

**TOWN OF COLCHESTER**

**REQUEST FOR PROPOSALS**

**PLOW TRUCKS AND EQUIPMENT**



Prepared By:

Town of Colchester  
Department of Public Works  
781 Blakely Road  
Colchester, VT 05446

Ken Nichols  
Department of Public Works

October 2019

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## INFORMATION FOR BIDDERS

The Town of Colchester Department of Public Works (herein called the "OWNER") is accepting base bids for one(1) Class 8, 35,000 GVWR minimum truck cab and chassis with dump body and plow equipment constructed and delivered as a complete unit consistent with the technical specifications contained in this request for proposals. Alternate bids will also be accepted for one (1) Class 8, 66,000 GVWR minimum truck cab and chassis with dump body and plow equipment constructed and delivered as a complete unit consistent with the technical specification contained in the "Alternate Bid" section of this request for proposals. BIDS will be received by the OWNER at 781 Blakely Road, Colchester, VT 05446 until **November 14, 2019 at 1:00 PM**, and then at said office publicly opened and read aloud.

Each BID must be submitted in a sealed envelope, addressed to **Ken Nichols, at Department of Public Works, Town of Colchester, 781 Blakely Road, VT 05446**. Each sealed envelope containing a BID must be plainly marked on the outside as **BID for Department of Public Works Plow Truck and Equipment**.

All BIDS must be made on the required BID form. The OWNER may waive any informalities or minor defects or reject any and all BIDS.

All questions by prospective BIDDERS as to the interpretations of the INFORMATION FOR BIDDERS, Forms of PROPOSAL, or Specifications, must be submitted in writing to the OWNER, at least seven (7) days before the date herein set for the opening of BIDS. Failure of any BIDDER to receive any such ADDENDUM or interpretation shall not relieve such BIDDER from any obligation under its BID as submitted. All ADDENDA so issued shall become part of the CONTRACT DOCUMENTS. **Interested BIDDERS should provide contact information to the Town to receive any bid ADDENDA.**

In the event there is any discrepancy in the PROPOSAL between any price in words, figures, or the extended totals, the price in words shall govern and the extended totals in each case shall be corrected accordingly. No BID will be accepted which does not contain a price for each item in this PROPOSAL.

The successful BIDDER will be required to execute the agreement within ten (10) business days of receipt of the Notice of Award.

**Award will be made to the lowest responsive, responsible BIDDER, or otherwise guided by the OWNERS procurement policies.**

All transportation costs and final delivery of complete unit to the Colchester Public Works Department shall be included in the quotation price.

All proposals must meet the attached minimum specifications. The OWNER reserves the right to accept or reject any or all quotations submitted, or to purchase any equipment it deems advantageous regardless of amount of price quoted.

Each BIDDER shall furnish satisfactory evidence of their manufacturers ability to construct the apparatus specified herein and state the location of the factories where the apparatus and its major components is to be built.

The BIDDERS manufacturer must be actively engaged in the business of manufacturing highway vehicles. In addition, one comparable unit must be made available for inspection within three (3) days of the proposal submission date.

Any exceptions to any of the requirements contained within this Request for Proposals shall be clearly specified on the form provided. Any proposal submitted without explicit detailed exceptions will be required to meet every detail of these specifications, regardless of the cost to the manufacturer.

It is the intent of the specifications to describe and secure modern, well-made highway vehicles designed and manufactured specifically for providing highway maintenance in the Town of Colchester, Vermont.

All parts and components, not specifically mentioned herein which are necessary to provide a complete, well-constructed vehicle, shall be furnished by the BIDDER and shall conform in quality, strength, and workmanship to the best engineering and manufacturing standards of the industry.

Copies of all applicable warranties shall be submitted with the proposal.

The Town is offering in trade one (1) 2014 International 7500 SFA 4x2 dump truck with plow equipment and approximately 58,000 miles. The Town may elect to accept or reject the trade allowance, and the BIDDER's proposal shall not be altered or affected in any way based upon the Town's decision. Vehicle is available for inspection by appointment by contacting Ken Nichols at 802-264-5624.

Equipment shall be delivered in an acceptable condition to the OWNER no earlier than July 1, 2020 and no later than October 31, 2020. The OWNER shall not release in any way the equipment offered in trade until such time as the OWNER has accepted delivery and taken ownership of the completed truck, inclusive of cab and chassis, dump body, plows, and all other related and required equipment.

BIDDERS must satisfy themselves of the condition of the trade-in vehicle by making an appointment for inspection of the vehicle. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the condition of the vehicles.

**THE TOWN OF COLCHESTER RESERVES THE RIGHT TO REJECT ANY AND ALL PROPOSALS, EITHER IN TOTAL OR IN PART, TO WAIVE ANY INFORMALITIES, AND TO ACCEPT THE PROPOSAL WHICH THE TOWN DEEMS TO BE IN THE BEST INTEREST OF THE TOWN, REGARDLESS OF PRICE QUOTED.** Each proposal shall be evaluated based on the requirements contained within the Town's procurement policy. The Town of Colchester reserves the right to further negotiate with any manufacturer in a manner which is deemed to be in the best interest of the Town.

## DETAILED SPECIFICATIONS

### ITEM NO. 1 - CLASS 8 35,000 GVWR MINIMUM TRUCK CAB AND CHASSIS

**1. TYPE:**

- a. New – latest model at time of delivery – Class 8, 35,000 GVWR minimum truck cab and chassis. Please provide latest literature and model of equipment specified

**2. USAGE:**

- a. To be used for on and off highway constructions and maintenance consisting of general hauling of sand, salt, gravel, and other road building material
- b. Will be used for winter maintenance operations including plowing, sanding, and salting
- c. Truck will be equipped with an 11-foot front mounted plow, a right hand mounted 10-foot plow wing, including mounting assembly, and a 9 cubic yard dump body and materials spreader unit

**3. GENERAL:**

- a. The vehicle and its associated equipment must be of rugged design and construction throughout; feature ideal handling characteristics for ease of operation; and be capable of operating for sustained periods under extreme weather and operating conditions.
- b. Manufacturer's assembly line parts coding information must be attached to the unit. The intent is to enable identification of all component parts in case of breakdowns and the need to obtain replacement parts.
- c. The vehicle must meet or exceed all applicable federal and Vermont laws and regulations in force at the time of delivery. The vehicle must be completely Vermont State inspected and serviced by the vendor prior to delivery, to include steering geometry and balancing of front tires and wheels.

**4. ITEM:**

- a. Specification for one (1) truck cab and chassis.

**5. ENGINE:**

- a. Diesel with a minimum of 350 HP with a minimum of 1150 lbs. of torque, at 1200 rpm, equipped with a Jacob engine brake.
- b. Equipped with oil cooler.
- c. Engine to have automatic warning system for low oil pressure or high coolant temperature. System shall consist of light and buzzer. Buzzer must sound first, and be mounted in cab.
- d. Magnetic drain plugs installed prior to delivery.
- e. Engine block heater, 110 volt, 1250 watt minimum.
- f. Single horizontal exhaust system located under cab, on right side, with vertical tailpipe to include bright finish turn back tip.
- g. Minimum 9 ½ gallon diesel exhaust fluid tank.
- h. Please list estimated fuel mileage.

**6. COOLING SYSTEM:**

- a. 1000 sq. inch minimum radiator.
- b. Closed coolant recovery system.
- c. Anti-freeze to -40 degrees F.
- d. Air controlled fan drive with auto on/off.
- e. Silicone heater and radiator hoses.
- f. If necessary, radiator to be designed to allow for crankshaft drive front mounted central hydraulics.

