

**IT IS THE VENDOR'S RESPONSIBILITY TO CHECK
FOR ADDENDUMS PRIOR TO SUBMITTING PROPOSALS**

**NOTICE TO BIDDERS
SPECIFICATION NO. 07-034**

City of Lincoln intends to enter into contract and invites you to submit a sealed bid for:

52,000 & 35,000 GVWR Dump/Plow Trucks

MEETING OR EXCEEDING CITY OF LINCOLN'S SPECIFICATIONS

Sealed bids will be received by City of Lincoln, Nebraska on or before **12:00 noon Wednesday, January 31, 2007**, in the office of the Purchasing Agent, **"K" Street Complex (SW Wing), Suite 200, 440 So. 8th Street, Lincoln, NE 68508**. Bids will be publicly opened and read aloud in the First Floor Conference Room at the "K" Street Complex.

Bid specification may be downloaded from the City's website at www.lincoln.ne.gov Keyword: Bid, select current year, select bid specification. Prospective submitters must monitor the bid listing for any addendums.

Bidders should take caution if U.S. mail or mail delivery services are used for the submission of bids. Mailing should be made in sufficient time for bids to arrive in the Purchasing Division, prior to the time and date specified above. Late bid will not be considered.

**52,000 & 35,000 GVWR Dump/Plow Trucks
SPECIFICATION NO. 07-034**

**BID OPENING TIME: 12:00 NOON
DATE: Wednesday, January 31, 2007**

The undersigned, having full knowledge of the requirements of the City of Lincoln for the below listed phases and the contract documents (which include Notice, Instructions, this Proposal, Specifications, Contract, and any and all addenda) and all other conditions of the Proposal, agrees to enter into a contract with the City the below listed fees for the performance of this Specification, complete in every respect, in strict accordance with the contract documents at and for fees listed below.

ADDENDA RECEIPT: The receipt of addenda to the specification numbers ____ through ____ are hereby acknowledged. Failure of any submitter to receive any addendum or interpretation of the specifications shall not relieve the submitter from any obligations specified in the request. All addenda shall become part of the final contract document.

BIDDING SCHEDULE

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1.	52,000 GVWR Dump/Plow Truck	One (1)	\$ _____	\$ _____
	Chassis Make/Model _____			
	Body Make/Model _____			
	Hoist Make/Model _____			
1.1.	Option: 17.1 Delete GL400 as specified.		\$ (_____)	
1.2	Option: 17.2 Add Air Conditioning as specified.		\$ _____	
1.3	Option 17.3 Add Bed Liner as specified.		\$ _____	
1.4	Option 17.4 Add "Aero" RFL black asphalt tarp.		\$ _____	
2.	35,000 GVWR Dump/Plow Truck	Two (2)	\$ _____	\$ _____
	Chassis Make/Model _____			
	Body Make/Model _____			
	Hoist Make/Model _____			
2.1	Option: 17.1 Delete GL400 as specified.		\$ (_____)	
2.2	Option: 17.2 Add Air Conditioning as specified.		\$ _____	
2.3	Option 17.3 Add Bed Liner as specified.		\$ _____	
2.4	Option 17.4 Add "Aero" RFL black asphalt tarp.		\$ _____	
4.	The bid will be awarded to one vendor for all three items.		Lump Sum	\$ _____

The purchase of additional unit by the City of Lincoln under this contract award will be held firm through: _____
 _____ / _____ / _____

NO BID SECURITY REQUIRED

AFFIRMATIVE ACTION PROGRAM: Successful bidder will be required to comply with the provisions of the City's Affirmative Action Policy (Contract Compliance, Sec. 1.16). The Equal Opportunity Officer will determine compliance or non-compliance with the City's policy upon a complete and substantial review of successful bidder's equal opportunity policies, procedures and practices.

The undersigned signatory for the bidder represents and warrants that he has full and complete authority to submit this proposal to the City, and to enter into a contract if this proposal is accepted.

**RETURN 2 COMPLETE COPIES OF PROPOSAL AND SUPPORTING MATERIAL.
MARK OUTSIDE OF BID ENVELOPE: SEALED BID FOR SPEC. 07-034,
ALONG WITH COMPANY NAME AND ADDRESS**

COMPANY NAME

BY (Signature)

STREET ADDRESS or P.O. BOX

(Print Name)

CITY, STATE ZIP CODE

(Title)

TELEPHONE No. FAX No.

(Date)

E-MAIL ADDRESS

ESTIMATED DELIVERY DAYS

Bids may be inspected in the Purchasing Division during normal business hours **after** tabulation and review by a Purchasing Agent. Bid tabulations can be viewed on our website at: lincoln.ne.gov Keyword: **Bid** The Intent to Award will be listed on the website when a recommendation is received from the Department.

INSTRUCTIONS TO BIDDERS

CITY OF LINCOLN, NEBRASKA

1. BIDDING PROCEDURE

- 1.1 Bidder shall submit one (1) complete set of the bid documents and all supporting material, unless otherwise stipulated. All appropriate blanks shall be completed. Any interlineation, alteration or erasure on the specification document shall be initialed by the signer of the bid. Bidder shall not change the proposal form nor make additional stipulations on the specification document. Any amplified or qualifying information shall be on the bidder's letterhead and firmly attached to the specification document.
- 1.2 Bid prices shall be submitted on the Proposal Form included in the bid document.
- 1.3 Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a quotation on an item-by-item basis. Bidding documents shall be clearly marked indicating the kind of proposal being submitted.
- 1.4 Any person signing a bid for a firm, corporation, or other organization must show evidence of his authority so to bind such firm, corporation, or organization.
- 1.5 Bids received after the time and date established for receiving bids will be rejected.
- 1.6 If bidding on a Construction Contract, the City of Lincoln's Standard Specifications for Municipal Construction 2006 shall apply.
 - 1.6.1 Bidders may obtain this document from the City's Design Engineering Division of Public Works & Utilities for a small fee.
 - 1.6.2 Said document can be reviewed at Design Engineering or the Purchasing Division.
 - 1.6.3 The Standard Conditions are available on the web site.
<http://www.lincoln.ne.gov/city/pworks/engine/dconst/standard/stndspec/index.htm>

2. BIDDER'S SECURITY

- 2.1 Bid security, as a guarantee of good faith, in the form of a certified check, cashier's check, or bidder's bond, may be required to be submitted with this bid document, as indicated on the Proposal Form.
- 2.2 If alternates are submitted, only one bid security will be required, provided the bid security is based on the amount of the highest gross bid.
- 2.3 Such bid security will be returned to the unsuccessful bidders when the award of bid is made.
- 2.4 Bid security will be returned to the successful bidder(s) as follows:
 - 2.4.1 For single order bids with specified quantities: upon the delivery of all equipment or merchandise, and upon final acceptance by the City.
 - 2.4.2 For all other contracts: upon approval by the City of the executed contract and bonds.
- 2.5 City shall have the right to retain the bid security of bidders to whom an award is being considered until either:
 - 2.5.1 A contract has been executed and bonds have been furnished.
 - 2.5.2 The specified time has elapsed so that the bids may be withdrawn.
 - 2.5.3 All bids have been rejected.
- 2.6 Bid security will be forfeited to the City as full liquidated damages, but not as a penalty, for any of the following reasons, as pertains to this specification document:
 - 2.6.1 If the bidder fails to deliver the equipment or merchandise in full compliance with the accepted proposal and specifications.
 - 2.6.2 If the bidder fails or refuses to enter into a contract on forms provided by the City, and/or if the bidder fails to provide sufficient bonds or insurance within the time period as established in this specification document.

3. BIDDER'S REPRESENTATION

- 3.1 Each bidder by signing and submitting a bid, represents that the bidder has read and understands the specification documents, and the bid has been made in accordance therewith.
- 3.2 Each bidder for services further represents that the bidder has examined and is familiar with the local conditions under which the work is to be done and has correlated the observations with the requirements of the bid documents.

4. CLARIFICATION OF SPECIFICATION DOCUMENTS

- 4.1 Bidders shall promptly notify the Purchasing Agent of any ambiguity, inconsistency or error which they may discover upon examination of the specification documents.
- 4.2 Bidders desiring clarification or interpretation of the specification documents shall make a written request which must reach the Purchasing Agent at least five (5) calendar days prior to the date and time for receipt of bids.

- 4.3 Changes made to the specification documents will be made by written addenda to all known prospective bidders and posted on the City-County website at lincoln.ne.gov Keyword - Bid.
- 4.4 Oral interpretations or changes to the Specification Documents made in any other manner, will not be binding on the City; and bidders shall not rely upon such interpretations or changes.

5. ADDENDA

- 5.1 Addenda are written instruments issued by the City prior to the date for receipt of bids which modify or interpret the specification document by addition, deletion, clarification or correction.
- 5.2 Copies of addenda will be made available for inspection at the office of the Purchasing Agent and on the City-County website.
- 5.3 No addendum will be issued later than forty-eight (48) hours prior to the date and time for receipt of bids, except an addendum withdrawing the invitation to bid, or an addendum which includes postponement of the bid.
- 5.4 Bidders shall ascertain prior to submitting their bid that they have received all addenda issued, and they shall acknowledge receipt of addenda on the proposal form.

6. INDEPENDENT PRICE DETERMINATION

- 6.1 By signing and submitting this bid, the bidder certifies that the prices in this bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder prior to bid opening directly or indirectly to any other bidder or to any competitor; no attempt has been made, or will be made, by the bidder to induce any person or firm to submit, or not to submit, a bid for the purpose of restricting competition.

7. ANTI-LOBBYING PROVISION

- 7.1 During the period between the bid advertisement date and the contract award, bidders, including their agents and representatives, shall not lobby or promote their bid with any member of the City Council or City Staff except in the course of City-sponsored inquiries, briefings, interviews, or presentations, unless requested by the City.

8. BRAND NAMES

- 8.1 Wherever in the specifications or proposal form brand names, manufacturer, trade name, or catalog numbers are specified, it is for the purpose of establishing a grade or quality of material only; and the term "or equal" is deemed to follow.
- 8.2 It is the bidder's responsibility to identify any alternate items offered in the bid, and prove to the satisfaction of the City that said item is equal to, or better than, the product specified.
- 8.3 Bids for alternate items shall be stated in the appropriate brand on the proposal form, or if the proposal form does not contain blanks for alternates, bidder MUST attach to the specification documents on Company letterhead a statement identifying the manufacturer and brand name of each proposed alternate, plus a complete description of the alternate items including illustrations, performance test data and any other information necessary for an evaluation. The bidder must indicate any variances by item number from the specification document no matter how slight. Bidder must fully explain the variances from the specification document, since brochure information may not be sufficient.
- 8.4 If variations are not stated in the proposal, it will be assumed that the item being bid fully complies with the City's specifications.

9. DEMONSTRATIONS/SAMPLES

- 9.1 Bidders shall demonstrate the exact item(s) proposed within seven (7) calendar days from receipt of such request from the City.
- 9.2 Such demonstration can be at the City delivery location or a surrounding community.
- 9.3 If bidder does not have an item in the area, it will be at the bidder's expense to send appropriate City personnel to the nearest location to view and inspect proposed item(s).
- 9.4 If items are small and malleable, the bidder is proposing an alternate product, the bidder MUST supply a sample of the exact item. Samples will be returned at bidder's expense after receipt by the City of acceptable goods. Bidders must indicate how samples are to be returned.

10. DELIVERY (Non-Construction)

- 10.1 Each bidder shall state on his proposal form the date upon which he can make delivery of all equipment or merchandise.
- 10.2 The City reserves the right to cancel orders, or any part thereof, without obligation, if delivery is not made within the time(s) specified on the proposal form.

- 10.3 All bids shall be based upon **inside** delivery of the equipment/ merchandise F.O.B. the City at the location specified by the City, with all transportation charges paid.
- 10.4 At the time of delivery, a designated City of Lincoln employee will sign the invoice/packing slip. The signature will only indicate that the order has been received and the items actually delivered agree with the delivery invoice. This signature does not indicate all items met specifications, were received in good condition and/or that there is not possible hidden damage or shortages.

11. WARRANTIES, GUARANTEES AND MAINTENANCE

- 11.1 Copies of the following documents must accompany the bid proposal for all items being bid:
- 11.1.1 Manufacturer's warranties and/or guarantees.
- 11.1.2 Bidder's maintenance policies and associated costs.
- 11.2 As a minimum requirement of the City, the bidder will guarantee in writing that any defective components discovered within a one (1) year period after the date of acceptance shall be replaced at no expense to the City. Replacement parts of defective components shall be shipped at no cost to the City. Shipping costs for defective parts required to be returned to the bidder shall be paid by the bidder.

12. ACCEPTANCE OF MATERIAL

- 12.1 All components used in the manufacture or construction of materials, supplies and equipment, and all finished materials, shall be new, the latest make/model, of the best quality, and the highest grade workmanship.
- 12.2 Material delivered under this proposal shall remain the property of the bidder until:
- 12.2.1 A physical inspection and actual usage of this material is made and found to be acceptable to the City; and
- 12.2.2 Material is determined to be in full compliance with the specifications and accepted proposal.
- 12.3 In the event the delivered material is found to be defective or does not conform to the specification documents and accepted proposal, then the City reserves the right to cancel the order upon written notice to the bidder and return materials to the bidder at bidder's expense.
- 12.4 Successful bidder shall be required to furnish title to the material, free and clear of all liens and encumbrances, issued in the name of the City of Lincoln, Nebraska, as required by the specification documents or purchase orders.
- 12.5 Selling dealer's advertising decals, stickers or other signs shall not be affixed to equipment. Vehicle mud flaps shall be installed blank side out with no advertisements. Manufacturer's standard production forgings, stampings, nameplates and logos are acceptable.

