



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

**BID SHEET**

**Contract No.: H-20-279R**

**BIDDER:** \_\_\_\_\_

1. **2** – Mini-Hydraulic Excavator, Track Mounted, Zero Tail Swing, 5,100 lb. Lift Capacity, 35 Horsepower with 12” & 24” Bucket, Hydraulic Pavement Breaker, Hydraulic Clamp and Quick Change Attachment, to meet **ARDOT Spec. 20-227-135.**

FOB: 1 ea. ARDOT – District 5 Headquarters, 1673 Batesville Blvd., Batesville, AR 72503

FOB: 1 ea. ARDOT – District 8 Headquarters, 372 Aspen Lane, Russellville, AR 72801

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ \_\_\_\_\_

Total for **2** Excavators \$ \_\_\_\_\_

**Excavators proposed as meeting specifications:**

Make \_\_\_\_\_ Model \_\_\_\_\_ Warranty \_\_\_\_\_

Guaranteed Delivery Date \_\_\_\_\_

Additional Units may be purchased at the same pricing and conditions through \_\_\_\_\_

(Date)

2. **3** – Hydraulic Excavator, Track Mounted (44,000 to 47,000 lbs.) with Hydraulic Bucket Rotator, 36” Excavating Bucket and 60” or 72” Ditching Bucket, and Mechanical Thumb, to meet **ARDOT Spec. 20-225-135.**

FOB: 1 ea. ARDOT – District 1 Headquarters, 2701 Highway 64 West, Wynne, AR 72396

FOB: 1 ea. ARDOT – District 5 Headquarters, 1673 Batesville Blvd., Batesville, AR 72503

FOB: 1 ea. ARDOT – District 10 Headquarters, 250 West Kingshighway, Paragould, AR 72450

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ \_\_\_\_\_

Total for **3** Excavators \$ \_\_\_\_\_

**Excavator proposed as meeting specifications:**

Make \_\_\_\_\_ Model \_\_\_\_\_ Warranty \_\_\_\_\_

Guaranteed Delivery Date \_\_\_\_\_

Additional Units may be purchased at the same pricing and conditions through \_\_\_\_\_

(Date)



## ARDOT - 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 Department of Transportation (ARDOT).
2. **ACCEPTANCE AND REJECTION:** ARDOT 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 ARDOT 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 that is authorized to do business in the State of Arkansas and that is listed on the current United States Department of the Treasury Listing of Approved Sureties. Surety bonds must be executed by a resident or non-resident agent who is licensed by the Arkansas State Insurance Commissioner to represent the surety company executing the bond, and the resident or non-resident agent shall file with the bond the power of attorney of the agent to act on behalf of the bonding company. 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 ARDOT 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 ARDOT as an addition thereto, and should be added to the billing to the ARDOT. The ARDOT 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 ARDOT.
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 ARDOT request, and free demonstrations within 30 days, unless ARDOT 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 ARDOT. 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 ARDOT, as soon as possible, of the reason for any delay and the expected delivery date. The ARDOT 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 ARDOT after delivery. Default in promised delivery or failure to meet specifications authorizes the ARDOT 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 ARDOT, complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, ARDOT 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 ARDOT's programs and activities, as well as the ARDOT's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the ARDOT'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@ardot.gov](mailto:joanna.mcfadden@ardot.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.
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.

# RESTRICTION OF BOYCOTT OF ISRAEL CERTIFICATION

Pursuant to Arkansas Code Annotated § 25-1-503, a public entity **shall not** enter into a contract valued at \$1,000 or greater with a company unless the contract includes a written certification that the person or company is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Israel.

By signing below, the Contractor agrees and certifies that they do not currently boycott Israel and will not boycott Israel during any time in which they are entering into, or while in contract, with any public entity as defined in § 25-1-503\* If at any time after signing this certification the contractor decides to engage in a boycott of Israel, the contractor must notify the contracting public entity in writing.

If a company does boycott Israel, see Arkansas Code Annotated § 25-1-503.

Name of public entity	Arkansas Department of Transportation
Description of product or service	
<b>Contractor name</b>	

Contractor Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Signature must be hand written, in ink

“Public Entity” means the State of Arkansas, or a political subdivision of the state, including all boards, commissions, agencies, institutions, authorities, and bodies politic and corporate of the state, created by or in accordance with state law or regulations, and does include colleges, universities, a statewide public employee retirement system, and institutions in Arkansas as well as units of local and municipal government.

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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: \_\_\_\_\_

# ILLEGAL IMMIGRANT CERTIFICATION

Pursuant to Arkansas Code Annotated § 19-11-105, Contractor(s) **shall** certify with OSP that they do not employ or contract with illegal immigrants.

By signing below, the Contractor agrees and certifies that they do not employ illegal immigrants and will not employ illegal immigrants during the remaining aggregate term of the contract.

