



# Solicitation Response

		Response Due Date May 4, 2016	Time 1:00 P.M.	Location 800 Lincoln Way, Ames, IA	
Proposal Number <b>16398</b>	Description Sign Trucks				
Contract Begin Date N/A	Contract Completion Date N/A	Bid Bond N/A	Performance Bond (Y/N) N	Liquidated Damages N/A	
Purchasing Agent assigned Zach Gillen		E-mail Address zachary.gillen@dot.iowa.gov	Phone 515-239-1347	Fax 515-239-1538	
<b>RESPONDER INFORMATION</b>					
Company Name				Federal Tax ID	
Street Address		City	State	Zip Code	
Contact Name	E-mail Address		Phone	Fax	
Responder agrees to sell goods/services or both at the same prices, terms and conditions to any other Iowa state agency, Regent or Political Subdivision upon request. Please check Yes or No. <input type="checkbox"/> Yes <input type="checkbox"/> No			Responder is an Iowa Targeted Small Business <input type="checkbox"/> Yes <input type="checkbox"/> No		

## GENERAL INFORMATION

This solicitation includes the Solicitation Response cover page, Schedule of Prices, Standard Terms and Conditions, Supplemental terms (if any), Specifications, Plans and Drawings, mailing label and all other information needed to prepare and submit a response to the solicitation. Information in the "Solicitation Response" above must be typed or completed in ink, signed, and returned in a flat style envelope along with any other information required in the solicitation prior to the response due date and time. Please use the furnished mailing label, or label the response as "Iowa Department of Transportation, proposal number and response due date on the outside of the return envelope. Responders may personally deliver, mail, or select a carrier that ensures timely delivery. **Faxed or e-mail responses will not be accepted.**

If required, each response must be accompanied by a bid bond in an accepted form, in the percent amount indicated above. Refer to the Standard Terms and Conditions for the accepted forms in which the bid bond requirement may be fulfilled. **Responses without a required bid bond will not be considered for award.** If the intended awarded responder fails to enter into a formal contract within fifteen (15) days after award is made for any reason on their part, the bid bond may be retained by the State.

The entire contents of this solicitation, Addendums, Schedule of Prices, Specifications, Plans and Drawings, Supplemental Terms and Conditions, Standard Terms and Conditions, shall become part of the contract.

*We certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a response; that this response has been independently arrived at without collusion with any other responder, competitor, or potential competitor; and that this response has not been knowingly disclosed prior to the opening of responses to any other responder or competitor.*

*We certify that all materials, equipment goods and/or services proposed meet or exceed the specifications and will be supplied in accordance with the entire contents of this solicitation including delivery schedules. We promise to complete the contract within the contract period, or pay any liquidated damages, if stipulated, for each calendar day as set forth in the solicitation documents.*

Signed \_\_\_\_\_ Date \_\_\_\_\_



# Schedule Of Prices

Number	<b>16398</b>
Date Required	05/04/2016 1:00 PM

**Title** Sign Trucks  
**Delivery Location** AMES, IA 50010  
**Shipping Terms** FOB Destination/Freight Prepaid

**Vendor**  
**PA Name** Zachary Gillen  
**Phone** 515-239-1347  
**E-Mail** zachary.gillen@dot.iowa.gov

**Description**

Product Availability Days: \_\_\_\_\_

Item	Qty	Unit	Description	Part #	Unit Price	Total Price
1	7	EACH	Signing Truck Chassis As per Spec. No. 9-A08-0216, ITEM-1  Chassis price should include vendor prep, crane hydraulics and crane installation costs.  Vehicle titled with owner as "STATE OF IOWA DOT" Delivery Location: AMES, IA 50010			
Comments:						
2	2	EACH	Signing Truck Chassis with Extended Cab Option As per Spec. No. 9-A08-0216, ITEM-1, OPTION-1  Chassis price should include vendor prep, crane hydraulics and crane installation costs.  Vehicle titled with owner as "STATE OF IOWA DOT" Delivery Location: AMES, IA 50010			
Comments:						
3	9	EACH	Flatbed Body, Installed As per Spec. No. 9-A08-0216, ITEM-2  Delivery Location: AMES, IA 50010			
Comments:						
4	3	EACH	Generator, Hydraulic As per Spec. No. 9-A08-0216, ITEM-3  Delivery Location: AMES, IA 50010			
Comments:						

I HEREBY CERTIFY THAT THIS PROPOSAL MEETS OR EXCEEDS THE MINIMUM REQUIREMENT INCLUDING SPECIFICATIONS AND ADDENDUMS.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## Iowa Department of Transportation Standard Terms and Conditions

For

Submission of Quotations, Bids or Proposals

-FORMAL-

*Formal* is the procurement process required by Iowa law when the estimated, aggregate amount of the purchase equals or exceeds \$50,000.

The entire contents of this bid solicitation shall become a part of a contract or purchase order. In case of a discrepancy between the contents of the bid documents, the following items listed by descending order shall prevail:

- Addendums to the bid solicitation
- Bid Solicitation-
  - Schedule of Prices
  - Specifications
  - Plans and Drawings
- Supplemental Terms and Conditions
- Standard Terms and Conditions

(Example - if a statement in the specifications contradicts a statement in the Standard Terms and Conditions, the statement in the specifications shall apply)

**Preparation of Bid Response:** All bid responses must address all aspects of the solicitation including clearly responding to the contents of the bid solicitation. Bid responses must be typed or completed in ink and submitted on the forms supplied by the Iowa DOT.

**Bid responses must be signed and received prior to the bid opening date and time as indicated on the Bid Response cover page or bid opportunity. The signed, submitted quotation or bidder's proposal shall become the official bid response to be considered for award.**

**No email, fax or web link bid responses will be accepted. Bid Responses must be signed, sealed and delivered in person or by a mail courier that ensures timely delivery.**

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### A. Solicitation

1. **Bid Opening:** Bid openings are made public and conducted at the Iowa DOT, Ames complex unless otherwise specified. Quotations, Bids or Proposals received after the time of the bid opening will be returned unopened and considered non-compliant.
2. **Communications:** Questions concerning this solicitation should be directed to the purchasing agent listed on the bid solicitation. Inquiries can be written, phoned, or faxed. In all cases, written communication will take precedence over verbal communication.
3. **Bid Bond:** If required, the Bid Response page will indicate the dollar amount required to be included in the bid response. A Bid Bond can be supplied in one of the following ways: **(1)** Certified check or credit union certified share draft, cashier's check, or bank draft, drawn on a solvent bank or credit union. Certified checks and certified share drafts shall be drawn and endorsed in the amount indicated. Checks or drafts shall be made payable either to the Iowa Department of Transportation (Iowa DOT) or to the bidder. If payable to the bidder, the check or draft shall be endorsed without qualifications to the Iowa DOT by the bidder or an authorized agent. **(2)** An insurance or surety company may be retained to provide a bond in fulfillment of the Bid Bond requirement. A properly completed and signed copy of the Bid Bond (*Form 131084*) must accompany the bid. **The Iowa DOT's Bid Bond form must be used; no other forms or formats will be accepted.**
4. **Pricing and Discount:** Unit prices shown on the bid/response shall be quoted as the price per unit (e.g., gal., case, each, etc.) as stated in the bid solicitation. If there is a discrepancy between the unit bid prices, extension, or total amount of bid, the unit prices shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase. Discounts for early payment are allowed, but not considered in award of the contract.

