



## Solicitation Addendum

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<b>Issuing Agency:</b>	Department of Administration, Purchase & Contract
<b>Solicitation Number:</b>	DPC-1428364267-BP
<b>Solicitation Description:</b>	Class 8 Truck Cab and Chassis
<b>Bid Opening Date &amp; Time:</b>	March 4, 2025 @ 2:00 PM
<b>Addendum Number:</b>	#1
<b>Addendum Date:</b>	February 24, 2025
<b>Procurement Lead:</b>	Brian Phillips

**FAILURE TO RETURN THIS ADDENDUM SHALL SUBJECT YOUR RESPONSE TO REJECTION.**

**1. The Solicitation is hereby modified as follows:**

<b>Modification #</b>	<b>Solicitation Section</b>	<b>Current Solicitation Language</b>	<b>Updated Solicitation Language</b>
1	Section 2.4 IFB Schedule – Submit Bids	February 21, 2025 at 3:00 PM ET	March 4, 2025 at 2:00 PM ET
2	Section 2.6 Bid Questions	See Attachment I to review questions asked on previous solicitations.	Deleted.
3	Attachment A: Pricing Workbook, 35,000LB. GVW Cab and Chassis	Column Header “Unit Price”	“Unit Price with Automatic Transmission” and “Unit Price with Automated Manual Transmission”
4	Attachment A: Pricing Workbook, 35,000LB. GVW Cab and Chassis, Item 1	Conventional cab, w/automatic transmission and bucket seats as described in attached specifications.	Conventional cab, w/bucket seats as described in attached specifications.
5	Attachment A: Pricing Workbook, 35,000LB. GVW Cab and Chassis, Item 4		Option for REPTO (Rear Engine Power Take Off).

Vendor \_\_\_\_\_

<b>Modification #</b>	<b>Solicitation Section</b>	<b>Current Solicitation Language</b>	<b>Updated Solicitation Language</b>
6	Attachment A: Pricing Workbook, Optional Pricing (Engine Modifications)	Vendors are requested to provide pricing for upgrading/tuning the engine RPM, Speed or Horsepower.	Vendors are requested to provide pricing for upgrading/tuning the maximum truck speed to 75 miles per hour.
7	Attachment J: Specifications 35K GVWR Item 12i Engine Requirements	Shall have all provisions for front engine crankshaft driven hydraulic PTO system as well as rear engine PTO provision. Rear engine PTO shall have standard gears.	Deleted.
8	Attachment J: Specifications OTR 90K Truck Tractor Item 2	GCWR: Minimum 90,000 lbs. GVWR: 60,000	GCWR: Minimum 90,000 lbs. GVWR: 59,220 Lbs.
9	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 21	Hydraulics: The truck tractor is required to have a transmission PTO driven pump, with in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50-ton rated, drop deck equipment hauling trailer with a 12,000-pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)	Hydraulics: The truck tractor is required to have a transmission PTO driven pump and a 35-gallon hydraulic tank. Must have in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50-ton rated, drop deck equipment hauling trailer with a 12,000-pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)
10	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 21a	Complete hydraulic system including pump, filters, pressure relief valve, and metal reservoir.	Complete hydraulic system including pump including a Chelsea or Muncie PTO pump, filters, pressure relief valve, and a 35-gallon metal reservoir.
11	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 21b		Added "b", PTO Pump to deliver a minimum of 10 GPM and a maximum of 25 GPM at 2800 to 3000 PSI. Renumbered section.

Modification #	Solicitation Section	Current Solicitation Language	Updated Solicitation Language
12	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23	Hydraulics: The truck tractor is required to have a transmission PTO driven pump, with in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50-ton rated, drop deck equipment hauling trailer with a 12,000-pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)	Hydraulics: The truck tractor is required to have a transmission PTO driven pump and a 35-gallon hydraulic tank. Must have in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50-ton rated, drop deck equipment hauling trailer with a 12,000-pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)
13	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23a	Complete hydraulic system including pump, filters, pressure relief valve, and metal reservoir.	Complete hydraulic system including pump including a Chelsea or Muncie PTO pump, filters, pressure relief valve, and a 35-gallon metal reservoir.
14	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23b		Added "b", PTO Pump to deliver a minimum of 10 GPM and a maximum of 25 GPM at 2800 to 3000 PSI. Renumbered section.

**2. The following are questions received about the Solicitation and the State's response:**

Question #	Document Section	Vendor Question	State's Response
1	Attachment A: Pricing Workbook	Bid Item #19.1 & 19.2: There are two transmission options listed in this spec and it seems one needs to be part of the standard pricing (automatic) and the other (automated manual) should be a separate line item option on the Pricing Workbook. Please advise.	See Section 1, Modification #3 Attachment A: Pricing Workbook, 35,000 LB. GVW Cab and Chassis, columns added to support quotes for both Automatic and Automated Manual Transmissions.

Question #	Document Section	Vendor Question	State's Response
2	Attachment J: Specifications 35K GVWR Item 12i Engine Requirements	Bid Item 12i: REPTO is requested here to be part of the base price, but on the tandem REPTO is a separate line-item option on the Pricing Workbook. For the single axle, should REPTO be a separate line item option, too?	See Section 1, Modification #5 12i was deleted from Attachment J: Specifications 35K GVWR. Option for REPTO was added as Item 4 under 35,000 GVW Cab and Chassis, Attachment A: Pricing Workbook
3	Attachment J: Specifications 35K GVWR Item 19.2 Automatic Transmission	Would Allison 3000RDS transmission be acceptable as well in lieu of 3500RDS?	No.
4	Attachment J: Specifications 35K GVWR Item 25 Front Bumper	Would 20" minimum frame extension be acceptable to accommodate FEPTO provision?	No
5	Attachment J: Specifications Tandem Axel 50-70 GVWR Item 33 Mirrors	Only a single RH fender mirror is noted here. The 35,000 GVWR dumps asks for fender mirrors on both sides. Do we need to have the LH driver side fender mirror on this spec, too?	No.
6	Attachment J: Specifications OTR 90K Truck Tractor Item 2 GCWR	Is 59,220# GVWR acceptable? To get to 60,000# we would need to use a 12R22.5 tire and section 23A specifically asks for 11R22.5 which is what brings the rating down to 59,220#	See Section 1, Modification #8 Yes, 59,220 LB. GVWR is acceptable.
7	Attachment J: Specifications OTR 90K Truck Tractor Item 10e Batteries	Bid Item #10E: Jump posts under hood near starter acceptable? (OEM recommends this location.)	No.
8	Attachment J: Specifications OTR 90K Truck Tractor Item 35b Fifth Wheel	Is it acceptable to have a 5th wheel track 18-inches forward and 6-inches to the rear? (24 inch slider in total.)	No.

Question #	Document Section	Vendor Question	State's Response
19	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 10e Batteries	Bid Item #10E: Jump posts under hood near starter acceptable? (OEM recommends this location)	No.
10	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 21 Hydraulics	Bid spec says complete hydraulic system but does not mention the actual PTO. (It does mention the pump, filters, pressure relief valve, and metal reservoir.) Can you confirm we are also supposed to supply the actual PTO and what brand/model PTO is preferred, if any?	See Section 1, Modification #10 NCDOT should receive the truck with complete hydraulics already installed. NCDOT will not be providing a PTO. The vendor/bidder can sub this operation out or complete this upfit at their location. Chelsea and Muncie are the approved brands for PTO pumps.
11	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 36b Fifth Wheel	Is it acceptable to have a 5th wheel track 18-inches forward and 6-inches to the rear? (24 inch slider in total.)	No.
12	Attachment J: Specifications On/Off Road 90K Truck Tractor Item 21a Hydraulics	What are the GPM and PSI requirements of the trailer? Need this info for proper hydraulic kit setup.	See Section 1, Modification #11 10 GPM minimum and 25 GPM maximum and 2800 to 3000 PSI
13	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 11e	Bid Item #11E: Jump posts under hood near starter acceptable? (OEM recommends this location.)	Yes.
14	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23	Bid spec says complete hydraulic system but does not mention the actual PTO. (It does mention the pump, filters, pressure relief valve, and metal reservoir.) Can you confirm we are also supposed to supply the actual PTO and what brand/model PTO is preferred, if any?	See Section 1, Modification #13 NCDOT should receive the truck with a complete hydraulics already installed. NCDOT will not be providing a PTO. The vendor/bidder can sub this operation out or complete this upfit at their location. Chelsea and Muncie are the approved brands for PTO pumps.

Question #	Document Section	Vendor Question	State's Response
15	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23	What are the GPM and PSI requirements of the trailer? Need this info for proper hydraulic kit setup.	See Section 1, Modification #14 10 GPM minimum and 25 GPM maximum and 2800 to 3000 PSI
16	Attachment J: Specifications Truck Tractor Triaxle 140K GCWR Item 23	What is the minimum size hydraulic tank requirement?	See Section 1, Modification #13 35 Gallon
17	Attachment A: Pricing Workbook – Optional Pricing	We need more specifics here to be able to provide prices for this. Changing things like speed or horsepower could be minor or major costs depending on what exactly is asked for, because depending on the request there may be hardware changes needed in addition to shop labor or programming time. For instance, sometimes changing speed is just programming changes but other times it could involve changing the rear axle to get a different rear ratio which is a much larger expense. Is the intent of this section to identify what our shop labor rate is for programming changes?	See Section 1, Modification #6 Vendors are requested to provide pricing for upgrading/tuning the maximum truck speed to 75 miles per hour.
18	IFB Section 2.6 Bid Questions	In the main Invitation for Bid document, section 2.6 Bid Questions, there is a note that says "See Attachment I to review questions asked on previous solicitations." I could not find Attachment I anywhere in the documents posted in the sourcing tool. Can you please advise where to find this?	"Attachment I: Bid Questions" was deleted from the final draft and is not included in this posted IFB. Please disregard.

**ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME**

Vendor Name:	
Authorized Signature:	
Name & Title:	
Date:	



DPC-1428364267-BP - Class 8 Truck Cab and Chassis

## Attachment A: Pricing Workbook

Vendor Name: \_\_\_\_\_

35,000 LB. GVW Cab and Chassis				
Item	Description	Manufacturer	Year & Model	Unit Price Automatic Transmission
1	Conventional cab, bucket seats as described in attached specifications			
2	Option for crew cab			
3	Optional bench seat in lieu of bucket seats in conventional cab or in lieu of front row bucket seats in crew cab.			
4	Option for REPTO (Rear Engine Power Take Off).			
5	Option for 84" usable CA			
6	Option for 105" usable CA			
7	Option for 108" usable CA			
8	Option for 111" usable CA			
9	Option for 120" usable CA			
10	Option for 126" usable CA			
11	Option for 144" usable CA			
12	Option for 162" usable CA			
13	Option for 174" usable CA			



### 50,000-70,000 LB. GVWR Tandem Axel Cab and Chassis

Item	Description	Manufacturer	Year & Model	Unit Price
1	Tandem Axle Chassis w/ Automated Manual Transmission (AMT)			
2	Tandem Axle Chassis w/ 1 Lift Axle and Automated Manual Transmission (AMT)			
3	Tandem Axle Chassis w/ 2 Lift Axle and Automated Manual Transmission (AMT)			
4	Option 1: REPTO (Rear Engine Power Take Off).			

