.
- 10.7.6 **Tank to be stenciled (letters minimum 1 ½ “ high) “Hydraulic Oil”**
- 10.7.7 Tank level switch connection to be “SO” type wiring and mounted within the tank/valve enclosure to protect it from the elements
- 10.7.8 **Pump supply suction port to be minimum 2” NPT and system return port a minimum 1 ¼” NPT.**
- 10.8 Filtration:
- 10.8.1 Manufacturers standard filtration to adequately protect the hydraulic system from damage

- 10.8.2 Return line filter to be isolated from reservoir by a full flow non-restrictive type quarter turn brass ball valve if filter is not installed in the reservoir.
- 10.8.3 Each filter to be equipped with a differential pressure switch to indicate filter clogged condition by means of a console mounted indicator lamp.
- 10.8.4 **One (1) extra replacement filter for each assembly shall be provided for each truck.**
- 10.8.5 Filter assemblies to be positioned as close to reservoir as possible and in an easily accessible service location.
- 10.9 Hoses and Fittings:
- 10.9.1 Each hose assembly (hose with hose ends), except for suction hose, to be fitted with JIC swivel connections on ends where connection to system component is made.
- 10.9.2 All pressure line hoses are to meet or exceed SAE Specification 100R2 and to be equal to Gates high pressure hose, type C2AT for sizes up to and including 1" ID.
- 10.9.3 Suction hose to be 2" nominal ID and meet SAE Specification 100R4, braided fiber, spiral wire reinforced, rubber covered hose with replaceable bolt-on type fittings.
- 10.9.4 All hydraulic hoses to be fully cleaned on interior, installed and ready for operation.
- 10.9.5 Grommets to be used when routing hoses through steel bracketing or frame members. (Refer 10.9.6)
- 10.9.6 **Snap-Tite quick disconnects (manifold mounted) shall be supplied for the forward and rear spinner 1/2 inch pressure and return lines.** Use of iron or galvanized iron pipe for fittings and connectors is not acceptable.
- 10.9.7 All fittings and connectors to be of the steel type designed for high pressure hydraulic system use.
- 10.9.8 Pipe thread ported components and connectors to be used only when the specific component is not available with SAE or JIC porting.
- 10.9.9 All pipe thread connectors used are to be coated with liquid Teflon pipe sealer prior to assembly. Use of Teflon tape is not acceptable.

- 10.9.10 Hoses run to the front of truck chassis for snowplow functions to be manifold mounted behind the front bumper with sufficient access for pump service and snowplow hitch installation. Successful vendor should contact WVDOH representative for location prior to pilot model review.
- 10.9.11 Snowplow lines to equipped with complete ½ inch “VH” series Snap-tite quick disconnects (coupler and nipple to be supplied) and metal caps and plugs.
- 10.10 **Any items not specifically stated herein but necessary for proper system installation and operation shall be supplied and shall comply with recommended hydraulic industry standards.**
- 10.11 **Vendor shall be responsible for initial servicing and pre-testing of hydraulic system which includes the following:**
- 10.11.1 Initial fill of reservoir with a high grade 32AW hydraulic fluid to approximately forty (40) gallon level, to be marked on sight glass.
- 10.11.2 Start-up and initial run of hydraulic system, checking for leaks, excessive heat, system efficiency, etc. Vendor will be responsible for replacing any defective component. Vendor will not be responsible for initial test of plow circuits if equipment is not available to do so; however, vendor will be responsible for any defects discovered at time of plow installation.
- 10.11.3 Refill reservoir to the forty (40) gallon operating level.
- 10.12 Any hydraulic lines located within 10” of exhaust system to be metal lines and insulated.
- 10.13 **Detailed component specifications, product literature, system component layout drawing with bill of materials and full functional hydraulic system schematics, in accordance with JIC and ANSI-Y32 format, shall be submitted with bid documents.**
- 10.14 **Successful vendor shall provide WVDOH with complete list of all filters required for normal maintenance on proposed unit.**
- 10.15 **With each purchase order, a minimum of three (3) one (1) day training sessions covering the operation, maintenance, trouble shooting and calibration/programming of the hydraulic system and spreader controls to be provided by the successful bidder at an Equipment Division facility.**

NOTE: Vendors should type
Bidder's Evaluation
Report

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION

BIDDER'S EVALUATION REPORT I

PROCUREMENT SPECIFICATIONS FOR OPEN END CONTRACT
NO. 377-2-E

OPEN END CONTRACT
62,000 GVW CAB AND CHASSIS, DUMP BODY, AND HYDRAULIC SYSTEM

NOTE TO BIDDER: Procurement Specification No. 377-2-E, Paragraph 2.0 recommends the completion and submittal of this Report with your bid. Purpose of this Report is to enable the West Virginia Division of Highways Evaluation Committee to make full and fair evaluation of the bid. Addendums in order, along with a summary of exception as a separate attachment, should be with Bidder's Evaluation Report. FAILURE TO SUBMIT THIS REPORT, COMPLETE IN ITS ENTIRETY, MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

Reference Requisition No.: _____

Bidder's Name: _____

Address: _____

Telephone Number: _____

Years Bidder has been registered to do business with the State of West Virginia: _____ YRS.

Years Company has been an authorized dealer for proposed unit: _____ YRS.

X3.2 Have you complied with all mandatory specifications? _____ YES _____ NO

X4.2 DELIVERY:

X4.2.1 Delivery date of completed representative unit: _____ Calendar Days After
Receipt of Purchase Agreement

X4.2.2 Delivery date of balance of completed units: _____ Calendar Days After Receipt of
Purchase Agreement

NOTE: Vendors can complete Bidder's Evaluation Report at Purchasing's Web Site
www.state.wv.us/admin/purchase

X5.0 AWARD CRITERIA;

X5.1 Prices for units:

1-25 _____ per unit

26-50 _____ per unit

51 and over _____ per unit

X6.0 SPECIFICATIONS - GENERAL

X6.1 Manufacturer, model, series, and date of manufacture of proposed unit:

Is descriptive literature, fully describing proposed unit attached to your bid? _____ YES _____ NO

If not, why? _____

X6.2 Will the required number of service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon upon completion of delivery of total units?

_____ YES _____ NO

Will the required Equipment Preventive Maintenance Form (Section X6.2 of Bidders Evaluation Report) be provided upon inspection of the pilot unit? _____ YES _____ NO

X6.2
2-10-00

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY OF PILOT MODEL TO THE WVD0H.

DESCRIPTION: _____ MAKE: _____

MODEL: _____ YEAR: _____ PURCHASE AMOUNT: _____

ENGINE: MAKE: _____ MODEL: _____ FUEL TYPE: _____

HORSEPOWER: _____ CYLINDER: _____ ENGINE SERIAL: _____

COOLING SYSTEM CAPACITY: _____

BELTS: DESCRIPTION: _____ PART NUMBERS: _____

GVW: _____ AXLE CAPACITY: FRONT: _____ REAR: _____

TIRES: FRONT MAKE & SIZE: _____

REAR MAKE & SIZE: _____

DIMENSIONS OF UNIT: LENGTH: _____ WIDTH: _____ LENGTH: _____

VENDOR CONTACT PERSON: _____ PHONE: _____

PARTS:

BATTERY MAKE: _____ MODEL: _____ CCA: _____

TOP OR SIDE POST: _____ DIMENSIONS: LENGTH _____ WIDTH _____ HEIGHT _____

SPARK PLUGS OR FUEL INJECTORS MAKE: _____ PART # _____

FUEL PUMP OR INJECTION PUMP MAKE: _____ MODEL: _____

ALTERNATOR MAKE: _____ PART #: _____

STARTER MAKE: _____ PART #: _____

TURBO CHARGER MAKE: _____ PART #: _____

TRANS. MAKE: _____ MODEL: _____ AUTO/MANUAL: _____

HYDRAULIC PUMP MAKE: _____ MODEL: _____

FILTERS	MAKE	PART NO.	LUBRICANT	MANUFACTURER TYPE
OIL	_____	_____	ENGINE	_____
AIR INNER	_____	_____	TRANSMISSION	_____
AIR OUTER	_____	_____	POWER STEERING	_____
FUEL PRIMARY	_____	_____	HYDRAULIC	_____
FUEL SECONDARY	_____	_____	DIFFERENTIALS	_____
COOLANT	_____	_____	BRAKE FLUID	_____
HYDRAULIC	_____	_____	COOLANT	_____
OTHER	_____	_____	OTHER	_____

X6.3 TRAINING:

Will training seminar be conducted on Preventive Maintenance, Operator and Mechanic Training _____ YES _____ NO

Will you conduct training with each purchase order against this open end contract? _____ YES _____ NO

Will training be conducted within 2 working days from the delivery of the pilot unit on the individual purchase order? _____ YES _____ NO

If NO, explain time frame _____

Will an Operator's Manual be furnished directly to Training Academy prior to the delivery of the pilot? _____ YES _____ NO

X6.4 If you are the successful vendor, will you furnish all training aids, i.e., videos, projectors, required in conducting the training? _____ YES _____ NO

X6.4.1 Will all manuals, booklets, etc. explaining preventive maintenance, operator procedures, and service schedule be delivered with each unit? _____ YES _____ NO

If NO, explain _____

X6.5 WARRANTY AND SERVICE POLICY

Will the warranty and service you provide comply with all areas as stated in Section 6.5 of specifications _____ YES _____ NO

Is warranty literature attached? _____ YES _____ NO

Is a minimum two (2) year bumper to bumper basic parts and labor warranty excluding abuse and normal wear items included? _____ YES _____ NO

Describe:

Engine: _____

X6.5 WARRANTY AND SERVICE POLICY QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY AND SUBMITTED WITH YOUR BID.