13. BID EVALUATION AND AWARD

- 13.1 The signed bid proposal shall be considered an offer on the part of the bidder. Such offer shall be deemed accepted upon issuance by the City of purchase orders, contract award notifications, or other contract documents appropriate to the work.
- 13.2 No bid shall be modified or withdrawn for a period of ninety (90) calendar days after the time and date established for receiving bids, and each bidder so agrees in submitting the bid.
- 13.3 In case of a discrepancy between the unit prices and their extensions, the unit prices shall govern.
- 13.4 The bid will be awarded to the lowest responsible, responsive bidder whose proposal will be most advantageous to the City, and as the City deems will best serve it's requirements.
- 13.5 The City reserves the right to accept or reject any or all bids; to request rebids; to award bids item-by-item, with or without alternates, by groups, or "lump sum"; to waive minor irregularities in bids; such as shall best serve the requirements and interests of the City.
- 13.6 In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit additional information as deemed necessary by the City. Failure to provide the information requested to make this determination may be grounds for a declaration of non-responsive with respect to the Bidder.
- 13.7 The City reserves the right to reject irregular bids that contain unauthorized additions, conditions, alternate bids, or irregularities that make the Bid Proposal incomplete, indefinite or ambiguous.

14. INDEMNIFICATION

- 14.1 The bidder shall indemnify and save harmless the City of Lincoln, Nebraska from and against all losses, claims, damages, and expenses, including, attorney's fees arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom and is caused in whole or in part by the Bidder, any subcontractor, any directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This section will not require the Bidder to indemnify or hold harmless the City of Lincoln for any losses, claims damages, and expenses arising out of or resulting from the sole negligence of the City of Lincoln, Nebraska.
- 14.2 In any and all claims against the City or any of its members, officers or employees by an employee of the bidder, any subcontractor, anyone directly or indirectly employed by any of them or by anyone for whose acts made by any of them may be liable, the indemnification obligation under paragraph 13.1 shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the bidder or any subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

15. TERMS OF PAYMENT

- 15.1 Unless stated otherwise, the City will begin processing payment within thirty (30) calendar days after all labor has been performed and all equipment or other merchandise has been delivered, and all such labor and equipment and other materials have met all contract specifications.

16. LAWS

- 16.1 The Laws of the State of Nebraska shall govern the rights, obligations, and remedies of the Parties under this proposal and any agreement reached as a result of this process.
- 16.2 Bidder agrees to abide by all applicable State and Federal laws and regulations concerning the handling and disclosure of private and confidential information concerning individuals and corporations as to inventions, copyrights, patents and patent rights.

17. AFFIRMATIVE ACTION

- 17.1 The City of Lincoln-Lancaster County Purchasing Division provides equal opportunity for all bidders and encourages minority businesses and women's business enterprises to participate in our bidding process.

18. LIVING WAGE

- 18.1 The bidders agree to pay all employees employed in the performance of this contract, a base wage of not less than the City Living Wage per section 2.81 of the Lincoln Municipal Code. This wage is subject to change every July.

19. EXECUTION OF AGREEMENT

- 19.1 Depending on the type of service provided, one of the following three (3) methods will be employed. The method applicable to this contract will be checked below:
- a. This Contract shall consist of a **PURCHASE ORDER** and a copy of the suppliers signed bid (or referenced bid number) attached and that the same, in all particulars, becomes the agreement and contract between the parties hereto: that both parties thereby accept and agree to the terms and conditions of said bid documents, and that the parties are bound thereby and the compensation to be paid the Supplier is as set forth in the Supplier's Bid. Items not awarded, if any, have been deleted.
- b. The contract shall consist of a **YEARLY AGREEMENT** and a copy of the suppliers signed bid attached and that the same, in all particulars, becomes the agreement and contract between the parties hereto. That both parties thereby accept and agree to the terms and conditions of said bid documents, and that the parties are bound thereby and the compensation to be paid the Supplier is as set forth in the Suppliers' Bid. Items not awarded, if any, have been deleted.
- c. Three (3) copies of the **CONTRACT**, unless otherwise noted.
1. City will furnish three (3) copies of the Contract to the successful Bidder who shall prepare attachments as required. Insurance as evidenced by a Certificate of Insurance, surety bonds properly executed, and Agreement signed with the date of signature shall be attached.
 2. The prepared documents shall be delivered to the City within 10 days (unless otherwise noted).
 3. The City will sign the Contract Agreement, insert the date of signature at the beginning of the Contract Agreement, prepare an Executive Order to go the Mayor for signature.
 4. Upon approval and signature from the Mayor, the City will return one copy to the Contractor.

EQUIPMENT SPECIFICATIONS SECTION I
52,000 GVWR DUMP/PLOW TRUCK
(STREET MAINTENANCE)

1. INTENT AND GENERAL INFORMATION

- 1.1 It is the intent of this specification to describe a 52,000 GVWR DUMP/PLOW TRUCK to be purchased and delivered as a complete unit ready for operation, with all equipment indicated provided and installed.
- 1.2 This bid includes the truck cab/chassis, dump body, hydraulics, lighting package, snow plow hitch (less plow) and all installation and delivery costs.
- 1.3 The successful bidder will **NOT** be responsible for providing or installing snow plows or material spreaders as part of this bid.
- 1.4 The specification is generally a two section document with the first section describing the truck cab/chassis and the second section describing the dump body and associated equipment.
- 1.5 All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act, Nebraska revised Statutes, Chapter 60, Article 14.
 - 1.5.1 The licensing requirements must be met at the time of the bid opening for bids to be valid.
- 1.6 The equipment furnished under this specification be new and of the latest improved model in current production as offered to the commercial trade.
- 1.7 All equipment required for satisfactory operation will be provided whether or not they are specifically addressed in this specification.
- 1.8 Trucks delivered must comply with all current State and Federal safety regulations.
- 1.9 Exceptions to any part of this bid document will be clearly noted by Item # on your company letter head and signed by the appropriate authority.

2. INSURANCE

- 2.1 The successful bidder will be required to fully insure all trucks and equipment, for all perils, until delivery to and acceptance by the City of Lincoln, Fleet Services, 901 North 6th, Street, Lincoln, NE.
- 2.2 The City of Lincoln assumes ownership at the time of actual delivery at Fleet Services Garage, 901 North 6th, Street, Lincoln, NE. and acceptance of completed unit.

3. APPLICATION

- 3.1 Trucks will be used in a variety of applications to include on/off road hauling of earth, construction rubble, crushed rock and in snow plow and ice control operations.
- 3.2 This application not only demands the truck act as the prime mover for the mounted equipment, but also utilized as the power source for the central hydraulic system through a transmission mounted power take off.
- 3.3 PTO and shaft drive hydraulic pump will be left side (8:00 O'clock transmission PTO location) mounted with hydraulic tank being left side outside frame mounted.
 - 3.3.1 To facilitate installation of the hydraulic system both the inside and outside of the left frame rail should be as clean as possible.

4. MODEL

- 4.1 The chassis furnished under these specifications shall be new 2007 or newer of the latest improved model in current production as offered to the commercial trade.
- 4.2 Example Model:
 - 4.2.1 Sterling Acterra
 - 4.2.2 International 7000 Series
 - 4.2.3 Freightliner M2 106V
- 4.3 Examples listed are intended to show the type and class of chassis desired.
- 4.4 Bidders are cautioned to read the specifications carefully: the specifications may include special requirements not commonly offered by your standard equipment.
- 4.5 Do not assume your standard equipment meets all detailed specifications merely because it is listed above as an example.

Meet Specs.

Yes No

5. GVWR

___ 5.1 52,000 lbs. minimum.

6. CAB TO TRUNION AND BUMPER BACK OF CAB

___ 6.1 102 inch C/T.

___ 6.2 106 inch to 107 inch BBC.

7. ENGINE

___ 7.1 Engine shall be one of the following diesel engines:

___ 7.1.1 International DT-466

___ 7.1.2 Cummins ISC

___ 7.2 Minimum 285 gross horse power and 800 lb. ft. torque.

___ 7.3 Minimum 7.5 liter.

8. ENGINE EQUIPMENT

___ 8.1 Heavy-duty single element air cleaner with in-cab control auxiliary under hood inlet (snow valve).

___ 8.2 Air cleaner mounted air filter restriction indicator.

___ 8.3 Manufacturer's recommended High Capacity cross flow extra cooling design radiator with surge tank.

___ 8.4 Peak "Final Charge" coolant with inhibitor, engine coolant to -35F.

___ 8.4.1 No exception on brand or type of coolant requested.

___ 8.5 Silicone or Gates Blue Stripe hose package to include radiator, heater and by-pass hoses.

___ 8.6 Spin on coolant filter (If recommended by engine manufacturer)

___ 8.7 Horton Drivemaster automatic on/off fan drive with normally closed temperature controls.

___ 8.8 Minimum 1000 watt 115/120 volt block heater with receptacle mounted under left-hand door.

___ 8.9 Alliance or Fleetguard fuel/water separator with thermostatically controlled electric heater.

___ 8.10 Thermal electric intake heater.

___ 8.11 Fuel system primer pump.

___ 8.12 Minimum 25 qt. engine oil change capacity.

___ 8.13 Spin on oil filter.

___ 8.14 Magnetic engine oil drain plug.

___ 8.15 Heavy duty starter motor with thermal over-crank protection.

___ 8.16 Key operated electric shut down.

___ 8.17 Electronic engine system diagnostics with cab mounted J1939 diagnostics port.

___ 8.18 Engine shall be capable of electronic interface with Allison RDS series transmissions.

___ 8.19 Electronic cruise control.

___ 8.20 Electronic push button throttle.

9. EXHAUST SYSTEM

___ 9.1 Right hand horizontal ATD with vertical tail pipe and tail pipe guard.

___ 9.2 Exhaust will be low height design with a 90° turnout for cab shield clearance.

___ 9.3 Exhaust system to be frame or cab mounted with no more than 6 inches of CT loss.

___ 9.3.1 Please state CT loss _____".

___ 9.3.2 Please submit drawing of proposed exhaust system.

10. FUEL TANK

___ 10.1 Single 50 gallon left side fuel tank with two access steps.

___ 10.2 Tank to be under cab mounted not extending beyond back of cab.

11. TRANSMISSION

___ 11.1 Allison RDS 3500 wide ratio, 5-speed with PTO gear and less retarder.

___ 11.2 Third gear hold feature activated through the mode button.

___ 11.3 Instrument panel mounted Allison Push-Button type shift control.

___ 11.4 Manufacturers recommended transmission cooler.

Meet Specs.

Yes No

11. TRANSMISSION (continued)

- ___ ___ 11.5 Optimum transmission programming for this application.
- ___ ___ 11.6 Easily accessible enabled secondary vehicle ground speed terminal **MUST** be provided for material spreader application.

12. FRONT AXLE AND STEERING

- ___ ___ 12.1 I-Beam type 14,000 lb., front axle - Meritor MFS-14-143A or Dana Spicer I-140.
- ___ ___ 12.2 Set-back axle configuration.
- ___ ___ 12.3 Single steering gear.
- ___ ___ 12.4 Stemco High Performance "Guardian" unitized wet seal or equal design.
- ___ ___ 12.5 Front end alignment will be performed following body and equipment installation with documentation provided at the time of delivery.

13. FRONT SUSPENSION

- ___ ___ 13.1 Minimum 14,000 lb. capacity leaf springs.
- ___ ___ 13.2 Heavy duty shock absorbers.

14. REAR AXLE

- ___ ___ 14.1 Single speed, single reduction, 40,000 lb. rear axle Meritor RT-40-145 or Dana Spicer DS405/RD405 with 200 wheel ends and magnetic drain plugs.
- ___ ___ 14.2 Driver actuated inter-axle differential lock.
- ___ ___ 14.3 Driver actuated differential lock on rear rear axle.(no-spin is not acceptable)
- ___ ___ 14.4 Axle ratio will be determined at the time the order is placed.

15. DRIVELINE

- ___ ___ 15.1 Driveline will be heavy duty and factory balanced.
- ___ ___ 15.2 17T Meritor or equal, main and interaxle drivelines with half round yokes.

16. REAR SUSPENSION

- ___ ___ 16.1 40,000 lb. capacity rear suspension Hendrickson HMX-400.
- ___ ___ 16.2 Mounting height and axle spacing shall be truck manufacturers recommended.

17. FRAME

- ___ ___ 17.1 120,000 minimum PSI yield strength, single channel straight frame.
- ___ ___ 17.2 Minimum 2,000,000 in lbs. R.B.M.
- ___ ___ 17.3 Huck-bolt frame member fasteners.
- ___ ___ 17.4 Minimum 12" integral front frame extension.

18. WHEELS

- ___ ___ 18.1 Minimum 7,000 lb. hub piloted,8.25X22.5, 10 hole ventilated disc, steel wheels.
- ___ ___ 18.2 Wheel to be powder coated, white or grey in color.
- ___ ___ 18.3 Nylon wafers or wheel guards on all wheels.

19. TIRES

- ___ ___ 19.1 11R22.5 H highway tread front tires, Goodyear G149 RSA or equal.
- ___ ___ 19.2 11R22.5 H traction tread rear tires, Goodyear G164 RTD M+S or equal.
- ___ ___ 19.3 One spare front wheel and tire, same brand and model as furnished on truck.
- ___ ___ 19.4 Tires to be Firestone, Goodyear, Michelin, B.F. Goodrich, Bridgestone, UniRoyal, or General and shall carry the company name.

Meet Specs.