5. **Acceptance/Rejection:** The Iowa DOT reserves the right to accept or reject any or all bids and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to any supplier(s). The Iowa DOT also reserves the right to accept that bid which is deemed to be in the best interests of the state. Any unauthorized changes, additions, or conditional bids including any ties to another Quotation, Bid or Proposal or any reservations about accepting an award or entering into a contract, may result in rejection of the bid. Quotations, Bids or Proposals must remain available for award for thirty (30) days from date of bid opening.
6. **Bid Results & Disclosure:** Bid tabulations will be posted on the Iowa DOT website at [www.iowadot.gov/purchasing](http://www.iowadot.gov/purchasing) under the *Bid Award* link referencing the Solicitation number with an award recommendation indicated. At the conclusion of the selection process, the contents of all received bid responses will be placed in the public domain and be open to inspection by interested parties, according to state law. Trade secrets or proprietary information that are recognized as such and are protected by law may be withheld if clearly identified as such in the Bid Response.
7. **Quality:** All material shall be new and of first quality. Items which are used, demonstrators, refurbished, obsolete, seconds, or which have been discontinued are unacceptable without prior written approval by the Iowa DOT.
8. **Recycled Content:** The Iowa Code encourages purchase of products and materials with recycled content, including but not limited to paper products, oils, plastic products, compost materials, aggregate, solvents, and rubber products. Recycled items or alternatives must be noted in the bid response, if known.
9. **Shipping Terms:** Deliveries shall be F.O.B. Destination unless otherwise specified. All deliveries shall be accompanied by a packing slip indicating the Supplier, quantities shipped, and the purchase order number(s). All delivery charges shall be included in the bid price and paid by the Supplier. No collect C.O.D. deliveries shall be accepted. When entering into a contract, the Supplier shall notify the freight company that all freight and delivery charges are to be prepaid by the Supplier. Goods delivered to the Iowa DOT Distribution Center at 800 Lincoln Way, Ames, IA shall be received between the hours of 7:00 a.m. and 3:00 p.m. on any day except Saturday, Sunday, or a holiday. For deliveries to other Iowa DOT locations, the Supplier may contact the destination location for available times to deliver as not all Iowa DOT locations have the same business hours. The Iowa DOT will not be liable for any freight claims or unpaid freight bills arising from contract or purchase order issues.

## B. Award

The binding agreement (award) may be issued in the form a purchase order or contract or both depending on the requirements and complexity of the agreement.

1. **Method of Award:** Award shall be made to the responsible, responsive bidder whose Quotation, Bid or Proposal meets the requirements of the solicitation and is the most advantageous to the Iowa DOT. An Iowa bidder will be given preference over an out-of-state bidder when bid responses are equal in all aspects and are tied in price. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.
2. **Award Protests:** Protests of award recommendations are to be addressed to the Director of Purchasing, and shall be made in accordance with paragraph 761--20.4(6)"e" of the Iowa Administrative Code.
3. **Contracts:** Successful contractor(s) may be sent either a formal Contract, Notification of Award or Purchase Order as confirmation of acceptance and award. Any of these binding agreements shall be for the term stated in the bid solicitation or on a purchase order and may be renewed for additional period(s) under the same terms and conditions upon mutual agreement as defined. The successful bidder may not assign a contract to another party without written authorization from the Iowa DOT Purchasing Section. The Iowa DOT may offer a contract extension to the Contractor when a scheduled target date cannot be met.
4. **Consumer Price Index (CPI-U):** A CPI may be allowed as specified in the terms of the bid solicitation and at the discretion of the Iowa DOT based on currently posted CPI-U, US City Average, All Items – non seasonally adjusted unless otherwise specified. This applies each of any subsequent renewals, extensions, amendments issued under the contract for the duration of the contract.

5. **Payment Terms:** The Iowa DOT typically pays properly submitted vendor invoices within thirty (30) days of receipt, providing goods and/or services have been successfully delivered, installed or inspected (if required), and accepted. Invoices presented for payment must be only for quantities received by the Iowa DOT and must reference the purchase order number to be submitted for processing.
6. **Default (Supplier):** Failure of the Supplier to adhere to specified delivery schedules or to promptly replace rejected materials shall render the Supplier liable for all costs in excess of the bid price when alternate procurement is necessary. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the binding agreement.
7. **Default (Contractor):** Failure of a Contractor other than a Supplier to meet any specified project completion deadline shall render the Contractor liable for all costs incurred by the Iowa DOT that were: a) necessary to meet said deadline; or b) necessary to complete said project after said deadline. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the agreement.

### C. General

1. **Administrative Rules:** For Additional details on the rules governing the actions of the Iowa DOT Purchasing Section, refer to 761 IAC, Chapter 20, Iowa Administrative Code, entitled "Procurement of Equipment, Materials, Supplies and Services".
2. **Affirmative Action:** The Contractor (and also subcontractor, vendor or supplier) is prohibited from engaging in discriminatory employment practices forbidden by federal and state law, executive orders and rules of the Iowa Department of Management, pertaining to equal employment opportunity and affirmative action. Contractor may be required to have on file a copy of their affirmative action program, containing goal and time specifications. Contractors doing business with Iowa in excess of \$5,000 annually and employing 50 or more full time employees may be required to file with the Iowa Department of Management a copy of their affirmative action plan. Failure to fulfill these non-discrimination requirements may cause the contract to be canceled and the contractor declared ineligible for future state contracts or subject to other sanctions as provided by law or rule.
3. **Applicable Law:** The contract shall be governed under the laws of the State of Iowa. The contractor shall at all times comply with and observe all federal and state laws, local laws, ordinances, and regulations which are in effect during the period of a contract and which in any manner affect the work or its conduct. Any legal action relating to a contract shall only be commenced in the Story County, Iowa, District Court or the United States District Court for the Southern District of Iowa.
4. **Conflict of Interest:** No state or county official or employee, elective or appointive shall be directly or indirectly interested in any contract issued by the Iowa DOT, see Code of Iowa 314.2.
5. **Debarment and Vendor Suspension:** By submitting a Bid Response, the contractor is certifying that it and its principals and/or subcontractors are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by the State of Iowa or any Federal department or agency.
6. **Equal Opportunity:** Firms submitting bids must be an "Equal Opportunity Employer" as defined in the Civil Rights Act of 1964 and in Iowa Executive Order Number Thirty-four.
7. **Indemnification-Goods:** To the extent the goods are not manufactured in accordance with Iowa DOT's designs, Supplier shall defend, indemnify and hold harmless Iowa DOT, its assignees, and other users of the goods from and against any claim of infringement of any letters patent, trade names, trademarks, copyright or trade secrets by reason of sale or use of any articles purchased. Iowa DOT shall promptly notify Supplier of any such claim.
8. **Infringement:** Goods shall be delivered free of the rightful claim of any third party by way of infringement. Contractor shall indemnify and save harmless the State of Iowa and the Iowa DOT against all claims for infringement of, and/or royalties claimed under, patents or copyrights on materials and equipment furnished under this bid.
9. **Iowa Open Records Law:** All Bid Responses are subject to terms and provisions of Iowa Code Chapter 22 Examination of Public Records (Open Records), specifically 22.7- Confidential Records.

10. **Records Audit:** The contractor agrees that the Auditor of the State of Iowa or any authorized representative of the state, and where federal funds are involved, the Comptroller General of the U.S. Government, shall have access to and the right to examine, audit, excerpt, and transcribe any directly pertinent books, documents, papers, and records of the contractor relating to orders, invoices, or payments of a contract or purchase order.
11. **Targeted Small Businesses:** The Iowa DOT seeks to provide opportunities for women and/or minority small business enterprises. To apply for certification as an Iowa Targeted Small Business, contact the Iowa Department of Inspection and Appeals (515-281-5796). Contractors shall take documented steps to encourage participation from Targeted Small Businesses for the purpose of subcontracting and supplying of goods or services or both.
12. **Taxes:** Prices quoted shall not include state or federal taxes from which the state is exempt. Exemption certificates will be furnished upon request.
13. **Termination:**
  - **Termination Due to Lack of Funds or Change in Law**

The Iowa DOT shall have the right to terminate this Contract without penalty by giving thirty (30) days written notice to the vendor as a result of any of the following:

    - Adequate funds are not appropriated or granted to allow the Iowa DOT to operate as required and to fulfill its obligations under contract.
    - Funds are de-appropriated or not allocated or if funds needed by the Iowa DOT, at the Iowa DOT's sole discretion, are insufficient for any reason.
    - The Iowa DOT's authorization to operate is withdrawn or there is a material alteration in the programs administered by the Iowa DOT.
    - The Iowa DOT's duties are substantially modified.