### Truck Tractor

Item	Description	Manufacturer	Year & Model	Unit Price
1	Truck Tractor, 90,000 LB GCWR Over the Road			
2	Heavy-Duty Truck Tractor, 90,000 LB. GCWR Intended For On/Off Road Service			
3	Truck Tractor Tri-Axle 140,000 LB GCWR			

### Optional Pricing (Engine Modifications)

Item	Vendors are requested to provide pricing for upgrading/tuning the maximum truck speed to 75 miles per	Unit Price
4	35,000 GVWR	
5	Tandem Axel 50-70K GVWR	
6	Truck Tractor, 90,000 LB GCWR Over the Road	
7	Heavy-Duty Truck Tractor, 90,000 LB. GCWR On/Off Road Service	
8	Truck Tractor Tri-Axle 140,000 LB GCWR	

### Additional Requirements

Additional Requirements

Additional Requirements			
Item	Description	Program Fee?	Unit Price
1	Vehicle Operator Training	YES    NO	
	If there is a program fee, provide detailed breakdown to clarify costs.		
2	Pilot Model Program	YES    NO	
	If there is a program fee, provide detailed breakdown to clarify costs.		

[illegible]

Vendor: \_\_\_\_\_

**Truck, Cab & Chassis, Diesel Engine Powered, 35,000 GVWR**

General: NCDOT will typically use this chassis in 3 applications. First application will be used as a dump truck. It will be hauling different types of construction material such as rock, dirt, sand, as well as pulling trailers to haul construction equipment such as compact excavators and track loaders to do smaller road maintenance projects. The Second application will be used as a snow plow truck which accommodate a 10' snow plow as well as a 5 Cubic Yard in-body salt spreader for treating Highways as well as secondary roads with salt and brine. The Third application will accommodate 10', 12', and 16' Flat Beds. These beds will be either stationary beds or a dump style beds and will carry material such as mulch and dirt. This specification is intended to describe a straight truck with, conventional single cab and crew cab. The warranty shall also include coverage of these units in typical snow removal operation.

Line	Requested	Offered
<b>1</b>	<b>Chassis with conventional cab and crew cab.</b>	
a	Manufacturer	
b	Model	
c	Year Model	
<b>2</b>	<b>GVW: Shall be a minimum rating of 35,000 lbs.</b>	
a	GVWR	lbs.
b	GCWR	lbs.
c	Weight of cab & chassis including lubricant and fuel (full) on front axle for conventional cab.	lbs.
d	Weight of cab & chassis including lubricant and fuel (full) on rear axle for conventional cab.	lbs.
e	Weight of cab & chassis including lubricant and fuel (full) on front axle for crew cab.	lbs.
f	Weight of cab & chassis including lubricant and fuel (full) on rear axle for crew cab.	lbs.
<b>3</b>	<b>Wheelbase For Dump Truck Applications</b>	
a	Approximately 188-inch wheelbase for conventional cab.	inches
b	Approximately 200-inch wheelbase for crew cab.	inches
<b>4.1</b>	<b>Cab-to-Axle (C.A.) Dimension For Dump Truck Applications</b>	

a	C.A. to be 111 inches $\pm$ 1 inch.	inches
b	Left (driver's side) outside frame rail to have enough clear space between the back of the cab and the rear axle to accommodate a hydraulic reservoir and a valve box that collectively measures 56" L including the mounting brackets.	Clear frame rail left side: inches
c	Right (passenger side) outside frame rail to have enough clear space between the back of the cab and the rear axle to accommodate a toolbox that measures 40" L including the mounting brackets.	Clear frame rail right side: inches
<b>4.2 Cab to Axle (CA) Dimension For Various Lengths of Flat beds</b>		
a	Please see Attachment A of the Pricing Workbook	
<b>5 Frame</b>		
a	Minimum resisting bending moment (RBM) of 1,500,000 inch/lbs. per frame rail.	in/lbs.
b	Minimum yield strength of 120,000 PSI rated.	PSI
c	Frame rails should be clean from end of cab to rear of frame in both sides of the rails.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>6 Springs and Suspension</b>		
a	Front and rear suspension shall meet the requirements of GVWR.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Rear springs must have auxiliary leaf or leaves to absorb shock of dump truck loading and to provide additional stability.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Rear suspension should be a minimum of 23,000 lbs.	lbs.
d	Front spring Capacity.	lbs. lbs.
e	Rear spring Capacity.	
<b>7 Front Axle</b>		
a	Front axle with minimum 13,300 lbs. rated capacity.	lbs.
b	Set forward axle with Shock absorbers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Wheel bearings oil bath type with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>8 Rear Axle</b>		
a	Single speed rear axle with minimum 23,000 lbs. rated capacity.	lbs.
b	Rear axle ratio to match engine RPM, and tire size to achieve 68 MPH $\pm$ 2 MPH @ maximum GVW on level ground.	Axle ratio  Speed (MPH) @  Maximum GVW

c	Differential shall be filled with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Automatic traction control device is required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Describe
<b>9 Brakes</b>		
a	Full air disc brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Desiccant type air dryer, Midland Pure Air Plus or Pre-approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum 18.5 CFM compressor.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Dust shield required on all axles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Brakes shall conform to FMVSS-121 at time of production.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have emergency parking brake.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Full trailer air package required with glad hands installed at end of chassis rails.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	The brake air tank shall have a manual drain valve With a lanyard attached to the chassis rail.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	ABS system shall be manufacturer's standard Bendix or Meritor and must be compatible with all manufacturers of trailer brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Full vehicle wheel control system with automatic traction control system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>10 Batteries</b>		
a	Battery box and battery mounts designed for on/off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum of 1800 CCA.	CCA
c	Hold down clamps and terminals treated with corrosion resistant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Batteries and cables should comply with TMC105 (Technology Maintenance Council).	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Two (2) remote jump start terminals, battery side mounted with color coded covers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have a master electrical disconnect switch (non-keyed) on battery side of truck, protected from road splash and accessible from the ground or be mounted in the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Manufacturer's standard battery box cover.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>11 Alternator</b>		
a	Minimum 130 amps	Amps

b	Alternator Make	Make
c	Alternator Model	Model
<b>12 Engine Requirements</b>		
a	Full diesel, electronic engine, with inline minimum six (6) cylinders.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum rated torque 860 lbs./ft and minimum 300HP.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	110 V thermostatically controlled engine block heater properly sized for the engine proposed with receptacle mounted under driver side door.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have engine air intake arranged to eliminate the induction of blowing snow during snow removal operations.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall be SAE 1349 rated.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	A copy of the most recent EPA certificate for 2013 Emission is requested with this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have thermostatically controlled fuel heater.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall have on board primer for the fuel system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Vendor shall provide and install the plate adapter to harmonic balancer for the front mounted pump application	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall be compatible for use with B-20 Bio-Diesel fuel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have a fuel water separator.	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Engine parameters set to allow infinite engine idle time	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a fuel filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Shall have a full flow, spin on type engine oil filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Engine Manufacturer.	MFG.
p	Engine Model.	Model
q	Number of Cylinders.	# of Cylinders
r	Engine displacement Minimum HP to be 300hp	Minimum HP
s	Net HP _____ @ _____ RPM _____	Net HP @  RPM
t	Peak torque _____ lbs./ft @ _____ RPM	Peak torque lbs./ft @  RPM
u	Shall have a corrosion resistant oil pan.	<input type="checkbox"/> Yes

☐ No

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**Engine Performance:** The following performance is requested when full loaded as determined by SAE 2188. Rated horsepower and torque shall be sufficient so that when coupled with the proposed transmission and rear axles, the unit will meet the performance criteria listed below:

- |   |  |   |
|---|--|---|
| a | Shall have 20% startability at maximum GVWR to start and climb 20% grade (startability @ clutch engagement).         | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| b | Shall have a minimum 2% gradeability at maximum GVWR @ 68 MPH.   | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| c | Shall maintain a minimum top speed of 68 MPH ( $\pm 2$ MPH) @ maximum GVW on level ground.                           | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| d | Vendor shall include truck performance analysis sheets indicating the truck performance criteria as described above. | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |

**14 Exhaust**

- |   |  |   |
|---|--|---|
| a | Shall have a vertical stack with horizontal muffler not to extend above cab roof and not to interfere with mounted dump body. A turnout exhaust stack is required (rain cap not acceptable). | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
|---|--|---|

**15 Fuel Tank**

- |   |   |   |
|---|---|---|
| a | Single, aluminum fuel tank.                   | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| b | Minimum 70 gallons capacity.                  | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| c | Mounted on the left side preferred.           | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| d | Furnish a step type with slip resistant step. | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |

**16 Air Cleaner**

- |   |   |   |
|---|---|---|
| a | Dry type, with rated air flow for engine offered with filtration efficiency of 99.5% for all engine speeds. | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| b | Direct reading air restriction indicator mounted in cab.  | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |

**17 Cooling System**

- |   |  |   |
|---|--|---|
| a | Shall conform to SAE J1393, ASTM standards and Manufacturer recommendations for on-off road application. | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| b | Shall have extended life coolant   | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |

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**Gauges Shall include manufacturer's standard DID (Drivers Information Display) gauge package, including the following gauges as a minimum:**

- |   |              |   |
|---|--------------|---|
| a | Oil Pressure | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| b | Temperature  | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| c | Voltmeter    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| d | Fuel         | <input type="checkbox"/> Yes<br><input type="checkbox"/> No |
| e | Pressure     | <input type="checkbox"/> Yes                                |



		<input type="checkbox"/> No
f	Tachometer	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Engine Hour meter	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
h	Audible and visual alarm for high water temperature	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
i	Audible and visual alarm for oil pressure	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
j	Audible and visual alarm for low air pressure	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>19.1 Automated Manual Transmission</b>		
a	Minimum of 12 speeds	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	Transmission manufacturer:	
c	Transmission model:	
d	Torque capacity:	
e	Transmission control shall be push pad, dash mounted shifter.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
f	Shall be equipped with oil level sensor.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Transmission shall be equipped with auto-neutral feature to be activated when parking brake is applied to command the transmission to neutral, regardless of range selection.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
h	Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
i	If electronically controlled, the transmission shall not create RF interference with user installed 2-way radios.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
j	Transmission electronic control module shall be located in a position that protects it from weather and road splash to minimize exposure to corrosive elements.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>19.2 Automatic Transmission</b>		
a	Fully automatic, six (6) speed.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	Allison World Transmission 3500 RDS with wide Ration, for on/off road.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
c	Transmission manufacturer:	
d	Transmission model:	
e	Torque capacity:	
f	Transmission control shall be push pad, dash mounted shifter.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Shall be equipped with oil level sensor.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
h	Transmission shall be equipped with auto-neutral feature to be activated when parking brake is applied to command the	<input type="checkbox"/> Yes

	be activated when parking brake is applied to command the transmission to neutral, regardless of range selection.	<input type="checkbox"/> No
i	Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	If electronically controlled, the transmission shall not create RF interference with user installed 2-way radios.	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Transmission electronic control module shall be located in a position that protects it from weather and road splash to minimize exposure to corrosive elements.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>20 Windshield Wipers</b>		
a	Electric, dual wipers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Intermittent action.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Dual washers	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>21 Wheel Rims</b>		
a	Aluminum disc type wheels, 10 hole.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Hub piloted.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front and rear rims 8.25 inches wide	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Nylon Gasket to prevent corrosion to hub	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Rims shall conform to Tire & Rim Association guidelines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Wheels shall have Dura-Bright polish or Equivalent to aid in corrosion resistance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Rim Manufacturer:	
<b>22 Front Tires</b>		
a	11R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum load range "H".	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Good Year, Michelin, Continental, Bridgestone, tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
f	Tire Model.	
<b>23 Rear Tires</b>		
a	11R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum load range "H".	<input type="checkbox"/> Yes <input type="checkbox"/> No

c	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Good Year, Michelin, Continental, Bridgestone, tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
f	Tire Model.	
<b>24 Lighting</b>		
a	Factory installed daytime running lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The standard headlight switch shall operate all lights in the normal mode at full voltage.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front and rear Class "A" directional signals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Minimum, five (5) cab marker lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Hazard Flashers	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	All lighting to be of the type approved by the N.C. Division of Motor Vehicles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Must have a Pre-Trip exterior light inspection switch: Engaging light inspection switch will sequentially flash all exterior vehicle lights, except back up lights while operator completes safety inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>25 Front Bumper</b>		
a	Delete front bumper.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Front frame rail shall be full height, no tapered frame.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Frame extension shall be a minimum of 24 inches to accommodate the front pump provision (FEPTO) for Snow Plowing Trucks	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>26 Electrical Wiring</b>		
a	All wiring from front to rear of chassis in loom or molded plastic or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Wiring Should be attached to inner side rails with rubber covered fasteners at approx. 20" intervals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Wiring, including a weatherproof connector shall be provided at the hood-hinge area for connection of snow plow lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	The connector shall include parking light and turn Signal functions.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	A body builder harness, including a weatherproof connector shall be provided at the back of the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Equiped with factory installed modem for GPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No