**7. TRANSMISSION:**

- a. Six (6) speed automatic transmission.

**8. FUEL TANK(S):**

- a. One (1) with 70 gallon minimum capacity. Non-polished aluminum, left side mount, under cab.

**9. FRAME:**

- a. Cab to axle, fine tune with truck order 96".
- b. Wheel base 171", fine tune with truck order.
- c. A.F. 49".
- d. Frame shall be heavy duty with reinforcement full ¼" inside "C" channel to rear of frame rails.
- e. Inside channel reinforcement section. Modules shall be 23.79 cu. In./RBM, 2,620.000 in lbs per rail. Chassis shall accept a 10' body, plowing, and salting equipment.
- f. Tow hooks on the rear.
- g. Frame at front set up to accept plow frame.
- h. Truck to be fitted with 2 inch receiver hitch plate on rear of frame

**10. FRONT AXLE:**

- a. Front axle shall be a minimum of 20,000 lbs.
- b. Heavy duty 20,000 lbs multi stage front springs.
- c. Double action shock absorbers
- d. Power steering
- e. Hub sight bearing caps.
- f. Right front shall have a driver controlled air bag for wing.

**11. REAR AXLE:**

- a. Minimum of 29,000 lbs
- b. Minimum of 30,000 lbs leaf spring suspension
- c. Shall be equipped with auxiliary rubber spring suspension.
- d. Rear axle ratio shall be geared for 65 MPH at maximum RPM
- e. Cab controlled rear-end differential lock.

**12. DRIVELINE:**

- a. Driveline shall be either Rockwell 17N Heavy Duty or 1810 Spicer Heavy Duty or equivalent.

**13. BRAKES:**

- a. Brakes shall be air on all axles.
- b. Brake system shall be equipped with an automatic, heated air dryer.
- c. Alarm, parking brake – electric horn sounds in repetitive manner when vehicle parking brake is NOT set, with ignition OFF.

**14. WHEELS:**

- a. Heavy duty steel disc wheels all around. 9.00DC with .500 thick disc.

**15. TIRES:**

- a. Front tires shall be 12R.22.5 Goodyear G-287 MSA or equivalent.
- b. Rear tires shall be 12R.22.5 Goodyear G-282 MSD.
- c. All tires shall be tubeless radials.

**16. CAB:**

- a. Interior shall be premium trim level.
- b. Tinted safety glass (all windows), heated windshield.
- c. Electric windshield washer, 1 gallon capacity, with back of cab fill point.
- d. Dual power west coast mirrors, chrome, heated, and lighted.

- e. Power windows.
- f. Dual air horns, roof mounted, with caps.
- g. Heavy duty cab mounting system.
- h. Hood will be tilt type, fiberglass with butterfly openings.
- i. Roof mounted clearance lights.
- j. Stainless steel or chrome exterior grab handles, both sides.
- k. Front turn signals and 4-way flashers.
- l. Window vent shades.
- m. Dual arm rests.
- n. Painted exterior sun visor.
- o. Insulation on floors.
- p. Heavy duty climatic control heating and defrosting with air conditioning.
- q. Cab will be galvanized treated.
- r. Cab rear suspension air bag type.
- s. Fender mounted left and right convex mirrors, bright finish, heated.
- t. CB radio accommodation package.

**17. INTERIOR:**

- a. 12 volt auxiliary power outlet.
- b. Coat hooks.
- c. Glove or dispatch box.
- d. Dome light, door operated.
- e. Fully adjustable steering column with leather wrapped steering wheel.
- f. Dual sun visors
- g. High grade air driver seat, or equivalent, cloth high back with three (3) lumbar pillows, cloth passenger seat

**18. INSTRUMENTATION:**

- a. Speedometer
- b. Tachometer
- c. Air pressure gauge
- d. Ammeter or voltmeter
- e. Oil pressure gauge (engine)
- f. Engine coolant temperature gauge
- g. Electric backup alarm
- h. Low engine oil and high water temperature buzzer with warning light
- i. Engine hour meter connected to running side of ignition switches
- j. Electric intermittent windshield wipers
- k. High beam indicator
- l. Fuel gauge
- m. Key type starting
- n. Hand throttle control
- o. Dash mounted air operated parking brake
- p. AM/FM radio with clock and Bluetooth equipped
- q. Ergonomically designed dash
- r. Diesel exhaust fluid gauge

**19. ELECTRICAL:**

- a. Three 12 volt batteries – combined cranking amps, 1900 amps with 400 minute minimum reserve capacity, bolt on terminal type preferred
- b. Automatic reset circuit breakers required, no fuses
- c. Negative ground system

- d. Locate battery box within cab beneath passenger seat with necessary safety and ventilation features and provide remote jumpstart lugs in easily accessible location.
- e. Starter – HD 12 volt
- f. Alternator – minimum HD 160 amp, 12 volt
- g. All wiring for cab and chassis shall be color and number coded and run in heat resistant flexible loom.
- h. Body builders wiring back of cab at frame with sealed connectors for tail/amber, turn/marker, backup/accessory power ground and sealed connection for stop/turn
- i. Auxiliary harness 3 feet minimum for plow lights and turn signals
- j. Six (6) switches in instrument panel for body builder. One power module with six (6) channel, 20 amp per channel, and 80 amp output, located inside center of cab
- k. Windshield wiper speed control – force wipers to slowest intermediate speed when parking brake set and wipers left on for a predetermined time
- l. Install wiring for future electric trailer brake controller to 7-pin trailer connector

**20. RUST PROOFING:**

- a. Provide warranty information

**21. STEERING:**

- a. Power steering, hydraulic integral.
- b. Hydraulic pump drive not to interfere with front mounted PTO
- c. Power steering reservoir shall be able to be checked through butterfly access doors on hood

**22. PTO:**

- a. Provide front PTO adapter to crankshaft

**23. PAINT:**

- a. Cab shall be painted dark blue to match current Town of Colchester trucks
- b. Chassis and running gear shall be painted black

**24. MANUALS:**

- a. Parts manual
- b. Shop service manual
- c. Two (2) operators' manual

**25. WARRANTY:**

- a. Trucks shall have 96-month warranty bumper to bumper, including vehicle, engine, after treatment system, and transmission. 6,000 hours and 125,000 miles with \$0 deductible and road service or towing included

**BODY AND PLOW EQUIPMENT – 35,000 GVWR TRUCK**

*1. Dump Sander Box, 5-7 Cubic Yards*

**GENERAL:**

New 5-7 cubic yard, 10' dump body completely installed and ready for operation on Town of Colchester 35,000 GVWR single rear axle truck chassis. The body and its associated components must be rugged design and construction throughout, and conform to the high standards of strength, quality, and workmanship that are expected of the body manufacturing industry.

**1. DUMP BODY:**

- a. The body shall be 96" wide externally.