Following a 30 day written notice, the Iowa DOT may terminate a binding agreement in whole or in part without the payment of any penalty or incurring any further obligation to the Supplier. Following termination upon notice, the Supplier shall be entitled to compensation upon submission of invoices and proper proof of claim for goods and services under contract up to and including the date of termination.

**Iowa Department of Transportation  
SUPPLEMENTAL TERMS & CONDITIONS  
For  
Sign Trucks  
Proposal Number: 16398  
Letting Date: April May 4, 2016**

**Award**

It is the intent of the Iowa DOT to award the contract to the responsible bidder whose submitted quotation is the most advantageous to the Iowa DOT, cost and other factors considered. Other factors include, but are not limited to: meeting or exceeding mandatory requirements, proposed staffing, and meeting required time schedule.

**Purchase Orders**

One purchase order will be issued.

**Specifications and Technical Requirements**

The Bidder shall answer whether or not it will comply with each requirement in the Specifications. Bid Responses must identify any deviations from the requirements of this RFB or requirements the Bidder cannot satisfy. Any deviations from the requirements of the RFB or any requirement that the bidder cannot satisfy may disqualify the Bidder.

**Warranty**

Manufacturer shall guarantee to furnish all warranty services at franchised dealers within the State of Iowa. From the date this equipment is accepted, the manufacturer and/or their representative shall provide a no deductible all-inclusive warranty (less normal maintenance) for a minimum 1 year/12,000 miles, whichever occurs first. Engine and drive train shall be covered by an all-inclusive (less normal maintenance) no deductible warranty for a minimum 2 years/24,000 miles, whichever occurs first. If the standard retail warranty exceeds these terms, the standard warranty shall apply. A warranty certificate or card shall be supplied with the vehicle.

**Bidder's Request Alternatives or Exceptions**

Any equipment being offered as an alternative to the specified make/model must be submitted on the enclosed form "Bidder's Request for Alternatives or Exceptions." The form must specifically state the requested alternative and be accompanied by adequate supporting information to evaluate the request.

The "Bidder's Request for Alternatives or Exceptions" form must be received in sufficient time *prior* to the bid opening to evaluate and respond with the appropriate action. It is suggested that any requests for alternatives be submitted either by e-mail or fax immediately upon receipt of the proposal in order to receive full consideration. Fair treatment to all vendors shall be the primary concern in evaluation of requests for of proposed alternates, particularly those submitted just prior to the bid opening. **Do not submit "Bidder's Request for Alternative or Exceptions" with your bid response.**

**Separate Bids**

A bidder may quote prices on more than one model. Complete a separate Schedule of Prices for each make/model bid.

**Manuals**

Three (3) sets of manuals shall be supplied. Sets shall include operator instructions as well as service and repair information. Paper copies, manuals on CDs or thumb drives are all acceptable.

## IOWA DEPARTMENT OF TRANSPORTATION

OFFICE OF SUPPORT SERVICES  
EQUIPMENT SERVICESSPECIFICATION  
for  
TURN-KEY, LIGHT-DUTY SIGNING TRUCK

The following specifications and dimensions shall apply to the purchase of single axle 30,000-pound GVWR truck chassis outfitted with a 14-foot long platform body and 8-ton/meter articulating knuckle boom crane. Crane will mount directly behind the truck cab in the first 35-inches. Platform body shall be installed behind the crane. Successful bidder will source and supply the truck chassis and body. The Department will purchase the knuckle boom crane separately and supply crane to the successful bidder for installation. Bidder must bid a complete package, all items to be tied. Successful bidder will supply a complete and fully operational turn-key package to the Department, ready for immediate use.

GENERAL REQUIREMENTS1. VEHICLE IDENTIFICATION

- A. Each truck shall be delivered with an identification sheet located in the cab. This sheet shall list the following information:
  - a. Truck VIN (Vehicle Identification Number).
  - b. Purchase Order Number.
  - c. Purchase Order "Line" numbers identifying equipment installed.
- B. Each truck shall come with two (2) sets of keys with a tag identifying the last 8-digits of the VIN.

2. REMOVED COMPONENTS

All components removed from the truck chassis and not re-installed or directly re-used on the chassis shall be shipped to the Department Central Repair Shop in Ames, IA with the completed truck. Examples would include mufflers, exhaust components, fuel tanks, brackets, tail-lights, etc.

### 3. ELECTRONIC SHIELDING – RFI PROTECTION

- A. Trucks will have 2-way, land mobile radio transceivers installed by Department personnel. Transceivers will operate in the high band at 700/800 (150 to 174 MHz and 700/800 MHz). Antennas will be mounted on the roof or highest plane surface of the truck. All electronic circuits, including but not limited to ignition, AM/FM radios, computers, emission controls, alternative fuel electronic controls, regulators and/or any equipment controls shall be designed to prevent interference that could affect the Department transceivers. Vehicle's electronic equipment shall also be unaffected by the radio frequency energy generated by the (up to 125-Watt output) transmitter of the installed transceivers.
- B. Electrical system shall be designed so that the vehicle shall not degrade the 2-way radio receiver performance. The effective sensitivity of the BHF or 700/800 MHz FM receiver shall not require more than 0.5 microvolts (-111 dbm) to produce 12db or greater SINAD. Effective sensitivity shall not exceed 0.5 micovolts for all modes of operation which shall include but not be limited to engine off, engine on (from idle to full throttle) and all vehicle systems.
- C. Truck may be tested by the Department upon delivery and must meet these RFI requirements.
- D. The Department currently utilizes multiple frequencies from 150-163 MHz and 700/800 MHz and will test RFI in these bandwidths.

### 4. PAINT AND COATINGS

- A. All equipment shall be thoroughly cleaned and completely coated with a high quality, corrosion resistant finish.
- B. Truck cab/chassis:
  - a. Truck cab shall be painted with a 2-step, factory base-coat/clear-coat process.
  - b. Frame and undercarriage shall be completely painted with a high quality, black single step finish to provide maximum corrosion protection. Dealer may be required to extensively touch-up factory undercarriage paint if it is deemed inadequate to provide good corrosion protection.
  - c. No bare ferrous metal components shall be visible on the chassis or any components, OEM or outfitter installed.
- C. Outfitter installed equipment:
  - a. All manufactured equipment attached to the Department chassis shall be sand or media blasted to remove all mill scale, oils, dirt, rust, shipping primer and/or other contaminants from surfaces. This means any component that is subject to corrosion.

- b. All outfitter installed equipment must be powder-coated; the only exception will be the platform body. Platform body finish is detailed below. Powder-coating is required because of the durability of this product. The Department requires that any component that can be powder-coated should come with that product applied. All items shall be individually power-coated before assembly.
  - c. If the platform body cannot be power-coated, it must be completely painted (deck included) and rust proofed. Visible exterior surfaces shall be painted to match the truck cab. Visible body parts shall be painted with a premium quality polyurethane finish. All visible finishes shall be smooth, shiny and free of runs, overspray and/or other defects with a minimum finished application thickness of 4 mils, dry film build.
  - d. Power-coat, paints and primers used shall be 100% lead and chromate free. MSDS on products used shall be made immediately available upon request.
- D. Regardless of finish type, these color requirements shall apply:
- a. ORANGE REQUIREMENT – Standard Iowa Department of Transportation orange color is “OMAHA ORANGE”. Known acceptable colors are International 0311, Freightliner N6389EA and GM 9W4. Other manufacturer’s color must be approved. All components used in the fabrication of a Department truck that are required to be coated orange shall be color matched to the OEM chassis cab color.
  - b. BLACK REQUIREMENT – All components used in the fabrication of a Department truck, that are required to be coated black, shall be matched to PPG DAR9000.
- E. After installation, all installed components shall be inspected and touched-up to provide a uniform finish. Underside of frame shall be inspected for bare metal and appropriate corrective action shall be taken to provide maximum corrosion protection.
- F. No bare ferrous metal shall be visible on the chassis or any installed equipment.
5. ELECTRICAL
- A. All supplemental electrical equipment shall be installed in a professional manner. Where available, factory chassis circuitry must be utilized.
  - B. All electrical wiring shall be enclosed in a protective loom cover or conduit, supported approximately every 16-inches to frame or body members. All body wiring shall be supported in a welded-on stainless steel or other non-corroding conduit the length of the underside of the body. Body conduit shall be sealed with RTV silicone sealer at both ends.