27	<b>Auxiliary Power Switches: Shall have six (6) factory installed, dash mounted Auxiliary power switches wired for the following functions:</b>	
a	Snowplow light selector switch to allow independent selection of the chassis headlights or the snowplow lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Strobe light switch, illuminated, on/off type, battery source, minimum 20 AMP.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Spreader light switch, illuminated, on/off, ignition source minimum 20 AMP.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Two (2) illuminated switch, on/off type, ignition source, minimum 20 AMP for future use.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	One (1) illuminated switch, on/off type, battery source, minimum 20 AMP for future use.	<input type="checkbox"/> Yes <input type="checkbox"/> No
28	<b>Cab: Cab should be a single or crew cab as per "Furnish and Deliver". Vendor may be required to demonstrate the cab offered during the evaluation process.</b>	
a	Shall have factory installed air-conditioning.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have electronic cruise control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall have exterior and interior grab handle handholds for all doors including crew cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have steps for high cab applications for both Driver, and passenger side front and rear (for crew cab).	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	First step from ground and succeeding step spacing not to exceed twenty (20) inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have tinted safety glass all around including Windshield.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Driver and passenger seats shall be air ride, adjustable up, down, forward, back and tilt. (National Cush-n-Air or equal).	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Both seats shall be high-back each with lap and shoulder seatbelts, and for crew cab when applicable. Shoulder straps shall be high visibility orange.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Shall have 12V power supply outlet.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall have fresh air heater and defroster.	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have power door locks, and power windows, right and left padded sun visor, driver/passenger side arm rest, map pocket and floor mats.	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have AM/FM/CD/blue tooth radio, shielded to eliminate interference from 2-way radio with Bluetooth.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a fixed grill with radiator guard and tilt hood.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Shall have a tilt and telescoping steering wheel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Electronic speedometer with auxiliary in-cab tap Point to interface with current electric spreader controls with	<input type="checkbox"/> Yes

	pulse width modulated signal and have an additional sensor/DC817-008.	<input type="checkbox"/> No
p	Cab shall have no-glare interior.	<input type="checkbox"/> Yes <input type="checkbox"/> No
q	Cab must be ergonomically designed to accommodate 95% percentile of drivers, ranging from 4' 8", 110 lb. driver to 6' 5", 375 lb. driver.	<input type="checkbox"/> Yes <input type="checkbox"/> No
r	For crew cab, a full bench rear seat with three (3) laps and two (2) shoulder belts. Shoulder straps shall be high visibility orange.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>29 Mirrors</b>		
a	Dual left and right west coast or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Approximately 7-inch X 17-inch heads.	Size
c	Both west coast mirrors shall be heated.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Left side mirror should have two (2) convex mirrors, one each mounted on upper and lower arms of mirror bracket.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Left and Right-side mirrors shall be motorized.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Right side mirror shall have one (1) convex mirror mounted on lower mirror arm.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	All three (3) convex mirrors shall be ball adjustable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall have fender mounted (left and right side) 8-inch convex mirrors.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Overall width, outside mirror to outside mirror should not exceed 116 inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>30 Horns</b>		
a	Dual, electric and air horn is required, approved by SAE and industry standard and mounted under the hood.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>31 Power Steering</b>		
a	Power steering, designed and intended for the tires, axles and GVWR offered.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>32 Fire Extinguisher</b>		
a	An ABC rechargeable type fire extinguisher with 5BC UL rating shall be provided with each unit. Mounting will be determined at the Pilot Model inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>33 Safety</b>		
a	Vehicles shall include the necessary safety features to meet the applicable requirements of the Federal Vehicles Safety Standards and shall conform with Motor Carrier Safety Regulations # 399.203.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The vehicle to be furnished with all applicable equipment and accessories as required by the Occupational Safety and Health Acts of both the United States and the State of North	<input type="checkbox"/> Yes

	Carolina, and shall comply with all regulations, rules, standards and interpretation's lawfully adopted there under.	<input type="checkbox"/> No
c	Vehicle Cab noise at ear level of the seated operator, with windows open shall not exceed OSHA REQUIREMENTS IN 29 CFR 1910.95 for 8-h our exposure when measured on the "A" scale of a standard sound meter. Ear plugs or other personal protective devices are not acceptable to comply with this requirement.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	OSHA requirements on the opening date of the IFB shall apply, regardless of the date of Equipment manufactured.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>34 Federal Inspection Sticker</b>		
a	All units shall be delivered with a completed 12 month Federal Highway Safety Inspection sticker properly affixed.	<input type="checkbox"/> Yes <input type="checkbox"/> No







## Truck, Cab & Chassis, Diesel Engine Powered, Tandem Axel 50,000-70,000 GVWR

General: NCDOT will typically use these trucks in a variety of operations. First operation will be used as a dump truck that hauls large amounts of material such as rock, sand, gravel, and dirt. It will at times be coupled with a trailer to move construction equipment such as back hoes and loaders. The second operation will be snow removal operations. In this scenario it will be equipped with a 12' snow plow and have either a 10 Cubic yard or 15 Cubic Yard salt spreader in the dump body for treating Highways as well as secondary roads. It may also have a brine applicator and or brine trailer attached for snow fighting as well. This specification is intended to describe a straight truck with, conventional single cab and crew cab, plowing snow and other similar on/off road applications. The warranty shall also include coverage of these units in typical snow removal operation.

Line	Requested	Offered
<b>1</b>	<b>Chassis with conventional cab for heavy-duty on-off road service, typically to be used as a dump truck in snow removal, road construction and maintenance operations.</b>	
a	Manufacturer	
b	Model	
c	Year Model	
<b>2</b>	<b>Minimum rating of 58,000 lbs.</b>	
a	Shall be a minimum of 58,000 lbs.	lbs.
b	Chassis weight on front axle	lbs.
c	Chassis weight on rear tandem	lbs.
d	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
<b>3</b>	<b>Axle Spacing</b>	
a	Center of front axle to center of rearmost axle of tandem, shall be a minimum of 21 feet to meet NC Bridge Formula definitions.	Ft/Ins.
<b>4</b>	<b>Usable Cab to Tandem (CT)- Usable CT is defined as clear usable space outside of chassis rails from behind cab, DPF or exhaust, whichever extends the furthest towards the rear, to the center of the tandem. Under-slung air tanks or other components are not to protrude outside of the chassis rails in the defined area.</b>	
a	Usable CT requested to be 150", ±2". (Tandem).	inches
<b>5</b>	<b>Wheelbase</b>	
a	Wheelbase shall be appropriate for the axle and CT dimensions required.	Ft/Ins.
<b>6</b>	<b>Frame</b>	
a	Minimum resisting bending moment of 2,590,000 inch/lbs. per frame rail.	In/Lbs
b	Minimum 21.60 section modulus.	SM
c	Minimum 120,000 PSI rated.	PSI

d	Full height frame, approximately 10 inches in height, and minimum 20 inches in length is to protrude beyond grill/radiator and be of sufficient strength for plowing operations.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Front frame extensions are not necessary so long as the frame protrudes beyond the grill/radiator as described in "d" above. If extensions are supplied, they must be integral and not be bolted/added on. This is for the Hydraulic Pump that will be mounted with bracket between chassis rails.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>7 Springs and Suspension</b>		
a	Front and rear suspension shall meet or exceed the requirements for GVWR.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Rear suspension to be a Hendrickson Haulmax, or equivalent, with bronze center bushings or (mRide 40) will be acceptable suspensions.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Rear suspension offered.	
d	Front spring capacity.	lbs.
e	Rear spring capacity.	lbs.
<b>8 Front Axle</b>		
a	Front axle with minimum 18,000 lbs. rated capacity.	lbs.
b	Set forward axle with Shock absorbers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>9 Rear Axle: Eaton DS402P, Meritor RT-40-145P, Mack S402R with automatic power divider or approved equal is acceptable as long as axles meet the following:</b>		
a	Rear tandem shall be a minimum 40,000 lbs. rated capacity.	lbs.
b	Heavy duty rear axle housing with iron rear axle carrier.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Single speed tandem (single gear ratio).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Spacing from center to center of the axles of the tandem to be minimum 54 inches.	inches
e	Spacing of the axles of the tandem shall provide enough clearance to allow for snow chains to be run on both axles with the tires specified in this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Axle ratio provided is to be properly matched for engine RPM, tire size and transmission offered to maintain 68 MPH ± 2 MPH at a maximum GVW on level ground.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Axle ratio	
h	Differentials filled with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>10 Lift Axle(s): When required under "Furnish and Deliver", the cab and chassis shall be equipped with additional lift axle(s) that shall meet the following:</b>		
a	Shall be installed by chassis manufacturer	<input type="checkbox"/> Yes <input type="checkbox"/> No

b	255/70-22.5 hub piloted Aluminum disk, with "H" tire load range	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Tire speed rating minimum of 75 MPH	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Steerable	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Air activation and regulation from cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Automatic lift in reverse	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Rated for up to 13,200 lbs.	lbs.
h	Lift axle manufacturer	
i	Lift axle model.	
<b>10A Chassis with one (1) lift axle: Usable CT requested to be 174", ±2". (Tri-Axle).</b>		
a	GVWR shall be a minimum of 64,000 lbs.	lbs.
b	Chassis weight on front axle	lbs.
c	Chassis weight on rear tandem	lbs.
d	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
e	Axle spacing from center of chassis front axle to center of rearmost axle of tandem, shall be a minimum of 23 feet to meet NC Bridge formula definitions.	Ft/Ins.
f	Spacing from center line of lift axle to center line of rear axle of the tandem to be a minimum of 103 inches.	Ins
<b>10B Chassis with two (2) lift axles: Usable CT requested to be 198", ±2". (Quad).</b>		
a	GVWR shall be a minimum of 70,000 lbs.	lbs.
b	Chassis weight on front axle	lbs.
c	Chassis weight on rear tandem	lbs.
d	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
e	Axle spacing from center of chassis front axle to center of rearmost axle of tandem, shall be a minimum of 25 feet to meet NC Bridge formula definitions.	Ft/Ins.
f	Spacing from center line of lift axle to center line of rear axle of the tandem to be a minimum of 154 inches.	inches
<b>11 Brakes</b>		
a	Full air disc brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Low air warning buzzer and light	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Non asbestos pads	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Desiccant type air dryer, Midland Pure Air Plus or pre-approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No