Yes No

20. BRAKES

- ___ ___ 20.1 Dual air system for straight truck application.
- ___ ___ 20.2 Minimum 13.0 CFM air compressor, Bendix Tu-Flow 550 or equal.
- ___ ___ 20.3 Severe service, MGM CS sealed, long stroke front brake chambers or equal design.
- ___ ___ 20.4 16.5" x 5.0" S-cam front brakes.
- ___ ___ 20.5 Severe service, MGM TR-TS 3030 long stroke, rear brake chambers or equal design.
- ___ ___ 20.6 16.5" x 7" S-cam rear brakes.
- ___ ___ 20.7 Full vehicle wheel ABS control system.
- ___ ___ 20.8 Bendix AD-IP air dryer with heater right side outside frame mounted directly behind cab.
- ___ ___ 20.9 Right frame rail mounted air tanks with heated auto drain valve on wet tank and manual drains with pull cables on all other tanks.
- ___ ___ 20.10 Front and rear brake dust shields.
- ___ ___ 20.11 Front and rear automatic slack adjusters with stainless steel pins.
- ___ ___ 20.12 Color coded nylon brake lines.
- ___ ___ 20.13 Color coded yellow, park brake knob on instrument panel.
- ___ ___ 20.14 Trailer brake package with hand control and tractor protection valve for straight truck and trailer application.
- ___ ___ 20.15 Air lines extended to end of frame. (see item #11 of body specifications)

21. ELECTRICAL SYSTEM

- ___ ___ 21.1 12 Volt
- ___ ___ 21.2 Two (2) each heavy duty 12 volt maintenance free batteries with a total 1850 CCA capacity.
- ___ ___ 21.3 Three (3) battery system battery box, right side frame or under cab mounted.
 - ___ ___ 21.3.1 The unused battery position is to accommodate the relay panel as described in Item #9 of the body specifications.
- ___ ___ 21.4 Remote jump start terminals.
- ___ ___ 21.5 Delco 22-SI 130 amp capacity alternator.
- ___ ___ 21.6 Circuit breaker protection.
- ___ ___ 21.7 Color coded and protected wiring system.
- ___ ___ 21.8 5 Amp ignition feed wire with heat shrink end, located in the cab for activation of auxiliary control console.
- ___ ___ 21.9 Factory 2-way radio wiring as follows:
 - ___ ___ 21.9.1 Fused 20 Amp battery feed wire.
 - ___ ___ 21.9.2 Fused 5 Amp ignition feed wire.
 - ___ ___ 21.9.3 Ground wire.
 - ___ ___ 21.9.4 End of wires will be heat shrunk and coiled in the cab.
- ___ ___ 21.10 Chassis manufacture must provide all wiring and companion connectors required by the final assembler for installation of lighting described in the body and equipment specifications.
- ___ ___ 21.11 The final assembler will not be permitted to splice into any chassis wiring.

22. CAB

- ___ ___ 22.1 Fully enclosed safety-type conventional cab with medium trim package and rear cab air suspension.
- ___ ___ 22.2 Minimum 98 inches from grade to top of cab.
- ___ ___ 22.3 Cab to have a minimum of 72 inches of shoulder room per specification sheet.
- ___ ___ 22.4 Cab to have a minimum of 56 inches floor to headliner height.
 - ___ ___ 22.4.1 Raised or bubble roof is not acceptable.
- ___ ___ 22.5 Tilt-forward fiberglass hood and stationary grill.
- ___ ___ 22.6 Hood access panel(s) to allow access to engine compartment without tilting hood.

Meets Specs.

Yes No

23. CAB EQUIPMENT

- ___ ___ 23.1 High back vinyl covered air suspension drivers and passenger seats.
 - ___ ___ 23.1.1 "National 2000 Series" or "Bostrom 915"
 - ___ ___ 23.1.2 Seats to be the lightest standard color available.
 - ___ ___ 23.1.3 Both drivers and passenger seats will be fully adjustable for position and be complete with air adjustable lumbar support.
 - ___ ___ 23.1.4 Both drivers and passenger seats will have inboard fold-down design arm rests.
- ___ ___ 23.2 3-point lap and shoulder belts.
- ___ ___ 23.3 Dual entry grab handles.
- ___ ___ 23.4 Dual door mounted armrests or seat mounted fold-down design.
- ___ ___ 23.5 Dual sun visors.
- ___ ___ 23.6 Headliner and insulated rubber floor mat.
- ___ ___ 23.7 Storage pocket in drivers door or overhead console.
- ___ ___ 23.8 AM-FM radio with weather band and two speakers.
- ___ ___ 23.9 Highest available output heater/defroster with replaceable fresh air filter.
- ___ ___ 23.10 Tinted safety glass on all windows.
- ___ ___ 23.11 Deluxe insulation package.
- ___ ___ 23.12 Power drivers and passenger side windows with functional vent windows.
- ___ ___ 23.13 Sliding rear glass if available from manufacturer.
- ___ ___ 23.14 Tilt steering wheel.

24. CONTROLS AND INSTRUMENTS

- ___ ___ 24.1 Key locking starter switch.
- ___ ___ 24.2 Head, park and dome light switch.
- ___ ___ 24.3 High beam indicator.
- ___ ___ 24.4 Power divider lock indicator.
- ___ ___ 24.5 Differential lock indicator.
- ___ ___ 24.6 **Self canceling** turn signal switch with integral dimmer switch.
- ___ ___ 24.7 Gauge cluster to be English with electronic speedometer.
 - ___ ___ 24.7.1 Odometer to display miles, trip miles, engine hours and trip hours. (engine hours to be non-resettable)
- ___ ___ 24.8 Visual and/or audible warning system as follows:
 - ___ ___ 24.8.1 Low engine oil pressure.
 - ___ ___ 24.8.2 High engine coolant temperature.
 - ___ ___ 24.8.3 High transmission temperature.
 - ___ ___ 24.8.4 Low air pressure.
 - ___ ___ 24.8.5 Water in fuel.
- ___ ___ 24.9 Gauge cluster as follows:
 - ___ ___ 24.9.1 Engine oil pressure.
 - ___ ___ 24.9.2 Engine coolant temperature.
 - ___ ___ 24.9.3 Transmission temperature.
 - ___ ___ 24.9.4 Fuel level.
 - ___ ___ 24.9.5 Voltmeter.
 - ___ ___ 24.9.6 Tachometer.
 - ___ ___ 24.9.7 Air pressures, air 1 and air 2.

25. WINDSHIELD WIPERS

- ___ ___ 25.1 Two speed electric windshield wipers with intermittent feature and electric washers.
 - ___ ___ 25.1.1 Wiper blades to be Arctic Winter type.
 - ___ ___ 25.1.2 Washer nozzles will be located on the wiper arms.

26. MIRRORS

- ___ ___ 26.1 Door mounted heated, stainless steel or power coated west coast mirrors with heated auxiliary convex mirror.

Meets Specs.

Yes No

27. LIGHTS

- ___ 27.1 Vehicle shall be equipped with all required and manufactures recommended light to comply with FMVSS 108 and ICC requirements.
- ___ 27.2 Halogen sealed beam headlights with OEM daytime running lights.
- ___ 27.3 LED clearance and marker lights.
- ___ 27.4 Hazard flashers.
- ___ 27.5 Solid state 16 lamp flasher.
- ___ 27.6 Door activated interior dome light.
- ___ 27.7 Factory snow plow light circuit as follows;
 - ___ 27.7.1 Provides feed and control for auxiliary front mounted head lights, park or identification lights, right/left turn signals and ground.
 - ___ 27.7.2 Dash mounted switch labeled **PLOW LIGHTS** which controls whether auxiliary or vehicle head lights are on.
 - ___ 27.7.3 Wiring harness will be 3' long and complete with mating connectors as required for a sealed connection.
 - ___ 27.7.4 Vehicle head lights and auxiliary head lights can not be on at the same time but all other auxiliary lights will be tied to the respective front vehicle lighting circuits and function accordingly.
 - ___ 27.7.5 Dimmer switch will function for both vehicle and auxiliary head lights.

28. MISCELLANEOUS EQUIPMENT AND MANUALS

- ___ 28.1 **Delete front bumper.**
- ___ 28.2 Manufacturers standard air horn.
- ___ 28.3 Manufacturers standard electric horn.
- ___ 28.4 Electronic backup alarm.(Preco factory model)
- ___ 28.5 Two front tow hooks and two rear tow hooks. (Frame mounted)
- ___ 28.6 Front mud flaps.
- ___ 28.7 Removable winter front.
- ___ 28.8 One (1) complete service and overhaul manual, CD or on-line access will be provided.
- ___ 28.9 One (1) complete operators manual for each unit provided.

29. PAINT AND RUSTPROOF/UNDERCOAT

- ___ 29.1 Basecoat/Clearcoat Polyurethane enamel paint.
- ___ 29.2 Color shall be one solid color selected from manufacturers standard color chart provided with bid proposal.
- ___ 29.3 Interior shall be the lightest standard color available.
- ___ 29.4 Cab will be rustproofed/undercoated using "Ming Auto Beauty" or equal products and application process.

30. TRUCK WARRANTY AND CONDITIONS

- ___ 30.1 The basic standard and extended warranties **MUST** be provided by the original equipment manufacturer.
 - ___ 30.1.1 Coverage provided through independent warranty companies "aftermarket warranties" are not acceptable.
- ___ 30.2 Basic vehicle coverage 48 months/50,000 miles.
- ___ 30.3 Engine and engine electronics 48 months/50,000 miles.
- ___ 30.4 Allison transmission and transmission electronics 24 months/50,000 miles.
- ___ 30.5 Drive train and major components (front axle, rear axle, suspension, frame mount brackets and crossmembers, drive line) 48 months/50,000 miles.
- ___ 30.6 Frame 60 months/100,000 miles.
- ___ 30.7 Cab corrosion and structure 60 months/unlimited miles.
- ___ 30.8 Towing 36 months/50,000 miles.
- ___ 30.9 Complete details of the warranty you are providing **must** accompany your bid.

31. SEE SECTION II 13' DUMP BODY- HYDRAULIC SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCH(STREET MAINTENANCE)

EQUIPMENT SPECIFICATIONS SECTION II
 FOR
 13' DUMP BODY-HYDRAULIC
 SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCH (STREET MAINTENANCE)

1. MODEL

- 1.1 The equipment furnished under these specifications shall be new of the latest improved model in current production as offered to the commercial trade.
 - 1.1.1 Bodies are to be Western style crossmemberless design.
- 1.2 See attached front, rear, side and specific component photos for clarification of intent.

Meets Specs

Yes No

2. BODY

- | | | |
|-------|--------|---|
| __ __ | 2.1 | 9.5 cubic yard capacity, struck <u>minimum</u> . (less side boards) |
| __ __ | 2.2 | Length 13 foot. |
| __ __ | 2.3 | Width 84 inches (inside). |
| __ __ | 2.4 | Side height 34 inches. |
| __ __ | 2.5 | Head height 40 inches. |
| __ __ | 2.6 | Minimum 10 inch 25.0 #/ft. structural I-beam long sills. |
| __ __ | 2.7 | 1/4 inch AR400 steel floor with radius edges. |
| __ __ | 2.8 | 3/16 inch AR400 steel sides with outward sloped seamless horizontal bracing at mid point. |
| __ __ | 2.9 | 3/16 inch AR400 steel front panel with reinforced top edge and horizontal brace. |
| __ __ | 2.10 | Fully boxed outward sloped top rail. |
| __ __ | 2.11 | Outward sloped rub (bottom) rail. |
| __ __ | 2.12 | 7 gauge A1011 Grade 50 steel, front corner posts and full depth rear corner posts. |
| __ __ | 2.13 | Structural channel rear apron full depth to long sills and full width of box, fully attached to rear corner posts and floor. |
| __ __ | 2.14 | 2-1/2" side board pockets with 8 inch 11.5 #/ft. structural channel side boards. |
| __ __ | 2.15 | Full length walk rail shall be installed on both sides of dump body. |
| __ __ | 2.15.1 | Walk rail shall be constructed of step grip perforated metal channel. (Buyers #SG1501048 3 row ladder rung) |
| __ __ | 2.15.2 | Walk rail shall be installed at mid point between rub rail and rizontal bracing flush with front and rear corner posts. |
| __ __ | 2.16 | Full length tarp rail shall be installed on both sides of dump body. |
| __ __ | 2.16.1 | Tarp rail shall be constructed of 1/4 x 2 inch steel flat. |
| __ __ | 2.16.2 | Tarp rail shall be installed at mid point between top rail and horizontal bracing. |
| __ __ | 2.17 | Steel construction, stow-a-way design access ladders shall be installed on right and left side of body next to front corner post. |
| __ __ | 2.17.1 | Ladder shall be approximately 20 inches wide. |
| __ __ | 2.17.2 | Pull-out section to be approximately 30 inches long and designed to angle out 10 inches at the bottom, in fold down position with step grip ladder rungs. |
| __ __ | 2.17.3 | 20 x 2.5 inch grab handle constructed of 3/4 inch rolled round installed vertically on front corner post to assist in the use of ladder. |
| __ __ | 2.18 | "MultiGuard" actuated electric vibrator, securely installed between long sills with reinforcement as required. (Tendaire Model # 3500 with automatic timer) |
| __ __ | 2.19 | Body light provisions will be for clearance and side markers only. |
| __ __ | 2.19.1 | Rear oval light provisions will not be included. |
| __ __ | 2.19.2 | Stop/tail/turn, backup and emergency lighting provisions are part of the Whelen DOT lighting package specified. |

Meets Specs

Yes No

3. TAILGATE

- ___ ___ 3.1 3/16" AR400 steel tailgate with lifting loop.
- ___ ___ 3.2 Fully boxed with horizontal brace and two triple boxed vertical reinforcements - six panel design.
- ___ ___ 3.3 Tailgate height 44 inches.
- ___ ___ 3.4 Double-acting upper hinged, lower lever type hooks, with 3/8" alloy spreading chains and heavy gauge flexo sleeving.
- ___ ___ 3.5 Upper and lower dog-leg slotted chain keepers.
- ___ ___ 3.6 Top and bottom hinge pins shall be 1-1/4" diameter cold drawn round stock with positive type lock mechanism.
- ___ ___ 3.7 Top pins will be removable, have grease zerks, stop rotation mechanism and safety lock hardware.
- ___ ___ 3.8 "MultiGuard" actuated electric over pneumatic tailgate release.

