

# SPECIFICATIONS

## for Hydrostatically Driven Front Wheel Drive Self-Propelled ChipSpreader

It is the intent of these specifications to describe a hydrostatically driven, self-propelled Chipspreader in sufficient detail to secure bids on comparable equipment. All parts not specifically mentioned, which are necessary to provide a complete Chipspreader, shall be included in the bid and shall conform in strength and quality of material and workmanship to what is generally provided to the industry. The unit shall be a current model in standard production by the manufacturer.

Any units not conforming to these specifications will be rejected and it will be the responsibility of the manufacturer to conform with all requirements unless deviations have been specifically cited by the bidder and acceptance made on the basis of such deviations.

### Function

The self-propelled Chipspreader shall be designed and constructed to apply a uniformly distributed application of cover and seal coat aggregates.

### I. POWER TRAIN

**ENGINE:** Cummins 6 cylinder, turbocharged, diesel engine. Manufacturers maximum rating 240 H.P. Includes electric start, alternator, voltage regulator and 12 volt batteries. Engine to have dry type air cleaner, disposable element type oil filter, heavy duty cooling system, cable throttle actuator. Control/instrument panel to have lockable cover to prevent accidental starting and pilferage.

**HYDROSTATIC DRIVE:** Mechanical front wheel drive steer axle, full oscillating, 75" wheel track, 20.37:1 gear ratio, 25,000 lb. rated, single speed differential. Driven by direct engine bell housing mounted 125 cc hydrostatic pump and 160 cc hydrostatic motor. Rear axle is 25,000 lb. rated with 95" wheel track. Infinitely variable speed from 0 to 19.5 M.P.H..

**BRAKES:** Mechanical front axle has hydraulic internal drum brakes controlled by foot pedal. Rear axle has hydraulic actuated drum brakes, 16 1/2" x 7". Also includes spring applied, hydraulic release fail-safe parking brake in the drive line, automatically applies if hydraulic power is lost.

**STEERING:** Full hydrostatic power steering from 1.22 cc fixed displacement gear pump, with dedicated flow independent of engine speed.

**TIRES & WHEELS:** (4) 385/65R 22.5 tires on disc wheels.

### II. FRAME ASSEMBLY

The complete power train, diesel engine, hydrostatic pump and motor, front and rear axles, shall be mounted to the lower removable main frame. Upper removable main frame assembly includes both conveyors, right and left access ladders and walkways, 95 gallon built in hydraulic oil reservoir, 82 gallon diesel fuel tank for engine, rear 4 cubic yard hopper and truck hitch. Complete main frame is 3/16" steel construction.

**CONVEYORS:** To have heavy duty 24" conveyor belts which are independently activated by electric switches. To be powered by a load sensing 74 cc variable displacement pressure compensated hydraulic pump, high torque 14.8 C.I.R. hydraulic motors, with direct drive to head pulley. Electric switches for each conveyor control to have easy access mechanical override. Hooded, adjustable aggregate deflector to be located at head of each conveyor. Troughing idlers to be quick removable type and tail pulley to be adjustable for insuring proper belt alignment. Electric/hydraulic folding wings on rear receiving hopper.

**AUTOMATIC CONVEYOR CONTROL:** Automatically starts and stops the conveyor belts to control the aggregate level in the spread hopper. Shall include override control enabling the driver/operator to start or stop the conveyors, and each conveyor to have valve control providing flexibility in belt speed.

**SPREAD HOPPER:** Spread width to be     ft. Struck capacity of hopper to be .2 cubic yard per foot of hopper width. Spread roll to be 6" diameter machine welded heavy wall tubing. Agitator to be 2 1/2" tubing and have quick disconnect pin. Each radial gate to have individual, air operated controls. Each gate to have adjustable, reversible wear plates. To include (4) 6" gates each end with 12" gates in center. Spread roll and agitator to be driven by a high torque 12.0 C.I.R. hydraulic motor with quick coupler hose connection.

**FRONT HOPPER REJECT SCREEN:** A full width rock type screen with 1 1/2" openings shall be placed over the top of the spread hopper to retain all oversized materials and foreign objects.

### **RECEIVING HOPPER**

Hopper shall be a minimum of 132 inches wide with a capacity of approximately 4 cubic yards. Hopper to have hydraulically folding paver style wings controlled from the operator's station. Shall include heavy duty hopper skirting and an adjustable flow gate for each conveyer belt.