e	Minimum 18.5 CFM compressor.	CFM
f	Parking brake on front and rear axle of tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Dust shield on all axles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Brakes shall conform to FMVSS in effect at time of production.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Full trailer air package required with glad hands installed at end of chassis rails.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	The brake air tank shall have a manual drain valve with a lanyard attached to the chassis rail.	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	ABS system shall be manufacturer's standard Bendix or Meritor and must be compatible with all manufacturers of trailer brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	ABS Manufacturer	
m	ABS Model	
n	Air brake ABS, full vehicle wheel control system with Automatic Traction Control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>12 Batteries</b>		
a	Battery box and battery mounts designed for on/off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum of 1950 CCA at zero (0) degrees F.	CCA
c	Hold down clamps and terminals treated with corrosion resistant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Batteries and cables should comply with TMC105	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Two (2) remote jump start terminals, battery side mounted with color coded covers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have a master electrical disconnect switch (non-keyed) on battery side of truck, protected from road splash and accessible from the ground or be mounted in the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Manufacturer's standard battery box cover.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>13 Alternator</b>		
a	Delco 24SI Quadra mount or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum 145 amps	Amps
c	Alternator Make	Make
d	Alternator Model	Model
<b>14</b>	<b>Engine Performance:</b> The following performance is requested when full loaded as determined by SAE J688. Rated horsepower and torque shall be sufficient so that when coupled with the proposed transmission and rear axles, the unit will meet the performance criteria listed below:	

a	Full diesel, electronic engine, with inline minimum six (6) cylinders.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall be SAE J1349 rated.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum rated torque 1550 lbs./ft	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Minimum engine HP shall be 395hp/11L.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Engine shall have the ability to be upgraded by software electronically to increase horsepower to a minimum of 425hp. _____ HP.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have 20% startability at maximum GVWR to start and climb 20% grade (startability @ clutch engagement)	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have a minimum 2% gradeability at maximum GVWR at 68 MPH.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall maintain a minimum top speed of 68 MPH (± 2 MPH) at maximum GVW on level ground.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Vendor shall include truck performance analysis sheet(s) indicating the truck performance criteria as described above.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Engine Manufacturer.	MFG.
k	Engine Model.	Model
l	Number of Cylinders.	# of Cylinders
m	Engine displacement	Net HP @
n	Net HP	RPM
o	Peak torque _____ lbs./ft @ _____ RPM	Peak torque lbs./ft @ RPM
<b>14A Engine Requirements Continued</b>		
a	Emissions control system shall meet Federal and NC state Emission regulations at time of delivery.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	A copy of the most recent EPA certificate for current model year Emissions is requested with this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	110 V thermostatically controlled engine block heater properly sized for the engine proposed with weatherproof receptacle mounted under left door (Driver side).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have engine air intake arranged to eliminate the induction of blowing snow during snow removal operations.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have thermostatically controlled fuel heater.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have on board primer for the fuel system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have all provisions for front engine crankshaft driven hydraulic PTO system (FEPTO).	<input type="checkbox"/> Yes <input type="checkbox"/> No

h	Option 1: (Furnish and Delivery) Shall have a provision in place to offer a REPTO (Rear Engine Power Take Off) upon request.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Vendor shall provide and install the plate adapter to harmonic balancer for the front mounted pump applications.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall be compatible for use with B-20 Bio-Diesel fuel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have a fuel water separator.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have full flow, spin on type engine oil filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Engine parameters set to allow infinite engine idle time.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Must have corrosion resistant oil pan.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>15 Engine Brake</b>		
a	Shall be a compression type or approved equal, compatible with the engine and transmission furnished.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Engine brake Manufacturer	
c	Engine brake Model	
<b>16 Exhaust</b>		
a	Shall be a vertical stack with horizontal muffler not to extend above cab roof and not to interfere with dump body installation. A turnout exhaust stack is required (rain cap not acceptable).☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>17 Fuel Tank</b>		
a	Single fuel tank, minimum 80 gallons	Gallons
b	Fuel tank to be aluminum, aluminized-steel not acceptable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall conform to all applicable SAE Standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Request left side mounted	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>18 Air Cleaner</b>		
a	Dry type, with rated air flow for engine offered with filtration efficiency of 99.5% for all engine speeds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	In cab direct reading air restriction indicator	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>19 Cooling System</b>		
a	Shall conform to SAE J1393, ASTM standards and Manufacturer recommendations for on-off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have manufacturer's suggested coolant type.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>20 Gauges Shall include manufacturer's standard DID (Drivers Information Display) gauge package, including the following gauges as a minimum:</b>		
a	Oil Pressure	<input type="checkbox"/> Yes

	<input type="checkbox"/> No
b Temperature	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
c Voltmeter	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
d Fuel	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
e Air Pressure	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
f Tachometer	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
g Hour meter	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
h Audible and visual alarm for high water temperature	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
i Audible and visual alarm for oil pressure	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
j Audible and visual alarm for low air pressure	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
<b>21 Automated Manual Transmission (Acceptable transmissions will include Mack, M/drive and Eaton, AMT's).</b>	
a Minimum of 14 speeds with two (2) creeper gears	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
b Shall have hill assist equipped.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
c Transmission control shall be push pad, dash mounted shifter or a column-mounted shifter.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
d Oil level sensor	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
e Transmission shall be equipped with auto-neutral feature to be activated when parking brake is applied to command the transmission to neutral, regardless of range selection.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
f Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
g Transmission manufacturer:	
h Transmission model:	
i Torque capacity:	
<b>22 Windshield Wipers</b>	
a Electric, dual wipers.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
b Intermittent action.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
c Dual washers	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
<b>23 Wheel Rims</b>	
a Aluminum disc type wheels, 10 hole.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No

b	Hub piloted.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front rims 9.00 inches wide	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Rear rims 8.25 inches wide	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Nylon Gasket to prevent corrosion to hub	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Rims shall conform to Tire & Rim Association guidelines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Wheels shall have Dura-Bright polish or Equivalent to aid in corrosion resistance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Rim Manufacturer:	
<b>26 Front Tires</b>		
a	315/80R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load Range L	
c	Minimum speed rating of 75MPH	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>27 Rear Tires</b>		
a	11R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load range H	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>28 Lighting</b>		
a	Factory installed daytime running lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The standard headlight switch shall operate all lights in the normal mode at full voltage.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front and rear Class "A" directional signals.	<input type="checkbox"/> Yes



		<input type="checkbox"/> No
d	Minimum, five (5) cab marker lights.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
e	Hazard Flashers	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
f	All lighting to be of the type approved by the N.C. Division of Motor Vehicles.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Pre-Trip exterior light inspection switch: Engaging light inspection switch will sequentially flash all exterior vehicle lights, except back up lights while operator completes safety inspection.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>29</b>	<b>Front Bumper</b>	
a	Delete front bumper.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>30</b>	<b>Electrical Wiring</b>	
a	All wiring from front to rear of chassis in loom or molded plastic or approved equal.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	Wiring to be attached to inner side rails with rubber covered fasteners at approx. 20" intervals.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
c	Wiring, including a weatherproof connector shall be provided at the hood-hinge area for connection of snow plow lights.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
d	The connector shall include parking light and turn Signal functions.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
e	A body builder harness, including a weatherproof connector shall be provided at the back of the cab.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
f	Electronic speedometer with auxiliary in-cab tap point to interface with current electronic spreader controls with pulse width modulated signal.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Equiped with factory installed modem for GPS?	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>31</b>	<b>Auxiliary Power Switches: Shall have six (6) factory installed, dash mounted Auxiliary power switches wired for the following functions:</b>	
a	Snowplow light selector switch to allow independent selection of the chassis headlights or the snowplow lights.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	Strobe light switch, illuminated, on/off type, battery source, minimum 20 AMP.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
c	Spreader light switch, illuminated, on/off, ignition source minimum 20 AMP.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
d	Two (2) illuminated switch, on/off type, ignition source, minimum 20 AMP for future use.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
e	One (1) illuminated switch, on/off type, battery source, minimum 20 AMP for future use.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>32</b>	<b>Cab: Vendor may be required to demonstrate the cab offered during the evaluation process.</b>	
a	Shall have factory installed air-conditioning.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No

b	Air conditioning system shall be supplied complete with protection & diagnostics system to monitor and shut down the A/C compressor in the event of a refrigerant system leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall have electronic cruise control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have air ride cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have exterior and interior grab handle handholds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have steps for high cab applications for both Driver, and passenger side.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have tinted safety glass all around including Windshield.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Driver and passenger seats shall be air ride, adjustable up, down, forward, back and tilt. (National Cush-n-Air or equal).	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Shall have 12V power supply outlet.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall have fresh air heater and defroster with single shut-off valve for water line to heater.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have power door locks, and power windows, right and left padded sun visor, driver/passenger side arm rest, map pocket and floor mats.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have AM/FM/CD/blue tooth radio, shielded to eliminate interference from 2-way radio with Bluetooth.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a fixed grill with radiator guard and tilt hood.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Shall have a tilt and telescoping steering wheel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Cab access and function must be ergonomically designed to accommodate 95% percentile of drivers ranging from a 4 Ft. 8 In., 110 Lb. driver to a 6 Ft. 5 In., 375 Lb. driver.	<input type="checkbox"/> Yes <input type="checkbox"/> No
p	The seat belt webbing at each crew member location shall be a highly visible bright orange color.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>33 Mirrors</b>		
a	Left and right west coast type with approximately 7"x17" heads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Both west coast mirrors heated.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Left side to have two (2) 8" diameter convex mirrors, one each mounted on upper and lower arms of mirror bracket.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Left and Right-side mirrors shall be motorized and heated	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Right side mirror shall have one (1) 8" diameter mirror mounted on lower mirror arm.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	All three (3) convex mirrors shall be ball adjustable.	<input type="checkbox"/> Yes <input type="checkbox"/> No

g	Right side, adjustable fender mounted mirror	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>34 Horns</b>		
a	Dual, electric and air horn per SAE Standard.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>35 Power Steering</b>		
a	Power steering, designed and intended for the tires, axles and GVWR offered.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>36 Safety</b>		
a	Vehicles shall include the necessary safety features to meet the applicable requirements of the Federal Vehicles Safety Standards and shall conform with Motor Carrier Safety Regulations # 399.203.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The vehicle to be furnished with all applicable equipment and accessories as required by the Occupational Safety and Health Acts of both the United States and the State of North Carolina, and shall comply with all regulations, rules, standards and interpretations lawfully adopted there under.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Vehicle Cab noise at ear level of the seated operator, with windows open shall not exceed OSHA REQUIREMENTS IN 29 CFR 1910.95 for 8-hour exposure when measured on the "A" scale of a standard sound meter. Ear plugs or other personal protective devices are not acceptable to comply with this requirement.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	OSHA requirements on the opening date of the IFB shall apply, regardless of the date of Equipment manufactured.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>37 Fire Extinguisher</b>		
a	An ABC rechargeable type fire extinguisher with 5BC UL rating shall be provided with each unit. Mounting will be determined at the Pilot Model inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>38 Federal Inspection Sticker</b>		
a	All units shall be delivered with a completed 12 month Federal Highway Safety Inspection sticker properly affixed.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Vendor: \_\_\_\_\_

**Truck Tractor, 90,000 POUND GCWR, Over the Road**

General: NCDOT will typically use these units in transporting various bulk items such as parts and supplies from our Central Inventory Warehouse, to the various divisions throughout the state. These units will typically be used on interstate highways only. The tractor will normally mate to a 53 foot, 2-axle, enclosed box trailer with an average hauling weight of 38,000 Lbs.