(If additional lines are needed, make copies of form.)

1. Define the terms of the standard warranty. If not offered, so state. (Attach copy)

2. Define warranty service to be performed at DOH facilities and warranty service to be performed at manufacturer's representative facility. List name and location of manufacturer's representative.

3. List locations for parts inventories that are within the State of West Virginia. Also, list availability levels, if known.

4. During the term of warranty, list the guarantee discount to manufacturer's published list price for parts that bidder will sell the parts to owner.

- A. Terms: Net 30 Manufacturer's published list price less: _____ % discount
- B. Terms: Net 60 Manufacturer's published list price less: _____ % discount
- C. Terms: Net 90 Manufacturer's published list price less: _____ % discount

5. During the term of warranty, will all manufacturers or engineering improvements be submitted to Division of Highways? _____ YES _____ NO

6. During the term of warranty, list the guaranteed rates charged for repair to the unit.

A. Shop Rate \$ _____ per mechanic hour

B. Travel Time Charge \$ _____ per mechanic hour
(Specify if one-way) _____; port to port _____

C. Mileage Charge \$ _____ per vehicle mile
(Specify if one-way) _____; port to port _____

D. Field Mechanic Rate \$ _____ per mechanic hour

E. Specify period of time that prices are in effect: _____

F. Surcharge for miscellaneous items: _____ %

X6.6 EVALUATION COMMITTEE REQUIREMENTS

Is all component specifications, product literature, component models provided for Evaluation Committee bid determination? _____ YES _____ NO

X6.7 Will all parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, be furnished with the unit and conform in strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry? _____ YES _____ NO

X6.7.1 Are all parts and accessories adequate and regularly supplied as standard to be included except those which may be duplications of specifications herein, and except these by specification are not to be furnished? _____ YES _____ NO

X6.7.2 Are all standard safety features that are required by Federal and State statutes of law included? _____ YES _____ NO

X7.0 SPECIFICATIONS OF THE QUOTED UNIT

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

X8.0 SPECIFICATIONS - CAB & CHASSIS

Manufacturer: _____ Model: _____

X8.1 GVWR rating: _____ lbs.

X8.2 Cab to axle dimension: _____ inches usable

X8.2.1 After frame length _____ inches

X8.3 Wheelbase: _____ inches

X8.3.1 Are the wheelbase and CA dimensions adjusted to provide optimum legal weight distribution _____ YES _____ NO

X8.3.2 Bumper to back of cab: _____ inches dimension excluding frame extension

- X8.4 Frame: Will the manufacturer provide a frame that meets or exceeds all Federal requirements for GVWR specified that extends forward beyond the grille a minimum of 14 inches. _____ YES _____ NO**
- X8.4.1 Frame material: _____ PSI yield strength
Is frame extension "parent rail" material _____ YES _____ NO**
- X8.4.2 R.B.M. _____ Ins./Lb. Per rail
Have you submitted shop drawings pertaining to frame construction and frame extension _____ YES _____ NO**
- X8.4.2.1 Where engine and radiator adjustments are required _____ in lb. per rail (RBM)**
- X8.4.3 Main frame and any required liners straight channel _____ YES _____ NO
Or offset channel _____ YES _____ NO full length**
- X8.4.4 Is minimum frame RBM approved by manufacturers Engineering Department _____ YES _____ NO**
- X8.4.5 Does front frame accommodate the Department's standard hydraulic PTO shaft and pump, and the plow frame _____ YES _____ NO**
- X8.4.5.1 Easy service accessibility _____ YES _____ NO**
- X8.5 Cab: Is cab manufacturers standard steel and/or fiberglass _____ YES _____ NO
Is hood tilt hood and fenders either steel and/or fiberglass and provided with rear air bag suspension _____ YES _____ NO**
- X8.5.1 Cab door locks, both doors, keyed alike _____ YES _____ NO**
- X8.5.2 Dual sun visors _____ YES _____ NO**
- X8.5.3 Arm rests, both sides _____ YES _____ NO**
- X8.5.4 Seats: Fully adjustable air ride high back with head rest, cloth covered both left hand and right hand sides _____ YES _____ NO**
- Clearance between seats: _____ inches**
- X8.5.5 Floor Mats: Rubber floor mats throughout cab area with non-absorbent backing under the mats _____ YES _____ NO**
- X8.5.6 Turn Signals: Manufacturers standard with hazard warning switch _____ YES _____ NO**

- X8.5.7 Heater and defroster: Fresh air type, heaviest duty YES NO
- X8.5.8 Windshield wipers and washers: Manufacturer's heaviest duty with intermittent feature with manufacturers largest reservoir filled with antifreeze type solvent YES NO
- X8.5.9 Instruments: All instruments dash mounted except where specified YES NO
- X8.5.9.1 Coolant, oil pressure gauges, to have both dial type readout and either an audible or visual alarm to warn operator when safe operating conditions are exceeded YES NO
- X8.5.9.2 Voltmeter or ammeter YES NO
- X8.5.9.3 Engine RPM tachometer YES NO
- X8.5.9.4 Speedometer with odometer YES NO
- X8.5.9.4.1 Provisions for dual speedometer leads made available**
 YES **NO**
- X8.5.9.5 Primary air pressure gauge YES NO
- X8.5.9.6 Auxiliary air pressure gauge YES NO
- X8.5.9.7 Air filter manufacturers heaviest duty dual element type that meets all requirements of extended engine warranty YES NO
- X8.5.9.7.1 Air intake system fitted with inside/outside air; actuated by "air" valve YES NO
- X8.5.9.8 If unit is equipped with front air intake, is a cable control valve to enable operator to divert air intake to engine compartment during plowing application provided**
 YES **NO**
- X8.5.9.9 Air filter restriction indicator gauge dash mounted** **YES** **NO**
- X8.5.9.10 Engine hourmeter (controlled by engine operation, not by key switch) YES NO
- X8.5.9.11 Fuel level reading YES NO
- X8.5.9.12 Parking brake to be dash controlled with indicator light YES NO

- X8.5.9.13 Is the sound/weather insulation package the manufacturer's best for proposed cab
 _____ YES _____ NO
- X8.5.9.14 Outside temperature control with in cab digital read out and accomplished
 without use of mirrors _____ YES _____ NO**
- X8.5.10 Rearview Mirrors:
 X8.5.10.1 Mirrors are West Coast type power adjustable with convex spot mirror
 _____ YES _____ NO
 Size: _____
- X8.5.10.2 Both mirrors heated type with stainless steel _____ YES _____ NO or
 aluminum _____ YES _____ NO hardware, heads, and fasteners
- X8.5.11 Grab Handle: Right hand and left hand sides of cab, rear of door opening
 _____ YES _____ NO
- X8.5.12 Air horns, with snow shields, cab mounted with adequate clearance for future
 installation of body cab shield _____ YES _____ NO
- X8.5.13 Unit includes lockable hand operated throttle control or electronic control for idle
 up and idle down for hydraulic flow rate _____ YES _____ NO
- X8.5.14 Manufacturer will provide for stationary grille or grille with cutout area to allow tilt
 hood to clear snow plow mount _____ YES _____ NO
- Stone/gravel guard provided _____ YES _____ NO
- X8.5.15 Air conditioning: Manufacturers standard package for model bid. "APADS" to
 specified air condition system _____ YES _____ NO
- X8.5.16 Radio: AM/FM stereo with weatherband radio feature _____ YES _____ NO
- X8.5.17 Glass: Manufacturers tinted safety glass (all locations) _____ YES _____ NO
- X8.5.17.1 Dual power windows _____ YES _____ NO
- X8.5.18 Manufacturers engine cover or dash mounted extended two (2) cup drink holder
 _____ YES _____ NO
- X8.5.19 Front mudflaps manufacturers standard for unit _____ YES _____ NO
- X8.5.20 Emergency triangle warning kit, with hold down fastened in cab
 _____ YES _____ NO
- Manufacturers: _____ Part No. _____

