

General Info

to **disable** Q & A notifications for this solicitation.

Digital ID required

Deadline

06/13/2023 11:00 AM CDT

Advertised

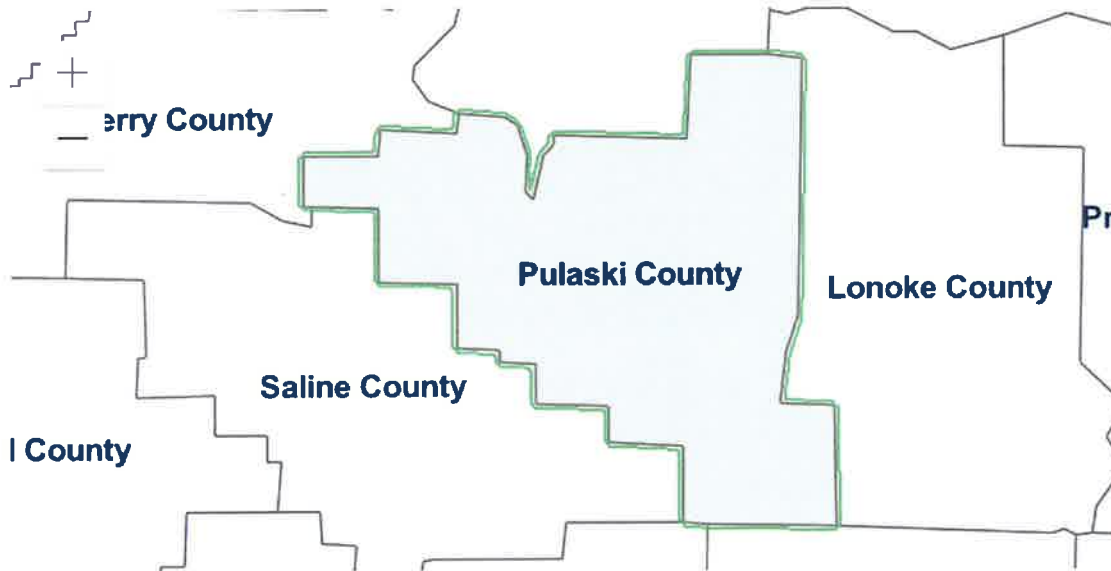
05/23/2023 07:33 AM CDT

Business Name

Arkansas Department of Transportation - Equipment and Procurement

Location(s)

Pulaski, Arkansas



County of Pulaski, AR, Arkansas GIS Office, Esri, HER... Powered by Esri

Number

H-24-200H

Description

Concrete Pavement Leveling and Undersealing

[Help](#)

Allows zero unit prices and labor

Yes

Allows negative unit prices and labor

Yes

Allows multiple bids per solicitation

No

Q & A

Deadline

Same as solicitation deadline.

Remarks

ATTACHMENT LIST

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM.pdf (157 KB)

Download, complete, and upload in the Required ...

Standard Bid Conditions 2022.pdf (156 KB)

Concrete Leveling & Undersealin Specifications 2023.pdf (471 KB)

BID INVITATION

Electronic Sealed bids for furnishing the commodities and/or services described below subject to the Standard Bid Conditions of this Bid Invitation will be publicly opened at the above-noted bid opening date and time at the ARDOT Equipment and Procurement Divison located at 11302 West Baseline Road, Little Rock, AR 72209. Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected.

In compliance with this Bid Invitation end subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name:*

Name:*

Address:*

Title:*

Federal Tax ID or Social Security No:*

Phone:*

Fax:

E-mail:*

Signature:*

Concrete Pavement and Undersealing

Contract for furnishing to the Arkansas Department of Transportation requirements of **Concrete Pavement Leveling and Undersealing** at pricing set forth on the attached Bid Form and in accordance with attached Specifications. The Contract shall be limited to a one year period beginning July 1, 2023 through June 30, 2024 with the option to renew upon mutual agreement of both parties.

FOB: Statewide

ALL OR NONE BIDS ONLY WILL BE CONSIDERED.

The Bid Invitation, Bid Form and Specifications are parts of the contract and by this reference are incorporated herein as fully and effectively as if set forth in detail herein. It shall be understood that by submission of bid that bidder agrees to the conditions herein specified and, if bid is found acceptable by the Department either in whole or in part, shall consider this bid a contract agreement bound under these conditions. The parties hereto agree that this contract in all things shall be governed by the Laws of the State of Arkansas.