Line	Requested	Offered
<b>1</b>	<b>Heavy-duty truck tractor intended for on road service only</b>	
a	Manufacturer	
b	Model	
c	Year Model	
<b>2</b>	<b>GCWR: Minimum 90,000 lbs. GVWR: 59,220 Lbs.</b>	
a	GCWR	lbs.
b	GVWR	lbs.
c	Chassis weight on front axle	lbs.
d	Chassis weight on rear tandem	lbs.
e	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
<b>3</b>	<b>Cab to Tandem</b>	
a	CT 125" to 130" (measuring from the back of the cab to the center of tandem rear Axle) and it should be appropriate for the Fifth wheel setting and axle spacing.	inches
<b>4</b>	<b>Wheelbase</b>	
a	Wheelbase shall be appropriate for the axle and CT dimensions required to achieve the axle load requirements and satisfy the laws of North Carolina, Bridge formula, and the Federal laws.	Ft/Ins.
<b>5</b>	<b>Frame</b>	
a	Minimum resisting bending moment of 2,000,000 inch/lbs. per frame rail.	In/Lbs
<b>6</b>	<b>Springs and Suspension</b>	
a	Front and rear suspension shall meet or exceed the requirements for GVWR.	<input type="checkbox"/> Yes <input type="checkbox"/> No

b	Rear suspension to be Air ride type suspension	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front suspension offered	
d	Rear suspension offered	
d	Front spring capacity.	lbs.
e	Rear spring capacity.	lbs.
<b>7 Front Axle</b>		
a	Front axle with minimum 14,000 lbs. rated capacity.	lbs.
b	Set back axle with Shock absorbers designed for on road use.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Wheel bearings oil bath type with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>8 Rear Axles</b>		
a	Rear tandem shall be a minimum 46,000 lbs. rated capacity.	lbs.
b	Rear axle make and model	
c	Single speed tandem (single gear ratio).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Power divider lock with an indicator light visible to the operator or approved equivalent. Must have Automatic Miles Per Hour dis-engagement. Both axles are required to be lockers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Power divider offered	
	Type	
	Model	
	Manufacturer	
f	Spacing of the axles of the tandem shall provide enough clearance to allow for snow chains to be run on both axles with the tires specified in this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Axle ratio provided is to be properly matched for engine RPM, tire size and transmission offered to maintain 72 MPH $\pm$ 2 MPH at a maximum GVW on level ground.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Axel Ratio	
i	Differentials filled with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>9 Brakes</b>		
a	Full air disc brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Desiccant type air dryer, Midland Pure Air Plus or pre-approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum 19.0 CFM air compressor with low air warning buzzer and light.	CFM
d	Parking brake on front and rear axle of tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No

e	Dust shield on all axles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Brakes shall conform to FMVSS in effect at time of production.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Full trailer air package required with glad hands installed such that they can attached to the trailer without further modification by the user; holders are required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	The brake air tank shall have a manual drain valve with a lanyard attached to the chassis rail.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	ABS system shall be 6S/6M, manufacturer's standard Bendix or Meritor and must be compatible with all manufacturers of trailer brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	ABS Manufacturer	
k	ABS Model	
l	Air brake ABS, full vehicle wheel control system with automatic traction control (ATC).	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>10 Batteries</b>		
a	Battery box and battery mounts designed for on/off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum of 3000 CCA at zero (0) degrees F.	CCA
c	Hold down clamps and terminals treated with corrosion resistant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Batteries and cables to comply with Technology and Maintenance Council 105d specifications.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Two (2) remote jump start terminals, battery side mounted with color coded covers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have a master electrical disconnect switch (non-keyed) on battery side of truck, protected from road splash and accessible from the ground or be mounted in the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Manufacturer's standard battery box cover.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>11 Alternator</b>		
a	Delco SI or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum 180 amps	Amps
c	Alternator Manufacturer	Make
d	Alternator Model	Model
14	<b>Engine Performance:</b> The Vendor is required to furnish, with the bid, a copy of the performance calculations for the truck offered when coupled to a 53' Box Trailer, as per the following requirements.	
a	Full diesel, electronic engine, with inline minimum six (6) cylinders.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall be SAE J1349 rated.	<input type="checkbox"/> Yes <input type="checkbox"/> No

c	Minimum rated torque 1650 lbs./ft	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have 25% startability at maximum GVWR (startability @ clutch engagement).	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall maintain a minimum top speed of 72 MPH @ 1 ½ gradeability at maximum GVWR.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Vendor shall include truck performance analysis sheet(s) indicating the truck performance criteria as described above.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Engine Manufacturer.	MFG.
h	Engine Model.	Model
i	Number of Cylinders.	# of Cylinders
j	Net HP, minimum of 445 hp	HP @ RPM
k	Peak torque	Peak torque lbs./ft @ RPM
<b>12A Engine Requirements Continued</b>		
a	Engine offered shall meet all emissions control system set by EPA requirements, Federal and NC State regulations at the time of delivery.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	A copy of the most recent EPA certificate for current model year Emissions is requested with this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	110 V thermostatically controlled engine block heater properly sized for the engine proposed with weatherproof receptacle mounted under left door (Driver side).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have thermostatically controlled fuel heater.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have on board primer for the fuel system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall be compatible for use with B-20 Bio-Diesel fuel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have a fuel water separator.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall have full flow, spin on type engine oil filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Must have corrosion resistant oil pan.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>13 Engine Brake</b>		
a	Shall be a compression type or approved equal, compatible with the engine and transmission furnished.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Engine brake Manufacturer	
c	Engine brake Model	
<b>14 Exhaust</b>		
a	Shall be a vertical stack with deflector (rain cap not	<input type="checkbox"/> Yes

	acceptable). <input type="checkbox"/>	<input type="checkbox"/> No
<b>15 Fuel Tank</b>		
a	Single fuel tank, minimum 100 gallons	Gallons
b	Fuel tank to be aluminum, aluminized-steel not acceptable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall conform to all applicable SAE Standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Prefer left side mounted	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>16 Air Cleaner</b>		
a	Dry type, with rated air flow for engine offered with filtration efficiency of 99.5% for all engine speeds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	In cab direct reading air restriction indicator	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>17 Cooling System</b>		
a	Cooling system conforming to SAE (Society of Automotive Engineers) J1393, ASTM (American Society for Testing and Materials) Standards and manufacturer recommendations for on-off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have manufacturer's suggested coolant type.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Stone/Gravel radiator guard should be installed at front of the cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>18 Gauges Shall include manufacturer's standard digital gauge package, including the following gauges as a minimum:</b>		
a	Oil Pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Temperature	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Voltmeter	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Fuel	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Air Pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Tachometer	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Hour meter	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Audible and visual alarm for high water temperature	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Audible and visual alarm for oil pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Audible and visual alarm for low air pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>19 Manual Transmission</b>		
a	Eaton RTLO-16913A or approved equal, properly matching engine and axle ratio. <input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall allow easy downshifting to lower gears without bringing	<input type="checkbox"/> Yes



	vehicle to stop.	<input type="checkbox"/> No
c	Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Transmission manufacturer:	
e	Transmission model:	
f	Torque capacity:	
<b>20 Clutch</b>		
a	Easy pedal plus or approved equal with minimum of 15.5 inches.	inches
b	Minimum 2 plates ceramic or equivalent	plates
c	An extended lube line for the clutch release bearing is required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Clutch manufacturer	
e	Clutch model	
<b>21 Windshield Wipers</b>		
a	Electric, dual wipers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Intermittent action.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Dual washers	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>22 Wheel Rims</b>		
a	Aluminum disc type wheels, 10 hole.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Dura-Bright polish or Equivalent to aid in corrosion resistance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Hub piloted.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Nylon Gasket to prevent corrosion to hub	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Rims shall conform to Tire & Rim Association guidelines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Rim Manufacturer:	
<b>23 Front Tires</b>		
a	11R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load Range H	
c	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Good Year, Michelin, Continental and Bridgestone tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
<b>If different from above:</b>		

a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>24 Rear Tires</b>		
a	11R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load range H	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Good Year, Michelin, Continental and Bridgestone tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Tire Manufacturer.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>25 Lighting</b>		
a	Factory installed daytime running lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Front and rear Class "A" directional signals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum, five (5) cab marker lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hazard Flashers	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	All lighting to be of the type approved by the N.C. Division of Motor Vehicles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Pre-Trip exterior light inspection switch: Engaging light inspection switch will sequentially flash all exterior vehicle lights, except back up lights while operator completes safety inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Factory installed Fog lights installed in the front bumper or mounted at the bottom of the front bumper.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>26 Front Bumper</b>		
a	Manufacturers' standard heavy front bumper	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>27 Fenders</b>		
a	Quarter Fenders on Front Tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>28 License Plate Bracket</b>		
a	License bracket mounted with light in the rear of the truck	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>29 Electrical Wiring</b>		
a	All wiring from the front to rear of chassis shall be encased in a loom molded plastic or pre-approved equal protective	<input type="checkbox"/> Yes

	a. 100% molded plastic or pre-approved equal protective covering.	<input type="checkbox"/> No
b	Wiring to be attached to inner side rails with rubber covered fasteners at approx. 20" intervals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Power supply source ( 5 terminal block, Cole Hersee 46377 or equal), each capable of providing 15 amps, fuse protected for the later addition of 2 way radio, safety lighting and other special equipment required for NCDOT purposes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Equiped with factory installed modem for GPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>30 Cab: Vendor may be required to demonstrate the cab offered during the evaluation process.</b>		
a	Conventional cab with factory installed air-conditioning.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have electronic cruise control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall have air ride cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have exterior and interior grab handle handholds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have steps for high cab applications for both driver and passenger side. First step height approximately 17 inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have tinted safety glass all around including windshield.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Driver and passenger seats shall be air ride, adjustable up, down, forward, back and tilt. (National Cush-n-Air or approved equal).	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Both seats shall be high-back each with lap and shoulder seatbelts, and for crew cab when applicable. Shoulder straps shall be high visibility orange.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Shall have 12V power supply outlet.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall have fresh air heater and defroster with single shut-off valve for water line to heater.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have power door locks, and power windows, right and left padded sun visor, driver/passenger side arm rest, map pocket and floor mats.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have AM/FM/CD/blue tooth radio, shielded to eliminate interference from 2-way radio with Bluetooth.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a tilt and telescoping steering wheel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Cab access and function must be ergonomically designed to accommodate 95% percentile of drivers ranging from a 4 Ft. 8 In., 110 Lb. driver to a 6 Ft. 5 In., 375 Lb. driver.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Rear mounted light on back of cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
p	Must have factory installed Telematics, GPS that reads Datalink information and is compatible with and communicates with ATT/Geotab database for utilization tracking.	<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>31 Fire Extinguisher</b>	
a	Shall be ABC type, rechargeable and mounted in cab. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
b	Shall have a UL rating of 10BC <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
<b>32 Mirrors</b>	
a	Left and right west coast type with approximately 7"x17" heads. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
b	Both west coast mirrors heated. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
c	Left and Right-side mirrors shall be motorized, adjustable and controlled by the driver <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
d	Each mirror shall have approximately 8" diameter convex mirrors, bottom bracket mounted, ball adjustable. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
e	Overall width, outside mirror to outside mirror not to exceed 110 inches of the cab and mirror extension should not exceed 110 for safety concerns.) <div>Overall width</div>
<b>33 Horns</b>	
a	Must have 2 horns, one electric and one air horn. Both must comply with SAE requirements and industry standard. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
<b>34 Power Steering</b>	
a	Power steering, designed and intended for the tires, axles and GVWR offered. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
<b>35 Fifth Wheel -Vendor is to confirm that the below data will provide for the axle loading specified above and that the selected trailer will properly attach without modification by the User.</b>	
a	Air slide with left side operation <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
b	Mounted such that the kingpin can be located from directly over the Center of the tandem to 24 inches forward. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
c	Fontaine model H7000 AWB 24 Heavy Duty - 4" increments or a Fontaine No Slack II 7000 Series 7LWB 24.0-inch air slide fifth wheel with cast top plate with 2-inch increments is approved. <div>Model</div>
d	Height shall be between 51 to 52 inches. <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
<b>36 Trailer Connection</b>	
a	Break away valve <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
b	Air check valve <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
c	Hand control valve <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
d	Hose, spring cab hangers <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>
e	Berg (7) wire connector or equivalent, with holder and cable for both ABS and non ABS <div> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>

