

CITY OF NIAGARA FALLS, NEW YORK

REQUEST FOR BIDS BID #11-09

Bids on items as specified herein will be accepted at City Hall until 11:00 A.M., and opened at 11:00 A.M. on March 20, 2009.

Bidders must state when delivery can be made.

All bids are subject to delivery as stated herein.

If a bid is submitted on an article intended as a substitute for a grade or brand specified, the bidder must state the grade or brand of the substitution, otherwise it will be assumed that the bid is based on the grade or brand specified.

The City reserves the right to accept this bid by items, or as a whole, or to reject any or all bids or waive informalities.

Bids are to be shown NET. Cash discounts are to be stated, if any.

All bids must be accompanied by the requisite bid bond IF SO STATED IN THE SPECIFICATIONS.

Provision of any required performance bond is the responsibility of the bidder.

Prices must be filled in with typewriter or ink on this form.

THE ENVELOPE CONTAINING THE BID MUST BE SEALED AND CLEARLY MARKED WITH THE BID NUMBER.

Any and all bids and contracts made or awarded by the City of Niagara Falls or any department, agency or official thereof for work or services performed or to be performed, or goods purchased or sold or to be purchased or sold are made subject to the provisions of Chapter 861 of the Laws of New York, 1953, as amended by Chapter 751 of the Laws of New York, and as now contained or as may hereafter be amended. The provisions of the New York State General Municipal Law and 103a and 103b are applicable to this bid.

BIDDER'S ATTENTION IS REQUESTED REGARDING THE FOLLOWING CONDITIONS AND REGULATIONS. BIDS NOT IN COMPLIANCE WITH THE FOREGOING CONDITIONS AND REGULATIONS WILL NOT BE CONSIDERED.

NON-COLLUSIVE BIDDING CERTIFICATION (PURSUANT TO CHAPTER 751 OF LAWS OF NEW YORK, 1965)

By submission of this bid or proposal, the bidder certifies that:

- a) This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor;
- b) This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids or proposals for this project, to any other bidder, competitor or potential competitor;
- c) No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal;
- d) The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidders as well as to the person signing on it's behalf;
- e) That attached hereto (if a corporate bidder) is a certified copy or resolution authorizing the execution of this certificate by the signature of this bid or proposal on behalf of the corporate bidder.

(see reverse side for additional information)

COMPANY NAME:

ADDRESS:

TOTAL NET PRICE	DELIVERY PROMISED
CONTACT PERSON FOR QUESTIONS REGARDING BID	TELEPHONE NUMBER
AUTHORIZED SIGNATURE	DATE

TITLE

MAIL BIDS TO:
CITY OF NIAGARA FALLS
PURCHASING DIVISION ROOM 14-B
PO BOX 69
NIAGARA FALLS, NY 14302-0069

DELIVER BIDS TO:
CITY OF NIAGARA FALLS
CITY HALL ROOM 14-B
745 MAIN STREET
NIAGARA FALLS, NY 14302-0069

BIDS SUBMITTED BY FACSIMILE ARE UNACCEPTABLE

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CITY OF NIAGARA FALLS DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS

2009 OR NEWER

NEW UNUSED TANDEM CHASSIS WITH DUMP BODY PLOW & PLOW FRAME

Please indicate "YES" or "NO" if the equipment being bid complies with each specification. If "NO", please describe variance in the exception column. If the item being bid exceeds any specification, check "NO" and describe the variance in the exception column.

GENERAL:			
1. It is the intent of this specification to describe 3 (THREE) new and unused Tandem Chassis with Dump Body, Plow and Plow Frame.			
2. These specifications shall be strictly adhered to. All exceptions and deviations shall be listed and fully explained on a separate page entitled 'Exceptions to Specifications', and shall reference the page number of the specifications. Bidder shall place a check mark in the appropriate column to signify compliance or non-compliance with each item of these specifications. Proposals taking total exception to these specifications shall NOT be considered. Each bid shall be accompanied by a set of manufacturer's specifications, consisting of detailed description of the equipment proposed. These specifications shall indicate size, type, model and make of all component parts and equipment. Failure to comply with these specifications shall disqualify your bid.			
3. Bidder to provide warranty information, and shall state the warranty terms offered for the major components of the equipment proposed.			
4. To be delivered to Central Garage Division, Public Works Department, 1785 New Road, Niagara Falls, New York 14304, at no cost to the City, no later than 100 days from receipt of purchase order.			
5. No demonstrator, prototypes or discontinued models.			
6. The City places a very high priority on service, and the availability of parts. Bidders are to be an authorized dealer for the manufacturer of the equipment proposed, and have a service facility within a distance of seventy five (75) miles of type of purchaser's facility, where the proposed equipment is housed. Bidder to have available twenty-four (24) hour service and capable of supplying parts within twenty-four (24) hours.			
7. Successful bidder to furnish two (2) copies of parts/maintenance and service manuals for the complete unit furnished.			
CHASSIS:	YES	NO	EXCEPTION
Front axle load 20,000 lbs.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear axle load 46,000 lbs.	<input type="checkbox"/>	<input type="checkbox"/>	
GVW Rating 66,000 lbs.	<input type="checkbox"/>	<input type="checkbox"/>	
Wheelbase approximately 214" manufacturer's wheelbase.	<input type="checkbox"/>	<input type="checkbox"/>	
Bumper to back of cab 108".	<input type="checkbox"/>	<input type="checkbox"/>	

FRAME AND EQUIPMENT:	YES	NO	EXCEPTION
Outer frame 10 ¾" x 3/8" steel rails.	<input type="checkbox"/>	<input type="checkbox"/>	
Full steel inner line ¼".	<input type="checkbox"/>	<input type="checkbox"/>	
Main rails to total minimum of 2,594,000 RBM's.	<input type="checkbox"/>	<input type="checkbox"/>	
Steel 3-piece C-channel cross members with cast gussets HEAVY DUTY CROSS MEMBERS.	<input type="checkbox"/>	<input type="checkbox"/>	
4-piece nylon insert frame fasteners.	<input type="checkbox"/>	<input type="checkbox"/>	
Class 10.9 frame bolts.	<input type="checkbox"/>	<input type="checkbox"/>	
Chassis hose and wiring bundles to be conventionally routed through gussets.	<input type="checkbox"/>	<input type="checkbox"/>	
Front end PTO provision for fiberglass tilt hood 25.6".	<input type="checkbox"/>	<input type="checkbox"/>	

