

**ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
AHTD-EQUIPMENT AND PROCUREMENT DIVISION**

BID SHEET

Contract No.: H-17-335H

BIDDER: _____

1. **2** - Snow Plow, 12' Power Reversing for Mounting on Truck with Central Hydraulics (With Truck Hitch) to meet AHTD Spec. **17-434-mm009**.

FOB: **2 ea. - AHTD – District 6 Headquarters, 8900 Mabelvale Pike, Little Rock, AR 72209**

Bid Price (Do not include any Local, State or Federal Taxes)

Snow Plow proposed as meeting specifications:

Make _____ Model _____ Warranty _____ Each \$ _____

2. **5** – Snow Plow, 10' Power Reversing for Mounting on Truck with Central Hydraulics (With Truck Hitch) to meet AHTD Spec. **17-432-mm009**.

FOB: **2 ea. – AHTD – District 5 Headquarters, 1673 Batesville Boulevard, Batesville, AR 73501**
3 ea. - AHTD – District 9 Headquarters, 4590 Highway 65 South, Harrison, AR 72601

Bid Price (Do not include any Local, State or Federal Taxes)

Snow Plow proposed as meeting specifications:

Make _____ Model _____ Warranty _____ Each \$ _____

3. **8** – Snow Plow, J Type, 10' Power Reversing for Mounting on Truck with Central Hydraulics (With Truck Hitch) to meet AHTD Spec. **17-432A-mm009**.

FOB: **8 ea. - AHTD – District 10 Headquarters, 2510 West Kingshighway, Paragould, AR 72450**

Bid Price (Do not include any Local, State or Federal Taxes)

Snow Plow proposed as meeting specifications:

Make _____ Model _____ Warranty _____ Each \$ _____

**ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
AHTD-EQUIPMENT AND PROCUREMENT DIVISION**

BID SHEET

Contract No.: H-17-335H

BIDDER: _____

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4. **2** – Snow Plow, 10’ Power Reversing Electric Over Hydraulic Controls (With Truck Hitch)
To meet AHTD Spec. **17-430-mm009**.

FOB: 2 ea. – AHTD – District 10 Headquarters, 2510 West Kingshighway, Paragould, AR 72450

Bid Price (Do not include any Local, State or Federal Taxes)

Snow Plow proposed as meeting specifications:

Make _____ Model _____ Warranty _____ Each \$ _____

Guaranteed Delivery Date _____
Additional Units may be purchased at the same pricing and
conditions through _____
(Date)

BID TOTAL \$ _____

STANDARD BID CONDITIONS

1. **GENERAL:** Any special terms and conditions included in the invitation for bid override these standard terms and conditions. The standard terms and conditions and any special terms and conditions become part of any contract entered into if any or all parts of the bid are accepted by the Arkansas State Highway and Transportation Department (AHTD).
2. **ACCEPTANCE AND REJECTION:** AHTD reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
3. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
4. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
5. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
6. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
7. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
8. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
9. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
10. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.

11. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
12. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
13. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
14. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
15. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).
16. **NOTICE OF NONDISCRIMINATION:** The Arkansas State Highway Commission through the AHTD complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the AHTD does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the AHTD's programs and activities, as well as the hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the AHTD's nondiscrimination policies may be directed to Joanna P. McFadden Section Head – EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501)569-2298, (Voice/TTY 711), or the following email address: joanna.mcfadden@ahtd.ar.gov. Free language assistance for Limited English Proficient individuals is available upon request. This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.
17. **PROHIBITION OF EMPLOYMENT OF ILLEGAL IMMIGRANTS:** Pursuant to Arkansas Code Annotated 19-11-105, all bidders must certify prior to award of a contract that they **do not** employ or contract with any illegal immigrant(s) in its contract with the state. Bidders shall certify online at <https://www.ark.org/dfa/immigrant/index.php>.
18. **DISCLOSURE:** Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that order, **shall** be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy **shall** be subject to all legal remedies available to the agency.