f	Federal Motor Vehicle Safety Standards compatible	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Pogo Stick and slide bar installed	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>37 Safety</b>		
a	Vehicles shall include the necessary safety features to meet the applicable requirements of the Federal Vehicles Safety Standards and shall conform with Motor Carrier Safety Regulations # 399.203	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The vehicle to be furnished with all applicable equipment and accessories as required by the Occupational Safety and Health Acts of both the United States and the State of North Carolina, and shall comply with all regulations, rules, standards and interpretations lawfully adopted there under.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Vehicle Cab noise at ear level of the seated operator, with windows open shall not exceed OSHA REQUIREMENTS IN 29 CFR 1910.95 for 8-hour exposure when measured on the "A" scale of a standard sound meter. Ear plugs or other personal protective devices are not acceptable to comply with this requirement.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	OSHA requirements on the opening date of the IFB shall apply, regardless of the date of Equipment manufactured.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>38 Federal Inspection Sticker</b>		
a	All units shall be delivered with a completed 12 month Federal Highway Safety Inspection sticker properly affixed.	<input type="checkbox"/> Yes <input type="checkbox"/> No













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Vendor: \_\_\_\_\_

**Truck Tractor, 90,000 POUND GCWR, On Road-Off Road**

General: NCDOT will typically use these units in transporting heavy equipment to and from job site. Equipment types normally carried by this tractor will include, but shall not be limited to, large excavators, Loaders, Backhoes, Tractors, and other heavy construction and maintenance equipment common to highway construction. The Truck Tractor will normally be mated to a heavy 3-axle lowboy trailer and required to operate in both on/off-road situations typical of other tractors used to transport Highway Construction Equipment.

Line	Requested	Offered
<b>1 Heavy-duty truck tractor intended for on/off road service</b>		
a	Manufacturer	
b	Model	
c	Year Model	
<b>2 GCWR: Minimum 90,000 lbs. GVWR: 60,000</b>		
a	GCWR	lbs.
b	GVWR	lbs.
c	Chassis weight on front axle	lbs.
d	Chassis weight on rear tandem	lbs.
e	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
<b>3 Cab to Tandem</b>		
a	CT 120" to 130" (measuring from the back of the cab to the center of tandem rear Axle) and it should be appropriate for the Fifth wheel setting and axle spacing.	inches
<b>4 Wheelbase</b>		
a	Wheelbase shall be appropriate for the axle and CT dimensions required to achieve the axle load requirements and satisfy the laws of North Carolina, Bridge formula, and the Federal laws.	Ft/Ins.
<b>5 Frame</b>		

a	Minimum resisting bending moment of 2,000,000 inch/lbs. per frame rail.	In/Lbs
<b>6 Springs and Suspension</b>		
a	Front and rear suspension shall meet or exceed the requirements for GVWR.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Rear suspension to be Air ride type suspension	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front suspension offered	
d	Rear suspension offered	
d	Front spring capacity.	lbs.
e	Rear spring capacity.	lbs.
<b>7 Front Axle</b>		
a	Front axle with minimum 14,000 lbs. rated capacity.	lbs.
b	Set forward axle with Shock absorbers designed for on/off road	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Wheel bearings oil bath type with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>8 Rear Axles</b>		
a	Rear tandem shall be a minimum 46,000 lbs. rated capacity.	lbs.
b	Rear axle make and model	
c	Single speed tandem (single gear ratio).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Power divider lock with an indicator light visible to the operator or approved equivalent. Must have Automatic Miles Per Hour dis-engagement. Both axles are required to be lockers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Power divider offered	<div>Type</div> <div>Model</div> <div>Manufacturer</div>
f	Spacing of the axles of the tandem shall provide enough clearance to allow for snow chains to be run on both axles with the tires specified in this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Axle ratio provided is to be properly matched for engine RPM, tire size and transmission offered to maintain 72 MPH ± 2 MPH at a maximum GVW on level ground.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Axel Ratio	
i	Differentials filled with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>9 Brakes</b>		
a	Full air disc brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No

b	Desiccant type air dryer, Midland Pure Air Plus or pre-approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum 19.0 CFM air compressor with low air warning buzzer and light.	CFM
d	Parking brake on front and rear axle of tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Dust shield on all axles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Brakes shall conform to FMVSS in effect at time of production.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Full trailer air package required with glad hands installed such that they can attached to the trailer without further modification by the user; holders are required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	The brake air tank shall have a manual drain valve with a lanyard attached to the chassis rail.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	ABS system shall be 6S/6M, manufacturer's standard Bendix or Meritor and must be compatible with all manufacturers of trailer brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	ABS Manufacturer	
k	ABS Model	
l	Air brake ABS, full vehicle wheel control system with automatic traction control (ATC).	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>10 Batteries</b>		
a	Battery box and battery mounts designed for on/off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum of 3000 CCA at zero (0) degrees F.	CCA
c	Hold down clamps and terminals treated with corrosion resistant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Batteries and cables to comply with Technology and Maintenance Council 105d specifications.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Two (2) remote jump start terminals, battery side mounted with color coded covers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have a master electrical disconnect switch (non-keyed) on battery side of truck, protected from road splash and accessible from the ground or be mounted in the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Manufacturer's standard battery box cover.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>11 Alternator</b>		
a	Delco SI or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum 180 amps	Amps
c	Alternator Manufacturer	Make
d	Alternator Model	Model

<b>14</b>	<b>Engine Performance:</b> Vendor is required to furnish, with the bid, a copy of the performance calculations for the truck offered when coupled to a lowboy equipment trailer, as per the following requirements.	
a	Full diesel, electronic engine, with inline minimum six (6) cylinders.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall be SAE J1349 rated.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum rated torque 1700 lbs./ft	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have 25% startability at maximum GVWR (startability @ clutch engagement).	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall maintain a minimum top speed of 72 MPH @ 1 ½ gradeability at maximum GVWR.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Vendor shall include truck performance analysis sheet(s) indicating the truck performance criteria as described above.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Engine Manufacturer.	MFG.
h	Engine Model.	Model
i	Number of Cylinders.	# of Cylinders
j	Net HP, minimum of 500 hp	HP @  RPM
k	Peak torque	Peak torque lbs./ft @  RPM
<b>12A Engine Requirements Continued</b>		
a	Engine offered shall meet all emissions control system set by EPA requirements, Federal and NC State regulations at the time of delivery.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	A copy of the most recent EPA certificate for current model year Emissions is requested with this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	110 V thermostatically controlled engine block heater properly sized for the engine proposed with weatherproof receptacle mounted under left door (Driver side).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have thermostatically controlled fuel heater.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have on board primer for the fuel system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall be compatible for use with B-20 Bio-Diesel fuel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have a fuel water separator.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall have full flow, spin on type engine oil filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Must have corrosion resistant oil pan.	<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>13 Engine Brake</b>		
a	Shall be a compression type or approved equal, compatible with the engine and transmission furnished.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Engine brake Manufacturer	
c	Engine brake Model	
<b>14 Exhaust</b>		
a	Shall be a vertical stack with deflector (rain cap not acceptable).☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>15 Fuel Tank</b>		
a	Single fuel tank, minimum 100 gallons	Gallons
b	Fuel tank to be aluminum, aluminized-steel not acceptable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall conform to all applicable SAE Standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Prefer left side mounted	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>16 Air Cleaner</b>		
a	Dry type, with rated air flow for engine offered with filtration efficiency of 99.5% for all engine speeds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	In cab direct reading air restriction indicator	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>17 Cooling System</b>		
a	Cooling system conforming to SAE (Society of Automotive Engineers) J1393, ASTM (American Society for Testing and Materials) Standards and manufacturer recommendations for on-off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have manufacturer's suggested coolant type.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Stone/Gravel radiator guard should be installed at front of the cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>18 Gauges Shall include manufacturer's standard digital gauge package, including the following gauges as a minimum:</b>		
a	Oil Pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Temperature	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Voltmeter	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Fuel	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Air Pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Tachometer	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Hour meter	<input type="checkbox"/> Yes <input type="checkbox"/> No



h	Audible and visual alarm for high water temperature	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Audible and visual alarm for oil pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Audible and visual alarm for low air pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>19 Manual Transmission</b>		
a	Eaton RTLO-16913A or approved equal, properly matching engine and axle ratio.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall allow easy downshifting to lower gears without bringing vehicle to stop.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Transmission manufacturer:	
e	Transmission model:	
f	Torque capacity:	
<b>20 Clutch</b>		
a	Easy pedal plus or approved equal with minimum of 15.5 inches.	inches
b	Minimum 2 plates ceramic or equivalent	plates
c	An extended lube line for the clutch release bearing is required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Clutch manufacturer	
e	Clutch model	
<b>21</b>	<b>Hydraulics: The truck tractor is required to have a transmission PTO driven pump and a 35 gallon hydraulic tank. Must have in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50 ton rated, drop deck equipment hauling trailer with a 12,000 pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)</b>	
a	Complete hydraulic system including pump including a Chelsea or Muncie PTO pump, filters, pressure relief valve, and a 35 gallon metal reservoir.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	PTO Pump to deliver a minimum of 10 GPM and a maximum of 25 GPM at 2800 to 3000 PSI.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Vendor shall provide an oil cooler of sufficient size to limit overheating.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hydraulic hoses should be minimum 9 ft in length	Length
e	Controls for operation of the trailer will be furnished by the trailer manufacturer	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>22 Windshield Wipers</b>		
a	Electric, dual wipers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Intermittent action.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Dual washers	<input type="checkbox"/> Yes