X8.5.21 Manufacturers tilt steering column with cruise control feature or provide locking hand operated throttle steering wheel _____ inches diameter _____ YES _____ NO

X8.5.22 Fire extinguisher - rechargeable with vehicle mount. Mounted in cab for easy and quick access _____ YES _____ NO

Manufacturer: _____ Part No. _____

X8.5.23 Accessories not indicated above but advertised as standard equipment provided _____ YES _____ NO

X8.5.24 If successful vendor, will you provide complete list of all filters required for normal maintenance _____ YES _____ NO

X8.6 Engine: Engine manufacturer will make provisions for front mounted hydraulic pump to crankshaft pulley _____ YES _____ NO

X8.6.1.1 Diesel Engine:

HP: _____ Peak torque: _____ lbs. ft.

Manufacturer: _____ Model: _____ Liter: _____

X8.6.1.2 1500 watt in block engine heater _____ YES _____ NO

X8.6.1.2.1 One piece and waterproof electrical cable from heater to plug, location - left side under driver door _____ YES _____ NO

X8.6.1.3 In line fuel heater with thermostatically controlled by pass maintain #2 diesel fuel temperature above cloud point before diesel fuel passes through the filter _____ YES _____ NO

Manufacturer: _____ Model: _____

X8.6.1.3.1 Is engine fuel system equipped with primer pump _____ YES _____ NO

X8.6.1.4 Exhaust:

X8.6.1.4.1 Single vertical exhaust pipe with underbody muffler that will meet all Federal noise abatement requirements; exhaust to the passenger (right) side of unit _____ YES _____ NO

X8.6.1.4.2 Tail pipe shielded or insulated to protect personnel from burns when entering or exiting the cab YES NO

Shield 180 degrees to 360 degrees and of non-rustable material such as stainless steel or aluminum YES NO

Manufacturer: _____

X8.6.1.4.3 Exhaust pipe with rain cap or exhaust turn out YES NO

X8.6.2 Engine Brake:

Manufacturer: _____ Model: _____

X8.6.3 Engine components facing wheel areas, on both sides, and areas to the rear of wheels shielded by means of rubber skirts supported by easily removable steel rods YES NO

X8.7 Cooling System: The cooling system capable of maintaining engine temperature within the manufacturer's recommended range during continuous operation YES NO

X8.7.1 The system incorporates a thermostat and bypass for warm up and filled with permanent OAT type extended life or equal antifreeze rated to a -30 degree F or lower YES NO

X8.7.2 Is the largest factory available engine cooling capacity compatible with engines and transmission referenced and for continuous high engine output under extreme temperatures and/or operating conditions due to prolonged snow plowing operations in low gears YES NO

X8.7.3 Unit is fitted with provisions for visually monitoring coolant with necessitating removal of the cap from the radiator or expansion tank YES NO

X8.7.4 Radiator mounting provides adequate clearance to facilitate the installation of a crankshaft driven PTO drive shaft YES NO

X8.7.5 The distance between the extreme tip of the radiator fan blade and the centerline of the crankshaft _____ inches to insure adequate clearance for PTO drive shaft

X8.7.6 Radiator screen guard to protect radiator from foreign objects YES NO

X8.8 Fuel Tank:

X8.8.1 Safety type aluminum fuel tanks per requirements of FMVSS YES NO

- X8.8.2 Single aluminum fuel tanks: YES NO Capacity (usable) _____ US gallons
 Frame mounted YES NO
- X8.8.3 Driver and passenger entrance steps - grated self cleaning safety step _____ YES _____ NO
- X8.8.3.1 All edges banded on the outer perimeter _____ YES _____ NO
- X8.8.3.2 Top of first step _____ inches above ground
- X8.8.4 System top draw and top return line _____ YES _____ NO
- X8.9 Electrical System:
- X8.9.1 Type: Manufacturer's 12 volt negative ground system with manufacturers radio interference suppression _____ YES _____ NO
- X8.9.1.1 Circuit breaker equipped in easily accessible location, weatherproof _____ YES _____ NO
- X8.9.2 Four (4) heavy duty, 12 volt batteries, maintenance free _____ YES _____ NO
- X8.9.2.1 Reserve capacity: _____ minutes at 80 degrees F
- X8.9.2.2 Cold Crank AMPS: _____ total at 0 degrees F
- X8.9.3 Alternator capacity: _____ AMP with internal regulator _____ YES _____ NO
- X8.9.4 Wiring: Heavy duty hypalon type in heavy duty sheathing, bundled with lacing cords or non metallic tie straps _____ YES _____ NO
- X8.9.5 **Lighting: Provisions made available for all required lighting on completed unit (Number, location, and color) to conform to WVMV Code** _____ YES _____ NO
- X8.9.6 Auxiliary snow plow/salt spreader lighting package:
- X8.9.6.1 **Provisions in left rear back of cab for manufacturers approved wiring and weather proof disconnect plug to operate the following lights on truck mounted chemical spreader** _____ YES _____ NO
- Manufacturer and model:** _____
1. One sealed beam flood lamp _____ YES _____ NO
2. Left and right combination brake/turn and tail lights _____ YES _____ NO
3. One strobe warning light _____ YES _____ NO

X8.9.7 Provisions are made for manufacture approved wiring and weatherproof disconnect plug in line six (6) pin connector with approximately three (3) foot "pigtail" to operate combination left and right turn/park lights/auxiliary headlights _____ YES _____ NO

Manufacturer and model: _____

X8.9.7.1 Provisions for weatherproof disconnect plug located at lower left front grille-bumper area _____ YES _____ NO

All wiring connections weatherproof with wiring encased in wire looms
_____ YES _____ NO

X8.9.7.2 7-way trailer connection light socket mounted at rear of truck frame
_____ YES _____ NO

Manufacturer and model: _____

X8.10 Power Train Overview:

Lubricants for front axle hubs and differentials, manual transmission, transfer cases, and all rear differentials meet or exceed all appropriate MIL and SAE specifications for synthetic lubricants and have all plugs identified as synthetic or painted red _____ YES _____ NO

X8.10.1 Transmission: _____
Manufacturer transmission oil cooler _____ YES _____ NO

X8.10.1.1 Does transmission torque capacity meet specified engine torque
_____ YES _____ NO

X8.11 Driveline:

X8.11.1 **Manufacturer:** _____ **Model:** _____

X8.12 Rear Axle:

X8.12.1 **Manufacturer:** _____ **Model:** _____

X8.12.2 Unit equipped with four (4) wheel dual reduction with inner axle power divider
_____ YES _____ NO

X8.12.3 Ratio: Does gear ratio allow vehicles to be capable of a top speed of 70 MPH
_____ YES _____ NO

X8.12.4 Specify housing type _____

X8.12.5 Rear wheel seals: _____

X8.12.6 Drain plug, magnetic _____ YES _____ NO

X8.13 Front Suspension:

X8.13.1 Capacity at ground each front spring: _____ lbs.; total spring capacity _____ lbs.

X8.13.2 Front spring pins or bearings/bushing furnished with 360 degree grease grooves to insure adequate lubricant penetration _____ YES _____ NO

X8.13.3 Spring hangers heavy castings with sufficient pin and bearing surface to render trouble free service _____ YES _____ NO

X8.14 Rear Suspension:

Manufacturer: _____ Model: _____

X8.15 Front Axle:

X8.15.1 Capacity: _____ lbs.