4. CAB SHIELD WITH INTEGRAL TARP SYSTEM

- ___ ___ 4.1 89 inches wide, with broken top edge and horizontal supports, designed to be structurally sound without the need for extended side gussets.(to accommodate 90^o exhaust turnout)
- ___ ___ 4.2 7 gauge A1011 Grade 50 steel construction.
- ___ ___ 4.3 ½ cab shield to project 24 inches out from body head.
- ___ ___ 4.4 7" flat front or leading edge to accommodate installation of headboard LED lights.
- ___ ___ 4.5 7" side plates to accommodate integral tarp assembly.
- ___ ___ 4.6 Shield to be installed 6 inches above cab roof.
- ___ ___ 4.7 Horizontal design with minimal slope to body.
- ___ ___ 4.8 Shield to be securely welded to the body head.
- ___ ___ 4.9 Cab shield will incorporate a tarp system as follows:
 - ___ ___ 4.9.1 Aero Model Easy Cover 575 Series design.
 - ___ ___ 4.9.2 Full open box interior with tarp in roll-up position.
 - ___ ___ 4.9.3 12 Volt electric motor with right angle gear drive.
 - ___ ___ 4.9.4 85" wide polyester mesh tarp with gravity type "Weight-Down" system.
 - ___ ___ 4.9.5 Under-mount adjustable spring assemblies.
 - ___ ___ 4.9.6 Polished aluminum side arms, angled approximately 26^o to allow arms to be recessed in roll-up position.
 - ___ ___ 4.9.7 Length to be adequate to properly cover the entire body in the roll-out position.
 - ___ ___ 4.9.8 All wiring and system protection devices will be in accordance with Aero installation recommendations.
 - ___ ___ 4.9.9 "MultiGuard" actuated.

5. HOIST

- ___ ___ 5.1 Underbody double acting hydraulic with full sub-frame.
- ___ ___ 5.2 Double equalizing arm or roller combo design.
- ___ ___ 5.3 N.T.E.A. class 90 minimum (as published in N.T.E.A. hoist chart)
- ___ ___ 5.4 Lifting capacity 29 ton minimum.
- ___ ___ 5.5 Dump angle 50 degrees minimum.
- ___ ___ 5.6 Mounting height 17 inches maximum.
- ___ ___ 5.7 Rear hinge fabricated with 8"x4"x1/2"x38" structural steel or equal strength design.
 - ___ ___ 5.7.1 Chromed or stainless steel hinge pins with greaseless composite bearings.
- ___ ___ 5.8 Street and curb side fold down design body props.(pin type not acceptable)
- ___ ___ 5.9 Body raise indicator light in "MultiGuard" indicator light panel.
- ___ ___ 5.10 Critical hoist pivot points will have greaseless composite bushings.
- ___ ___ 5.11 "MultiGuard " actuated.

Meets Specs.

Yes No

6. LIGHTING SYSTEM

- ___ ___ 6.1 Lighting must meet F.M.V.S.S. 108.
- ___ ___ 6.2 All clearance, side marker and rear identification markers required to meet 108 Standards to be grommet mounted LED.
- ___ ___ 6.3 Existing stop/tail and turn lights shall be removed.
- ___ ___ 6.4 All wiring provided and installed by the final assembler will be split flex loomed and securely attached using insulated stainless steel cable/wire clamps and stainless steel hardware.
 - ___ ___ 6.4.1 Wiring harness for all 108 lighting to be factory assembled one piece design with sealed connectors.
 - ___ ___ 6.4.2 **Splicing into chassis wiring is not permitted.**
- ___ ___ 6.5 Whelen Model DOT-LED (part #27H04MPS) lighting system.
- ___ ___ 6.6 Two (2) each 180° Headboard LED flashing light assemblies with branch guard as follows:
 - ___ ___ 6.6.1 Light assemblies installed on the front or leading edge of the cab shield with the outside edge of the light assembly even with the outside edge of the cab shield.
 - ___ ___ 6.6.2 Light assemblies will be centered top to bottom on leading or front edge of cab shield.
 - ___ ___ 6.6.3 Headboard assemblies will have clear lenses with amber/blue Linear LED's.
- ___ ___ 6.7 Two (2) each 400 Series rear light assemblies as follows:
 - ___ ___ 6.7.1 Stainless steel angle housing.
 - ___ ___ 6.7.2 Installed on the outside of the rear corner posts.
 - ___ ___ 6.7.3 Linear LED amber/blue flashing lights with TIR3 side lights.
 - ___ ___ 6.7.4 LED red stop/tail/turn lights.
 - ___ ___ 6.7.5 LED backup lights.
- ___ ___ 6.8 Heavy duty cabling as follows:
 - ___ ___ 6.8.1 12" protective flex tube and coupling at each light head.
 - ___ ___ 6.8.2 TRP oil resistant, tin coated pure copper strand cables.
 - ___ ___ 6.8.3 "Deutsch" waterproof connectors.
 - ___ ___ 6.8.4 Cabling lengths as required for flashing LED lights.
- ___ ___ 6.9 Flash patterns as follows:
 - ___ ___ 6.9.1 Both front lights to flash simultaneously.
 - ___ ___ 6.9.2 Both rear lights to flash simultaneously.
 - ___ ___ 6.9.3 Front and rear lights to flash in an alternating pattern to each other.
 - ___ ___ 6.9.4 All flashing lights will have "Signal Alert" flash pattern.
- ___ ___ 6.10 Flasher and junction box will be installed on the back side of the "CircuitGuard" power distribution center housing assembly.
- ___ ___ 6.11 Hood mounted snow plow light assembly as follows:
 - ___ ___ 6.11.1 Grote #64261-4 PER-LUX snow plow lights.
 - ___ ___ 6.11.2 Custom stainless steel construction tri-pod design heavy duty plow light mount brackets.
 - ___ ___ 6.11.3 Brackets to be attached to the fenders in a similar fashion as OEM fender mount mirrors.
 - ___ ___ 6.11.4 Bottom of plow light to be approximately the same as the hood height.
 - ___ ___ 6.11.5 Width of plow lights to be generally the same as the OEM head lights.
 - ___ ___ 6.11.6 Light bracket will not interfere with hood access panel(s) or stationary grill opening in any manner.
 - ___ ___ 6.11.7 Plow lights will be powered and controlled through factory chassis plow light circuit.

Meets Specs.

Yes No

6. LIGHTING SYSTEM (continued)

- ___ ___ 6.12 Lighting system will be switched as follows and controlled through the "MultiGuard" system:
- ___ ___ 6.12.1 Front flashing amber lights.
- ___ ___ 6.12.2 Front flashing blue lights.
- ___ ___ 6.12.3 Low/Hi intensity.
- ___ ___ 6.12.4 Rear flashing amber lights.
- ___ ___ 6.12.5 Rear flashing blue lights.

7. CENTRAL HYDRAULIC SYSTEM

- ___ ___ 7.1 Basic design as follows:
 - ___ ___ 7.1.1 Transmission PTO driven, load sensing type.
 - ___ ___ 7.1.2 Capable of actuating and controlling motors and actuators as detailed.
 - ___ ___ 7.1.3 System will utilize closed-center valves, load sensing pressure compensating axial piston pump and a reservoir/valve enclosure.
 - ___ ___ 7.1.4 All hydraulic components will be installed in a neat and professional manner conforming to current engineering and manufacturing practices.
- ___ ___ 7.2 Hydraulic pump as follows:
 - ___ ___ 7.2.1 Rexroth Model A10V071DFR/31R-PKC92N00.
 - ___ ___ 7.2.2 Compensator with separate adjustments for main and stand-by pressures.
 - ___ ___ 7.2.3 System pressure to be set at 2,000 psi.
 - ___ ___ 7.2.4 Stand-by pressure to be approximately 300 psi.
 - ___ ___ 7.2.5 Pump to be left side frame mounted **directly across from the reservoir suction port to allow for the shortest possible suction line routing.**
- ___ ___ 7.3 Hydraulic pump drive as follows:
 - ___ ___ 7.3.1 Chelsea Model 277 PTO.
 - ___ ___ 7.3.2 Mounting position to be left side (8 o'clock).
 - ___ ___ 7.3.3 Drive ratio to be approximately 1 to 1 with engine RPM.
 - ___ ___ 7.3.4 Power shift, actuated through "MultiGuard" system.
 - ___ ___ 7.3.5 Pressure lubricated, designed for extended road speed operation.
 - ___ ___ 7.3.6 Spicer 1310 driveline components.
 - ___ ___ 7.3.7 Slip yoke design shaft with greasable yoke and u-joints.
 - ___ ___ 7.3.8 All shaft locking devices to be wire tied.
 - ___ ___ 7.3.9 Shaft to be professionally balanced for smooth operation.
- ___ ___ 7.4 Hydraulic valves as follows:
 - ___ ___ 7.4.1 Rexroth MP-18 valves.
 - ___ ___ 7.4.2 Closed center, sectional type load sensing.
 - ___ ___ 7.4.3 Valves will be individually pressure and flow compensated.
 - ___ ___ 7.4.4 Individual sections for each function.
 - ___ ___ 7.4.5 All sections will be fully proportional electric with manual overrides incorporated into activation solenoids.
 - ___ ___ 7.4.6 Mechanical/adjustable stroke limiters on both plow and hoist valves.
 - ___ ___ 7.4.7 Plow raise/lower section: 3-way directional valve with a 7 g.p.m. spool.
 - ___ ___ 7.4.8 Plow angle right/left section: 4-way directional valve with a 7g.p.m. spool **and adjustable port relief to A and B ports set at 1,800 psi.**
 - ___ ___ 7.4.9 Hoist raise/lower section: 4-way directional valve with a 35 g.p.m. spool **and hoist down adjustable port relief set at 500 psi.**
 - ___ ___ 7.4.10 Conveyor drive section: 2-way directional valve with a 15g.p.m. spool.
 - ___ ___ 7.4.11 Spinner drive section: 2-way directional valve with a 7 g.p.m. spool.
 - ___ ___ 7.4.12 A 5,000 psi glycerin filled gauge will read system pressure and be installed on and plumbed to the top of the valve enclosure.
 - ___ ___ 7.4.13 Valves will be actuated through a combination of stick controls and GL400 spreader control located in the "MulitGuard" system.

Meets Specs.

Yes No

7. CENTRAL HYDRAULIC SYSTEM (continued)

- ___ 7.5 Reservoir/Valve Enclosure as follows:
 - ___ 7.5.1 Component Technology "ServiceGuard" series.
 - ___ 7.5.2 Stainless steel construction.
 - ___ 7.5.3 30 gallon capacity.
 - ___ 7.5.4 Screened filler neck.
 - ___ 7.5.5 Fluid level/temperature gauge.
 - ___ 7.5.6 Electric low fluid indicator in "MultiGuard" indicator light panel.
 - ___ 7.5.7 10 micron in-tank filter.
 - ___ 7.5.8 By-pass and condition gauge.
 - ___ 7.5.9 Service shut off valve.
 - ___ 7.5.10 Bolt-on top and side valve access panels with form fitted gaskets.
 - ___ 7.5.11 Left side truck frame mounted directly behind cab with the bottom of the reservoir no lower than the bottom of the fuel tank.
- ___ 7.6 Hydraulic hoses and fittings as follows:
 - ___ 7.6.1 All pressure hoses including signal sense line to pump will have 37⁰ JIC swivel fittings on each end and be a minimum SAE 100-R2 rating.
 - ___ 7.6.2 Return lines and case drain will have 37⁰ JIC swivel fittings on both ends and be a minimum SAE 100-R1 rating.
 - ___ 7.6.3 Suction line will be a minimum SAE 100-R4 rated, 2" I.D. connected with heavy duty banding straps.
 - ___ 7.6.4 Suction line will utilize a 90⁰ fitting directly off of the reservoir to facilitate a straight suction line to pump. (see 7.2.5)
 - ___ 7.6.5 Pressure hoses from valving to plow lift cylinder and reversing cushion valve will be ½" I.D.
 - ___ 7.6.6 Snow plow cushion valve with Aeroquip FD45 series ½" stainless steel couplers will be provided and installed on the left (street side) of the plow hitch in a position that allows for ease of plow coupling.
 - ___ 7.6.7 Spinner and conveyor pressure fittings will be capped outside of the valve enclosure for future installation of a material spreader.
 - ___ 7.6.8 A 3/4" capped 37⁰ JIC male return circuit fitting will be provided for future installation of a material spreader.
 - ___ 7.6.9 Pressure hoses to hoist cylinder will be sized per hoist manufacturers recommendation.
 - ___ 7.6.10 Hoses will be routed in a neat and professional manner and secured with clamps or ties not exceeding 24 inches between holding devices.

8. OPERATOR CONTROL SYSTEM

- ___ 8.1 Center floor mounted armrest design control console as follows:
 - ___ 8.1.1 Component Technology "MultiGuard" series.
 - ___ 8.1.2 Integral console controlling all hydraulic functions, spreader functions, auxiliary lighting and warning indicators.
 - ___ 8.1.3 Armrest adjustable for height and position with stow capability.
 - ___ 8.1.3.1 Base mounting plate and arm support tube location will be determined at the time of order.
 - ___ 8.1.4 Control of snow plow will be through a dual-axis fully proportional joy stick installed in the left position.
 - ___ 8.1.5 Control of the hoist will be through a single-axis fully proportional stick installed in the right position.
 - ___ 8.1.6 Special control stick provisions:
 - ___ 8.1.6.1 Plow control must provide an electronic time activated float function with plow float enable switch.
 - ___ 8.1.6.2 Hoist control must provide a push button dead-man switch.

Meets Specs.