- b. The body shall be 86" wide internally.
- c. The sides shall be 28" high and include board pockets.
- d. The right side board pockets shall be included on the tilting floor assembly and rise with the tilt floor, lessening spread material spillage.
- e. Body shall have 12" high channel iron sideboard bolted to the body.
- f. There shall be an internal front bulkhead combined with an adjustable polymer wiper attached to the tilting floor to prevent spillage between the headboard and the tilt section.
- g. The tilt floor shall be AR450 or equivalent steel formed to the proper shape and adequately reinforced. The floor shall be a minimum 3/16" thick.
- h. There shall be three replaceable pivot hinges with grease points and 304 stainless steel hinge pins, 1-1/4" in diameter.
- i. The sub-frame shall have a perimeter frame work of a minimum rectangular tube welded to two 10" high I-beam or C-section long sills. There shall be two intermediate cross members of 4" x 2" tube plus a rear skirt of formed 1/4" thick plate.
- j. The sub-frame shall include one safety prop to support the tilt floor during maintenance
- k. The long sills shall be gusseted and internally braced.
- l. All pivoting hinge points in the floor lift assembly shall have grease points.
- m. Floor lift cylinders and linkage shall be removable for maintenance.
- n. There shall be a fixed flat front headboard of 3/16" thick corten plate supporting the telescopic hoist basket. The headboard shall be reinforced by two vertical support members.
- o. The side assemblies shall have three vertical posts and a dirt shedding lower rail. There shall be two lift lugs installed on each side.
- p. Dump body and material spreader shall have central greasing.

## 2. MATERIAL SPREADER:

- a. The body shall have a left side conveyor discharging through a left side front door.
- b. The discharge door shall be infinitely adjustable in opening height and have a means of incrementally measuring the opening affixed
- c. The conveyor drive unit shall be bolted to the headboard assembly so as to allow removal for maintenance.
- d. The conveyor chain shall be driven by a "CHAR-LYNN" hydraulic motor of adequate size, through a 25:1 cast iron worm gear reducer with through shaft. The gear reducer shall have a 1-3/4" diameter driven shaft carrying 8 tooth steel sprockets. The conveyor chain shall have a minimum tensile strength of 15,000 pounds per chain.
- e. The chain shall have a 3/8" thick chain flite on every second link. One extra conveyor chain shall be provided for each unit.
- f. There shall be a fixed rear idler roller easily removable for maintenance.
- g. The lower conveyor chain tray shall be open for cleaning purposes.
- h. The upper conveyor cover shall hinge to the left side and latch in place. The cover hinge shall be bolted to the body for easy maintenance. There shall be a lift point.
- i. There shall be a bolt in rear idler cover to allow access from inside the body.
- j. The spinner feed chute shall be formed from "HMW" polymer and shall be adjustable to allow either feeding the spinner or windrowing to the road center.
- k. The spinner assembly shall have a top mounted "CHAR-LYNN" hydraulic motor.
- l. The spinner shall have a replaceable bronze shaft bearing and a flexible coupling between the spinner motor and the spinner shaft.
- m. The spinner mounting arm shall allow the spinner to be adjusted in position relative to the conveyor chute.
- n. There shall be an 18", six flite urethane disc spinner.
- o. The body shall be plumbed for the hydraulic circuits to the point of the rear hinge; four steel hydraulic lines shall be supplied to carry the circuits to the body front.
- p. Must include a ground speed material spreader control consistent with the Town's detailed specification

titled "*Material Spreader Controls*"

- q. The spinner assembly shall be controlled with a hydraulic cylinder from the driver's compartment.
- r. All hydraulic hoses shall be 4000 PSI minimum.
- s. Spinner shall be equipped with a light.
- t. Pump shall be Rexroth load sensing.

**3. TAILGATE:**

- a. The tailgate shall be 38" high and have dirt shedding horizontal surfaces. Six (6) panels fully boxed, braced tailgate with heavy duty 1-1/4" hardware minimum. Gate shall be 3/16" steel.
- b. Lower hardware must be self-clearing design with 1-1/4" diameter pins minimum. Pins must be of sufficient length to fully rest in hardware but not extend beyond side of body. Hardware must extend beyond the width of the pin.
- c. When tailgate is in the horizontal position, it must be level with the body floor and have not more than 1/4" gap between the body floor and tailgate. The sideward shift in this position cannot exceed 1/2".
- d. 3/8" high-test spreader chains and outer latch plates will be installed.
- e. Tailgate shall be opened and closed at bottom via pneumatic air gate latch.
- f. Provide two (2) additional tailgate hinge pins

**4. CAB PROTECTOR:**

- a. To be constructed of 8 gauge steel full width and extended a minimum of 24" in front of the headboard
- b. Must be at least 6" vertical clearance from top of wing tower.
- c. Must be fully braced and reinforced with rear gussets and continuous weld to headboard.

**5. HOIST:**

- a. The tilting floor shall be raised by a minimum of two – 3" diameter by 16" stroke double acting hydraulic cylinders to an angle of 30 degrees from horizontal.
- b. A complete telescopic cylinder body hoist kit shall be supplied, including cylinder, base support basket, rear hinge, and double safety props.
- c. Front telescopic cylinder shall have a 100% power up – power down.
- d. Class 50 rated at 20 tons on a 10' body.
- e. Capable of providing a 50 degree dump angle.
- f. Stainless steel lines will be provided where flexible lines are not required. Must be protected from engine heat, exhaust heat, and positioned so as not to interfere with normal operation and servicing of the truck. DO NOT block filter access with rigid lines. Must be secured so vibration and abrasion will not affect lines. A pressure relief valve will be installed on the power down side. All lines shall be mounted inside the frame. All hydraulic plumbing will be done by plow installer.
- g. All hydraulic hoses will have male fittings on both ends and the valve, cylinder, and other connection ends will have swivel female fittings.
- h. The body will be tested for leaks and operation by rising to full height and lowered. The hydraulic tank will then be topped off to mid-point between add and full.
- i. Parts list and schematic diagram will be provided for hoist.

**6. MOUNTING:**

- a. The body will be mounted as far forward as possible.

**7. LIGHTS:**

- a. Stop, turn, tail light, and backup lights shall be mounted in rubber grommets in body rear corner post and wired into sealed waterproof junction box.
- b. Chassis lights shall remain on the frame of the truck as they come from the factory with backup alarm.
- c. Strobe lights – side and rear.
- d. Cab roof light Whelen Justice Series model MJEP1A
- e. Rear of dump body Whelen 500 Series Super LED – Amber

- f. Rear sides of dump body Whelen M4 Series Smart LED model M4AC
  - g. Two (2) additional backup lights, rubber mounted below tailgate.
  - h. Low profile, heated LED headlights on front plow frame.
- 8. MUD FLAPS:**
- a. Four (4) heavy duty reinforced mud flaps, one at rear and one in front of each dual wheel.
  - b. Must cover entire width of dual and meet Vermont Inspection Laws.
  - c. Front flaps will have support bracket to hold the flaps in place when the body is raised.
- 9. LADDER:**
- a. A fold up ladder shall be mounted on the left front of the body.
  - b. Provide welded hand hold on left side of ladder.
- 10. PAINTING:**
- a. All equipment shall be sandblasted, veri-primed, or self-etching primer and painted black using high quality urethane paints.
- 11. DUMP BODY COVER:**
- a. The dump body cover shall be 8' x 12' asphalt cover with wind deflector.
  - b. Cover shall be powered with 12 volt power and controlled from the cab of the truck
- 12. TOOLBOX:**
- a. Frame mounted tool box, approximate size 24" wide x 16" high and 18" deep and constructed of stainless steel.
- 13. RECEIVER HITCH:**
- a. 2 inch receiver hitch plate with D-rings on rear of frame
- 14. WARRANTY:**
- a. The body will have a two-year warranty covering defects in design, materials, and workmanship.
  - b. All hydraulic lift cylinders shall have a minimum four-year full warranty.

## *II. Snow Plows*

### **GENERAL:**

These specifications provide for the snowplow, wing, mounts, controls, and hydraulic system necessary to perform winter maintenance functions. All specifications unless otherwise stated, imply the system will be completely mounted by the successful vendor on Department of Public Works truck(s).