X8.15.1.1 Front axle, drag links, and tie rods have grease zerks installed _____ YES _____ NO

X8.15.2 Heavy duty shock absorbers _____ YES _____ NO

X8.15.3 Front wheel seals oil lubricated type _____ YES _____ NO
Manufacturers: _____

X8.15.4 Adequate tire clearance at maximum turning angles _____ YES _____ NO

X8.16 Brakes:

X8.16.1 Type: Full air, with manufacturers ABS in compliance with most current FMVSS requirements _____ YES _____ NO

X8.16.2 Compressor:

Manufacturer: _____ Model: _____ Cubic ft. _____

X8.16.3 Service Brake Size:

X8.16.3.1 Front: _____ inch x _____ inch
S Cam _____ YES _____ NO or power front disc brake system _____ YES _____ NO

- X8.16.3.2 Quick change type single YES NO or double anchor pin if drum type brakes are furnished YES NO
- X8.16.3.3 Rear: _____ inch x _____ inch
S cam with quick change type single YES NO or double pin YES NO
- X8.16.4 Drum brakes have automatic slack adjusters and clearance sensing type only, with adjustment on application of brake YES NO
- X8.16.5 Parking Brake: Rear wheel spring type YES NO
Manufacturer: _____ Model: _____ - severe service spring brakes
- X8.16.5.1 Parking brake provides modulated emergency braking via the foot valve in the event of a rear service system failure YES NO
- X8.16.6 Air dryer with heater above road surface: _____ inches**
Manufacturer: _____ Model: _____ with spin on desiccant cartridge
 YES NO
- X8.16.6.1 All electrical connectors for drain valve and air dryer covered with heat shrink material or have sealed connections YES NO
- X8.16.7 Manufacturer's standard air tanks for service brakes; auxiliary tank for parking brake YES NO
- X8.16.8 Low air pressure warning light and buzzer YES NO
- X8.16.9 Rear service brake chambers and spring brake chambers mounted to provide adequate clearance for tire chains and backing into bituminous paving machines YES NO
- X8.16.10 Brake dust covers installed on all wheels YES NO
- X8.16.11 Unit equipped with hand control valve, tractor protection valve, with provisions for installation of glad hands at rear of truck to enable unit to pull air brake operated equipment trailer YES NO
- X8.17 Tires and Wheels:
- X8.17.1 Is truck equipped with hub piloted steel disc wheels for tubeless tires**
 YES NO

X8.17.2 Wheel end equipped with outboard cast brake drums, and 15 degree tubeless steel wheels, hub piloted, 10 hole - 285.75mm bolt circle with 22mm two piece flange nuts
 _____ YES _____ NO

X8.17.3 Front:

X8.17.3.1 Wheels:

Size: _____

10 hole - 285.75mm bolt circle with 220mm bore _____ YES _____ NO

Tubeless steel disc wheel rated at 10,000 lbs. at a **maximum inflation pressure of 130 PSIG**
 _____ YES _____ NO

Manufacturer: _____ Part No. _____

X8.17.3.2 Tires:

Size: _____ Ply: _____

X8.17.4 Rear:

X8.17.4.1 Wheels:

Size: _____

10 hole - 285.75mm bolt circle with 220mm bore _____ YES _____ NO

Tubeless steel disc wheel rated at 7500 lbs. at a **maximum inflation pressure of 120 PSIG**
 _____ YES _____ NO

Manufacturer: _____ Part No. _____

X8.17.4.2 Tires:

Size: _____

X8.17.4.3 Does the dual rear wheel/tire assembly have clearance between the tires, which permits the use of dual tire chains
 _____ YES _____ NO

X8.17.5 Wheel guard Separators _____ YES _____ NO

X8.17.6 Tires: radials _____ YES _____ NO

Manufacturer: _____ Front Tire: _____

Manufacturer: _____ Rear Tire: _____

X8.18 Steering:

X8.18.1 Power steering: Dual integral _____ YES _____ NO or
 single integral type _____ YES _____ NO hydraulic power steering with right wheel
 power assist cylinder _____ YES _____ NO

X8.18.2 Steering system:

Manufacturer: _____ Model: _____

X8.18.3 Hydraulic supply pump:
 Vane type YES NO or roller type YES NO with sufficient oil flow to permit one (1) steering wheel revolution per second with front axle loaded to rated capacity with plow on, in a "park" condition YES NO

Manufacturer: _____ Model: _____

X8.18.4 Is the pump the integral filter type unit YES NO

X8.18.5 Power steering reservoir: Remote mounted YES NO

Capacity: _____ qt. incorporating a filter which is easy to remove and replace
 YES NO

X8.18.6 The remote filter factory mounted, certified, and engineering approved in conjunction with the appropriate pump YES NO

X8.19 All features advertised by manufacturer as "standard features" provided if not specifically addressed within YES NO

X8.20 Paint:

X8.20.1 Cab exterior and interior color: _____

X8.20.2 Grille: _____

X8.20.3 Wheel paint: _____

X8.20.4 Describe proposed method of painting and prepping:

X8.21 Detail/Decorative Stripes with Logo:

X8.21.1 Width: _____ inches

X8.21.2 Will you comply with WVDOH logo area YES NO

X8.21.3 Does conspicuity striping material provided meet requirements of **Section 8.21.3** through 8.21.8 of specification section? YES NO

X8.22 Does unit offered meet or exceed "Occupational Safety and Health Act of 1970" YES NO

X8.23 Does unit conform to the advertising guidelines YES NO

X8.24 Preventive Maintenance

X8.24.1 Will a preventative maintenance and operator's training seminar be provided
_____ YES _____ NO

X8.24.2 Will booklets and pamphlets be furnished to be used by the operators
_____ YES _____ NO

**X8.24.3 Will you furnish all training aids; i.e. videos, projectors, etc. required in
conducting the training _____ YES _____ NO**

X9.0 SPECIFICATIONS OF THE DUMP BODY

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

Bidder: _____

Address: _____

Telephone Number: _____

Years company has been an authorized dealer for proposed unit: _____ years

Manufacturer, model, series, and date of manufacture of proposed Dump body:

Is descriptive literature full describing proposed dump body attached to your bid proposal? _____ YES _____ NO

If NO, refer to specification statement Section 6.6

When will required number of operating manuals, service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon? _____ prior to deliver of unit or _____

X9.0.1 Water Level of dump body: _____ cu yd

X9.0.2 Will side board pockets and tailgate height provide additional capacities of 2-5 cu. yd.
_____ YES _____ NO

- X9.0.3 Front body bulkhead: _____ inch AR400 steel _____ PSI yield strength
- X9.0.4 Are rear corner posts full depth one-piece construction from the top of tailgate to bottom of rear bolster _____ YES _____ NO
- X9.0.5 Is rear bolster one piece full depth and full width _____ YES _____ NO
- X9.0.6 Are spreader strap retainers adequately welded on both sides _____ YES _____ NO
- X9.0.7 Does cab shield have built in tarp deflector, full width of body having sufficient clearance to ensure shield will not hit exhaust when dumping on uneven terrain _____ YES _____ NO
- X9.0.8 Are there two (2) front frame mounted tow hooks or eyes _____ YES _____ NO
- X9.1 Dimensions:
- X9.1.1 Inside length of body: _____ inches
- X9.1.2 Inside width: _____ inches
- X9.1.3 Outside width: _____ inches at rub rail
- X9.1.4 Basic side height: _____ inches (measure from floor to top rail)
- X9.1.5 Tailgate height: _____ inches (measure from floor to top rail)
- X9.1.6 Body overhang: _____ inches (measure from center of hinge pin)
- X9.1.7 Cab protector: _____ inches with adequate clearance for cab mounted air horns
- X9.1.8 Is cab protector sloped rearward for drainage purposes _____ YES _____ NO
- X9.2 Construction of the dump bed sides, front, head, and tailgate constructed with a the following minimums _____ YES _____ NO
- X9.2.1 Floor: _____ inch AR400 _____ PSI yield strength steel with _____ inch radius built into floor, all one piece
- X9.2.2 Sides: _____ Gauge AR400 _____ PSI yield strength steel thickness
- X9.2.3 Tailgate Plate: _____ inch AR400 _____ PSI yield strength steel
- X9.2.4 Top Rail: _____ inch thickness

X9.2.5 Bottom Rail: _____ inch thickness

X9.2.6 Cab Protector: _____ Gauge

X9.2.7 Longitudinal: _____ inch/_____ lb.ft. I beam

X9.3 Are all the weldings inside the dump body continuous _____ YES _____ NO

Are all rails and posts continuous welded and completely closed _____ YES _____ NO

X9.3.1 The corner posts are _____ gauge Grade _____ , _____ inch x _____ inch full depth tied to _____ inch formed channel rear apron

Is this joint further reinforced with a 1/4 inch plate that helps prevent flexing and strengthens latch assembly _____ YES _____ NO

X9.3.2 Cab protector sides, formed with gussets extend forward _____ inches.