All bidders should complete and return the Eligible Bidder Certification (Attachment A), Disclosure Form (see Page 2 of Standard Bid Conditions – Item 18), Restriction of Boycott of Israel Certification and Illegal Immigrant Certification (see Page 2 of Standard Bid Conditions – Item 17) issued with this bid.

Bid Bond in the total amount of \$500.00 required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 4 on page 1 of Standard Bid Conditions.

Performance Bond in the amount of \$5,000.00 will be required of successful bidder prior to providing goods/services. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 4 on page 1 of Standard Bid Conditions.

Surety Bonds may be submitted electronically through the online bidding process. If submitting a Surety Bond that is not compatible with Surety 2000 and Tinubu, your company still may do so. Other Surety Companies will still be accepted, but must be received in Equipment and Procurement before the time of bid opening at 11302 West Baseline Road, Little Rock, AR 72209 prior to the designated time of the bid opening. This includes Cashier's checks, Certified checks, or Money orders submitted as bid bonds must be physically received by Equipment & Procurement.

Bid Invitation number should be clearly displayed on the sealed bid envelope or package. The successful bidder will be required to complete delivery within **45** days after award.

Bids and Specifications are available on-line by going to the ARDOT Web Site –

Bids and Specifications are available on-line by going to the ARDOT web site www.ardot.gov and clicking on "Commodities and Services Bids/Contracts Information". Tabulations will also be available at this site after award of bid/contract. If you have any questions, call this office at 501-569-2667.

Item No.	Description	Unit	Price	Amount
1	Dynamic Cone Penetrometer (DCP)	ea.		
2	HDPF for Leveling and Undersealing	lb.		
3	HDPF for Soil Desensification	lb.		
4	Maintenance of Traffic for High Volume Roadways	Day		
5	Maintenance of Traffic for Low Volume Roadways	Day		

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.

H-24-200H

AASIS Number:*

Concrete Pavement Leveling and Undersealing

Contractor Name:*

Contractor Signature:*

Date:*

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

Concrete Pavement Leveling and Undersealing

Contractor Name:*

Contractor Signature:*

Date:*

* "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.

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 this 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 (Company Name):*

BY (Signature):*

TITLE:*

BID BOND

In the amount of \$500.00

Guarantee Method*

Choices...

Name

Omission Terms

1 Required Document

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.** Surety Bonds may be submitted electronically through the online bidding process. Cashier's checks, Certified checks, or Money orders submitted as bid bonds must be physically received by Equipment & Procurement located at 11302 West Baseline Road, Little Rock, AR 72209 prior to the designated time of the bid opening. 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. 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.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING, AND SOIL DENSIFICATION

Description. This item shall consist of leveling or undersealing Portland cement concrete pavements and bridge approach slabs using a high density polyurethane foam (HDPF) injection through drilled holes to just below the base of the concrete pavement to fill voids and/or lift the concrete pavement, and a method for foundation soil densification/stabilization to strengthen base and sub-base soils under concrete or asphalt pavement. This work shall include drilling injection holes, placing polyurethane material through injection tubes inserted into drilled holes at locations and depths, as shown on the plans or as designated by the Engineer, as well as testing, surveying to control the lift of the pavement, saw cuts, traffic control, cleanup, and other related work.

The total amount of polyurethane estimated to be used during the term of this contract will be as needed. The Department reserves the right to cancel the Contract before the one year term of the contract or limit the amount of polyurethane.

The Contractor shall assume full liability for traffic hazards that might be created by their operation and save harmless the Arkansas Department of Transportation in all respects.

