



ADVERTISEMENT FOR BIDS

SPECIAL PROVISIONS

BIDDERS DOCUMENTS

TRACS/Proj. No.:

180 AP 402 F078401C 180-C-NFA
SPRINGERVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

Contracts and Specifications Group
205 S. 17TH Ave., 2nd Floor, M/D 121F
Phoenix, Arizona 85007-3217

ARIZONA DEPARTMENT OF TRANSPORTATION

ADVERTISEMENT FOR BIDS

BID OPENING: FRIDAY, APRIL 24th, 2026, AT 11:00 A.M. (M.S.T.)

TRACS NO	180 AP 402 F0784 01C
PROJECT NO	180-C-NFA
TERMINI	SPRINGERVILLE – ALPINE - STATE LINE HIGHWAY (US180)
LOCATION	APACHE DRIVE TO MP 407.00

ROUTE NO.	MILEPOST	DISTRICT	ITEM NO.
US180	402.70 to 407.00	NORTHEAST	104974

The amount programmed for this contract is \$2,850,000. The location and description of the proposed work are as follows:

The proposed project is located in Apache County on US180 between mileposts 402.70 and 407.00. The proposed work consists of milling existing chip seal and placing a hot applied chip seal coat, followed by applying micro-surfacing. The project also includes spot repair work by milling and replacing with asphaltic concrete. Additional work includes replacing pavement markings and other miscellaneous work.

The time allowed for the completion of the work included in this contract will be 90 working days.

The Arizona Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to §§ 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Contract documents, and other project documents, if applicable, are available as electronic files, at no charge, from the Department's website through the ADOT Contracts and Specifications Group (<https://azdot.gov/business/contracts-and-specifications/current-advertisements>).

Documents will be available within one week following the advertisement for bids.

To submit a valid bid, the bidder must (1) have prequalification from the Department as necessary for the project, and (2) be included on the project Plansholder List as a Prime.

The Application for Contractor Prequalification may be obtained from the Contracts and Specifications website.

This project requires electronic bidding. If a request for approval to bid as a Prime Contractor is received less than five working days prior to bid opening, the Department cannot guarantee the request will be acted on.

This contract is subject to the provisions of Arizona Revised Statutes Section 42-5075 -- Prime contracting classification; exemptions; definitions.

No proposal will be accepted from any contractor who is not a duly licensed contractor in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03.

Persons that require a reasonable accommodation based on language or disability should contact ADOT's Contracts and Specifications Office by phone (602) 712-7221. Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.

Las personas que requieran asistencia (dentro de lo razonable) ya sea por el idioma o discapacidad deben ponerse en contacto con ADOT (602) 712-7221.

The bidder shall provide an electronic proposal guaranty payable to the Arizona Department of Transportation for 10 percent of the amount of the bid.

Prior to the bid opening date, any questions pertaining to the project documents shall be submitted to the Department in a written format through the Bid Express (Bidx) website at <https://www.bidx.com/az/lettings>. Questions shall be submitted through the Questions and Answers (Q&A) link located within the corresponding letting date and project proposal number links. The Department may not answer all questions, and any decision on whether a question is answered will be within the sole discretion of the Department. Any questions received less than three working days prior to the bid opening date may not be answered.

The Engineering Specialist assigned to this project is: Mike Wechselberger, mwechselberger@azdot.gov, any correspondence with the Engineering Specialist is subject to posting onto Bidx through the project's Q&A link. Answers to questions will not be given verbally but will be posted exclusively to the Bidx website.

Brahama Singh, PE,
Group Manager,
Contracts & Specifications

Project Advertised on: March 27, 2026

SPECIAL PROVISIONS

FOR

ARIZONA PROJECT

180 AP 402 F0784 01C

180-C-NFA

SPRINGERVILLE – ALPINE - STATE LINE HIGHWAY (US180)

APACHE DRIVE TO MP 407.00

PAVEMENT PRESERVATION



PROPOSED WORK:

The proposed work is located in Apache County on US180 between mileposts 402.70 and 407.00. The proposed work consists of milling existing chip seal and placing a hot applied chip seal coat, followed by applying micro-surfacing. The project also includes spot repair work by milling and replacing with asphaltic concrete. Additional work includes replacing pavement markings and other miscellaneous work.

(SPC00ST, 06/19/25)

SPECIFICATIONS:

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

Arizona Department of Transportation, Standard Specifications for Road and Bridge Construction, Edition of 2021,

Arizona Department of Transportation, Roadway Engineering Group, Construction Standard Drawings, listed in the project plans, and available on the Department's website,

Arizona Department of Transportation, Traffic Engineering Group, Manual of Approved Signs, available on the Department's website,

Arizona Department of Transportation, Traffic Engineering Group, Temporary Traffic Control Design Guidelines, dated April, 2025, available on the Department's website,

Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 edition and Arizona Supplement to the 2009 edition, dated January, 2012,

The Proposal Pamphlet which includes the following documents:

These Special Provisions,

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Title VI / Non-Discrimination Assurances,
Appendix A
Appendix E,

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Executive Order 2009-09, November 13, 2009,

Bidding Schedule,

Proposal,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontracts,
Subject to the Equal Opportunity Clause of Executive Order No. 99-4 and the Filing of
Required Reports, Non-Federal Aid Projects, August 1, 2000,

Certification With Respect to the Receipt of Addenda,

Participation in Boycott of Israel Certification Form,

Forced Labor of Ethnic Uyghurs Ban Certification Form, Rev. November 2022.

BID SUBMISSION:

In submitting a bid, the bidder shall completely execute the following documents:

Proposal,

Bidding Schedule,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontracts,
Subject to the Equal Opportunity Clause of Executive Order No. 99-4 and the Filing of
Required Reports, Non-Federal Aid Projects, August 1, 2000,

Certification With Respect to the Receipt of Addenda,

Participation in Boycott of Israel Certification Form, and

Forced Labor of Ethnic Uyghurs Ban Certification Form, Rev. November 2022.

PROPOSAL GUARANTY:

Each bidder is advised to satisfy itself as to the character and the amount of the proposal guaranty required in the Advertisement for Bids.

CONTRACT DOCUMENTS:

The bidder to whom an award is made will be required to execute a Performance Bond and a Payment Bond, each in 100 percent of the amount of the bid, an Insurance Certificate and the Contract Agreement.

A copy of these documents is not included in the Proposal Pamphlet; however, each bidder shall satisfy itself as to the requirements of each document.

The documents, approved by the Department of Transportation, Highways Division, are identified as follows:

Statutory Performance Bond, 12-1301, September, 1992

Statutory Payment Bond, 12-1302, September, 1992

Contract Agreement, 12-0912, August, 2000

Certificate of Insurance, 12-0100, June, 1998

A copy of each document may be obtained by making a request to Contracts & Specifications.

MATERIAL AND SITE INFORMATION:

Projects requiring materials, excavation, or site investigation may have additional information available concerning the material investigations of the project site and adjacent projects. This information, when available and applicable, may be examined in the Office of the Bridge Group-Geotechnical Services, located at 205 S. 17th Avenue, Phoenix, AZ 85007-3212. The contractor may contact Bridge Group at (602) 712-7481 to schedule an appointment to examine the information. This information will not be attached to the contract documents.

(NOGOAL, 06/09/16)

NONDISCRIMINATION:

Policy:

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract and the award of subcontracts and supply contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

(TITLEVI, 08/19/21)

STANDARD TITLE VI SPECIFIC ASSURANCES:

The Arizona Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the

Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

GENERAL REQUIREMENTS:

BLM Material Sources:

If the contractor elects to pursue the use of material sources on BLM land under Title 30 Code of Federal Regulations, it is at the contractor's sole risk, and the Department bears no responsibility for any delays or costs associated with the request to use material sources on BLM Land.

The Department will not request or pursue any "free-use permit" under Title 23 Code of Federal Regulations or any other arrangement with BLM on this project.

No extension in contract time or compensation will be granted for any attempt by the contractor to utilize BLM land.

Preconstruction Requirements:

The contractor shall provide the following before any work can commence:

1. Paving Joint Layout
2. Haul Routes

The contractor shall prepare traffic control and construction sequencing plans sealed by a professional civil engineer registered in the state of Arizona and submit them to the Engineer at the preconstruction meeting. The contractor is required to submit the traffic control and construction sequencing table to the Engineer for approval prior to commencing any work.

Pavement Marking:

There will be no pavement marking plans for this project. The replacement of all the pavement markings shall be the responsibility of the contractor. The contractor, based on its field survey, shall develop "as built" plans showing the existing pavement markings on the roadway. The contractor shall follow these "as built" plans when placing pavement markings on the final pavement surface.

The “as-built” plans shall be submitted electronically in the PDF format to the Engineer no less than 14 days prior to the start of the construction activities for review and approval.

The “as-built” plans shall include the following:

1. Locations of all the existing centerline, lane lines, edge lines and gore lines.
2. Location of the existing legends and symbols and existing raised or recessed pavement markers.
3. Type, width and color of all existing pavement markings.

No work to alter, obliterate or cover existing markings shall begin until the Engineer approves the “as built” plans.

The contractor shall layout new striping using control points along the center lines and lane lines placed no more than 50 feet apart along the lines being striped.

Full compensation for developing the existing pavement marking as-built plan, and for installing the control points will be included in the price of the contract item 9250001.

The contractor shall restripe all pavement markings, including but not limited to lane lines, legends, symbols and/or stop bars. The new markings shall be installed in accordance with the as-built plans developed based on the layout of the existing pavement marking.

Final pavement markings shall be dual component epoxy pavement markings in accordance with the requirements of Section 709 of the specifications and these Special Provisions.

The temporary and interim pavement markings shall be waterborne and be applied at 4-inch width for lane line and edge line markings and 8-inch width for all gore pavement markings in accordance with section 708 of the specifications.

The Temporary pavement markings shall be applied on the spot repair locations after the spot repair work. No separate measurement or payment will be made for the application of temporary pavement markings, the cost being considered as included in the cost of Item 7010005.

The interim pavement markings shall be applied twice – once after the chip seal application, and second, after micro-surfacing application and prior to the final striping. The application of the interim pavement markings work will be paid for under the respective contract items.

Erosion, Sediment Control and Stormwater Quality Protection:

The contractor shall give attention to the impact of the construction operations upon the natural landscape and shall take care to maintain the natural surroundings undamaged. The

contractor shall minimize soil disturbance by implementing Low Impact Development (LID) methods to control erosion as close as possible to the source of disturbance.

The contractor shall maintain the independence of discrete locations of construction by accessing through the paved area only. For project areas above/outside the Jurisdictional Waters of the U.S., the contractor shall minimize off-pavement (off-road) soil/ground disturbance at each discrete construction location to ensure disturbance is less than one acre (< 1 acre) beyond all new shoulder build-up areas (edge of pavement build-up areas). No unpaved temporary construction roads shall be created to directly connect discrete locations of soil/ground disturbance above/outside the Jurisdictional Waters of the U.S.

The contractor shall use all means necessary to significantly reduce impacts by staging/stockpiling and conducting project activities in such a way as to minimize the potential for erosion and discharge of pollutants from the project site.

In addition to what is shown in the plans and/or details, when required, the contractor shall apply perimeter/containment control Best Management Practices (BMPs) or temporary stormwater quality Control Measures (CMs) on the down-slope perimeter of construction disturbed areas, unpaved on-site staging/storage, and unpaved on-site stockpiling at no additional cost to the Department. The contractor shall also apply perimeter/containment control BMPs/CMs parallel to the slope contours and beyond the toe of new guardrail end treatment pad disturbed slopes. To prevent sediment from bypassing the perimeter control BMP/CM end, the end of the BMP/CM shall be turned up the slopes for a minimum of three (3) feet to form an "L" shape. No portion of the BMPs/CMs shall be installed within six (6) feet from the edge of the pavement. BMPs/CMs shall not be placed over any driveways or access roads that intersect with the roadway mainline. Unless otherwise called out in the plans/details and approved by the Engineer, such BMPs/CMs shall not be placed on the flow path of inlets and outlets of drainage facilities. All BMPs/CMs shall be installed in accordance with the manufacturer's instructions. Moreover, perimeter/containment control BMPs/CMs shall be applied outside and above adjacent wetlands, as well as water courses. The contractor shall adjust the field layout of erosion control and sediment prevention elements according to the actual limits of soil/ground disturbance as approved by the Engineer. The contractor shall also observe ADOT traffic safety standards when installing perimeter/containment control BMPs/CMs in the traffic clear zone/recovery area.

Wattles/logs, bio-socks, filter socks, compost socks, or compost tubes shall be deemed as temporary stormwater quality CMs/BMPs. The non-biodegradable and/or non-photodegradable components of such temporary CMs/BMPs shall be removed when the project site has achieved stabilization as approved by the Engineer. Rock materials used for temporary stormwater quality protection CMs/BMPs may be left on-site to cover unpaved disturbed soil area for permanent stabilization as approved by the Engineer. If approved, on-

site rock materials shall be flattened and re-graded to match with the final unpaved finished grade.

The contractor is responsible for maintaining the functional longevity and good working conditions of all stormwater quality protection CMs/BMPs during the entire contract time. No separate measurement or direct payment will be made for the maintenance and/or replacement of such CMs/BMPs to assure manufacturer-specified functionality; the cost being considered is included in the price of the respective contract items.

The contractor is also responsible for protecting Storm Drain Inlets within the project limits from pollutants/contaminants discharged by construction at no additional cost to the Department.

Fine particles including minor miscellaneous dirt, dust, rock fragments, milled asphaltic concrete (AC) or construction debris that may be associated with stormwater discharges into catch basins / Storm Drain Inlets shall be prevented and controlled to maximum extent practicable (MEP) at no additional cost to the Department. Such compliance measures may include frequent dry vacuuming and/or pavement sweeping during construction to ensure no debris, dirt, dust, and material fragments will be built up within twenty-five (25) feet from catch basins / Storm Drain Inlets. On-site staging, material storage and stockpiling shall not be allowed within fifty (50) feet from catch basins / Storm Drain Inlets.

During construction, the contractor shall minimize vehicular travel or equipment operation on the unpaved soil areas to maximum extent practicable (MEP). The contractor shall develop and implement procedures to avoid earth disturbance, soil compaction, and damage to vegetative cover from vehicular travel or equipment operation during inclement weather or unsuitable soil conditions. The contractor shall stabilize all construction disturbed soil areas at no additional cost to the Department. Furthermore, the contractor shall minimize off-site sedimentation including minor miscellaneous dirt, dust, rock fragments or construction debris by eliminating the tracking of such contaminants from construction sites.

No grout, concrete or wash water shall be disposed of within the project limits or its vicinity. The contractor shall install concrete washout CM/BMP as needed and under the direction of the Engineer at no additional cost to the Department. This CM/BMP shall include proper disposal of all excess grout, concrete, and wash water.

The contractor shall not use unpaved areas within the project limits for staging or stockpiling without first installing erosion control and sediment prevention CMs/BMPs and as directed and approved by the Engineer. Staging and stockpiling on the unpaved areas shall be avoided to MEP.

Erosion and Sediment Control Beyond the Project Limits:

The contractor shall apply erosion/sediment and water quality protection CMs/BMPs as required by the commercial material source owner and environmental permit standard at no additional cost to the Department.

The contractor shall apply erosion/sediment and water quality protection CMs/BMPs for off-project-site staging, material storage, maintenance yard, disposal spots, and stockpiling areas as required by the facility owner and environmental permit standard at no additional cost to the Department.

If the contractor elects to obtain off-project site for staging, stockpiling, material storage, maintenance yard, or waste disposal, the contractor shall meet the requirements for erosion control, sediment prevention, and stormwater quality protection measures within the written agreements with facility and/or the landowner, as well as environmental permits for such operations.

Ground Disturbance on areas above and outside the Waters of the United States (WOTUS):

The contractor shall minimize the ground disturbance of any unpaved areas within the project limits. If the disturbance is not avoidable due to construction activities, the disturbance areas at each discrete location shall be less than one contiguous acre. If the disturbed areas equal or exceed one contiguous acre, the contractor shall conform to all applicable requirements of Subsection 104.09 of the specifications, the Arizona Pollutant Discharge Elimination System (AZPDES), and/or National Pollution Discharge Elimination System (NPDES) at no additional cost to the Department. Shoulder build-up areas will not be considered as disturbed areas.

Use of Prohibited Products:

The contractor shall not commit any of the following actions:

- (1) Deliver, install, or include any prohibited product under this contract.
- (2) Propose to deliver, install, or include any prohibited product under this contract.
- (3) Enter into a new contract to procure or obtain any prohibited product.

For the purpose of this Section, "Prohibited Product" is defined as any telecommunication or video surveillance equipment, systems, or services produced by:

- (1) Huawei Technologies Company;
- (2) ZTE Corporation;
- (3) Hytera Communications Corporation;
- (4) Hangzhou Hikivision Digital Technology Company;
- (5) Dahua Technology Company;
- (6) Any subsidiary or affiliate of the entities mentioned in this Section.

The contractor shall identify the known subsidiaries and affiliates of the aforementioned from the following Website: https://umd.service-now.com/itsupport?id=kb_article_view&sysparm_article=KB0014132&sys_kb_id=28015b70dbe0e3849382f1a51d96193f.

Environmental Mitigation Measures:

The contractor's commitments are identified in the Environmental, Permits, Issues, and Commitments (EPIC) Plan Sheet 1F. The contractor shall follow the requirements specified in the EPIC plan sheet 1F, Subsection 104.16 of the specifications and these Special Provisions.

In addition, the contractor shall pay attention to the project specific environmental commitments that are specified in Section 10 of the EPIC Plan Sheet 1F.

(101DEFN, 04/21/22)

SECTION 101 DEFINITIONS AND TERMS:

101.02 Definitions:

Acceptance: of the Standard Specifications is hereby deleted:

Characteristic: of the Standard Specifications is revised to read:

A measurable or an observable property of a material, product, or item of construction.

City, County, Township, or Town: of the Standard Specifications is hereby deleted:

Contract Bonds (Performance Bond and Payment Bond): the title and text of the Standard Specifications is revised to read:

Contract Bonds:

Surety Bonds that include Performance Bond and Payment Bond.

Highway, Street, or Road: of the Standard Specifications is revised to read:

A general term denoting a public way for purposes of travel, vehicular, pedestrian or by other means, including the entire area within the right-of-way.

Roadbed: of the Standard Specifications is revised to read:

The graded portion of a highway, prepared as a foundation for the pavement structure and shoulders.

Roadside Development: of the Standard Specifications is revised to read:

Activities which provide for the preservation of landscape materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching and the placing of other ground covers; or such planting and other improvements as may increase the effectiveness and enhance the appearance of the highway.

State: of the Standard Specifications is revised to read:

The State of Arizona, acting through its authorized representatives.

(104TPDDC, 08/21/25)

SECTION 104 SCOPE OF WORK:

104.04 Maintenance of Traffic: of the Standard Specifications is modified to add:

Prior to construction, alterations to contract phasing, detours, and Maintenance and Protection of Traffic plans shall be reviewed by the Engineer at the preconstruction conference or a pre-activity meeting based on the contractor's preliminary schedule and proposed contract phasing.

SECTION 104 SCOPE OF WORK:

104.04 Maintenance of Traffic: of the Standard Specifications is modified to add:

(D) General Traffic Information:

No traffic controls plans have been provided for this project. The contractor shall develop and submit for Engineer's review and approval of a traffic control plan for each activity on this project. During work periods, the contractor shall maintain a minimum of one lane of traffic on US180. The contractor shall maintain all traffic lanes on all roadways during non-working hours. Lane closures and speed reductions shall generally conform to Figure SA-3 of the April 2025 ADOT Temporary Traffic Control Design Guidelines, except the Engineer may adjust the positions of the signs due to site conditions. For some operations, traffic control shall be in accordance with Typical Application 10 of the Manual on Uniform Traffic Control Devices (MUTCD). The contractor shall position five cones along the yellow center line striping preceding each flagger station at no additional cost to the department.

During striping operations, the Engineer may permit the contractor to utilize a mobile traffic control setup in accordance with Figures SA-19 of the April 2025 ADOT Temporary Traffic Control Design Guidelines. If the Engineer permits a mobile setup for the striping, the contractor shall include a truck mounted attenuator as part of the traffic control.

Work shall occur during daytime hours from 6:00 AM to 5:00 PM, unless otherwise approved by the Engineer. Work during nights, weekends and holidays will not be allowed.

No closures or traffic restrictions will be allowed during recognized holidays and weekends unless otherwise directed by the Engineer. Holidays are from 12:00 PM of the last working day prior to the holiday until 6:00 AM of the first working day following the holiday. When holiday falls on Tuesday, the Monday before the holiday is considered part of the holiday. When the holiday falls on a Thursday, the Friday following the holiday is considered part of the holiday.

Recognized holidays are:

Holidays	Start Date (12:00 PM)	End Date (6:00 AM)
Memorial Day	May 22, 2026	May 26, 2026
Independence Day	July 2, 2026	July 6, 2026
Labor Day	September 4, 2026	September 8, 2026
Columbus Day	October 9, 2026	October 13, 2026

Lane closures on US180 shall not exceed 3 miles at any one-time during roadway work without permission of the Engineer. The contractor shall not cause traffic delays that exceed 15 minutes. If, at any point, traffic delays exceed 15 minutes, the contractor shall immediately

reduce the construction zone length to bring the delay to be below 15 minutes. The contractor shall repave any area that is milled on the same day.

When any lane or lanes are closed to traffic for any activity, work must continue during established work hours until activity is complete and all lanes are reopened. Any deviation must be approved by the regional engineer.

The contractor shall maintain access to all cross roads, turnouts and driveways within the project limits at all times.

For each changeable message board used on the project but not located behind guardrail in a protected location, the contractor shall position ten Type 2 barricades – each barricade with an affixed Type C steady-burning light for nighttime use – around the changeable message board. The contractor shall only position changeable message boards where and when approved by the Engineer. The contractor may substitute Type 1 barricades – but not vertical panels – for the Type 2 barricades. If the contractor uses Type 1 barricades in lieu of Type 2 barricades, each Type 1 barricade shall have a minimum of 270 sq. in. of retroreflective area facing traffic in accordance with Subsection 701-2.08 of the specifications.

The contractor shall reduce the speed limit on US180 to 45 mph within the work zone limits unless otherwise approved in writing by the Engineer. The speed reduction shall only be in place until two weeks after the construction is completed. In addition, for any speed reduction, the contractor shall provide a speed limit sign at the end of the construction which will indicate the speed limit at that location prior to the speed reduction due to the construction operations. Each speed limit (R2-1) sign shall be 36"x 48" with black legend on a white background. The contractor shall utilize a 48"x 48" "SPEED REDUCED AHEAD" (W3-5aAZ) sign in conjunction with each speed reduction. Unless otherwise permitted by the Engineer, any speed limit sign used as part of the construction signing shall indicate a speed limit not lower than 20 miles per hour below the speed limit in effect prior to the construction. Any sign indicating a reduction in the posted speed limit shall be positioned as close as practicable to the area where the reduction in speed is necessary, as determined by the Engineer. In addition to the speed reduction signs, loose gravel signs associated with chip seal shall be provided.

Temporary traffic control signs for work activities shall be placed during the one-hour period immediately prior to the work shift and removed during the one-hour period immediately following the work shift unless otherwise directed by the Engineer.

The contractor shall maintain traffic on paved surfaces at all times and shall maintain minimum 12-foot lane widths unless otherwise approved by the Engineer.