**TRUCK HITCH:** The unit shall be equipped with a positive, self-locking "railroad" type adjustable truck hitch, which can be electrically released from the drivers or operators position. Hitch height to be electrically controlled from drivers seat. The truck hitch shall be the type which will permit hooking and unhooking of aggregate trucks without stopping the Chipspreader and be capable of maintaining positive engagement over irregular terrain.

**APPLICATION RATE COMPUTER:** The Application Rate Computer monitors the actual speed of the Etnyre ChipSpreader, and varies the gate opening in order to maintain the set application rate, in lbs./yd<sup>2</sup>, of the selected aggregate, regardless of the speed of the Chipspreader. The computer can store five different aggregate/application rate combinations in it's memory. The preset aggregate can be selected together with it's application rate at any time. In addition, the application rate can be varied as desired while operating, or a different preset combination may be selected at any time.

The computer can also be set to control the chipspreader's forward speed for consistent speed when following the distributor. The computer speed sensor replaces the need for radar ground speed system. Computer also monitors fuel level, engine oil pressure, hydraulic oil temperature, engine coolant temperature, hours on engine and miles chipped.

**OPERATOR STATION:** All controls located to the front for easy access to the spring suspension seat from either right or left side.

### **III. MISCELLANEOUS:**

**LIGHT PACKAGE:** Unit to have headlights, stop and tail lights and turn signals with flasher switch.

**FRONT FENDERS:** Each side.

**HORN:** An electric horn shall be furnished.

**BACKUP ALARM:** An electric backup warning alarm to be furnished.

**PAINT:** Standard highway yellow.

Unit to have one full length walkway with skid resistant surface adjacent to one side of conveyor system. A steel, lockable toolbox shall be mounted under the main deck.

### **WARRANTY**

One year on material and workmanship. Components manufactured by others shall carry such warranty as is provided by that particular manufacturer.

Manufacturers descriptive literature/specifications shall be included with the bid and any deviations from these specifications are to be listed.

Successful bidder to furnish parts book(s) and complete operating instructions.

## **AVAILABLE OPTIONS**

- **Fixed - standard hopper widths 11', 12', 13', or 14' in lieu of standard 10' width.**
  - **Second Agitator (for standard front hoppers only).**
  - **4-WHEEL HYDROSTATIC DRIVE PACKAGE:** Mechanical front wheel drive steer axle, full oscillating, 75" wheel track, 20.37:1 gear ratio, 25,000# rated, single speed differential. Mechanical drive rear axle, 95" wheel track, 20.37:1 gear ratio, 25,000# rated, single speed differential. Both axles driven by 125 cc variable displacement hydrostatic pump and 160 cc variable displacement hydrostatic motors. Infinitely variable speed 0 to 19.5 M.P.H.
  - **TIRES:** (4) 385/65R 22.5.
  - **POWER SEAT PEDESTAL:** Electric over hydraulic powered seat and control panel movement for dual control operation.
  - **SPECIAL PAINTING:** Paint color other than standard highway yellow.
  - **EXPORT PROCESSING**
  - **Fully Enclosed Cab:** with A/C, Heater and Power Seat Pedestal.
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- **Variable Width Spread Hopper For Hydrostatic Drive Chipspreader**

Infinitely variable width two section hopper system. Including driven dual auger and spread rolls. Independent conveyor feed to each hopper. Hydraulic system with all pumps, hoses, valves and control system necessary for operation. Operating controls at both driver and right front operator stations. Expanded metal in top of hopper with replaceable grates under conveyor hoods. Installed on Hydrostatic Drive Chipspreader at time of new order production. Price in lieu of standard 10' spread hopper.

Available in four basic sizes

    - 9' to 18' variable spread width (includes 1' electric/air gates full width).
    - 10' to 20' variable spread width (includes 1' electric/air gates full width).
    - 11' to 22' variable spread width (includes 1' electric/air gates full width).
    - 12' to 24' variable spread width (includes 1' electric/air gates full width).



## Sample Municipal Bid Specifications #2

### HYDROSTATICALLY DRIVEN 4 WHEEL DRIVE CHIPSPREADER

GENERAL: It is the intent of this specification to describe a Hydrostatically Driven, Self-Propelled Chipspreader. Materials listed shall be the least minimum standard as specified and of a quality used commercially, conforming to current engineering and manufacturing practices. The Chipspreader shall be a current model under standard production by the manufacturer, with not less then two years of production and field use. The Hydrostatically Drive Chipspreader shall have the capability, while operating, to tow a 56,000 pound GVW loaded dump truck up at least an 18% grade. Successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing the equipment within 100 miles of the purchaser’s main equipment yard.