Bid Number/Contract Number	
AASIS Number	N/A
Description	
<b>Contractor name</b>	

Contractor Signature: \_\_\_\_\_  
Signature must be hand written, in ink

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

## 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 DEPARTMENT OF TRANSPORTATION**

**SPECIFICATION 20-227-135**

**FOR**

**COMPACT HYDRAULIC EXCAVATOR**

**TRACK MOUNTED**

**WITH**

**HYDRAULIC BREAKER**

**EXCAVATING BUCKET(S)**

**PUSH BLADE AND STEEL PADS**

**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 ARDOT 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 therefore. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas Department of Transportation that deviations will be acceptable.
4. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point.  
The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD, DVD, USB Drive, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct ARDOT operators and service technicians on operation and maintenance of units purchased under this specification.  
In addition, the successful bidder shall furnish information on any factory service schools which would be available for ARDOT service technicians.
6. Unit shall be assembled, adjusted and made ready for continuous operation at time of delivery.
7. All equipment necessary for efficient operation of unit shall be furnished whether or not they are specifically mentioned in this specification. All standard equipment as regularly furnished by manufacturer and as shown on printed literature and specification sheets shall be furnished unless specifically excluded by this specification.
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
9. **Demonstration:** The Arkansas Department of Transportation 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.
10. **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 Arkansas Department of Transportation 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: This specification is intended to cover a hydraulically operated compact excavating machine consisting of an upper structure with power unit, operator's platform and hydraulically operated boom, arm and tool assembly, all mounted on a track type undercarriage with steel pads. Shall be of a zero tail swing design. Machine furnished must be a current model built for the U.S. market. Machines manufactured for foreign markets will not be accepted.
2. Engine: Liquid cooled, turbocharged diesel with a minimum piston displacement of 1.8 liters developing no less than 35 net horsepower at not more than 2,400 RPM. Shall have 12-volt electric system and include starter, battery and alternator. Shall have lube oil and fuel filters, approved type air cleaner, muffler, electric hour meter, fuel tank of sufficient capacity to allow a minimum of ten (10) hours of continuous operation, fuel gauge and all other accessories or equipment necessary for efficient operation. Shall be equipped with an engine shut down system that monitors the coolant temperature and oil pressure. Cooling system shall have anti-freeze protection to -20° F, or lower.
3. Hydraulic System: Shall have one or more variable displacement axial piston pumps providing no less than 30 gpm for power to boom, arm, swing, slew, push blade, attachments and travel circuits. Pump(s) shall be of size, type and capacity to perform all required operations and allow simultaneous operation of swing, travel and boom functions. Hydraulic cylinders shall be double acting type. All circuits shall have safety relief valves to prevent overloading. Hydraulic system and reservoir shall have a minimum oil capacity of 14 gallons. Hydraulic system shall be equipped with an oil cooler, filtration system with replaceable filter elements of adequate capacity and a self-monitoring hydraulic system safety shut down.
4. Controls: Shall have joystick type controls for hoist, crowd, bucket, and slew functions. Joysticks shall have thumb buttons which control boom swing. Shall be self-centering type that will automatically stop machine movements and hold boom when controls are released. Controls shall be configured in accordance with SAE Recommended Practice as set forth in SAE J1177.
5. Travel: The machine shall be driven by two hydraulic motors, one on each track assembly. Shall have a minimum of two speeds and be designed to operate independent of each other for steering purposes. Steering shall have left, right and counter-rotating ability. Steering shall be controlled by foot pedals or hand levers. Pushing one pedal/lever forward and the other backwards will make the machine counter-rotate. Travel motors and hydraulic lines shall be enclosed within the width of the track frame.
6. Undercarriage: Idlers and rollers shall be sealed and lubricated type. Track tension adjustment shall be hydraulic type.
  - a) Rollers: The undercarriage shall have a minimum of four (4) track rollers and a minimum of one (1) carrier rollers per side.
  - b) Tracks: Shall consist of steel pads and chain. Track shoes shall have a nominal width of 15.7". There shall be no less than 39 track shoes per side. Track length on ground shall be no less than 6'5". Overall track width shall not exceed 6' 7".
7. Travel and Park Brakes: Spring applied, hydraulically released parking brake built into each drive motor.
8. Boom and Arm: Shall be hydraulically actuated assembly designed for use with machine furnished.
  - a) Reach at Ground Level: 18' 6", minimum.
  - b) Digging Depth: 10' 8", minimum.
  - c) Dumping Height: 11' 9", minimum.
  - d) Arm Crowd Force: 4,700 pounds, minimum per ISO 6015
  - e) Bucket Digging Force: 8,000 pounds, minimum per ISO 6015
  - f) Bucket Pivot: The bucket cylinder and linkage shall have the capability to operate the bucket through a minimum arc of 160°.
9. Independent Swing Boom: Swing shall be hydraulically actuated allowing boom pivot left and right, independent of the operator's platform rotation.
  - a) Boom swing left shall be no less than 80° of operation.
  - b) Boom swing right shall be no less than 50° of operation.
10. Lifting Capacity: Manufacturer's rated lifting capacity at ground level shall be no less than 5,100 pounds. Manufacturer's rated lifting capacity over the side at ground level in accordance with ISO 10567.
  - a) 118" radius – 2,000 pounds, minimum
  - b) 157" radius – 1,000 pounds, minimum