FRONT AXLE AND EQUIPMENT:	YES	NO	EXCEPTION
Dana EFA20F4 20,000 lbs.	<input type="checkbox"/>	<input type="checkbox"/>	
Factory front axle alignment.	<input type="checkbox"/>	<input type="checkbox"/>	
Outboard mounted brake drums.	<input type="checkbox"/>	<input type="checkbox"/>	
Zerk grease fittings on tie rod ends, King pins and draglink ball joints.	<input type="checkbox"/>	<input type="checkbox"/>	
Tapered leaf springs, 20,000 w/shocks.	<input type="checkbox"/>	<input type="checkbox"/>	
Power steering Sheppard M100 Dual.	<input type="checkbox"/>	<input type="checkbox"/>	
Power steering reservoir engine compartment mounted with cooler.	<input type="checkbox"/>	<input type="checkbox"/>	
Glidekoe splines on steering shaft.	<input type="checkbox"/>	<input type="checkbox"/>	
Chicago-Rawhide oil seals-Scot seal.	<input type="checkbox"/>	<input type="checkbox"/>	
Heavy duty shocks for steer axle.	<input type="checkbox"/>	<input type="checkbox"/>	
PHP10 Iron hub, cast drums 16.5 x 6 S-cam brakes Eatons ES brakes, 10 hole piloted hubs 18-20K axle.	<input type="checkbox"/>	<input type="checkbox"/>	
Dana auto slack adjusters.	<input type="checkbox"/>	<input type="checkbox"/>	
Brake dust shields.	<input type="checkbox"/>	<input type="checkbox"/>	
Synthetic axle lubricant.	<input type="checkbox"/>	<input type="checkbox"/>	

REAR AXLE AND EQUIPMENT:	YES	NO	EXCEPTION
Dana SPC D46-170 46,000 lbs.	<input type="checkbox"/>	<input type="checkbox"/>	
RT-1 Laser factory axle alignment accurate to .001 of an inch.	<input type="checkbox"/>	<input type="checkbox"/>	
Magnetic rear axle oil drain plug.	<input type="checkbox"/>	<input type="checkbox"/>	
Outboard mounted brake drums.	<input type="checkbox"/>	<input type="checkbox"/>	
PHP 10 Pilot mount iron hubs with cast drums and 16.5 x 7 S-cam brakes.	<input type="checkbox"/>	<input type="checkbox"/>	
MGM TR 3030 parking brake.	<input type="checkbox"/>	<input type="checkbox"/>	
Dana auto slack adjusters.	<input type="checkbox"/>	<input type="checkbox"/>	

REAR AXLE AND EQUIPMENT (cont):	YES	NO	EXCEPTION
Eaton out runner oil seals.	<input type="checkbox"/>	<input type="checkbox"/>	
Brake dust shield.	<input type="checkbox"/>	<input type="checkbox"/>	
Dana Spicer Full Traction lock, both axles.	<input type="checkbox"/>	<input type="checkbox"/>	
Gusseted cam brackets.	<input type="checkbox"/>	<input type="checkbox"/>	
Synthetic axle lubricant.	<input type="checkbox"/>	<input type="checkbox"/>	
Gear ratio to meet speed.	<input type="checkbox"/>	<input type="checkbox"/>	
46,000 lb. Air Ride Suspension, with tracking rods and torque rods 6.14 Ratio with dash mounted dump valve.	<input type="checkbox"/>	<input type="checkbox"/>	
Locate single leveling valve forward drive axle.	<input type="checkbox"/>	<input type="checkbox"/>	

ENGINE AND EQUIPMENT:	YES	NO	EXCEPTION
Cummins ISC315 @ 2000.	<input type="checkbox"/>	<input type="checkbox"/>	
315 Horsepower at 2,200 RPM.	<input type="checkbox"/>	<input type="checkbox"/>	
Magnetic engine oil drain plug.	<input type="checkbox"/>	<input type="checkbox"/>	
Heavy duty engine mount package.	<input type="checkbox"/>	<input type="checkbox"/>	
130-amp minimum alternator.	<input type="checkbox"/>	<input type="checkbox"/>	
Weather pack silicone sealed electrical chassis connectors.	<input type="checkbox"/>	<input type="checkbox"/>	
12-volt system with circuit protection, negative ground.	<input type="checkbox"/>	<input type="checkbox"/>	
Three 12-volt maintenance free batteries 2100 CCA.	<input type="checkbox"/>	<input type="checkbox"/>	
Wires numbered every 4" or less.	<input type="checkbox"/>	<input type="checkbox"/>	
Stranded copper battery cables double aught (00) or larger.	<input type="checkbox"/>	<input type="checkbox"/>	
Eaton fan clutch with manual override.	<input type="checkbox"/>	<input type="checkbox"/>	
Bendix 18.7 CFM air compressor.	<input type="checkbox"/>	<input type="checkbox"/>	
Extra spin on fuel filter frame mounted.	<input type="checkbox"/>	<input type="checkbox"/>	
Spin on coolant filter engine mounted.	<input type="checkbox"/>	<input type="checkbox"/>	
Engine warning with shutdown.	<input type="checkbox"/>	<input type="checkbox"/>	
Low silicate anti-freeze set to -40 degrees.	<input type="checkbox"/>	<input type="checkbox"/>	
Engine location must not protrude into cab, no dog house style allowed.	<input type="checkbox"/>	<input type="checkbox"/>	
Minimum radiator frontal is 900 square inches.	<input type="checkbox"/>	<input type="checkbox"/>	
Radiator must allow room for PTO shaft, radiators that require PTO shaft to run through them not allowed.	<input type="checkbox"/>	<input type="checkbox"/>	
Constant torque clamps on all hoses.	<input type="checkbox"/>	<input type="checkbox"/>	
One Donaldson air cleaner mounted under hood.	<input type="checkbox"/>	<input type="checkbox"/>	
Constant torque hose clamps on air intake tubes.	<input type="checkbox"/>	<input type="checkbox"/>	
Single 7" exhaust vertical cab mounted right hand side.	<input type="checkbox"/>	<input type="checkbox"/>	
Stainless steel exhaust guard.	<input type="checkbox"/>	<input type="checkbox"/>	