		<input type="checkbox"/> No
<b>23 Wheel Rims</b>		
a	Aluminum disc type wheels, 10 hole.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Dura-Bright polish or Equivalent to aid in corrosion resistance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Hub piloted.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Nylon Gasket to prevent corrosion to hub	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Rims shall conform to Tire & Rim Association guidelines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Rim Manufacturer:	
<b>24 Front Tires</b>		
a	12R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load Range H	
c	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Good Year, Michelin, Continental and Bridgestone tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>25 Rear Tires</b>		
a	12R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load range H	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Good Year, Michelin, Continental and Bridgestone tires are approved. Any additional tire brands must be approved by the Procurement Entity.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Tire Manufacturer.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>26 Lighting</b>		
a	Factory installed daytime running lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No

b	Front and rear Class "A" directional signals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum, five (5) cab marker lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hazard Flashers	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	All lighting to be of the type approved by the N.C. Division of Motor Vehicles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Pre-Trip exterior light inspection switch: Engaging light inspection switch will sequentially flash all exterior vehicle lights, except back up lights while operator completes safety inspection.	<input type="checkbox"/> Yes  <input type="checkbox"/> No
g	Factory installed Fog lights installed in the front bumper or mounted at the bottom of the front bumper	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>27 Front Bumper</b>		
a	Manufacturers' standard heavy front bumper	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>28 Fenders</b>		
a	Quarter fenders on front Tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>29 License Plate Bracket</b>		
a	License bracket mounted with light in the rear of the truck	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>30 Electrical Wiring</b>		
a	All wiring from the front to rear of chassis shall be encased in a loom, molded plastic or pre-approved equal protective covering.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Wiring to be attached to inner side rails with rubber covered fasteners at approx. 20" intervals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Power supply source ( 5 terminal block, Cole Hersee 46377 or equal), each capable of providing 15 amps, fuse protected for the later addition of 2 way radio, safety lighting and other special equipment required for NCDOT purposes.	<input type="checkbox"/> Yes  <input type="checkbox"/> No
d	Equiped with factory installed modem for GPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>31 Cab: Vendor may be required to demonstrate the cab offered during the evaluation process.</b>		
a	Conventional cab with factory installed air-conditioning.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have electronic cruise control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall have air ride cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have exterior and interior grab handle handholds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have steps for high cab applications for both driver and passenger side. First step height approximately 17 inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No

f	Shall have tinted safety glass all around including windshield.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Driver and passenger seats shall be air ride, adjustable up, down, forward, back and tilt. (National Cush-n-Air or approved equal).	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Both seats shall be high-back each with lap and shoulder seatbelts, and for crew cab when applicable. Shoulder straps shall be high visibility orange.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Shall have 12V power supply outlet.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall have fresh air heater and defroster with single shut-off valve for water line to heater.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have power door locks, and power windows, right and left padded sun visor, driver/passenger side arm rest, map pocket and floor mats.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have AM/FM/CD/blue tooth radio, shielded to eliminate interference from 2-way radio with Bluetooth.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a tilt and telescoping steering wheel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Cab access and function must be ergonomically designed to accommodate 95% percentile of drivers ranging from a 4 Ft. 8 In., 110 Lb. driver to a 6 Ft. 5 In., 375 Lb. driver.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Rear mounted light on back of cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
p	Must have factory installed Telematics, GPS that reads Datalink information and is compatible with and communicates with ATT/Geotab database for utilization tracking.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>32 Fire Extinguisher</b>		
a	Shall be ABC type, rechargeable and mounted in cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have a UL rating of 10BC	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>33 Mirrors</b>		
a	Left and right west coast type with approximately 7"x17" heads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Both west coast mirrors heated.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Left and Right-side mirrors shall be motorized, adjustable and controlled by the driver	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Each mirror shall have approximately 8" diameter convex mirrors, bottom bracket mounted, ball adjustable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Overall width, outside mirror to outside mirror not to exceed 110 inches of the cab and mirror extension should not exceed 110 for safety concerns.)	Overall width
<b>34 Horns</b>		

a	Must have 2 horns, one electric and one air horn. Both must comply with SAE requirements and industry standard.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>35 Power Steering</b>		
a	Power steering, designed and intended for the tires, axles and GVWR offered.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>36 Fifth Wheel- Vendor is to confirm that the below data will provide for the axle loading specified above and that the selected trailer will properly attach without modification by the User.</b>		
a	Air slide with left side operation	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Mounted such that the kingpin can be located from directly over the Center of the tandem to 24 inches forward.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Fontaine model H7000 AWB 24 Heavy Duty - 4" increments or a Fontaine No Slack II 7000 Series 7LWB 24.0-inch air slide fifth wheel with cast top plate with 2-inch increments is approved.	Model
d	Height shall be between 51 to 52 inches	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>37 Trailer Connection</b>		
a	Break away valve	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Air check valve	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Hand control valve	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hose, spring cab hangers	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Berg (7) wire connector or equivalent, with holder and cable for both ABS and non ABS	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Federal Motor Vehicle Safety Standards compatible	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Wet line kit for hook up of semi-trailer, mounted behind cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Quick disconnect fittings shall comply with ISO 7241-1 series B	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Sufficient reservoir capacity and oil cooler to ensure maximum of 100 degree F rise	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Pogo Stick and slide bar installed	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>38 Safety</b>		
a	Vehicles shall include the necessary safety features to meet the applicable requirements of the Federal Vehicles Safety Standards and shall conform with Motor Carrier Safety Regulations # 399.203.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	The vehicle to be furnished with all applicable equipment and accessories as required by the Occupational Safety and Health Acts of both the United States and the State of North Carolina, and shall comply with all regulations, rules, standards and interpretations lawfully adopted there under.	<input type="checkbox"/> Yes <input type="checkbox"/> No

c	Vehicle Cab noise at ear level of the seated operator, with windows open shall not exceed OSHA REQUIREMENTS IN 29 CFR 1910.95 for 8-hour exposure when measured on the "A" scale of a standard sound meter. Ear plugs or other personal protective devices are not acceptable to comply with this requirement.	<input type="checkbox"/> Yes  <input type="checkbox"/> No
d	OSHA requirements on the opening date of the IFB shall apply, regardless of the date of Equipment manufactured.	<input type="checkbox"/> Yes  <input type="checkbox"/> No
<b>39 Federal Inspection Sticker</b>		
a	All units shall be delivered with a completed 12 month Federal Highway Safety Inspection sticker properly affixed.	<input type="checkbox"/> Yes  <input type="checkbox"/> No

Vendor: \_\_\_\_\_

**Truck Tractor, 140,000 POUND GCWR, Heavy Hauling On/Off Road**

General: This specification is for the purchase of a heavy duty, 140,000Lb. GCVWR truck tractor for use by the North Carolina Division of Highways in transporting heavy equipment to and from job sites. Equipment types normally carried by this tractor will include, but shall not be limited to, Large Excavators, Loaders, Motor Graders, Large Bulldozers, and other heavy construction and maintenance equipment common to highway construction. The tractor will normally be mated to a heavy 3-axle lowboy trailer and required to operate in both on/off-road situations typical of other tractors used to transport Heavy Construction Equipment.

Line	Requested	Offered
<b>1 Heavy-duty truck tractor intended for on/off road service</b>		
a	Manufacturer	
b	Model	
c	Year Model	
<b>2 GCWR: Minimum 140,000 lbs. GVW: Appropriate to achieve GCWR loads given</b>		
a	GCWR	lbs.
b	GVWR	lbs.
c	Chassis weight on front axle	lbs.
d	Chassis weight on rear tandem	lbs.
e	Weight of cab & chassis including lubricant and full load of fuel.	lbs.
<b>3 Cab to Tandem</b>		
a	CT 160" to 170" (measuring from the back of the cab to the center of tandem rear Axle) and it should be appropriate for the Fifth wheel setting and axle spacing.	inches
<b>4 Wheelbase</b>		
a	Wheelbase shall be appropriate for the axle and CT dimensions required to achieve the axle load requirements and satisfy the laws of North Carolina, Bridge formula, and the Federal laws.	Ft/Ins.
<b>5 Frame</b>		
a	Minimum resisting bending moment of 2,000,000 inch/lbs. per frame rail.	In/Lbs

6 Springs and Suspension		
a	Front and rear suspension shall meet or exceed the axle ratings.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Rear suspension to be either Hendrickson model HAS-460-55 "Air" or approved equal	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Front suspension offered	
d	Rear suspension offered	
d	Front spring capacity.	lbs.
e	Rear spring capacity.	lbs.
7 Front Axle		
a	Front axle with minimum 18,000 lbs. rated capacity with the heaviest duty shock absorbers, designed and recommended for on and off road service	lbs.
b	Set forward axle with heavy duty Shock absorbers designed for on/off road	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Wheel bearings oil bath type with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
8 Rear Axles		
a	Rear tandem shall be a minimum 46,000 lbs. rated capacity.	lbs.
b	Rear axle make and model	
c	Single speed tandem (single gear ratio).	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Power divider lock with an indicator light visible to the operator or approved equivalent. If the tandem is Mack design (automatically Selected power divider), no lock or light is required. Both axles are required to be lockers.	<input type="checkbox"/> Yes  <input type="checkbox"/> No
e	Power divider offered	<div>Type</div> <div>Model</div> <div>Manufacturer</div>
f	Spacing of the axles of the tandem shall provide enough clearance to allow for snow chains to be run on both axles with the tires specified in this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Axle ratio provided is to be properly matched for engine RPM, tire size and transmission offered to maintain 72 MPH ± 2 MPH at a maximum GVW on level ground.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Axel Ratio	
i	Differentials filled with synthetic lubricant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
9 Lift Axle		
a	A steerable, 13,000Lb capacity lift axle with auto reverse is required and shall be installed by chassis manufacturer	<input type="checkbox"/> Yes <input type="checkbox"/> No



b	Lift axle shall be equipped with two (2) disc type aluminum wheels and 11R22.5, 14 ply rated tires	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Steerable	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Air activation and regulation from cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Automatic lift in reverse	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Capacity	lbs.
g	Lift axle manufacturer	
h	Lift axle model.	
<b>10 Brakes</b>		
a	Full air disc brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Desiccant type air dryer, Midland Pure Air Plus or pre-approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum 19.0 CFM air compressor with low air warning buzzer and light.	CFM
d	Parking brake on front and rear axle of tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Dust shield on all axles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Brakes shall conform to FMVSS in effect at time of production.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Full trailer air package required with glad hands installed such that they can attached to the trailer without further modification by the user; holders are required.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	The brake air tank shall have a manual drain valve with a lanyard attached to the chassis rail.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	ABS system shall be 6S/6M, manufacturer's standard Bendix or Meritor and must be compatible with all manufacturers of trailer brakes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	ABS Manufacturer	
k	ABS Model	
l	Air brake ABS, full vehicle wheel control system with automatic traction control (ATC).	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>11 Batteries</b>		
a	Battery box and battery mounts designed for on/off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum of 3000 CCA at zero (0) degrees F.	CCA
c	Hold down clamps and terminals treated with corrosion resistant.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Batteries and cables to comply with Technology and Maintenance Council 105d specifications.	<input type="checkbox"/> Yes <input type="checkbox"/> No

e	Two (2) remote jump start terminals, battery side mounted with color coded covers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have a master electrical disconnect switch (non-keyed) on battery side of truck, protected from road splash and accessible from the ground or be mounted in the cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Manufacturer's standard battery box cover.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>12 Alternator</b>		
a	Delco SI or approved equal.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Minimum 180 amps	Amps
c	Alternator Make	Make
d	Alternator Model	Model
<b>13 Engine Performance:</b> The Bidder is required to furnish, with the bid, a copy of the performance calculations for the truck offered when coupled to a lowboy equipment trailer, as per the following requirements.		
a	Full diesel, electronic engine, with inline minimum six (6) cylinders.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall be SAE J1349 rated.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum rated torque 1850 lbs./ft	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have 25% startability at maximum GVWR (startability @ clutch engagement).	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall maintain a minimum top speed of 72 MPH @ 1 ½ gradeability at maximum GVWR.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Bidder shall include truck performance analysis sheet(s) indicating the truck performance criteria as described above.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Engine Manufacturer.	MFG.
h	Engine Model.	Model
i	Number of Cylinders.	# of Cylinders
j	Net HP, minimum of 500 hp	HP @ RPM
k	Peak torque	Peak torque lbs./ft @ RPM
<b>14 Engine Requirements Continued</b>		
a	Engine offered shall meet all emissions control system set by EPA requirements, Federal and NC State regulations at the time of delivery.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	A copy of the most recent EPA certificate for current model year Emissions is requested with this bid.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	110 V thermostatically controlled engine block heater properly sized for the engine proposed with weatherproof receptacle mounted under left door (Driver side).	<input type="checkbox"/> Yes <input type="checkbox"/> No