- C. Stranded wire shall be soldered (tinned) before inserting and attaching individual wire to terminals. All connector ends (spade, ring, etc.) are to be soldered to the wires.
- D. Scotch-Loc and/or butt connectors are not acceptable for any connection unless specifically stated.
- E. All wiring to lamps or other electrical devices shall be stress relieved with a clamp securing the loom and wiring within 3-inches of the lamp/device and include 4-inches or wire slack to allow future wire repair.
- F. All cables going through the truck cab metal shell require a rubber grommet and/or a metal strain relief clamp. Wiring in a protective loom cover or in conduit is considered insulated.
- G. Electrical connections subject to constant exposure shall be factory potted or sealed with silicone RTV to prevent corrosion.
- H. All plug-in connectors and receptacles shall be liberally coated with a corrosion preventative, dielectric lubricant.
- I. All grounds shall return to the OEM chassis.
- J. Unless otherwise specified, all wiring splices and connections shall be soldered and insulated with shrink tubing. All cable couplings and receptacles shall be sealed with a dual wall, flexible shrink tubing. Shrink tubing used inside cab area shall be standard with no internal sealant. Shrink tubing used outside the cab area shall be dual wall with an internal sealant.

## 6. THREADED FASTENERS

- A. All threaded fastener components (bolts, washers, nuts) with a diameter designation greater than or equal to SAE 1/2-inch, shall be a minimum Grade-8 composition. Nuts shall be all metal, self-locking. Lock washers are not acceptable. A minimum of two (2) bolt threads must extend through a nut. All components shall have "Grade" identifier marks and a registered manufacturer logo.
- B. All threaded fastener components (bolts, washers, nuts) with a diameter designated greater than or equal to SAE 1/4-inch up to less than SAE 1/2-inch shall be a minimum Grade-5 composition. Nuts shall be self-locking, either poly-lock or all metal. Lock washers are not acceptable. A minimum of two (2) bolt threads must extend through a nut. All components shall have "Grade" identifier marks and a registered manufacturer logo.
- C. All threaded fastener components (screws, bolts, washers, lock washers, nuts) with a diameter designation less than SAE 1/4-inch shall be a minimum Grade-2.

## 7. PROTOTYPE TRUCK

- A. A light-duty signing truck, from the Department's most recent purchase, will be made available, upon request, for prospective bidders to view and analyze. Viewing location will be determined if/when a request is received and will be located at a Department Maintenance facility where one of the newer trucks is assigned. Bidders are responsible for their own costs, if any are incurred, to view truck. The Department reserves the right to move and/or use truck in case of an emergency. An appointment must be made through Equipment Services to view prototype truck. Please contact Mike Tjelmeland at 515-239-1069 for assistance.
- B. Truck will illustrate the minimum acceptable design, subject to new specification changes. Any deviation from the current design will require review and approval by Equipment Services.
- C. Fabrication and installation of system components shall be in contractor's own shop within the State of Iowa or other facility approved by the Department.

## 8. PILOT INSPECTION

- A. The Department requires the ability to thoroughly inspect, test and approve the bare chassis and first (pilot) fully completed and operational truck.
- B. Chassis: Successful Bidder shall notify Equipment Services upon completion of the first (pilot) chassis. Successful Bidder may be required, at the Department's discretion, to make arrangements for the inspection at the bidder's location. If an inspection is felt necessary and/or warranted, bidder shall make the appropriate arrangements. The Department will be responsible for all costs for those employees assigned to conduct the inspection.
- C. Completed Truck: Successful Bidder shall notify Equipment Services upon completion of the first (pilot) completed turn-key truck. If an inspection is felt necessary and/or warranted, bidder shall make the appropriate arrangements. The Department will be responsible for all costs for those employees assigned to conduct the inspection.
- D. A written document of all inspections/findings will be provided to the successful bidder and/or his outfitter. Discrepancies and/or findings of non-compliance will be listed and must be corrected to the satisfaction of the Department before any additional trucks are built or outfitted.

## 9. PRE-DELIVERY INSPECTION

- A. Before delivery of any completed truck, successful bidder shall do a thorough pre-delivery inspection of each unit to include the chassis and all installed equipment.
- B. All chassis and equipment grease/lube fittings and all other fluids shall be serviced and/or topped off to full before delivery to the Department.

#### 10. POST-DELIVERY INSPECTION

Once a completed truck is delivered to the Department in Ames, it will again be thoroughly inspected and tested by Central Repair Shop personnel before it is approved for release to the requesting location. All problems and deficiencies will be noted. Minor problems will be corrected by Department personnel and all parts and labor costs will be billed back at the prevailing Repair Shop rate to the successful bidder at the conclusion of the deliveries.

Note: Minor problems should be considered items like low fluids, non-working lamps, missing wire ties and other similar issues that can be quickly corrected by Department personnel so as to not delay delivery of the truck to the requesting location. All problems considered major will be the responsibility of the successful bidder to correct within 48-hours of notification by the Department unless other arrangements are made. Any odometer mileage in excess of 100-miles, after initial delivery to Ames, needed to accommodate repairs will be billed back to successful bidder at the current Federal vehicle rate (as of Jan 1, 2016: 54-cents per mile, updated annually).

#### 11. DATA-SHEET

Successful bidder shall complete a Department Vehicle Data Sheet and deliver (email is preferred) it to Equipment Services on or before delivery of the first truck. Data sheet details the OEM part numbers for the majority the serviceable components/parts of the chassis, such as filters, belts, hoses, brakes, etc. Service information such as fluid requirements, recommendations and service intervals will also be asked for. A copy of this form may be obtained from Equipment Services as an EXCEL spreadsheet that can be saved and all the information typed in.

#### ITEM-1 – TRUCK CAB/CHASSIS – 30,000-POUND GVWR

Note: Chassis price should include vendor prep, crane hydraulics and crane installation costs.

All specified chassis equipment is to be OEM installed, either as standard equipment, a line installed option or factory authorized DSO/SE installation unless otherwise specifically stated. Any items that are not available as OEM installations shall be declared as such and will require review and approval from Equipment Services.

#### 1. GENERAL INFORMATION AND DIMENSIONS

- A. Conventional design, high-height cab suitable to provide adequate headroom, seat travel with the specified air-ride seats and operator comfort with all specified equipment installed.

- B. Nominal 80-inch wide cab with over 56-inches floor-to-headliner height, approximately 18-inch operator's seat-to-floor height and approximately 70-inch shoulder room dimension.
- C. One-piece tilting front-end engine access.
- D. Bumper-to-Back-of-Cab (BBC), 107 to 111-inches (approximate).
- E. Cab-to-Axle (CA), 120-inches (approximate).
- F. After-Frame (AF), 75-inches (minimum).

## 2. ENGINE AND RELATED COMPONENTS

- A. Diesel: Premium turbocharged, 4-stroke, liquid cooled inline 6-cylinder only, fully electronic controlled with a cast-iron block.
- B. 6.6 to 8.3-liter displacement.
- C. Certified power rating minimums: 250-horsepower, 660 lb/ft torque.
- D. Magnetic oil drain plug.
- E. Air intake filtration meeting engine manufacturer's optimum filtration requirements.
- F. Antifreeze – Extended lift testing to a minimum -34 degrees Fahrenheit.
- G. Fan – variable drive, either viscous clutch or positive on/off air clutch type.
- H. Hose clamps – Constant torque or Perma-Shrink for all coolant hoses.
- I. Throttle/cruise control – Dash or steering wheel mounted electronic adjustable.
- J. Engine warning /shut down system – Audible buzzer and lamp warning for high engine temperature and/or low engine oil pressure with automatic engine shut down feature. System must have an emergency override.
- K. Engine governor control wiring harness, type suitable to allow low cost installation of remote mounted engine speed control device necessary to increase engine RPM when operating transmission mounted, PTO driven hydraulic pump.
- L. Final engine management system electronic parameters will be determined at time of bid award.