11. Slew System: Turntable shall be ball bearing type which will allow 360° continuous swing. Shall be driven by a hydraulic motor connected to a planetary reduction unit. Swing system shall meet the requirements of SAE J1371.
12. Operators Platform: Shall be equipped with a four (4) post ROPS canopy in accordance with ISO 3471 and TOPS in accordance with ISO 12117, adjustable suspension seat, retractable seat belt and grab handles. All controls shall be easily accessible to operator including engine start, stop and throttle controls.
13. Instruments: Shall be equipped with ammeter or charge indicator, tachometer, electric hour meter, fuel gauge and all other necessary gauges or indicators, including temperature and oil pressure.
14. Travel Alarm: Shall be equipped with a travel alarm meeting the requirements of SAE J1446.
15. Work Lights: Shall be equipped with a minimum of one (1) sealed beam headlight mounted on the boom and one (1) sealed beam headlight mounted on the upper structure.
16. Attachments: The attachments listed below shall be furnished with the machine including any pins, bolts and accessories necessary for installation. Boom and attachments shall be equipped with a hydraulically operated quick change attachment system. All valves, hoses, hardware and quick couplers required for efficient operation shall be provided whether specifically mentioned or not.
  - a) Hydraulic Thumb: Unit shall be equipped with an all steel hydraulic thumb attachment with a minimum of two (2) tines to provide the capability of grasping, holding and dumping various types of brush and debris. Thumb shall be designed to fold and store on the dipperstick when not in use. Shall be fully installed and be complete with all components necessary for proper mounting and operation of the attachment.
  - b) Hydraulic Breaker: Breaker shall be hydraulic flow type with a minimum weight of 850 pounds. Shall require no more than 22 gpm of hydraulic flow at 1700 psi to achieve a minimum of 1400 blows per minute. Unit shall be a minimum Impact Energy Class 500 ft. lb., J 650 with a 2.60" minimum tool diameter.
  - c) Buckets: The following buckets shall be furnished.
    - (1) One (1) Excavating Bucket w/Teeth, no less than 12" wide; minimum SAE heaped capacity 0.50 cubic feet.
    - (2) One (1) Excavating Bucket w/Teeth, no less than 24" wide; minimum SAE heaped capacity 1.25 cubic feet.
  - d) Push Blade: Blade width shall be no less than the outside to outside measurement of the tracks and no less than 14" tall. The blade shall lift a minimum of 15" above ground level and depress no less than 14" below ground level. Blade hydraulic controls shall include blade up/down and float.
17. Delivery Requirements: Unit shall be delivered with the hydraulic breaker attachment specified above completely installed and ready for operation. Pins, couplers or any other items required for proper removal of the hydraulic breaker attachment and installation of the bucket shall be furnished.
18. Vandalism Protection: Shall be equipped with vandalism protection including the following items as a minimum:
  - a) Locking filler caps for the fuel tank, hydraulic tank and radiator. Filler caps located behind locking panels are acceptable in lieu of individual locking caps.
  - b) Lockable engine enclosure.
  - c) Lockable battery box cover(s) if batteries are not mounted inside lockable engine enclosure.
  - d) All lockable panels and compartments shall be equipped with an integrated locking system, or padlocks. All locks shall be keyed alike.
19. Travel Height: Shall not exceed 8' 6" with attachment and boom assembly in traveling position.
20. Weight: Complete unit (undercarriage, upper structure, counterweight, boom assembly and excavating bucket) shall have a minimum weight of 10,500 pounds.
21. Color: Manufacturer's standard color is acceptable.
22. Remote Monitoring System: Unit shall be equipped with an integrated factory installed remote monitoring system which interacts with electronic system controls. System shall offer the following capabilities as a minimum.
  - a) System shall be capable of monitoring and storing electronic data produced by the machine.
  - b) Unit shall be equipped with cellular communication capability for the transmittal of collected data.
  - c) This data shall be accessible to designated employees of the department for review from any internet connection. All data shall be in real time.
  - d) Data collected by this system shall be stored by the manufacturer for a period of not less than (1) one year (twelve months). This historical data shall be accessible to designated employees of the department for review from any internet connection.