When traffic control items are not in use, the contractor shall remove these items to a location at least 30 ft. from the edge of the paved roadway unless otherwise identified in the plans. This includes sign supports without sign panels. Any signs which are not in use but which cannot be moved at least 30 ft. from the roadway or behind guardrail shall be covered so the

public cannot read the legends. The retroreflective sheeting on all traffic control signs, barricades, and other traffic control devices except orange signs shall meet the criteria established for Type IV, Type VIII, Type IX, or Type XI sheeting in ASTM D4956. In addition, all orange signs shall have fluorescent reflective sheeting and shall meet the criteria established for Type VIII, Type IX, or Type XI sheeting in ASTM D4956. The minimum sign mounting height from the bottom of each sign to the near edge of the pavement shall be 7' for signs mounted on embedded posts and 5' for signs mounted on portable sign stands. However, all sign panels and their supports shall be installed to meet the current crash testing requirements identified in Section 701 of the specifications.

Except as otherwise permitted by the Engineer, all warning signs used for this project shall be 48"x 48" Each sign in place at night shall have an affixed Type A flashing warning light except the "END ROAD WORK THANK YOU" (G20-2AZ) sign. Each sign shall have 2 warning flags except the "END ROAD WORK THANK YOU" sign.

All construction signs shall have black letters on an orange background, except as otherwise noted.

The nearest edge or corner of a sign shall be approximately 12 feet from the nearest edge of pavement, 6 feet behind guardrail for all signs mounted on embedded posts.

(104ENVIR, 06/17/21)

SECTION 104 SCOPE OF WORK:

104.12 Environmental Analysis: the fifth and sixth paragraphs of the Standard Specifications are revised to read:

If the contractor elects to do an environmental analysis and use any site, source, or access for the reasons listed above, they choose to do so at their own risk. It is the contractor's responsibility to exercise due diligence when selecting these sites and areas. The contractor shall bear all costs associated with the use of proposed sites, sources, and accesses.

The contractor shall promptly advise the Engineer that it is preparing the environmental analysis and shall submit to the Engineer for review and consultation. The Department will review the submittal and send it to the appropriate agencies and/or jurisdictions for consultation or return it to the contractor for revision. The contractor shall allow a minimum of 60 calendar days after submittal, or subsequent resubmittals, to the Department for the Department to review the environmental analysis and to consult with the appropriate jurisdictions and/or agencies. At the end of the review period, the Engineer will notify the contractor whether or not the environmental analysis is acceptable.

If the approval of the environmental analysis causes a delay to a controlling activity of the project due to the Department's actions in the aforementioned review process, the contractor

may seek, and the Engineer may grant, an extension of time in accordance with the terms of Subsection 108.08 of the specifications. The time extension shall not exceed 30 working days for a working-day contract, or 45 calendar days for a calendar-day project. The time extension will not be considered unless the contractor can show evidence of the delay resulting due to the Department's actions in the review process. A time extension request will not be considered or granted for any other reason. No time extension will be granted for a fixed completion date contract.

104.12 Environmental Analysis: the items (G) and (O) of the seventh paragraph of the Standard Specifications is revised to read:

- (G) The archaeological survey of the proposed source prepared by a person who meets the Secretary of the Interior's Professional Qualification Standards (48 FR 44716) and possesses a current permit for archaeological survey issued by the Arizona State Museum (ASM). The survey shall be prepared in a State Historic Preservation Office (SHPO) standardized format. The survey shall identify all historic properties within the area of potential effect (APE), as defined by the National Historic Preservation Act (36 CFR 800.4). This includes the materials source, processing area, and the haul road. Additionally, the survey report shall identify the effects of the proposed source on any historic properties within the APE, and recommend measures to avoid, minimize, or mitigate those effects. The survey report shall be prepared by the contractor in accordance with SHPO and ASM formatting style for the Historic Preservation Specialist's initial review. After the initial review, the Department will consult with the landowner, SHPO, and Tribes for a minimum of 35 days for the final approval of the survey report.
- (O) A description of the impact on federally or state protected or other agency-specific special status wildlife and plants and their habitat, as defined in ADOT's consultant biological procedures on the Department's website. Compliance with the Arizona Native Plant Law shall be coordinated through the Arizona Commission of Agriculture and Horticulture.

104.12 Environmental Analysis: the eighth paragraph of the Standard Specifications is revised to read:

Guidance and forms for preparing the environmental analysis are available on the Department's website through the Environmental Planning Group, or by calling Environmental Planning Group at 602-712-7767.

(104VEPC, 03/20/25)

SECTION 104 SCOPE OF WORK:

104.13 Value Engineering Proposals by the Contractor: the third paragraph of the Standard Specifications is revised to read:

Any cost savings generated to the contract as a result of VEP offered by the contractor and approved by the Department will be shared between the contractor and the Department, with the contractor receiving 60 percent and the Department receiving 40 percent, as specified in Subsection 104.13(D) of the specifications.

104.13(C) Conditions: of the Standard Specifications is modified to add:

- (13) The contractor may submit a previously approved VEP from another project.

104.13(D) Acceptance, Rejection and Payment: the seventh paragraph of the Standard Specifications is revised to read:

- (6) The executed supplemental agreement shall provide that the contractor be paid 60 percent of the net savings amount as reflected by the difference between the cost of the revised work and the cost of the related construction required by the original contract computed at contract bid prices. The net savings will take into account the contractor's cost of developing the VEP and implementing the change, and reducing this amount by the Department's cost for investigating and evaluating the VEP, including any ascertainable collateral costs to the Department. Such collateral costs may include increased costs for maintenance, operation, related work items, additional work items, or elements of related or additional work items.

(104ENVST, 09/19/24)

SECTION 104 SCOPE OF WORK:

104.16 Environmental Standard Work: of the Standard Specifications is hereby modified as follows:

- (F) **Specific Vegetation Protection Program:** is hereby added to the Standard Specifications:

The contractor shall not disturb unpaved areas without the approval of the Engineer. If any unpaved areas are disturbed as a result of the contractor's operation, the contractor shall

seed the areas with species native to the project vicinity. All seeded areas shall be covered by straw mulch with tacking agent. The contractor shall provide the seed mix to the Engineer for approval prior to placing any seeding. No measurement or payment will be made for seeding, the cost being considered as included in the price of contract items.

(105TPDDC, 08/21/25)

SECTION 105 CONTROL OF WORK:

105.18 Opening Sections of Project to Traffic: of the Standard Specifications is modified to add:

Damage to the project resulting from a third-party shall be reported to the Engineer. Damages to permanent project features, determined by the Engineer as eligible for payment in accordance with the requirements of Subsection 104.04 of the specifications, will be paid for in accordance with Subsection 109.04 of the specifications.

(107UINSLMTS, 02/20/25)

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:

107.14 Insurance: the sixth paragraph of the Standard Specifications is revised to read:

Without limiting any liabilities or any other obligations of the contractor, the contractor shall provide and maintain, if commercially available, the minimum insurance coverage listed below until all obligations under this contract are satisfied:

- (A) General Liability insurance with a minimum combined single limit of \$1,000,000 each occurrence applicable to all premises and operations, and a minimum general aggregate limit of \$2,000,000. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contractors, products and completed operations. Further, the policy shall include coverage for the hazards commonly referred to as XCU (explosion, collapse and underground). The products and completed operations coverage shall extend for one year past acceptance, cancellation or termination of the work. The policy shall contain a severability of interests provision.
- (B) Comprehensive Automobile Liability insurance with a combined single limit for bodily injury and property of not less than \$1,000,000 each occurrence with

respect to contractor's owned, hired, or non-owned vehicles, assigned to or used in performance of the work.

- (C) Workers' Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the work, and Employers' Liability insurance with a minimum limit of \$1,000,000. Evidence of qualified self-insured status will suffice for this subsection.

(107UTIL, 04/17/25)

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:

107.15 Contractor's Responsibility for Utility Property and Services: of the Standard Specifications is modified to add:

Copies of existing ADOT permits, subject to availability, may be obtained from the ADOT Area Permit Supervisor as listed below:

NORTHEAST DISTRICT

(928) 524-5455 2407 Navajo Blvd.
(928) 524-5400 Holbrook, AZ 86025

Email address:
northeastpermit@azdot.gov

The following agencies and utility companies have facilities in the area but are not anticipated to be in conflict:

Company Name	Contact Name	Contact Info
Frontier Communications	Mike Giles	435-452-1397
	Shawn Mitchell	928-871-3800
Navopache Electric Co-op	Dan West	928-368-1289
	Nick Heggern	928-368-1205
Town of Eager	Wes Whiting	928-245-5914

Due to the nature of this project, which is classified as pavement preservation, locations of existing utilities may or may not be shown on plans. Conflicts are not anticipated with utilities. However, it shall be the contractor's responsibility to determine the exact location of all utilities in accordance with Arizona 811 prior to commencing construction operations.

Power lines may exist at various locations throughout the project; however, they are not anticipated to be in conflict. The contractor shall keep a safe distance from all facilities. All work at or in close proximity to any utility lines shall be performed in accordance with all Federal, State and local laws and regulations, including but not limited to:

- (1) Arizona law regarding "Underground Facilities" (A.R.S. 40-360.21 through .32).
- (2) Arizona law regarding "High Voltage Power Lines and Safety Restrictions" (A.R.S. 40 360.41 .45).
- (3) The Occupational Safety and Health Administration.
- (4) The National Electric Safety Code.

Railroad Statement: There is no railroad within ½ mile of the project limits.

The contractor is cautioned to use care when operating near these facilities.

107.15(F) Sewage Discharge Damage Assessments: of the Standard Specifications is revised to read:

The Department will assess sanctions in accordance with the Table 107.15-1 below for each 24-hour period, or portion thereof, for each unplanned breakage that occurs in an active sanitary sewer line as a result of the contractor's operation. The rate of these sanctions is based on the type and quantity of effluent discharged as determined by the Engineer.

These sanctions do not relieve the contractor from any of its responsibilities under the contract, including any liquidated damages that may be assessed under Subsection 108.09 of the specifications for late completion of the project.

The sanctions specified in this subsection will be independent of any penalties imposed by others.

The contractor acknowledges that Regulatory agencies may assess or impose civil or criminal penalties on the contractor resulting from sewer discharges.

The Department will not be responsible for any civil or criminal penalties, fines, damages, or other charges imposed on the contractor by any regulatory agency or court for sewage discharges that are a result, directly or indirectly, of the contractor's work performed under this contract.

TABLE 107.15-1 SANCTIONS (EACH 24-HOUR PERIOD, OR PORTION THEREOF)		
Volume of Discharge	Raw Sewage or Industrial Wastewater	Treated Effluent
Less than 10,000 gallons	\$5,000	\$1,000
10,000 to 99,999 gallons	\$10,000	\$2,000
100,000 to 1 million gallons	\$25,000	\$3,000
Greater than 1 million gallons	\$40,000	\$5,000

These sanctions will be assessed for each 24-hour period, or portion thereof, until the contractor has completed all of the following tasks:

1. Stopped the discharge
2. Repaired the damaged pipe
3. Restored normal service
4. Fully cleaned and disinfected the site to the satisfaction of the Engineer

Upon completion of tasks (1), (2), and (3) above, and prior to completion of Task (4), the sanctions for the current 24-hour period will be at the rate shown in Table 107.15-1. However, for each subsequent 24-hour period, the assessment will be 1/2 of the rate shown in Table 107.15-1.

The sanctions will continue at the reduced rate until the site has been fully cleaned and disinfected to the satisfaction of the Engineer.

As an example, the amounts assessed each 24-hour period for an unplanned discharge of 20,000 gallons of raw sewage, in which the contractor completes tasks (1), (2), and (3) within the second 24-hour period but does not complete full cleanup until the third 24-hour period, will be as follows:

First 24-hour period:	\$10,000
Second 24-hour period:	\$10,000
Third 24-hour period:	\$5,000

For this example, the total sanction will be \$25,000 (\$10,000 + \$10,000 + \$5,000).

(108SUBLT, 10/20/22)

SECTION 108 PROSECUTION AND PROGRESS:

108.01 Subletting of Contract: the thirteenth paragraph of the Standard Specifications is revised to read:

If a subcontractor, of any tier, begins work on the contract prior to the contractor submitting the required documentation and receiving consent from the Engineer, the Department will retain \$1,000 from monies due or becoming due the contractor. The money retained will be for each subcontractor, of any tier, that starts work without the consent of the Engineer. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

(108PRCN, 08/19/21)

SECTION 108 PROSECUTION AND PROGRESS:

108.03 Preconstruction Conference: the second paragraph of the Standard Specifications is revised to read:

At the preconstruction conference the contractor shall submit a progress schedule showing the order in which the contractor proposes to carry out the work, the dates on which the contractor and its subcontractors will start the work, including procurement of materials, equipment, etc.; the ordering of articles of special manufacture; the furnishing of drawings, plans and other data required under Subsection 105.03 of the specifications for the review and approval of the Engineer; the inspection of structural steel fabrication; and the contemplated dates for the completion. The schedule shall be in a critical path method format. No schedule activity shall be shorter than one day or longer than 20 days. The schedule must show interrelationships among the activities, and the controlling items of work throughout the project shall be identified. If requested by the Engineer, the contractor shall furnish information needed to justify activity time durations. Such information shall include estimated manpower, equipment, unit quantities, and production rates. The schedule shall illustrate the completion of the work not later than the contract completion date.

108.04 Prosecution and Progress: the third paragraph of the Standard Specifications is revised to read:

At a mutually convenient location and time, the contractor shall meet weekly with the Engineer to discuss construction activities; however, a meeting may be waived if mutually agreed to, due to weather conditions, work progress, or for other reasons. At the meetings, the contractor shall provide the Engineer with a detailed, written schedule of construction activities and phases of work for the current week, forthcoming three week period as well as the construction activities which were performed during the previous week. This schedule shall

detail the anticipated start dates and anticipated completion dates of work activities. The weekly schedule should reflect, at a minimum, all activities from the most recently updated project schedule. For work which was completed during the previous week, this schedule shall detail the actual start and completion dates of work activities as well as indicate the status of major ongoing activities. Upon the second occurrence of the contractor failing to provide an accurate schedule as describe herein and after written notification by the Engineer of the first occurrence, the Department will deduct \$500 from the contractor's progress payment per each occurrence thereafter. Minutes of the weekly meetings will be kept by the Engineer and a copy given to the contractor for review and acceptance.

(108TIME, 10/15/20)

SECTION 108 PROSECUTION AND PROGRESS:

108.08 Determination and Extension of Contract Time: the first paragraph of the Standard Specifications is revised to read:

The time allowed for the completion of the work included in the contract will be 90 working days, and will be known as the "Contract Time."

(108RSLD, 06/19/2025)

SECTION 108 PROSECUTION AND PROGRESS:

108.09 Failure to Complete the Work on Time: the Schedule of Liquidated Damages table of the Standard Specifications is revised to read:

SCHEDULE OF LIQUIDATED DAMAGES			
Original Contract Amount		Liquidated Damages Per Day	
From More Than:	To and Including:	Calendar Day or Fixed Date:	Working Day:
\$ 0	\$ 500,000	\$ 300	\$ 1,000
\$ 500,000	\$ 1,000,000	\$ 850	\$ 1,700
\$ 1,000,000	\$ 2,000,000	\$ 1,250	\$ 2,650
\$ 2,000,000	\$ 5,000,000	\$ 2,100	\$ 3,800
\$ 5,000,000	\$ 10,000,000	\$ 3,300	\$ 6,850

SCHEDULE OF LIQUIDATED DAMAGES			
\$ 10,000,000	\$ 30,000,000	\$ 7,300	\$ 10,550
\$ 30,000,000	\$ 60,000,000	\$ 9,350	\$ 17,750
\$ 60,000,000	\$ 90,000,000	\$ 19,900	\$ 27,850
\$ 90,000,000	-----	\$ 27,450	\$ 38,400

(109RRBB, 04/18/24)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(3) Equipment: the first paragraph of the Standard Specifications is revised to read:

Equipment which the Engineer considers necessary for the performance of work will be eligible for payment at the established rates only during the hours that it is operated except as otherwise allowed elsewhere in these specifications. Equipment hours will be recorded to the nearest one-half hour. For the use of equipment owned by the contractor and approved by the Engineer, the contractor will be paid the rental rates, as modified herein, outlined in the Rental Rate Blue Book® (RRBB) for Construction Equipment which is updated by EquipmentWatch™, a division of Fusable, 3200 Rice Mine Road NE, Tuscaloosa, Alabama 35406, phone (888) 307-1713. All rate determinations will be based on the RRBB quarterly rate revisions that are applicable at the time equipment is being used.

(109FAEU, 08/15/24)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(3)(a) Rental Rates (Without Operators): the equation of the first paragraph of the Standard Specifications is revised to read:

The hourly equipment rental rate (HERR) will be determined by the following formula:

$$HERR = F \times \left[\frac{1.15 \times R}{176} \right] + HOC$$

Where: F= Adjustment Factor to R is 0.933

R= Current RRBB Monthly Rate

HOC= Hourly Operating Cost

(109WFADF, 05/15/25)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(6) Statements: the title and text of the Standard Specifications is revised to read:

109.04(D)(6) Forms:

The contractor shall prepare the Weekly Force Account Detail form for each week of force account activity. The Weekly Force Account Detail form is a standardized, fillable form made available by the Department on the ADOT Construction Group's website.

The form shall detail the labor, equipment, and material charges utilized to accomplish the force account work along with all supporting documentation. The contractor shall furnish copies of original receipts (paid invoice cost) for materials, rental equipment cost, including freight and transportation charges, copies of rental rate blue book equipment sheets and certified payrolls.

If materials used on the force account work are not specifically purchased for such work but are taken from the contractor's stock, then instead of invoices, the forms shall contain or be accompanied by an affidavit of the contractor certifying that such materials were taken from stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the contractor.

Force account work shall be tracked daily; however, the contractor shall compile no more than one full week's worth of daily records into a Weekly Force Account Detail form. Each reporting period runs from Saturday through Friday. The contractor shall submit the form within 30 calendar days of the respective week's force account performance. The completed form shall be submitted to the Engineer for review and approval. The Engineer will review the form and supporting documentation against the ADOT Inspector's Daily Force Account Reports, and will verify that the form is timely, complete, and accurate. Payment will not be made until the contractor has furnished applicable forms, detailing the costs of the force account work, including but not limited to the following information:

- (a) Labor: name, classification, date, daily hours, hourly rate and fringe rate, and certified payrolls for each foreman and laborer.
- (b) Equipment: dates, equipment number, description, operator name, hours used, approved stand-by hours, monthly rental rate, hourly operating cost and rental rate blue book sheets for each unit of equipment.
- (c) Rental Equipment (Third Party): invoice, dates used, vendor name, description of equipment, operator name, hours used, invoice rate, hourly

operating cost and rental rate blue book sheets for each rental equipment.

- (d) Materials: invoice, date used, supplier name, description, quantity, unit of measure and unit cost.
- (e) Transportation: freight and express charges on materials, FOB jobsite.

(109SUBPAY, 10/20/22)

SECTION 109 MEASUREMENT AND PAYMENT:

109.06(B)(5) Payment Reporting and Sanctions: the eighth paragraph of the Standard Specifications is revised to read:

For each month that the contractor fails to submit timely and complete payment information the Department will retain \$5,000 as sanctions from the monies due to the contractor. After 90 consecutive days of non-reporting, the sanctions will increase to \$10,000 for each subsequent month which the contractor fails to report until the information is provided. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

109.06(B)(8) Non-compliance: of the Standard Specifications is revised to read:

Failure to make prompt partial payment, or prompt final payment including any retention, within the time frames established above, will result in remedies, as the Department deems appropriate, which may include but are not limited to:

- (a) Sanctions. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract:
 - (i) The Department will withhold two times the dollar amount not paid to each subcontractor;
 - (ii) If full payment is made within 30 days of the Department's payment to the contractor, the amount withheld by the Department will be released; and
 - (iii) If full payment is made after 30 days of the Department's payment to the contractor, the Department will release 75 percent of the funds withheld. The Department will retain the remaining 25 percent of the monies withheld as sanctions.

(b) Additional Remedies. If the contractor fails to make prompt payment for three consecutive months, or any four months over the course of one project, or if the contractor fails to make prompt payment on two or more projects within 24 months, the Department may, in addition, invoke the following remedies:

- (i) Withhold monthly progress payments until the issue is resolved and full payment has been made to all subcontractors, subject to the sanctions described in paragraph (a) above;
- (ii) Terminate the contract for default in accordance with Subsection 108.10 of the specifications; and/or
- (iii) Disqualify the contractor from future bidding, temporarily or permanently, depending on the number and severity of violations.

In determining whether the sanctions will be assessed, the extent of the sanctions, or additional remedies assessed, the State Construction Engineer will consider whether there have been other violations on this or other contracts, whether the failure to make prompt payment was due to circumstances beyond the contractor's control, and other circumstances. The contractor may, within 15 calendar days of receipt of the decision of the State Construction Engineer, escalate the decision to the State Engineer. If the contractor does not escalate the decision of the State Construction Engineer, in writing to the State Engineer, within 15 calendar days of receipt of the decision, the contractor will be deemed to have accepted the decision and there will be no further remedy for the contractor. If the contractor escalates the decision to the State Engineer, and the contractor does not agree with the State Engineer's decision, the contractor may initiate litigation, arbitration or mediation pursuant to Subsection 105.21(D) and (E) of the specifications.

(109FUEL, 02/10/12)

SECTION 109 MEASUREMENT AND PAYMENT: of the Standard Specifications is modified to add:

109.12 Fuel Cost Adjustment:

(A) General:

The Department will adjust monthly progress payments up or down as appropriate for cost fluctuations in diesel fuel as determined in accordance with these special provisions.

A fuel cost adjustment will be made when fluctuations in the price of diesel fuel, in excess of 15 percent, occur throughout this contract. The Department will not provide such adjustments for fluctuations in the price of diesel fuel of 15 percent or less.

No adjustments will be made for fluctuations in the price of fuels other than diesel.

(B) Measurement:

The base index price of fuel will be determined by the Department from the selling prices of diesel fuel published by OPIS (Oil Price Information Service). The base index price to be used will be the price for Diesel fuel No. 2, Ultra Low Sulfur, PAD 5, City of Phoenix Rack. The reported average value for the Phoenix area will be used.

The base index price for each month will be the arithmetic average of the selling price for diesel fuel, as specified above, shown in the last four reports received prior to the last Wednesday of the month.

This price will be effective as of the last Wednesday of each month, and will be posted on the Department's website, at <http://www.azdot.gov/Highways/cns/bitmat.asp>, on or shortly after the last Wednesday of the month.

This price may also be obtained from Contracts and Specifications Services at (602) 712-7221.

This price will be deemed to be the "initial cost" (IC) for diesel fuel on projects for which bids are opened during the following month.

The current index price for diesel fuel in subsequent months will be the base index price, determined as specified above, for the current month. For example; an adjustment for diesel fuel used in May, if applicable, will be based on the "current price" (CP) for May as posted on the last Wednesday of May. The amount of adjustment per gallon will be the net difference between the "initial cost," adjusted by 15 percent, and the current index price. The monthly adjustment will be determined by the Engineer and included in the payment estimate as a fuel adjustment. For fluctuations in excess of 15 percent, fuel cost adjustments will only be made for current price index increases greater than 1.15 times the "initial cost" or for decreases less than 0.85 times the "initial cost." No calculation will be made for fluctuations in the current index price of 15 percent or less when compared to the "initial cost."

The number of gallons of diesel fuel used per month will be considered to equal 1.5 percent of the dollar amount of work reported by the contractor for each month. Such dollar amount will not include incentives earned by the contractor for pavement smoothness, thickness, or strength for Portland cement concrete pavements; for pavement smoothness or quality lots for asphaltic concrete pavements; for any other revenue derived from quality incentives; or for revenue accrued in the previous month for bituminous material cost fluctuations or diesel fuel price adjustments.