Contractor Prequalification Requirements. The contractor shall submit the following documents:

- Certification by the manufacturer that the polymer to be used meets the requirements of a "High Density Polyurethane."
- Toxicity Testing Results by an independent laboratory demonstrating that the polymer shows a lack of toxicity at 200 ppm TCLP leachate and show non-toxic for all test species.
- Certification by third-party testing lab that the polymer has passed the GTP-9 Hydro-Insensitivity Panel Test, confirming the polymer is effective in wet or dry soil conditions.
- Evidence of prior experience: 20 awarded contracts from State Department of Transportation clients within the past 3 years.
- The name, hire date, resume, and license of the currently Registered Professional Engineer employed by the contractor showing a minimum of 3 years' experience in stabilization of pavement foundation soils by injecting 1:1 by volume, two-part, expansive polymers below pavements and through tubes, into subbase soils.
- Working drawings that include, but are not limited to, injection hole pattern spacing, anticipated depth of each injection hole, as well as all materials quantities. Registered Professional Engineer employed by the Contractor submits working drawings for approval by the Department. A site visit by the Contractor to determine the Dynamic Cone Penetrometer (DCP) investigation required as approved by the Engineer.
- The most recent (within the past 12 months) calibration documents for the flow meters.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

**HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING,
AND SOIL DENSIFICATION**

Materials. The material for leveling or undersealing shall be a water blown, closed cell, high density polyurethane system, with a supplier certification provided specifying the the materal conforms to the following requirements for the following properties and physical characteristics (Certification shall be submitted with the bid documents):

Technical Property	Requirements
Density, minimum, per ASTM D-1622 (air rise)	3.8 lbs/ft ³ (61kg/m ³)
Density, maximum, per ASTM D-1622 (air rise)	4.2 lbs/ft ³ (68 kg/m ³)
Compressive strength, minimum, per ASTM D-1621	60 psi (414 kPA)
Tensile Strength, minimum, per ASTM D-1623	90 psi (621 kPA)
Shear Strength, minimum, per ASTM C-273	45 psi (311 kPA)
Flexural Strength, minimum, per ASTM D-790	90 psi (621 kPA)
Closed Cell Content, per ASTM D-1940	+85 %
Curing Rate	90 percent of compressive strength within 30 minutes after injection

High-density polyurethane shall reach 90% compressive strength within 30 minutes of injection. The material used shall be a two-part 1:1 by volume. The material shall be water blown, not chemical blown. The material shall be a polyurethane-forming mixture, having a water insoluble diluent, which permits the formation of polyurethanes in excess water. The presence of a water insoluble diluent and the characteristics and properties listed above must be certified by the manufacturer .

The polymer must pass aquatic and terrestrial toxicity testing and chemical analyses (Resource Conservation and Recovery Act [RCRA] metals, Total Organic Carbon [TOC], and Chemical Oxygen Demand [COD]). The polymer must show a lack of toxicity at 200 ppm Toxicity Characteristic Leaching Procedure (TCLP) leachate and show non-toxic for all test species. Testing must be performed by an independent laboratory. The certification shall be submitted with the bid documents.

The polymer must pass the Geotechnical Test Procedure - Panel Test for hydroinsensitivity "GTP-9 Hydro-Insensitivity Panel Test". The Contractor must submit a certificate from an independent testing lab certifying that the polyurethane material meets or exceeds the limits set forth in the panel test specification. Test results/certification shall be submitted with the bid documents.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING, AND SOIL DENSIFICATION

Acceptance of the polyurethane material will be based on certification and results from tests required by the engineer.

The contractor shall provide to the engineer certification from the manufacturer stating that the material provided meets this special provision. The MSDS for all pertinent production material shall be included with the certification.

Non-shrink grout to patch drill holes shall be supplied by an approved manufacturer and used within the shelf life and temperature limitation set by the manufacturer.

Equipment. The minimum list of equipment required shall be as listed below and shall not preclude the use of additional equipment.

- (a) Provide a Portable Dynamic Cone Penetrometer (DCP) for on-site soils investigation to assist in location and depth of weak foundation soils and determination of correct injection pattern and injection elevations through tubes to density weak soils. The DCP is to be a Pagani DPM 30 or similar, capable of taking readings up to 30 feet below grade. Dynamic cone penetrometer testing may be required as directed by the Engineer to confirm existing sub-grade soil conditions. The Contractor shall submit with the bid documents the name, model number, and a description of the DCP unit that will be used on the project.
- (b) At a minimum, 2 portable pumping units capable of injecting the polyurethane material at a controlled rate into the aggregate base, subbase, or foundation soils to the required depth(s). Ensure the pumping units are equipped with certified flow meters to precisely measure the amount of each component injected, so that the 1:1 ratio by volume is maintained for quality control and a certified volume of injected polymer material obtained for proper payment. Ensure that the units are equipped with pressure and temperature control devices capable of maintaining proper temperature and proportionate mixing of the two chemical components. The Contractor shall submit with the bid documents an equipment list of all equipment that may be used on the project.
- (c) Pneumatic or electric drills are required, capable of efficiently drilling 5/8" to 2" diameter (if needed for multiple injection tubes) injection holes through the pavement without damaging the structural integrity of the existing pavement. Drill host holes for the placement of injection tubing cut to proper length(s) as indicated on the working drawings and DCP testing as approved by the Engineer.
- (d) Pressure and temperature control devices capable of maintaining proper temperature and proportionate mixing of the polyurethane component materials.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING, AND SOIL DENSIFICATION