- 1. COMPLETE MOUNT:**
- a. A complete mount means: plow front, plow, wing mount, wing, hydraulic system and controls completely installed and ready for operation.
- 2. PLOW FRAME:**
- a. Will consist of all necessary plates, push arms, and frames required to properly mount, lift, carry, and operate both the plow and wing.
  - b. The mounting brackets for the truck frame shall be a minimum of ½" plate steel, 30" long, and the full width of the truck frame.
  - c. A minimum of six (6) 5/8" grade 5 mounting bolts per side will be used.
  - d. Bottoms must be reinforced back to frame and shall not be mounted to frame extensions only
  - e. The front shall be constructed in such a manner to permit the head frame and wing post to be tilted

forward to provide access to the truck engine compartment.

- f. Head frame and wing post shall be tilted forward hydraulically by controls located on the front of the vehicle.
- g. Head frame and wing post must be easily removed for summer operations. Consideration will be given to features which ease mounting operations in adverse weather conditions
- h. A balance lifting ring shall be installed on top
- i. The lift cylinder shall be at least 4" x 14" with power up and power down.
- j. Remote tilt control shall be provided on side of hitch.
- k. The hydraulic pump will mount on an extension of the truck frame to permit removal of the head frame.

### **3. FRONT PLOW:**

- a. Plow shall be one-way and discharge to the passenger side of the truck and be capable of low or high speed plowing.
- b. Overall length shall be 13'-10" minimum and 14' maximum.
- c. Clearing width shall be 9'.
- d. Cutting edge shall be 11' minimum and 11'-4" maximum.
- e. Intake height shall be 26" minimum.
- f. Discharge height shall be 54" minimum.
- g. Cutting edge shall be carbide blades covered with a steel blade with 12" center punch bolt spacing.
- h. Provide one additional set of carbide and cover blades per plow
- i. Moldboard thickness shall be 8 gauge steel with built-in snow deflector. Backing ribs shall be ½" steel. Back angle behind cutting edge shall be no less than ¾" x 6" x 4" steel, angle gusseted with ½" steel gussets.
- j. Adjustable cast iron drive frame shoes (2) shall be installed. Replaceable steel nose shoes shall be installed. Two (2) extra sets of drive frame shoes (4 shoes) and two (2) extra nose shoes will be provided.
- k. The push frame shall be of tubular construction. The frame shall have inosculating drive bar to allow plow to follow the road contour. There shall be an adjustable moldboard brace with shear pin design for protection and to allow adjustment of cutting edge angle.
- l. A quick coupler system for the mounting of front plow to hitch shall be provided.

### **4. WING:**

- a. Leveling wing with 10' minimum cutting edge and standard arms. It is desirable the plow/wing combination is capable of providing a total clear cut of 14' with the ability to bring the wing in to a minimum 12' clear cut with hydraulic controls.
- b. Twelve (12) 5/8" holes for the steel cutting edge will be spaced 12" on center with 3" on center end bolts. 5/8" blades shall be provided. Cutting edge should be carbide blades covered with a steel blade with 12" center punch bolt spacing.
- c. Provide one additional set of carbide and cover blades per wing.
- d. Wing must be equipped with a 36" low profile front mast.
- e. The wing must be positioned such that the wing and the plow will provide a clear path with no gaps and such that the wing in both plowing operations and carry position will provide adequate tire clearance and not rub against the body. Stops must be provided on the wing block so that it cannot hit the fender when the wing is removed.
- f. Wing will be hydraulically operated. It will be designed in such a way that when the wing is raised into the carry position, it will not hit any part of the truck cab. It will be equipped with a safety chain so that it cannot accidentally drop out of the carry position.
- g. There will be sufficient distance between cab and dump body to mount wing assembly.
- h. The wing shall be equipped with light.
- i. Rear wing shall have reinforcement to the chassis from the bottom post.
- j. Wing arms shall be heavy duty type. Upper arm shall be comprised of BP 3-1/2" Sch80, with a 2-3/4" inside that can be adjusted to several positions with a double acting joint to give maximum flexibility.

Lower arm shall be BP 2-3/4" Sch80, with a 2-1/4" tube inside with several adjustments. Truck side ends shall have "U" shaped receiver and universal joint. The joints shall conform to ASTM A-148 GR90-60 and be manufactured from high strength steel castings with a minimum tensile rating of 90,000 psi and minimum yield point of 60,000 psi. The joint connector shall have a minimum diameter of 2-1/2" and minimum wall thickness of 3/4" with 1" bolts.

**5. WARRANTY:**

- a. The plow and wing will have a two-year warranty covering defects in design, materials, and workmanship

*III. Material Spreader Controls*

**GENERAL:**

The spreader control system shall be ground speed oriented to maintain a pre-determined application rate regardless of vehicle speed. Control shall be by microprocessor for high control accuracy, automatic calibration and flexibility of programming.

Controls for spinner and auger shall be of the rotary knob design. Each knob shall be a selector type with 10 detent positions 0-9; rheostat design switches are unacceptable.

For extremely high accuracy, control shall operate ground speed oriented-closed loop. System must also be capable of operating ground speed oriented open loop and manually. In the event of a feedback sensor failure, system must automatically switch over to open loop or manual operation. Operation mode selection is obtained by supervisors and mechanics only via lockout key, not at the discretion of the drivers (no exceptions).

The digital display is required to enable the operator to monitor either the real application rate in lbs/mile or ground speed in M.P.H. This display must be capable of limiting information to operator and enunciate error messages when the microprocessor's self-diagnostic system detects any loss of control of accuracy. Operator I.D. is available if multiple drivers use controller. A vehicle maximum speed setting is available that will advise operator to SLOW DOWN once he exceeds a predetermined speed.

The unit shall have data logging capability. The type of information the system must record must be time, distance, average truck speed, and distance in blast for each application rate in each the four (4) different materials. Summation is unacceptable.

System must have ability to control 4 different materials. Each material shall be identified by the correct name i.e. Sand/Salt/Mix on the display. A different application rate value and gate setting shall be programmed for each material. In the event a wetting system, temperature equipment, or low material indicator are being used, a signal can be sent to the control head to automatically change load and affect data logging. This will allow the control and recording of different information about spreading and plowing operations.

**1. BLAST FEATURE:**

- a. A push on – push off type switch mounted in the control head shall control operation
- b. Blast amount for each material is programmable from 0-100 percent of hydraulic capacity.
- c. A separate and clearly defined audible warning beeper shall sound when blast button is in the "on" position for any preprogrammed amount of time.

**2. AUGER REVERSE:**

- a. A momentary switch on spreader control will reverse the auger, in case of clogging or other stoppage.
- b. Switch will also cut power to the proportional coil-driving spinner (not applicable on side dump body)

trucks).

**3. PAUSE (SPOT SPREADING):**

- a. A switch mounted in the control head or remote mounted will allow operators to interrupt spreader functions.
- b. During spreading, this will allow spot spreading without adjusting knobs.

**4. DATA-LOGGING:**

- a. Type of information system shall record, must be: time, distance, average truck speed, and distance in blast for each application rate in each of the four different materials.
- b. Software package must be windows capable and give a sequence of events for spreader operations. Summation is not acceptable.
- c. The control must be capable of interfacing with ground position systems (GPS) controller during normal operations.
- d. Systems must have INFRARED data link to allow for calibration and data logging information
- e. Unit shall have a RS 232 interface to hard wiring to GPS unit.