A monthly adjustment, if applicable, will be made on this quantity, as shown below:

$$S = \frac{0.015(Q)}{IC} \times (CP - AC)$$

Where; S = Monetary amount of the adjustment (plus or minus) in dollars
Q = Dollar amount of work completed for the month
CP = Current index price in dollars per gallon
AC = Adjusted "initial cost" (1.15 or 0.85 times IC) in dollars per gallon
IC = "Initial cost" as determined above, dollars per gallon

If adjustments are made in the contract quantities, the contractor shall accept any fuel adjustment as full compensation for increases or decreases in the price of fuel regardless of the amounts of overrun or underrun.

The value calculated above (plus or minus) will be adjusted to include sales tax and other taxes as applicable.

No additional compensation will be made for any additional charges, costs, expenses, etc., which the contractor may have incurred since the time of bidding and which may be the result of any fluctuation in the base index price of diesel fuel.

No adjustments will be made for work performed after Substantial Completion, as defined in Subsection 105.19, has been achieved.

(C) Payment:

Price adjustments will be shown on the monthly progress estimate, but will not be included in the total cost of work for determination of progress or for extension of contract time.

(109BITUMADJ, 06/19/25)

SECTION 109 MEASUREMENT AND PAYMENT: of the Standard Specifications is modified to add:

109.16 Bituminous Price Adjustment:

(A) General:

The term "bituminous material" as used herein shall include asphalt binder, asphalt rubber and emulsified asphalt.

The Department will adjust monthly progress payments as appropriate for market fluctuations in the price of bituminous material.

A price for bituminous material will be determined monthly by the Department based on the selling prices published by the Asphalt Weekly Monitor, a publication of Poten & Partners, Inc. The price will be the arithmetic average of the high and low selling prices for bituminous material shown in the previous four reports for the Arizona/Utah and Southern California regions.

This value will be effective as of the last Wednesday of each month, and will be posted on the ADOT Contracts and Specifications Group website, on or shortly after the last Wednesday of each month.

This price will be deemed the "initial cost" (IC) for bituminous material for projects on which bids are opened during the following month. This price will also be deemed the "current price" (CP) for bituminous material for the following month for projects in construction.

(B) Measurement:

For each item of bituminous material for which there is a specific pay item, and for the bituminous material used in Asphaltic Concrete mixes, an adjustment will be made for each month that a quantity of bituminous material was used on the project.

The IC for the month in which the project was bid will be compared with the CP for the appropriate current month. The CP will be as posted on the Department's website on the last Wednesday of each month, and will be used to adjust costs for bituminous material incorporated into the job during the following month (for example; bituminous material used in May will be adjusted, as specified herein, based on the CP for May as posted on the last Wednesday of April). Any difference in price between these two values will be applied to the quantity of eligible bituminous material incorporated into the work.

Determination of the eligible quantities of bituminous material for adjustment will be based on contractor-furnished invoices, except as described herein.

The tons of emulsified products to which the adjustment will be applicable will be the tons of the emulsified asphalt prior to dilution.

Adjustments in compensation for emulsified asphalts will be made at 60 percent of either the increase or decrease of IC. For emulsified asphalts containing polymer, adjustments in compensation will be made at 66 percent of either the increase or decrease.

The tons of Bituminous Material (Asphalt-Rubber) to which the adjustment is applicable will be 80 percent of the total quantity of the item used. The adjustment is not applicable to the 20 percent of the material which constitutes the crumb-rubber additive.

The tons of Bituminous Material (TR+) to which the adjustment is applicable will be 92 percent of the total quantity of the item used. The adjustment is not applicable to the 8 percent of the material which constitutes the crumb-rubber additive.

The tons of bituminous material in Asphaltic Concrete mixes, subject to price adjustment shall be calculated as follows, based on the approved mix design target values and the quantity of Asphaltic Concrete placed—regardless of the actual percentage of binder incorporated:

A monthly adjustment, if applicable, will be made on this quantity, as shown below:

$$PA = (CP - IC) \times ACP \times F$$

Where: PA = Price Adjustment monetary amount (plus or minus in dollars)
CP = Current index price (dollars per ton)
IC = Initial Cost at time of bid (dollars per ton)
ACP = Asphaltic Concrete Placed (tons)
F = Eligible Asphalt Cement %

The value calculated above (plus or minus) will be adjusted to include sales tax and other taxes as applicable.

- (1) For mixes without reclaimed asphalt pavement (RAP):

F = Approved Mix Design Target Asphalt Cement %

- (2) For mixes with RAP:

F = Approved Mix Design Target Asphalt Cement % – Mix Design RAP
Asphalt Cement contribution %

- (3) For mixes using PG TR+ Terminal Blend (8 % Crumb Rubber):

F = 0.92 x (Approved Mix Design Target Asphalt Cement %)

- (4) For mixes using Asphalt-Rubber Blend (20 % Crumb Rubber):

F = 0.80 x (Approved Mix Design Target Asphalt Cement %)

- (5) If the quantity of Asphaltic Concrete is measured by volume, the supplemental agreement establishing the method of measurement will specify the manner in which the tons of bituminous material eligible for the adjustment is determined.

(C) Payment:

Price adjustments will be shown on the monthly progress estimate, but will not be included in the total cost of work for determination of progress or for extension of contract time.

Price adjustments will be calculated using the measurement methods described above. Only the tons of virgin asphalt binder determined by those methods will be subject to a bituminous material price adjustment.

No price adjustment will be made for the RAP binder in the mix.

No price adjustment will be made for the 8% of binder comprising crumb rubber when (TR+) is used.

No price adjustment will be made for the 20% of binder comprising crumb rubber in the asphalt-rubber material blend.

No compensation will be made for changes that may have occurred since the time of bidding and which may be the result of any increase in the IC of bituminous material.

Adjustment in unit prices of items governed by this provision will be made in the next regular monthly progress payment following actual use or application of the bituminous material.

(201PAY, 07/15/21)

SECTION 201 CLEARING AND GRUBBING:

201-5 Basis of Payment: of the Standard Specifications is modified to add:

When clearing and grubbing is not included as a contract pay item, full compensation for any clearing and grubbing necessary to perform the construction operations designated on the project plans or specified in the Special Provisions shall be considered as included in the price of contract item.

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS: the first paragraph of the Standard Specifications is hereby deleted:

SECTION 202 REMOVAL OF STRUCTURE AND OBSTRUCTIONS:

202-3.03 (C) Bituminous Pavement Removal by Milling: of the Standard Specifications is modified to add:

The milled material shall become property of ADOT. The contractor shall haul it to the Springerville Maintenance Yard located at 1532 E. Main Street, Springerville, AZ 85935. The contractor shall coordinate delivery of the milled material with Gilbert Jimenez, Highway Operations Supervisor, at (928) 333-4495.

(202MICROMIL, 09/19/24)

ITEM 2020075 - REMOVE BITUMINOUS PAVEMENT (MICRO-MILLING):

Description:

The work under this item shall consist of micro-milling the existing asphaltic concrete friction course or thin lift pavement treatment to remove surface irregularities, restore grade and/or transverse slope of pavement and provide a texture suitable for a new thin lift surface application, or for use as the final driving surface. The work shall be performed at the locations and depths shown on the plans, as directed by the Engineer, and in accordance with the requirements of these specifications.

Construction Requirements:

The micro-milling equipment shall be specifically designed to remove material to a controlled line and grade. Milling machines shall be equipped with a drum specifically designed and constructed for micro-milling, consisting of cutting teeth spaced no greater than 1/4 inch apart on center. The configuration of the teeth shall be such that the deviation in elevation between any 2 teeth does not exceed 1/16 inch. The equipment used shall be capable of removing the existing asphaltic concrete friction course uniformly throughout the milled area at the required cross-slope and within 1/10 inch of the specified removal depth. The micro-milling shall be accomplished in a manner which does not destroy the integrity of any underlying pavement surface.

If during milling operation, it is determined that the required average micro-milling depth is greater than the specified micro-milling depth, the contractor shall immediately notify the Engineer and document the situation. Upon approval of the Engineer, the contractor shall proceed with the micro-milling operation. Payment for the removal of additional material will be in accordance with the requirements of Subsection 109.04 of the specifications.

The micro-milled surface shall meet longitudinal profile and cross-slope requirements as shown on plans to the extent achievable within the specified micro-mill depth. The surface finish shall not vary longitudinally or transversely more than 1/8 inch as measured with a 10 foot straightedge. The micro-milled surface shall have a uniform transverse texture pattern of 0.2 inch center to center of each strike area. The target difference between the ridge and valley measurement of the mat surface shall not exceed 1/16 inch. The maximum mean macrotexture depth shall be 0.064 inches, as determined in accordance with Arizona Test Method 742.

At the start of the micro-milling operation, the contractor shall micro-mill a 1,000-foot test section. The micro-milled surface of the test section shall be evaluated by the Engineer for compliance with cross slope, profile smoothness, and maximum mean macrotexture depth requirements. Measurements for compliance shall be taken at a minimum of two random

locations, not less than 500 feet apart. If the micro-milled surface is in compliance with the requirements, the contractor can resume the micro-milling operation. If the micro-milled surface is not in compliance, the contractor shall make adjustments to the micro-milling operation and then micro-mill another 1,000-foot test section.

During micro-milling operation, the cross slope, profile smoothness, and maximum mean macrotexture depth shall be determined at a minimum frequency of one test per one-half mile per lane. If, at any time, during the micro-milling operation the Engineer determines that the requirements are not being achieved, the contractor shall stop micro-milling. The micro-milling operation shall not resume until the Engineer is satisfied that the requirements can be met or until successful completion of another test section. The forward speed of the micro-milling machine during milling operation shall not exceed the speed used for the test section. The forward speed of the micro-milling machine shall be checked throughout each production day, or at the discretion of the Engineer.

Micro-milled lanes shall be opened to traffic before the end of each day's work if required by the engineer. Prior to opening, the contractor shall remove dust, residue, and loose milled material from the micro-milled surface in accordance with the requirements of the plans and specifications, and take appropriate measures to ensure that micro-milled surfaces do not trap or hold water. All required pavement markings removed by the micro-milling shall be restored or otherwise addressed with approved traffic control devices before the roadway is opened to traffic.

In the event of circumstances beyond the control of the contractor, such as equipment breakdown, and the contractor is unable to comply with the requirements in the preceding paragraph, the contractor shall provide and maintain such traffic control devices that the Engineer deems necessary under the circumstances in order to provide safe and efficient passage through the work zone.

Pavement, to be removed by micro-milling, adjacent to manholes, valve boxes, small radius curbs and other fixed objects that produce confined areas shall be removed with milling equipment specifically designed to operate in restricted areas and capable of removing asphaltic concrete friction course of the specified thickness without damage or displacement of the adjacent object. At the discretion of the Engineer, such areas may be excluded from macrotexture testing.

Method of Measurement:

Remove Bituminous Pavement (Micro-Milling) will be measured by the square yard.

Basis of Payment:

The accepted quantities of Remove Bituminous Pavement (Micro-Milling), measured as provided above, will be paid for at the contract unit price per square yard, which price shall

be full compensation for the work, complete in place, as described and specified herein. No measurement or direct payment will be made for loading and hauling milled material to the location identified above.

(404BITUM, 08/18/22)

SECTION 404 BITUMINOUS TREATMENTS:

404-1 Description: of the Standard Specifications is revised to read:

The work under this section shall consist of furnishing all materials and constructing or applying bituminous treatments at the locations designated on the plans and in accordance with the requirements of the specifications and in conformity to the lines shown on the project plans or established by the Engineer.

The bituminous treatments include one or a combination of prime coat, tack coat, and fog coat. The bituminous treatments also include emulsified asphalt chip seal and hot applied chip seal both either with or without fog coat.

When a "hot applied" chip seal is called for on the plans and specifications, it refers to a chip seal using a performance grade asphalt cement or a crumb rubber asphalt as the bituminous material.

404-2.02 Aggregate Materials:

(A) General: the second and third paragraphs of the Standard Specifications are revised to read:

With the exception of precoated cover material, aggregate material shall be sampled for gradation acceptance from the final stockpile prior to being incorporated into the work. The aggregate for the precoated material shall be sampled prior to precoating.

(B) Blotter Material: of the Standard Specifications is revised to read:

Blotter material shall be natural or manufactured sand, volcanic cinders, or other approved material and shall be free of deleterious materials or foreign substances.

The gradation shall meet the following requirements when tested in accordance with the requirements of Arizona Test Method 201:

Sieve Size	Percent Passing
3/8 inch	100
No. 4	80 - 100
No. 16	45 – 80
No. 200	0 - 5.0

(C) Cover Material: of the Standard Specifications is revised to read:

Aggregate for cover material shall be clean gravel or crushed rock, shall be free of clay, and shall not contain calcium carbonate, caliche, synthetic materials, organic matter, or foreign substances. Cover material shall not be obtained from sweepings of previously applied cover material.

The gradation shall meet the following requirements when tested in accordance with the requirements of Arizona Test Method 201.

Sieve Size	Percent Passing	
	Class 1	Class 2
3/4 inch	100	
1/2 inch	97 – 100	100
3/8 inch	70 – 100	97 – 100
1/4 inch	0 – 10	70 – 100
No. 8	0 – 5	0 – 5
No. 200	0 - 2.0	0 - 2.0

Cover material shall meet the following requirements:

Aggregate Characteristics	Test Method	Requirement
Abrasion	AASHTO T 96	100 Rev., Max 9% 500 Rev., Max 40%
Carbonates	Arizona Test Method 238	Maximum 20%
Fractured Coarse Aggregate Particles	Arizona Test Method 212	Minimum 75% one fractured face, determined on plus No. 8 material
Flakiness Index	Arizona Test Method 233	Maximum 20%
Bulk Oven Dry Specific Gravity	Arizona Test Method 210	2.350 – 2.850

Water Absorption	Arizona Test Method 210	0.0 – 2.5%
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(D) Precoated Cover Material: of the Standard Specifications is revised to read:

For hot applied chip seals, the cover material shall be precoated with any grade of PG asphalt cement which meets the requirements of Section 1005 of the specifications. The precoating shall be accomplished by mixing at a central plant until the aggregate is evenly coated. The cover material shall have a minimum temperature of 250 degrees F at the time of precoating with asphalt cement. The cover material shall be precoated with approximately 0.40 to 0.60 percent asphalt cement, by weight of the aggregate. The final percentage of asphalt cement used for precoating will be as directed by the Engineer. Precoated cover material shall be dust free upon completion of coating and shall remain dust free prior to being incorporated into the work.

The aggregate for precoated cover material shall meet the requirements in Subsection 404-2.02(C) of the specifications prior to precoating with bituminous material.

No precoated cover material shall be stockpiled following precoating with asphalt cement for more than five calendar days prior to placement, unless otherwise approved by the Engineer.

404-2.03 Bituminous Treatment Material Types and Application Rates: of the Standard Specifications is modified to add:

The type of bituminous material for tack coat and approximate application rate shall be as specified in Subsection 404-4.02 of the specifications.

The type of bituminous material for fog coat shall be SS-1 and shall be applied at the approximate rate of 0.08 gallons per square yard. Blotter material shall be applied at the approximate rate of 2 pounds per square yard.

The type of bituminous material for hot applied chip seal coat shall be PMAR Type 1, and shall be applied at the approximate rate of 0.55 gallons per square yard. The cover material shall be precoated Class 1.

The bituminous material application rates provided in this Subsection are approximate, and are to be used for bidding purposes, and shall be modified as required herein. Final application rates for all materials shall be those required to ensure the most favorable outcome, as approved by the Engineer.

404-3 Construction Requirements:

404-3.01 Seasonal and Weather Limitations: of the Standard Specifications is revised to read:

(A) General:

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the bituminous treatment.

Placement shall cease for the remainder of the day if sustained wind velocities in excess of 15 MPH occur at the project site.

(B) Prime Coat:

Bituminous material used for prime coats shall be applied to an existing aggregate surface only when the ambient temperature in the shade is at least 70 degrees F and when the existing aggregate surface is slightly damp.

(C) Fog Coat:

Bituminous material used for fog coats shall be applied to an existing pavement surface only when the surface is dry, the pavement surface temperature is at least 60 degrees F but does not exceed 175 degrees F, and the ambient temperature at the beginning of the application is at least 50 degrees F and rising but does not exceed 110 degrees F. The application of bituminous material shall be stopped when the ambient temperature is 55 degrees F or less and falling.

(D) Chip Seal:

The contractor's bid submittal and initial construction schedule shall adhere to the beginning and ending dates shown in Subsection 404-4.04(A) of the specifications. Bituminous material used for chip seal coats shall only be placed when the existing pavement surface is dry, the surface temperature is at least 85 degrees F, and the ambient temperature at the beginning of the application of bituminous material is at least 65 degrees F and rising. The application of bituminous material shall be stopped when the ambient temperature is 70 degrees F or less and falling.

No placement of bituminous material for chip seals shall occur if ambient temperatures are forecasted to be at or below 40 degrees F at any time during the day or night after placement.

For hot applied chip seals, no placement shall occur if ambient temperatures exceed, or are forecasted to exceed, 110 degrees F the day before, the day of, or the two days after placement.

404-3.02 Equipment:

- (A) Distributor Truck:** the first sentence of the first paragraph of the Standard Specifications is revised to read:

Distributor trucks shall be so designed, equipped, maintained and operated that bituminous material at the specified temperature may be applied uniformly on variable widths of surface at readily determined and controlled rates from 0.03 to 1.00 gallons per square yard, with uniform pressure, and with an allowable transverse variation from any specified rate not to exceed 10 percent or 0.02 gallons per square yard, whichever is less.

- (A) Distributor Truck:** the first sentence of the fourth paragraph of the Standard Specifications is revised to read:

Distributor truck spray bars shall be equipped with the appropriate size nozzles adjusted to the proper angle with the associated adjustment wrench to achieve maximum overlap of spray and an even application.

- (B) Power Brooms:** of the Standard Specifications is revised to read:

Power brooms shall be of the rotary or pickup type, capable of completely removing excess blotter material, and cleaning without gouging or tearing the surface.

- (D) Aggregate Spreaders:** of the Standard Specifications is revised to read:

The application of blotter material shall be accomplished by means of a sand slinger or other equipment approved by the Engineer.

The application of cover material shall be accomplished by means of a calibrated spreader. The spreader shall be a self-propelled, computerized rate-controlled unit capable of an application width of 14 feet or greater. The spreader shall be in good mechanical condition, capable of applying the correct aggregate application rate uniformly across the spread width.

Chip spreader boxes shall be calibrated to ensure consistent discharge across all of the chutes except where the discharge is intentionally adjusted to compensate for site conditions and construction operations.

404-3.03 Traffic Control: of the Standard Specifications is hereby deleted.

404-3.04 Preparation of the Surface: of the Standard Specifications is revised to read:

The surface to be treated shall be thoroughly cleaned prior to applying bituminous material. Man holes, utility covers, and catch basins shall be protected prior to and during application of bituminous material. Self-propelled rotary power brooms, pickup brooms, and hand brooms shall be used immediately in advance of applying the bituminous material.

When a bituminous treatment is to be applied to an existing aggregate surface, the surface shall be uniformly smooth, firm and reasonably true to grades and cross sections as shown on the project plans, and shall be so maintained throughout the placing of the bituminous treatment. In no event shall a bituminous treatment be placed on a soft, uneven base. All holes, depressions or irregularities shall be repaired. All loose and unsuitable material shall be removed and replaced by suitable material, which shall be compacted to produce a dense uniform surface conforming to the adjacent area.

When required, the existing aggregate surface on which the bituminous treatment is to be placed shall be lightly bladed, watered and compacted immediately prior to the application of bituminous material. In extremely dry areas, additional light applications of water may be required prior to the application of the bituminous material to facilitate penetration of the bituminous material.

404-3.05 Application of Bituminous Material: the first, second and third paragraphs of the Standard Specifications are revised to read:

The types, grades, and approximate rates of application of bituminous material shall be as specified in Subsections 404-2.03 of the specifications. The application rates for chip seal coats shall be determined by the contractor in accordance with the requirements herein, subject to approval by the Engineer.

The rates to be applied may vary substantially because of different surface conditions within the project limits. The actual bituminous material application rate shall not vary more than 10 percent from the application rate specified or approved by the Engineer.

The bituminous material shall be uniformly applied to the prepared surface at the rate specified or approved by the Engineer and in one application.

404-3.05 Application of Bituminous Material: the seventh, eighth and ninth paragraphs of the Standard Specifications are revised to read:

In the event that any spots are missed in the application, or any areas develop that do not have a uniform spread or penetration, such areas shall be remedied without delay.

Care shall be taken to prevent the spraying or splattering of bituminous material on adjacent pavements, structures, curb, guardrail, vegetation, or any other object outside of the area designated for spraying.

Removal and disposal of unused bituminous material shall be the contractor's responsibility and at no cost to the Department.

404-3.06 Application of Blotter Material: of the Standard Specifications is revised to read:

The approximate application rate of blotter material, when required as a part of a bituminous treatment, shall be as specified in Subsection 404-2.03 of the specifications; however, the Engineer will specify the exact rate to be applied based on the characteristics of the bituminous treated surface. The specified application rates are based on the wet weight of material.

Blotter material, at the time of spreading, shall be wet but free from running water. Blotter material shall be spread uniformly to the treated surface in one or more applications for a total application rate as specified. Blotter material shall be applied at a time acceptable to the Engineer and before opening to traffic.

Any oversized aggregate or foreign material picked up during stockpiling or loading operations shall be eliminated before entering the spreader. Supplemental spreading or smoothing shall be done by hand methods where necessary.

Prior to final acceptance and when ordered by the Engineer, the contractor shall remove and dispose of any excess blotter material. Removal and disposal of excess blotter material shall be the contractor's responsibility and at no cost to the Department.

404-3.07 Joints: of the Standard Specifications is revised to read:

(A) General:

Transverse joints with the preceding work, at intersections, and at all existing pavements and structures shall be made by a method approved by the Engineer prior to the start of the work.

Longitudinal joints shall be overlapped between 2 to 6 inches.

Regardless of the width of the roadway to be sealed, the number of longitudinal joints shall be kept to a minimum. Longitudinal joints shall be located to the greatest degree obtainable to coincide with the painted lines between traffic lanes.

(B) Chip Seal:

Unless otherwise directed by the Engineer, transverse joints with the preceding work shall be made by placing building paper over the end of the previous application, and the joining application shall start on the building paper. Once the application process has progressed beyond the paper, the paper shall be disposed of as directed by the Engineer. Transverse joints at other locations shall be made by a method approved by the Engineer prior to the start of the work.

Joints shall be cleaned as deemed necessary by the Engineer prior to the application of bituminous material in the adjacent strip.

404-3 Construction Requirements: of the Standard Specifications is modified to add:

404-3.08 Opening to Traffic:

In the construction or application of bituminous treatments, no traffic or equipment will be permitted on the treated roadway surface until it has been established to the satisfaction of the Engineer that the treated roadway surface will not be damaged or marred under the action of traffic. No traffic of any description shall be allowed on any bituminous treatment until approved by the Engineer.

404-4 Prime Coat: the title and text of the Standard Specifications is revised to read:

404-4 Bituminous Surface Treatment:

404-4.01 Prime Coat:

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different base conditions.

When it is deemed necessary, areas having excess bituminous material shall be blotted with material as directed by the Engineer.

When directed by the Engineer, the surface of the completed prime coat shall be rolled with a pneumatic-tired roller.