- (e) Supply satisfactory equipment for monitoring any movement such as rotating laser levels and receivers to monitor movement of pavement to within 1 mm, to verify that the injected foundation soils have been properly densified and to ensure proper lift of pavement to grade if required. Supply satisfactory differential fault meters to monitor movement of bridge approach at abutment walls and for correction of faulted jointed pavement. Supply satisfactory horizontal movement monitoring equipment when injecting in the vicinity of MSE walls.

Construction Methods. The Contractor will be required to begin work within thirty (30) calendar days of notification from the Engineer that work is required and will be notified in writing each time it is necessary to perform work. A list will be enclosed with the notification which includes the location and length of each installation. This list will be an estimate only and may be adjusted once work begins. The outlined work must begin within 30 days of the written notice and must be completed within 30 days of beginning the work. When the Contractor completes all of the specified work at a location, an inspection will be made.

All drill tailings, excess polyurethane material and other debris shall be cleaned up at the end of each working day or before the lane is opened to traffic. When adjacent lanes are open to traffic, provisions shall be made to prevent material from encroaching onto the open lane. Polyurethane material shall not enter into gutters or closed drainage systems. Suitable means to restrict the infiltration of the residue into a closed drainage system shall be provided. Polyurethane material shall be removed from the pavement surface before any residue is blown by traffic action or wind. All removed material shall be disposed of in an environmentally acceptable manner in accordance with all federal, state and local regulations.

Corrections to the grade of adjacent slabs, if necessary, or as determined by the engineer, shall be made in accordance with this special provision. All leveled pavement shall match the existing grade of adjacent slabs to provide positive drainage. Final elevations of leveled pavement areas shall be within ¼ inch (0.02 FT) of the required elevations as determined by the profile or the engineer.

Drill 5/8" to 2" diameter holes, vertical and round, and to a depth indicated on the approved working drawings. Deviations from the working drawings shall be approved by the Engineer. Where required, install injection tubes to the prescribed injection depth or depths. Injection tubes must be recessed a minimum of 4" under the pavement surface once the injections have been completed.

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A quality check shall be performed for the mixing by the use of flow meters on the ratio of the two-part chemical system. The part A (Resin) to the part B (ISO) ratio by volume should be 1:1. Prior to performing the work each day, the contractor shall reset the flow meters on the pumping units to zero. The contractor shall perform a test shot of material from 1 injection gun at a time with a minimum of 0.5 gallons of each material, comparing the digital output in gallons of resin to the gallons of ISO to determine the injected ratio. If the ratio is less than 0.95 or greater than 1.05, the system is to be checked for problems, adjusted, and the ratio rechecked until a proper ratio is assured. The Contractor shall repeat the quality check for all the injection guns to be used on the project.

Inject High Density Polyurethane Foam (HDPF) material through drilled holes to void fill, stabilize, or lift concrete pavement back to proper grade. HDPF for leveling and undersealing, shall be injected through holes, via injection tubes, into the foundation soils beneath the pavement to the prescribed depth (maximum 3 feet depth). Control the stabilization of the foundation soils by regulating the rate of injection of the material. Continuously monitor for movement of the pavement. Foundations soils are sufficiently stabilized when movement of the pavement is detected. Injection may continue into the soils as needed to lift the pavement to grade, returning the pavement system to original construction: pavement on top of base on top of a stiffened subbase or subgrade. If no vertical movement has occurred, the Engineer may direct the Contractor to cease injecting.