ENGINE AND EQUIPMENT (cont):	YES	NO	EXCEPTION
Curved chrome 28" stand pipe.	<input type="checkbox"/>	<input type="checkbox"/>	
Engine block heater.	<input type="checkbox"/>	<input type="checkbox"/>	
Low amp auto shut-off batter charger wired with block heater.	<input type="checkbox"/>	<input type="checkbox"/>	
TRANSMISSION AND CLUTCH:	YES	NO	EXCEPTION
Allison 3000 RDS-P 5 speed.	<input type="checkbox"/>	<input type="checkbox"/>	
Magnetic transmission oil drain plug.	<input type="checkbox"/>	<input type="checkbox"/>	
1710 heavy duty drive line.	<input type="checkbox"/>	<input type="checkbox"/>	
Half round end yolks with Zerk fittings.	<input type="checkbox"/>	<input type="checkbox"/>	
Coated drive shaft splines.	<input type="checkbox"/>	<input type="checkbox"/>	
Synthetic transmission lubricant.	<input type="checkbox"/>	<input type="checkbox"/>	
TIRES AND WHEELS:	YES	NO	EXCEPTION
Front tires: Bridgestone 18 ply 385/65r22.5 m844f.	<input type="checkbox"/>	<input type="checkbox"/>	
Front wheels: Alcoa 823640PLT 22.5 x 12.25 pilot mounted aluminum disc.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear tires: Bridgestone 16-pky 11r22.5 m711.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear wheels: 22.5 x 8.25 pilot mounted steel, painted white.	<input type="checkbox"/>	<input type="checkbox"/>	
AIR AND TRAILER EQUIPMENT:	YES	NO	EXCEPTION
Bendix AD-IS air dryer with heater.	<input type="checkbox"/>	<input type="checkbox"/>	
Nylon chassis air hoses.	<input type="checkbox"/>	<input type="checkbox"/>	
Braided chassis harness protective covering on electrical and air lines.	<input type="checkbox"/>	<input type="checkbox"/>	
Rubber lined clamps along frame rails.	<input type="checkbox"/>	<input type="checkbox"/>	
Teflon lined braided stainless steel compressor discharge hose.	<input type="checkbox"/>	<input type="checkbox"/>	
FUEL TANK AND ACCESSORIES:	YES	NO	EXCEPTION
23" aluminum 70 gallon fuel tank mounted on left hand side under cab.	<input type="checkbox"/>	<input type="checkbox"/>	
Wire braid fuel line.	<input type="checkbox"/>	<input type="checkbox"/>	
Single draw, single return with top draw.	<input type="checkbox"/>	<input type="checkbox"/>	

CAB AND EQUIPMENT:	YES	NO	EXCEPTION
Aluminum cab minimum 108" to back of cab with aircraft grade Huckbolt fasteners.	<input type="checkbox"/>	<input type="checkbox"/>	
Severe service cab package.	<input type="checkbox"/>	<input type="checkbox"/>	
Three point resilient cab mounting.	<input type="checkbox"/>	<input type="checkbox"/>	
Full length piano type stainless steel door hinges and pins.	<input type="checkbox"/>	<input type="checkbox"/>	
Ignition and doors keyed alike.	<input type="checkbox"/>	<input type="checkbox"/>	
Fiberglass tip out hood with engine access for daily checks to Highway Superintendent specifications. With approved extended oil dipstick tube.	<input type="checkbox"/>	<input type="checkbox"/>	
Stainless steel grille stationary.	<input type="checkbox"/>	<input type="checkbox"/>	
Tinted safety glass in all windows.	<input type="checkbox"/>	<input type="checkbox"/>	
One piece side windows in both doors.	<input type="checkbox"/>	<input type="checkbox"/>	
Extra heavy duty thermal insulation package in cab.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear window back of cab.	<input type="checkbox"/>	<input type="checkbox"/>	
Air mounted cab with rear window.	<input type="checkbox"/>	<input type="checkbox"/>	
Rubber fender lips/flares 2 ¼" wide.	<input type="checkbox"/>	<input type="checkbox"/>	
Front wheel mud flaps.	<input type="checkbox"/>	<input type="checkbox"/>	
National HIBack Fabric Air drivers seat with arm rest right side.	<input type="checkbox"/>	<input type="checkbox"/>	
National 2 man stationary passenger seat.	<input type="checkbox"/>	<input type="checkbox"/>	
Three point seat belt with shoulder harness, driver and passenger side.	<input type="checkbox"/>	<input type="checkbox"/>	
18" urethane steering wheel with adjustable column.	<input type="checkbox"/>	<input type="checkbox"/>	
Interior gray and black vinyl padded.	<input type="checkbox"/>	<input type="checkbox"/>	
Rubber floor mat with foam back.	<input type="checkbox"/>	<input type="checkbox"/>	
View window on right hand door.	<input type="checkbox"/>	<input type="checkbox"/>	
Standard combination heavy duty fresh air heater with integral defroster and air conditioning.	<input type="checkbox"/>	<input type="checkbox"/>	
Scoop on heater air intake.	<input type="checkbox"/>	<input type="checkbox"/>	
Hood insulation.	<input type="checkbox"/>	<input type="checkbox"/>	
Artic wrap on heater hoses.	<input type="checkbox"/>	<input type="checkbox"/>	
Extra heavy duty thermal insulation.	<input type="checkbox"/>	<input type="checkbox"/>	
Outside stainless steel S150 sun visor.	<input type="checkbox"/>	<input type="checkbox"/>	
Two heated stainless steel mirrors 7" x 16".	<input type="checkbox"/>	<input type="checkbox"/>	
Back up alarm mounted at rear of chassis.	<input type="checkbox"/>	<input type="checkbox"/>	
Beacon light strobe amber warning light mounted on driver's side mirror bracket.	<input type="checkbox"/>	<input type="checkbox"/>	
Two 8 inch convex mirrors, stainless steel.	<input type="checkbox"/>	<input type="checkbox"/>	
Stainless steel convex mirror over right hand door.	<input type="checkbox"/>	<input type="checkbox"/>	

CAB AND EQUIPMENT (cont):	YES	NO	EXCEPTION
Dual chromed rectangular 26" air horns with covers.	<input type="checkbox"/>	<input type="checkbox"/>	
Single electric horn.	<input type="checkbox"/>	<input type="checkbox"/>	
AM/FM weather ban radio with two coaxial speakers.	<input type="checkbox"/>	<input type="checkbox"/>	
CB terminal and wiring in header.	<input type="checkbox"/>	<input type="checkbox"/>	
Plug into auto reset circuit breakers.	<input type="checkbox"/>	<input type="checkbox"/>	
12-volt power outlet, dash mounted.	<input type="checkbox"/>	<input type="checkbox"/>	
Electric windshield wipers with intermittent control.	<input type="checkbox"/>	<input type="checkbox"/>	
5 lb. fire extinguisher (3A: 40BC).	<input type="checkbox"/>	<input type="checkbox"/>	
Triangle reflector kit.	<input type="checkbox"/>	<input type="checkbox"/>	
Electric back-up alarm.	<input type="checkbox"/>	<input type="checkbox"/>	
Gauges, all bright bezel:	<input type="checkbox"/>	<input type="checkbox"/>	
Speedometer/odometer/tachometer and hour meter.	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel gauge, air filter restrictor gauge.	<input type="checkbox"/>	<input type="checkbox"/>	
Engine oil pressure.	<input type="checkbox"/>	<input type="checkbox"/>	
Water temperature.	<input type="checkbox"/>	<input type="checkbox"/>	
Transmission oil temperature.	<input type="checkbox"/>	<input type="checkbox"/>	
Voltmeter.	<input type="checkbox"/>	<input type="checkbox"/>	
Dual air pressure gauge.	<input type="checkbox"/>	<input type="checkbox"/>	
Three (3) additional toggle switches.	<input type="checkbox"/>	<input type="checkbox"/>	
Warning light package.	<input type="checkbox"/>	<input type="checkbox"/>	
Five ICC roof mounted marked lights, rectangular.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear mounted combination Stop, Turn & Tail lights, Trucklite 44030R2 LED.	<input type="checkbox"/>	<input type="checkbox"/>	
Kenwood Model TK 762G two-way radio installed.	<input type="checkbox"/>	<input type="checkbox"/>	
Parts, service and repair manual for engine, cab and transmission.	<input type="checkbox"/>	<input type="checkbox"/>	
PAINT:	YES	NO	EXCEPTION
Cab paint: DuPont Imron per Highway Superintendent specifications. DuPont Rider Yellow #2904.	<input type="checkbox"/>	<input type="checkbox"/>	
Bid must include copy of truck manufacturer's warranties.	<input type="checkbox"/>	<input type="checkbox"/>	