The integrity of the prime coat shall be maintained at all times until the next course is placed or until final acceptance. In the event traffic has caused holes or breaks in the surface, such holes or breaks shall be repaired by the contractor.

404-4.02 Tack Coat:

Tack coat shall be applied prior to placing a bituminous mixture on a primed surface, an existing bituminous surface, or an existing Portland cement concrete pavement surface. Tack coat shall also be applied between each layer of bituminous mixtures. A light coat of bituminous material shall also be applied to edges or vertical surfaces against which a bituminous mixture is to be placed.

The contractor shall choose the bituminous material to be used for tack coat. The Engineer must approve the contractor's choice of bituminous material prior to its use.

The rate of application for the specific usage will be specified by the Engineer. The following table shows approximate tack coat application rates:

Type of Bituminous Material	Approximate Tack Coat Application Rates: Gallons / Square Yard		Payment Factor
	Prior to Placing ACFC or AR-ACFC	All Other Tack Coats	
Emulsified Asphalt (Special Type) – See Note (1) Below.	Not Allowed	0.12	0.7
Emulsified Asphalt (Other than Special Type)	0.08	0.08	1.0
Asphalt Cement	0.06 to 0.08	0.06 to 0.08	1.0
Note: (1) Emulsified Asphalt (Special Type) shall consist of Type SS-1 or CSS-1 emulsified asphalt diluted with water to provide an asphalt content of not less than 26 percent.			

The Engineer may adjust the application rate.

If emulsified asphalt of any type is used, it shall have broken before the bituminous mixture is placed.

Tack coat shall be applied only as far in advance of the placement of the bituminous mixture as is necessary to obtain the proper condition of tackiness. All traffic on a tack coat surface shall be minimized to the greatest extent possible. In no event shall more tack coat be applied in one day than will be covered by the bituminous mixture during that same day.

404-4.03 Fog Coat:

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The material shall be diluted with one part water to one part bituminous material. The specified application rate is based on the diluted material. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different pavement conditions.

When specified in Subsection 404-2.03 of the specifications, blotter material shall be applied following the application of bituminous material.

404-4.04 Chip Seal Coat:

(A) General:

The contractor shall prepare their bid submittal and initial construction schedule, submitted at the Preconstruction Conference as described in Subsection 108.03 of the specifications, based on the following beginning and ending dates for placement of the chip seal.

Average Elevation of Project, Feet	Beginning and Ending Dates
0 – 3499	March 15 – May 31
0 – 3499	September 1 – October 31
3500 – 4999	May 1 – September 30
5000 and over	June 1 – August 31

Any proposed placement deviating from the beginning and ending dates shall be detailed in the written schedule of construction submitted at the weekly meeting described in Subsection 108.04 of the specifications. No contract time extension will be granted for placement outside of the beginning and ending dates. Any placement deviating from the beginning and ending dates shall be at the sole risk of the contractor.

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The type of cover material shall be as specified in Subsection 404-2.03 of the specifications.

The contractor shall determine the application rates and corresponding quantities of bituminous material and cover material for chip seal coat in accordance with Arizona Test Method 819. Application rates are subject to approval by the Engineer. Areas and locations anticipated to require adjustment to the rate(s) shall also be identified.

The application rates and performance of emulsified asphalt chip seals shall be evaluated using the Sweep Test in accordance with ASTM D7000.

The performance of hot applied chip seals shall be verified using the Vialit Retention Test in accordance with EN 1272-3, modified as necessary to account for the specific characteristics of the proposed chip seal.

The actual application rate shall be such that the aggregate is embedded approximately 70 percent (80 percent above 4,000 feet elevation) and excessive tracking of bituminous material does not occur under construction equipment or when opened to traffic.

The actual rate of cover material to be applied shall be such that no more than 5 percent of the chips applied are removed during sweeping and approximately 20 percent void space exists between the aggregate particles once realigned after opening to traffic.

The proposed application rate(s), locations requiring adjustment, and the associated basis for each adjustment, shall be submitted to the Engineer for approval no later than five days following completion of the Pre-Activity Walkthrough as described in Subsection 404-4.04(B) of the specifications and at least five days prior to placement of the test strip.

The basis for any anticipated adjustments shall include use of one or more of the following:

- (a) Sand Patch tests performed in accordance with *STP762 Pavement Surface Characteristics and Materials*; Haydon, C.E. (ASTM, 1982),

- (b) Appendix B of Chip Seal Guide for Application and Construction; Pavement Preservation Committee of the Arizona Chapter of The Associated General Contractors (AGC-Arizona Chapter, 2013),
- (c) Arizona Test Method 742 for mean macrotexture.

The approved application rate(s) and adjustments shall be clearly marked at the corresponding locations and remain visible to equipment operators prior to placement.

At least 10 days prior to chip seal placement, the contractor shall submit a minimum 75-pound sample of uncoated cover material to the Engineer for testing. In addition to the submitted cover material, the contractor shall also submit 3 full gallons of emulsion (5 to 8 gallons for hot applied) in 1-gallon cans in accordance with the requirements of Arizona Test Method 103. The contractor shall also submit 40 pounds of granulated rubber if included in the bituminous material.

(B) Pre-Activity Walkthrough:

Prior to placement, the contractor shall conduct a Pre-Activity Walkthrough with all parties expected to work on the chip seal.

Locations where adjustments in application rate may be appropriate shall be documented.

A location for a test strip, approximately 1,000 feet in length shall be identified. If additional test strip locations are desired due to varying surface conditions, these shall also be identified.

Other factors or site conditions such as turn or deceleration lanes, changes in surface characteristics, crack fill, and recent patchwork which may affect placement of the chip seal coat shall also be identified. A description of any affecting conditions and the corresponding locations and action to be taken to minimize their impact shall be documented.

In addition to the requirements herein, the items contained on the checklists provided in AGC-Arizona Chapter's Chip Seal Guide for Application and Construction shall be considered.

(C) Chip Seal Test Strip:

Prior to the start of placement, all equipment used in the placement of the chip seal coat shall be verified to be in satisfactory operating condition and in accordance with the requirements herein.

Cover material shall be verified to have appropriate moisture and be in a condition consistent with that in which it existed at the time initial acceptance samples were obtained. Bituminous material certifications shall be verified to indicate that the required type of material is on hand. The bituminous material shall be at the proper temperature prior to application.

The chip seal test strip shall be a minimum of 500 linear feet. The existing pavement surface to receive the test strip shall be verified to have been adequately swept and cleaned and

meeting the requirements herein. Anticipated application rates shall have been marked and clearly visible to equipment operators.

During placement of the test strip, all equipment shall be observed to confirm proper operation. The application rate of both the bituminous material and cover material shall be measured and verified using a catch-and-weigh "tarp" method. The application rate of the bituminous material shall also be measured and verified by means of a volume per area calculation using the distributor trucks calibrated thermometer and volume measuring gauge or device.

Rolling shall immediately follow placement of the cover material and be verified to be in conformance with the requirements herein.

For emulsion chip seals, the contractor shall broom the surface to remove excess cover material only after the emulsion has fully broken and cured sufficiently for maximum chip retention.

Prior to any subsequent placement, the test strip shall be observed to have adequate embedment of the cover material without excessive void space between the chips, stacking of chips, or accumulation of chips on the shoulders. If the condition of the test strip is not acceptable, adjustments shall be made as appropriate, and an additional test strip shall be performed.

(D) Application of Bituminous Material for Chip Seal:

The following bituminous material application requirements for chip seal are in addition to the requirements specified in Subsection 404-3.05 of the specifications.

Bituminous material shall not be applied a distance ahead of the chip spreader that results in excessive lag of the rollers allowing hot applied bituminous material to cool or emulsified bituminous material to break prior to achieving adequate embedment of the cover material.

When inclement weather is expected, only the amount of hot applied bituminous material which can receive adequately embedded cover material, or only the amount of emulsified asphalt that can receive adequately embedded cover material and has sufficiently broken, shall be placed prior to the start of inclement weather.

(E) Application of Cover Material:

Cover material shall be immediately and uniformly spread over the freshly applied bituminous material such that aggregate particles are securely adhered and will not roll, tumble, or be picked up during the rolling process. Any oversize aggregate or foreign material picked up during stockpiling or loading operations shall be eliminated before entering the aggregate spreader hopper. Supplemental spreading and smoothing shall be done by hand methods where necessary.

When emulsified asphalt is used, the cover material shall be at a saturated surface-dry condition at the time of spreading.

For hot applied chip seals, and when project conditions require, precoated cover material shall be at a sufficient temperature to facilitate adequate embedment.

(F) Rolling Cover Material:

Following the spreading of cover material, the surface shall be promptly rolled with self-propelled pneumatic-tired rollers. A minimum of three rollers shall be provided; however, a sufficient number of rollers shall be provided to cover the entire width of the material spread in one pass of the compactors and rolling shall continue until a minimum of three passes has been completed.

For chip seals with a hot applied bituminous material the first roller pass shall occur as soon as possible but no longer than 2 minutes after applying the aggregate. The third pass shall be completed quickly enough to embed the aggregate before the binder cools, and no longer than 15 minutes after the binder is applied.

(G) Removal of Loose Cover Material:

The cover material shall be removed by means of a power broom which shall be in good condition and of a design suitable for the work. The action of the broom shall be such that particles which are stuck to the bituminous material will not be dislodged.

For chip seals with an emulsified bituminous material, initial removal of all loose cover material shall not commence prior to two hours after placement or at such time that the Engineer has determined that the emulsion has sufficiently cured.

For chip seals with a hot applied bituminous material, the removal of loose cover material shall commence approximately 30 minutes after the final rolling is completed.

Initial removal of loose cover material shall occur prior to opening to traffic. All loose cover material shall be removed from the paved surface by brooming within 24 hours after application.

After the traffic free period as specified in Subsection 404-4.04(H) of the specifications, but prior to final removal of loose cover material, all traffic permitted by the Engineer shall not exceed 25 miles per hour.

If the Engineer determines that conditions are not conducive to obtaining the best results, brooming shall be discontinued until the Engineer has considered all conditions and has determined the best time for the removal of the cover material.

(H) Minimum Traffic-Free Period:

The minimum traffic-free period for a newly applied emulsion chip seal coat shall be three hours. The contractor's hauling equipment may use the new seal coat surface during the traffic free period at a speed not to exceed 15 miles per hour but shall not make sharp turns of brake abruptly.

(I) Fog Coat on New Chip Seals:

When specified in Subsection 404-2.03 of the specifications, a fog coat shall be placed on the new chip seal following the curing period. The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The material shall be diluted with one part water to one part bituminous material. The specified application rate is based on the diluted material. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different pavement conditions.

When specified in Subsection 404-2.03 of the specifications, blotter material shall be applied following the application of bituminous material.

(J) Contractor Quality Control:

The contractor shall be responsible for the chip seal design, performing quality control testing on materials, and designating an individual charged with constant observation and monitoring.

Need for an adjustment to application rates or a correction to process or equipment shall be communicated immediately to the necessary personnel.

The initial condition of equipment, materials, and the project and pavement surface conditions shall be documented. The performance and results of the test strip shall be documented. Observations of monitoring activities and quantification of application rates during the test strip and production shall be documented no less frequently than every other placement run.

The cause for any adjustments, including quantifying tests performed, the adjustments made, and the result of such adjustments with regard to acceptability and performance of the chip seal coat shall be documented.

404-5 Tack Coat: of the Standard Specifications is hereby deleted.

404-6 Fog Coat: of the Standard Specifications is hereby deleted.

404-7 Chip Seal Coat: of the Standard Specifications is hereby deleted.

404-8 Method of Measurement: the fourth paragraph of the Standard Specifications is revised to read:

The contractor shall be responsible to determine the amount of cover material that will be required to complete the work from the source(s) from which the cover material is obtained.

404-8 Method of Measurement: the sixth paragraph of the Standard Specifications is revised to read:

Measurement for payment will be made only for the quantity of bituminous material and for the quantity of aggregate material used in accordance with the requirements of the specifications.

404-9 Basis of Payment: of the Standard Specifications is revised to read:

The accepted quantities of the work under this section, complete in place, measured as provided above, will be paid for at the contract unit price as designated in the bidding schedule, except the contract unit price for the quantities of bituminous material will be adjusted on the basis of the test results in accordance with the requirements of Section 1005 of the specifications.

No measurement or direct payment will be made for precoating the cover material, material for precoating, rolling and removal of loose cover material, and removal of loose blotter material.

The contract unit price for each item of bituminous material except tack coat will be considered to include all costs for furnishing, hauling, handling, spreading, and mixing of the material as required.

The unit price for bituminous tack coat is deemed to be the cost to furnish, transport, and store asphalt cement or emulsified asphalt at the project location. Payment for bituminous tack coat will be made at the unit price multiplied by the respective payment factor listed under Subsection 404-4.02 of the specifications, and adjusted to the nearest dollar.

Unless otherwise specified, the accepted quantity of bituminous tack coat, measured as provided above, will be paid at the contract unit price per ton adjusted as provided above which price shall be full compensation for furnishing, transporting, and storing the exact type, grade or designation of bituminous tack coat specified by the Engineer.

Unless otherwise specified, the accepted quantity of time to apply bituminous tack coat, measured as provided above, will be paid for at the contract unit price per hour which payment shall be full compensation for applying bituminous tack coat.

The bidding schedule quantity for tack coat is based on an estimated application rate of 0.06 gallons per square yard for each application shown on the project plans.

The unit price of bituminous material will be adjusted in accordance with the requirements of Subsection 109.16 of the specifications based on the "initial cost" of bituminous material between the date of bid opening and the date that the material is used on the project.

No measurement or direct payment will be made for furnishing, applying and removing blotter material, furnished in conjunction with the application of a prime coat.

No measurement or direct payment will be made for the maintenance or repair of a prime coat surface.

(404MICRO, 01/26/16)

ITEM 4040076 - EMULSIFIED ASPHALT (MICRO-SURFACING):

ITEM 4040172 - DRY MINERAL AGGREGATE (MICRO-SURFACING)(TYPE III):

MICRO-SURFACING:

1.0 Description:

The work under these items shall consist of furnishing all materials and constructing micro-surfacing on an existing asphaltic concrete pavement surface. The micro-surfacing shall be a mixture of mineral aggregate, polymer modified emulsified asphalt, mineral filler, water, and other additives, properly proportioned, mixed, and spread on the pavement surface as specified herein and as directed by the Engineer.

The micro-surfacing shall be applied as a homogeneous mat, adhere firmly to the prepared surface, and have a skid-resistant surface texture. The finished product shall have a uniform appearance and it shall be able to accept straight, rolling traffic within one hour after placement without damage; however, stopping and starting traffic, and adverse weather conditions, may require additional curing time.

The contractor shall provide a minimum two-hour orientation session for project personnel, covering the construction process, materials control, and materials measurement by true weight delivered versus machine dial readings.

The contractor shall provide to the Engineer, on a daily basis, the quantity of material delivered versus material placed through the micro-surfacing mixer based on dial gauge readings. The Engineer will independently verify all dial gauge readings, and weight of material delivered. This information will be used as a check against the mix design proportions.

2.0 Materials:

2.01 General:

All materials shall be approved by the Engineer prior to the start of construction.

The Engineer reserves the right to sample and test any materials used on the project. All materials that do not meet specifications will be rejected.

For comparison purposes, quantities shown in the bidding schedule have been calculated based on the information given in Table 1. Application rates are affected by the unit weight and gradation of the mineral aggregate and the demand of the surface to which the micro-surfacing is being applied. Exact quantities of emulsified asphalt and dry mineral aggregate shall be determined by mix design, or as directed by the Engineer.

TABLE 1		
Material	Type II Micro-Surfacing	Type III Micro-Surfacing
Emulsified Asphalt, by weight of Dry Mineral Aggregate, percent	14	13
Dry Mineral Aggregate, pounds per square yard	22	30

2.02 Emulsified Asphalt:

Polymer modified, cationic, quick setting (mixing grade) emulsified asphalt (CQS-1hP) shall be used. A minimum of 4 percent polymer solids, by total weight of polymer and asphalt residue, shall be added prior to the millhead. The type and amount of polymer solids used shall be certified by the supplier.

The polymer modified emulsified asphalt shall be preapproved and certified in accordance with ADOT Materials Policy and Procedure Directive (P.P.D.) No. 8, "Sampling, Testing, and Acceptance of Emulsified Bituminous Materials". As specified in P.P.D. No. 8, two copies of the appropriate certificate (Certificate of Compliance or Certificate of Analysis), conforming to the requirements of Subsection 106.05 of the specifications, shall accompany each shipment (delivery unit) of emulsion to the project.

The polymer modified emulsified asphalt shall conform to the requirements of Table 2.

TABLE 2 Polymer Modified Emulsified Asphalt (CQS-1hP)		
TESTS ON EMULSION	TEST METHOD	REQUIREMENTS
Viscosity, Saybolt Furol seconds @ 25 °C (77 °F)	AASHTO T-59	20 - 100
Sieve Test, retained on No. 20, %	AASHTO T-59	0.10 Max (1)
Particle Charge	AASHTO T-59	Positive
Storage Stability Test, 24 hours, %	AASHTO T-59	1.0 Max
Percent Asphalt Residue by Evaporation	Arizona Test Method 512 (2)	60 Min
TESTS ON RESIDUE BY DISTILLATION AASHTO T-59 [176.7 °C (350 °F) Max.]	TEST METHOD	REQUIREMENTS
Kinematic Viscosity @ 135 °C (275 °F), cst	AASHTO T-201	650 Min
Penetration @ 25 °C (77 °F), 100 g, 5 seconds, 0.1 mm	AASHTO T-49	40 - 90
Softening Point, °C	AASHTO T-53	60 Min
Ductility @ 25 °C (77 °F), 5 cm/minute, cm	AASHTO T-51	60 Min
Elastic Recovery @ 25 °C (77 °F), %	AASHTO T-301 (3)	55 Min
(1) The maximum of 0.1 percent applies to the preapproval of emulsions in accordance with P.P.D. No. 8. A maximum of 0.3 percent is allowed for emulsions that are sampled at the project site. (2) The percent of asphalt residue will be determined in accordance with the requirements of Arizona Test Method 512; however, in the case of dispute the percent of asphalt residue by distillation [AASHTO T 59, modified to 176.7 °C (350 °F)] will be used. (3) Testing shall be performed on residue by distillation, not on residue by oven evaporation.		

2.03 Mineral Aggregate:

The contractor shall provide a source in accordance with the requirements of Section 1001 of the specifications.

The mineral aggregate shall consist of sound, durable crushed stone or crushed gravel. The materials shall be free from vegetation and other deleterious substances. Aggregates shall be 100 percent crushed with no rounded particles. No natural sand will be allowed.

If rut-filling is specified, mineral aggregate meeting the gradation requirements of Type III shall be used.

The gradation of the mineral aggregate shall be Type III. The gradation of the mineral aggregate, when tested in accordance with the requirements of Arizona Test Method 201, shall conform to the requirements of Table 3.

TABLE 3			
SIEVE SIZE	PERCENT PASSING SIEVES		
	MIX DESIGN GRADING LIMITS		PRODUCTION TOLERANCES (See Note Below)
	TYPE II	TYPE III	
3/8 inch	100	100	----
No. 4	90-100	70-90	± 5
No. 8	65-90	45-70	± 5
No. 16	45-70	28-50	± 5
No. 30	30-50	19-34	± 5
No. 50	18-30	12-25	± 4
No. 100	10-21	7-18	± 3
No. 200	5.0–15.0	5.0–15.0	± 3.0
Note: The allowable tolerance during production will be determined by applying the production tolerances to the mix design target values. However, the allowable production tolerance shall not fall outside the mix design grading limits in this table.			

The mineral aggregate shall conform to the requirements of Table 4 when tested in accordance with the applicable test methods.

TABLE 4 MINERAL AGGREGATE CHARACTERISTICS		
CHARACTERISTIC	TEST METHOD	REQUIREMENTS
Sand Equivalent	AASHTO T 176 (After thoroughly sieving the sample, no additional cleaning of the fines from the plus No. 4 material is required.)	Minimum 60
Carbonates	Arizona Test Method 238	Maximum 20%
Abrasion	AASHTO T 96	500 Rev., Maximum 40%
Fractured Coarse Aggregate Particles	Arizona Test Method 212	Minimum 95% (with at least one fractured face)
Uncompacted Void Content	Arizona Test Method 247	Minimum 45.0%

Tests on aggregates outlined in Table 4, other than abrasion, shall be performed on materials furnished for mix design purposes and composited to the mix design gradation. Abrasion testing shall be performed separately for each source of mineral aggregate. All sources shall meet the requirements for abrasion. If desired, abrasion testing may be performed utilizing the parent aggregate from each source. Historical abrasion values may be supplied on sources provided the testing was conducted within the past two years.

2.04 Mineral Filler:

Mineral filler, required by the mix design, shall be Type I or Type II Portland cement conforming to the requirements of ASTM C 150. The mineral filler shall be added by weight of dry aggregate as specified by the mix design. The source of Portland cement must be on the ADOT Approved Materials Source List, as referenced in Materials Policy and Procedure Directive (P.P.D.) No. 13, "Certification and Acceptance of Hydraulic Cements, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

The mineral filler shall be added to the micro-surfacing mixture by an approved method that will ensure uniform distribution and proper control.

2.05 Water:

The water used shall be free of any injurious impurities. Potable water obtained from public utility distribution lines will be acceptable. The contractor shall state the source of water.

2.06 Additives:

Additives may be used to accelerate or retard the breaking of the emulsified asphalt and the set time of the micro-surfacing mixture, or improve the resulting finished surface.

Appropriate additives, and their applicable use range, shall be specified in the mix design.

3.0 Mix Design:

The contractor shall provide a mix design which has been sealed, signed, and dated by a professional engineer experienced in the preparation of micro-surfacing mix designs.

Compatibility of the aggregate, mineral filler, water, additives, and polymer modified emulsified asphalt shall be evaluated during the mix design process.

All the materials used in the mix design shall be representative of the materials proposed by the contractor for use on the project.

The mix design shall be approved by the Engineer prior to the start of micro-surfacing production. After the mix design has been approved, no material substitution will be permitted unless approved by the Engineer.

In addition to the other requirements stated herein, the mix design shall conform to the requirements of Table 5.

TABLE 5		
PROPERTY	TEST METHOD	REQUIREMENTS
Residual Asphalt Content	ASTM D 2172	6.0% - 11.5%, by weight of dry aggregate
Mineral Filler	----	0.1% - 2.0%, by weight of dry aggregate
Additives	----	As required for mix properties
Water	----	As required for mix properties

Mix Time @ 77 °F	ISSA TB-113	Controllable to 120 seconds, Minimum
Wet Track Abrasion Loss (1 hour soak)	ISSA TB-100	50 g/ft ² , Maximum
Wet Track Abrasion Loss (6 day soak)	ISSA TB-100	75 g/ft ² , Maximum
Wet Stripping	ISSA TB-114	90%, Minimum
Cohesion, within 30 minutes (Set)	ISSA TB-139	12 kg-cm torque, Minimum
Cohesion, within 60 minutes (Traffic)	ISSA TB-139	20 kg-cm torque, Minimum
Loaded Wheel Sand Adhesion	ISSA TB-109	50 g/ft ² , Maximum
Classification Compatibility	ISSA TB-144	11 Grade Points, Minimum (AAA, BAA)
Lateral Displacement	ISSA TB-147	5%, Maximum
Specific Gravity after 1,000 cycles of 125 lb.	ISSA TB-147	2.10, Maximum

The mix design shall include test results showing the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect) according to AASHTO T 19.