Maximum loaded gradeability : \_\_\_\_\_

Location of nearest servicing dealer : \_\_\_\_\_

**NOTE:** For evaluation purposes, any line item left blank will be considered as non-responsive and will cause the bid to be rejected due to our inability to do a fair evaluation without the requested information. The “required data” spaces are critical. The information in these areas are required to evaluate and confirm compliance. Therefore, all requested information must be entered in the space provided. Failure to provide any requested information will cause the bid to be rejected as non-responsive.

**FUNCTION** COMPLIES (Yes/No)

The self-propelled 4 Wheel Drive Chipspreader shall be designed and constructed to supply a uniformly distributed application of cover and seal coat aggregates over a width ranging from 10 ft. to 20 ft. in increments. The overall length shall be not more then 25 ft. 6 in. and transport width of less than 11 feet.

### POWER TRAIN ENGINE

Shall have a 6 cylinder turbo-charged diesel engine with a minimum rating of 240 horsepower and to include electric start, alternator, voltage regulator and 1400 cca 12 volt batteries. Engine shall have dry type air cleaner, disposable element type oil filter, heavy-duty cooling , electric throttle actuator. Engine shall have high water temperature / low oil pressure warning system and meet all E.P.A. Tier III requirements. Fuel capacity approximately 82 gallons. \_\_\_\_\_

### 4-WHEEL HYDROSTATIC DRIVE

Four wheel hydrostatic drive providing infinitely variable forward and reverse speeds from 0 to no less than 19 mph. The front and rear drives shall be driven by 160 cc variable displacement hydraulic motors through a differential and planetary drive wheel ends. Total wheelbase shall be not more than 135 inches. \_\_\_\_\_

### TRANSMISSION

Electronically controlled variable hydrostatic 125 cc pump driven by direct engine bell housing mount, electronically controlled variable hydrostatic motors directly coupled to the front and rear axles. Infinite working speed range 0 to 19 M.P.H. Engine fan cooled oil cooler with total return flow capacity. Hydraulic reservoir minimum capacity to be 95 gallons. \_\_\_\_\_

### TIRES & WHEELS

4 each 385/65R22.5-G tubeless, radial, wide base tires mounted on heavy duty steel disc wheels. \_\_\_\_\_

**OPERATORS STATION**

One control console station which can be manually moved from side to side for total operational control from either side of the chipspreader. Joystick to control forward/reverse and rate of speed. Instruments panel shall have digital display for application rate, product size, speed, oil pressure, coolant temperature, battery voltage, hydraulic oil temperature, percent of fuel remaining, engine hours and engine RPM's. All engine and hydraulic alarm system with lights and buzzer shall be included. Shall include a lockable control panel cover for vandal protection and one adjustable suspension seat with armrests and mounted umbrella.

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**STEERING**

Full hydrostatic power steering from 1.22 cc fixed displacement gear pump, with dedicated flow independent of engine speed. Turning radius shall be approximately 17 feet.

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**CONVEYORS**

Must have two independently activated conveyors with 24 inch wide belts. Each powered by a load sensing 74 cc variable displacement pressure compensated hydraulic pump and a high torque 14.8 C.I.R. hydraulic motor, with direct drive to the head pulley. Electric switches for each conveyor control to have easy access mechanical override. Hooded, aggregate deflectors to be located at the head of each conveyor. 24 degree troughing idlers are to be of quick removable type and the tail pulley to be adjustable for insuring proper belt alignment. Each belt to have automatic on/off controls to control aggregate level in the spread hopper. There shall be an override control to enable the operator to manually start or stop the conveyors as needed.

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**VARIABLE WIDTH SPREAD HOPPER**

Shall be 10 feet to 20 feet variable width, two section hopper system. Hoppers shall be capable of varying the spreading width on the run. No bolt-on sections excepted. Each hopper shall include hydraulic driven augers and spread rollers. Spread rolls to be no less than 6" in diameter and constructed of heavy wall tubing. Spread rolls shall be hydraulically driven and actuated by power gate opening control. The hydraulic system to have all pumps, hoses, valves, cylinders and controls to operate system. Operating controls shall be capable of being located at both the driver and front co-operator stations. The hoppers shall have expandable metal in the top of each hopper with replacement grates under the conveyor hoods. Also to include, individual electric / air controlled one foot gates, to allow aggregate spreading in one foot increments across the variable width hopper by individual gate controls which can be open/close from the operator's station.