WARRANTIES:	YES	NO	EXCEPTION
Engine manufacturer warranty: 5-year, 100,000 miles parts and labor with no deductible.	<input type="checkbox"/>	<input type="checkbox"/>	
Transmission warranty: 3-year, 300,000 mile parts and labor with no deductible, and with optional 5-year, 500,000 mile warranty.	<input type="checkbox"/>	<input type="checkbox"/>	
Rear axle warranty: 5-year 500,000 mile parts and labor with no deductible.	<input type="checkbox"/>	<input type="checkbox"/>	
Frame rails warranty: 5-year, 500,000 mile parts and labor with no deductible.	<input type="checkbox"/>	<input type="checkbox"/>	
Rim warranty: 5-year unlimited warranty (front only.)	<input type="checkbox"/>	<input type="checkbox"/>	
Delivery to body installer within 70 days.	<input type="checkbox"/>	<input type="checkbox"/>	

SPECIFICATIONS

DUMP BODY: SIZE 17' L X 88" W X 60" H

Please indicate "YES" or "NO" if the equipment being bid complies with each specification. If "NO", please describe variance in the exception column. If the item being bid exceeds any specification, check "NO" and describe the variance in the exception column.

GENERAL:	YES	NO	EXCEPTION
Each bidder must indicate on the following items whether their bid is in compliance or not with the stated specifications. Exceptions to the bid must be detailed on a separate written sheet on company letterhead. Bidder must supply literature of body being bid. The warranty must be stated in writing. Successful bidder must consult with the Chief of Automotive on specifications before fabricating bodies.	<input type="checkbox"/>	<input type="checkbox"/>	
SERVICE FACILITY:	YES	NO	EXCEPTION
The service facility shall be able to perform routine maintenance, in house, consisting of: certified steel and aluminum welding, manufacture and installation of hydraulic hose lines, hydraulic pump, valve, and cylinder repair, electronic system repair, and full service body and paint shop. Service and installation facility to be located within seventy-five (75) miles of the City of Niagara Falls.	<input type="checkbox"/>	<input type="checkbox"/>	
WARRANTY:	YES	NO	EXCEPTION
Dump Body shall be a minimum of one (1) year parts and labor in writing.	<input type="checkbox"/>	<input type="checkbox"/>	
Hoist shall have a two-year warranty.	<input type="checkbox"/>	<input type="checkbox"/>	
DUMP BODY DIMENSIONS:	YES	NO	EXCEPTION
Length: 17'	<input type="checkbox"/>	<input type="checkbox"/>	
Floor width shall be 88"	<input type="checkbox"/>	<input type="checkbox"/>	
Floor height: not to exceed 10 ¼" (10" sills)	<input type="checkbox"/>	<input type="checkbox"/>	
Side height: 60"	<input type="checkbox"/>	<input type="checkbox"/>	
Tailgate height: 60"	<input type="checkbox"/>	<input type="checkbox"/>	
Cab shield: ¼ style	<input type="checkbox"/>	<input type="checkbox"/>	
LONG MEMBERS:	YES	NO	EXCEPTION
Shall be formed 10" x ¼" thick, reinforced 65,000 tensile steel, continuously welded to the floor.	<input type="checkbox"/>	<input type="checkbox"/>	
CROSS MEMBERS:	YES	NO	EXCEPTION
Body shall be of a crossmemberless monocoque design.	<input type="checkbox"/>	<input type="checkbox"/>	

FLOOR:	YES	NO	EXCEPTION
Shall be 1-piece ¼" 105,000 PSI high tensile strength steel. Floor sheet shall be bent up to join side sheet. Side rub rail shall extend to and join with floor to form a monocoque side beam.	<input type="checkbox"/>	<input type="checkbox"/>	
SCOW:	YES	NO	EXCEPTION
Shall be minimum 10 gauge steel, one-piece bottom and sides reinforced bottom and sides with minimum 2" x 2" x ¼" angle iron. Scow angle set at approximately 60 degree angle. Bottom pin shall be a minimum 10" long 1 1/4:" diameter fitting into lower tailgate locks on body, upper hinges also to fit into the same upper hinges used for top of tailgate.	<input type="checkbox"/>	<input type="checkbox"/>	
TAILGATE (9 PANEL):	YES	NO	EXCEPTION
Shall be a minimum of ¼" 105,000 PSI tensile strength steel with 10 gauge. A 36 high tensile steel horizontal and vertical braces. The bottom brace shall be dirt shedding. Top hardware will be top mount style with ¾" thick hinge, 1-1/4 nitrated cold rolled steel pins braced with ½" angle.	<input type="checkbox"/>	<input type="checkbox"/>	
The top hinges are to be equipped with removable pins. The bottom pins shall be a minimum of 10" long, 1" diameter. The tailgate shall be double acting, have two J-hooks for chain hangers and have 3/8" spreader chains. A tailgate hook shall be provided for removal procedure.	<input type="checkbox"/>	<input type="checkbox"/>	
TAILGATE LOCKING MECHANISM:	YES	NO	EXCEPTION
Locking mechanism shall be zinc plated with individual threaded locking clevises for each side. Both pivot bearing and locking adjustment thread will have grease points with ¾" latch plates and 5/8 latch hooks with 1 ¼" upper and lower locking pins.	<input type="checkbox"/>	<input type="checkbox"/>	
TAILGATE CONTROL (AIR):	YES	NO	EXCEPTION
Air cylinder mounted long rails of body and connected to 1" diameter traverse rod with four (4) bearing points. Positive lock cam action latches giving double lock action. Rear latches independently adjustable. Flame cut ½" latch ears with 5/8" flame cut lock finger. The entire body shall be of a continuous weld nature, so skip welded designs shall be acceptable. Cylinders must extend to open and retract to close latches for long rod lifts.	<input type="checkbox"/>	<input type="checkbox"/>	
BODY SIDES:	YES	NO	EXCEPTION
Sides shall be 60" tall, fabricated out of 3/16" 65,000 PSI tensile strength steel with a minimum of 10-gauge A-36 HT steel side posts. The top rail shall be a 3" x 4" x 3/16" structural steel tube and two lift lugs.	<input type="checkbox"/>	<input type="checkbox"/>	