## 3. TRANSMISSION

- A. Wide ratio, Allison 2500\_RDS\_P 6-speed automatic transmission.
- B. Synthetic transmission fluid.
- C. Magnet in transmission oil pan.
- D. ECU in cab.
- E. Dash mounted temperature gauge.
- F. Dash mounted lever type or push-button gear selector.
- G. PTO provision.

## 4. FRONT AXLE AND SUSPENSION

- A. 10,000-Pound rated capacity
- B. Wet front oil seals.

- C. Synthetic hub oil.
- D. Multi-leaf or parabolic tapered leaf rated 10,000-pound capacity with shock absorbers.

5. REAR AXLES AND SUSPENSION

- A. Standard manufacture 20,000-pound rated capacity.
- B. Synthetic differential oil.
- C. Magnetic drain plugs.
- D. Multi-leaf spring suspension rated at 20,000-pounds.
- E. Overload devices (spring or rubber) with a minimum rating of 4,000-pounds.
- F. Rear axle ratio shall be adequate to meet grade-ability, rear wheel torque and provide sustained 70-mph highway cruise at GVWR. Final determination to be at time of bid award. Estimate of 5.86.

6. WHEELS AND TIRES

- A. Wheels – All position, interchangeable 8.25-inch steel hub piloted “Budd” style 10-bolt. White powder-coat finish and nylon wheel guards.
- B. Front tires – 11R22.5 LR “G” tubeless steer tread.
- C. Rear tires – 11R22.5 LR “G” tubeless on-road drive tread suitable for 50% off-road use (gravel shoulders) and snow/ice traction.

7. FRAME

- A. Single straight nominal 10-inch high rails. Laminated, variable depth or splayed rails are not acceptable.
- B. Minimum 80,000-psi tensile steel.
- C. Resistance to Bending Moment (RBM) – minimum of 1,275,000 in/lbs.
- D. Section Modulus (SM) – minimum 15.9 cu/in.
- E. Front bumper – manufacturer’s standard, painted.
- F. Minimum ground clearance – There shall be a minimum 12-inches of ground clearance under any frame mounted component such as the fuel tank and/or its mounting brackets, steps, air tanks, battery box, etc.
- G. Cab steps – All steps shall be a minimum of 28-inches long, non-slip serrated top “Bustin” style, aluminum grating. Steps are required on both sides. If any step is an integral part of the fuel tank, grating area must be at least 14-inches long.

8. BRAKES

- A. Brakes – dual, full air anti-lock system to meet or exceed axle GVWR requirements.
- B. Automatic traction control with deactivation switch.
- C. Cab mounted low air pressure warning buzzer and gauge.

- D. Dry reservoir tanks, with pull cable on wet tank.
- E. All brakes must be "S" cam style with non-asbestos linings and installed dust shields.
- F. Minimum 13.2-CFM compressor.
- G. Heated air dryer (Bendix AD-IP only).
- H. Installation of the air tanks and/or dryer shall not inhibit the installation of crane or body equipment anywhere underneath the truck or behind the cab (clear frame).
- I. All brake chambers must be long-stroke, premium quality. Rear chambers to be corrosion resistant, epoxy coated and sealed.
- J. Parking brake – spring set, rear wheel brake chambers.
- K. Parking brake alarm – alarm to sound if door is opened and park brake is not set.
- L. Automatic slack adjustors – all wheel positions, premium brand.

## 9. EXHAUST SYSTEM

- A. Vertical stack on right-hand (passenger) side with a "sweep" elbow. Sweep to be approximately 6 to 8-inches above top of cab.
- B. Stack must be shielded the full height of cab.
- C. Exhaust components/after-treatment system must be shielded since truck is used on and off road, sometimes in tall grass.
- D. Driver selectable manual regeneration control shall be located in cab.
- E. Exhaust system design, components and/or after-treatment system shall not hinder the installation of crane or body equipment anywhere underneath the truck or behind the cab (clear frame). System component placement must be approved by Equipment Services and the equipment outfitter.

## 10. ELECTRICAL

- A. Gauges shall be dash mounted for easy operator viewing and will include, at a minimum: oil pressure, coolant temperature, air pressure, speedometer, voltmeter, fuel gauge, air intake restriction indicator and hourmeter.
- B. Restriction indicator shall provide graduated intake system restriction increments from 8 to 20-inches water.
- C. Hourmeter shall be electronic, wired to provide a true hours-of-operation figure (either alternator excited or engine oil pressure sensor activated). Key-on activated meter is not acceptable.
- D. Fault codes/blink codes displayed in instrument cluster. No scan tool required to retrieve and view codes.
- E. Power-point, 12-volt receptacle.
- F. Ignition switch – Automotive key with accessory position (2-keys provided).
- G. Turn signal, self-cancelling.
- H. Body builder harness connector for outfitter installed body lights.
- I. Pre-trip CDL light inspections switch (cycle's lights while driver walks around truck).

- J. Factory trailer cable (separate stop and turn lamps) with electric trailer brake accommodation package with trailer anti-lock brake feed-back circuit (30-amp fuse and relay) ran to end of frame rail, less connector(s). Electric trailer brake package to include cab connections for outfitter installed controller, 7-wire connector with round bullet contacts provided and installed by upfitter.
- K. Radio – AM/FM/Weatherband stereo.
- L. Clock – electronic digital, visible day or night, may be integral part of radio.
- M. Bluetooth either OEM or dealer installed.
- N. Courtesy lamps – dome lamp and door hinge pillar or under dash courtesy lamps to illuminate rocker panel and cab step areas.
- O. Air horn(s) provided. If mounted on top of cab, horn(s) must include snow cover(s).
- P. Windshield wiper system – electric with intermittent operation feature. Electric washer pump. If a heavy-duty or severe service wiper system option is available, it must be included. Headlights to automatically go “ON” whenever wipers are activated. If wipers are running when park brake is activated, they shall automatically go to the lowest intermittent speed.
- Q. Electrical protection – manual reset circuit breakers in lieu of applicable fuses.
- R. Alternator shall be pad mounted and have a minimum output of 160-amps.
- S. Batteries – three (3), maintenance free, with a 1900 CCA @ 0-degrees Fahrenheit (minimum). Non-splice battery cables, with additional 3-feet of cables supplied in case relocating battery box for equipment installation is necessary. Dimensional size and specific mounting of battery box shall not hinder the mounting of crane, platform body, hydraulic reservoir or generator box. Preferred location would be mounted under the cab, passenger side.
- T. Chassis shall be provided with fully integrated OEM chassis wiring circuits for all add-on electrical circuit requirements. Switch circuits will be either a battery or ignition type, controlling power module through multiplex wiring. Power module must be mounted in cab.
- U. Multiplex system with 12-switch modules shall be provided to allow panel switches and indicators to be moved and re-mapped. System shall also allow limiting parameters to be set for each, if required. Chassis bidders should be advised that all trucks will require two (2) battery controlled switched output, five (5) ignition controlled switches and two (2) non-switched outputs.
- V. Lamps and switches shall be labeled and function as follows:

LAMPS & ALARMS (2 non-switched)

- (1) Hydraulic Filter Bypass Lamp: Green Bezel  
Alarm – 5 short beeps.
- (2) Hydraulic “Low Oil/High” Temp Indicator Lamp: Amber Bezel  
Alarm – 3 long beeps.

WARNING LIGHTS (2-battery controlled switches)

- (3) Amber Revolving Light: Battery – latched SPST, ON/OFF
- (4) Strobe Light: Battery – latched center stable DPDT,  
3-position, ON/OFF/ON.