ATTACHMENT A

ELIGIBLE BIDDER CERTIFICATION

The Bidder represents and warrants for itself, its employees and its subcontractors and certifies they:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding thus Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph two (2) of this Certification;
4. Have not within a one-year period preceding this application/Bid had one or more public transactions (Federal, State, or local) terminated for cause or default; and

The Bidder represents, warrants and acknowledges the understanding that restrictions placed on the employment of labor or on the scale of pay for the work on a contract will be the requirements of the Fair Labor Standards Act (Federal Wage-Hour Law) of 1938, 28 USC §201 et seq., and other applicable labor laws.

The person executing this Certification further represents, warrants and affirms the truthfulness and accuracy of the contents of the statements submitted on or with this Certification and understands that the provisions of 31 USC §3801 et seq. are applicable thereto.

BIDDER NAME

BY: _____

Signature

TITLE: _____

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency.

SUBCONTRACTOR:

SUBCONTRACTOR NAME:

Yes No

IS THIS FOR:

TAXPAYER ID NAME:

Goods? Services? Both?

YOUR LAST NAME:

FIRST NAME:

M.I.:

ADDRESS:

CITY:

STATE:

ZIP CODE:

COUNTY:

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED:

FOR INDIVIDUALS*

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (✓)		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and how are they related to you? <small>(i.e., Jane Q. Public, spouse, John Q. Public, Jr., child, etc.)</small>	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

None of the above applies

FOR AN ENTITY (BUSINESS)*

Indicate below If any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (✓)		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership Interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

None of the above applies

Contract and Grant Disclosure and Certification Form

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.

2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

Signature _____	Title _____	Date _____
Vendor Contact Person _____	Title _____	Phone No. _____

Agency Use Only				
Agency Number _____	Agency Name _____	Agency Contact Person _____	Contact Phone No. _____	Contract or Grant No. _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 17-434-mm009

FOR

12' SNOWPLOW ATTACHMENT

36" MOLDBOARD HEIGHT

(WITH TRUCK HITCK)

A. General Conditions:

1. **Current Model:** Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.

Manuals: Successful bidder shall furnish one (1) copy of Operator's Manual and Parts Book with each unit delivered. The successful bidder may provide Parts Manuals on computer media in lieu of printed manuals.
3. Complete installation instructions shall be furnished with each unit.
4. All parts and equipment necessary for satisfactory operation of unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
5. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
6. **Demonstration:** The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
7. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
8. **Cooperative Purchasing:** Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