BULKHEAD (FRONT MOUNT):	YES	NO	EXCEPTION
Shall be 3 pieces, 3/16" 65,000 PSI tensile strength steel. Shall have formed a 12" recess to hold the trunnion mount hoist. Recess shall be not more than 13" deep into the body. Hoist mounting blocks shall have nitrated greaseable bushing and allow the changing of the hoist to any size without re-welding the blocks.	<input type="checkbox"/>	<input type="checkbox"/>	
CAB SHIELD, ¼ DESIGN:	YES	NO	EXCEPTION
Shall be load bearing design fabricated out of a minimum 3/16 A-36 HT steel. (Full size one piece sheet.)	<input type="checkbox"/>	<input type="checkbox"/>	
HOIST (TELESCOPIC MAILHOT MODEL-M-160-6.5-4)	YES	NO	EXCEPTION
Hoist must be NTEA rated and certified. The cylinder must be a low mounting front telescopic hoist with fully nitrated cylinder surface. The cylinder shall be covered in the lowered position and be of a single acting type. All pivot points must include grease fittings with protective dust covers. All bolts throughout the hoist assembly must be grade 8 USS and have nylon lock nuts. Warranty shall be two (2) years.	<input type="checkbox"/>	<input type="checkbox"/>	
CYLINDER:	YES	NO	EXCEPTION
Cylinder shall be of front mount telescopic type. All wear surfaces shall be nitrated and the cylinder shall be covered when in a closed position. The cylinder shall be single acting.	<input type="checkbox"/>	<input type="checkbox"/>	
REAR HINGE ASSEMBLY (HEAVY DUTY 50 TON):	YES	NO	EXCEPTION
Rear hinge assembly shall be 4" x 4" x 3/8" structural angle with 2 ¼" nitrated hinge pins and 4" nitrated hinge blocks, and grease points on all bearing points.	<input type="checkbox"/>	<input type="checkbox"/>	
CONSTRUCTION:	YES	NO	EXCEPTION
All components shall be CNC plasma cut and continuously welded.	<input type="checkbox"/>	<input type="checkbox"/>	
WELDING:	YES	NO	EXCEPTION
All body welds shall be continuous.	<input type="checkbox"/>	<input type="checkbox"/>	
HOIST CRADLE ASSEMBLY:	YES	NO	EXCEPTION
The hoist cradle shall have the hoist bearing surface area formed directly from the cross supports. They shall be nitrated and have grease points.	<input type="checkbox"/>	<input type="checkbox"/>	
CONTROLS:	YES	NO	EXCEPTION
Air control lever mounted into a console located to the right of the driver's seat and within comfortable sight and reach of driver.	<input type="checkbox"/>	<input type="checkbox"/>	

LIGHTS:	YES	NO	EXCEPTION
Lighting to meet FMVSS 108 Standard. Two (20) oval light holes per side for recessed rubber mounted S/T/T, and Amber LED flasher lights. OE S/T/T to be remounted on chassis frame to avoid interference during paver operation.	<input type="checkbox"/>	<input type="checkbox"/>	
STEP LADDER:	YES	NO	EXCEPTION
Outer: Front driver side ladder. Steps below body shall be fold-up design.	<input type="checkbox"/>	<input type="checkbox"/>	
Inner: Step on front driver side located at corner of body.	<input type="checkbox"/>	<input type="checkbox"/>	
REAR BODY POST LIGHT HOLE CUT OUTS	YES	NO	EXCEPTION
Two (2) per side.	<input type="checkbox"/>	<input type="checkbox"/>	
BANJO EYE CHAIN HOLES:	YES	NO	EXCEPTION
Two (2) per side of rear corner posts. One upper and one lower mounted.	<input type="checkbox"/>	<input type="checkbox"/>	
STROBE LIGHT:	YES	NO	EXCEPTION
Amber warning light mounted on driver side mirror bracket.	<input type="checkbox"/>	<input type="checkbox"/>	
SPREADER APRON:	YES	NO	EXCEPTION
10:" bolt on 3/16" spreader apron.	<input type="checkbox"/>	<input type="checkbox"/>	
TARP RAILS:	YES	NO	EXCEPTION
Each side shall have a tarp rail of flat stock, 1 ¼ x ¼".	<input type="checkbox"/>	<input type="checkbox"/>	
BODY PROP:	YES	NO	EXCEPTION
For support of body during repair operations only.	<input type="checkbox"/>	<input type="checkbox"/>	
BODY UP LIGHT:	YES	NO	EXCEPTION
Mounted on dashboard in sight of driver.	<input type="checkbox"/>	<input type="checkbox"/>	
BACK-UP ALARM:	YES	NO	EXCEPTION
Mounted at rear of chassis.	<input type="checkbox"/>	<input type="checkbox"/>	
SPLASH GUARDS/SHIELDS:	YES	NO	EXCEPTION
Steel splash guards mounted in front of tandem axle and anti-sail mud flaps behind axle.	<input type="checkbox"/>	<input type="checkbox"/>	
SPREADER HOLD DOWN BRACKETS:	YES	NO	EXCEPTION
Fabricated brackets on the outside of dump body to secure salt spreader with hold down kit.	<input type="checkbox"/>	<input type="checkbox"/>	

SALT SPREADER SPLASH GUARD:	YES	NO	EXCEPTION
Full width removable rubber splash guard on rear of chassis shall be easily installed or removed for winter season use.	<input type="checkbox"/>	<input type="checkbox"/>	
PAINT:	YES	NO	EXCEPTION
Body to be properly prepped, primed and painted to match cab as close as possible. Painter must be certified by "CFR", (Certified Fleet Refinishers,) and paint must be done in a certified paint booth with heat for proper curing. Paint area must meet all federal safety standards including OSHA, labor department, health department, and DOT regulations. Facilities may be inspected by purchaser prior to bid award for verification of safety standards.	<input type="checkbox"/>	<input type="checkbox"/>	
WARRANTY:	YES	NO	EXCEPTION
Shall be a minimum of one (1) year parts and labor on dump body and two (2) years on the hoist cylinder.	<input type="checkbox"/>	<input type="checkbox"/>	
MOUNTING LOCATIONS:	YES	NO	EXCEPTION
All separately mounted parts and equipment must be reviewed and approved by Chief of Automotive prior to installations.	<input type="checkbox"/>	<input type="checkbox"/>	
VIBRATOR:	YES	NO	EXCEPTION
Self-contained unit built on steel frame, to be mounted underneath dump body. Connected to chassis' 12 volt battery. Direct drive unit for tandem body app weight 82 lb. In cab momentary toggle switch, to electric solenoid and fusable link.	<input type="checkbox"/>	<input type="checkbox"/>	
AUTOMATIC TARPING SYSTEM:	YES	NO	EXCEPTION
Electric tarping system with direct drive motor and cab Durabuilt solenoid switch. Aluminum buttet shaped profile arms built in 30 degree bent arms to keep arms away from loader. Rugged extruded aluminum roller bar allows easy tarp installation. Four long-life silicone flat coil torsion springs per side. Asphalt tarp.	<input type="checkbox"/>	<input type="checkbox"/>	