The mix design shall show the recommended proportions of aggregate, mineral filler, water, additive(s), and emulsified asphalt; and how the proportions are based (dry aggregate weight, total mix, etc). The mix design shall also show the allowable production tolerance for residual asphalt content.

The mix design shall also show the aggregate gradation, sand equivalent, percent carbonates, abrasion, fractured coarse aggregate particles, and uncompacted void content of the aggregate used in the mix design.

4.0 Equipment:

4.01 Proportioning Devices:

Individual volume or weight controls for proportioning mix components shall be provided and properly labeled. Proportioning devices shall be capable of determining the material output at any time.

The proportioning of emulsion, mineral filler, water, and additives shall be tied directly to aggregate flow.

4.02 Mixing Equipment:

(A) General:

The machine shall be specifically designed and manufactured to apply micro-surfacing. The material shall be mixed by an automatic-sequenced, self-propelled micro-surfacing mixing machine. It shall be a continuous-flow mixing unit that accurately delivers and proportions the mix components through a revolving multi-blade, double-shafted mixer. Sufficient storage capacity for all mix components is required to maintain an adequate supply to the proportioning controls.

The machine shall be a continuous-run machine capable of loading materials while continuing to apply micro-surfacing. The machine shall be equipped to provide the operator with full control of the forward and reverse speeds during application. It shall be equipped with opposite-side driver stations to assist in alignment. The self-loading device, opposite-side driver stations, and forward and reverse speed controls shall be of original-equipment-manufacturer design.

The machine shall be equipped with a water pressure system that provides a water spray immediately ahead of and outside the spreader box.

Truck mounted mixing machines are not allowed.

(B) Calibration:

Each mixing unit to be used in the performance of the work shall be calibrated in the presence of the Engineer prior to the start of micro-surfacing production. Previous calibration documentation covering the exact materials to be used may be acceptable, provided the calibration was performed within the preceding 60 days. The documentation shall include an individual calibration of each material at various settings that can be related to the machine metering devices. Any component replacement affecting material proportioning requires that the machine be recalibrated. No machine will be allowed to work on the project until the calibration has been completed and/or accepted. The ISSA Inspector's Manual describes a method that may be used for machine calibration.

4.03 Spreading Equipment:

(A) General:

The mixture shall be agitated and spread uniformly in the surfacing box by means of twin-shafted paddles or spiral augers fixed in the spreader box. A front seal shall be provided to ensure no loss of the mixture at the road contact point. The rear seal shall act as a final

strike-off and shall be adjustable. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved and a free flow of material is provided to the rear strike-off. The spreader box shall have suitable means provided to side shift the box to compensate for variations in the pavement geometry.

The spreading equipment shall be maintained free from buildup of the mixture on the paddles or side walls.

(B) Secondary Strike-Off:

A secondary strike-off shall be provided to improve surface texture. The secondary strike-off shall be adjustable to match the width of the spreader box and allow for varying pressures to control the surface texture.

(C) Rut-Filling Equipment:

When required, micro-surfacing material may be used to fill ruts or other depressions in the existing surface. Ruts shall be filled independently with a rut-filling box. Ruts may require multiple applications with the rut-filling box to restore the cross-section. All rut-filling material should cure under traffic for at least 24 hours before additional material is placed.

4.04 Auxiliary Equipment:

Areas that cannot be reached with the micro-surfacing machine shall be surfaced using hand squeegees to provide complete and uniform micro-surfacing coverage.

5.0 Construction Requirements:

5.01 Test Strip:

A test strip shall be constructed on the roadway at the beginning of the first day of production. The test strip shall be limited to 500 to 1000 feet in length and shall be placed in the same manner, and with the same materials and equipment, that will be used during the remainder of micro-surfacing placement.

The test strip shall not exhibit any signs of distress when exposed to traffic after curing for one hour. The Engineer shall determine if performance of the test strip is satisfactory. If performance of the test strip is satisfactory, normal production may proceed. If performance of the test strip is unsatisfactory, the test strip shall be removed and replaced, or repaired to the satisfaction of the Engineer, at no additional cost to the Department. After necessary adjustments are made, an additional test strip shall be constructed. If necessary, the Engineer may require that a new mix design be submitted for approval.

5.02 Weather Limitations:

The micro-surfacing shall only be placed when there is no rain, the air temperature is at least 45 degrees F, and the pavement surface temperature is 50 degrees F or higher. No micro-surfacing shall be applied when there is danger that the finished product will freeze within 24 hours following its placement. The mixture shall not be applied if weather conditions prolong opening to traffic beyond a reasonable time as determined by the Engineer.

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the micro-surfacing.

5.03 Surface Preparation:

Immediately prior to applying the micro-surfacing, the contractor shall clean the surface of all loose material, dirt, vegetation, and other objectionable material. If water is used, cracks shall be thoroughly dry before applying the micro-surfacing. The Engineer shall approve the surface preparation prior to applying the micro-surfacing.

5.04 Mixing and Application of Micro-Surfacing:

The micro-surfacing mixture shall be proportioned in accordance with the mix design.

The contractor shall determine the stockpile moisture content daily, and adjust the operation accordingly.

The micro-surfacing mixture shall be of the desired consistency when deposited in the spreader box and no additional materials shall be added to it. The mixing time shall be sufficient to produce a complete and uniform coating of the aggregate. No lumping, balling, or unmixed aggregate shall be permitted. The mixture shall be discharged into the spreader box at a sufficient rate to maintain an ample supply across the full width of the spreader box at all times. Overloading of the spreader box shall be avoided. No streaks, such as those caused by oversized aggregate, will be left in the finished surface. If excess oversize aggregate is encountered, the job will be stopped until the contractor proves that the situation has been corrected. Any skips, lumps, streaks, or tears in the finished product will not be allowed. The contractor shall repair any such deficiencies to the satisfaction of the Engineer, at no additional cost to the Department.

The micro-surfacing mixture shall possess sufficient stability so that premature breaking of the emulsified asphalt while the mixture is in the spreader box does not occur. The mixture shall be homogeneous after mixing. During spreading, the mixture shall be free of excess water or emulsion and shall be free of segregation of the emulsion and aggregate fines from the coarser aggregate. Spraying of additional water into the spreader box is not allowed.

The surface of the existing pavement shall be pre-wetted by fogging with water ahead of the spreader box. The water used in pre-wetting the surface shall be applied such that the entire surface is damp with no apparent flowing water in front of the spreader box. The rate of application of the fog spray shall be adjusted during the day as the ambient temperature, surface texture, humidity, and dryness of the pavement surface changes.

The surface texture variation of the existing pavement throughout the work will dictate the actual spreading rates. The strike-off squeegee shall be adjusted to provide a micro-surfacing thickness which will completely fill the surface voids and provide an additional thickness not exceeding one and one-half times the largest top-size stone. The requirement for an additional thickness not exceeding one and one-half times the largest top-size stone does not apply to rut-filling operations, as these depths may vary significantly due to the surface irregularities.

The contractor shall remove micro-surfacing from any area specified by the Engineer.

The contractor shall remove any debris associated with the performance of the work on a daily basis.

5.05 Protection of Existing Features:

The contractor shall take all necessary precautions to prevent micro-surfacing or other materials used in the work from entering or adhering to gutters, gratings, hydrants, valve boxes, manhole covers, catch basins, bridge or culvert decks, permanent road markers (ceramic and reflective), and other existing fixtures.

Immediately after surfacing, the contractor shall clean and leave existing features in a condition satisfactory to the Engineer.

5.06 Joints:

No excessive buildup, untreated areas, or unsightly appearance shall be permitted on longitudinal or transverse joints. The contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the work. When possible, longitudinal joints shall be located within 1 foot of the center of a lane or within 1 foot of the centerline between two adjacent lanes. A 4 inch maximum overlap will be permitted on longitudinal joints. Partial width passes shall only be used when necessary and shall not be the last pass of any paved area. Longitudinal joints shall have no more than a 1/4 inch difference in elevation when measured by placing a 10-foot straightedge over the joint.

Care shall be taken to ensure straight lines along curbs and shoulders. No runoff on these areas will be permitted.

Construction joints shall be neat in appearance and shall be tapered or feathered to conform to the existing surfacing. All excess material shall be removed from the surface upon completion of each run.

5.07 Handwork:

Areas which cannot be accessed by the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. If necessary, the area to be hand worked shall be lightly dampened prior to mix placement. As much as possible, handwork shall exhibit the same finish as that applied by the spreader box.

5.08 Damage to the Micro-Surfacing:

The contractor shall remove and replace micro-surfacing which is damaged prior to the final acceptance of the work, at no additional cost to the Department.

6.0 Sampling and Testing Requirements:

Mineral aggregate shall be sampled in accordance with Arizona Test Method 105.

At least two weeks prior to the start of micro-surfacing production, the Engineer shall obtain a representative sample of mineral aggregate for testing. The material shall be tested for gradation in accordance with Arizona Test Method 201, and shall conform to the production tolerances shown in Table 3. The sand equivalent, fractured coarse aggregate particles, and uncompacted void content shall conform to the requirements of Table 4. If the mineral aggregate does not meet these requirements, production shall not begin until the mineral aggregate is in compliance with these requirements.

For each 300 tons of mineral aggregate used in micro-surfacing production, the Engineer shall obtain a representative sample of mineral aggregate for gradation and moisture content testing. The material will be tested for gradation in accordance with Arizona Test Method 201, and shall conform to the production tolerances shown in Table 3. Should testing indicate results not meeting these requirements, operations shall cease and the contractor shall have the option of providing a new mix design or correcting the deficiencies. The material shall be tested for moisture content in accordance with AASHTO T 265.

For each 600 tons of mineral aggregate used in micro-surfacing production, the Engineer shall obtain a representative sample of mineral aggregate for the determination of sand equivalent, fractured coarse aggregate particles, and uncompacted void content. The material shall conform to the requirements of Table 4 for these test characteristics. Should testing indicate results not meeting these requirements, operations shall cease and the contractor shall have the option of providing a new mix design or correcting the deficiencies.

During micro-surfacing production, a representative sample of the emulsion shall be obtained for testing to determine the percent asphalt residue by evaporation. A sample shall be

obtained, in accordance with Arizona Test Method 103, from each delivery unit of emulsion by the contractor and witnessed by the Engineer. The emulsion shall conform to the requirements of Table 2 for percent asphalt residue by evaporation.

7.0 Method of Measurement:

Emulsified Asphalt will be measured by the ton.

Dry Mineral Aggregate will be measured by the ton, excluding the weight of any moisture.

8.0 Basis of Payment:

The accepted quantities of Emulsified Asphalt, measured as provided above, will be paid for at the contract unit price per ton, which price shall be full compensation for the work, complete in place, as specified herein.

The accepted quantities of Dry Mineral Aggregate, measured as provided above, will be paid for at the contract unit price per ton, which price shall be full compensation for the work, complete in place, including mineral filler, water, all surface preparation, mixing and application of materials.

Payment shall be full compensation for all surface preparation, mixing and application of materials, and for all labor, equipment, tools, cleaning, and incidentals necessary to complete the work as specified herein.

No direct measurement or payment will be made for water, additives, or mineral filler, the cost being considered as included in this contract item.

ITEM 4040234 ASPHALT BINDER (POLYMER MODIFIED ASPHALT RUBBER):

1.0 Description:

The work under this item shall consist of furnishing, proportioning, and blending all the component materials necessary to produce a Polymer Modified Asphalt Rubber binder material for use in hot applied chip seal coat application.

2.0 Materials:

2.01 Polymer Modified Asphalt Rubber (PMAR):

(A) Asphalt Cement:

Asphalt Cement shall be a performance grade (PG) Asphalt Binder conforming to the requirements of Section 1005 of the specifications. The type of asphalt binder shall be PG 64-22.

Crumb Rubber:

The rubber shall be produced by ambient temperature grinding processes only. The gradation of the Crumb Rubber when tested in accordance with ASTM C-136 (dry sieve only) and using a 100-gram sample, shall meet the requirements in Table 1.

Table 1	
Sieve Size	Percent Passing
No. 10	100
No. 16	75 – 95
No. 30	30 – 60
No. 50	5 – 30
No. 200	0 – 5

The use of Crumb Rubber from multiple sources is acceptable provided that the overall blend of rubber meets the gradation requirements. The individual Crumb Rubber particles, irrespective of diameter, shall not be greater in length than 3/16 of an inch (5mm).

The Crumb Rubber shall have a specific gravity of 1.15 ± 0.05 , and shall be free of loose fabric, wire and other contaminants except that up to 4 percent (by weight of rubber) calcium carbonate or talc may be added to prevent the rubber particles from sticking together. The Crumb Rubber shall be sufficiently dry to be free-flowing and not produce a foaming problem when blended with the hot PG Asphalt Cement.

Certificates of Compliance conforming to Subsection 106.05 of the specifications shall be submitted. In addition, the certificates shall confirm that the rubber is a Crumb Rubber, derived from processing whole scrap tires or shredded tire materials; and the tires from which the Crumb Rubber is produced are taken from automobiles, trucks, or other equipment owned and operated in the United States.

Styrene-Butadiene-Styrene (SBS) Polymer:

Polymer shall be a Linear SBS Triblock Copolymer with the following properties:

- Triblock Content (min) 90%
- Polystyrene Content (% Range) 28 – 35
- Vinyl Butadiene Content (min) 35%

2.02 PMAR Proportions:

The PMAR shall contain a minimum of 15 to 18 percent crumb rubber by the weight of the total PMAR mixture. The percentage of SBS Polymer shall be minimum 2.5 percent by weight of the total PMAR mixture not to exceed 4.0 percent; the exact Crumb Rubber and SBS Polymer shall be determined by the Blend Design submitted by the PMAR Supplier/Contractor.

2.02 PMAR Properties:

PMAR shall conform to the following:

TABLE 2			
Property	Requirement		
	PMAR Type 1	PMAR Type 2	PMAR Type 3
Grade of base asphalt cement (shall conform to Table 1005-1)	PG 64-22	PG 58-28	PG 58-28
Rotational Viscosity: 177°C (350 °F); (ASTM D7741); Pascal·seconds	1.5 – 4.0	1.5 – 4.0	1.5 – 4.0
Penetration: 4°C (39.2 °F), 200 g, 60 sec. (ASTM D5);0.1 mm, minimum	15	20	25
Softening Point: ASTM D36); °C, minimum	66	60	54
Resilience: 25°C (77°F) (ASTM D5329.10); %, minimum	35	25	20

Cone Penetration: 25°C (77 °F), 150 g, 5 sec. (ASTM D5329.06);0.1 mm, minimum	15	20	25
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The viscosity testing shall be conducted by using a hand-held RION VISCOMETER (VT-04 or VT-06), or equal, with rotor 1, 24mm in depth x 53mm in height, or equivalent.

If, during production, it is determined by testing that PMAR fails to meet the above requirements for the specified type, the material in which the PMAR is incorporated and represented by the corresponding test results shall be evaluated for acceptance. Should the material in which the PMAR is incorporated be allowed to remain in place, the contract unit price for PMAR will be adjusted by the percentage shown in Table 3. Should the PMAR be in reject status, the contractor may, within 15 days of receiving notice of the reject status of the PMAR, supply an engineering analysis of the expected performance of the material in which the PMAR is incorporated. The engineering analysis shall detail any proposed corrective action and the anticipated effect of such corrective action on the performance. Within three working days, the Engineer will determine whether or not to accept the contractor's proposal. If the proposal is rejected, the material in which the PMAR is incorporated shall be removed and replaced with material meeting the requirements of the applicable specifications at no additional cost to the Department. If the contractor's proposal is accepted, the material in which the PMAR is incorporated shall remain in place at the applicable percent of contract unit price allowed, and any necessary corrective action shall be performed at no additional cost to the Department.

TABLE 3 Polymer-Modified Asphalt Rubber PAY ADJUSTMENT TABLE						
Test Property	PMAR Type 1		PMAR Type 2		PMAR Type 3	
	Test Value	Percent of Contract Unit Price	Test Value	Percent of Contract Unit Price	Test Value	Percent of Contract Unit Price
Penetration	≥ 10 8-9 < 8	100 85 70*	≥ 15 13-14 < 13	100 85 70*	≥ 25 23-24 < 23	100 85 70*
Cone Penetration	≥ 10 8-9 < 8	100 85 70*	≥ 15 13-14 < 13	100 85 70*	≥ 25 23-24 < 23	100 85 70*
Softening Point	≥ 57 55-56 < 55	100 85 70*	≥ 54 52-53 < 52	100 85 70*	≥ 52 50-51	100 85 70*

					< 50	
Resilience	≥ 30 24-29 18-23 < 18	100 85 70 50*	≥ 25 20-24 15-19 < 15	100 85 70 50*	≥ 20 15- 19 10- 14 < 10	100 85 70 50*

Notes:

*Reject Status: The pay adjustment applies if allowed to remain in place.

The virgin binder will be tested in accordance with Table 1005-1. Pay adjustments for the virgin binder will be applied in accordance with Table 1005-1. Should the PMAR or the virgin binder be deficient on more than one property from this table or Table 1005-1, the pay adjustment will be the greatest reduction to the contract price specified considering individual test results. The penalty will be applied to the total amount of PMAR.

2.04 PMAR Design:

At least two weeks prior to the use of PMAR, the contractor shall submit a PMAR Blend Design prepared by an approved laboratory. The design shall be formulated using PG Asphalt Cement, Crumb Rubber, and SBS Polymer that are representative of the materials to be utilized in production and shall meet the requirements specified herein. The design shall show the values obtained from the required tests, along with the following information: percent, grade, and source of the PG Asphalt Cement used; and percent, gradation and source(s) of Crumb Rubber used; and percent of SBS Polymer by total weight of the PMAR mixture, gradation and source of SBS Polymer used. In addition, the PMAR design shall include verification of the PG binder grade of the base asphalt; however, in lieu of the design including this information, a Certificate of Analysis conforming to Subsection 106.05 of the specifications from an accredited laboratory or the supplier of the PG base Asphalt Cement will be acceptable.

If changes are made in the type or source of PG Asphalt Cement, SBS Polymer, or in the type or source of Crumb Rubber, a new PMAR Design will be required.

The contractor may propose the use of a PMAR Design that has been developed for a previous project. The proposed design shall meet the requirements of these specifications. The contractor shall provide evidence that the type and source of PG Asphalt Cement, SBS Polymer, and the type and source of Crumb Rubber have not changed since the formulation of the previous Blend Design. The Engineer will determine if the previously used PMAR

Design is suitable for the intended use and if the previous use of the PMAR Blend Design was satisfactory to the Department. The Engineer will either approve or disapprove the proposed Blend Design. Should the Engineer disapprove of the use of the previously used design, the contractor shall prepare and submit a new PMAR Design in accordance with the requirements of these specifications.

A previously used PMAR Design more than one year old shall not be allowed for use. Once approved for use on a project, a PMAR Blend Design may be used for the duration of the project.

3.0 Construction Requirements:

During the production of PMAR, the contractor shall combine materials in conformance with the PMAR Blend Design unless otherwise approved by the Engineer.

3.01 Mixing of Polymer Modified Asphalt Rubber (PMAR):

The temperature of the PG Asphalt Cement shall be between 375° F and 400° F at the time off addition of the Crumb Rubber and SBS Polymer. The blended Crumb Rubber and the SBS Polymer shall be combined and blended completely together, at the proper ratios as determined in the Blend Design, in an agitated interaction tank and reacted for a minimum period of 60 minutes. The reaction time begins after the Crumb Rubber and SBS Polymer have been completely incorporated into the PG Asphalt Cement. The temperature of the PMAR mixture shall be between 350° F and 375° F during the reaction period, but shall not exceed 400° F at any time. Exceeding the 400° F limit will be grounds for rejection of the affected binder material.

When a job delay occurs after full reaction, the PMAR may be allowed to cool. The PMAR shall be re-heated slowly just prior to application to a temperature between 350° F and 400° F. An additional quantity of PG Asphalt Cement and / or Crumb Rubber may be added as required to produce a material with the appropriate viscosity.

The reaction period shall be completed before the PMAR is used. The contractor shall demonstrate that the Crumb Rubber particles have been uniformly incorporated into the mixture and that they have been "wetted". The occurrence of Crumb Rubber floating on the surface or agglomerations of Crumb Rubber particles shall be evidence of insufficient mixing.

The contractor shall test the viscosity of the PMAR in each batch by the use of a rotational viscometer, in accordance with ASTM D7741. The rotational viscometer and thermometer shall have a current calibration and be furnished by the contractor or supplier. Before using each batch of PMAR, the results of the rotational viscosity testing shall meet the requirements given in Table 2.

3.02 Handling of PMAR:

Once the PMAR has been mixed, it shall be kept thoroughly agitated to prevent the settling of the Crumb Rubber particles. The temperature of the PMAR shall be maintained between 350 and 400 degrees F.

If the material in a batch of PMAR is not used within six hours after the reaction period is complete, heating of the material shall be discontinued. When PMAR binder temperature cools below 375° F and is then reheated, it shall be considered a reheat cycle. The total number of reheat cycles shall not exceed three. The binder material shall be uniformly reheated to a temperature of not less than 375° F. Additional Crumb Rubber may be added to the reheated PMAR binder and reacted for a minimum of 30 minutes and shall not exceed 10 percent of the total binder weight. A reheated PMAR binder shall conform to the requirements for a blended PMAR binder.

The reheating of PMAR that has cooled below 350° F shall not be allowed more than one time. For each load or batch of PMAR, the contractor shall provide the Engineer with the following documentation:

- A. The source, grade, amount and temperature of the PG Asphalt Cement prior to the addition of Crumb Rubber;
- B. The source and amount of Crumb Rubber and the Crumb Rubber content expressed as percent by the weight of the PG Asphalt Cement;
- C. Times and dates of the Crumb Rubber additions and resultant viscosity test; and
- D. A record of the temperature, with time and date reference for each load or batch. The record shall begin at the time of the addition of Crumb Rubber and continue until the load or batch is completely used. Readings and recordings shall be made at every temperature change over 20 degrees F, and as needed to document other events which are significant to batch use and quality.

4.0 Contractor Quality Control:

The contractor shall perform the quality control measures described in Subsection 106.04(C) of the specifications. At the weekly meeting, the contractor shall be prepared to explain and discuss how the performance of required quality control measures will be accomplished.

A PMAR Design confirming compliance of the PMAR viscosity at 60, 90, 240, 360, and 1440 minutes and PMAR properties at 60, 240, and 1440 minutes time period. The Contractor shall obtain samples and perform the testing specified in Table 4.

The contractor shall obtain samples and perform the tests specified in Table 4.

TABLE 4 CONTRACTOR QUALITY CONTROL TESTING REQUIREMENTS			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Crumb Rubber for PMAR			
Gradation	ASTM C136 (dry sieve)	Hot Plant	One sample per 40,000 lbs.
PMAR Material			
Softening Point	ASTM D36	Circulation Line Recommended (Point of sampling specified by the Engineer.)	One sample per 500 tons of asphalt rubber binder. .
Resilience: 25°C (77°F)	ASTM D5329.10		
Penetration: 4°C (39.2°F)	ASTM D5		
Cone Penetration: 25°C (77°F)	ASTM D5329.06		
Rotational Viscosity	ASTM D7741		One sample per batch.

5.0 EQUIPMENT

All equipment utilized in the production and use of PMAR is as follows:

- a) A PG Asphalt Cement heating tank with a hot oil heat transfer system or a retort heating system capable of heating the PG Asphalt Cement to the proper temperature for blending with the Crumb Rubber and SBS Polymer.
- b) The mechanical blender shall be capable of producing a homogenous blend of PG Asphalt Cement, Crumb Rubber and SBS Polymer, at the Blend Design specified ratios. This unit shall be equipped with a one or two-compartment granulated rubber feed system capable of supplying the PG Asphalt Cement feed system, as not to interrupt the continuity of the blending process.