Clearance above highest point of cab _____ inches

X9.3.3 Is there one (1) horizontal side brace, weld on, dirt shedding sloped side brace connected to front and rear corner posts _____ YES _____ NO

X9.3.4 Are all seams welded solid except crossmembers _____ YES _____ NO

X9.4 Hydraulic hoist :

Telescopic hoist _____ YES _____ NO Internal dog house _____ YES _____ NO of _____ inches

X9.4.1 Trunnion mount to bottom of dump body, not top of doghouse _____ YES _____ NO

X9.4.2 NTEA rating: Class _____ double acting with 26 ton capacity _____ YES _____ NO

X9.4.2 Is the hoist of the cross head sleeve twin side lift arms and links design for stability _____ YES _____ NO

X9.4.3 Is the single hoist cylinder trunnion mount _____ YES _____ NO

- X9.4.4 Does the hoist cylinder have three (3) stages YES NO with
 inches of stroke with five (5) inch diameter stage at bottom
 YES NO
 Manufacturer and part number: _____
- X9.4.5 Does the cylinder have wear and corrosion resistant nitrided cylinder tubes
 YES NO
- X9.4.6 Cylinder warranty year
- X9.4.7 Does a five (5) degree oscillating cylinder collar protect the cylinder against
 inside stress with replaceable greaseless composite bushings at collar pivots
 YES NO
- X9.4.8 Does the body have 6 inch x 8 inch x 1/2 inch structural angle rear hinge
 assembly installed in the truck chassis frame YES NO
- X9.4.9 Are there two (2) inch 303 stainless steel hinge pins connecting to 2 1/2 inch
 hinge blocks using replaceable greaseless composite bushings for a minimal pin-
 to-bushing clearance YES NO
- X9.5 Features shall be included:
- X9.5.1 Warning light (bed raised) dash or console mounted YES NO
- X9.5.2 Hydraulic oil level reading YES NO
- X9.5.3 Safety decals as required YES NO
- X9.5.4 Mud guards permanently attached in front of rear wheels YES NO
 Gauge x inches x inches
 Will you align exhaust stack for bed clearance YES NO
- X9.5.5 Shovel bracket YES NO
- X9.5.6 Are gussets for 2 inch x 6 inch lumber (rough) located at front and rear posts
 and mid-rail 2 inch x 6 inch (rough) oak sideboards supplied and bolted through
 gussets YES NO
 Painted to match dump body YES NO

X9.5.7 Air operated tailgate latches are pancake type tailgate release valve _____ YES _____ NO

Manufacturer and model: _____
With spring-over-center latch and pivot points include stainless steel bushings to reduce seizing _____ YES _____ NO

X9.5.8 Outside steps on both sides of front of bed _____ YES _____ NO

X9.5.9 Self cleaning safety platform non-skid material located on both sides of dump body _____ YES _____ NO

X9.5.10 OSHA approved backup alarm, electronic ambient, adjusts to background noise, 112 dba shock mounted at rear _____ YES _____ NO

X9.5.10.1 OSHA approved body support, both sides _____ YES _____ NO

X9.5.11 Slope outside of bottom red rail _____ YES _____ NO

X9.5.12 Is unit equipped with 49,000 lb. capacity pintle hook centered between rear frame rails _____ YES _____ NO

Manufacturer: _____ **Part No.:** _____

Is height from ground level to center line of pintle "eye" 32 inches _____ YES _____ NO

X9.5.13 Is air deflector hood mounted, blue or smoke _____ YES _____ NO

Is deflector manufacturers standard width for truck made _____ YES _____ NO

Is access to front end hood tilt handle avoided _____ YES _____ NO

X9.6 Lighting: Weather/shock resistant marker lights, LED type with average amp draw between .045-.72 _____ YES _____ NO **Manufacturer:** _____

Do all connections have sure snap plug assemblies and epoxy sealed electronics to protect against shock and vibration _____ YES _____ NO

X9.6.1 Are marker lights 2 1/2 inch diameter flush mounted sealed beam lights with integral reflector mounted in rubber base _____ YES _____ NO

X9.6.2 Are all ground wires attached with plated steel fasteners _____ YES _____ NO

- X9.6.3 Are rear lights shock mounted, recessed oval stop, tail, turn, and recessed oval backup lights mounted in back post _____ YES _____ NO
 Are strobe lights marked and switched from dash board location _____ YES _____ NO
- X9.6.4 Are center rear I.D. Lights three (3) located in truck chassis _____ YES _____ NO
- X9.6.5 Are there two (2) amber oval L.E.D. strobe lights mounted at front corners of the cab protector _____ YES _____ NO
 Are there two (2) amber oval L.E.D. strobe lights mounted at each outside corner of the cab protector _____ YES _____ NO
 Are strobe lights marked and switched at dash board location _____ YES _____ NO
 Manufacturer: _____ Part No. _____
Are oval cutouts precut by dump body manufacturer _____ YES _____ NO
- X9.6.6 Auxiliary headlights for snow plowing application shock mounted on fender of unit _____ YES _____ NO
 Manufacturer: _____ Part No. _____
- X9.6.7 Are there two (2) oval amber L.E.D. strobe lights mounted at top of rear corner posts right and left sides _____ YES _____ NO
 Are they switched in combination with cab protector strobe _____ YES _____ NO
 Manufacturer: _____ Model: _____
Are oval cutouts precut by dump body manufacturer _____ YES _____ NO
- X9.6.8 Angled hydraulic fittings are mounted above the lights, and the vertical apron is cut out above the frame to facilitate their placement _____ YES _____ NO
- X9.6.9 Two (2) front frame mounted tow hooks _____ YES _____ NO
- X9.6.10 Lighted license plate bracket _____ YES _____ NO
- X9.7 Does a full length dirt shedding rub rail extend along each side of the body, sufficient to cover the rear wheels _____ YES _____ NO

X9.8 The following should be at the front of both sides of the body on posts:

X9.8.1 Tread plate step YES NO

X9.8.2 Strap type ladder, dirt shedding, non-skid material, both sides as low as practical, braced and permanently mounted both sides YES NO

X9.8.3 Two grab handles located on the front post YES NO

X9.8.4 3/4 inch re-rod tarp rail mounted to bottom rub rail slope with adequate clearance between slope and re-rod from the front post to rear post (tarp rail) welded at each post YES NO

X9.8.5 Is there adequate gusset spacing between rub rail slope and re-rod
 YES NO

X9.9 Tailgate:

X9.9.1 Tailgate hinged at top with flush mount, 1/2 inch flame cut pivots, one (1) inch pork chop type off-set hardware to achieve maximum opening of tailgate, **but have provisions for pivoting at bottom** YES NO

X9.9.2 Top hinge channel with removable, chain tethered keeper pins YES NO

X9.9.3 Latching action at bottom of gate is 3/4 inch latch hooks with 3/8 inch latch plates operable by the truck driver without leaving the truck cab YES NO

X9.9.4 Gate self-aligning YES NO

X9.9.5 Tailgate upper and lower latch pins 1 1/4 inch diameter hot rolled YES NO

X9.10 The design and strength characteristics of the entire dump such that the unit structural members and the hoisting system suffers no deformation, damage, or structural failure resulting from raising a distributed full payload YES NO

X9.11 The location of the dump box pivot point in relation to the rear end of the truck frame and in relation to the rear lip of the box floor **such that the horizontal distance from floor lip to the rear end of the frame is 18 inches** YES NO