**5. CABLE ASSEMBLIES:**

- a. All electrical cables supplied must come complete with attached watertight "quick disconnect" connectors, shielded, heavy-duty industrial and anti-scuff sheathing.
- b. Wire joints must be soldered and in heat shrink tubing used in all appropriate locations.

**6. BASIC TECHNOLOGIES:**

- a. Certified Power Inc – Freedom II

**7. WARRANTY:**

- a. Material spreader controls will have a two-year warranty covering defects in design, materials, and workmanship.

ITEM NO. 2 - CLASS 8 66,000 GVWR MINIMUM TRUCK CAB AND CHASSIS

1. **TYPE:**
    - a. New – latest model at time of delivery – Class 8, 66,000 GVWR minimum truck cab and chassis. Please provide latest literature and model of equipment specified
  2. **USAGE:**
    - a. To be used for on and off highway constructions and maintenance consisting of general hauling of sand, salt, gravel, and other road building material
    - b. Will be used for winter maintenance operations including plowing, sanding, and salting
    - c. Truck will be equipped with an 11-foot front mounted plow, a right hand mounted 10-foot plow wing, including mounting assembly, and a 14' dump body and materials spreader unit
  3. **GENERAL:**
    - a. The vehicle and its associated equipment must be of rugged design and construction throughout; feature ideal handling characteristics for ease of operation; and be capable of operating for sustained periods under extreme weather and operating conditions.
    - b. Manufacturer's assembly line parts coding information must be attached to the unit. The intent is to enable identification of all component parts in case of breakdowns and the need to obtain replacement parts.
    - c. The vehicle must meet or exceed all applicable federal and Vermont laws and regulations in force at the time of delivery. The vehicle must be completely Vermont State inspected and serviced by the vendor prior to delivery, to include steering geometry and balancing of front tires and wheels.
  4. **ITEM:**
    - a. Specification for one (1) truck cab and chassis.
  5. **ENGINE:**
    - a. Diesel with a minimum of 13 liter and 475 HP with a minimum of 1700 lbs. of torque, at 1200 rpm, equipped with a Jacob engine brake.
    - b. Equipped with oil cooler.
    - c. Engine to have automatic warning system for low oil pressure or high coolant temperature. System shall consist of light and buzzer. Buzzer must sound first, and be mounted in cab.
    - d. Magnetic drain plugs installed prior to delivery.
    - e. Engine block heater, 110 volt, 1250 watt minimum.
    - f. Single horizontal exhaust system located under cab, on right side, with vertical tailpipe to include bright finish turn back tip.
    - g. Minimum 9 ½ gallon diesel exhaust fluid tank.
    - h. Please list estimated fuel mileage.
  6. **COOLING SYSTEM:**
    - a. Aluminum welded front to back cross flow.
    - b. Closed coolant recovery system.
    - c. Anti-freeze to -40 degrees F.
    - d. Viscous type fan drive with auto on/off.
    - e. Silicone heater and radiator hoses.
    - f. If necessary, radiator to be designed to allow for crankshaft drive front mounted central hydraulics.
  7. **TRANSMISSION:**
    - a. Allison 4500 RDS six (6) speed automatic transmission.
  8. **FUEL TANK(S):**
-

- a. One (1) with 80 gallon minimum capacity. Non-polished aluminum, left side mount, under cab.

**9. FRAME:**

- a. Cab to axle, fine tune with truck order 133.9”.
- b. Wheel base 201”, fine tune with truck order.
- c. After ram 63”.
- d. Frame shall be heavy duty with reinforcement full ¼” inside “C” channel to rear of frame rails.
- e. Inside channel reinforcement section. Modules shall be 23.79 cu. In./RBM, 3,806.400 in lbs per rail. Chassis shall accept a 14’ body, plowing, and salting equipment.
- f. Tow hooks on the rear.
- g. Frame at front set up to accept plow frame.
- h. Truck to be fitted with 2 inch receiver hitch plate on rear of frame

**10. FRONT AXLE:**

- a. Front axle shall be a minimum of 18,000 lbs.
- b. Heavy duty 20,000 lbs multi stage front springs.
- c. Auxiliary rubber springs
- d. Double action shock absorbers
- e. Power steering
- f. Hub sight bearing caps.
- g. Right front shall have a driver controlled air bag for wing.

**11. REAR AXLE:**

- a. Minimum of 46,000 lbs
- b. Shall be equipped with helper spring suspension.
- c. Shall be equipped with auxiliary rubber spring suspension.
- d. Rear axle ratio shall be geared for 65 MPH at maximum RPM
- e. Cab controlled rear-end lock – in forward-rear and rear-rear axle
- f. Suspension – Chalmers 46,000 lbs. walking beam type – 54” axle spacing, hess shocks.

**12. DRIVELINE:**

- a. Driveline shall be SPL250XL drive shaft SPL 170 KL inner axle shaft in lieu of 1810 driver shaft 1710 inner shaft.

**13. BRAKES:**

- a. Brakes shall be air on all axles.
- b. Brake system shall be equipped with an automatic, heated air dryer.
- c. Alarm, parking brake – electric horn sounds in repetitive manner when vehicle parking brake is NOT set, with ignition OFF.

**14. WHEELS:**

- a. Heavy duty steel disc wheels all around. 9.00DC with .500 thick disc.

**15. TIRES:**

- a. Front tires shall be 12R.22.5 Goodyear G-287 MSA or equivalent.
- b. Rear tires shall be 12R.22.5 Goodyear G-282 MSD.
- c. All tires shall be tubeless radials.

**16. CAB:**

- a. Interior shall be premium trim level.
- b. Tinted safety glass (all windows), heated windshield.
- c. Electric windshield washer, 1 gallon capacity, with back of cab fill point.



- d. Dual power west coast mirrors, chrome, heated, and lighted.
- e. Power windows.
- f. Dual air horns, roof mounted, with caps.
- g. Heavy duty cab mounting system.
- h. Hood will be tilt type, fiberglass with butterfly openings.
- i. Roof mounted clearance lights.
- j. Stainless steel or chrome exterior grab handles, both sides.
- k. Front turn signals and 4-way flashers.
- l. Window vent shades.
- m. Dual arm rests.
- n. Painted exterior sun visor.
- o. Insulation on floors.
- p. Heavy duty climatic control heating and defrosting with air conditioning.
- q. Cab will be galvanized treated.
- r. Cab rear suspension air bag type.
- s. Fender mounted left and right convex mirrors, bright finish, heated.
- t. CB radio accommodation package.