The maximum capacity of the blending vessel shall be 500 gallons. The mechanical blender shall be equipped with an agitation device orientated horizontally or vertically in the blending vessel. The mechanical blender shall be capable of fully incorporating the individual Crumb Rubber particles and SBS Polymer, at the Blend Design specified ratios, with the PG Asphalt Cement. A separate PG Asphalt Cement feed pump and finished product pump are required.

This unit shall have a PG Asphalt Cement totalizing meter in gallons and a flow rate meter in gallons per minute. The interaction storage tank shall be mechanically agitated.

6.0 Method of Measurement:

Asphalt Binder (Polymer Modified Asphalt Rubber) will be measured by the ton.

7.0 Basis of Payment:

The accepted quantities of Asphalt Binder (Polymer Modified Asphalt Rubber), measured as provided above, will be paid for at the contract unit price per ton, which price shall be full compensation for the work, complete in place.

(409AGGR 06/19/25)

SECTION 409 ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL): the title and text of the Standard Specifications is revised to read:

SECTION 409 ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL-SPECIAL MIX):

409-1 Description:

The work under this section shall consist of constructing Asphaltic Concrete (Miscellaneous Structural-Special Mix), hereinafter asphaltic concrete, by furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, reclaimed asphalt pavement (RAP) if used, mineral admixture, and bituminous material (asphalt cement) to form a pavement course or to be used for other specified purposes, in accordance with the details shown on the project plans and the requirements of the specifications, and as directed by the Engineer.

The contractor shall acquire and make all arrangements for a source or sources of material, furnish a mix design which will meet the design criteria specified hereinafter, and provide all the equipment, materials, and labor necessary to complete the work.

409-2 Materials:

The bidding schedule quantity of asphaltic concrete is based on an estimated unit weight of 152 pounds per cubic foot.

409-2.01 Mineral Aggregate:

Mineral aggregate shall conform to the following requirements when tested in accordance with the applicable test methods.

Mineral Aggregate Characteristics	Test Method	Requirement
Combined Bulk Oven Dry Specific Gravity	Arizona Test Method 251	2.350 - 2.850
Combined Water Absorption	Arizona Test Method 251	0 – 3.0%
Abrasion	AASHTO T 96	100 Rev., Max 9% 500 Rev., Max 40%
Sand Equivalent	AASHTO T 176 (After thoroughly sieving the sample, no additional cleaning of the fines from the plus No. 4 material is required.)	Minimum 55
Fractured Coarse Aggregate Particles	AASHTO T 335	Minimum 85% with at least two fractured faces and minimum 92% with at least one fractured face (plus No. 4 material)
Uncompacted Void Content	AASHTO T 304 Method A	Minimum 45.0%
Carbonates (1)	Arizona Test Method 238	Maximum 20%
(1): Testing for carbonates only applies if either of the following conditions exist: (a) The asphaltic concrete is the designed final pavement surface normally used by traffic. (b) The asphaltic concrete, temporary or otherwise, will be subject to traffic for more than 60 days.		

The gradation will be determined in accordance with AASHTO T 11 and AASHTO 27, and shall conform to the requirements given below.

Mix Design Grading Limits				
Sieve Size	Percent Passing			
	1/2 Inch Mix		3/4 inch Mix	
	Without Admixture	With Admixture	Without Admixture	With Admixture
1-1/4 Inch	---	---	---	---
1 Inch	---	---	100	100
3/4 Inch	100	100	90-100	90-100
1/2 Inch	90 - 100	90-100	---	---

3/8 Inch	67 - 82	67 - 82	62 - 77	62 - 77
No. 8	40 - 48	41 - 49	37 - 46	38 - 47
No. 40	10 - 18	11 - 19	10 - 18	11 - 19
No. 200	1.5 - 4.5	2.5 - 6.0	1.5 - 4.5	2.5 - 6.0

Fine mineral aggregate shall be obtained from crushed gravel or crushed rock. All uncrushed material passing the No. 4 sieve shall be removed prior to the crushing, screening, and washing operations necessary to produce the specified gradation. The contractor shall notify the Engineer a minimum of 48 hours in advance of crushing the material to be used as mineral aggregate, so all crushing operations can be inspected. Existing stockpile material which has not been inspected during crushing will not be permitted for use unless the contractor is able to document to the Engineer's satisfaction that the mineral aggregate has been crushed. Any material inspected by the Department as crushed material for the project shall be separated from the contractor's other stockpiles and reserved for use throughout the project duration.

The contractor may blend uncrushed fine aggregate up to a maximum of 15 percent of the total aggregate, provided that the composite of uncrushed fine aggregate and crushed fine aggregate meets the requirement for uncompacted void content. The uncrushed fine aggregate shall be 100 percent passing the 1/4 inch and not contain more than 4.0 percent passing the No. 200 sieve. Should the contractor modify the method of producing either the uncrushed or crushed fine aggregate, the Engineer shall be immediately notified and the materials sampled and tested for determination of uncompacted void content.

409-2.02 Bituminous Material:

Asphalt cement shall be a performance grade (PG) asphalt binder, conforming to the requirements of Section 1005 of the specifications. The type of asphalt binder shall be PG 70-22.

The percent of asphalt cement used shall be based on the weight of total mix (asphalt cement, mineral aggregate, and mineral admixture).

The contractor shall provide the laboratory mixing and compaction temperature ranges to the mix design laboratory for each PG asphalt binder used for mix design purposes. The laboratory mixing temperature range is defined as the range of temperatures where the un-aged asphalt binder has a rotational viscosity of 0.17 ± 0.02 Pascal-seconds, measured in accordance with AASHTO T 316. The laboratory compaction temperature range is defined as the range of temperatures where the un-aged asphalt binder has a rotational viscosity of 0.28 ± 0.03 Pascal-seconds, measured in accordance with AASHTO T 316. The testing required in AASHTO T 316 shall be performed at 275 degrees F and 350 degrees F, and a viscosity-temperature curve developed in accordance with ASTM D2493. The viscosity-temperature curve shall be included in the mix design report. For PG asphalt binders that have a maximum laboratory mixing temperature exceeding 325 degrees F or a maximum laboratory compaction temperature exceeding 300 degrees F, the laboratory mixing and compaction temperature ranges shall be specified in writing by the asphalt binder supplier.

The laboratory mixing and compaction temperature ranges, as well as the actual laboratory mixing and compaction temperatures used, shall be reported on the mix design. The contractor shall ensure that the asphalt binder supplier information required in this paragraph is provided to all appropriate parties in a timely manner, and that copies are included in the mix design report. The laboratory mixing and compaction temperatures are for mix design purposes only. Field mixing and compaction temperatures are specified in Subsection 409-3 of the specifications.

409-2.03 Mineral Admixture:

Mineral admixture shall be either Portland cement, blended hydraulic cement, or hydrated lime conforming to the following requirements:

Material	Requirement
Portland Cement, Type I or II	ASTM C150
Blended Hydraulic Cement, Type IP or 1L	ASTM C595
Hydrated Lime	ASTM C1097

The mineral admixture content shall be 2.0 percent, by weight, of the mineral aggregate. However, a minimum of 1.0 percent mineral admixture may be used if the contractor submits test information showing a lowered percentage of mineral admixture produces mix design results for Index of Retained Strength of at least 60 percent (70 percent if the average elevation of the project is above 3,500 feet) and a Minimum Wet Strength of 150 psi when tested in accordance with Arizona Test Method 802.

The certification and acceptance of Portland cement, blended hydraulic cement, and hydrated lime shall be in accordance with ADOT Materials Practice and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

409-2.04 Mix Design:

Utilizing mineral aggregate which has been crushed, processed, separated, and stockpiled, a mix design shall be formulated and submitted by the contractor to the Engineer. The mineral aggregate samples used for mix design purposes shall be representative of aggregate materials to be used during production.

The mix design shall be based on the mix design criteria and other requirements specified herein, utilizing asphalt cement and mineral admixture of the type and from the sources proposed for use in the production of asphaltic concrete.

Mix designs shall be developed utilizing a minimum ratio of three (3) for the lift thickness to nominal maximum aggregate size.

The mix design shall be prepared by or under the direct supervision of a professional engineer experienced in the development of mix designs and mix design testing. Reclaimed asphalt pavement (RAP) may be used in the mixture if properly designed per Arizona Test Method 833. Limits for the usage of RAP shall be per ADOT Materials Practice and Procedure Directive No. 20, "Guidance on the Use of Reclaimed Asphalt Pavement (RAP) in Asphaltic Concrete". The mix design engineer shall meet the requirements given in ADOT Materials Practice and Procedure Directive No. 4, "Asphaltic Concrete Mix Design Proposals and Submittals". The mix design shall be provided in a format that clearly indicates all the mix design requirements and shall be sealed, signed, and dated by the mix design engineer.

The mix design shall be prepared by a mix design laboratory that has met the requirements of ADOT Materials Practice and Procedure Directive No. 19, "ADOT System for the Evaluation of Testing Laboratories".

If approved by the Engineer, as an alternative to meeting the mix design requirements specified herein, a mix design meeting the requirements of the specifications for a Section 416 Asphaltic Concrete (End Product) (1/2 inch Special Mix), Section 416 Asphaltic Concrete (End Product) (3/4 inch Special Mix), Section 417 Asphaltic Concrete (SHRP) (End Product) (1/2 inch Mix), or Section 417 Asphaltic Concrete (SHRP) (End Product) (3/4 inch Mix) may be substituted for use. The type of asphalt binder used in the alternative mix design must be the same as that specified in Subsection 409-2.02 of the specifications. The alternative mix design may include reclaimed asphalt pavement (RAP) if properly designed per Arizona Test Method 833. If a mix design meeting the requirements of Section 417 is used, the number of gyrations for N-design used in the alternative mix design must be at least that which would be specified at the location where the Asphaltic Concrete (Miscellaneous Structural-Special Mix) is to be placed. The lift thickness for the alternative mix design shall conform to the following table:

Alternative Mix Design	Minimum Lift Thickness
Section 416 (1/2 Inch Special Mix)	1-1/2 Inches
Section 416 (3/4 inch Special Mix)	2 inches
Section 417 (1/2 inch Mix)	2 inches
Section 417 (3/4 inch Mix)	2-1/2 inches

The contractor may propose the use of a mix design that has been developed for a previous project. The proposed mix design shall meet the requirements of these specifications. The contractor shall provide evidence that the type and source of bituminous material, the type of mineral admixture, and the source and methods of producing mineral aggregate, and RAP material if applicable, have not changed since the formulation of the previous mix design. The contractor shall also provide current test results for all specified characteristics of the mineral aggregate, and RAP material if applicable, proposed for use. The Engineer will determine if the previously used mix design is suitable for the intended use and if the previous use of the mix design was satisfactory to the Department. The Engineer will either approve or disapprove the proposed mix design. Should the Engineer disapprove the use of the

previously used mix design, the contractor shall prepare and submit a new mix design proposal in accordance with the requirements of these specifications.

A previously used mix design older than two years from the date it was formulated, sealed, signed, and dated shall not be allowed for use. Once approved for use on a project, a previously used mix design may be used for the duration of that project.

Test results used in the formulation of the mix design must be from testing performed no earlier than 45 days prior to the date the mix design is signed by the mix design engineer. Historical abrasion values may be supplied on sources provided the testing was conducted within the past two years.

The mix design shall be submitted to the Engineer under a cover letter signed by an authorized representative of the contractor.

A copy of the mix design and representative samples of the mineral aggregate, mineral admixture, and asphalt cement used in the mix design shall be submitted to the Engineer for calibration of the ignition furnace, and for the determination of sand equivalent, fractured coarse aggregate particles, and uncompacted void content. The Engineer shall witness the sampling of the mineral aggregate. The mix design and samples shall be submitted to the Engineer at least five working days prior to the start of asphaltic concrete production.

The sand equivalent, fractured coarse aggregate particles, and uncompacted void content shall meet the requirements specified in Subsection 409-2.01 of the specifications. Additional testing of the uncrushed and crushed fine aggregate for uncompacted void content will be required if the method of producing either fine aggregate is modified.

If the mineral aggregate fails to meet the requirements specified herein, asphaltic concrete production shall not commence, and the contractor shall either submit a revised mix design which is representative of the materials produced or correct the deficiencies in the aggregate stockpiles.

The mix design shall meet the following criteria when tested in accordance with the requirements of the following test methods:

Criteria	Requirement	Arizona Test Method
1. Voids in Mineral Aggregate: %, Range	15.0 – 18.0	(See Note)
2. Effective Voids: %, Range	3.8 – 4.2	(See Note)
3. Absorbed Asphalt: %, Range	0 – 1.0	(See Note)
Note: For mixes without RAP, Arizona Test Method 815. For mixes with RAP, Arizona Test Method 833.		

The contractor may make self-directed target changes to the approved mix design within the limits shown below. Requests for self-directed target value changes shall be made in writing and acknowledged by the Engineer prior to start of production. Self-directed target changes shall meet contract requirements for mix design criteria and grading limits.

MEASURED CHARACTERISTICS	ALLOWABLE SELF-DIRECTED TARGET VALUE CHANGES
Gradation (sieve size): 3/8 inch No. 8 No. 40 No. 200	$\pm 4\%$ from mix design target value $\pm 4\%$ from mix design target value $\pm 2\%$ from mix design target value $\pm 0.5\%$ from mix design target value
Asphalt Cement Content	$+0.2\%$ from mix design target value
Effective Voids	None

The contractor may propose target value changes to the approved mix design for the Engineer's approval. The Engineer will determine if the proposed target value change will result in mix production that meets the contract requirements for mix design criteria and grading limits. For acceptance purposes, target value changes will not be retroactive.

In no case shall the approval of mix design changes relieve the contractor of the responsibility for the results obtained by the use of such approved changes.

Before hauling millings for use in RAP, the contractor must designate a stockpile location to be approved by the engineer. Millings from the project may not be mixed with any other millings. The contractor must provide a load count at the end each day of millings delivered to the designated stockpile. Payment of the milling items may be withheld until such load counts are provided. Any millings remaining in the stockpile, not used in RAP at the completion of paving, including those millings that were processed for RAP but not utilized in RAP, remain the property of the Department. When paving is complete, the contractor must begin hauling the millings to the designated stockpile in the special provisions the next business day. Payment asphalt may be withheld for failure to begin hauling the millings to the designated stockpile after the completion of paving.

409-2.05 Sampling and Testing:

Sampling and testing the materials and mixture for quality control purposes shall be the contractor's responsibility. The contractor shall perform sufficient testing to assure that mineral aggregate and asphaltic concrete are produced which meet all specified requirements.

For acceptance purposes, samples of the asphaltic concrete shall be taken by the contractor, under the observation of the Engineer, at random locations designated by the Engineer. A minimum of one sample shall be taken for each 500 tons of asphaltic concrete. Samples shall

be taken in accordance with the requirements of the plate method in AASHTO R 97. The Engineer will immediately take custody of the samples. The material will be tested by the Engineer for the following properties:

Test Property	Test Method
Asphalt Cement Content	AASHTO T 308 (for both Non-RAP and RAP mixes) (See Note)
Gradation	
Marshall Density	AASHTO R 68
Maximum Theoretical Density	AASHTO T 209
Effective Voids	AASHTO T 269
Note: A new calibration of the ignition furnace shall be performed for each mix design, and at any other time the Engineer directs.	

409-3 Construction Requirements:

409-3.01 General:

All courses of asphaltic concrete shall be compacted as required, smooth and true to the required lines, grades, and dimensions.

- (B) The surface of the final lift of asphaltic concrete placed under this section of the specifications shall be tested and shall not vary by more than 1/8 inch from the lower edge of a 10-foot straightedge when it is placed in the longitudinal direction (including across transverse joints), and when it is placed in the transverse direction across longitudinal joints;
- (C) The surface of any lift of asphaltic concrete placed under this section of the specifications, other than the final lift, shall be tested and shall not vary by more than 1/4 inch from the lower edge of a 10-foot straightedge when it is placed in the longitudinal direction (including across transverse joints), and when it is placed in the transverse direction across longitudinal joints; and
- (D) All deviations exceeding the specified tolerances above shall be corrected by the contractor, to the satisfaction of the Engineer.

The asphaltic concrete hot plant shall conform to the requirements of Section 403 of the specifications.

The moisture content of the asphaltic concrete immediately behind the paver shall not exceed 0.5 percent. The moisture content will be determined in accordance with the requirements of AASHTO T 329.

Asphaltic concrete shall be placed only when the temperature of the surface on which the asphaltic concrete is to be placed is at least 65 degrees F.

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the asphaltic concrete.

All wheels and tires of compactors shall be wetted with water, or if necessary soapy water, or a release agent in order to prevent the sticking of asphaltic concrete. All other equipment surfaces shall be treated when necessary with a release agent. Only release agents evaluated through AASHTO Product Evaluation & Audit Solutions (formerly NTPEP) are acceptable for use. The results from AASHTO Product Evaluation & Audit Solutions (formerly NTPEP) testing, when tested in accordance with AASHTO T 383, shall conform to the requirements shown in the table below:

RELEASE AGENT TEST	REQUIREMENT
Asphalt Stripping Test	
Diluted	No Stripping
Non-Diluted (Full Strength)	No Stripping
Asphalt Performance Test	Less than or equal to 10.0% after the third cycle

Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent.

Asphaltic concrete immediately behind the laydown machine shall be in a thoroughly mixed, free-flowing, and workable condition, be free of lumps and crusts, and have a minimum temperature of 275 degrees F.

All courses of asphaltic concrete shall be placed and finished by means of self-propelled paving machines except under certain conditions or at certain locations where the Engineer deems the use of self-propelled paving machines impractical.

The speed of the paving machine shall be coordinated with the production of the plant and an adequate number of trucks for hauling asphaltic concrete shall be available in order to achieve, as far as practical, a continuous operation.

Self-propelled paving machines shall spread the mixture within the specified tolerances, without segregation or tearing, true to the line, grade, and crown indicated on the project plans. Pavers shall be equipped with hoppers and augers which will distribute the mixture uniformly in front of adjustable screeds.

Pavers shall be equipped with a screed for the full width being paved, heated if necessary, and capable of spreading and finishing all courses of asphaltic concrete.

Pavers shall be equipped with automatic screed controls with sensors for either or both sides of the paver, capable of sensing grade from an outside reference line, sensing the transverse slope of the screed, and providing the automatic signals which operate the screed to maintain the desired grade and transverse slope.

Failure of the control system to function properly shall be cause for the suspension of the placing of asphaltic concrete.

The base or subgrade upon which asphaltic concrete is to be placed shall be prepared and maintained in a firm condition until asphaltic concrete is placed. It shall not be frozen or excessively wet.

Before asphaltic concrete is placed, the surface to be paved shall be cleaned of all objectionable material and tacked with bituminous material in accordance with the requirements of Section 404 of the specifications.

Longitudinal joints of each course shall be staggered a minimum of 1 foot with relation to the longitudinal joint of any immediate underlying course. Longitudinal joints shall be located within 1 foot of the center of a lane or within 1 foot of the centerline between two adjacent lanes.

The contractor shall schedule its paving operations to minimize exposed longitudinal edges. Unless otherwise approved by the Engineer, the contractor shall limit the placement of asphaltic concrete courses, in advance of adjacent courses, to one shift of asphaltic concrete production. The contractor shall schedule its paving operations in such a manner to eliminate exposed longitudinal edges over weekends or holidays.

409-3.02 Compaction:

Compaction shall consist of an established sequence of coverage using specified types of compactors. A pass shall be defined as one movement of a compactor in either direction. Coverage shall be the number of passes as are necessary to cover the entire width being paved.

The rolling sequence, the type of compactor to be used and the number of coverages required shall be as follows:

Rolling Sequence	Type of Compactor		No. of Coverages	
	Option No. 1	Option No. 2	Option No. 1	Option No. 2
Initial	Static Steel	Vibrating Steel	1	1
Intermediate	Pneumatic Tired	Vibrating Steel	2 - 6*	2 - 4*
Finish	Static Steel	Static Steel	1 - 3	1 - 3
Note: * Based on the roller pattern which exhibits the best performance.				

The Engineer shall select the option for compaction and, when pneumatic-tired compactors are used, will designate the tire pressure.

Steel wheel compactors shall not be used in the vibratory mode for courses of 1 inch or less in nominal thickness nor when the temperature of the asphaltic concrete falls below 180 degrees F. Steel wheel compactors shall weigh not less than 8 tons.

Initial and intermediate compaction shall be completed before the temperature of the asphaltic concrete falls below 200 degrees F. All edges shall be rolled with a pneumatic tired compactor, or other methods approved by the Engineer, while the mixture is still hot.

Compaction will be deemed to be acceptable on the condition that the asphaltic concrete is compacted using the type of compactors specified, ballasted and operated as specified and with the number of coverages of the compactors as specified.

409-3.03 Acceptance:

Asphaltic concrete will be accepted complete in place unless the result of any test varies from the contractor's mix design target value (TV) as follows:

Test Property	Allowable Variation from Target Value	
Gradation (Sieve sizes)		
3/8 inch	TV – 10.0	TV + 10.0
No. 8	TV – 8.0	TV + 8.0
No. 40	TV – 6.0	TV + 6.0
No. 200	TV – 2.5	TV + 2.5
Asphalt Cement Content	TV – 0.60	TV + 0.70
Effective Voids	TV – 2.5	TV + 2.0

Within 25 days after receiving notice of any failing test result(s), the contractor may submit a written proposal to accept the material represented by the failing test result(s), in place, at a reduction in cost. If the failing test result(s) are only on Asphalt Cement Content and/or Effective Voids, the reduction in cost will be \$5.00 per ton. If the failing test result(s) are only on Gradation, the reduction in cost will be \$3.00 per ton. If the failing test result(s) are on Asphalt Cement Content and/or Effective Voids, and also on Gradation, the reduction in cost will be \$5.00 per ton. The proposal shall contain an engineering analysis of the anticipated performance (i.e. reduction in serviceability, in years) of the asphaltic concrete if left in place. The engineering analysis shall also detail the potential root cause of the problem, any proposed corrective action, and the anticipated effect of such corrective action on the performance. The engineering analysis shall only include acceptance or referee test results, as applicable to the standard specifications. The engineering analysis shall include the expected additional cost to the Department (over original performance life) to maintain the pavement at an acceptable condition. The engineering analysis shall include supporting information such as pictures of the area, control charts, plant and field records, etc. The

engineering analysis shall be performed by an independent professional engineer, who is not an employee of the contractor or materials supplier, experienced in asphaltic concrete testing and the development of asphaltic concrete mix designs.

Within three working days, the Engineer will determine whether or not to accept the contractor's proposal. If the proposal is accepted, the asphaltic concrete shall remain in place, at a reduction in cost per ton, as described above, and any necessary corrective action shall be performed at no additional cost to the Department. If the proposal is not accepted, the asphaltic concrete shall be removed at no additional cost to the Department and replaced with asphaltic concrete meeting the requirements of these specifications.

The contractor may request that a sample with a failing test result(s) on gradation and/or asphalt cement content be allowed to remain in place without the completion of an engineering analysis if the application of a self-directed target value change as outlined in section 409-2.04 would have brought the failing test result(s) to within the specified tolerances. This proposal must be made to the Engineer in writing with justification. Once accepted, the material will be allowed to remain in place at the maximum negative pay factor(s). Maximum negative are defined as a minus \$3.00 per ton for mixture properties lots in reject for Gradation only, minus \$5.00 per ton for mixture properties lots in reject for Asphalt Cement Content and/or Effective Voids only, and minus \$5.00 per ton for mixture properties lots in reject for Asphalt Cement Content and/or Effective Voids and also Gradation.