B. Unit Specifications:

1. General: Snowplow with power reversing moldboard, for use on a truck equipped with central hydraulics. The snowplow provided shall be designed and approved by the manufacturer for installation on a truck which has a front gross axle weight rating of 18,000 pounds.
2. Reversing Frame & Front Push Tube: Shall be constructed using a minimum 5" x 5" x 0.38" structural steel tubing properly reinforced to withstand severe snow plowing conditions. Front push tube shall be a minimum of 116" in length. Front push tube shall have a minimum of ten welded ears to attach the moldboard assembly. Ears shall be made of minimum 5/8" thick steel. All joints shall be continuously welded and reinforced.
3. A-Frame: Shall be engineered and constructed to be an integral component of the push frame. Shall contain two (2) double acting heavy duty power reversing hydraulic cylinders with a minimum 4" diameter bore. Cylinders shall be equipped with a minimum 2" diameter rod. Cylinder rod shall be nitride coated. The reversing cylinders shall maintain the angle of the moldboard once the desired plowing angle is reached. The unit shall be equipped with a hydraulic cushion valve to protect hydraulic cylinders in the event of an impact with a fixed object. Cylinders shall be equipped with hydraulic lines of sufficient length to connect to supply lines on the front bumper of the truck. The mounting plate that attaches the snowplow push frame to the truck hitch shall be equipped with mounting flanges made of 1" metal. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins.
4. Moldboard: Curved moldboard no less than twelve (12) feet in length. Shall be constructed of no less than 3/16" steel with a minimum of ten (10) vertical ribs. Moldboard shall be equipped with full length horizontal ribs according to manufacturer's standard for plow size and type. Moldboard height shall be no less than 36" but shall not exceed 42". Shall be extended curve design to prevent snow from coming over the top of moldboard at high speed. Shall have multi-position adjustment for lay-back to achieve optimal plowing angle. When set at the optimal plowing angle the top of the moldboard curve shall extend forward of the cutting edge by no less than twelve (12) inches. Shall have mailbox ends equipped with sight markers at least 36" in height. Shall have cutting angle adjustment of no less than 35° left and right of center. Shall be equipped with two (2) compression type spring safety trips capable of at least three (3) attack angle settings ranging from 10 to 30 degrees. Shall include stops attached to the moldboard assembly which contact the reversing frame front push tube before the trip springs becomes fully compressed. The moldboard assembly shall be capable of tripping at least 15 degrees past vertical before contacting the stops, at any attack angle. Shall have a minimum of five (5) hinge points. There shall be a minimum of 116" between the outer most hinge points with a minimum of three more hinge points equally spaced between.
5. Snow Shield: The moldboard shall be equipped with a full length rubber snow shield mounted on the top forward edge. Shall be made of a minimum of two ply rubber matting no less than 1/4" thick. Snow shield shall be affixed to the moldboard using a minimum 0.25" x 2" metal strip and an adequate number of bolts to secure it in position.
6. Cutting Edge: Cutting edge shall be a minimum 7/8" x 6" high carbon steel with holes AASHTO spaced. Cutting edge shall be equipped with two wear blocks behind the cutting edge. Each wear block shall have a minimum of 26 square inches of wear surface. Wear blocks shall be made of a material with a minimum Brinell hardness of 181-240.
7. Level Lifting Device: Snowplow shall be equipped with a level lifting device that keeps the moldboard level when lifted or when being reversed. Device shall be complete with all chains, hooks, clevises and hardware necessary for proper operation.
8. Truck Hitch: Low profile, front frame mounted universal plow hitch with fold down and adjustable lift arm. Shall be capable of self-storing lift cylinder. The lift cylinder shall be a minimum 4" diameter bore and of sufficient length to properly lift snowplow. Hitch shall be capable of carrying plows from 10' to 14' in length. The lift arm mounting frame shall be constructed using a minimum of 1/2" x 3" angle welded to a 10" structural channel which forms the lift frame. Cheek plates shall be 1/2" x 12" tapered. Rocker angles and plates shall be utilized above and below the truck frame to keep the hitch from loosening and moving forward. The cheek plates and rocker plates will be welded to the truck hitch by the upfitter. Lift arm bracket and lower drop bar retaining/connecting lugs shall be fabricated from 3/4" thick plate. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins. (Hitches using braces running from the lift frame to the front axle of the vehicle are not acceptable).
9. Jack: The snowplow shall be equipped with a screw type adjustable jack to assist in the installation and removal of the unit from the truck hitch.
10. Weight: Snowplow assembly shall weigh a minimum of 2,000 pounds.
11. Color: Manufacturer's standard color is acceptable.

12. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
- A. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - B. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - C. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
 - D. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
 - E. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 17-432-mm009

FOR

10' SNOWPLOW ATTACHMENT

36" MOLDBOARD HEIGHT

FOR TRUCK WITH CENTRAL HYDRAULIC SYSTEM

A. General Conditions:

1. **Current Model:** Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.
3. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
4. **Manuals:** Successful bidder shall furnish one (1) copy of Operator's Manual and Parts Book with each unit delivered. The successful bidder may provide Parts Manuals on computer media in lieu of printed manuals.
5. Complete installation instructions shall be furnished with each unit.
6. All parts and equipment necessary for satisfactory operation of unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
7. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
8. **Demonstration:** The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
9. **Cooperative Purchasing:** Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