X9.12 Bumper

X9.12.1 The bumper is formed out of 1/4 inch roll steel YES NO

Weight: _____ lbs. per square foot

- X9.12.2 Bumper face to cover all of truck frame (_____ inches) with two (2) flanges _____ inches top and bottom _____ YES _____ NO
- X9.12.3 Bumper overall width: _____ inches
- X9.12.4 Bumper is straight across front from centerline of truck chassis _____ inches each side of centerline, making bumper straight _____ inches long in center with ends swept back _____ degrees and _____ inches each side _____ YES _____ NO
- X9.12.5 Upper and lower flanges cut and welded solid at point where bumper is bent and ground off smooth _____ YES _____ NO
- X9.12.6 Bumper mounted by two (2) mounting angles bolted to front of truck frame with two (2) 5/8 inch bolts each side _____ YES _____ NO
- X9.12.7 Mount angle _____ inches x _____ inches x _____ inches long with four (4) 5/8 inch holes
- X9.12.8 Front bumper paint: _____
- X9.13 Under Body Tool Box:
- X9.13.1 One (1) tool box mounted under body on right side frame rail _____ YES _____ NO
- X9.13.2 Tool box _____ inches high _____ inches wide _____ inches deep cradles by a heavy steel angle frame attached to the truck frame _____ YES _____ NO
- X9.13.3 Construction of _____ gauge A-60 galvaneal steel with all seams welded _____ YES _____ NO**
- X9.13.4 Tool box has a horizontal hinged fold down door _____ YES _____ NO
- X9.13.5 Tool box door has cable or chain to hold the door in a horizontal position _____ YES _____ NO
- X9.13.6 Tool box has keyed latch of corrosion resistant hardware, automotive style weather stripping, and a drip rail over the door opening _____ YES _____ NO
- X9.14 Load covering system electrically controlled: _____ YES _____ NO
- X9.14.1 Does electric motor assembly include 12 volt direct drive motor with forward and reverse action, cab mounted control switch, resettable circuit breaker _____ YES _____ NO
- X9.14.2 Pivot arm assembly constructed in a two (2) piece bent arm configuration of _____ inch _____ gauge steel tubing

- X9.14.3 Bent arm extensions constructed of _____ inch _____ gauge steel tubing
- X9.14.4 Rear cross constructed of _____ inch _____ gauge steel tubing
- X9.14.5 Pivot arm rests included _____ YES _____ NO
- X9.14.6 Underbody spring extension spring _____ inches in length attached to base of pivot arm and of body with articulating spring mounting bracket _____ YES _____ NO
- X9.14.7 All steel components finished with manufacturer's recommended rust preventative system to include a **minimum of adequate primer and paint** _____ YES _____ NO
- X9.14.8 Load covering system provided with _____ oz black vinyl tarp to fit dump body _____ YES _____ NO
- X9.14.9 Load covering system supplied with all necessary hardware and delivered to the WVDOH as a complete and operational unit _____ YES _____ NO

X9.15 Paint:

X9.15.1 - 9.15.2.1 Describe proposed method of painting: _____

X9.16 Detail/Decorative Stripes with Logo.
 Will striping and detailing you provide comply with requirements of **Section 9.16.1** through **9.16.7** _____ YES _____ NO

X9.17 Other standard features:
 List other standard features offered and not addressed above:

X9.18 Does the proposed unit meet or exceed the "OSHA OF 1970" and/or subsequent changes _____ YES _____ NO

X10.0 SECTION THREE - CENTRAL HYDRAULIC SYSTEM

Reference Requisition No. on request for proposal:

Bidder's Name: _____

Address: _____

Telephone Number: _____

Years Company has been an authorized dealer for proposed unit: _____ YRS

Manufacturer, model, series, and date of manufacture of proposed Hydraulic System:

Is descriptive literature, fully describing proposed system attached to your bid proposal? _____ YES _____ NO

If NO, refer to specification statement Section 7.5

When will required number of operating manuals, service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon? _____ prior to delivery of unit or _____

Will hydraulic system be designed to operate a front mounted telescopic dump body hoist cylinder, a hydraulically driven integrated salt and abrasive spreader requiring the simultaneous operation of 2 hydraulic motors in 2 different modes with conveyor reverse, a double acting snowplow lifting cylinder, a snowplow power angle system, plow balance system, and an auxiliary equipment drive circuit _____ YES _____ NO

Are provisions made for future add-on hydraulic driven pre-wet system
_____ YES _____ NO

Pre-wet system:
Will supplied spreader control contain the ability to control a closed loop pre-wet system. _____ YES _____ NO

Will system operate using a flow meter feedback circuit _____ YES _____ NO

Will controller software allow for adjustability of pre-wet output by the operator, represented in gallons per ton _____ YES _____ NO

Will information related to pre-wet application rate and total flow in gallons be displayed on the screen while the pre-wet system is active. _____ YES _____ NO

Central hydraulic system warranty: _____

X10.1 Pump System:

X10.1.1 Is pump variable volume pressure compensated load sensing axial piston type _____ YES _____ NO

X10.1.2 Are the front mounting flange and main housing/case of cast iron construction _____ YES _____ NO

Are the inlet and outlet port section of high strength ductile iron with SAE split flange or orb type porting _____ YES _____ NO

X10.1.3 Is suction port and associated plumbing sized to allow for minimum inlet restriction between the pump and the suction port on the reservoir _____ YES _____ NO

Does installation comply with pump manufacturers allowable inlet condition specifications _____ YES _____ NO

Is suction plumbing equal to or greater than pump inlet or suction size _____ YES _____ NO

X10.1.4 Is pressure port of the SAE split flange or ORB type side mounted for direct bolt mounting of solenoid shut down valve assembly _____ YES _____ NO

X10.1.5 Are case drain and load sense signal ports of the SAE o-ring type _____ YES _____ NO

Is case drain line taken directly to tank without passing through the return line filter _____ YES _____ NO

X10.1.6 Does the input shaft have a minimum continuous torque rating equal to 200% of the imposed load when pump is operated at maximum engine rpm, maximum displacement and system pressure _____ YES _____ NO

Is it minimum SAE "C" keyed _____ YES _____ NO

X10.1.7 Is front shaft bearing of the heavy duty ball ___ or roller type ___ designed for high axial and radial loading _____ YES _____ NO

Is rear shaft bearing of high speed and load sleeve type design _____ YES _____ NO

Are bearings fully lubricated by flooded case oil _____ YES _____ NO

X10.1.8 Is ramp/swashplate supported by pressure lubricated bearings of rocker cam ___ or Saddle type _____ for high piston load support _____ YES _____ NO

Is ramp angle positioning by means of dual servo control cylinders for rapid pump response and precise pump output control _____ YES _____ NO

X10.1.9 Is adjustable load sense and high pressure compensator control valve assembly of the full cartridge ___ or of bolt-on housing design _____ for ease of replacement and repair _____ YES _____ NO

X10.1.9.1 System is designed and components to provide flow, pressure, and performance requirements as stated with operating load sense differential pressure of 300 PSI and a maximum standby pressure of 350 PSI for maximum efficiency _____ YES _____ NO

Is pilot control shifted valving utilized in the system _____ YES _____ NO
 Are they designed to be fully functional within this pressure Range _____ YES _____ NO

X10.1.9.2 Is high pressure compensator valve preset to limit the maximum pump output pressure to the maximum required operating pressure plus sense differential and margin pressure prevent premature de-stroking of ramp resulting in reduced or insufficient pump output _____ YES _____ NO

X10.1.10 Pump Output:
Is it capable of providing hoist cylinder extension required _____ YES _____ NO

Manufacturer and part number: _____

_____ gallons to fully extend

- 5 GPM flow rate _____ seconds to raise
- 10 GPM flow rate _____ seconds to raise
- 15 GPM flow rate _____ seconds to raise
- 20 GPM flow rate _____ seconds to raise
- 25 GPM flow rate _____ seconds to raise
- 30 GPM flow rate _____ seconds to raise
- 40 GPM flow rate _____ seconds to raise

X10.1.11 Is the pump you are supplying of overall quality of construction, design, and Performance _____ YES _____ NO

X10.1.12 Pump Manufacturer and model: _____

X10.1.13 Is pump of a manufacturer's standard product release and design _____ YES _____ NO

X10.1.14 Is pump driveline assembly of the keyed shaft design utilizing a 4 bolt driveshaft flange and matching drive yoke on the pump _____ YES _____ NO

X10.1.14.1 Does driveline have a minimum continuous torque rating equal to 200% of the imposed load when pump is operating at maximum system requirements _____ YES _____ NO

Manufacturer and model: _____

X10.1.14.2 Are dual journals and yokes incorporated to connect the pump shaft and engine drive flange with an angular misalignment no greater than six (6) degrees and not less than two (2) degrees _____ YES _____ NO

X10.2 Pump Shutdown System:

X10.2.1 Is the normally closed, energized to open, solenoid operated control valve of the cartridge and manifold design to be directly bolted to pump pressure port _____ YES _____ NO
Is solenoid electrical connection of the Packard "Weatherpack" type with "SO" cable Wiring _____ YES _____ NO

X10.2.2 Is it valve controlled by a console mounted "Master On" switch with pilot lamp for normal system operation and by a float switch located in hydraulic reservoir to automatically shut off pump pressure port flow to all down stream functions in the event of low hydraulic oil level _____ YES _____ NO

X10.2.3 Pressure drop across valve _____ PSI at _____ GPM flow when in the switched open position
Nominal valve rating of _____ GPM @ _____ PSI