Yes No

8. OPERATOR CONTROL SYSTEM (continued)

- ___ 8.1.7 Plow functions as follows:
 - ___ 8.1.7.1 Forward movement = Plow Lower.
 - ___ 8.1.7.2 Rearward movement = Plow Raise.
 - ___ 8.1.7.3 Left movement = Plow Angle Left.
 - ___ 8.1.7.4 Right movement = Plow Angle Right.
- ___ 8.1.8 Hoist functions as follows:
 - ___ 8.1.8.1 Forward movement = Hoist Lower.
 - ___ 8.1.8.2 Rearward movement = Hoist Raise.
- ___ 8.1.9 Harness for snow plow and hoist controls will be TPE harness system.
- ___ 8.1.10 Material spreader controls as follows:
 - ___ 8.1.10.1 Component Technology "GL400" series.
 - ___ 8.1.10.2 Designed for closed-loop operation using a White motor integral conveyor speed sensor with M12 female connector and Allison transmission ground speed provision.
 - ___ 8.1.10.3 Auger sensor harness will be adequate length for future installation of a in-box material spreader, coiled and wire tied to the valve enclosure.
 - ___ 8.1.10.4 Remote "pause" provision will be provided and activated through the "MultiGuard" system.
 - ___ 8.1.10.5 Harness for material spreader will be TPE harness system.
- ___ 8.1.11 Upper switch/indicator light panel as follows:
 - ___ 8.1.11.1 Component Technology "Sprague" panel (left to right).
 - ___ 8.1.11.2 Indicator #1: Top-PTO (red lens).
 - ___ 8.1.11.3 Indicator #1: Bottom-Low Hyd. Oil (yellow lens).
 - ___ 8.1.11.4 Indicator #2: Top-Body Up (red lens).
 - ___ 8.1.11.5 Indicator #2: Bottom-Plow Float On (red lens).
 - ___ 8.1.11.6 Switch #3: Spreader Pause (yellow lens on/off).
 - ___ 8.1.11.7 Switch #4: Blank.
 - ___ 8.1.11.8 Switch #5: Plow Float Ready (yellow lens on/off).
 - ___ 8.1.11.9 Switch #6: Tailgate (blue lens on/off).
 - ___ 8.1.11.10 Switch #7: Tarp (yellow lens momentary on/off/on).
 - ___ 8.1.11.11 Switch #8: Box Vibrator (blue lens momentary on/off).
 - ___ 8.1.11.12 All switches will have backlighting, activation indicator and be labeled as specified.
- ___ 8.1.12 Control stick switch panel as follows:
 - ___ 8.1.12.1 Component Technology "TouchGuard" panel (left to right, top to bottom).
 - ___ 8.1.12.2 Switch #1: Front Amber Strobe (on/off).
 - ___ 8.1.12.3 Switch #2: Front Blue Strobe (on/off).
 - ___ 8.1.12.4 Switch #3: Strobe HI/LOW (on/off).
 - ___ 8.1.12.5 Switch #4: Rear Amber Strobe (on/off).
 - ___ 8.1.12.6 Switch #5: Rear Blue Strobe (on/off).
 - ___ 8.1.12.7 Switch #6: PTO (on/off).
 - ___ 8.1.12.8 All switches will have backlighting in green, changing to red when activated and be labeled as specified.
- ___ 8.1.13 Power distribution center as follows:
 - ___ 8.1.13.1 Component technology "CircuitGuard" series.
 - ___ 8.1.13.2 Power distribution center integral with "MultiGuard" system providing a centralized location for wiring.
 - ___ 8.1.13.3 Field replaceable socketed relays.
 - ___ 8.1.13.4 LED indicator for diagnostics and troubleshooting.
 - ___ 8.1.13.5 Corrosion resistant housing with easy accessible entry panel.

Meets Specs.

Yes No

8. OPERATOR CONTROL SYSTEM (continued)

- ___ ___ 8.1.13.6 Main 12 volt feed to "CircuitGuard" power distribution center will be protected by an 80 amp manual resetting water proof circuit breaker.
- ___ ___ 8.1.13.7 Power to the breaker will be directly from the truck batteries.
- ___ ___ 8.1.13.8 Ground to the "CircuitGuard" power distribution center will be directly from the truck batteries.
- ___ ___ 8.1.13.9 All power feed and ground wires to the "CircuitGuard" will be 6 gauge minimum.
- ___ ___ 8.1.13.10 All circuits will be ignition switch run activated through an integral "CircuitGuard" relay.
- ___ ___ 8.1.13.11 A master "CircuitGuard" power distribution center on/off switch will be provided on the "CircuitGuard" housing.
- ___ ___ 8.2 A complete wiring diagram, specific model information and parts breakdown for the entire "MultiGuard/CircuitGuard" system will be provided to the final assembler to insure proper installation.
- ___ ___ 8.2.1 All documents described in 8.2 will be provided to the City at time of delivery.

9. ELECTRIC RELAY AND CIRCUIT BREAKER PANEL

- ___ ___ 9.1 A custom built panel will be installed vertically in the battery box to act as mounting panel for the following:
 - ___ ___ 9.1.1 CircuitGuard 80 amp breaker.
 - ___ ___ 9.1.2 Tarp relay and breaker.
 - ___ ___ 9.1.3 Box vibrator relay and breaker.
 - ___ ___ 9.1.4 All activation and power wiring for the tarp and box vibrator systems will be the manufacturers recommended gauge.
 - ___ ___ 9.1.5 All relays and breakers will be labeled with heavy duty 2 ply engraved plastic labels indicating system and function.

10. SNOW PLOW HITCH

- ___ ___ 10.1 Low profile plow hitch with quick link as follows:
 - ___ ___ 10.1.1 Flink Model PF91QL2 or Monroe PF91QL1 or equal design.
 - ___ ___ 10.1.2 Heavy-duty, tailored, non-folding low profile design with minimum 1/2" steel side cheek plates.
 - ___ ___ 10.1.3 Hitch will be designed and manufactured specifically for the truck provided.
 - ___ ___ 10.1.4 Frame extension will be shortened to allow the plow hitch to be installed as close to the front of the truck as possible and still maintain the maximum strength and integrity.
 - ___ ___ 10.1.5 All thrust loads must be transferred to the chassis frame not to the front axle or spring assemblies.
 - ___ ___ 10.1.6 Quick link, positive lock with plow attachment point 16 inches above the ground.
 - ___ ___ 10.1.7 Lowest point will allow a minimum of 10 inches of ground clearance.
 - ___ ___ 10.1.8 The hitch **must** be designed and installed to allow the tilt-hood with stationary grill to fully open without contacting any portion of the hitch or lift arm.
 - ___ ___ 10.1.9 The hitch will be installed utilizing grade 8 bolts and lock nuts.
 - ___ ___ 10.1.10 Minimum 3 inch bore 10 inch stroke single acting hydraulic lift cylinder with square tube design adjustable lift arm.
 - ___ ___ 10.1.10.1 The lift arm will be pin adjustable to lengths of approximately 30, 35 and 40 inches when measured from the arm pivot point.
 - ___ ___ 10.1.10.2 Lift arm will be designed to accept 3/8" lift chains.
 - ___ ___ 10.1.11 If removed the factory front tow hooks are to be reinstalled in a similar location following hitch installation.

Meets Specs.

Yes No

11. PUP HITCH

- ___ ___ 11.1 3/4" steel pull plate as follows: (J-Craft H.D. or equal)
 - ___ ___ 11.1.1 Holland PH410RN11 pintle hook or equal.
 - ___ ___ 11.1.2 Safety chain "D" rings.
 - ___ ___ 11.1.3 6 pole electrical socket.
 - ___ ___ 11.1.4 Trailer brake air lines with 8 inch spring guard hose assemblies, aluminum gladhands and dummies with cable.
 - ___ ___ 11.1.5 Vertical tongue weight 18,000 lbs.
 - ___ ___ 11.1.6 Horizontal tongue weight 90,000 lbs.
 - ___ ___ 11.1.7 Latching tensile strength 20,000 lbs.
 - ___ ___ 11.1.8 Rated capacity 90,000 lbs.
 - ___ ___ 11.1.9 Pintle hitch height approximately 21" from ground level.
 - ___ ___ 11.1.10 If removed, the factory rear tow hooks are to be reinstalled in a similar location following hitch installation.

12. MISCELLANEOUS EQUIPMENT

- ___ ___ 12.1 Spray Control Systems, Minimizer M500 black poly fenders with stainless steel mount brackets.
 - ___ ___ 12.1.1 Fenders will be installed in a manner allowing for tire chain clearance.
- ___ ___ 12.2 Non-free swinging rear mud flaps will be installed off of body apron.
 - ___ ___ 12.2.1 Mud flaps to be "Aero Gorilla" 3/8" rubber anti-spray design attached with 3/16" steel backing strap.

13. GENERAL INFORMATION

- ___ ___ 13.1 One (1) parts book shall be furnished.
- ___ ___ 13.2 Body to be securely mounted in a position to give approximately 6 inches clearance between the head of the body and rear of cab.
- ___ ___ 13.3 All welds are to be chipped, brushed and painted with black enamel.
- ___ ___ 13.4 A proper GVW certification sticker will be affixed.

14. BODY AND EQUIPMENT WARRANTY REQUIREMENTS

- ___ ___ 14.1 Manufacture's standard warranty shall apply.
 - ___ ___ 14.1.1 Please provide information concerning the Terms and Conditions of warranty with your bid proposal.

15. BODY PREPARATION-PAINT-UNDERCOATING

- ___ ___ 15.1 Items to be painted to match color code of cab:
 - ___ ___ 15.1.1 Full exterior of body to include both sides of the tailgate.
 - ___ ___ 15.1.2 Inside of body, not including the floor.
- ___ ___ 15.2 Items to be painted black:
 - ___ ___ 15.2.1 Underside of the body.
 - ___ ___ 15.2.2 Inside of rear corner posts.(as space permits)
 - ___ ___ 15.2.3 Hoist frame.
 - ___ ___ 15.2.4 Pup hitch.
 - ___ ___ 15.2.5 Side boards
- ___ ___ 15.3 Metal will be completely primed with a rust inhibitive primer/sealer that is recommended by and compatible with the finish coat manufacture.
- ___ ___ 15.4 Primer/sealer will be applied in accordance with the Product Data Sheet.
- ___ ___ 15.5 Finish coat to be Sherwin Williams SUNFIRE acrylic urethane or equal.
- ___ ___ 15.6 Finish coat will be applied in accordance with the Product Data Sheet.
- ___ ___ 15.7 Finish must be smooth, shiny, free of runs, oversprays and other defects.
- ___ ___ 15.8 Entire system will have a minimum of 4.0 mil dry film thickness.
- ___ ___ 15.9 Underside of body will be undercoated using "Ming Auto Beauty" or equal products and application process.

Meets Specs.

Yes No

16. DELIVERY

- ___ ___ 16.1 The complete unit will be delivered to Fleet Services Garage, 901 North 6th. Street, Lincoln, NE. complete and ready for operation.
- ___ ___ 16.2 The original manufacturer’s statement of origin, a service authorization card, and properly executed service and warranty policy will accompany the vehicle when delivered.
- ___ ___ 16.3 All manuals and miscellaneous equipment as described in these specifications will be provided at the time of delivery.
- ___ ___ 16.4 Pre-delivery inspection will be properly performed prior to delivery with any lack of pre-delivery service resulting in rejection until the unit has been properly serviced.

17. OPTIONS

- ___ ___ 17.1 Delete Component Technology GL400 Material Spreader Control Box and replace with removable panel cover.
- ___ ___ 17.1.1 All other Material Spreader related items will be provided and installed as specified.
- ___ ___ 17.2 Add factory installed air conditioning with APADs or equal protection and diagnostic system.
- ___ ___ 17.3 Dump body sides, head and floor covered with ½" thick “QUICKSILVER” bed liner designed and installed for hauling of earth, aggregate and hot asphalt materials.
- ___ ___ 17.4 “Aero” RFL black asphalt tarp, weight-down design with side and end flaps in lieu of the mesh tarp as described in Item # 4.9.4 of the base specifications.

EQUIPMENT SPECIFICATIONS SECTION I
35,000 GVWR DUMP/PLOW TRUCK
(STREET MAINTENANCE)

1. INTENT AND GENERAL INFORMATION

- 1.1 It is the intent of this specification to describe a 35,000 GVWR DUMP/PLOW TRUCK to be purchased and delivered as a complete unit ready for operation, with all equipment indicated provided and installed.
- 1.2 This bid includes the truck cab/chassis, dump body, hydraulics, lighting package, snow plow hitch (less plow) and all installation and delivery costs.
- 1.3 The successful bidder will **NOT** be responsible for providing or installing snow plows or material spreaders as part of this bid.
- 1.4 The specification is generally a two section document with the first section describing the truck cab/chassis and the second section describing the dump body and associated equipment.
- 1.5 All bidders must comply with the licensing requirements for motor vehicle dealers established under the Motor Vehicle Industries Licensing Act. Nebraska revised Statutes, Chapter 60, Article 14.
 - 1.5.1 The licensing requirements must be met at the time of the bid opening for bids to be valid.
- 1.6 The equipment furnished under this specification be new and of the latest improved model in current production as offered to the commercial trade.
- 1.7 All equipment required for satisfactory operation will be provided whether or not they are specifically addressed in this specification.
- 1.8 Trucks delivered must comply with all current State and Federal safety regulations.
- 1.9 Exceptions to any part of this bid document will be clearly noted by Item # on your company letter head and signed by the appropriate authority.

2. INSURANCE

- 2.1 The successful bidder will be required to fully insure all trucks and equipment, for all perils, until delivery to and acceptance by the City of Lincoln, Fleet Services, 901 North 6th, Street, Lincoln, NE.
- 2.2 The City of Lincoln assumes ownership at the time of actual delivery at Fleet Services Garage, 901 North 6th, Street, Lincoln, NE. and acceptance of completed unit.

3. APPLICATION

- 3.1 Trucks will be used in a variety of applications to include on/off road hauling of earth, construction rubble, crushed rock and in snow plow and ice control operations.
- 3.2 This application not only demands the truck act as the prime mover for the mounted equipment, but also utilized as the power source for the central hydraulic system through a transmission mounted power take off.
- 3.3 PTO and shaft drive hydraulic pump will be left side (8:00 O'clock transmission PTO location) mounted with hydraulic tank being left side outside frame mounted.
 - 3.3.1 To facilitate installation of the hydraulic system both the inside and outside of the left frame rail should be as clean as possible.