**17. INTERIOR:**

- a. 12 volt auxiliary power outlet.
- b. Coat hooks.
- c. Glove or dispatch box.
- d. Dome light, door operated.
- e. Fully adjustable steering column with leather wrapped steering wheel.
- f. Dual sun visors
- g. High grade air driver seat, or equivalent, cloth high back with three (3) lumbar pillows, cloth passenger seat

**18. INSTRUMENTATION:**

- a. Speedometer
- b. Tachometer
- c. Air pressure gauge
- d. Ammeter or voltmeter
- e. Oil pressure gauge (engine)
- f. Engine coolant temperature gauge
- g. Electric backup alarm
- h. Low engine oil and high water temperature buzzer with warning light
- i. Engine hour meter connected to running side of ignition switches
- j. Electric intermittent windshield wipers
- k. High beam indicator
- l. Fuel gauge
- m. Key type starting
- n. Hand throttle control
- o. Dash mounted air operated parking brake
- p. AM/FM radio with clock and Bluetooth equipped
- q. Ergonomically designed dash
- r. Diesel exhaust fluid gauge

**19. ELECTRICAL:**

- a. Three 12 volt batteries – combined cranking amps, 1950 amps with 400 minute minimum reserve capacity, bolt on terminal type preferred
- b. Automatic reset circuit breakers required, no fuses

- c. Negative ground system
- d. Locate battery box within cab beneath passenger seat with necessary safety and ventilation features and provide remote jumpstart lugs in easily accessible location.
- e. Starter – HD 12 volt
- f. Alternator – minimum HD 160 amp, 12 volt
- g. All wiring for cab and chassis shall be color and number coded and run in heat resistant flexible loom.
- h. Body builders wiring back of cab at frame with sealed connectors for tail/amber, turn/marker, backup/accessory power ground and sealed connection for stop/turn
- i. Auxiliary harness 3 feet minimum for plow lights and turn signals
- j. Six (6) switches in instrument panel for body builder. One power module with six (6) channel, 20 amp per channel, and 80 amp output, located inside center of cab
- k. Windshield wiper speed control – force wipers to slowest intermediate speed when parking brake set and wipers left on for a predetermined time

**20. RUST PROOFING:**

- a. Provide warranty information

**21. STEERING:**

- a. Power steering, hydraulic integral.
- b. Hydraulic pump drive not to interfere with front mounted PTO
- c. Power steering reservoir shall be able to be checked through butterfly access doors on hood

**22. PTO:**

- a. Provide front PTO adapter to crankshaft

**23. PAINT:**

- a. Cab shall be painted dark blue to match current Town of Colchester trucks
- b. Chassis and running gear shall be painted black

**24. MANUALS:**

- a. Parts manual
- b. Shop service manual
- c. Two (2) operators' manual

**25. WARRANTY:**

- a. Trucks shall have 96-month warranty bumper to bumper, including vehicle, engine, after treatment system, and transmission. 6,000 hours and 125,000 miles with \$0 deductible and road service or towing included

**BODY AND PLOW EQUIPMENT – 66,000 GVWR TRUCK**

*I. Dump Sander Box, 12-14 Cubic Yards*

**GENERAL:**

New 12-14 cubic yard, 14' dump body completely installed and ready for operation on Town of Colchester 66,000 GVWR single rear axle truck chassis. The body and its associated components must be rugged design and construction throughout, and conform to the high standards of strength, quality, and workmanship that are expected of the body manufacturing industry.

**1. DUMP BODY:**

- a. The body shall be 96" wide externally.

- b. The body shall be 86" wide internally.
- c. The sides shall be 39" high and include board pockets.
- d. The right side board pockets shall be included on the tilting floor assembly and rise with the tilt floor, lessening spread material spillage.
- e. Body shall have 12" high channel iron sideboard bolted to the body.
- f. There shall be an internal front bulkhead combined with an adjustable polymer wiper attached to the tilting floor to prevent spillage between the headboard and the tilt section.
- g. The tilt floor shall be AR450 or equivalent steel formed to the proper shape and adequately reinforced. The floor shall be a minimum 3/16" thick.
- h. There shall be three replaceable pivot hinges with grease points and 304 stainless steel hinge pins, 1-3/4" in diameter.
- i. The sub-frame shall have a perimeter frame work of a minimum rectangular tube welded to two 10" high I-beam or C-section long sills. There shall be two intermediate cross members of 4" x 2" tube plus a rear skirt of formed 1/4" thick plate.
- j. The sub-frame shall include one safety prop to support the tilt floor during maintenance
- k. The long sills shall be gusseted and internally braced.
- l. All pivoting hinge points in the floor lift assembly shall have grease points.
- m. Floor lift cylinders and linkage shall be removable for maintenance.
- n. There shall be a fixed flat front headboard of 3/16" thick corten plate supporting the telescopic hoist basket. The headboard shall be reinforced by two vertical support members.
- o. The side assemblies shall have three vertical posts and a dirt shedding lower rail. There shall be two lift lugs installed on each side.
- p. Dump body and material spreader shall have central greasing.

## 2. MATERIAL SPREADER:

- a. The body shall have a left side conveyor discharging through a left side front door.
- b. The discharge door shall be infinitely adjustable in opening height and have a means of incrementally measuring the opening affixed
- c. The conveyor drive unit shall be bolted to the headboard assembly so as to allow removal for maintenance.
- d. The conveyor chain shall be driven by a "CHAR-LYNN" hydraulic motor of adequate size, through a 25:1 cast iron worm gear reducer with through shaft. The gear reducer shall have a 1-3/4" diameter driven shaft carrying 8 tooth steel sprockets. The conveyor chain shall have a minimum tensile strength of 15,000 pounds per chain.
- e. The chain shall have a 3/8" thick chain flite on every second link. One extra conveyor chain shall be provided for each unit.
- f. There shall be a fixed rear idler roller easily removable for maintenance.
- g. The lower conveyor chain tray shall be open for cleaning purposes.
- h. The upper conveyor cover shall hinge to the left side and latch in place. The cover hinge shall be bolted to the body for easy maintenance. There shall be a lift point.
- i. There shall be a bolt in rear idler cover to allow access from inside the body.
- j. The spinner feed chute shall be formed from "HMW" polymer and shall be adjustable to allow either feeding the spinner or windrowing to the road center.
- k. The spinner assembly shall have a top mounted "CHAR-LYNN" hydraulic motor.
- l. The spinner shall have a replaceable bronze shaft bearing and a flexible coupling between the spinner motor and the spinner shaft.
- m. The spinner mounting arm shall allow the spinner to be adjusted in position relative to the conveyor chute.
- n. There shall be an 18", six flite urethane disc spinner.
- o. The body shall be plumbed for the hydraulic circuits to the point of the rear hinge; four steel hydraulic lines shall be supplied to carry the circuits to the body front.
- p. Must include a ground speed material spreader control consistent with the Town's detailed specification

titled "*Material Spreader Controls*"

- q. The spinner assembly shall be controlled with a hydraulic cylinder from the driver's compartment.
- r. All hydraulic hoses shall be 4000 PSI minimum.
- s. Spinner shall be equipped with a light.
- t. Pump shall be Rexroth load sensing.

**3. TAILGATE:**

- a. The tailgate shall be 51" high and have dirt shedding horizontal surfaces. Six (6) panels fully boxed, braced tailgate with heavy duty 1-1/4" hardware minimum. Gate shall be 3/16" steel.
- b. Lower hardware must be self-clearing design with 1-1/4" diameter pins minimum. Pins must be of sufficient length to fully rest in hardware but not extend beyond side of body. Hardware must extend beyond the width of the pin.
- c. When tailgate is in the horizontal position, it must be level with the body floor and have not more than 1/4" gap between the body floor and tailgate. The sideward shift in this position cannot exceed 1/2".
- d. 3/8" high-test spreader chains and outer latch plates will be installed.
- e. Tailgate shall be opened and closed at bottom via pneumatic air gate latch.
- f. Provide two (2) additional tailgate hinge pins

**4. CAB PROTECTOR:**

- a. To be constructed of 8 gauge steel full width and extended a minimum of 24" in front of the headboard
- b. Must be at least 6" vertical clearance from top of wing tower.
- c. Must be fully braced and reinforced with rear gussets and continuous weld to headboard.