If the asphaltic concrete, represented by failing test results, is used as temporary pavement which will be removed prior to, or after, the completion of construction, the Engineer reserves the right to waive the engineering analysis and accept the material in place, at a cost reduction described above, provided the temporary pavement maintains the functionality of the intended use for the duration of the project.

409-4 Method of Measurement:

Asphaltic concrete will be measured by the ton for the mixture actually used, which will include the weight of mineral aggregate, bituminous material, and mineral admixture. Measurement will include any weight used in construction of intersections, turnouts, curbs, spillways and spillway inlets, ditches, catch basin entrances, median strips, sidewalks, or other miscellaneous items or surfaces.

409-5 Basis of Payment:

409-5.01 General:

The accepted quantities of asphaltic concrete, measured as provided above, will be paid for at the contract unit price per ton for the bituminous mixture complete in place.

No direct payment will be made for the bituminous material and mineral admixture in the asphaltic concrete, or the bituminous material for tack coat and application of tack coat, the price being considered as included in the price paid for asphaltic concrete.

Asphaltic concrete may be measured, by volume, upon the execution of a supplemental agreement which will specify the manner in which the volume is determined. The volume will include the volume of mineral aggregate, bituminous material, mineral admixture, and any necessary blending material.

409-5.02 Reduction for Noncompliance:

A reduction in payment to the contractor for asphaltic concrete will be made for asphalt cement (bituminous material) that do not meet the requirements of Section 1005 as determined by corresponding test results. Adjustments in payment will be made in accordance with the requirements of Table 1005-1.

(701LUMPSUM, 03/20/25)

SECTION 701 MAINTENANCE AND PROTECTION OF TRAFFIC:

701-1 Description: the first paragraph of the Standard Specifications is revised to read:

The work under this section shall consist of providing flagging services and pilot trucks, and furnishing, installing, maintaining, moving and removing barricades, warning signs, lights, signals, cones, temporary pavement markings and other traffic control devices to provide safe and efficient passage through and/or around the work and to protect workers in or adjacent to the work zone. The work shall be done in accordance with the requirements of Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the associated Arizona Department of Transportation supplement. When referred to herein, these documents will be referred to as MUTCD and associated ADOT Supplement.

701-1 Description: the third paragraph of the Standard Specifications is revised to read:

Any traffic control plan included in the project plans shall govern unless an alternate plan, acceptable to the Engineer, is submitted by the contractor. If no traffic control plan is provided or if the contractor desires to deviate from the provisions for maintaining traffic as described in this section, it shall submit to the Engineer for the approval of a proposed sequence of operations and a compatible method of maintaining traffic.

701-3.01 General: of the Standard Specifications is modified to add:

At the preconstruction conference the contractor shall submit a log of all existing signs within the limits of the construction zone. The Department will verify the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the contractor in accordance with Subsection 701-3.11 of the specifications.

The contractor shall coordinate all traffic control work on this project with any adjoining or overlapping projects during the construction activities. This may include barricade placement necessary to provide a uniform traffic progress.

701-4.01 General: the first paragraph of the Standard Specifications is revised to read:

The Department will reimburse the contractor for the work of maintaining and protecting traffic on a lump sum basis except for the following Elements of Work:

- 1) Changeable Message Boards
- 2) Temporary Impact Attenuation Devices
- 3) Temporary Concrete Barrier
- 4) Specialty Signs
- 5) Local Enforcement Officers
- 6) DPS Officers
- 7) Civilian Flaggers
- 8) Pilot Vehicles
- 9) Truck-Mounted and Trailer-Mounted Attenuators

No additional measurement for payment to the contractor will be made for any Elements of Work other than those listed above.

701-4.01 General: the first sentence of the third paragraph of the Standard Specifications is revised to read:

Elements of Work except those reimbursed under the lump sum item will be measured for payment as follows:

701-4.03(E) Limitation of Measurement: the second paragraph of the Standard Specifications is revised to read:

For all items except those reimbursed under the lump sum item, measurement will be made after the initial installation and once weekly thereafter for items in continuous use and at any other times changes are made in the use of traffic control elements listed under Subsection 701-4.01(B) of the specifications. The contractor shall notify the Engineer when any changes are made in the use or location of traffic control elements.

701-4.04 Measurement of Work Elements: Sub-paragraphs (D), (G), (H), (J), (K), (L), and (N) of the Standard Specifications are hereby deleted.

701-5 Basis of Payment for Elements of Work (Complete-in-Place): of the Standard Specifications is modified to add:

All elements of work necessary for the work of maintaining and protecting traffic, excluding Elements of Work listed in Subsection 701-4.01 of the specifications, shall be reimbursed as a single, complete item of work, which price shall be considered full compensation for the work, complete in place, including furnishing, removing, setting up, relocating, taking down, maintaining, and storing the devices.

Lump sum traffic control will be paid according to the schedule shown in Table 701-5 of the specifications.

Table 701-5 Payment Schedule for Lump Sum Traffic Control	
Percent of Total Contract Amount Earned (Excluding Mobilization and Traffic Control)	Allowable Percent of Lump Sum Price for Maintenance and Protection of Traffic
5	20
25	40
50	60
75	80
90*	100
*Or substantial completion	

If the Engineer determines that the final contract amount earned will fall between 75 and 100 percent of the original contract amount, lump sum traffic control will be compensated at 100 percent once final acceptance is achieved.

In the event the Department revises the contract in accordance with Subsection 104.02 of the specifications due to a significant change in the character of work, and the revisions impact the Maintenance and Protection of Traffic, the lump sum price for Maintenance and Protection of Traffic will be adjusted as part of the contract revision under the relevant supplemental agreements.

No adjustments to the lump sum price for Maintenance and Protection of Traffic will be made for suspension of work for seasonal restrictions.

Revisions in the phasing of construction or maintenance of traffic control operations, requested by the contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. Such revisions or modifications to the traffic control plans shown in the contract shall be submitted by the contractor for approval by the Engineer. No additional payment will be made for the revised plans requested by the contractor.

701-5.03 Temporary Preformed Markings for Pavement: of the Standard Specifications is hereby deleted.

701-5.05 Obliterate Pavement Marking: of the Standard Specifications is hereby deleted.

701-5.06 Temporary Pavement Markers and Chip Seal Pavement Markers: of the Standard Specifications is hereby deleted.

701-5.07 Obliterate Pavement Markers: of the Standard Specifications is hereby deleted.

701-5.08 Temporary Delineators: of the Standard Specifications is hereby deleted.

701-5.10 Temporary Removal or Covering of Signs: of the Standard Specifications is hereby deleted.

701-6.01 Quantity Variances: of the Standard Specifications is revised to read:

Payment for variances in quantities of items listed in Subsection 701-4.01 of the specifications shall be in accordance with Subsection 104.02 of the specifications, except that, for decreases in quantities, Temporary Concrete Barrier (In-Use) will be considered as a major item.

701-6.03 Channelization Devices: of the Standard Specifications is hereby deleted.

701-6.04 Temporary Signs: of the Standard Specifications is hereby deleted.

701-6.06 Flashing-Arrow Panels, and Changeable Message Boards: the title and text of the Standard Specifications are revised to read:

701-6.06 Changeable Message Boards:

The accepted quantities of changeable message boards, measured as provided above, will be paid for at the unit bid price per day, which price shall be full compensation for the work, complete, including any grading and furnishing, operating, maintaining, and relocating the boards on the work site.

(701FLGSV, 03/20/25)

SECTION 701 MAINTENANCE AND PROTECTION OF TRAFFIC:

701-3.13 Flagging Services: of the Standard Specifications is revised to read:

Flagging services shall consist of 1) Department of Public Safety (DPS) officers with agency vehicles, 2) local enforcement officers with agency vehicles, 3) local enforcement officers without agency vehicles, and 4) civilian flaggers. Local enforcement officers and DPS officers include those who meet the requirements of a Peace Officer under ARS Title 38, generally including anyone certified by the Arizona Peace Officer and Training Board. If available, DPS officers shall be used on Interstate Highways and Urban Freeways. Local enforcement officers will include uniformed officers from local police, tribal police, sheriff departments, or any other agencies that meet the requirements of a Peace Officer under ARS Title 38, generally including anyone certified by the Arizona Peace Officer and Training Board. An agency vehicle is defined as an agency-issued vehicle that meets the requirements of ARS Title 28. If local enforcement officers do not have access to an agency vehicle, a personal vehicle may be used, but it shall have a make and model similar in appearance of an agency vehicle, and shall be equipped with front and rear-facing red and blue lights. The personal vehicle, when applicable, shall be presented to the Engineer for acceptability prior to its use on the project by local enforcement officers. Approval of the personal vehicle will be at the sole discretion of the Engineer.

The contractor shall be responsible to procure DPS officers, local enforcement officers, and civilian flaggers. The Engineer will determine the types and the number of hours of flaggers as needed based on the project needs. Quantities shown on the traffic control plans and/or bidding schedule are approximate only and prepared for bidding purposes. When procuring DPS officers and local enforcement officers, the contractor shall contact the relevant agency at least two days, excluding weekends and holidays, before flagging services will be required. Such contact must be made between the hours of 7:00 A.M. and 5:00 P.M. (M.S.T.).

In the event that local enforcement officers or DPS officers are temporarily unable to provide flagging services, the contractor shall ensure that traffic control is maintained and all personnel are protected, either by providing civilian flaggers or through other means as approved by the Engineer. No adjustments to the contract will be allowed for any delays resulting from the unavailability of local enforcement officers or DPS officers.

Local enforcement and DPS officers shall not work more than 12 consecutive hour work shift without the permission of the State Construction Engineer unless an emergency situation exists which, in the opinion of the Engineer, requires that the officer remain in the capacity of a flagger.

The contractor shall furnish verification to the Engineer that all civilian flaggers have completed a recognized training and certification program. Flaggers certified by the American Traffic Safety Services Association (A.T.S.S.A.) or by the National Safety Council will be acceptable. Certification through other programs offering flagger training may be allowed upon by the State Construction Engineer's approval. Flagger certification must be current and updated at least once every four years.

701-6.07 Pilot Services, and Flagging Services: of the Standard Specifications is revised to read:

The accepted quantities of pilot vehicles, measured as provided above, will be paid for at the unit bid price for pilot vehicles with driver, which price shall be full compensation for the work, complete in place including, but not limited to, furnishing and maintaining the vehicle and furnishing the driver. Any hour worked after the eight hour regular time will be considered straight-time and will not be paid as overtime pay.

The accepted quantities of flagging services provided by the local enforcement officers (with agency vehicle), DPS officers, and civilian flaggers, measured as provided above, will be paid for at the contract unit price, which price shall be full compensation for the work, complete in place, including the agency vehicle. Any hour worked after the eight hour regular time will be considered straight-time and will not be paid as overtime pay.

The accepted quantities of flagging services provided by the local enforcement officers without an agency vehicle, measured as provided above, will be paid for at the contract unit price, which price shall be full compensation for the work complete in place. Any hour worked after the eight hour regular time will be considered straight-time and will not be paid as overtime pay. No measurement or payment will be paid for the vehicle, regardless of the type of vehicle is an agency vehicle or not, the cost being considered as included in the price of the contract item.

In addition, the Department has estimated an additional two hours of travel time per officer per day in the quantities shown in the bid schedule. However, if more than two hours of travel time per day is required, such additional hours will be compensated in accordance with the requirements of Subsection 104.02 of the specifications if approved by the State Construction

Engineer. Travel time is considered to be supplementary to the hours worked by the officer during a work shift.

(708 PTVCT, 07/17/25)

SECTION 708 WATERBORNE PAVEMENT MARKINGS:

708-2.01(D) Quantitative Requirements of Mixed Paints: the viscosity row of the Table 708-1 of the Standard Specifications is revised to read:

Table 708-1		
	White	Yellow
Viscosity: Krebs Units at 77 ± 1° F, ASTM D562	70 - 95	70 - 95

(709PGMNT, 08/18/22)

SECTION 709 DUAL COMPONENT PAVEMENT MARKINGS:

709-2.02(A) Composition: of the Standard Specifications is revised to read:

The epoxy resin material shall be within the following compositional requirements:

Component	Percent by Weight	
	White	Yellow
White Pigment (Titanium Dioxide)	18 - 25	10 - 17
Organic Yellow Pigment	---	7 - 10
Epoxy Resin	75 - 82	73 - 83

The white pigmented pavement marking material shall be tested in accordance with ASTM D3723 and shall conform to the requirements specified in ASTM D476 (Type II).

709-2.02(K) Color: of the Standard Specifications is revised to read:

The colors of the applied markings shall comply with the requirements specified in ASTM D6628 and shall conform to the following:

The white color shall match Federal Test Standard Number 595B, color chip no. 37875;
and

The yellow color shall match Federal Test Standard Number 595B, color chip no. 33583.

709-2.02(L) Yellowness Index: of the Standard Specifications is revised to read:

The initial yellowness index value of the white material shall be tested in accordance with ASTM E313. The sample shall be cured for 72 hours at room temperature (75 ± 2 degrees F) prior to testing. The initial yellowness index shall not exceed a value of 8.

The yellowness index value of the white material shall be tested in accordance with ASTM E313 and ASTM G154. The sample shall be cured for 72 hours at room temperature (75 ± 2 degrees F) and then exposed in the QUV chamber for 72 hours and 500 hours respectively. The yellowness index values shall not exceed the values shown in the table below.

Exposure Time (hours)	Yellowness Index
72	15
500	27

(925SRVY, 08/16/19)

SECTION 925 CONSTRUCTION SURVEYING AND LAYOUT:

925-5 Basis of Payment: the fourth paragraph of the Standard Specifications is revised to read:

If additional staking and layout are required as a result of additional work ordered by the Engineer, such work will be paid under items listed in the table below.

ITEM	PREDETERMINED RATE
9250101-ONE-PERSON SURVEY PARTY	\$110 per hour
9250102-TWO-PERSON SURVEY PARTY	\$150 per hour
9250103-THREE-PERSON SURVEY PARTY	\$190 per hour
9250106-SURVEY MANAGER	\$175 per hour
9250105-OFFICE SURVEY TECHNICIAN	\$85 per hour

(928LONG, 09/16/21)

SECTION 928 GROUND-IN RUMBLE STRIP: the title and text of the Standard Specifications are revised to read:

SECTION 928 LONGITUDINAL GROUND-IN RUMBLE STRIP:

928-1 Description:

The work under this item shall include furnishing all tools, equipment and labor necessary to install longitudinal ground-in rumble strips of the size and at the locations specified on the project plans or as directed by the Engineer.

928-2 Blank:

928-3 Construction Requirements:

Longitudinal ground-in rumble strips shall be constructed by mechanically milling or grinding grooves into new or existing asphalt concrete pavements. The grooves shall be constructed with a cylindrical configuration in the direction of the traffic flow, and shall be placed in accordance with the details shown on the project plans. Exceptions in longitudinal ground-in rumble strips not shown on the plans will be designated by the Engineer.

The grooves shall be constructed with equipment specifically designed to remove such material by means of grinding to a controlled line and grade. The equipment used shall be capable of removing the existing asphaltic concrete to the dimensions and tolerances specified on the plans. The removals shall be accomplished in a manner which does not scar the surface of the adjacent pavement. Grooves shall not be constructed in new asphaltic concrete pavements for a minimum of three days after placement, or 10 days after placement of new asphaltic concrete pavements with asphalt-rubber. Construction of the grooves may be allowed in less time if the contractor can demonstrate that the pavements are sufficiently cured.

The contractor shall place a continuous control line as a guide for installation. The milling machine shall also be equipped with an approved guide that is clearly visible to the operator so that proper alignment of the grooves will be obtained. Lateral deviation of the milled rumble strips shall not exceed one inch in any 100 foot interval.

The contractor shall also use high pressure air to remove any millings and debris remaining after the use of the equipment's vacuum recovery system. Such debris shall be removed to the shoulder and disposed of in a manner approved by the engineer.

928-4 Method of Measurement:

Longitudinal ground-in rumble strips will be measured by linear foot at the locations shown in the project plans and in accordance with the specifications.

Gaps in the pattern and exceptions in the longitudinal ground-in rumble strips will not be included in the measurement.

No measurement will be made for the removal and disposal of milling and debris.

928-5 Basis of Payment:

The accepted quantities of longitudinal ground-in rumble strips, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work complete in place as shown on the project plans and as specified herein.

No additional payment will be made for the removal and disposal of milling and debris, the cost being considered as included in the price of the contract item.

(1001MATL, 06/17/21)

SECTION 1001 MATERIAL SOURCES: of the Standard Specifications is revised to read:

1001-1 Description:

The work under this section shall consist of the procuring of borrow, topsoil, subbase and base materials, mineral aggregates for concrete structures, surfacing, and landscape plating, from sources either designated on the project plans or in the Special Provisions or from other sources.

1001-2 General:

The contractor shall determine for itself the type of equipment and work required to produce a material meeting the requirements of the specifications.

Sites from which material has been removed shall, upon completion of the work, be left in a neat and presentable condition. Where practicable, borrow pits, gravel pits, and quarry sites shall be located so that they will not be visible from the highway.

The contractor shall provide an environmental analysis, as specified in Subsection 104.12 of the specifications, for any source proposed for use regardless of whether a previously approved environmental analysis exists for the site.

In accordance with Subsection 104.12 of the specifications, the contractor may utilize an existing environmental analysis approved after January 1, 1999, provided that the analysis is updated as necessary to be in compliance with current regulations and with the contractor's planned activities.

It shall be the responsibility of the contractor to conduct any necessary investigations, explorations, and research, on-site and otherwise, before and after submitting the bid proposal, to satisfy itself that the specified quantity and/or quality of material exists in any proposed material source.

The contractor shall not produce material for the project, mobilize crushing equipment or clear a worksite prior to approval of the environmental analysis.

The contractor shall comply with the requirements of the landowner or agency having jurisdiction over the land.

The Department makes no representation regarding quality or quantity of materials in any source.

1001-2.01 Information Available:

The Department maintains a listing of materials sources for which a completed environmental analysis is available and the landowner has allowed the source to be placed on the list. Further information on material sources is available at <https://azdot.gov/business/environmental-planning/material-source-guidance>.

1001-2.02 Material Sources in Floodplains:

Any development of a material source that is determined to be in a flood plain must meet the requirements of the appropriate local, state, and federal agencies, including as applicable, the U.S. Army Corps of Engineers, Section 404 of the Clean Water Act, ADEQ or Tribal 401 Water Quality Certification, and the National or Arizona Pollutant Discharge Elimination System (NPDES/AZPDES).

If the contractor wishes to procure a material source within a floodplain, the contractor or material supplier shall submit a Floodplain Use Permit application to the appropriate floodplain management agency. The contractor shall submit to the Department documentation that the Floodplain Use Permit for the material source was approved and signed by the appropriate agency's Floodplain Administrator. The contractor or material supplier shall comply with all the requirements of the Floodplain Use Permit, including renewal of the Permit as needed or required.

The Department will require an engineering report if the material source is situated in the 100 year floodplain of any stream or watercourse, and located within one mile upstream and two miles downstream of any highway structure or surfaced roadway crossing. The engineering report shall be prepared by a professional engineer with expertise in hydrology, hydraulics, river mechanics, and fluvial geomorphology. The engineering report shall address the effects of the potential for structural damages following a 100 year flood event.

All other permits required to obtain a material source shall be furnished to the Department

upon request.

Surplus material from agency administered flood control management projects may be used as borrow material only if the contractor submits written evidence to the Engineer that the flood control agency project was fully designed and funded.

Material sources in floodplains located on Native American Tribal Lands will be considered for use on an individual analysis. The analysis shall include a review of applicable land use plans, floodplain management plans, environmental plans, applicable laws and regulations pertaining to Native American Tribal Lands, and an engineering analysis of the effects on any highway facility or structure. The contractor shall obtain from the Bureau of Indian Affairs (BIA) and the Native American Tribal Council all permits, licenses, and approvals for the Department to review.

1001-2.03 Protection and Restoration:

The contractor shall comply with the requirements of Subsections 107.11 and 107.12 of the specifications for protecting and restoring the material source. The contractor shall assume full responsibility to protect and rehabilitate the material source to the satisfaction of the Department and in compliance with the requirements of the Federal Land Management Agency (FLMA) having jurisdiction or by the owner of the material source.

1001-3 Proposed Source:

1001-3.01 Approval Requirements:

(A) General:

The contractor shall notify the Engineer prior to or at the preconstruction conference as to the source that it proposes to use.

The contractor acknowledges that all the conditions set forth in this subsection shall be met prior to the source being approved for use.

Other than sampling and testing, the requirements of this subsection shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source.

Regulatory changes, specification changes, or other reasons may preclude the approval of a materials source. The contractor acknowledges that the Department may refuse to approve a material source even if the Department had approved the source for other projects.

(B) Specific Conditions for Approval:

The use of a source will require written approval by the Engineer. No approval will be given until the contractor has complied with the following conditions:

- (1) The contractor has submitted an environmental analysis, as specified in Subsection 104.12 of the specifications, of the source proposed for use and the Department has reviewed the analysis and satisfied itself that the use of such source will not have an adverse social, economic or environmental impact. The requirements of Subsection 1001-3.01 of the specifications shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source.
- (2) The contractor has furnished the Engineer with evidence that he has secured the rights to the source, including ingress and egress.

(C) Historical and Cultural Resources:

The archaeological survey report of the proposed material source shall be prepared by the contractor's archaeological consultant and shall conform to the requirements of Subsection 104.12 of the specifications.

In the event that prehistoric or historic structures and prehistoric or historic artifacts are encountered during any activity related to the construction of the material source, the contractor shall immediately cease operations within a 50 foot radius of the discovery location and notify the Engineer. In the event that an unmarked human burial and/or funerary remains are encountered during any activity related to the construction of the material source, the contractor shall immediately cease operations within a 100 foot radius of the discovery location and notify the Engineer. The Engineer will contact the Environmental Planning – Historic Preservation Team so that appropriate notification of the discovery is made per state and federal regulations.

After notifying the Engineer, the contractor shall, within good faith, secure the area and take all reasonable measures to protect the historical and cultural resources. No activity shall resume unless authorized by the Engineer. The Engineer will not authorize resumption of any activity until receiving confirmation from the Environmental Planning – Historic Preservation Team that the contractor may commence work.

If the Department determines that the proposed use will have major adverse impact on cultural or historic resources, the Department will not allow the use of the source.

(D) Permit from Navajo Nation:

For projects located on the Navajo Reservation, the Navajo Nation has adopted a permitting system for any sources, regardless of whether on or off the Navajo reservation, which are to supply material for projects located within its boundaries. No material source will be approved until the contractor submits a copy of the permit from the Navajo Nation allowing materials from the proposed source to be used on the project. For information concerning the permit, the contractor shall contact the Navajo Nation Historic Preservation Office.

(E) Bureau of Land Management Material Sources:

If the contractor elects to pursue the use of material sources on BLM land under Title 30 Code of Federal Regulations, it is at the contractor's sole risk, and the Department bears no responsibility for any delays or costs associated with the request to use material sources on BLM Land.

The Department will not request or pursue any "free-use permit" under Title 23 Code of Federal Regulations or any other arrangement with BLM on this project.

1001-4 Special Access within Right Of Way:

The contractor may submit a request to the District Engineer to approve special access to a controlled access highway if special access is not shown on the project plans.