4. MODEL

- 4.1 The chassis furnished under these specifications shall be new 2007 or newer of the latest improved model in current production as offered to the commercial trade.
- 4.2 Example Model:
 - 4.2.1 Sterling Acterra
 - 4.2.2 International 7000 Series
 - 4.2.3 Freightliner M2 106V
- 4.3 Examples listed are intended to show the type and class of chassis desired.
- 4.4 Bidders are cautioned to read the specifications carefully: the specifications may include special requirements not commonly offered by your standard equipment.
- 4.5 Do not assume your standard equipment meets all detailed specifications merely because it is listed above as an example.

Meet Specs.

Yes No

5. GVWR

___ 5.1 35,000 lbs. minimum.

6. CAB TO AXLE AND BUMPER BACK OF CAB

___ 6.1 84 inch CA.

___ 6.2 106 inch to 107 inch BBC.

7. ENGINE

___ 7.1 Engine shall be one of the following diesel engines:

___ 7.1.1 International DT-466

___ 7.1.2 Cummins ISC

___ 7.2 Minimum 260 gross horse power and 800 lb. ft. torque.

___ 7.3 Minimum 7.5 liter.

8. ENGINE EQUIPMENT

___ 8.1 Heavy-duty single element air cleaner with in-cab control auxiliary under hood inlet (snow valve).

___ 8.2 Air cleaner mounted air filter restriction indicator.

___ 8.3 Manufacturer's recommended High Capacity cross flow extra cooling design radiator with surge tank.

___ 8.4 Peak "Final Charge" coolant with inhibitor, engine coolant to -35F.

___ 8.4.1 No exception on brand or type of coolant requested.

___ 8.5 Silicone or Gates Blue Stripe hose package to include radiator, heater and by-pass hoses.

___ 8.6 Spin on coolant filter (If recommended by engine manufacturer)

___ 8.7 Horton Drivemaster automatic on/off fan drive with normally closed temperature controls.

___ 8.8 Minimum 1000 watt 115/120 volt block heater with receptacle mounted under left-hand door.

___ 8.9 Alliance or Fleetguard fuel/water separator with thermostatically controlled electric heater.

___ 8.10 Thermal electric intake heater.

___ 8.11 Fuel system primer pump.

___ 8.12 Minimum 25 qt. engine oil change capacity.

___ 8.13 Spin on oil filter.

___ 8.14 Magnetic engine oil drain plug.

___ 8.15 Heavy duty starter motor with thermal over-crank protection.

___ 8.16 Key operated electric shut down.

___ 8.17 Electronic engine system diagnostics with cab mounted J1939 diagnostics port.

___ 8.18 Engine shall be capable of electronic interface with Allison RDS series transmissions.

___ 8.19 Electronic cruise control.

___ 8.20 Electronic push button throttle.

9. EXHAUST SYSTEM

___ 9.1 Right hand horizontal ATD with vertical tail pipe and tail pipe guard.

___ 9.2 Exhaust will be low height design with a 90° turnout for cab shield clearance.

___ 9.3 Exhaust system to be frame or cab mounted with no more than 6 inches of CA loss.

___ 9.3.1 Please state CA loss _____".

___ 9.3.2 Please submit drawing of proposed exhaust system.

10. FUEL TANK

___ 10.1 Single 50 gallon left side fuel tank with two access steps.

___ 10.2 Tank to be under cab mounted not extending beyond back of cab.

Meet Specs.

Yes No

11. TRANSMISSION

- 11.1 Allison RDS 3500 wide ratio, 5-speed with PTO gear and less retarder.
- 11.2 Third gear hold feature activated through the mode button.
- 11.3 Instrument panel mounted Allison Push-Button type shift control.
- 11.4 Manufacturers recommended transmission cooler.
- 11.5 Optimum transmission programming for this application.
- 11.6 Easily accessible enabled secondary vehicle ground speed terminal **MUST** be provided for material spreader application.

12. FRONT AXLE AND STEERING

- 12.1 I-Beam type 14,000 lb., front axle - Meritor MFS-14-143A or Dana Spicer I-140.
- 12.2 Set-back axle configuration.
- 12.3 Single steering gear.
- 12.4 Stemco High Performance "Guardian" unitized wet seal or equal design.
- 12.5 Front end alignment will be performed following body and equipment installation with documentation provided at the time of delivery.

13. FRONT SUSPENSION

- 13.1 Minimum 14,000 lb. capacity leaf springs.
- 13.2 Heavy duty shock absorbers.

14. REAR AXLE

- 14.1 Single speed, single reduction, 23,000 lb. rear axle Meritor RT-23-160 or Dana Spicer S23-170D with 200 wheel ends and magnetic drain plug.
- 14.2 Driver actuated differential lock.(no-spin is not acceptable).
- 14.3 Axle ratio will be determined at the time the order is placed.

15. DRIVELINE

- 15.1 Driveline will be heavy duty and factory balanced.
- 15.2 17T Meritor or equal, driveline with half round yokes.

16. REAR SUSPENSION

- 16.1 23,000 lb. main leaf spring.
- 16.2 4,500 lb. auxiliary leaf spring.

17. FRAME

- 17.1 120,000 minimum PSI yield strength, single channel straight frame.
- 17.2 Minimum 2,000,000 in lbs. R.B.M.
- 17.3 Huck-bolt frame member fasteners.
- 17.4 Minimum 12" integral front frame extension.

18. WHEELS

- 18.1 Minimum 7,000 lb. hub piloted,8.25X22.5, 10 hole ventilated disc, steel wheels.
- 18.2 Wheel to be powder coated, white or grey in color.
- 18.3 Nylon wafers or wheel guards on all wheels.

19. TIRES

- 19.1 11R22.5 H highway tread front tires, Goodyear G149 RSA or equal.
- 19.2 11R22.5 H traction tread rear tires, Goodyear G164 RTD M+S or equal.
- 19.3 One spare front wheel and tire, same brand and model as furnished on truck.
- 19.4 Tires to be Firestone, Goodyear, Michelin, B.F. Goodrich, Bridgestone, UniRoyal, or General and shall carry the company name.

Meet Specs.

Yes No**20. BRAKES**

- ___ 20.1 Dual air system for straight truck application.
- ___ 20.2 Minimum 13.0 CFM air compressor, Bendix Tu-Flow 550 or equal.
- ___ 20.3 Severe service, MGM CS sealed, long stroke front brake chambers or equal design.
- ___ 20.4 16.5" x 5.0" S-cam front brakes.
- ___ 20.5 Severe service, MGM TR-TS 3030 long stroke, rear brake chambers or equal design.
- ___ 20.6 16.5" x 7" S-cam rear brakes.
- ___ 20.7 Full vehicle wheel ABS control system.
- ___ 20.8 Bendix AD-IP air dryer with heater right side outside frame mounted directly behind cab.
- ___ 20.9 Right frame rail mounted air tanks with heated auto drain valve on wet tank and manual drains with pull cables on all other tanks.
- ___ 20.10 Front and rear brake dust shields.
- ___ 20.11 Front and rear automatic slack adjusters with stainless steel pins.
- ___ 20.12 Color coded nylon brake lines.
- ___ 20.13 Color coded yellow, park brake knob on instrument panel.
- ___ 20.14 Trailer brake package with hand control and tractor protection valve for straight truck and trailer application.
- ___ 20.15 Air lines extended to end of frame. (see item #11 of body specifications)

21. ELECTRICAL SYSTEM

- ___ 21.1 12 Volt
- ___ 21.2 Two (2) each heavy duty 12 volt maintenance free batteries with a total 1850 CCA capacity.
- ___ 21.3 Three (3) battery system battery box, right side frame or under cab mounted.
- ___ 21.3.1 The unused battery position is to accommodate the relay panel as described in Item #9. of the body specifications.
- ___ 21.4 Remote jump start terminals.
- ___ 21.5 Delco 22-SI 130 amp capacity alternator.
- ___ 21.6 Circuit breaker protection.
- ___ 21.7 Color coded and protected wiring system.
- ___ 21.8 5 Amp ignition feed wire with heat shrink end, located in the cab for activation of auxiliary control console.
- ___ 21.9 Factory 2-way radio wiring as follows:
- ___ 21.9.1 Fused 20 Amp battery feed wire.
- ___ 21.9.2 Fused 5 Amp ignition feed wire.
- ___ 21.9.3 Ground wire.
- ___ 21.9.4 End of wires will be heat shrunk and coiled in the cab.
- ___ 21.10 Chassis manufacture must provide all wiring and companion connectors required by the final assembler for installation of lighting described in the body and equipment specifications.
- ___ 21.11 The final assembler will not be permitted to splice into any chassis wiring.

22. CAB

- ___ 22.1 Fully enclosed safety-type conventional cab with medium trim package and rear cab air suspension.
- ___ 22.2 Minimum 98 inches from grade to top of cab.
- ___ 22.3 Cab to have a minimum of 72 inches of shoulder room per specification sheet.
- ___ 22.4 Cab to have a minimum of 56 inches floor to headliner height.
- ___ 22.4.1 Raised or bubble roof is not acceptable.
- ___ 22.5 Tilt-forward fiberglass hood and stationary grill.
- ___ 22.6 Hood access panel(s) to allow access to engine compartment without tilting hood.

Meets Specs.

Yes No

23. CAB EQUIPMENT

- ___ ___ 23.1 High back vinyl covered air suspension drivers and passenger seats.
 - ___ ___ 23.1.1 "National 2000 Series" or "Bostrom 915"
 - ___ ___ 23.1.2 Seats to be the lightest standard color available.
 - ___ ___ 23.1.3 Both drivers and passenger seats will be fully adjustable for position and be complete with air adjustable lumbar support.
 - ___ ___ 23.1.4 Both drivers and passenger seats will have inboard fold-down design arm rests.
- ___ ___ 23.2 3-point lap and shoulder belts.
- ___ ___ 23.3 Dual entry grab handles.
- ___ ___ 23.4 Dual door mounted armrests or seat mounted fold-down design.
- ___ ___ 23.5 Dual sun visors.
- ___ ___ 23.6 Headliner and insulated rubber floor mat.
- ___ ___ 23.7 Storage pocket in drivers door or overhead console.
- ___ ___ 23.8 AM-FM radio with weather band and two speakers.
- ___ ___ 23.9 Highest available output heater/defroster with replaceable fresh air filter.
- ___ ___ 23.10 Tinted safety glass on all windows.
- ___ ___ 23.11 Deluxe insulation package.
- ___ ___ 23.12 Power drivers and passenger side windows with functional vent windows.
- ___ ___ 23.13 Sliding rear glass if available from manufacturer.
- ___ ___ 23.14 Tilt steering wheel.

24. CONTROLS AND INSTRUMENTS

- ___ ___ 24.1 Key locking starter switch.
- ___ ___ 24.2 Head, park and dome light switch.
- ___ ___ 24.3 High beam indicator.
- ___ ___ 24.4 Differential lock indicator.
- ___ ___ 24.5 **Self canceling** turn signal switch with integral dimmer switch.
- ___ ___ 24.6 Gauge cluster to be English with electronic speedometer.
 - ___ ___ 24.6.1 Odometer to display miles, trip miles, engine hours and trip hours. (engine hours to be non-resettable)
- ___ ___ 24.7 Visual and/or audible warning system as follows:
 - ___ ___ 24.7.1 Low engine oil pressure.
 - ___ ___ 24.7.2 High engine coolant temperature.
 - ___ ___ 24.7.3 High transmission temperature.
 - ___ ___ 24.7.4 Low air pressure.
 - ___ ___ 24.7.5 Water in fuel.
- ___ ___ 24.8 Gauge cluster as follows:
 - ___ ___ 24.8.1 Engine oil pressure.
 - ___ ___ 24.8.2 Engine coolant temperature.
 - ___ ___ 24.8.3 Transmission temperature.
 - ___ ___ 24.8.4 Fuel level.
 - ___ ___ 24.8.5 Voltmeter.
 - ___ ___ 24.8.6 Tachometer.
 - ___ ___ 24.8.7 Air pressures, air 1 and air 2.

25. WINDSHIELD WIPERS

- ___ ___ 25.1 Two speed electric windshield wipers with intermittent feature and electric washers.
 - ___ ___ 25.1.1 Wiper blades to be Arctic Winter type.
 - ___ ___ 25.1.2 Washer nozzles will be located on the wiper arms.

26. MIRRORS

- ___ ___ 26.1 Door mounted heated, stainless steel or power coated west coast mirrors with heated auxiliary convex mirror.

Meets Specs.

Yes No

27. LIGHTS

- ___ ___ 27.1 Vehicle shall be equipped with all required and manufactures recommended light to comply with FMVSS 108 and ICC requirements.
- ___ ___ 27.2 Halogen sealed beam headlights with OEM daytime running lights.
- ___ ___ 27.3 LED clearance and marker lights.
- ___ ___ 27.4 Hazard flashers.
- ___ ___ 27.5 Solid state 16 lamp flasher.
- ___ ___ 27.6 Door activated interior dome light.
- ___ ___ 27.7 Factory snow plow light circuit as follows:
 - ___ ___ 27.7.1 Provides feed and control for auxiliary front mounted head lights, park or identification lights, right/left turn signals and ground.
 - ___ ___ 27.7.2 Dash mounted switch labeled **PLOW LIGHTS** which controls whether auxiliary or vehicle head lights are on.
 - ___ ___ 27.7.3 Wiring harness will be 3' long and complete with mating connectors as required for a sealed connection.
 - ___ ___ 27.7.4 Vehicle head lights and auxiliary head lights can not be on at the same time but all other auxiliary lights will be tied to the respective front vehicle lighting circuits and function accordingly.
 - ___ ___ 27.7.5 Dimmer switch will function for both vehicle and auxiliary head lights.