**5. HOIST:**

- a. The tilting floor shall be raised by a minimum of two – 3-1/2" diameter by 22-1/2" stroke double acting hydraulic cylinders to an angle of 30 degrees from horizontal.
- b. A complete telescopic cylinder body hoist kit shall be supplied, including cylinder, base support basket, rear hinge, and double safety props.
- c. Front telescopic cylinder shall have a 100% power up – power down.
- d. Minimum 35 tons at 2,000 psi.
- e. Capable of providing a 50 degree dump angle.
- f. Stainless steel lines will be provided where flexible lines are not required. Must be protected from engine heat, exhaust heat, and positioned so as not to interfere with normal operation and servicing of the truck. DO NOT block filter access with rigid lines. Must be secured so vibration and abrasion will not affect lines. A pressure relief valve will be installed on the power down side. All lines shall be mounted inside the frame. All hydraulic plumbing will be done by plow installer.
- g. All hydraulic hoses will have male fittings on both ends and the valve, cylinder, and other connection ends will have swivel female fittings.
- h. The body will be tested for leaks and operation by rising to full height and lowered. The hydraulic tank will then be topped off to mid-point between add and full.
- i. Parts list and schematic diagram will be provided for hoist.

**6. MOUNTING:**

- a. The body will be mounted as far forward as possible.

**7. LIGHTS:**

- a. Stop, turn, tail light, and backup lights shall be mounted in rubber grommets in body rear corner post and wired into sealed waterproof junction box.
- b. Chassis lights shall remain on the frame of the truck as they come from the factory with backup alarm.
- c. Strobe lights – side and rear.
- d. Cab roof light Whelen Justice Series model MJEP1A
- e. Rear of dump body Whelen 500 Series Super LED – Amber

- f. Rear sides of dump body Whelen M4 Series Smart LED model M4AC
  - g. Two (2) additional backup lights, rubber mounted below tailgate.
  - h. Low profile, heated LED headlights on front plow frame.
- 8. MUD FLAPS:**
- a. Four (4) heavy duty reinforced mud flaps, one at rear and one in front of each dual wheel.
  - b. Must cover entire width of dual and meet Vermont Inspection Laws.
  - c. Front flaps will have support bracket to hold the flaps in place when the body is raised.
- 9. LADDER:**
- a. A fold up ladder shall be mounted on the left front of the body.
  - b. Provide welded hand hold on left side of ladder.
- 10. PAINTING:**
- a. All equipment shall be sandblasted, veri-primed, or self-etching primer and painted black using high quality urethane paints.
- 11. DUMP BODY COVER:**
- a. The dump body cover shall be 8' x 16' asphalt cover with wind deflector.
  - b. Cover shall be powered with 12 volt power and controlled from the cab of the truck
- 12. TOOLBOX:**
- a. Frame mounted tool box, approximate size 24" wide x 16" high and 18" deep and constructed of stainless steel.
- 13. RECEIVER HITCH:**
- a. 2 inch receiver hitch plate with D-rings on rear of frame
- 14. WARRANTY:**
- a. The body will have a two-year warranty covering defects in design, materials, and workmanship.
  - b. All hydraulic lift cylinders shall have a minimum four-year full warranty.

## *II. Snow Plows*

### **GENERAL:**

These specifications provide for the snowplow, wing, mounts, controls, and hydraulic system necessary to perform winter maintenance functions. All specifications unless otherwise stated, imply the system will be completely mounted by the successful vendor on Department of Public Works truck(s).

- 6. COMPLETE MOUNT:**
- a. A complete mount means: plow front, plow, wing mount, wing, hydraulic system and controls completely installed and ready for operation.
- 7. PLOW FRAME:**
- a. Will consist of all necessary plates, push arms, and frames required to properly mount, lift, carry, and operate both the plow and wing.
  - b. The mounting brackets for the truck frame shall be a minimum of ½" plate steel, 30" long, and the full width of the truck frame.
  - c. A minimum of six (6) 5/8" grade 5 mounting bolts per side will be used.
  - d. Bottoms must be reinforced back to frame and shall not be mounted to frame extensions only
  - e. The front shall be constructed in such a manner to permit the head frame and wing post to be tilted

forward to provide access to the truck engine compartment.

- f. Head frame and wing post shall be tilted forward hydraulically by controls located on the front of the vehicle.
- g. Head frame and wing post must be easily removed for summer operations. Consideration will be given to features which ease mounting operations in adverse weather conditions
- h. A balance lifting ring shall be installed on top
- i. The lift cylinder shall be at least 4" x 14" with power up and power down.
- j. Remote tilt control shall be provided on side of hitch.
- k. The hydraulic pump will mount on an extension of the truck frame to permit removal of the head frame.

**8. FRONT PLOW:**

- a. Plow shall be one-way and discharge to the passenger side of the truck and be capable of low or high speed plowing.
- b. Overall length shall be 13'-10" minimum and 14' maximum.
- c. Clearing width shall be 9'.
- d. Cutting edge shall be 11' minimum and 11'-4" maximum.
- e. Intake height shall be 26" minimum.
- f. Discharge height shall be 54" minimum.
- g. Cutting edge shall be carbide blades covered with a steel blade with 12" center punch bolt spacing.
- h. Provide one additional set of carbide and cover blades per plow
- i. Moldboard thickness shall be 8 gauge steel with built-in snow deflector. Backing ribs shall be ½" steel. Back angle behind cutting edge shall be no less than ¾" x 6" x 4" steel, angle gusseted with ½" steel gussets.
- j. Adjustable cast iron drive frame shoes (2) shall be installed. Replaceable steel nose shoes shall be installed. Two (2) extra sets of drive frame shoes (4 shoes) and two (2) extra nose shoes will be provided.
- k. The push frame shall be of tubular construction. The frame shall have inosculating drive bar to allow plow to follow the road contour. There shall be an adjustable moldboard brace with shear pin design for protection and to allow adjustment of cutting edge angle.
- l. A quick coupler system for the mounting of front plow to hitch shall be provided.

**9. WING:**

- a. Leveling wing with 10' minimum cutting edge and standard arms. It is desirable the plow/wing combination is capable of providing a total clear cut of 14' with the ability to bring the wing in to a minimum 12' clear cut with hydraulic controls.
- b. Twelve (12) 5/8" holes for the steel cutting edge will be spaced 12" on center with 3" on center end bolts. 5/8" blades shall be provided. Cutting edge should be carbide blades covered with a steel blade with 12" center punch bolt spacing.
- c. Provide one additional set of carbide and cover blades per wing.
- d. Wing must be equipped with a 36" low profile front mast.
- e. The wing must be positioned such that the wing and the plow will provide a clear path with no gaps and such that the wing in both plowing operations and carry position will provide adequate tire clearance and not rub against the body. Stops must be provided on the wing block so that it cannot hit the fender when the wing is removed.
- f. Wing will be hydraulically operated. It will be designed in such a way that when the wing is raised into the carry position, it will not hit any part of the truck cab. It will be equipped with a safety chain so that it cannot accidentally drop out of the carry position.
- g. There will be sufficient distance between cab and dump body to mount wing assembly.
- h. The wing shall be equipped with light.
- i. Rear wing shall have reinforcement to the chassis from the bottom post.
- j. Wing arms shall be heavy duty type. Upper arm shall be comprised of BP 3-1/2" Sch80, with a 2-3/4" inside that can be adjusted to several positions with a double acting joint to give maximum flexibility.

Lower arm shall be BP 2-3/4" Sch80, with a 2-1/4" tube inside with several adjustments. Truck side ends shall have "U" shaped receiver and universal joint. The joints shall conform to ASTM A-148 GR90-60 and be manufactured from high strength steel castings with a minimum tensile rating of 90,000 psi and minimum yield point of 60,000 psi. The joint connector shall have a minimum diameter of 2-1/2" and minimum wall thickness of 3/4" with 1" bolts.