B. Unit Specifications:

1. General: Snowplow with power reversing moldboard, for use on a truck equipped with central hydraulics. The snowplow provided shall be designed and approved by the manufacturer for installation on a truck which has a front gross axle weight rating of 18,000 pounds.
2. Reversing Frame & Front Push Tube: Shall be constructed using a minimum 5" x 5" x 0.38" structural steel tubing properly reinforced to withstand severe snow plowing conditions. Front push tube shall be a minimum of 116" in length. Front push tube shall have a minimum of ten welded ears to attach the moldboard assembly. Ears shall be made of minimum 5/8" thick steel. All joints shall be continuously welded and reinforced.
3. A-Frame: Shall be engineered and constructed to be an integral component of the push frame. Shall contain two (2) double acting heavy duty power reversing hydraulic cylinders with a minimum 4" diameter bore. Cylinders shall be equipped with a minimum 2" diameter rod. Cylinder rod shall be nitride coated. The reversing cylinders shall maintain the angle of the moldboard once the desired plowing angle is reached. The unit shall be equipped with a hydraulic cushion valve to protect hydraulic cylinders in the event of an impact with a fixed object. Cylinders shall be equipped with hydraulic lines of sufficient length to connect to supply lines on the front bumper of the truck. The mounting plate that attaches the snowplow push frame to the truck hitch shall be equipped with mounting flanges made of 1" metal. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins.
4. Moldboard: Curved moldboard no less than ten (10) feet in length. Shall be constructed of no less than 3/16" steel with a minimum of eight (8) vertical ribs. Moldboard shall be equipped with full length horizontal ribs according to manufacturer's standard for plow size and type. Moldboard height shall be no less than 36" but shall not exceed 42". Shall be extended curve design to prevent snow from coming over the top of moldboard at high speed. Shall have multi-position adjustment for lay-back to achieve optimal plowing angle. When set at the optimal plowing angle the top of the moldboard curve shall extend forward of the cutting edge by no less than twelve (12) inches. Shall have mailbox ends equipped with sight markers at least 36" in height. Shall have cutting angle adjustment of no less than 35° left and right of center. Shall be equipped with two (2) compression type spring safety trips capable of at least three (3) attack angle settings ranging from 10 to 30 degrees. Shall include stops attached to the moldboard assembly which contact the reversing frame front push tube before the trip springs becomes fully compressed. The moldboard assembly shall be capable of tripping at least 15 degrees past vertical before contacting the stops, at any attack angle. Shall have a minimum of five (5) hinge points. There shall be a minimum of 116" between the outer most hinge points with a minimum of three more hinge points spaced between.
5. Snow Shield: The moldboard shall be equipped with a full length rubber snow shield mounted on the top forward edge. Shall be made of a minimum of two ply rubber matting no less than 1/4" thick. Snow shield shall be affixed to the moldboard using a minimum 0.25" x 2" metal strip and an adequate number of bolts to secure it in position.
6. Cutting Edge: Cutting edge shall be a minimum 7/8" x 6" high carbon steel with holes AASHTO spaced. Cutting edge shall be equipped with two wear blocks behind the cutting edge. Each wear block shall have a minimum of 26 square inches of wear surface. Wear blocks shall be made of a material with a minimum Brinell hardness of 181-240.
7. Level Lifting Device: Snowplow shall be equipped with a level lifting device that keeps the moldboard level when lifted or when being reversed. Device shall be complete with all chains, hooks, clevises and hardware necessary for proper operation.
8. Truck Hitch: Low profile, front frame mounted universal plow hitch with fold down and adjustable lift arm. Shall be capable of self-storing lift cylinder. The lift cylinder shall be a minimum 4" diameter bore and of sufficient length to properly lift snowplow. Hitch shall be capable of carrying plows from 10' to 14' in length. The lift arm mounting frame shall be constructed using a minimum of 1/2" x 3" angle welded to a 10" structural channel which forms the lift frame. Cheek plates shall be 1/2" x 12" tapered. Rocker angles and plates shall be utilized above and below the truck frame to keep the hitch from loosening and moving forward. The cheek plates and rocker plates will be welded to the truck hitch by the upfitter. Lift arm bracket and lower drop bar retaining/connecting lugs shall be fabricated from 3/4" thick plate. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins. (Hitches using braces running from the lift frame to the front axle of the vehicle are not acceptable).
9. Jack: The snowplow shall be equipped with a screw type adjustable jack to assist in the installation and removal of the unit from the truck hitch.
10. Weight: Snowplow assembly shall weigh a minimum of 2,000 pounds.