28. MISCELLANEOUS EQUIPMENT AND MANUALS

- ___ ___ 28.1 **Delete front bumper.**
- ___ ___ 28.2 Manufacturers standard air horn.
- ___ ___ 28.3 Manufacturers standard electric horn.
- ___ ___ 28.4 Electronic backup alarm.(Preco factory model)
- ___ ___ 28.5 Two front tow hooks and two rear tow hooks. (Frame mounted)
- ___ ___ 28.6 Front mud flaps.
- ___ ___ 28.7 Removable winter front.
- ___ ___ 28.8 One (1) complete service and overhaul manual, CD or on-line access will be provided.
- ___ ___ 28.9 One (1) complete operators manual for each unit provided.

29. PAINT AND RUSTPROOF/UNDERCOAT

- ___ ___ 29.1 Basecoat/Clearcoat Polyurethane enamel paint.
- ___ ___ 29.2 Color shall be one solid color selected from manufacturers standard color chart provided with bid proposal.
- ___ ___ 29.3 Interior shall be the lightest standard color available.
- ___ ___ 29.4 Cab will be rustproofed/undercoated using "Ming Auto Beauty" or equal products and application process.

30. TRUCK WARRANTY AND CONDITIONS

- ___ ___ 30.1 The basic standard and extended warranties **MUST** be provided by the original equipment manufacturer.
 - ___ ___ 30.1.1 Coverage provided through independent warranty companies "aftermarket warranties" are not acceptable.
- ___ ___ 30.2 Basic vehicle coverage 48 months/50,000 miles.
- ___ ___ 30.3 Engine and engine electronics 48 months/50,000 miles.
- ___ ___ 30.4 Allison transmission and transmission electronics 24 months/50,000 miles.
- ___ ___ 30.5 Drive train and major components (front axle, rear axle, suspension, frame mount brackets and crossmembers, drive line) 48 months/50,000 miles.
- ___ ___ 30.6 Frame 60 months/100,000 miles.
- ___ ___ 30.7 Cab corrosion and structure 60 months/unlimited miles.
- ___ ___ 30.8 Towing 36 months/50,000 miles.
- ___ ___ 30.9 Complete details of the warranty you are providing must accompany your bid.

31. SEE SECTION II 10' DUMP BODY-HYDRAULIC SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCHSTREET MAINTENANCE

EQUIPMENT SPECIFICATIONS SECTION II
 FOR
 10' DUMP BODY-HYDRAULIC
 SYSTEM-LIGHTING SYSTEM-SNOW PLOW HITCH
 (STREET MAINTENANCE)

1. MODEL

- 1.1 The equipment furnished under these specifications shall be new of the latest improved model in current production as offered to the commercial trade.
 - 1.1.1 Bodies are to be Western style crossmemberless design.
- 1.2 See attached front, rear, side and specific component photos for clarification of intent.

Meets Specs

Yes No

2. BODY

- | | | |
|-----|--------|---|
| — — | 2.1 | 5 cubic yard capacity, struck <u>minimum</u> . (less side boards) |
| — — | 2.2 | Length 10 foot. |
| — — | 2.3 | Width 84 inches (inside). |
| — — | 2.4 | Side height 26 inches. |
| — — | 2.5 | Head height 40 inches. |
| — — | 2.6 | Minimum 8 inch 23.0 #/ft. structural I-beam long sills. |
| — — | 2.7 | 1/4 inch AR400 steel floor with radius edges. |
| — — | 2.8 | 3/16 inch AR400 steel sides with outward sloped seamless horizontal bracing at mid point. |
| — — | 2.9 | 3/16 inch AR400 steel front panel with reinforced top edge and horizontal brace. |
| — — | 2.10 | Fully boxed outward sloped top rail. |
| — — | 2.11 | Outward sloped rub (bottom) rail. |
| — — | 2.12 | 7 gauge A1011 Grade 50 steel, front corner posts and full depth rear corner posts. |
| — — | 2.13 | Structural channel rear apron full depth to long sills and full width of box, fully attached to rear corner posts and floor. |
| — — | 2.14 | 2-1/2" side board pockets with 6 inch 8.2 #/ft. structural channel side boards. |
| — — | 2.15 | Full length walk rail shall be installed on both sides of dump body. |
| — — | 2.15.1 | Walk rail shall be constructed of step grip perforated metal channel. (Buyers #SG1501048 3 row ladder rung) |
| — — | 2.15.2 | Walk rail shall be installed at mid point between rub rail and horizontal bracing flush with front and rear corner posts. |
| — — | 2.16 | Full length tarp rail shall be installed on both sides of dump body. |
| — — | 2.16.1 | Tarp rail shall be constructed of 1/4 x 2 inch steel flat. |
| — — | 2.16.2 | Tarp rail shall be installed at mid point between top rail and horizontal bracing. |
| — — | 2.17 | Steel construction, stow-a-way design access ladders shall be installed on right and left side of body next to front corner post. |
| — — | 2.17.1 | Ladder shall be approximately 20 inches wide. |
| — — | 2.17.2 | Pull-out section to be approximately 30 inches long and designed to angle out 10 inches at the bottom, in fold down position with step grip ladder rungs. |
| — — | 2.17.3 | 20 x 2.5 inch grab handle constructed of 3/4 inch rolled round installed vertically on front corner post to assist in the use of ladder. |

Meets Specs.

Yes No

2. BODY (continued)

- ___ 2.18 "MultiGuard" actuated electric vibrator, securely installed between long sills with reinforcement as required. (Tendaire Model # 3500 with automatic timer)
- ___ 2.19 Body light provisions will be for clearance and side markers only.
 - ___ 2.19.1 Rear oval light provisions **will not be included.**
 - ___ 2.19.2 Stop/tail/turn, backup and emergency lighting provisions are part of the Whelen DOT lighting package specified.

3. TAILGATE

- ___ 3.1 3/16" AR400 steel tailgate with lifting loop.
- ___ 3.2 Fully boxed with horizontal brace and two triple boxed vertical reinforcements - six panel design.
- ___ 3.3 Tailgate height 32 inches.
- ___ 3.4 Double-acting upper hinged, lower lever type hooks, with 3/8" alloy spreading chains and heavy gauge flexo sleeving.
- ___ 3.5 Upper and lower dog-leg slotted chain keepers.
- ___ 3.6 Top and bottom hinge pins shall be 1-1/4" diameter cold drawn round stock with positive type lock mechanism.
- ___ 3.7 Top pins will be removable, have grease zerks, stop rotation mechanism and safety lock hardware.
- ___ 3.8 "MultiGuard" actuated electric over pneumatic tailgate release.

4. CAB SHIELD WITH INTEGRAL TARP SYSTEM

- ___ 4.1 89 inches wide, with broken top edge and horizontal supports, designed to be structurally sound without the need for extended side gussets.(to accommodate 90⁰ exhaust turnout)
- ___ 4.2 7 gauge A1011 Grade 50 steel construction.
- ___ 4.3 ½ cab shield to project 24 inches out from body head.
- ___ 4.4 7" flat front or leading edge to accommodate installation of headboard LED lights.
- ___ 4.5 7" side plates to accommodate integral tarp assembly.
- ___ 4.6 Shield to be installed 6 inches above cab roof.
- ___ 4.7 Horizontal design with minimal slope to body.
- ___ 4.8 Shield to be securely welded to the body head.
- ___ 4.9 Cab shield will incorporate a tarp system as follows:
 - ___ 4.9.1 Aero Model Easy Cover 575 Series design.
 - ___ 4.9.2 Full open box interior with tarp in roll-up position.
 - ___ 4.9.3 12 Volt electric motor with right angle gear drive.
 - ___ 4.9.4 85" wide polyester mesh tarp with gravity type "Weight-Down" system.
 - ___ 4.9.5 Under-mount adjustable spring assemblies.
 - ___ 4.9.6 Polished aluminum side arms, angled approximately 26⁰ to allow arms to be recessed in roll-up position.
 - ___ 4.9.7 Length to be adequate to properly cover the entire body in the roll-out position.
 - ___ 4.9.8 All wiring and system protection devices will be in accordance with Aero installation recommendations.
 - ___ 4.9.9 "MultiGuard" actuated.

Meets Specs.

Yes No

5. HOIST

- ___ 5.1 Underbody double acting hydraulic with full sub-frame.
- ___ 5.2 Double equalizing arm or roller combo design.
- ___ 5.3 N.T.E.A. class 50 minimum (as published in N.T.E.A. hoist chart)
- ___ 5.4 Lifting capacity 17 ton minimum.
- ___ 5.5 Dump angle 50 degrees minimum.
- ___ 5.6 Mounting height 14 inches maximum.
- ___ 5.7 Rear hinge fabricated with 5"x3"x3/8"x36.5" structural steel or equal strength design.
 - ___ 5.7.1 Chromed or stainless steel hinge pins with greaseless composite bearings.
- ___ 5.8 Street and curb side fold down design body props.(pin type not acceptable)
- ___ 5.9 Body raise indicator light in "MultiGuard" indicator light panel.
- ___ 5.10 Critical hoist pivot points will have replaceable greaseless composite bushings.
- ___ 5.11 "MultiGuard " actuated.

6. LIGHTING SYSTEM

- ___ 6.1 Lighting must meet F.M.V.S.S. 108.
- ___ 6.2 All clearance, side marker and rear identification markers required to meet 108 Standards to be grommet mounted LED.
- ___ 6.3 Existing stop/tail and turn lights shall be removed.
- ___ 6.4 All wiring provided and installed by the final assembler will be split flex loomed and securely attached using insulated stainless steel cable/wire clamps and stainless steel hardware.
 - ___ 6.4.1 Wiring harness for all 108 lighting to be factory assembled one piece design with sealed connectors.
 - ___ 6.4.2 **Splicing into chassis wiring is not permitted.**
- ___ 6.5 Whelen Model DOT-LED (part #27H04MPS) lighting system.
- ___ 6.6 Two (2) each 180° Headboard LED flashing light assemblies with branch guard as follows:
 - ___ 6.6.1 Light assemblies installed on the front or leading edge of the cab shield with the outside edge of the light assembly even with the outside edge of the cab shield.
 - ___ 6.6.2 Light assemblies will be centered top to bottom on leading or front edge of cab shield.
 - ___ 6.6.3 Headboard assemblies will have clear lenses with amber/blue Linear LED's.
- ___ 6.7 Two (2) each 400 Series rear light assemblies as follows:
 - ___ 6.7.1 Stainless steel angle housing.
 - ___ 6.7.2 Installed on the outside of the rear corner posts.
 - ___ 6.7.3 Linear LED amber/blue flashing lights with TIR3 side lights.
 - ___ 6.7.4 LED red stop/tail/turn lights.
 - ___ 6.7.5 LED backup lights.
- ___ 6.8 Heavy duty cabling as follows:
 - ___ 6.8.1 12" protective flex tube and coupling at each light head.
 - ___ 6.8.2 TRP oil resistant, tin coated pure copper strand cables.
 - ___ 6.8.3 "Deutsch" waterproof connectors.
 - ___ 6.8.4 Cabling lengths as required for flashing LED lights.

Meets Specs.

Yes No

6. LIGHTING SYSTEM (continued)

- ___ ___ 6.9 Flash patterns as follows:
 - ___ ___ 6.9.1 Both front lights to flash simultaneously.
 - ___ ___ 6.9.2 Both rear lights to flash simultaneously.
 - ___ ___ 6.9.3 Front and rear lights to flash in an alternating pattern to each other.
 - ___ ___ 6.9.4 All flashing lights will have "Signal Alert" flash pattern.
- ___ ___ 6.10 Flasher and junction box will be installed on the back side of the "CircuitGuard" power distribution center housing assembly.
- ___ ___ 6.11 Hood mounted snow plow light assembly as follows:
 - ___ ___ 6.11.1 Grote #64261-4 PER-LUX snow plow lights.
 - ___ ___ 6.11.2 Custom stainless steel construction tri-pod design heavy duty plow light mount brackets.
 - ___ ___ 6.11.3 Brackets to be attached to the fenders in a similar fashion as OEM fender mount mirrors.
 - ___ ___ 6.11.4 Bottom of plow light to be approximately the same as the hood height.
 - ___ ___ 6.11.5 Width of plow lights to be generally the same as the OEM head lights.
 - ___ ___ 6.11.6 Light bracket will not interfere with hood access panel(s) or stationary grill opening in any manner.
 - ___ ___ 6.11.7 Plow lights will be powered and controlled through factory chassis plow light circuit.
- ___ ___ 6.12 Lighting system will be switched as follows and controlled through the "MultiGuard" system:
 - ___ ___ 6.12.1 Front flashing amber lights.
 - ___ ___ 6.12.2 Rear flashing blue lights.
 - ___ ___ 6.12.3 Low/Hi intensity.
 - ___ ___ 6.12.4 Rear flashing amber lights.
 - ___ ___ 6.12.5 Rear flashing blue lights.

7. CENTRAL HYDRAULIC SYSTEM

- ___ ___ 7.1 Basic design as follows:
 - ___ ___ 7.1.1 Transmission PTO driven, load sensing type.
 - ___ ___ 7.1.2 Capable of actuating and controlling motors and actuators as detailed.
 - ___ ___ 7.1.3 System will utilize closed-center valves, load sensing pressure compensating axial piston pump and a reservoir/valve enclosure.
 - ___ ___ 7.1.4 All hydraulic components will be installed in a neat and professional manner conforming to current engineering and manufacturing practices.
- ___ ___ 7.2 Hydraulic pump as follows:
 - ___ ___ 7.2.1 Rexroth Model A10V071DFR/31R-PKC92N00.
 - ___ ___ 7.2.2 Compensator with separate adjustments for main and stand-by pressures.
 - ___ ___ 7.2.3 System pressure to be set at 2,000 psi.
 - ___ ___ 7.2.4 Stand-by pressure to be approximately 300 psi.
 - ___ ___ 7.2.5 Pump to be left side frame mounted **directly across from the reservoir suction port to allow for the shortest possible suction line routing.**

Meets Specs.