- e) The system shall be capable of notifying the manufacturer/dealer and ARDOT personnel in the event a fault code is generated by a component of the machine. If the code is a priority code (immediate attention required, such as low engine oil pressure, low coolant, high coolant temperature, hydraulic pressure, etc.) the manufacturer/dealer will immediately contact ARDOT personnel to verify receipt of message.
  - f) System shall be capable of allowing remote access by technicians for the purpose of diagnostic trouble shooting and software updates.
  - g) Unit shall be capable of showing the exact location of the machine as a street address and GPS coordinates.
  - h) Shall be capable of showing hour meter reading in real time and have the ability to notify maintenance personnel when service is due. ARDOT personnel shall have the capability to set service parameters in the system for each unit.
  - i) System shall be capable of generating the following reports as a minimum.
    - (1) Unit tracking
    - (2) Idle time
    - (3) Machine usage
    - (4) Engine fuel burn
  - j) System shall allow designated ARDOT personnel the ability to establish geofencing and curfew parameters for each unit.
  - k) The subscription for this package shall be provided to the ARDOT free of charge for a minimum of (3) three years (36 months). The manufacturer's dealer representative shall provide training and demonstration of system to ARDOT personnel at time of delivery.
  - l) The remote monitoring (GPS) system shall be activated and operational at the time of delivery. The manufacturer's dealer representative, shall provide documentation certifying the equipment's GPS system has been registered to ARDOT and is fully operational and online.
23. 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 ARDOT.
- 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 ARDOT 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 DEPARTMENT OF TRANSPORTATION**

**SPECIFICATION 20-225A-135**

**FOR**

**HYDRAULIC EXCAVATOR**  
**TRACK MOUNTED WITH MECHANICAL THUMB,**  
**FORESTRY MULCHING ATTACHMENT,**  
**42" EXCAVATING BUCKET,**  
**60" DITCHING BUCKET**  
**W/BUCKET TILT**

**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 ARDOT 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 therefore. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas Department of Transportation that deviations will be acceptable.
4. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book for machine and all attachment(s) to each FOB point.  
  
The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD, DVD, USB Drive, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct ARDOT operators and service technicians on operation and maintenance of machine.  
  
In addition, the successful bidder shall furnish information on any factory service schools which would be available for ARDOT service technicians.
6. Shall be assembled, adjusted and made ready for continuous operation at time of delivery.
7. All parts, accessories and tools necessary for satisfactory operation of this 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).
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
9. **Demonstration:** The Arkansas Department of Transportation 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.
10. **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 Arkansas Department of Transportation 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**: This specification is intended to cover a hydraulically operated excavating machine consisting of an upper structure with power unit, control cab and hydraulically operated boom, arm and tool assembly, all mounted on a track type undercarriage. Machine furnished must be a current model built for the U.S. market. Machines manufactured for foreign markets will not be accepted.
2. **Engine**: Liquid cooled, turbocharged diesel with a minimum piston displacement of 4.4 liters developing no less than 158 net horsepower at rated RPM. Shall have 24-volt electric system and include starter, battery and alternator. Shall have lube oil and fuel filters, approved type air cleaner, muffler, electric hour meter, fuel tank of sufficient capacity to allow a minimum of eight (8) hours of continuous operation, fuel gauge and all other accessories or equipment necessary for efficient operation. Cooling system shall have anti-freeze protection to -20° F, or lower.
3. **Hydraulic System**: Variable flow hydraulic system for power to boom, arm, attachments, swing and travel circuits. Shall have one or more variable displacement axial piston pumps of size, type and capacity to perform all required operations allowing simultaneous operation of swing, travel, boom functions, and operation of the hydraulic attachment requiring a minimum of 55 GPM flow. Hydraulic cylinders shall be double acting type. All circuits shall have safety relief valves to prevent overloading. Hydraulic system and reservoir shall have a minimum oil capacity of 60 gallons. Hydraulic system shall be equipped with a filtration system with replaceable filter elements of adequate capacity.
4. **Hydraulic Lines and Valves**: Hydraulic lines and valves necessary for the operation of a bucket tilting device and hydraulic forestry mulching attachment shall be provided. Lines shall include a pressure; return and case drain for the forestry mulching attachment and all lines and valves necessary for the operation of a bucket tilting device. Lines shall be equipped with shutoff valves and have protective metal covers on the dipperstick section.
5. **Controls**: Hydraulic joystick type controls for hoist, crowd, bucket and swing functions. Shall be self-centering type that will automatically stop machine movements and hold boom when controls are released. Controls shall be configured in accordance with SAE Recommended Practice as set forth in SAE J1177. Shall be equipped with an electronic flow control device that allows the operator to select the hydraulic flow required for the attachment being utilized.
6. **Travel**: The machine shall be driven by two hydraulic motors, one on each track assembly. Shall have a minimum of two speeds and be designed to operate independent of each other for steering purposes. Steering shall have left, right and counter-rotating ability. Steering shall be controlled by foot pedals or removable hand levers. Pushing one pedal/lever forward and the other backwards will make the machine counter-rotate. Travel motors and hydraulic lines shall be enclosed within the width of the track frame.
7. **Undercarriage**: Idlers and rollers shall be sealed and lubricated type. Track tension adjustment shall be hydraulic type.
  - a) **Rollers**: The undercarriage shall have a minimum of eight (8) track rollers and a minimum of two (2) carrier rollers per side.
  - b) **Tracks**: Shall consist of steel pads and chain. Track shoes shall have a nominal width of 32". There shall be no less than 49 track shoes per side. Track length shall be no less than 14' 7". Track gauge shall be a minimum 7' 9". Overall track width shall not exceed 10' 6".
8. **Travel Brakes**: Spring applied, hydraulically released disc parking brake built into each drive motor.
9. **Boom and Arm**: Shall be hydraulically actuated assembly designed for use with machine furnished. Boom shall be a one piece (mono) design. Unit shall meet the following minimum requirements without the addition of the bucket tilting device specified in Paragraph 9.
  - a) **Digging Radius at Ground Level**: 31' 10", minimum.
  - b) **Digging Depth**: 21' 9", minimum.
  - c) **Dumping Height**: 21' 4", minimum.
  - d) **Arm Crowd Force**: 23,000 pounds, minimum per ISO 6015.
  - e) **Bucket Digging Force**: 30,000 pounds, minimum per ISO 6015.
  - f) **Bucket Pivot**: The bucket cylinder and linkage shall have the capability to operate the bucket through a minimum arc of 165°.