EQUIPMENT & ACCESSORY SWITCHES (5-ignition controlled switches)

- (5) Crane: Ignition – latched SPST, ON/OFF
- (6) Auger: Ignition – latched SPST, ON/OFF
- (7) Generator: Ignition – latched SPST, ON/OFF
- (8) Tool Circuit: Ignition – latched SPST, ON/OFF
- (9) Master Throttle: Ignition – latched SPST, ON/OFF

AUXILIARY SWITCHES (2-ignition controlled switches)

- (10) Future Use: Ignition – latched SPST, ON/OFF
- (11) Future Use: Ignition – latched SPST, ON/OFF

- W. Blank switch positions shall have blank cover plates installed but the modules shall still contain all functional requirements to allow switches to be added and programmed at a later time.
- X. “Low Oil/High Temp” indicator lamp shall operate in conjunction with the temperature and level sender installed in the hydraulic reservoir. When activated, this lamp and alarm shall be constantly on until oil temperature is reduced or oil level raised.
- Y. Factory integrated OEM 2-way radio wiring circuits shall be provided, requiring 3-conductors. Conductors shall be: One (1) 20-amp direct battery feed, one (1) 5-amp, 12-volt ignition feed and ground wire. Wiring shall terminate in headliner overhead console.

11. FUEL SYSTEM

- A. Fuel tank – Single tank, non-polished aluminum, approximately 80-gallon fuel capacity, left side mounted under cab with integral step(s). Tank must be fully under cab, it cannot extend past the rear cab line.
- B. Fuel tank size and specific mounting shall not hinder the installation of the crane. If OEM tank size and/or tank location is cause for concern, bidder shall work out a mutually agreeable solution with the outfitter and Department before bidding.
- C. In-tank, circulating engine coolant type fuel heater with thermostat controlled by-pass.

- D. Fuel maintenance system – Fuel-water separator/filter with thermostatic fuel temperature controlled electric heater and filter restriction/change indicator with water-in-fuel sensor. Components shall be factory installed ahead of fuel primer and other fuel filter(s).

## 12. CAB – INTERIOR

- A. Interior trim/insulation package – Mid-level to include a full headliner and back-of-cab trim panel(s). Color shall be medium brown or gray.
- B. Floor covering shall be heavy-duty rubber/vinyl with sound deadening backing covering entire floor, dark in color.
- C. Ergonomic dash panel with the center section angled toward driver for best access to switches and controls.
- D. All pedals suspended from cowl, floor mounted pedals are not acceptable.
- E. Glass – All tinted.
- F. Air conditioning, heater and defroster. Automatic automotive style outside air source/in-cab recirculation design.
- G. Sun visors, driver and passenger side.
- H. Cab entrance/exit “grab handles”, both sides. Arm rests on both doors.
- I. Driver/passenger vinyl covered, premium quality, high-back, air-suspension seats with 3-point seat belts, tethered to allow free suspension movement. Each shall have an adjustable lumbar support and minimum in-board armrest.
- J. Integral gear power steering. Ram system not acceptable.
- K. Tilt and telescoping (if available) steering column with the smallest diameter steering wheel for the front axle specified.
- L. Storage areas – map pocket in door, overhead storage bin or other storage areas suitable for manuals, small hand tools and other items.
- M. Overhead console suitable for center installation of a Department 2-way radio. Factory pre-wire and cutout with blank cover for radio preferred. Suitable structural reinforcement for bracket mounting.

## 13. CAB/HOOD – EXTERIOR

- A. Air-ride, rear cab suspension for increased cab and cab component longevity.
- B. West Coast Sr., heated left and right mirrors set for a 102-inch trailer. Convex mirror head (minimum 48 in<sup>2</sup>) directly below each.
- C. Low profile fender mirrors with an 8-inch (approximate), convex head installed to provide full side of vehicle rear view, front to rear, without causing excessive blind spots.
- D. Integral top rear of cab beacon mounting brackets, one on each upper cab corner at the rear drip rail. Brackets will be used to mount amber working lights by outfitter.
- E. OEM stone guard/bug screen behind front grill.
- F. Front hood tilt-assist mechanism if available.



3. Department will purchase cranes separately. Successful bidder will be responsible for picking up cranes from the Department's central campus located in Ames, IA and transporting them to their facility/outfitter for installation. NOTE: Cranes are a precision device and easily damaged during shipment with repairs being expensive. Proper precautions shall be taken to assure no shipping damage when transporting to installation site.
4. A complete and functional signing truck (Department's previous purchase) will be made available for prospective bidders to view and analyze at its assigned location. This is highly recommended. The Department has very specific requirements for installing these cranes, as they are used for personnel lifts. These requirements must be adhered to.

#### ITEM-2 – PLATFORM BODY AND RELATED ATTACHMENTS



1. Body – Successful bidder shall source and supply a platform body meeting these minimum requirements:
  - A. Overall length of 14-feet.
  - B. Overall width of 8-feet.
  - C. Minimum 4-inch structural steel channel cross members on 16-inch centers with gussets.
  - D. Minimum 6-inch structural steel channel longitudinal members.
  - E. Minimum 1-3/8 inch nominal wood flooring, apitong laminated hardwood. Flooring shall be firmly attached to all cross members, side and end rails using flathead, self-drilling/tapping flooring screws.
  - F. Side and end rails 11-gauge minimum.
  - G. Stake pockets, all sides.
  - H. Side and end rails shall be punched to accept L.E.D. side marker, corner and triple ID lamps (eleven (11) total). Lamps shall be sealed, shock resistant L.E.D. with reflective lens than flush mount in rubber grommets.

- I. Body wiring shall be a modular L.E.D. harness.
- J. Body shall be bolted to each side of the truck's main frame rail at a minimum of three (3) mounting points. Heavy strap shall be welded to the body longitudinal and bolted to the truck frame with two (2) minimum 1/2-inch bolts per strap. Welding to a Department truck frame or cross member is strictly prohibited.
- K. Underside of platform body is to be protected with heavy plastic, fixed, half-circle fenders to cover the rear drive tires and rear mud flaps. Half-circle fenders shall be installed at 6-8 inches off tires, attached to truck frame.
- L. Appropriately sized rubber mud flaps shall be attached to the lower rear of the fenders and extended down to where they have approximately 8-inches of ground clearance. Guards shall be free of lettering and/or advertising.

## 2. REAR BUMPER

- A. A heavy and substantial rear bumper, black in color, shall be installed at the rear of the body.
- B. Bumper shall be fabricated from 6-inch structural steel channel. A vertical member shall be positioned on the outside of each truck frame rail, extending from the bottom of the body wood covering down to a point appropriate for the horizontal member position. Horizontal member shall be approximately 80-inches long, positioned at - approximately 20-inches up from ground level. Vertical members shall be fully welded to the flat bed body longitudinal and horizontal member. They shall be bolted to the truck frame with four (4) minimum, 1/2-inch bolts.
- C. A structural steel 1/2-inch x 4-inch x 4-inch angle crossmember shall be installed into the rear bumper assembly with the exterior flat face to the rear and downward. The downward face of the angle shall be set at approximately 34-inches from the ground. Crossmember to be located as far rearward as possible to allow additional clearance for trailer towing when trailer is connected to pintle hook.
- D. Solid eye pintle hook (rated: 6,000-pound vertical load, 30,000-pound maximum gross trailer) with a spring loaded latch bolt is to be installed in the center of the crossmember. Center of the pintle hook must be set at 31-inches up from the ground.
- E. Two (2) minimum 3/8-inch x 2-inch steel reinforcement bars shall be installed from the provided pintle pull point and angled to the inside of the truck frame in such a way as to transfer the pulling load of the pintle hitch to the truck frame. Reinforcement bars must be bolted to the truck frame with 3/4-bolts (one (1) per side).
- F. Two (2) trailer safety chain fasteners shall be installed. Trailer safety chain fasteners shall be rated for or exceed the pintle hook trailer rating.