11. Color: Manufacturer's standard color is acceptable.
12. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - A. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - B. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - C. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
 - D. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
 - E. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 17-432A-mm009

FOR

10' SNOWPLOW ATTACHMENT

44" MOLDBOARD HEIGHT

FOR TRUCK WITH CENTRAL HYDRAULIC SYSTEM

A. General Conditions:

1. **Current Model:** Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.
3. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
4. **Manuals:** Successful bidder shall furnish one (1) copy of Operator's Manual and Parts Book with each unit delivered. The successful bidder may provide Parts Manuals on computer media in lieu of printed manuals.
5. Complete installation instructions shall be furnished with each unit.
6. All parts and equipment necessary for satisfactory operation of unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
7. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
8. **Demonstration:** The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
9. **Cooperative Purchasing:** Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

B. Unit Specifications:

1. General: Snowplow with power reversing moldboard, for use on a truck equipped with central hydraulics. The snowplow provided shall be designed and approved by the manufacturer for installation on a truck which has a front gross axle weight rating of 18,000 pounds.
2. Reversing Frame & Front Push Tube: Shall be constructed using a minimum 5" x 5" x 0.38" structural steel tubing properly reinforced to withstand severe snow plowing conditions. Front push tube shall be a minimum of 116" in length. Front push tube shall have a minimum of ten welded ears to attach the moldboard assembly. Ears shall be made of minimum 5/8" thick steel. All joints shall be continuously welded and reinforced.
3. A-Frame: Shall be engineered and constructed to be an integral component of the push frame. Shall contain two (2) double acting heavy duty power reversing hydraulic cylinders with a minimum 4" diameter bore. Cylinders shall be equipped with a minimum 2" diameter rod. Cylinder rod shall be nitride coated. The reversing cylinders shall maintain the angle of the moldboard once the desired plowing angle is reached. The unit shall be equipped with a hydraulic cushion valve to protect hydraulic cylinders in the event of an impact with a fixed object. Cylinders shall be equipped with hydraulic lines of sufficient length to connect to supply lines on the front bumper of the truck. The mounting plate that attaches the snowplow push frame to the truck hitch shall be equipped with mounting flanges made of 1" metal. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins.
4. Moldboard: Inverted J shape moldboard no less than ten (10) feet in length. Shall be constructed of no less than 3/16" steel with a minimum of eight (8) vertical ribs. Moldboard shall be equipped with full length horizontal ribs according to manufacturer's standard for plow size and type. Moldboard height shall be no less than 40" but shall not exceed 44" as measured from the bottom of the cutting edge to the highest point on the inside surface of the moldboard. The arc at the top of the moldboard shall be extend forward of the cutting edge no less than 14" and no more than 16" with the moldboard at a 15° angle from vertical. Shall have mailbox ends equipped with sight markers at least 36" in height. Shall have cutting angle adjustment of no less than 35° left and right of center. Shall be equipped with two (2) compression type spring safety trips capable of at least three (3) attack angle settings ranging from 10 to 30 degrees. Shall include stops attached to the moldboard assembly which contact the reversing frame front push tube before the trip springs becomes fully compressed. The moldboard assembly shall be capable of tripping at least 15 degrees past vertical before contacting the stops, at any attack angle. Shall have a minimum of five (5) hinge points. There shall be a minimum of 116" between the outer most hinge points with a minimum of three more hinge points spaced between.