10. Bucket Tilt: Shall be equipped with a tilting device mounted between the arm and the attachment which hydraulically rotates buckets or other attachments up to no less than 130° (no less than 65° to each side from center). Shall be designed so that there are no hydraulic cylinders or other external moving parts. Tilting device shall incorporate a mechanical quick coupler system to facilitate tool changes. All hydraulic controls and lines required for operation of unit shall be included.
11. Lifting Capacity: Manufacturer's rated lifting capacity over the side at ground level in accordance with ISO 10567:2007.
  - a) 15° radius – 14,500 pounds, minimum
  - b) 20° radius – 9,400 pounds, minimum
  - c) 25° radius – 6,500 pounds, minimum
12. Swing System: Turntable shall be ball bearing type which will allow 360° continuous swing. Shall be driven by a hydraulic motor connected to a planetary reduction unit. Swing system shall meet the requirements of SAE J1371.
13. Cab: Fully enclosed pressurized cab meeting the requirements of SAE J1040 and SAE J1043 for Rollover Protective Structure and Falling Object Protective Structure. Cab shall be equipped with laminated polycarbonate windshield and windows per manufacturer's recommendations for forestry mulching attachment, air conditioning, heater-defroster unit, front windshield wiper with washer, AM/FM radio, headliner, floor mat, adjustable suspension seat equipped with arm rests, and seat belt. Front window to be removable type. All controls shall be easily accessible to operator including engine start, stop and throttle controls and gauges or indicators.
14. Rear View Camera: Unit shall be equipped with a factory installed rear view camera and in-cab mounted screen.
15. Travel Alarm: Shall be equipped with a travel alarm meeting the requirements of SAE J1446.
16. Work Lights: Shall be equipped with a minimum of one (1) sealed beam headlight mounted on the boom and one (1) sealed beam headlight mounted on the upper structure.
17. Attachments: The attachments listed below shall be furnished with the machine including any pins, bolts or accessories necessary for their hook-up to the machine. Forestry mulching attachment shall be installed and ready for operation at time of delivery.
  - a) Forestry Mulching Attachment: The following excavator mulching head shall be furnished.
    - (1) One (1) Fecon Inc. Bull Hog™ model BH62EXC
      - (a) Minimum weight shall be no less than 2,500 lbs.
      - (b) Mulcher working width shall be no less than 50" wide.
      - (c) This unit shall have a Rexroth 107cc variable displacement hydraulic motor with an approximate hydraulic flow range of 27-52 GPM. It shall be capable of handling operating pressures up to 6000 PSI under normal working conditions.
      - (d) Shall be equipped with a Fecon Bull Hog™ DCR rotor with twenty-four (24) Viking Axe™ cutting tools. The Mulcher must have a controlled bite of not more than 1 1/4" from the top of depth control rings to the leading edge of the Viking tool. The depth control rings must be fabricated from 1/2" thick Weldox 700 material.
      - (e) Rotor shall be able to handle optional Fecon double carbide tools that will fit in the same holder as the Viking tool. The Viking and carbide tool bodies must be forged with an inward "V-shape" that interfaces the tool holder and accurately positions the tools.
      - (f) Shall have one (1) extra set of Fecon Viking Axe™ cutting tools consisting of twenty-four (24) tools and all associated hardware for change out procedure.
      - (g) Shall have all operator's controls mounted in cab within easy reach of the operator.
  - b) Mechanical Thumb: Unit shall be equipped with an all steel mechanical thumb attachment with a minimum of three (3) tines to provide the capability of grasping, holding and dumping various types of brush and debris. Thumb shall have a minimum of three (3) working positions and be designed to fold and store on the dipperstick when not in use. Shall be fully installed and be complete with all components necessary for proper mounting and operation of the attachment.