### 3. ELECTRICAL WIRING, GENERAL REQUIREMENTS

- A. Unless otherwise specified, all wires shall be a minimum of 14-gauge copper. All wiring splices and connections shall be soldered and insulated with shrink tubing. All cable couplings and receptacles shall be sealed with a dual wall flexible shrink tubing. Shrink tubing used inside cab area shall be standard (not internal sealant). Shrink tubing used outside cab area shall be dual wall with an internal sealant.
- B. All electrical wiring shall be enclosed in a protective loom cover or conduit. All wiring splices must be joined in a sealed circuit junction box at the rear of the truck, inside the left frame rail. All receptacles and junction box connections shall be coated/filled with dielectric grease.
- C. Trailer lighting and electric brake wiring must be multi-conductor electric cables.
- D. Stranded wire shall be soldered (tinned) before inserting and attaching individual wire to terminals. Scotch-Loc fasteners and/or crimp butt connectors are not acceptable for any connection unless specifically stated. All connector ends (spade, ring, etc.) are to be soldered to the wires.
- E. All wiring to lamps shall be stress relieved with a metal clamp, securing the loom and wiring within 3-inches of the lamp.
- F. Edges of all holes through which wiring must pass through shall be protected with a grommet. Wiring in a protective loom cover or in conduits is considered insulated.

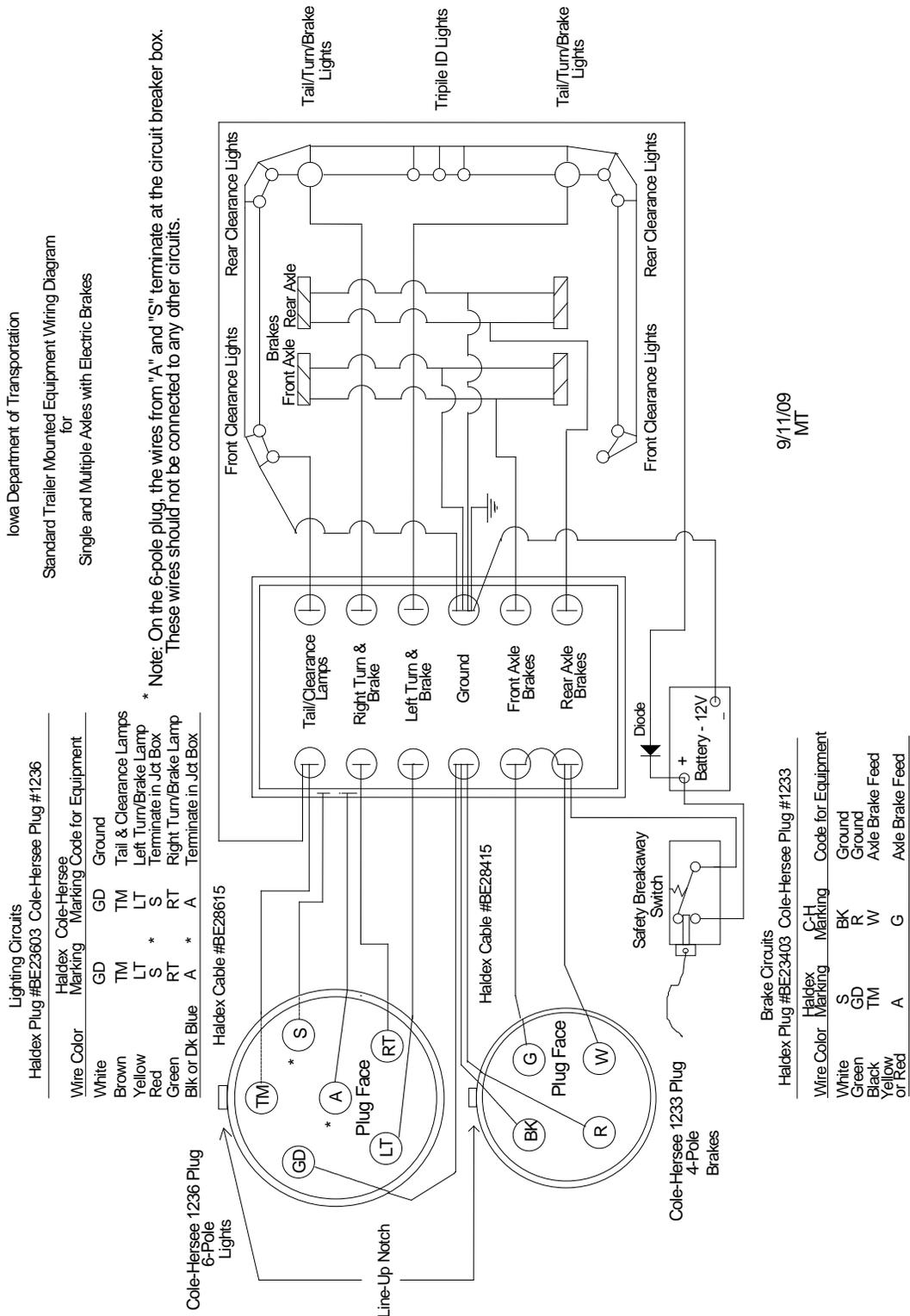
### 4. TRAILER TOWING RECEPTACLES & WIRING (See drawing on following page.)

- A. Two (2) trailer towing receptacles shall be installed:
  - a. Haldex Midland No. BE23602 or Cole-Hersee 1235 6-Pole – Wired for separate trailer light system for trailer not equipped with ABS (14-gauge conductors).
  - b. Haldex Midland No. BE23402 or Cole-Hersee 1232 4-Pole – Wired for trailer electric brake system (14-gauge conductors).

Note: Imported no-name knock-off equivalents are NOT acceptable.

- B. Sockets shall be mounted into the pintle hook crossmember or rear body end rail, if design dictates.
- C. Both 6 and 4-wire systems shall connect to the main wiring harnesses in the rear frame junction box. After the tinned wires are installed in the wire side of the receptacle, rear of receptacle shall be pumped full of RTV silicone and then assembled effectively creating a sealed assembly. A minimum 6-inch piece of shrink tubing shall be installed over the cable and receptacle joint to further seal the connection.

6-Pole & 4-Pole Receptacles



## 5. SAFETY EQUIPMENT

- A. An electronic trailer brake controller shall be installed in the truck cab. Installation or position of controller shall not interfere with the operator's comfort or the operation of the truck. Controller shall have proper circuit overload protection and pulse preventer.
- B. Bidder shall provide and install an ECCO 7660 amber rotating lamp to each (2-required) outside rear corner of the truck cab, employing the provided hose tender bracket as a mount. The Department requires that one or both of the amber warning lights must be visible for 360° around the truck at all times. Wiring to each light shall be 14-gauge wired to an always hot (battery) single switched circuit. Switch shall be located in the cab.
- C. Trucks shall be outfitted with a Whelen IADOTSY1 (no exceptions) amber LED2 lamp system, consisting of an oval Linear L.E.D. lamp installed in the flatbed rear face as far apart as practical and an in-cab flasher and control switch. Cable shall be TPR jacketed, tinned copper and shielded for extended service life. Cable connectors at the rear lamps shall be sealed 2c Deutsch connectors.
- D. Whelen IADOTSY1 system shall be wired with a central flasher programmed to the Comet flash pattern with the light heads alternating. Flasher shall have HI/LOW capabilities and a SNYC feature. Rear L.E.D. lamp switch shall be a single HIGH/OFF/LOW design, always hot (battery) circuit. Switch shall be located in the cab.
- E. An electronic back up alarm, with automatic volume adjustment, from 82 to 107 dB(A) shall be installed at the rear of the truck, wired into the back up lamp circuit.
- F. Bidder shall install a Department supplied, 2-way radio antenna base on the truck cab roof. Installation requires the drilling of an approximate 3/4-inch hole in the roof, securing the base and running the coaxial cable to the header console radio compartment.