X10.2.4 Is SAE #6 gauge port equipped with Parker Hannifin Model PD361 diagnostic coupling nipple and protective cap provided for pump output pressure testing to be installed in valve manifold and within an easily accessible mounting position _____ YES _____ NO

X10.2.5 Is valve designed to protect the pump for damage when system is shut down at high pressure and flow operation _____ YES _____ NO

- X10.2.6 Valve Manufacturer and model:** _____
- X10.2.7 Is central control console mounted audio alarm and warning lamp indicating pump pressure/flow shutdown provided _____ YES _____ NO
- X10.2.8 Is warning lamp a press-to-test and incorporate a switching system into the automatic shutdown assembly to simulate low oil level, shut off pump output flow and test float switch wiring and connections _____ YES _____ NO
- X10.2.9 Is a console mounted electrical override function switch provided to allow momentary operation of hydraulic functions in emergency situations _____ YES _____ NO
- X10.3 Directional Control Valve Assembly:
- X10.3.1 Is valve stacked section type and of closed center circuit design _____ YES _____ NO
- X10.3.2 Is each work section pressure compensated with fully integrated load sense network _____ YES _____ NO
- Is flow output relative to spool travel with **preset maximum flow rate obtained at maximum spool stroke to provide feathering control of operated function** _____ YES _____ NO
- X10.3.3 Are dump body, snowplow lift and snowplow power angle sections of the manual cable shift type _____ YES _____ NO
- Is auxiliary circuit section of the electric solenoid shift type _____ YES _____ NO
- Are both ends of each section valve spool sealed with weather resistant caps or cable entry bonnets _____ YES _____ NO
- X10.3.4 Is valve assembly flow capacity rating and pressure drop characteristics sufficient to provide for the required pump output and circuit flow rates at the specified maximum load sense differential pressure settings** _____ YES _____ NO
- X10.3.5 Are all valve ports of the SAE o-ring seal type and of sufficient size to handle required section flow rates at stated load sense differential pressure _____ YES _____ NO
- X10.3.6 Is a priority section installed to allow plow to raise in a system over demand Situation** _____ YES _____ NO

X10.3.7 Is a main pressure inlet relief valve provided to reduce system pressure shock loads
 _____ YES _____ NO

Is it preset at pressure so as not to interfere with pump pressure compensator and to prevent premature relief opening at system high demand operation

_____ YES _____ NO

X10.3.8 Is pilot pressure reducing valve required for solenoid section control
 _____ YES _____ NO

Is it designed to meet operating requirements as set forth in Section 10.1.9.1

_____ YES _____ NO

Is pilot supply and tank venting internal within the valve assembly sections

_____ YES _____ NO

X10.3.9 Is load sense network high pressure relief provided and preset to limit system maximum operating pressure
 _____ YES _____ NO

Will set point provide proper pressure margin to pump pressure compensator and high pressure relief valve as to prevent premature loss of required flow rates and pressure capability

_____ YES _____ NO

X10.3.10 Is SAE #6 gauge port equipped with Parker Hannifin PD361 diagnostic coupling nipple with protective cap for load sense testing installed in an easily accessible location
 _____ YES _____ NO

X10.3.11 Is dump body control section 4-way three position spring centered cylinder spool for operation of a double acting hoist cylinder
 _____ YES _____ NO

X10.3.11.1 Is full flow workport relief valve installed in power up port _____ YES _____ NO

Will set point prevent operating pressure from exceeding hoist cylinder normal operating pressure rating

_____ YES _____ NO

X10.3.11.2 Is full flow workport relief valve installed in the power down port, set at 500 PSI to prevent full system pressure on down stroke
 _____ YES _____ NO

X10.3.12 Is snowplow lift control section 4-way three position spring centered cylinder spool for operation of a double acting lift cylinder
 _____ YES _____ NO

X10.3.12.1 Is full flow workport relief valve preset at maximum required unlock pressure installed in power down workport
 _____ YES _____ NO

Is workport relief valve installed in power up workport if maximum system pressure output setting exceeds normal operating pressure limit of plow lift cylinder _____ YES _____ NO

Is three (3) way valve provided for plow hoist circuit _____ YES _____ NO

Is a full flow work port relief provided for plow lower circuit _____ YES _____ NO

X10.3.12.2 Is an adjustable flow control installed to limit downward speed of snowplow _____ YES _____ NO

Is flow limiting control system preset for proper plow lift speed supplied to reduce over demand operation and to increase system efficiency _____ YES _____ NO

X10.3.13 Is snowplow power angle control section 4-way three (3) position spring centered motor spool for operation of worm gear driven type reversing system _____ YES _____ NO

X10.3.13.1 Is flow limiting control system preset for proper plow reversing speed supplied to reduce over demand operation and to increase system efficiency _____ YES _____ NO

X10.3.14 Plow Balance Valve:

X10.3.14.1 Is hydraulic system supplied with a plow balance valve _____ YES _____ NO

X10.3.14.2 Is valve designed to offset a specific (adjustable) plow weight when activated _____ YES _____ NO

X10.3.14.3 Does plow balance system alter the operation of any other hydraulic function or have an adverse effect on the performance of other hydraulically operated equipment including:

Wing Plow _____ YES _____ NO

Body Hoist _____ YES _____ NO

Plow Hoist or Angle _____ YES _____ NO

Spreader functions _____ YES _____ NO

Will all normal operations of the plow lift/lower functions be maintained without additional tasks _____ YES _____ NO

X10.3.14.4 Is plow lift immediate to guarantee safe operation of vehicle _____ YES _____ NO

X10.3.14.5 Are solenoid valve coils used _____ YES _____ NO
 Do they have manual override capabilities if needed for continued use when
 coils fail _____ YES _____ NO

X10.3.14.6 Does manifold valve include a pressure test point for use when checking
 balance pressures _____ YES _____ NO

X10.3.14.7 Is pressure test point capable of tapping into system at pressures of 5000 PSI
 _____ YES _____ NO

X10.3.15 Is auxiliary equipment drive circuit control section 3-way three position spring
 centered solenoid operated motor spool _____ YES _____ NO

Is this circuit separate and distinct from spreader control system _____ YES _____ NO

X10.3.15.1 Is flow limiting control system preset to provide a maximum of 22 GPM at a
 system load pressure of 2200 PSI _____ YES _____ NO

Is pump capable of supplying this flow rate with engine speed of 1400 RPM
 _____ YES _____ NO

X10.3.15.2 Is an inline mounted control valve supplied for this operation in place of
 directional control valve section _____ YES _____ NO

Is it supplied _____ YES _____ NO

Are proper interconnections and venting of load sense network system
 Provided _____ YES _____ NO

X10.3.15.3 Is pressure line 3/4" SAE100R2 hose and manifold mounted at rear of chassis and
 equipped with Parker Hannifin SH6-62 quick disconnect coupler and protective
 metal plug _____ YES _____ NO

Is mating nipple SH6-63 with protective cap supplied _____ YES _____ NO

X10.3.15.4 Directional and auxiliary circuit valves Manufacturer and model:

X10.3.16 Is directional control valve assembly located in a combination tank/valve
 enclosure assembly to protect the hydraulic tank/valve from elements
 _____ YES _____ NO

Reservoir (tank): _____ gallon capacity

X10.3.17 Pre-Wet Circuit:

- X10.3.17.1** Is a separate circuit provided to control an add-on pre-wet system
 YES NO
- X10.3.17.2 Is a hydraulic valve of the section type ___ or of the cartridge style ___
 Contained in a manifold
- X10.3.17.3** Is a manifold type valve supplied YES NO
 Is it attached to the main valve assembly YES NO
- X10.3.17.4** Is all wiring to the pre-wet hydraulic circuit provided as part of the system
 YES NO
- X10.3.17.5** Is wiring to the control console related to the rest of the pre-wet system
 provided as part of the pre-wet package at the time of pre-wet system
 installation YES NO

X10.4 Spreader Control Valve Assembly:

- X10.4.1 Are spinner and conveyor solenoid flow controls of the PWM proportional solenoid
 type and equipped with manual overrides YES NO
- Are overrides manually adjustable over operating flow range in the event of electrical
 system failure YES NO
- X10.4.2 Are flow control circuits pressure compensated and provide a spinner and pre-wet
 flow rate of 0-7 GPM and a conveyor flow rate of 0-15 GPM
 YES NO
- Pressure relief valve system limit circuits to _____ PSI**
- X10.4.3 Are load sense circuits connected to directional control valve network for proper
 pump control YES NO
- Does design prevent improper high pressure load sense signal and pressure line
 loading when spreader valve is not in use and when spreader quick disconnects
 are uncoupled YES NO**
- X10.4.4 Is PWM solenoid control supplied by microprocessor spreader control system
 YES NO
- Are solenoids capable of 100% PWM signal without failure YES NO