d	Shall have thermostatically controlled fuel heater.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have on board primer for the fuel system.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall be compatible for use with B-20 Bio-Diesel fuel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Shall have a fuel water separator.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Shall have full flow, spin on type engine oil filter.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Must have corrosion resistant oil pan.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>15 Engine Brake</b>		
a	Shall be a compression type or approved equal, compatible with the engine and transmission furnished.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Engine brake Manufacturer	
c	Engine brake Model	
<b>16 Exhaust</b>		
a	Shall be a vertical stack with deflector (rain cap not acceptable).☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>17 Fuel Tank</b>		
a	Single fuel tank, minimum 100 gallons	Gallons
b	Fuel tank to be aluminum, aluminized-steel not acceptable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall conform to all applicable SAE Standards.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Request left side mounted	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>18 Air Cleaner</b>		
a	Dry type, with rated air flow for engine offered with filtration efficiency of 99.5% for all engine speeds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	In cab direct reading air restriction indicator	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>19 Cooling System</b>		
a	Cooling system conforming to SAE (Society of Automotive Engineers) J1393, ASTM (American Society for Testing and Materials) Standards and manufacturer recommendations for on-off road application.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have manufacturer's suggested coolant type.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Stone/Gravel radiator guard should be installed at front of the cab	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>20 Gauges Shall include manufacturer's standard digital gauge package, including the following gauges as a minimum:</b>		
a	Oil Pressure	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Temperature	<input type="checkbox"/> Yes

		<input type="checkbox"/> No
c	Voltmeter	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
d	Fuel	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
e	Air Pressure	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
f	Tachometer	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
g	Hour meter	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
h	Audible and visual alarm for high water temperature	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
i	Audible and visual alarm for oil pressure	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
j	Audible and visual alarm for low air pressure	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
<b>21 Manual Transmission</b>		
a	Eaton RTLO-18913A or approved equal, properly matching engine and axle ratio.☐	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	Shall allow easy downshifting to lower gears without bringing vehicle to stop.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
c	Furnished with synthetic transmission lubricant.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
d	Transmission manufacturer:	
e	Transmission model:	
f	Torque capacity:	
<b>22 Clutch</b>		
a	Easy pedal plus or approved equal with minimum of 15.5 inches.	inches
b	Minimum 2 plates ceramic or equivalent.	plates
c	An extended lube line for the clutch release bearing is required.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
d	Clutch manufacturer	
e	Clutch model	
<b>23 Hydraulics: The truck tractor is required to have a transmission PTO driven pump and a 35 gallon hydraulic tank. Must have in-cab engagement, providing sufficient hydraulic flow and power to operate the trailer, which will normally be a 50 ton rated, drop deck equipment hauling trailer with a 12,000 pound winch. (Most commonly the vendor delivers these truck tractors to Godwin Mfg. in Dunn NC and works with them on this up-fit.)</b>		
a	Complete hydraulic system including pump, filters, pressure relief valve, and metal reservoir.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
b	PTO Pump to deliver a minimum of 10 GPM and a maximum of 25 GPM at 2800 to 3000 PSI.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No
c	Bidder shall provide an oil cooler of sufficient size to limit overheating.	<input type="checkbox"/> Yes
		<input type="checkbox"/> No

d	Hydraulic hoses should be minimum 9 ft in length.	Length
e	Controls for operation of the trailer will be furnished by the trailer manufacturer.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>24 Windshield Wipers</b>		
a	Electric, dual wipers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Intermittent action.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Dual washers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>25 Wheel Rims</b>		
a	Aluminum disc type wheels, 10 hole.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Dura-Bright polish or Equivalent to aid in corrosion resistance.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Hub piloted.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Nylon Gasket to prevent corrosion to hub.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Rims shall conform to Tire & Rim Association guidelines.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Rim Manufacturer:	
<b>26 Front Tires</b>		
a	315/80R22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load Range L	
c	Minimum speed rating of 75MPH.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Tire Manufacturer.	
f	Tire Model.	
<b>If different from above:</b>		
a	Tire Size	
b	Tire Load Range	
c	Tire Model	
<b>27 Rear Tires</b>		
a	12RR22.5 steel belted radial.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Load Range H	
c	Premium highway treads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Tire Manufacturer.	

e	Tire Model.	
<b>If different from above:</b>		
a	Tire Size.	
b	Tire Load Range.	
c	Tire Model.	
<b>28 Lighting</b>		
a	Factory installed daytime running lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	_____ Front and rear Class "A" directional signals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Minimum, five (5) cab marker lights.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hazard Flashers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	All lighting to be of the type approved by the N.C. Division of Motor Vehicles.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Pre-Trip exterior light inspection switch: Engaging light inspection switch will sequentially flash all exterior vehicle lights, except back up lights while operator completes safety inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Factory installed Fog lights installed in the front bumper or mounted at the bottom of the front bumper.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>29 Front Bumper</b>		
a	Manufacturers' standard heavy front bumper.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>30 Fenders</b>		
a	Quarter fenders on front Tandem	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>31 License Plate Bracket</b>		
a	License bracket mounted with light in the rear of the truck.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>32 Electrical Wiring</b>		
a	All wiring from the front to rear of chassis shall be encased in a loom, molded plastic or pre-approved equal protective covering.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Wiring to be attached to inner side rails with rubber covered fasteners at approx. 20" intervals.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Power supply source ( 5 terminal block, Cole Hersee 46377 or equal), each capable of providing 15 amps, fuse protected for the later addition of 2 way radio, safety lighting and other special equipment required for NCDOT purposes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Equiped with factory installed modem for GPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>33 Cab: Bidder may be required to demonstrate the cab offered during the evaluation process.</b>		
a	Conventional cab with factory installed air-conditioning.	<input type="checkbox"/> Yes <input type="checkbox"/> No

b	Shall have electronic cruise control.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Shall have air ride cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Shall have exterior and interior grab handle handholds.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Shall have steps for high cab applications for both driver and passenger side. First step height approximately 17 inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Shall have tinted safety glass all around including windshield.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Driver and passenger seats shall be air ride, adjustable up, down, forward, back and tilt. (National Cush-n-Air or approved equal).	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Both seats shall be high-back each with lap and shoulder seatbelts, and for crew cab when applicable. Shoulder straps shall be high visibility orange.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Shall have 12V power supply outlet.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Shall have fresh air heater and defroster with single shut-off valve for water line to heater.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
k	Shall have power door locks, and power windows, right and left padded sun visor, driver/passenger side arm rest, map pocket and floor mats.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
l	Shall have AM/FM/CD/blue tooth radio, shielded to eliminate interference from 2-way radio with Bluetooth.	<input type="checkbox"/> Yes <input type="checkbox"/> No
m	Shall have a tilt and telescoping steering wheel.	<input type="checkbox"/> Yes <input type="checkbox"/> No
n	Cab access and function must be ergonomically designed to accommodate 95% percentile of drivers ranging from a 4 Ft. 8 In., 110 Lb. driver to a 6 Ft. 5 In., 375 Lb. driver.	<input type="checkbox"/> Yes <input type="checkbox"/> No
o	Rear mounted light on back of cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
p	Must have factory installed Telematics, GPS that reads Datalink information and is compatible with and communicates with ATT/Geotab database for utilization tracking.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>34 Fire Extinguisher</b>		
a	Shall be ABC type, rechargeable and mounted in cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Shall have a UL rating of 10BC	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>35 Mirrors</b>		
a	Left and right west coast type with approximately 7"x17" heads.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Both west coast mirrors heated.☐	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Left and Right-side mirrors shall be motorized, adjustable and	<input type="checkbox"/> Yes

	controlled by the driver.	<input type="checkbox"/> No
d	Each mirror shall have approximately 8" diameter convex mirrors, bottom bracket mounted, ball adjustable.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Overall width, outside mirror to outside mirror not to exceed 110 inches of the cab and mirror extension should not exceed 110 for safety concerns.)	Overall width
<b>36 Horns</b>		
a	Must have 2 horns, one electric and one air horn. Both must comply with SAE requirements and industry standard.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>37 Power Steering</b>		
a	Power steering, designed and intended for the tires, axles and GVWR offered.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>38 Fifth Wheel Bidder is to confirm that the below data will provide for the axle loading specified above and that the selected trailer will properly attach without modification by the User.</b>		
a	Air slide with left side operation	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Mounted such that the kingpin can be located from directly over the Center of the tandem to 24 inches forward.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Fontaine No Slack H7 Series HDS 24" with 4" increments is pre-approved.	Model
d	Height shall be between 51 to 52 inches.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>39 Trailer Connection</b>		
a	Break away valve.	<input type="checkbox"/> Yes <input type="checkbox"/> No
b	Air check valve.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Hand control valve.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	Hose, spring cab hangers.	<input type="checkbox"/> Yes <input type="checkbox"/> No
e	Berg (7) wire connector or equivalent, with holder and cable for both ABS and non ABS.	<input type="checkbox"/> Yes <input type="checkbox"/> No
f	Federal Motor Vehicle Safety Standards compatible.	<input type="checkbox"/> Yes <input type="checkbox"/> No
g	Wet line kit for hook up of semi-trailer, mounted behind cab.	<input type="checkbox"/> Yes <input type="checkbox"/> No
h	Quick disconnect fittings shall comply with ISO 7241-1 series B.	<input type="checkbox"/> Yes <input type="checkbox"/> No
i	Sufficient reservoir capacity and oil cooler to ensure maximum of 100 degree F rise.	<input type="checkbox"/> Yes <input type="checkbox"/> No
j	Pogo Stick and slide bar installed.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>40 Safety</b>		
a	Vehicles shall include the necessary safety features to meet the applicable requirements of the Federal Vehicles Safety	<input type="checkbox"/> Yes



	Standards and shall conform with Motor Carrier Safety Regulations # 399.203.	<input type="checkbox"/> No
b	The vehicle to be furnished with all applicable equipment and accessories as required by the Occupational Safety and Health Acts of both the United States and the State of North Carolina, and shall comply with all regulations, rules, standards and interpretations lawfully adopted there under.	<input type="checkbox"/> Yes <input type="checkbox"/> No
c	Vehicle Cab noise at ear level of the seated operator, with windows open shall not exceed OSHA REQUIREMENTS IN 29 CFR 1910.95 for 8-hour exposure when measured on the "A" scale of a standard sound meter. Ear plugs or other personal protective devices are not acceptable to comply with this requirement.	<input type="checkbox"/> Yes <input type="checkbox"/> No
d	OSHA requirements on the opening date of the IFB shall apply, regardless of the date of Equipment manufactured.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>41 Federal Inspection Sticker</b>		
a	All units shall be delivered with a completed 12 month Federal Highway Safety Inspection sticker properly affixed.	<input type="checkbox"/> Yes <input type="checkbox"/> No