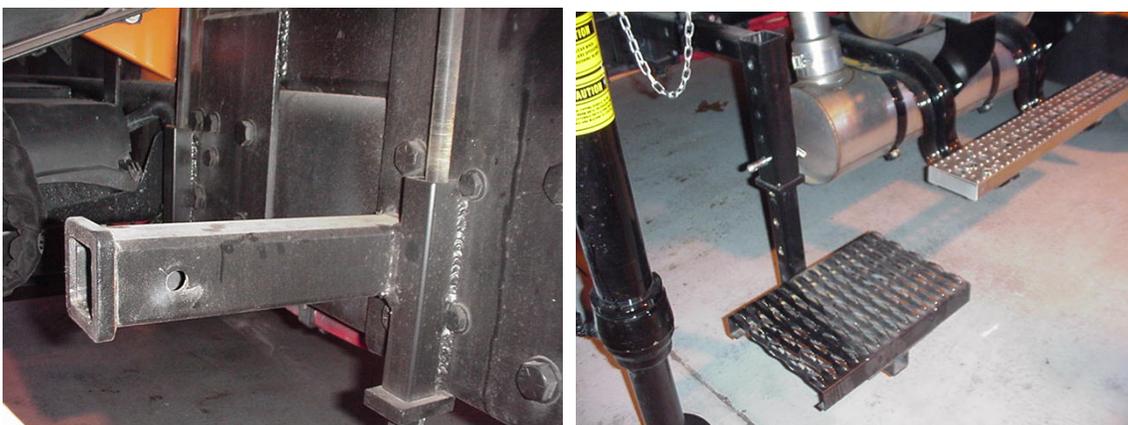
## CRANE INSTALLATION AND HYDRAULIC SYSTEM

- 1. CRANE INSTALLATION – Crane shall be mounted according to these guidelines.
  - A. Bidder shall fabricate and install two (2) sill assemblies for the base of the crane to rest upon. Sills shall be 3-inch x 5-inch x 1/2-inch wall rectangular steel tubing, each a minimum of 32-inches long. To each of these, a 12-inch wide by 3/8-inch thick frame plate shall be installed. Plate shall extend from the top edge of the sill and be bent and wrap around the lower truck frame rail. Each shall attach to the truck frame with a minimum of six (6) 1/2-inch bolts.
  - B. Crane shall be fitted to the top of the sill plates. Position shall be fixed by a 2-inch long by 1-inch x 1-inch square stock piece welded to the top of the sill.

- C. Appropriate length tubing shall be welded to each side plate, through which the crane tie-bolts shall be installed and torqued to the recommended values.
- D. Switches for engine throttle control shall be installed either into each truck side or onto the crane control panel for operator accessibility. Switches must be wired to operate in conjunction with the truck electronics. Function shall be programmed to provide an infinitely variable engine speed up and down, from engine idle to no less than 1800 RPM.



- E. Operator step assemblies shall be incorporated into the mounting system as per the viewed truck. Suitable square steel tubing shall be welded to one of the side plates on each side. A fully adjustable step assembly shall be fabricated that will fit into either sided. Step must not interfere with outrigger leg swing or any other component operation or function.



2. HYDRAULIC SYSTEM - (Note: See hydraulic diagrams at end of specifications for component plumbing configuration guidelines.)
- A. Truck shall be outfitted with an open center hydraulic system.
  - B. Truck shall be equipped with a transmission mounted, PTO driven hydraulic pump. Operator will need to be able to shut-off PTO/hydraulic pump when system is not in use.
  - C. Hydraulic Pump – Minimum 17-GPM @ 1200-RPM, 3,000-PSI.
  - D. Flow Dividers – 0 to 30-GPM
  - E. 12-Volt Selector Valves – one (1) normally closed and one (1) normally open solenoid valves for directing oil flow to appropriate component when switched.
  - F. System operating pressure shall be 3,000-PSI ( $\pm$  50-PSI).
  - G. Reservoir shall be left (driver's) side, frame mounted with a minimum capacity of 30-gallons. Reservoir shall be outfitted with an easy to see and read unbreakable oil level sight gauge with 0-250°F thermometer.
  - H. Oil outlet, to pump, must pass through a suction strainer. Section strainer shall be installed from the outside, screwed into a weld flange on the reservoir. Strainer shall be a 100-mesh element, berated at or exceed pump maximum flow and be equipped with a built-in bypass valve. A full flow shut-off valve must be mounted directly to the strainer to allow oil to be shut-off.
  - I. All return oil must pass through a return filter. Filter shall have a spin-on element rated for 10-micron. Filter housing shall have a by-pass valve and be equipped with an element condition indicator gauge.



- J. Reservoir shall be outfitted with a ventilation cap/fill port with a 10-micron, foam filter element strainer. Installation shall prevent hydraulic oil from overflowing during an operation and when the truck is working on road side slopes.
- K. Reservoir shall be equipped with a low oil/high temperature sensor assembly, wired into the chassis dash indicator lamp/alarm cluster.
- L. Bottom of reservoir shall have a magnetic, 3/4-inch NPT drain plug installed.

- M. Bidder shall fill reservoir with a premium quality Dexron III automatic transmission fluid which will serve as hydraulic oil.
- N. All flexible pressure and return hydraulic hoses shall have JIC 37-degree female crimp-on, permanent fittings. Suction line from reservoir to pump shall have double band clamps.
- O. All hoses and fittings, with the exception of the suction line, shall be non-skive, high bend radius abrasion resistant with a minimum operation pressure of 3,000-PSI regardless of size,
- P. Splicing of hoses is unacceptable. All hoses more than 3-feet in length shall be attached with swivel adapters. Pipe fittings, galvanized or zinc plated fittings or the use of Teflon tape is/are unacceptable anywhere in the hydraulic system.
- Q. Pressure and suction lines shall attach to the hydraulic pump with swivel fittings. Lines shall be easily disconnected for servicing the pump. Fittings shall have adequate tool clearance.
- R. Fittings used on the pump and other constant flow components such as hydraulic motors shall be hydraulic sweeps or straight fittings. Hard 90-degree fittings on constant flow component or in constant flow hydraulic lines are not acceptable.
- S. All hydraulic lines shall be firmly secured. Lines shall be attached to the truck and/or components by metal bands, insulated by rubber padding to prevent hose chafing and/or cutting. Hoses shall be routed away from components that could cause them to be damaged. Installation of hoses shall not interfere with or inhibit the normal service of the truck.
- T. Hydraulic hoses shall be sized accordingly and shall not to exceed the recommended flow velocities published as a nomograph in the "Gates Engineering and Technical Data Nomographic Chart".

### ITEM-3 – HYDRAULIC GENERATOR

#### 1. GENERAL REQUIREMENTS

- A. Generator assembly shall be a Tendaire model 2BCHF-40/003 (no exceptions).
- B. Assembly shall be mounted on the right (passenger) side frame rail in a non-rusting metal (aluminum or stainless) weatherproof toolbox. Box must have a key lock. Hydraulic hoses shall be run through the box sidewall with proper bulkhead fittings, not just hoses run through holes in the side of the toolbox.







## Bidders Request for Alternatives or Exceptions (BRAE)

Letting Date: May 4, 2016

Proposal No.: 16398

BRAE form due on or before: April 20, 2016

Item: \_\_\_\_\_

Spec. No.: 9-A08-0216

Request: \_\_\_\_\_

Bidder Proposes to furnish in lieu of above: \_\_\_\_\_

NOTE: The determination of acceptance of this BRAE request is only valid for the bid for which it was submitted. BRAE approvals received for this bid do not determine or set a precedent for what is acceptable in any other bid posted by the State of Iowa.

Email/Fax to:

Iowa Department of Transportation  
Purchasing Section  
Attention: Zach Gillen  
Email: Zachary.gillen@dot.iowa.gov

Fax No.: 515-239-1538

Submitted By \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City State Zip

Phone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

=====  
DOT USE ONLY

Approved \_\_\_\_\_

Disapproved \_\_\_\_\_

Reason \_\_\_\_\_

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

Date: \_\_\_\_\_

Bidder \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **SEALED BID**

**LETTING DATE: May 4, 2016**  
**PROPOSAL NO: 16398**  
**PROPOSAL DESCRIPTION: Sign Trucks**

**Iowa Department of Transportation**  
**PURCHASING - SEALED BID PROPOSAL**  
**800 Lincoln Way**  
**Ames, IA 50010**