- c) Buckets: The following buckets shall be furnished.
  - (1) One (1) Heavy Duty Excavating Bucket w/Teeth, no less than 42” wide; minimum SAE capacity 1.25 cubic yard.
  - (2) One (1) Ditch Cleaning/Grading Bucket, no less than 60” wide, equipped with a bolt-on cutting edge; minimum SAE capacity 1.0 cubic yard.
- 18. Vandalism Protection: Shall be equipped with vandalism protection including the following items as a minimum:
  - a) Locking cab door and locking filler caps for the fuel tank, hydraulic tank and radiator. Filler caps located behind locking panels are acceptable in lieu of individual locking caps.
  - b) Lockable engine enclosure.
  - c) Lockable battery box cover(s) if batteries are not mounted inside lockable engine enclosure.
  - d) All lockable panels and compartments shall be equipped with an integrated locking system, or padlocks. All locks shall be keyed alike.
- 19. Travel Height: Shall not exceed 10’ 9” with bucket installed and boom assembly in traveling position.
- 20. Weight: Complete unit (undercarriage, upper structure, counterweight, boom assembly with bucket tilting device, and heavy duty excavating bucket) shall have a minimum weight of 48,000 pounds.
- 21. Color: Manufacturer’s standard.
- 22. Remote Monitoring System: Unit shall be equipped with an integrated factory installed remote monitoring system which interacts with electronic system controls. System shall offer the following capabilities as a minimum.
  - a) System shall be capable of monitoring and storing electronic data produced by the machine.
  - b) Unit shall be equipped with cellular communication capability for the transmittal of collected data.
  - c) This data shall be accessible to designated employees of the department for review from any internet connection. All data shall be in real time.
  - d) Data collected by this system shall be stored by the manufacturer for a period of not less than (1) one year (twelve months). This historical data shall be accessible to designated employees of the department for review from any internet connection.
  - e) The system shall be capable of notifying the manufacturer/dealer and ARDOT personnel in the event a fault code is generated by a component of the machine. If the code is a priority code (immediate attention required, such as low engine oil pressure, low coolant, high coolant temperature, hydraulic pressure, etc.) the manufacturer/dealer will immediately contact ARDOT personnel to verify receipt of message.
  - f) System shall be capable of allowing remote access by technicians for the purpose of diagnostic trouble shooting and software updates.
  - g) Unit shall be capable of showing the exact location of the machine as a street address and GPS coordinates.
  - h) Shall be capable of showing hour meter reading in real time and have the ability to notify maintenance personnel when service is due. ARDOT personnel shall have the capability to set service parameters in the system for each unit.
  - i) System shall be capable of generating the following reports as a minimum.
    - (1) Unit tracking
    - (2) Idle time
    - (3) Machine usage
    - (4) Engine fuel burn
  - j) System shall allow designated ARDOT personnel the ability to establish geofencing and curfew parameters for each unit.
  - k) The subscription for this package shall be provided to the ARDOT free of charge for a minimum of (3) three years (36 months). The manufacturer’s dealer representative shall provide training and demonstration of system to ARDOT personnel at time of delivery.

- l) The remote monitoring (GPS) system shall be activated and operational at the time of delivery. The manufacturer's dealer representative, shall provide documentation certifying the equipment's GPS system has been registered to ARDOT and is fully operational and online.
23. 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 ARDOT.
- 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 ARDOT 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 DEPARTMENT OF TRANSPORTATION**