HYDRAULIC SPECIFICATION

HYDRAULIC PUMP AND PTO:	YES	NO	EXCEPTION
The hydraulic pump shall be an axial piston pressure and flow compensated load-sensing type. The pump shall have a displacement of 5.61 cubic inches per revolution at maximum stroke which will deliver 23.7 gpm @ 1000 engine rpm. The pump shall have a minimum 2" suction line and ½" control drain line plumbed directly back to the reservoir. The pumps compensator shall have rear facing adjustments. The pump shall be rated for 5800 PSI maximum and 4800 PSI continuous. The pump shall have a Din type-mounting flange and a Din 5462 8-tooth shaft. The pump shall be Force America TXV92 or prior approved equal. An OMFB series hot shift PTO that is mounted to the transmission shall drive the pump.	<input type="checkbox"/>	<input type="checkbox"/>	
SHUT DOWN SYSTEM:	YES	NO	EXCEPTION
The system shall be designed so that when the float contacts close, the PTO will disengage and stop pump flow. An enunciator in the cab that is on a control panel will alert the drive that the PTO has been disengaged. The control panel will also incorporate an override switch wired to de-energize the shut down system to facilitate diagnostics and equipment storage.	<input type="checkbox"/>	<input type="checkbox"/>	
RESERVOIR/VALVE ENCLOSURE:	YES	NO	EXCEPTION
The hydraulic reservoir will be of 35 gallons nominal capacity.	<input type="checkbox"/>	<input type="checkbox"/>	
The hydraulic reservoir will be constructed of 10-gauge steel and be internally baffled.	<input type="checkbox"/>	<input type="checkbox"/>	
Mounting bracket is to be designed and supplied by the reservoir supplier.	<input type="checkbox"/>	<input type="checkbox"/>	
Mounting system should allow for a 1" frame clearance for frame obstructions.	<input type="checkbox"/>	<input type="checkbox"/>	
Shall be mounted in a manner as to not transmit any truck torsional loads thru the tank.	<input type="checkbox"/>	<input type="checkbox"/>	
The enclosure will use a gasket-less passive technology. (No rubber seals, gaskets or weather stripping.)	<input type="checkbox"/>	<input type="checkbox"/>	
The enclosure lid will be removable within seconds by one person without the use of tools.	<input type="checkbox"/>	<input type="checkbox"/>	
All valve fittings, hose ends, filter, filler breather, sending units and any electrical connections are to be protected by enclosure cover.	<input type="checkbox"/>	<input type="checkbox"/>	
The reservoir supplier will provide all valve fittings (JIC connections) and plum the return line from the valve to the filter.	<input type="checkbox"/>	<input type="checkbox"/>	
The cover will protect both road and pressure washer spray.	<input type="checkbox"/>	<input type="checkbox"/>	
The use of bulkhead fittings is not permitted.	<input type="checkbox"/>	<input type="checkbox"/>	
The directional control valve must be easily accessible from all (6) sides without the use of tools.	<input type="checkbox"/>	<input type="checkbox"/>	

RESERVOIR/VALVE ENCLOSURE (cont):	YES	NO	EXCEPTION
Hose exit and entrance must allow for components to be mounted adjacent to the enclosure.	<input type="checkbox"/>	<input type="checkbox"/>	
A 2" full flow brass ball valve shall be plumbed at the suction port of the tank.	<input type="checkbox"/>	<input type="checkbox"/>	
A low oil/high temp sending unit shall be mounted in the reservoir.	<input type="checkbox"/>	<input type="checkbox"/>	
The valve/tank assembly shall be a Force America model "VT35 Valve/Tank Assembly" or prior approved equal.	<input type="checkbox"/>	<input type="checkbox"/>	
FILTER:	YES	NO	EXCEPTION
Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be a 16-micon absolute and rated for no less than 60 GPM.	<input type="checkbox"/>	<input type="checkbox"/>	
Filter shall be model TEF31016VG16SP-UG60E115 or prior approved equal and include visual and electrical bypass indicators.	<input type="checkbox"/>	<input type="checkbox"/>	
A warning light shall be mounted in the cab and wired to the electrical indicator.	<input type="checkbox"/>	<input type="checkbox"/>	
HYDRAULIC VALVE:	YES	NO	EXCEPTION
The hydraulic valve shall be of modular manifold design. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The manifold base shall consist of an inlet section with SAE #16 inlet porting, SAE #20 outlet porting, and SAE #4 load sense porting. There shall be a main system relief in the inlet section to protect the system from high pressure in case the pump compensators fail. The dump body manifold shall be stacked next to the inlet section, and capable of 40 GPM with SAE #12 porting. The hydraulic control valves shall be pulse-width modulated, proportionally controlled. Each hydraulic valve segment shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. Each hydraulic valve segment shall have individual pressure compensation to achieve independent simultaneous operations. All segments shall have heavy-duty continuous duty coils and connections shall be with Din connectors. All coils shall operate at 12 VDC and require a maximum of 1400 mille-amps. Each segment shall be equipped with a manual override except for the auger and spinner sections. The dump body segment shall be rated to 40 GPM, with all other segments rated to 20 GPM. If a double acting hoist is utilized, the dump body segment shall be equipped with a down side relief to protect the body down function. This relief shall be set to the hoist manufacturer's specifications. Valve segments shall be Force America Add-A-Fold model or prior approved equal.	<input type="checkbox"/>	<input type="checkbox"/>	
The valve is to be arranged as follows:			
Hoist: 3-way	<input type="checkbox"/>	<input type="checkbox"/>	