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**BRAKES**

Mechanical axles front and rear having hydraulic internal drum brakes controlled by pressing down on the foot pedal actuator. Also to include a spring applied, hydraulic release fail safe parking brake in the driveline that automatically applies if hydraulic or electrical power is lost.

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**TRUCK HITCH**

This unit shall be equipped with a positive, self-locking "railroad" type adjustable truck hitch, which can be electrically released from the drivers or front operators positions. Hitch height to be electrically controlled from the drivers position. Adjustment range 8" to 20" in height and 4" fore and aft.

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**APPLICATION RATE COMPUTER**

The Application Rate Computer shall monitor the actual speed of the Chipspreader, and varies gate opening in order to maintain the set application rate in lbs/yd, of the selected aggregate, regardless of the speed of the unit. The computer shall be able to store five different aggregate / application rate setting in it's memory. The application rate should be able to vary as desired while operating or to select a different pre-set combination at any time.

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**RECEIVING HOPPER**

Hopper shall be a minimum of 132 inches wide with a capacity of approximately 4 cubic yards. Hopper to have hydraulically folding paver style wings controlled from the operator's station. Shall include heavy duty hopper skirting and an adjustable flow gate for each conveyer belt. \_\_\_\_\_

**MISCELLANEOUS**

This unit is to have headlights, LED stop and tail lights and turn signals with flashers switch. Unit also to have front fender on each side. An electric horn and electric back-up warning alarm is to be furnished. Must include an engine warning system. The paint is to be standard highway yellow. The unit to have one full length walkway with skid resistant surface adjacent to one side of the conveyor system. A steel lockable toolbox shall be mounted under the main deck. Two sets of Parts and Operators Manuals. Warranty for a period of 12 months from the date placed in service. \_\_\_\_\_



# Sample Municipal Bid Specifications #3

## HYDROSTATICALLY DRIVEN 4 WHEEL DRIVE 'BIG' CHIPSPREADER

GENERAL: It is the intent of this specification to describe a Hydrostatically Driven, Self-Propelled Chipspreader. Materials listed shall be the least minimum standard as specified and of a quality used commercially, conforming to current engineering and manufacturing practices. The Chipspreader shall be a current model under standard production by the manufacturer, with not less than two years of production and field use. The Hydrostatically Drive Chipspreader shall have the capability, while operating, to tow a 56,000 pound GVW loaded dump truck up at least an 18% grade. Successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing the equipment within 100 miles of the purchaser's main equipment yard.

Maximum loaded gradeability : \_\_\_\_\_

Location of nearest servicing dealer : \_\_\_\_\_

**NOTE:** For evaluation purposes, any line item left blank will be considered as non-responsive and will cause the bid to be rejected due to our inability to do a fair evaluation without the requested information. The "required data" spaces are critical. The information in these areas are required to evaluate and confirm compliance. Therefore, all requested information must be entered in the space provided. Failure to provide any requested information will cause the bid to be rejected as non-responsive.

### FUNCTION

COMPLIES (Yes/No)

The self-propelled 4 Wheel Drive Chipspreader shall be designed and constructed to supply a uniformly distributed application of cover and seal coat aggregates over a width ranging from \_\_\_\_ ft. to \_\_\_\_ ft. in increments. The overall length shall be not more than 26 ft. 7 in., 9 ft. 4 in. high and transport width of less than \_\_\_\_ feet. Approximately 28,000 lbs. empty. \_\_\_\_\_

### ENGINE

Shall have a 6 cylinder turbo-charged diesel engine with a minimum rating of 280 horsepower and to include electric start, alternator, voltage regulator and 1400 cca 12 volt batteries. Engine shall have dry type air cleaner, disposable element type oil filter, heavy-duty cooling , electric throttle actuator. Engine shall have high water temperature / low oil pressure warning system and meet all E.P.A. Tier III requirements. Fuel capacity approximately 82 gallons. \_\_\_\_\_

### 4-WHEEL HYDROSTATIC DRIVE

Four wheel hydrostatic drive providing infinitely variable forward and reverse speeds from 0 to no less than 19 mph. The front and rear drives shall be driven by 160 cc variable displacement hydraulic motors through a differential and planetary drive wheel ends. Total wheelbase shall be not more than 152 inches.