Hole patching material after the polymer has been injected will be drilled out down to a depth of 4" and the contractor will place an approved high strength, rapid set, non-shrink grouting material into the drilled-out hole. The grouting material will be struck flush with the surface of the surrounding pavement. If injection tubes have used they will be recessed 4" below the pavement surface and contractor will place an approved high strength, rapid set, not-shrink grouting material into the hole down to the bottom of the pavement structure. The grouting material will be struck flush with the surface of the surrounding pavement.

The contractor will be responsible for any pavement blowouts, excessive pavement lifting or pavement damage that may occur as a result of the contractor's work. The contractor shall repair any subject areas to the satisfaction of the Department at the contractor's expense.

The contractor shall be responsible for all traffic control in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Maintenance of Traffic will include both High and Low Volume Roadways. For this specification, High Volume Roadway is defined as Arterial with fully controlled access such as Interstates, Freeways, and/or Expressways. Low Volume Roadway is defined as Non-Arterial with partial / uncontrolled access such as Major and Minor Collectors and Local.

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HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING, AND SOIL DENSIFICATION

The injected pavement shall be opened to traffic if directed by the Engineer within 30 minutes of final injection of polyurethane material as material is at a minimum 90% strength within 30 minutes. Pavement shall be free of debris and swept clean prior to opening to traffic. Work to level and underseal Portland cement pavement under this item shall not be performed when pavement surface temperatures are below 35° F or if the subgrade and/or base course material is frozen.

HDPF for soil densification shall consist of injection through pre-drilled holes to depth from 3 feet to 30 feet to stabilize sub soils. Injections shall be at the depths and spacing shown in the approved working drawings provided by the Contractor based on Dynamic Cone Penetration (DCP) testing or as directed by the Department.

In the event the Engineer determines that continued material placement at any specific location is no longer economically feasible, he or she may direct the Contractor to cease at that location.

The construction methods outlined above may be modified by the Engineer as field conditions dictate.

The Contractor shall use such approved measures as are necessary to keep all pavement surfaces adjacent to the actual operation in progress reasonably clean at all times.

The pavement, including adjacent shoulders, shall be cleaned to the satisfaction of the Engineer prior to the placement of traffic on the work area.

Warranty. A two-year unconditional warranty against settlement of more than 1/4" of differential settlement of concrete slabs or asphalt pavement. If settlement of more than 1/4" in the injected areas occurs, the Contractor shall return to inject the affected area to lift to proper grade at no additional charge, except maintenance of traffic, to the owner. The one exception to the warranty is if the DCP tests reveals additional problems at depths not previously injected and the owner does not authorize payment to address these issues, warranty will not be valid.

Method of Measurement. Soil testing by Dynamic Cone Penetrometer (DCP) shall be measured per each test hole, irregardless of depth, to a maximum of 25 feet.

High Density Polyurethane Foam (HDPF) for leveling, undersealing, and soil densification shall be measured in gallons as measured by certified flow meters on each of the two chemical components and totaled to indicate total gallons of raw unreacted material. Drilling of holes, installation of injection tubing, and all other items are not to be measured, but shall be incidental to accomplishing the work.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

**HIGH DENSITY POLYURETHANE FOR LEVELING, UNDERSEALING,
AND SOIL DENSIFICATION**

Maintenance of Traffic shall be measured by the day for both High Volume and Low Volume Roadways.

Basis of Payment. Soil testing by Dynamic Cone Penetrometer (DCP) shall be paid at the unit price identified on the Bid Schedule as accepted by the Department. Payment shall be full compensation for all materials, labor, equipment, and incidentals necessary per each test hole to complete the work.

High Density Polyurethane Foam (HDPF) for leveling, undersealing, and soil densification shall be paid at the unit price identified on the Bid Schedule as accepted by the Department. Payment shall be full compensation for all materials, labor, equipment, and incidentals necessary to complete the work.

Maintenance of Traffic shall be paid at the unit price identified on the Bid Schedule as accepted by the Department.

Pay Item	Pay Unit
Dynamic Cone Penetrometer (DCP)	Each
HDPF for Leveling and Undersealing	Gallon
HDPF for Soil Densification	Gallon
Maintenance of Traffic for High Volume Roadways	Day
Maintenance of Traffic for Low Volume Roadways	Day