5. Snow Shield: The moldboard shall be equipped with a full length rubber snow shield mounted on the top forward edge. Shall be made of a minimum of two ply rubber matting no less than 1/4" thick. Snow shield shall be affixed to the moldboard using a minimum 0.25" x 2" metal strip and an adequate number of bolts to secure it in position.
6. Cutting Edge: Cutting edge shall be a minimum 7/8" x 6" high carbon steel with holes AASHTO spaced. Cutting edge shall be equipped with two wear blocks behind the cutting edge. Each wear block shall have a minimum of 26 square inches of wear surface. Wear blocks shall be made of a material with a minimum Brinell hardness of 181-240.
7. Level Lifting Device: Snowplow shall be equipped with a level lifting device that keeps the moldboard level when lifted or when being reversed. Device shall be complete with all chains, hooks, clevises and hardware necessary for proper operation.
8. Truck Hitch: Low profile, front frame mounted universal plow hitch with fold down and adjustable lift arm. Shall be capable of self-storing lift cylinder. The lift cylinder shall be a minimum 4" diameter bore and of sufficient length to properly lift snowplow. Hitch shall be capable of carrying plows from 10' to 14' in length. The lift arm mounting frame shall be constructed using a minimum of 1/2" x 3" angle welded to a 10" structural channel which forms the lift frame. Cheek plates shall be 1/2" x 12" tapered. Rocker angles and plates shall be utilized above and below the truck frame to keep the hitch from loosening and moving forward. The cheek plates and rocker plates will be welded to the truck hitch by the upfitter. Lift arm bracket and lower drop bar retaining/connecting lugs shall be fabricated from 3/4" thick plate. Mounting flanges shall be set on 30 1/2" centers with pin holes sized for 1 1/4" pins. (Hitches using braces running from the lift frame to the front axle of the vehicle are not acceptable).
9. Jack: The snowplow shall be equipped with a screw type adjustable jack to assist in the installation and removal of the unit from the truck hitch.
10. Weight: Snowplow assembly shall weigh a minimum of 2,000 pounds.

11. Color: Manufacturer's standard color is acceptable.
12. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - A. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - B. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - C. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
 - D. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
 - E. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 17-430-mm009

FOR

**10' SNOW PLOW ATTACHMENT
WITH ELECTRIC HYDRAULIC PUMP
36" MOLDBOARD HEIGHT**

A. General Conditions:

1. **Current Model:** Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.
3. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
4. **Manuals:** Successful bidder shall furnish one (1) copy of Operator's Manual and Parts Book with each unit delivered.
The successful bidder may provide Parts Manuals on computer media (CD ROM, DVD, etc.) in lieu of printed manuals.
5. Complete installation instructions shall be furnished with each unit.
6. All parts and equipment necessary for satisfactory operation of unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
7. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
8. **Demonstration:** The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
9. **Cooperative Purchasing:** Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