HYDRAULIC VALVE (cont):	YES	NO	EXCEPTION
Plow Lift: 4-way with float	<input type="checkbox"/>	<input type="checkbox"/>	
Plow angle: 4-way	<input type="checkbox"/>	<input type="checkbox"/>	
Auger: 2-way	<input type="checkbox"/>	<input type="checkbox"/>	
Spinner: 2-way	<input type="checkbox"/>	<input type="checkbox"/>	
CONTROL CENTER:	YES	NO	EXCEPTION
Controls for all valve functions and electronic spreader control will be integrated into a single, self-contained control center. The control center shall be a padded armrest style that is ergonomically designed. Control center shall be modular in design for ease of installation and service, and wiring and connectors shall be color coded throughout. A sealed, pre-wired harness for all valve controls must be provided. All components must be durable for long life and trouble free operation.	<input type="checkbox"/>	<input type="checkbox"/>	
The electronic controller shall be a fully proportional multi-stick controller to operate all cylinder functions. Controller shall be of a modular design. Multi-stick communication electronics shall include as standard the capability to control the proportional outputs simultaneously. The control is available in a 2-stick, 3-stick or 4-stick configuration. Controls for spreader must be located on armrest at the operator's fingertips. There shall also be four auxiliary switches available with one other being the main power switch for the spreader control. The switches shall be located between the joysticks and spreader control.	<input type="checkbox"/>	<input type="checkbox"/>	
For ease of operation the multi-stick control shall include the following features: a momentary push-button at the top of the hoist stick to provide hoist-interlock. A solid-state red LED labeled "Hoist" shall illuminate when the driver engages the hoist interlock button. The "Hoist" LED shall remain illuminated while the hoist is under operation. The "Hoist" LED shall be integrated into the communication control circuit and will time-out after a period of hoist inactivity. The plow joystick shall include a momentary pushbutton for activation of remote standby, remote blast or the truck body vibrator. The multi-stick communication hardware/software shall include 4 integral float options. The use of add-on float modules is unacceptable. For flexibility of use the integral float programming shall have the following standard features: (4) axis functional float on any or all of the outputs with selectable forward/back, right/left functionality, 3-way or 4-way functionality, selectable (3) second float delay timer and optional float enable switch inputs. To insure longevity of performance all lighting to be solid-state LED technology. The use of incandescent lamps or EL backlighting is unacceptable. Function joysticks shall be of contact less design and offer up to a 5-Million cycle life. The use of potentiometers is unacceptable. To insure safe operation, joystick communication hardware/software shall include the following standard features: input power monitor circuitry and	<input type="checkbox"/>	<input type="checkbox"/>	

<p>output shut down during low-voltage conditions, power-on joystick input off center checking and output shutdown, joystick out of range checking and output shutdown and true outputs off with joystick centered, Multi-stick control shall employ solid-state LED backlit nomenclatures on positions 1, 2 and 3. For ease of service the multi-stick control shall have the following easily accessible at the valve drive module, located under the armrest padding: Sets of MIN/MAX adjustments, output status indicator LED's for each output and output error status indicators with flashing error codes. The pivot point for the armrest pad shall be located at the rear of the unit. The multi-stick control shall have self-diagnostic valve output drivers that detect over current and over temperature conditions. To insure longevity, multi-stick control shall have solid-state overload protection. A heavy-duty prewire valve harness shall be included for cylinder functions as well as for the spreader functions and include LED DIN type connections. The electronic spreader control shall be designed for precise Open Loop control of granular material. The spreader control shall regulate the auger-conveyor and spinner speeds. There shall be two individual detented knobs providing proportional control from closed to fully open on the control valve of the auger/conveyor and spinner. Spreader display unit shall be a modular "heads up" display, mounted to truck dash in easy view of the operator. The unit shall have a green "spreader" indicator light that is activated by pushing the spreader dial and a red "blast" indicator light that is activated by pushing the spinner dial. The blast feature shall be adjustable in time from momentary to 16 seconds with cancellation. The heads up display will also provide four warning light options illuminated in red for low oil, body up, oil temp and filter bypass. The units backlighting shall be adjustable via vehicle controls. The unit must be protected from reverse polarity, as well as be over-voltage protected by using a five-amp reset circuit breaker. All circuit boards to be conformal coated. The control shall provide operational modes for manual or open loop (ground speed only.) The Control Center shall be a Force America Patrol Commander MPJC Ultra series with a 2100 model spreader control MPJC2100-2-ULTRA-DIN-LED w/seat mount.</p>			
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HYDRAULIC LINES AND PLUMBING:	YES	NO	EXCEPTION
<p>All hydraulic lines and plumbing shall be of sufficient capacity so as not to create heat or turbulence within hydraulic system. Suction line between reservoir and pump shall be a minimum of 2" I.D. with a minimum SAE 100-R4 rating and shall be secured on both ends via heavy duty banding straps, radiator hose clamps unacceptable. All pressure hoses, including signal sense to pump, shall have swivel fittings on both ends and have a minimum SAE 100-R2 rating. Return lines and case drain shall have minimum SAE 100-R1 rating.</p>	<input type="checkbox"/>	<input type="checkbox"/>	

HYDRAULIC LINES AND PLUBMING (cont):	YES	NO	EXCEPTION
Hydraulic lines shall be routed to minimum interference with equipment and chassis components requiring periodic servicing. Support brackets, grommets and tie wraps shall be provided where appropriate to protect lines from damage by abrasion, cutting or impact.	<input type="checkbox"/>	<input type="checkbox"/>	
Hoses shall not be routed near exhaust manifolds pipes, bolts, sharp edges, and exhaust system to prevent wear, fatigue, or fire. Pipe fittings are not acceptable in any high-pressure line. Maximum distance between support clamps on all hydraulic lines shall be 24".	<input type="checkbox"/>	<input type="checkbox"/>	

SPECIFICATIONS

MULTI SECTION PLOW

Please indicate "YES" or "NO" if the equipment being bid complies with each specification. If "NO", please describe variance in the exception column. If the item being bid exceeds any specification, check "NO" and describe the variance in the exception column.

GENERAL:			
The plows offered must be the manufacturer's current model and conform to the following specifications. Prototype or experimental models will not be considered. Production units of the same model must have been sold in substantial quantities for a minimum of two years prior to the bid opening date. Complete descriptive literature and the attached questionnaire completed must be returned with the bid. Successful bidder must have a service facility within 75 miles of the City of Niagara Falls, New York.			
MOLDBOARD:	YES	NO	EXCEPTION
The plow shall consist of four (4) independent moldboard sections.	<input type="checkbox"/>	<input type="checkbox"/>	
Independently spring loaded to the ground.	<input type="checkbox"/>	<input type="checkbox"/>	
Enabling the plow to negotiate varying ground obstacles by guiding the individual moldboard sections upward without tilting forward.	<input type="checkbox"/>	<input type="checkbox"/>	
Design shall be such that the shock of impact is absorbed by the individual section and that blade section only.	<input type="checkbox"/>	<input type="checkbox"/>	
The shock of the moldboard raising shall be absorbed by two (2) "Vulcolan" shock absorbing bumpers mounted to the central frame behind each moldboard section.	<input type="checkbox"/>	<input type="checkbox"/>	
After clearing the obstacle, the cutting edge shall immediately move back into clearing position, and the affected section shall be pushed against the surface of the roadway.	<input type="checkbox"/>	<input type="checkbox"/>	
The highest obstacle height able to be negotiated shall be six (6) inches.	<input type="checkbox"/>	<input type="checkbox"/>	
Upon encountering obstacles up to this height, the snow plow shall still clear close to the ground over its entire length, and only the affected section will respond to the obstacle.	<input type="checkbox"/>	<input type="checkbox"/>	
The plow shall include means for stabilizing the operational height when body sections are deflected until the section again returns to normal position and takes over control.	<input type="checkbox"/>	<input type="checkbox"/>	
The plow shall have "weld on" curb protection shoes on left and right for protection when bumping curbs, sidewalks, and other high borders which are difficult to locate under the snow.	<input type="checkbox"/>	<input type="checkbox"/>	
The plow shall be equipped with four (4) replaceable ¾" x 6" cutting edge sections (one per moldboard section) that are heat treated to 57-67 Rockwell "C", and that in the plowing position operate at 25 degrees from the vertical.	<input type="checkbox"/>	<input type="checkbox"/>	
There shall be five (5) holes in each cutting edge spaced 1" from the top and 7 7/8" apart.	<input type="checkbox"/>	<input type="checkbox"/>	