**SPECIFICATION 20-225-135**

**FOR**

**HYDRAULIC EXCAVATOR**

**TRACK MOUNTED**

**WITH**

**MECHANICAL THUMB**

**42" EXCAVATING BUCKET**

**60" DITCHING BUCKET**

**WITH BUCKET TILT**

**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 ARDOT 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 therefore. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas Department of Transportation that deviations will be acceptable.
4. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point.  
The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD, DVD, USB Drive, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct ARDOT operators and service technicians on operation and maintenance of machine.  
In addition, the successful bidder shall furnish information on any factory service schools which would be available for ARDOT service technicians.
6. Shall be assembled, adjusted and made ready for continuous operation at time of delivery.
7. All parts, accessories and tools necessary for satisfactory operation of this 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).
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
9. **Demonstration:** The Arkansas Department of Transportation 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.
10. **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 Arkansas Department of Transportation 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**: This specification is intended to cover a hydraulically operated excavating machine consisting of an upper structure with power unit, control cab and hydraulically operated boom, arm and tool assembly, all mounted on a track type undercarriage. Machine furnished must be a current model built for the U.S. market. Machines manufactured for foreign markets will not be accepted.
2. **Engine**: Liquid cooled, turbocharged diesel with a minimum piston displacement of 4.4 liters developing no less than 158 net horsepower at rated RPM. Shall have 24-volt electric system and include starter, battery and alternator. Shall have lube oil and fuel filters, approved type air cleaner, muffler, electric hour meter, fuel tank of sufficient capacity to allow a minimum of eight (8) hours of continuous operation, fuel gauge and all other accessories or equipment necessary for efficient operation. Cooling system shall have anti-freeze protection to -20° F, or lower.
3. **Hydraulic System**: Variable flow hydraulic system for power to boom, arm, attachments, swing and travel circuits. Shall have one or more variable displacement axial piston pumps of size, type and capacity to perform all required operations allowing simultaneous operation of swing, travel, boom functions, and operation of hydraulic attachment requiring a minimum of 55 GPM flow. Hydraulic cylinders shall be double acting type. All circuits shall have safety relief valves to prevent overloading. Hydraulic system and reservoir shall have a minimum oil capacity of 60 gallons. Hydraulic system shall be equipped with a filtration system with replaceable filter elements of adequate capacity.
4. **Hydraulic Lines and Valves**: Hydraulic lines and valves necessary for the operation of a bucket tilting device and hydraulic forestry mulching attachment shall be provided. Lines shall include a pressure; return and case drain for the forestry mulching attachment and all lines and valves necessary for the operation of a bucket tilting device. Lines shall be equipped with shutoff valves and have protective metal covers on the dipperstick section.
5. **Controls**: Hydraulic joystick type controls for hoist, crowd, bucket and swing functions. Shall be self-centering type that will automatically stop machine movements and hold boom when controls are released. Controls shall be configured in accordance with SAE Recommended Practice as set forth in SAE J1177. Shall be equipped with an electronic flow control device that allows the operator to select the hydraulic flow required for the attachment being utilized.
6. **Travel**: The machine shall be driven by two hydraulic motors, one on each track assembly. Shall have a minimum of two speeds and be designed to operate independent of each other for steering purposes. Steering shall have left, right and counter-rotating ability. Steering shall be controlled by foot pedals or removable hand levers. Pushing one pedal/lever forward and the other backwards will make the machine counter-rotate. Travel motors and hydraulic lines shall be enclosed within the width of the track frame.
7. **Undercarriage**: Idlers and rollers shall be sealed and lubricated type. Track tension adjustment shall be hydraulic type.
  - a) **Rollers**: The undercarriage shall have a minimum of eight (8) track rollers and a minimum of two (2) carrier rollers per side.
  - b) **Tracks**: Shall consist of steel pads and chain. Track shoes shall have a nominal width of 32". There shall be no less than 49 track shoes per side. Track length shall be no less than 14' 7". Track gauge shall be a minimum 7' 9". Overall track width shall not exceed 10' 6".
8. **Travel Brakes**: Spring applied, hydraulically released disc parking brake built into each drive motor.
9. **Boom and Arm**: Shall be hydraulically actuated assembly designed for use with machine furnished. Boom shall be a one piece (mono) design. Unit shall meet the following minimum requirements without the addition of the bucket tilting device specified in Paragraph 9.
  - a) **Digging Radius at Ground Level**: 31' 10", minimum.
  - b) **Digging Depth**: 21' 9", minimum.
  - c) **Dumping Height**: 21' 4", minimum.
  - d) **Arm Crowd Force**: 23,000 pounds, minimum per ISO 6015.
  - e) **Bucket Digging Force**: 30,000 pounds, minimum per ISO 6015.
  - f) **Bucket Pivot**: The bucket cylinder and linkage shall have the capability to operate the bucket through a minimum arc of 165°.