### TRANSMISSION

Electronically controlled variable hydrostatic 125 cc pump driven by direct engine bell housing mount, electronically controlled variable hydrostatic motors directly coupled to the front and rear axles. Infinite working speed range 0 to 19 M.P.H. Engine fan cooled oil cooler with total return flow capacity. Hydraulic reservoir minimum capacity to be 95 gallons. \_\_\_\_\_

### TIRES & WHEELS

4 each 425/65R22.5-L tubeless, radial, wide base tires mounted on heavy duty steel disc wheels. \_\_\_\_\_

## **OPERATORS STATION**

One control console station which can be manually moved from side to side for total operational control from either side of the chippers. Joystick to control forward/reverse and rate of speed. Instruments panel shall have digital display for application rate, product size, speed, oil pressure, coolant temperature, battery voltage, hydraulic oil temperature, percent of fuel remaining, engine hours and engine RPM's. All engine and hydraulic alarm system with lights and buzzer shall be included. Shall include a lockable control panel cover for vandal protection and one adjustable suspension seat with armrests and mounted umbrella.

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## **STEERING**

Full hydrostatic power steering from 1.22 cc fixed displacement gear pump, with dedicated flow independent of engine speed. Turning radius shall be approximately 20 feet.

## **CONVEYORS**

Must have two independently activated conveyors with 30 inch wide belts. Each powered by a load sensing 74 cc variable displacement pressure compensated hydraulic pump and a high torque 18 C.I.R. hydraulic motor, with direct drive to the head pulley. Electric switches for each conveyor control to have easy access mechanical override. Hooded, aggregate deflectors to be located at the head of each conveyor. 24 degree troughing idlers are to be of quick removable type and the tail pulley to be adjustable for insuring proper belt alignment. Each belt to have automatic on/off controls to control aggregate level in the spread hopper. There shall be an override control to enable the operator to manually start or stop the conveyors as needed.

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## **VARIABLE WIDTH SPREAD HOPPER**

Shall be \_\_\_\_ feet to \_\_\_\_ feet variable width, two section hopper system. Hoppers shall be capable of varying the spreading width on the run. No bolt-on sections accepted. Full 5" hopper gate opening. Struck capacity of hopper to be 0.10 cu. yd. per foot. Each hopper shall include hydraulic driven 14" augers and spread rollers. Spread rolls to be no less than 6" in diameter and constructed of heavy wall tubing. Spread rolls shall be hydraulically driven and actuated by power gate opening control. The hydraulic system to have all pumps, hoses, valves, cylinders and controls to operate system. Operating controls shall be capable of being located at both the driver and front co-operator stations. The hoppers shall have expandable metal in the top of each hopper with replacement grates under the conveyor hoods. Also to include, individual electric / air controlled one foot gates, to allow aggregate spreading in one foot increments across the variable width hopper by individual gate controls which can be open/close from the operator's station. Hydraulic hopper raise and lower height control.

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## **BRAKES**

Mechanical axles front and rear having hydraulic internal drum brakes controlled by pressing down on the foot pedal actuator. Also to include a spring applied, hydraulic release fail safe parking brake in the driveline that automatically applies if hydraulic or electrical power is lost.

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## **TRUCK HITCH**

This unit shall be equipped with a positive, self-locking "railroad" type adjustable truck hitch, which can be electrically released from the drivers or front operator's positions. Hitch height to be electrically controlled from the driver's position. Adjustment range 8" to 20" in height and 4" fore and aft.

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## **APPLICATION RATE COMPUTER**

The Application Rate Computer shall monitor the actual speed of the Chippers, and varies gate opening in order to maintain the set application rate in lbs/yd, of the selected aggregate, regardless of the speed of the unit. The computer shall be able to store five different aggregate / application rate setting in it's memory. The application rate should be able to vary as desired while operating or to select a different pre-set combination at any time.

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**RECEIVING HOPPER**

Hopper shall be a minimum of 132 inches wide with a capacity of approximately 5 cubic yards. Hopper to have hydraulically folding paver style wings controlled from the operator’s station. Shall include heavy duty hopper skirting and an adjustable flow gate for each conveyer belt. \_\_\_\_\_

**MISCELLANEOUS**

This unit is to have headlights, LED stop and tail lights and turn signals with flashers switch. Unit also to have front fender on each side. An electric horn and electric back-up warning alarm is to be furnished. Must include an engine warning system. The paint is to be standard highway yellow. The unit to have one full length walkway with skid resistant surface adjacent to one side of the conveyor system. A steel lockable toolbox shall be mounted under the main deck. Two sets of Parts and Operators Manuals. Warranty for a period of 12 months from the date placed in service. \_\_\_\_\_