MOLDBOARD (cont):	YES	NO	EXCEPTION
The moldboard material shall be 50000 PSI yield 10 gauge minimum.	<input type="checkbox"/>	<input type="checkbox"/>	
Each section of moldboard shall be 35.5" long.	<input type="checkbox"/>	<input type="checkbox"/>	
Each moldboard section shall have four (4) vertical ribs made of 50000 PSI yield, 5/16" thick material.	<input type="checkbox"/>	<input type="checkbox"/>	
Each moldboard section shall also have one horizontal rib of 2 ½" x 2 ½" x ¼" x 34 7/8" steel angle, and shall have an angle of 2 ½" x 3" x 3/8" steel where the cutting edge shock absorbing plate is attached.	<input type="checkbox"/>	<input type="checkbox"/>	
The cutting edge shall not be attached to the moldboard directly. It shall be attached to the bottom of the moldboard through a shock absorbing plate made of "Vulcolan" material. This Vulcolan material shall be 1 1/8" thick by 5" wide by 34 9/16" long, shall be one piece per moldboard section, and shall allow the cutting edge to trip without the moldboard laying forward.	<input type="checkbox"/>	<input type="checkbox"/>	
The moldboard sections shall pivot on a parallelogram linkage during tripping on four (4) 303 stainless steel pins of .787 diameter. The parallelograms shall consist of glass reinforced nylon links (two per section with molded in nylon bushings) on the top, and die cast aluminum links (two per section with molded in steel inserts) on the bottom.	<input type="checkbox"/>	<input type="checkbox"/>	
The lower aluminum links shall have replaceable non-lubricated nylon bushings at the pivot points. This parallelogram linkage system shall be capable of heavy snow plowing under severe conditions.	<input type="checkbox"/>	<input type="checkbox"/>	
The moldboard sections of the plow shall be not less than 44 inches high.	<input type="checkbox"/>	<input type="checkbox"/>	
The moldboard sections shall have a continuous steel snow deflector that has a minimum overhang of the cutting edge of 13" when the plow is at the proper plowing position.	<input type="checkbox"/>	<input type="checkbox"/>	
The length of the plow shall be 11' 10" allowing a clearing width of 10' at 32 degree maximum angle.	<input type="checkbox"/>	<input type="checkbox"/>	
RETURN SPRING:	YES	NO	EXCEPTION
Each moldboard section shall be equipped with two (2) 2.7" diameter x 14" long extension springs made of .354" diameter wire that will exert the proper downward pressure of the moldboard sections to the ground assuring maximum adaptation to the road surface.	<input type="checkbox"/>	<input type="checkbox"/>	
HYDRAULIC REVERSING:	YES	NO	EXCEPTION
The plow shall be equipped with telescoping type hydraulic cylinders enabling the plow to be angled either left, right or straight ahead.	<input type="checkbox"/>	<input type="checkbox"/>	
Maximum angle to the left or right shall be 32 degrees.	<input type="checkbox"/>	<input type="checkbox"/>	
The hydraulic cylinders shall have hard chrome plated rods with .0014" per side of chrome.	<input type="checkbox"/>	<input type="checkbox"/>	

HYDRAULIC REVERSING (cont):	YES	NO	EXCEPTION
The cylinders shall be 19.29" long from center mounting hole to center of mounting hole when retracted and shall have a stroke of 19.68".	<input type="checkbox"/>	<input type="checkbox"/>	
The cylinders shall be heavy duty to allow for heavy snow plowing under severe conditions and shall be equipped with a hydraulic cushion valve mounted on the plow to protect the cylinders from damage.	<input type="checkbox"/>	<input type="checkbox"/>	
The cylinder mounting holes shall be 1" diameter for use with 63/66" diameter pins.	<input type="checkbox"/>	<input type="checkbox"/>	
The hydraulic port in the angling cylinders shall be 3/4-16 standard straight "o" ring thread.	<input type="checkbox"/>	<input type="checkbox"/>	
The hoses shall be standard 1/2" SAE 100R2 rated.	<input type="checkbox"/>	<input type="checkbox"/>	
The hydraulic lift cylinder shall be double acting.	<input type="checkbox"/>	<input type="checkbox"/>	
Hydraulic hoses from plow to the truck shall be standard 1/2" SAE 100R2 rated, with Aeroquip disconnect couplings for easy connecting and disconnecting.	<input type="checkbox"/>	<input type="checkbox"/>	
FRONT HITCH:	YES	NO	EXCEPTION
The front hitch shall be manufactured so as to keep the plow attachment point as close to the front of the truck as possible.	<input type="checkbox"/>	<input type="checkbox"/>	
There shall be 5/8" side plates mounted as far back on the truck frame as possible.	<input type="checkbox"/>	<input type="checkbox"/>	
They must attach to the truck frame over the front axle a minimum of 15".	<input type="checkbox"/>	<input type="checkbox"/>	
At the front of these plates there shall be a 1/2" steel drop plate to serve as the truck portion of the tilt front hitch.	<input type="checkbox"/>	<input type="checkbox"/>	
Pinned each side of this 1/2" angles to serve as the hitch portion of the tilt hitch.	<input type="checkbox"/>	<input type="checkbox"/>	
Welded to these angles shall be two 3" x 5" x 3/8" structural tubes.	<input type="checkbox"/>	<input type="checkbox"/>	
Welded to the front of these tubes shall be the upright angles for the plow lift support and at the bottom there shall be three pinning heights for the front plow.	<input type="checkbox"/>	<input type="checkbox"/>	
There shall be a top horizontal angle to serve as the support for the plow lift hinge.	<input type="checkbox"/>	<input type="checkbox"/>	
These angles shall be a minimum of 3" x 4" x 3/8" steel.	<input type="checkbox"/>	<input type="checkbox"/>	
The plow lift hinge shall be flame cut from 3/4" steel plate and shall have a full plate gusset at the top.	<input type="checkbox"/>	<input type="checkbox"/>	
The plow lift cylinder shall be 4" x 12" single acting and shall have o-ring seals and able to fold down and away when not in use.	<input type="checkbox"/>	<input type="checkbox"/>	
The pins to attach the plow to the hitch shall be a minimum of 1 1/4" diameter.	<input type="checkbox"/>	<input type="checkbox"/>	
There shall be a 10 gauge break formed bumper extension both sides.	<input type="checkbox"/>	<input type="checkbox"/>	
Front hitch must have the ability to accommodate a multi section plow or a full trip Viking plow used by the City.	<input type="checkbox"/>	<input type="checkbox"/>	