Yes No

7. CENTRAL HYDRAULIC SYSTEM (continued)

- ___ 7.3 Hydraulic pump drive as follows:
 - ___ 7.3.1 Chelsea Model 277 PTO.
 - ___ 7.3.2 Mounting position to be left side (8 o'clock).
 - ___ 7.3.3 Drive ratio to be approximately 1 to 1 with engine RPM.
 - ___ 7.3.4 Power shift, actuated through "MultiGuard" system.
 - ___ 7.3.5 Pressure lubricated, designed for extended road speed operation.
 - ___ 7.3.6 Spicer 1310 driveline components.
 - ___ 7.3.7 Slip yoke design shaft with greasable yoke and u-joints.
 - ___ 7.3.8 All shaft locking devices to be wire tied.
 - ___ 7.3.9 Shaft to be professionally balanced for smooth operation.
- ___ 7.4 Hydraulic valves as follows:
 - ___ 7.4.1 Rexroth MP-18 valves.
 - ___ 7.4.2 Closed center, sectional type load sensing.
 - ___ 7.4.3 Valves will be individually pressure and flow compensated.
 - ___ 7.4.4 Individual sections for each function.
 - ___ 7.4.5 All sections will be fully proportional electric with manual overrides incorporated into activation solenoids.
 - ___ 7.4.6 Mechanical/adjustable stroke limiters on both plow and hoist valves.
 - ___ 7.4.7 Plow raise/lower section: 3-way directional valve with a 7 g.p.m. spool.
 - ___ 7.4.8 Plow angle right/left section: 4-way directional valve with a 7 g.p.m. spool **and adjustable port relief to A and B ports set at 1,800 psi.**
 - ___ 7.4.9 Hoist raise/lower section: 4-way directional valve with a 35 g.p.m. spool and **hoist down adjustable port relief set at 500 psi.**
 - ___ 7.4.10 Conveyor drive section: 2-way directional valve with a 15 g.p.m. spool.
 - ___ 7.4.11 Spinner drive section: 2-way directional valve with a 7 g.p.m. spool.
 - ___ 7.4.12 A 5,000 psi glycerin filled gauge will read system pressure and be installed on and plumbed to the top of the valve enclosure.
 - ___ 7.4.13 Valves will be actuated through a combination of stick controls and GL400 spreader control located in the "MultiGuard" System.
- ___ 7.5 Reservoir/Valve Enclosure as follows:
 - ___ 7.5.1 Component Technology "ServiceGuard" series.
 - ___ 7.5.2 Stainless steel construction.
 - ___ 7.5.3 30 gallon capacity.
 - ___ 7.5.4 Screened filler neck.
 - ___ 7.5.5 Fluid level/temperature gauge.
 - ___ 7.5.6 Electric low fluid indicator in "MultiGuard" indicator light panel.
 - ___ 7.5.7 10 micron in-tank filter.
 - ___ 7.5.8 By-pass and condition gauge.
 - ___ 7.5.9 Service shut off valve.
 - ___ 7.5.10 Bolt-on top and side valve access panels with form fitted gaskets.
 - ___ 7.5.11 Left side truck frame mounted directly behind cab with the bottom of the reservoir no lower than the bottom of the fuel tank.
- ___ 7.6 Hydraulic hoses and fittings as follows:
 - ___ 7.6.1 All pressure hoses including signal sense line to pump will have 37⁰ JIC swivel fittings on each end and be a minimum SAE 100- R2 rating.
 - ___ 7.6.2 Return lines and case drain will have 37⁰ JIC swivel fittings on both ends and be a minimum SAE 100-R1 rating.
 - ___ 7.6.3 Suction line will be a minimum SAE 100-R4 rated, 2" I.D. connected with heavy duty banding straps.
 - ___ 7.6.4 Suction line will utilize a 90⁰ fitting directly off of the reservoir to facilitate a straight suction line to pump.(see 7.2.5)
 - ___ 7.6.5 Pressure hoses from valving to plow lift cylinder and reversing cushion valve will be ½" I.D.

Meets Specs.

Yes No

7. CENTRAL HYDRAULIC SYSTEM (continued)

- ___ 7.6.6 Snow plow cushion valve with Aeroquip FD45 series ½" stainless steel couplers will be provided and installed on the left (street side) of the plow hitch in a position that allows for ease of plow coupling.
- ___ 7.6.7 Spinner and conveyor pressure fittings will be capped outside of the valve enclosure for future installation of a material spreader.
- ___ 7.6.8 A 3/4" capped 37° JIC male return circuit fitting will be provided for future installation of a material spreader.
- ___ 7.6.9 Pressure hoses to hoist cylinder will be sized per hoist manufacturers recommendation.
- ___ 7.6.10 Hoses will be routed in a neat and professional manner and secured with clamps or ties not exceeding 24 inches between holding devices.

8. OPERATOR CONTROL SYSTEM

- ___ 8.1 Center floor mounted armrest design control console as follows:
 - ___ 8.1.1 Component Technology "MultiGuard" series.
 - ___ 8.1.2 Integral console controlling all hydraulic functions, spreader functions, auxiliary lighting and warning indicators.
 - ___ 8.1.3 Armrest adjustable for height and position with stow capability.
 - ___ 8.1.3.1 Base mounting plate and arm support tube location will be determined at the time of order.
 - ___ 8.1.4 Control of snow plow will be through a dual-axis fully proportional joy stick installed in the left position.
 - ___ 8.1.5 Control of the hoist will be through a single-axis fully proportional stick installed in the right position.
 - ___ 8.1.6 Special control stick provisions:
 - ___ 8.1.6.1 Plow control must provide an electronic time activated float function with plow float enable switch.
 - ___ 8.1.6.2 Hoist control must provide a push button dead-man switch.
 - ___ 8.1.7 Plow functions as follows:
 - ___ 8.1.7.1 Forward movement = Plow Lower.
 - ___ 8.1.7.2 Rearward movement = Plow Raise.
 - ___ 8.1.7.3 Left movement = Plow Angle Left.
 - ___ 8.1.7.4 Right movement = Plow Angle Right.
 - ___ 8.1.8 Hoist functions as follows:
 - ___ 8.1.8.1 Forward movement = Hoist Lower.
 - ___ 8.1.8.2 Rearward movement = Hoist Raise.
 - ___ 8.1.9 Harness for snow plow and hoist controls will be TPE harness system.
 - ___ 8.1.10 Material spreader controls as follows:
 - ___ 8.1.10.1 Component Technology "GL400" series.
 - ___ 8.1.10.2 Designed for closed-loop operation using a White motor integral conveyor speed sensor with M12 female connector and Allison transmission ground speed provision.
 - ___ 8.1.10.3 Auger sensor harness will be adequate length for future installation of a in-box material spreader, coiled and wire tied to the valve enclosure.
 - ___ 8.1.10.4 Remote "pause" provision will be provided and activated through the "MultiGuard" system.
 - ___ 8.1.10.5 Harness for material spreader will be TPE harness system.

Meets Specs.

Yes No

9. ELECTRIC RELAY AND CIRCUIT BREAKER PANEL

- ___ ___ 9.1 A custom built panel will be installed vertically in the battery box to act as a mounting panel for the following:
 - ___ ___ 9.1.1 CircuitGuard 80 amp breaker.
 - ___ ___ 9.1.2 Tarp relay and breaker.
 - ___ ___ 9.1.3 Box vibrator relay and breaker.
 - ___ ___ 9.1.4 All activation and power wiring for the tarp and box vibrator will be manufacturers recommended gauge.
 - ___ ___ 9.1.5 All relays and breakers will be labeled with heavy duty 2 ply engraved plastic labels indicating system and function.

10. SNOW PLOW HITCH

- ___ ___ 10.1 Low profile plow hitch with quick link as follows:
 - ___ ___ 10.1.1 Flink Model PF91QL2 or Monroe PF91QL1 or equal design.
 - ___ ___ 10.1.2 Heavy-duty, tailored, non-folding low profile design with minimum ½" steel side cheek plates.
 - ___ ___ 10.1.3 Hitch will be designed and manufactured specifically for the truck provided.
 - ___ ___ 10.1.4 Frame extension will be shortened to allow the plow hitch to be installed as close to the front of the truck as possible and still maintain the maximum strength and integrity.
 - ___ ___ 10.1.5 All thrust loads must be transferred to the chassis frame not to the front axle or spring assemblies.
 - ___ ___ 10.1.6 Quick link, positive lock with plow attachment point 16 inches above the ground.
 - ___ ___ 10.1.7 Lowest point will allow a minimum of 10 inches of ground clearance.
 - ___ ___ 10.1.8 The hitch **must** be designed and installed to allow the tilt-hood with stationary grill to fully open without contacting any portion of the hitch or lift arm.
 - ___ ___ 10.1.9 The hitch will be installed utilizing grade 8 bolts and lock nuts.
 - ___ ___ 10.1.10 Minimum 3 inch bore 10 inch stroke single acting hydraulic lift cylinder with square tube design adjustable lift arm.
 - ___ ___ 10.1.10.1 The lift arm will be pin adjustable to lengths of approximately 30, 35 and 40 inches when measured from the arm pivot point.
 - ___ ___ 10.1.10.2 Lift arm will be designed to accept 3/8" lift chains.
 - ___ ___ 10.1.11 If removed the factory front tow hooks are to be reinstalled in a similar location following hitch installation.

11. PUP HITCH

- ___ ___ 11.1 3/4" steel pull plate as follows: (J-Craft H.D. or equal)
 - ___ ___ 11.1.1 Holland PH410RN11 pintle hook or equal.
 - ___ ___ 11.1.2 Safety chain "D"rings.
 - ___ ___ 11.1.3 6 pole electrical socket.
 - ___ ___ 11.1.4 Trailer brake air lines with 8 inch spring guard hose assemblies, aluminum gladhands and dummies with cable.
 - ___ ___ 11.1.5 Vertical tongue weight 18,000 lbs.
 - ___ ___ 11.1.6 Horizontal tongue weight 90,000 lbs.
 - ___ ___ 11.1.7 Latching tensile strength 20,000 lbs.
 - ___ ___ 11.1.8 Rated capacity 90,000 lbs.
 - ___ ___ 11.1.9 Pintle hitch height approximately 21" from ground level.
 - ___ ___ 11.1.10 If removed, the factory rear tow hooks are to be reinstalled in a similar location following hitch installation.

Meets Specs.

Yes No

12. MISCELLANEOUS EQUIPMENT

- ___ ___ 12.1 Spray Control Systems, Minimizer M100 black poly fenders with stainless steel mount brackets.
 - ___ ___ 12.1.1 Fenders will be installed in a manner allowing for tire chain clearance.
- ___ ___ 12.2 Non-free swinging rear mud flaps will be installed off of body apron.
 - ___ ___ 12.2.1 Mud flaps to be "Aero Gorilla" 3/8" rubber anti-spray design attached with 3/16" steel backing strap.

13. GENERAL INFORMATION

- ___ ___ 13.1 One (1) parts book shall be furnished.
- ___ ___ 13.2 Body to be securely mounted in a position to give approximately 6 inches clearance between the head of the body and rear of cab.
- ___ ___ 13.3 All welds are to be chipped, brushed and painted with black enamel.
- ___ ___ 13.4 A proper GVW certification sticker will be affixed.

14. BODY AND EQUIPMENT WARRANTY REQUIREMENTS

- ___ ___ 14.1 Manufacture's standard warranty shall apply.
 - ___ ___ 14.1.1 Please provide information concerning the Terms and Conditions of warranty with your bid proposal.

15. BODY PREPARATION-PAINT-UNDERCOATING

- ___ ___ 15.1 Items to be painted to match color code of cab:
 - ___ ___ 15.1.1 Full exterior of body to include both sides of the tailgate.
 - ___ ___ 15.1.2 Inside of body, not including the floor.
- ___ ___ 15.2 Items to be painted black:
 - ___ ___ 15.2.1 Underside of the body.
 - ___ ___ 15.2.2 Inside of rear corner posts.(as space permits)
 - ___ ___ 15.2.3 Hoist frame.
 - ___ ___ 15.2.4 Pup hitch.
 - ___ ___ 15.2.5 Side boards
- ___ ___ 15.3 Metal will be completely primed with a rust inhibitive primer/sealer that is recommended by and compatible with the finish coat manufacture.
- ___ ___ 15.4 Primer/sealer will be applied in accordance with the Product Data Sheet.
- ___ ___ 15.5 Finish coat to be Sherwin Williams SUNFIRE acrylic urethane or equal.
- ___ ___ 15.6 Finish coat will be applied in accordance with the Product Data Sheet.
- ___ ___ 15.7 Finish must be smooth, shiny, free of runs, oversprays and other defects.
- ___ ___ 15.8 Entire system will have a minimum of 4.0 mil dry film thickness.
- ___ ___ 15.9 Underside of body will be undercoated using "Ming Auto Beauty" or equal products and application process.

16. DELIVERY

- ___ ___ 16.1 The complete unit will be delivered to Fleet Services Garage, 901 North 6th. Street, Lincoln, NE. complete and ready for operation.
- ___ ___ 16.2 The original manufacturer's statement of origin, a service authorization card, and properly executed service and warranty policy will accompany the vehicle when delivered.
- ___ ___ 16.3 All manuals and miscellaneous equipment as described in these specifications will be provided at the time of delivery.
- ___ ___ 16.4 Pre-delivery inspection will be properly performed prior to delivery with any lack of pre-delivery service resulting in rejection until the unit has been properly serviced.

Meets Specs.

Yes No

17. OPTIONS

- 17.1 Delete Component Technology GL400 Material Spreader Control Box and replace with removable panel cover.
- 17.1.1 All other Material Spreader related items will be provided and installed as specified.
- 17.2 Add factory installed air conditioning with APAdS or equal protection and diagnostic system.
- 17.3 Dump body sides, head and floor covered with ½" thick "QUICKSILVER" bed liner designed and installed for hauling of earth, aggregate and hot asphalt materials.
- 17.4 "Aero" RFL black asphalt tarp, weight-down design with side and end flaps in lieu of mesh tarp as described in Item # 4.9.4 of the base specifications.