10. Bucket Tilt: Shall be equipped with a tilting device mounted between the arm and the attachment which hydraulically rotates buckets or other attachments up to no less than 130° (no less than 65° to each side from center). Shall be designed so that there are no hydraulic cylinders or other external moving parts. Tilting device shall incorporate a mechanical quick coupler system to facilitate tool changes. All hydraulic controls and lines required for operation of unit shall be included.
11. Lifting Capacity: Manufacturer's rated lifting capacity over the side at ground level in accordance with ISO 10567:2007.
  - a) 15' radius – 14,500 pounds, minimum
  - b) 20' radius – 9,400 pounds, minimum
  - c) 25' radius – 6,500 pounds, minimum
12. Swing System: Turntable shall be ball bearing type which will allow 360° continuous swing. Shall be driven by a hydraulic motor connected to a planetary reduction unit. Swing system shall meet the requirements of SAE J1371.
13. Cab: Fully enclosed pressurized cab meeting the requirements of SAE J1040 and SAE J1043 for Rollover Protective Structure and Falling Object Protective Structure. Cab shall be equipped with laminated polycarbonate windshield and windows per manufacturer's recommendations for forestry mulching attachment, air conditioning, heater-defroster unit, front windshield wiper with washer, AM/FM radio, headliner, floor mat, adjustable suspension seat equipped with arm rests, and seat belt. Front window to be removable type. All controls shall be easily accessible to operator including engine start, stop and throttle controls and gauges or indicators.
14. Rear View Camera: Unit shall be equipped with a factory installed rear view camera and in-cab mounted screen.
15. Travel Alarm: Shall be equipped with a travel alarm meeting the requirements of SAE J1446.
16. Work Lights: Shall be equipped with a minimum of one (1) sealed beam headlight mounted on the boom and one (1) sealed beam headlight mounted on the upper structure.
17. Attachments: The attachments listed below shall be furnished with the machine including any pins, bolts or accessories necessary for their hook-up to the machine.
  - a) Mechanical Thumb: Unit shall be equipped with an all steel mechanical thumb attachment with a minimum of three (3) tines to provide the capability of grasping, holding and dumping various types of brush and debris. Thumb shall have a minimum of three (3) working positions and be designed to fold and store on the dipperstick when not in use. Shall be fully installed and be complete with all components necessary for proper mounting and operation of the attachment.
  - b) Buckets: The following buckets shall be furnished.
    - (1) One (1) Heavy Duty Excavating Bucket w/Teeth, no less than 42" wide; minimum SAE capacity 1.25 cubic yard.
    - (2) One (1) Ditch Cleaning/Grading Bucket, no less than 60" wide, equipped with a bolt-on cutting edge; minimum SAE capacity 1.0 cubic yard.
18. Vandalism Protection: Shall be equipped with vandalism protection including the following items as a minimum:
  - a) Locking cab door and locking filler caps for the fuel tank, hydraulic tank and radiator. Filler caps located behind locking panels are acceptable in lieu of individual locking caps.
  - b) Lockable engine enclosure.
  - c) Lockable battery box cover(s) if batteries are not mounted inside lockable engine enclosure.
  - d) All lockable panels and compartments shall be equipped with an integrated locking system, or padlocks. All locks shall be keyed alike.
19. Travel Height: Shall not exceed 10' 9" with bucket installed and boom assembly in traveling position.
20. Weight: Complete unit (undercarriage, upper structure, counterweight, boom assembly with bucket tilting device, and heavy duty excavating bucket) shall have a minimum weight of 48,000 pounds.
21. Color: Manufacturer's standard.
22. Remote Monitoring System: Unit shall be equipped with an integrated factory installed remote monitoring system which interacts with electronic system controls. System shall offer the following capabilities as a minimum.
  - a) System shall be capable of monitoring and storing electronic data produced by the machine.
  - b) Unit shall be equipped with cellular communication capability for the transmittal of collected data.
  - c) This data shall be accessible to designated employees of the department for review from any internet connection. All data shall be in real time.

- d) Data collected by this system shall be stored by the manufacturer for a period of not less than (1) one year (twelve months). This historical data shall be accessible to designated employees of the department for review from any internet connection.
  - e) The system shall be capable of notifying the manufacturer/dealer and ARDOT personnel in the event a fault code is generated by a component of the machine. If the code is a priority code (immediate attention required, such as low engine oil pressure, low coolant, high coolant temperature, hydraulic pressure, etc.) the manufacturer/dealer will immediately contact ARDOT personnel to verify receipt of message.
  - f) System shall be capable of allowing remote access by technicians for the purpose of diagnostic trouble shooting and software updates.
  - g) Unit shall be capable of showing the exact location of the machine as a street address and GPS coordinates.
  - h) Shall be capable of showing hour meter reading in real time and have the ability to notify maintenance personnel when service is due. ARDOT personnel shall have the capability to set service parameters in the system for each unit.
  - i) System shall be capable of generating the following reports as a minimum.
    - (1) Unit tracking
    - (2) Idle time
    - (3) Machine usage
    - (4) Engine fuel burn
  - j) System shall allow designated ARDOT personnel the ability to establish geofencing and curfew parameters for each unit.
  - k) The subscription for this package shall be provided to the ARDOT free of charge for a minimum of (3) three years (36 months). The manufacturer's dealer representative shall provide training and demonstration of system to ARDOT personnel at time of delivery.
  - l) The remote monitoring (GPS) system shall be activated and operational at the time of delivery. The manufacturer's dealer representative, shall provide documentation certifying the equipment's GPS system has been registered to ARDOT and is fully operational and online.
23. 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 ARDOT.
- 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 ARDOT 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.