**10. WARRANTY:**

- a. The plow and wing will have a two-year warranty covering defects in design, materials, and workmanship

*III. Material Spreader Controls*

**GENERAL:**

The spreader control system shall be ground speed oriented to maintain a pre-determined application rate regardless of vehicle speed. Control shall be by microprocessor for high control accuracy, automatic calibration and flexibility of programming.

Controls for spinner and auger shall be of the rotary knob design. Each knob shall be a selector type with 10 detent positions 0-9; rheostat design switches are unacceptable.

For extremely high accuracy, control shall operate ground speed oriented-closed loop. System must also be capable of operating ground speed oriented open loop and manually. In the event of a feedback sensor failure, system must automatically switch over to open loop or manual operation. Operation mode selection is obtained by supervisors and mechanics only via lockout key, not at the discretion of the drivers (no exceptions).

The digital display is required to enable the operator to monitor either the real application rate in lbs/mile or ground speed in M.P.H. This display must be capable of limiting information to operator and enunciate error messages when the microprocessor's self-diagnostic system detects any loss of control of accuracy. Operator I.D. is available if multiple drivers use controller. A vehicle maximum speed setting is available that will advise operator to SLOW DOWN once he exceeds a predetermined speed.

The unit shall have data logging capability. The type of information the system must record must be time, distance, average truck speed, and distance in blast for each application rate in each the four (4) different materials. Summation is unacceptable.

System must have ability to control 4 different materials. Each material shall be identified by the correct name i.e. Sand/Salt/Mix on the display. A different application rate value and gate setting shall be programmed for each material. In the event a wetting system, temperature equipment, or low material indicator are being used, a signal can be sent to the control head to automatically change load and affect data logging. This will allow the control and recording of different information about spreading and plowing operations.

**8. BLAST FEATURE:**

- a. A push on – push off type switch mounted in the control head shall control operation
- b. Blast amount for each material is programmable from 0-100 percent of hydraulic capacity.
- c. A separate and clearly defined audible warning beeper shall sound when blast button is in the "on" position for any preprogrammed amount of time.

**9. AUGER REVERSE:**

- a. A momentary switch on spreader control will reverse the auger, in case of clogging or other stoppage.

- b. Switch will also cut power to the proportional coil-driving spinner (not applicable on side dump body trucks).

**10. PAUSE (SPOT SPREADING):**

- a. A switch mounted in the control head or remote mounted will allow operators to interrupt spreader functions.
- b. During spreading, this will allow spot spreading without adjusting knobs.

**11. DATA-LOGGING:**

- a. Type of information system shall record, must be: time, distance, average truck speed, and distance in blast for each application rate in each of the four different materials.
- b. Software package must be windows capable and give a sequence of events for spreader operations. Summation is not acceptable.
- c. The control must be capable of interfacing with ground position systems (GPS) controller during normal operations.
- d. Systems must have INFRARED data link to allow for calibration and data logging information
- e. Unit shall have a RS 232 interface to hard wiring to GPS unit.

**12. CABLE ASSEMBLIES:**

- a. All electrical cables supplied must come complete with attached watertight "quick disconnect" connectors, shielded, heavy-duty industrial and anti-scuff sheathing.
- b. Wire joints must be soldered and in heat shrink tubing used in all appropriate locations.

**13. BASIC TECHNOLOGIES:**

- a. Certified Power Inc – Freedom II

**14. WARRANTY:**

- a. Material spreader controls will have a two-year warranty covering defects in design, materials, and workmanship.



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**BID FORM**

Item No.	Brief Description - lump sum Price (in both words and numerals)	Total Price (in numerals)
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**BASE BID**

1. One (1) Class 8 35,000 GVWR Minimum Truck Cab and Chassis  
 Plow, Body Equipment, and material spreader controls  
 \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents (\$ \_\_\_\_\_ )      \$ \_\_\_\_\_

One (1) 2014 International 7500 Dump Trucks for Trade-In  
 \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents      \$- \_\_\_\_\_

Total Base Bid \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents      \$ \_\_\_\_\_

**BID ALTERNATE**

2. One (1) Class 8 66,000 GVWR Minimum Truck Cab and Chassis  
 Plow, Body Equipment, and material spreader controls.  
 \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents (\$ \_\_\_\_\_ )      \$ \_\_\_\_\_

One (1) 2014 International 7500 Dump Trucks for Trade-In  
 \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents (\$- \_\_\_\_\_ )      \$- \_\_\_\_\_

Total Alterante Bid \_\_\_\_\_dollars  
 and \_\_\_\_\_ cents (\$- \_\_\_\_\_ )      \$- \_\_\_\_\_

This proposal must be signed by an authorized representative of the manufacturer to become valid. By affixing his/her signature, it is acknowledged that he/she has reviewed the bid specifications and conditions and thoroughly understands them. Additionally, it is also understood that the TOWN OF COLCHESTER RESERVES THE RIGHT TO REJECT ANY AND ALL PROPOSALS, EITHER IN TOTAL OR IN PART, TO WAIVE ANY INFORMALITIES, AND TO ACCEPT THE PROPOSAL WHICH THE TOWN PURCHASING AGENT DEEMS TO BE IN THE BEST INTEREST OF THE TOWN, REGARDLESS OF PRICE QUOTED.

Respectfully submitted: \_\_\_\_\_  
Print or Type Name Title

\_\_\_\_\_  
Phone # Company Name Address

\_\_\_\_\_  
Signature Email

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

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**NOTICE OF AWARD**

**TO:**

**AWARD DESCRIPTION:**

The OWNER has considered the BID submitted by you for the above described ITEMS in response to the Information for Bidders package dated October 2019.

You are hereby notified that your BID has been accepted for the following items:

Item No. 1        \$ \_\_\_\_\_

Item No. 2        \$ \_\_\_\_\_

You are required by the Information for Bidders to execute the Agreement within ten (10) business days from the date of this notice to you.

If you fail to execute the Agreement within ten (10) days from the date of this notice, the OWNER will be entitled to consider the acceptance of your BID as abandoned. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

By: \_\_\_\_\_

Titles: \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

Receipt of the NOTICE OF AWARD is hereby acknowledged.

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Company

\_\_\_\_\_  
Printed Name

Accepted this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

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**AGREEMENT**

THIS AGREEMENT is made on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, by and between the Town of Colchester hereinafter called the OWNER and \_\_\_\_\_ doing business as (an individual) or (partnership) or (a corporation) hereinafter called the BIDDER.

WITNESSETH: That for and in consideration of the payments and agreement hereinafter mention:

1. The term CONTRACT DOCUMENTS means and includes the following:

Information for Bidders

Bid Form

Notice of Award

Agreement

Addendum No. 1 \_\_\_\_\_ dated \_\_\_\_\_ 20 \_\_\_\_\_

Addendum No. 2 \_\_\_\_\_ dated \_\_\_\_\_ 20 \_\_\_\_\_

2. The BIDDER will provide the items as listed in the Notice of Award following the Detailed Specifications as listed in the CONTRACT DOCUMENTS (including any Addendums).

3. The BIDDER will furnish all items, including shipping and any other services necessary by the dates as specified in the INFORMATION FOR BIDDERS.

4. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators and assigns.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in duplicate, each of which shall be deemed an original on the date first above written.

OWNER: TOWN OF COLCHESTER

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

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

Name/Title: \_\_\_\_\_

WITNESS: \_\_\_\_\_

BIDDER:

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

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

Name/Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

WITNESS: \_\_\_\_\_