X10.4.5 Is solenoid operated directional control valve and in-cab mounted electrical switch to operate spreader conveyor reverse required for front or rear material discharge selection provided YES NO

X10.4.6 Are electrical switching and indicator light for spreader clogged indication provided YES NO

X10.4.7 Proposed valve Manufacturer and model: _____

X10.5 Spreader Control System:

X10.5.1 Is dual flow, ground speed oriented spreader control system of the closed loop microprocessor based type with nonvolatile control memory YES NO

X10.5.2 Is programming automatic calibration and flexibility YES NO

X10.5.3 Is system capable of operation in ground speed oriented closed loop conveyor feed back, open loop, manual set, blast and unload modes and fully functional in both front and rear material discharge selection YES NO

X10.5.4 Is automatic switchover with display indication from closed loop to open loop operation in the event of loss of feed rate sensor signal provided YES NO

X10.5.5 Are control console digital readouts capable of displaying actual application rate, vehicle ground speed, distance of spread route driven and total quantity of material spread YES NO

X10.5.6 Are programming and output cable connection for material and trip information printer and program uploading provided YES NO

X10.5.7 Is control unit capable of accumulating such display information up to 999,999 miles and 999,999 tons of discharged material YES NO

X10.5.8 Is console programming capable of selection, calibration and display of four (4) separate spread materials with independent application rates of each material capable of being set to fixed rates or **to rate increments of a preset maximum application rate** YES NO

X10.5.9 Is a variable digital access code lockout for application rate selection and for system operating parameters provided YES NO

X10.5.10 Are backlighted switches and LCD screen utilized for on-board programming and for display readout and application rate selection YES NO

X10.5.11 Is material spread width selectable by no less than a ten (10) position switch with minimum and maximum spinner speed totally programmable through entire flow range. YES NO

Is spinner speed capable of linking to ground speed for on-off control YES NO

X10.5.12 Does display enunciate error message and sound audio alarm when microprocessor system detects any loss of control or accuracy YES NO

X10.5.13 Will system be fully functional at time of delivery YES NO

X10.5.14 Will truck speed sensor be compatible with type of speedometer drive system supplied on chassis YES NO

X10.5.15 Will a built-in ground speed simulator be provided either internal to the control or located in the control console YES NO

X10.5.16 Will all components required for proper installation and operation of control system onto truck and spreader units be supplied YES NO

X10.5.17 Control System Manufacturer and model: _____

X10.6 Central Control Console:

X10.6.1 Mounted between seats within easy access of driver YES NO

X10.6.1.1 Warning light (bed raised) control console mounted YES NO

X10.6.2 Is all wiring, valve control cables, and electrical harness entry into cab and console sealed with grommets YES NO

X10.6.3 Are remote control valve levers console mounted YES NO

Are all levers clearly marked as to their function and operation YES NO

X10.6.3.1 Are remote control levers to operate push-pull type cables with .250" diameter stainless steel rod ends YES NO

X10.6.3.2 Is inner cable member 18-8 stainless steel armor wrapped construction with a low resistance nylon liner and polyethylene covered tempered steel wire conduit YES NO

X10.6.3.3 Is cable to valve connection of the weather resistant bonneted type _____ YES _____ NO

X10.6.3.4 Is the hoist control lever OSHA 1926.601(b)(11) compliant _____ YES _____ NO

X10.6.4 Is central control console ___ or dash mounted rocker switches with indicator lamps ___ provided for strobe lights, spreader light, and plow lights isolated from all hydraulic system control circuits _____ YES _____ NO

X10.6.4.1 Are all interconnections and cables installed and ready for operation _____ YES _____ NO

X10.6.4.2 Is hydraulic system automatic shutdown system and control switching relay Controlled _____ YES _____ NO

X10.6.4.3 Are relay(s) mounted within the cab _____ YES _____ NO

X10.6.4.4 Is an access plate to internal wiring provided _____ YES _____ NO

X10.7 Hydraulic Reservoir and Valve Enclosure Assembly:

X10.7.1 Is tank/valve enclosure flex mounted to the chassis frame rail _____ YES _____ NO

X10.7.2 Tank construction: _____

X10.7.3 Is tank equipped with a combination oil level sight glass and thermometer _____ YES _____ NO

X10.7.4 Is tank equipped with a ten (10) micron filler/breather cap with removable five hundred (500) micron strainer _____ YES _____ NO

X10.7.5 Is an internal steel baffle provided within tank _____ YES _____ NO

X10.7.6 Size of stenciling on tank "Hydraulic Oil": _____ inches high

X10.7.7 Is tank level switch connection "SO" type wiring and mounted within the tank/valve enclosure to protect it from elements _____ YES _____ NO

X10.7.8 Pump supply suction port _____ inch NPT and system return port _____ inch NPT

X10.8 Filtration:

- X10.8.1 Is filtration manufacturers standard to adequately protect the hydraulic system from Damage YES NO
- X10.8.2 Is return line filter isolated from reservoir by a full flow non-restrictive type quarter turn brass ball valve if filter is not installed in reservoir YES NO
- X10.8.3 Is each filter equipped with a differential pressure switch to indicate filter clogged condition by means of a console mounted indicator lamp YES NO
- X10.8.4 Is one (1) extra replacement filter for each assembly provided for each truck YES NO**
- X10.8.5 Are filter assemblies positioned as close to reservoir as possible and in an easily accessible service location YES NO
- X10.9 Hoses and Fittings:
- X10.9.1 Is each hose assembly, except for suction hose, fitted with JIC swivel connectors on ends where connection to system component is made YES NO
- X10.9.2 Do all pressure line hoses meet or exceed SAE Specification 100R2 and equal to Gates high pressure hose, type C2AT for sizes up to and including 1"ID YES NO
- X10.9.3 Is suction hose 2" nominal ID SAE Specification 100R4, braided fiber, spiral wire reinforced, rubber covered hose with replaceable bolt-on type fittings YES NO
- X10.9.4 Are all hydraulic hoses fully cleaned on interior, installed and ready for operation YES NO
- X10.9.5 Are grommets used when routing hoses through steel bracketing or frame members YES NO
- X10.9.6 Are Snap-Tite quick disconnects (manifold mounted) supplied for the forward and rear spinner 1/2 inch pressure and return lines YES NO**
- X10.9.7 Are all fittings and connectors steel type designed for high pressure hydraulic system YES NO
- X10.9.8 Were pipe thread ported components and connectors used only when the specific component is not available with SAE or JIC Porting YES NO

X10.9.9 Were all pipe thread connectors coated with liquid teflon pipe sealer before assembly?
 _____ YES _____ NO

X10.9.10 Are the hoses run to the front of truck chassis for snowplow functions manifold mounted behind the front bumper with sufficient access for pump assembly service and snowplow hitch installation
 _____ YES _____ NO

X10.9.11 Are lines equipped with complete 1/2"VH" series Snap-Tite quick disconnects, metal caps and plugs
 _____ YES _____ NO

X10.10 Other Standard Features: _____

X10.11 Initial servicing and pretesting:

X10.11.1 Initial fill of reservoir with high grade 32AW hydraulic fluid 40 gallon level marked on sight glass
 _____ YES _____ NO

X10.11.2 Start up and initial run of hydraulic system, checking for leaks, excess heat, system efficiency
 _____ YES _____ NO

Will you replace any defective component
 _____ YES _____ NO

You will be responsible for any defects discovered at the time of installation of spreader and plow
 _____ YES _____ NO

X10.12 Are hydraulic lines located within 10" of exhaust system metal lines _____ YES _____ NO

X10.12 If successful vendor, will you provide WVDOH with complete list of all filters for normal maintenance?
 _____ YES _____ NO

X10.13 Have you included with your bid detailed component specifications, product literature, system component layout drawing with bill of materials and full functional hydraulic system schematics in accordance with JIC and ANSI-Y32
 _____ YES _____ NO

X10.14 If you are the successful vendor, will you provide WVDOH with complete list of all filters required for normal maintenance on unit
 _____ YES _____ NO

X10.15 Describe your training sessions that will be provided with each order at an Equipment Division facility:

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: _____

Authorized Signature: _____ Date: _____