B. Unit specifications:

1. General: Snow plow with power reversing moldboard, complete with 12 volt DC electric hydraulic pump assembly. The snow plow provided shall be designed and approved by the manufacturer for installation on a truck which has a front gross axle weight rating of 12,000 pounds.
2. Power Reversing: Snow plow assembly shall be hydraulic power reverse type with a mechanical lock which is automatically released by the reversing cylinders before angling. When the desired plowing angle is reached, the latch shall be moved back into position mechanically to hold the desired angle and take pressure off the hydraulic cylinders.
3. Moldboard: Curved moldboard no less than 10' in length. Shall be constructed of no less than 10 gauge high tensile, grade 50, steel with a minimum of eight (8) vertical ribs and with horizontal ribs according to manufacturer's standard for plow size and type. Moldboard height shall be no less than 35" but shall not exceed 42". Shall be of extended curve design to prevent snow from coming over the top of the moldboard at high speed. When set at the optimal plowing angle the top of the moldboard curve shall extend forward of the cutting edge by no less than twelve (12) inches. Shall have mailbox ends equipped with sight markers. Shall have cutting angle adjustment to no less than 35°. Shall be equipped with two (2) compression type spring safety trips capable of at least three (3) tension settings. Shall have a minimum of four (4) hinge points. Outside hinge point centers shall be no less than 115". Cutting edge shall be 7/8" x 6" high carbon steel with holes AASHTO spaced.
4. Snow Shield: The moldboard shall be equipped with a full length rubber snow shield mounted on the top forward edge. Shall be made of a minimum of two ply rubber matting no less than 1/4" thick. Snow shield shall be affixed to the moldboard using a minimum 0.25" x 2" metal strip and an adequate number of bolts to secure it in position.
5. Caster Wheels: Plow assembly shall be equipped with adjustable swivel wheels. Wheels shall be no less than 8" in diameter and be equipped with ball or roller bearings.
6. Snowplow Hitch And Lift Assembly:
 - a. General: Heavy duty type, low profile, front frame mounted universal plow hitch with fold down and adjustable lift arm designed for a truck with a tilt hood and stationary grill. Shall be capable of self-storing lift cylinder.
 - b. Lift Cylinder: Shall be a minimum 2 1/2 x 10 S/A.
 - c. Lift Arm Mounting Frame: Shall be constructed using a minimum 1/2" x 3" angle welded to a 10" structural channel which forms the lift frame.
 - d. Lift Arm Bracket: Lift arm bracket and lower drop bar retaining/connecting lugs shall be fabricated from a minimum 3/4" thick plate.
 - e. Hitch: Shall be heavy duty type designed to carrying plows from 10' to 12' in length. (Hitches using braces running from the lift frame to the front axle of the vehicle are not acceptable) Tapered cheek plates shall be provided for securing the hitch frame to the truck frame on each side frame rail. Cheek plates shall be a minimum of 1/2" x 12". The hitch shall be equipped with flanges for snow plow push frame attachment. Flange holes shall be 1 1/4" diameter and spaced to accept a snow plow push frame with lugs mounted on 30 1/2" centers.
 - f. Fasteners: A minimum of ten (10) 5/8" and eight (8) 7/16" grade eight (8) flange bolts with top lock nuts shall be provided to attach the hitch cheek plates to the truck frame.
 - g. Rocker Angles and Plates: Shall be provided for mounting above and below the truck frame to keep the hitch from loosening and moving forward. The rocker plates will be welded to the cheek plates and hitch during the installation process.
7. Hydraulic System: A 12 volt DC electric hydraulic pump for under truck mounting with a one (1) gallon minimum reservoir and controls for inside cab operation shall be provided. Electric hydraulic pump shall be designed for angle type blade operation and have electric solenoid control valves for operating blade angle and for raising and lowering plow. Shall operate two (2) one-way cylinders for blade angle with return to tank in neutral position for operation of spring loaded mechanical latch. Unit shall also provide for power up, hold in neutral and gravity down for raising and lowering plow. Control switches provided for installation inside cab shall have UP, DOWN, LEFT, RIGHT functions and be clearly labeled. A minimum of one (1) lift cylinder, two (2) angle cylinders and all necessary hoses and fittings for complete installation shall be furnished. Hoses furnished for the lift cylinder and angle cylinders shall each have a minimum length of 16'.

8. Weight: Snow plow assembly, without the truck hitch or electric hydraulic pump, shall have an approximate weight of 1,200 pounds.
9. Color: Manufacturer's standard color is acceptable.
10. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - a. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - b. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - c. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
 - d. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
 - e. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.