The request by the contractor shall be accompanied by an environmental analysis and by documents which specify the point(s) of access, the acquisition of right of way, the manner in which access will be attained, the traffic control plan, and crossovers, along with all other appropriate data which will allow the District Engineer to evaluate its request. If the request is approved, a supplemental agreement shall be entered into.

All costs associated with the special access requested by the contractor shall be borne by the contractor, including, but not limited to, cattle guards, fences, gates and restoration work.

When access is not being utilized, gates shall be closed and locked. Upon completion of all operations, the area within the right of way that has been disturbed shall be restored to the condition existing prior to the contractor's operations.

The decision by the District Engineer to deny a request by the contractor will be considered to be final.

1001-5 Fences and Cattle Guards:

Where the haul roads to material sources cross existing fence lines in areas where there is livestock of any kind, temporary cattle guards shall be installed by the contractor at each crossing.

The livestock operator or owner shall be contacted prior to the beginning of any operations and effective measures shall be taken and means provided by the contractor to prevent livestock from straying.

In operations where conditions will exist that are dangerous to livestock of any kind, temporary cattle guards and fence shall be installed around the pit area by the contractor to protect livestock.

Temporary cattle guards and fence installed by the contractor shall be removed and existing fence disturbed shall be replaced or reconstructed and all fence shall be left in as good condition as it was prior to the beginning of work.

(1005PG, 06/19/25)

SECTION 1005 BITUMINOUS MATERIALS:

1005-3 Bituminous Material Requirements:

1005-3.01 Asphalt Cement: of the Standard Specifications is revised to read:

Asphalt cement shall be a performance grade (PG) asphalt binder conforming to the requirements of AASHTO M 320. Air blown/oxidized asphalt, Polyphosphoric acid (PPA) modification and re-refined/recycled engine oil bottom (REOB) will not be accepted. The pressure aging temperature for all binders, including Terminal Blend rubberized binder and Polymer modified asphalt binder shall be as specified below:

PG Asphalt Binder	Pressure Aging Temperature
PG 70-XX and above	110 °C
PG 64-XX and below	100 °C

If Terminal Blend rubberized binder (XX-XXTR+) is used, it shall conform to the requirements of Table 1005-1 and 1005-1a.

If Polymer modified asphalt binder (XX-XXPM) is used, it shall conform to the requirements of Table 1005-1 and 1005-1b.

If, during asphaltic concrete production, it is determined by testing that asphalt cement fails to meet the requirements for the specified grade, the asphaltic concrete represented by the corresponding test results shall be evaluated for acceptance. Should the asphaltic concrete be allowed to remain in place, the contract unit price for asphaltic concrete will be adjusted by the percentage shown in Table 1005-1. Should the asphalt cement be in reject status, the contractor may, within 25 days of receiving notice of the reject status, supply an engineering analysis of the expected performance of the asphaltic concrete in which the asphalt cement is incorporated. The engineering analysis shall detail any proposed corrective action and the anticipated effect of such corrective action on the performance. Within three working days, the Engineer will determine whether or not to accept the contractor's proposal. If the proposal is rejected, the asphaltic concrete shall be removed and replaced with asphaltic concrete meeting the requirements of the specifications at no additional expense to the Department. If the contractor's proposal is accepted, the asphaltic concrete shall remain in place at the applicable percent of contract unit price allowed, and any necessary corrective action shall be performed at no additional cost to the Department.

1005-3.03 Emulsified Asphalt: the fourth paragraph of the Standard Specifications is revised to read:

Emulsified asphalts shall be homogeneous. If emulsified asphalt has separated, it shall be thoroughly mixed to insure homogeneity. If emulsified asphalt has separated due to freezing, it shall not be used. Emulsified asphalt shall not be used after 30 days from production.

1005-3.04 Emulsified Asphalt (Special Type): of the Standard Specifications is revised to read:

Emulsified asphalt (special type) shall consist of Type SS-1 or CSS-1 diluted with water to provide an asphalt content not less than 26 percent. The water used shall be potable. Potable water obtained from public utility distribution lines will be acceptable. The water used shall be free of injurious amounts of oil, acid, alkali, clay, vegetable matter, silt, or other harmful matter. The material shall not be diluted in the field.

1005-3.07 Other Requirements: the tables 1005-1, 1005-1a, and 1005-1b of the Standard Specifications are revised to read:

TABLE 1005-1 ASPHALT BINDER ADJUSTMENT TABLE			
Test Property	AASHTO Test Method	Test Result	Percent of Contract Unit Price Allowed
Dynamic Shear of Original Binder: G*/Sin δ , kPa	T 315	≥ 1.00 0.90-0.99 0.70-0.89 < 0.70	100 98 95 88 (1)
Dynamic Shear of RTFO Binder: G*/Sin δ , kPa	T 315	≥ 2.20 2.00-2.19 1.60-1.99 < 1.60	100 98 95 88 (1)
Dynamic Shear of PAV Binder: G*Sin δ , kPa	T 315	≤ 5000 5001-5500 5501-7000 7001-8000 > 8000	100 98 95 89 87 (1)
Creep Stiffness of PAV Binder: S, Mpa	T 313	≤ 300 301-330 331-450 451-600 > 600	100 98 95 89 87 (1)
m-value at 60 sec.	T 313	≥ 0.300 0.270-0.299 0.230-0.269	100 98 90

		< 0.230	87 (1)
Notes: (1) Reject Status: The pay adjustment applies if allowed to remain in place. (2) Specified properties in AASHTO M 320 for flash point, viscosity at 135 °C, and mass loss are not considered performance related. Specification deficiencies for these properties shall be cause for a work stoppage until specification properties are met, but will not be cause for a pay adjustment. (3) Should the bituminous material be deficient on more than one property, the pay adjustment will be the greatest reduction to the contract unit price specified considering individual test results. (4) The information presented in this table does not apply to asphalt cement used for tack coats.			

TABLE 1005-1a Terminal Blend rubberized binder (XX-XXTR+)				
Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility, %, minimum	ASTM D7553 or ASTM 2042	98	-----	-----
Elastic Recovery, @ 10 °C, %, minimum	AASHTO T 301	75	75 70 - 74 < 70	100 89 87 (1)

(1) Reject Status: The pay adjustment applies if allowed to remain in place.

Notes:

In case of dispute, ASTM D2042 shall be used to determine the Solubility.

The asphalt binder shall contain a minimum of 8 percent crumb rubber and a minimum of 3 percent SBS (styrene-butadiene-styrene) polymer.

The crumb rubber shall be derived from processing whole scrap tires or shredded tire materials. The tires from which the crumb rubber is produced shall be taken from automobiles, trucks, or other equipment owned and operated in the United States. The processing shall not produce, as a waste product, casings or other round tire material that can retain moisture when stored or disposed of above ground.

Modified binders shall be blended at the source of supply and delivered as a homogenous mixture to the job site.

Modified Binders stored at the asphalt concrete mixing plant for more than two weeks or beyond the supplier recommended shelf life, whichever is less, shall be sampled and tested.

TABLE 1005-1b
Polymer Modified Asphalt Binder (XX-XXPM)

Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility, %, minimum	ASTM D7553 or ASTM D2042	98	-----	-----
Elastic Recovery @ 10°C, %, minimum	AASHTO T 301	75	≥ 75 70 - 74 < 70	100 89 87 (1)

(1) Reject Status: The pay adjustment applies if allowed to remain in place.

Notes:

In case of dispute, ASTM D2042 shall be used to determine the Solubility.

Asphalt binder shall contain a minimum of 3 percent SBS (styrene-butadiene-styrene) polymer.

Modified binders shall be blended at the source of supply and delivered as a homogenous mixture to the job site.

Modified Binders stored at the asphalt concrete mixing plant for more than two weeks or beyond the supplier recommended shelf life, whichever is less, shall be sampled and tested.

1005-3.07 Other Requirements: the table 1005-1c of the Standard Specifications is hereby deleted.

1005-3.07 Other Requirements: the table 1005-3 of the Standard Specifications is revised to read:

TABLE 1005-3							
EMULSIFIED ASPHALTS							
Tests On Emulsion	Test Method	Requirement					
		RS-1	CRS-1	RS-2	CRS-2	SS-1	CSS-1
Viscosity: Saybolt Furol, seconds, range 77 °F 122 °F	AASHTO T 59	20-100	20-100	50-400	50-400	20-100	20-100
Settlement: 5 days, %, maximum	AASHTO T 59	5	5	5	5	5	5
Sieve: Retained on No. 20, %, maximum	AASHTO T 59 (1)	0.10	0.10	0.10		0.10	0.10
Particle Charge	AASHTOT 59		Pos.		Pos.		Pos. (2)
Demulsiability: 35 mL, 0.02 N calcium chloride %, minimum	AASHTO T 59	60		60			
Classification: Uncoated particles, %, minimum	Arizona Test Method 502				55		
Residue: (3)							
Residue, %, minimum (4)		55	60	63	65	57	57
Notes: (1) Distilled water shall be used. Two percent sodium oleate solution will not be accepted. (2) If the Particle Charge Test result is inconclusive, material having a maximum PH value of 6.7 will be acceptable. (3) Residue will be obtained in accordance with the requirements of Arizona Test Method 504 and shall conform to all the requirements of AASHTO M 320 for PG 64-16, except that for CRS-2 the dynamic shear ($G^*/\sin \delta$) on the original residue shall be a minimum of 1.00 kPa and a maximum of 1.50 kPa.							

(4) Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used.

1005-3.07 Other Requirements: the note (2) of Table 1005-3a of the Standard Specifications is revised to read:

(2) Testing shall be performed on residue by distillation. Testing on residue by oven evaporation will not be accepted.

1005-3.07 Other Requirements: the table 1005-5 of the Standard Specifications is revised to read:

TABLE 1005-5					
EMULSIFIED RECYCLING AGENTS					
Tests on Emulsified Recycling Agent	Test Method	Requirement			
		ERA-1	ERA-5	ERA-25	ERA-75
Viscosity: Saybolt Furol, 77 °F, seconds range	AASHTO T 59	15 - 40	15 - 100	15 - 100	15 - 100
Miscibility	AASHTO T 59	Passes	Passes	Passes	Passes
Sieve Test: %, maximum	AASHTO T 59 (1)	0.10	0.10	0.10	0.10
Particle Charge	AASHTO T 59	Positive	Positive	Positive	Positive
Residue: (2) Residue, %, minimum	(3)	60	60	60	60
Notes:					
(1) Distilled water shall be used. Two percent sodium oleate solution will not be accepted.					
(2) Residue will be obtained in accordance with the requirements of Arizona Test Method 504 and shall conform to the requirements specified in Table 1005-4.					
(3) Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used.					

1005-3.07 Other Requirements: the Paving Asphalt row of the table 1005-6 of the Standard Specifications is modified to add:

TABLE 1005-6 OTHER REQUIREMENTS			
Grade of Asphalt Specification Designation	Range of Temperatures for Application by Spraying, °F (Not applicable for Plant Mixing)	Range of Aggregate Temperatures for Plant Mixing, °F	Basis of Conversion, Average Gallons Per Ton at 60 °F
Paving Asphalt	275 - 400	-----	
PG 76-22 PM			231
229			232
PG 70-22 PM			233
230			
PG 64-28 PM			

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS
EXECUTIVE ORDER 11246, July 1, 1978**

(Revised November 3, 1980)

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted:

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority:

c. "Employer Identification Number" means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin):

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race):

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership or participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown plan. Each Contractor or Subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each

construction trade in which it has employees in the covered area

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications. Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such site or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on the job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations: by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and

female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative actions obligations (7a through p). The efforts of a contractor association, joint contractor- union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm

debarred from Government Contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as an imitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

TITLE VI / NON-DISCRIMINATION ASSURANCES

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, the *Federal Highway Administration*, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performance by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the *Federal Highway Administration* to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the *Federal Highway Administration*, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the *Federal Highway Administration*, may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with request to any subcontract or procurement as the Recipient or the *Federal Highway Administration* may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

TITLE VI / NON-DISCRIMINATION ASSURANCES

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1687 *et. seq.*).

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246)

JULY 1, 1978 (Revised November 3, 1980)

(Revised April 15, 1981)

1. The bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

	Minority	Female
Tucson and balance of Pima County Cochise, Graham, Greenlee and Santa Cruz Counties	24.1 27.0	6.9 6.9
Phoenix and balance of Maricopa County Apache, Coconino, Gila, Mohave, Navajo, Pinal, Yavapai and Yuma Counties	15.8 19.6	6.9 6.9

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in all areas where he has Federal or federally assisted work.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

*** EXECUTIVE ORDER 2009-09 ***
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS
NONDISCRIMINATION IN EMPLOYMENT BY
GOVERNMENT CONTRACTORS AND SUBCONTRACTORS
(Superseding Executive Order 99-4 and Amending Executive Order 75-5)

[M09-395]

WHEREAS, Executive Order 99-4 was effectuated to assure that persons or entities contracting with the State of Arizona or its political subdivisions comply with the provisions of Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e, et. seq.) and with Arizona's Civil Rights Act (Title 41, Chapter 9, Article 4);

WHEREAS, Executive Order 99-4 correctly states that various religious organizations are exempted from Arizona's Civil Rights Act;

WHEREAS, Executive Order 99-4 does not expressly state the federal and state exemptions for Indian tribes under both the federal and State Civil Rights Acts;

WHEREAS, 42 U.S.C. § 200e(b)(1) exempts tribes from the definition of employer;

WHEREAS, A.R.S. § 41-1461 4 (b)(i) also exempts Indian tribes from the definition of employers to whom the Arizona Civil Rights Act applies;

WHEREAS, Indian tribes across the State have recently begun to experience difficulty contracting with the State, often for money or services to which they are lawfully entitled, as a result of their exclusion from specified exemptions within Executive Order 99-4;

WHEREAS, the Attorney General's Office has in some cases interpreted the existing provisions as requiring tribes to waive rights guaranteed by both federal and State law;

WHEREAS, a modification is necessary to expressly provide that the exemptions found in federal and State law continue in full force and effect;

NOW, THEREFORE, I, Janice K. Brewer, Governor of the State of Arizona, by virtue of the authority vested in me by the Constitution and laws of this State, hereby order and direct as follows:

1. Executive Order 75-5 is hereby amended as follows:

PART I - Non-discrimination in employment by government contractors and subcontractors.

Unless otherwise exempted by federal or state civil rights laws, all government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex, or national origin. The contractor will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex or national origin. Such action shall include, but is not limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. The contractor agrees to post in conspicuous

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places available to employees and applicants for employment notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.

A continued Executive Order No. 75-5 is hereby amended to permit government contractors and subcontractors that are exempted from compliance under Title 41, chapter 9, article 4, Arizona Revised Statutes or 42 U.S.C. § 200e(b)(1), to provide employment preferences consistently with federal and state statutes;

Therefore, Executive Order 75-5 does not apply to Indian tribes. It likewise does not apply to religious organizations with respect to the employment of individuals of a particular religion to perform work connected with the activities of the employer. It also provides that religious organizations may provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonably necessary to the operation of the religious organization. This is consistent with the provisions of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et seq.). In addition, in the Personal Responsibility and Work Opportunity Reconciliation Act, P.L. 104-193, Congress provided that religious organizations are eligible for the receipt of federal funds on the same basis as other private organizations.

Executive Order No. 75-5 prohibits all other government contractors and subcontractors from discriminating against any employee or applicant for employment because of race, age, color, religion, sex or national origin. Executive Order No. 75-5 further requires all government contractors and subcontractors to take action to insure that applicants are employed and employees are treated during employment without regard to their race, age, color, religion, sex or national origin.

- B. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for employment without regard of race, age, color, religion, sex or national origin.
- C. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under the Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records, and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- E. In the event of the contractor's noncompliance with the nondiscrimination clauses of the contract or with any such rules, regulations or orders of the Arizona Civil Rights Division said noncompliance will be considered a material breach of the contract and this contract may be cancelled, terminated or suspended, in whole or in part, and the contractor may be declared ineligible for future government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Division, and such sanctions may be imposed and remedies invoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Rights Division.
- F. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to the subcontract or purchase orders the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interest of the State of Arizona.
- G. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such times and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontract and shall be in form as the Arizona Civil Rights Division may prescribe.
- H. Bidders or prospective contractors of subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in such event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.
- I. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers of providing or supervising apprenticeship or training for

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such workers, the compliance report shall include such information from such labor unions or agency practices an policies affecting compliance as the contracting agency or Civil Rights Division may prescribe: provided that, to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.

- J. The contracting agency or the Civil Rights Division shall require that the bidder or prospector contractor or sub-contractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In the event that the union or the agency shall refuse to execute such a statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

PART II - Enforcement

- A. Each contracting agency shall be primarily responsible for obtaining compliance with this Executive Order with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Civil Rights Division in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this order and the rules and regulations and orders of the Civil Rights Division issued pursuant to this order. They are directed to cooperate with the Civil Rights Division and to furnish the Division such information and assistance as it may require in the performance of the Division's functions under this order. They are further directed to appoint or designate from among the agency personnel compliance officers. It shall be the duty of such officers to first seek compliance with the objective of this order by conference, conciliation, mediation or persuasion.
- B. The Civil Rights Division may investigate the employment practices of any government contractor if subcontractor of initiate such investigation by the appropriate contracting agency or determine whether or not the contractual provisions specified in this order have been violated. Such investigations shall be conducted in accordance with the procedures established by the Civil Rights Division and the investigating agencies shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of a government contractor or subcontractor which alleges discrimination contrary to the contractual provisions specified in Part I of this order. If the investigation is conducted for the Civil Rights Division by a contracting agency, that agency shall report to the Civil Rights Division what action has been taken or it's recommendation with regard to such complaint.
- C. The Civil Rights Division shall use its best efforts directly and through contracting agencies, other interested state and local agencies, contractors and all other available instrumentalities to cause any labor union engaged in work under government contracts or any agency referring workers or providing or supervising apprenticeship or training for it in the course of such work or cooperate in the implementation of the purposes of this order.
- D. The Civil Rights Division or any agency, officer or employee in the executive branch of the government designated by rule, regulation or order of the Civil Rights Division may hold such hearings, public or private, as the Division may deem advisable for compliance, enforcement of educational purposes. The Civil Rights Division may hold or cause to be held hearings in accordance with rules and regulations issued by the Civil Rights Division prior to imposing, ordering or recommending the imposition of penalties and sanctions under this order.
- E. No order for debarment of any contractor from further government contracts under this order shall be made without affording the contractor an opportunity for a hearing.
- F. Sanctions and Penalties. In accordance with such rules, regulations or orders as the Civil Rights Division may issue or adopt, the Civil Rights Division or the appropriate contracting agency may publish or cause to be published the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this order and with the rules, regulations and orders of the Civil Rights Division.
1. Contracts may be cancelled, in whole or in part, terminated, or suspended absolutely, or continuation of contracts may be conditioned upon a program for future compliance approved by the contracting agency or the Civil Rights Division: provided that any contracting agency shall refrain from entering into further contracts, extensions or

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other modifications of existing contracts with any noncomplying contractor until such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this order.

2. Under rules and regulations prescribed by the Civil Rights Division, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this order by methods of conference, conciliation, mediation and persuasion before proceedings shall be instituted under this order of before a contract shall be cancelled or terminated in whole or in part under this order for failure of a contractor or subcontractor to comply with the contract provisions of this order.

G. This Executive Order shall become effective immediately of its issuance.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

Janice K. Brewer
G O V E R N O R

DONE at the Capitol in Phoenix, Arizona this 20th day of October in the year Two Thousand and Nine and of the Independence of the United States of America the Two Hundred and Thirty-fourth.

ATTEST:
Ken Bennett
Secretary of State



ARIZONA DEPARTMENT OF TRANSPORTATION
PROJECT DELIVERY AND OPERATIONS DIVISION
CONTRACTS AND SPECIFICATIONS GROUP

BID SCHEDULE

CONTRACT # 2026010

TRACS No.	Project No.	Item	County	District	Gross Length	Net Length	Prepared By:
180 AP 402 F078401C	180-C-NFA	104974	APACHE	NORTHEAST	4.3		Mike Wechselberger

Highway Termini	Location	Work Description
• SPRINGERVILLE – ALPINE - STATE LINE HIGHWAY (US180)	• Apache Drive - MP 407	• Pavement Preservation

BID SCHEDULE**180 AP 402 F078401C**

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
2020075	REMOVE BITUMINOUS PAVEMENT (MICRO-MILLING)	SQ.YD.	100,453		
2020084	REMOVE BITUMINOUS PAVEMENT (MILLING) (2 1/2")	SQ.YD.	5,315		
4040076	EMULSIFIED ASPHALT (MICRO-SURFACING)	TON	206		
4040125	FOG COAT	TON	2		
4040159	COVER MATERIAL	SQ.YD.	105,769		
4040165	BLOTTER MATERIAL	SQ.YD.	3,520		
4040172	DRY MINERAL AGGREGATE (MICRO-SURFACING) (MICRO-SURFACING)(TYPE III)	TON	1,587		
4040234	ASPHALT BINDER (POLYMER MODIFIED ASPHALT RUBBER)	TON	242		
4090006	ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL) (SPECIAL MIX)	TON	606		
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1		
7016050	TRUCK-MOUNTED ATTENUATOR	EACH-DAY	53		
7016067	CHANGEABLE MESSAGE BOARD (CONTRACTOR FURNISHED)	EACH-DAY	128		
7016071	PILOT VEHICLE WITH DRIVER	HOUR	376		
7016075	FLAGGING SERVICES (CIVILIAN)	HOUR	160		

BID SCHEDULE**180 AP 402 F078401C**

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
7016081	FLAGGING SERVICES (DPS)	HOUR	188		
7016082	FLAGGING SERVICES (LOCAL ENFORCEMENT OFFICER)(WITH AGENCY VEHICLE)	HOUR	188		
7080201	WATERBORNE-TYPE I PAVEMENT MARKING (PAINTED) (WHITE)	L.FT.	99,845		
7080202	WATERBORNE-TYPE I PAVEMENT MARKING (PAINTED) (YELLOW)	L.FT.	75,847		
7090001	DUAL COMPONENT PAVEMENT MARKING (WHITE EPOXY)	L.FT.	74,884		
7090002	DUAL COMPONENT PAVEMENT MARKING (YELLOW EPOXY)	L.FT.	56,885		
9010001	MOBILIZATION	L.SUM	1		
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1		

BID SCHEDULE

180 AP 402 F078401C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
9280034	GROUND-IN RUMBLE STRIP (6 INCH)	L.FT.	38,200		

BID TOTAL :

PROPOSAL

TO THE ARIZONA DEPARTMENT OF TRANSPORTATION:

Gentlemen:

The following Proposal is made for constructing project

180 AP 402 F078401C 180-C-NFA
SPRINGERVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

in the State of Arizona.

The following Proposal is made on behalf of _____

_____ and no others.

(NAME OF COMPANY, FIRM, OR CORPORATION)

The undersigned hereby certifies that (s)he has been duly authorized to submit a proposal on behalf of the company, firm, or corporation mentioned above; and further certifies, pursuant to Subsection 112(c) of Title 23, United States Code and Title 44, Chapter 10, Article 1 of the Arizona Revised Statutes, that neither (s)he nor anyone associated with the company, firm, or corporation mentioned above has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such project and furthermore that no member or employee of the Arizona Department of Transportation is personally or financially interested, directly or indirectly, in the Proposal, or in any purchase or sale of any materials or supplies for the work to which it relates, or in any portion of the profits thereof.

The undersigned certifies that the approved Plans, Standard Specifications, Special Provisions and forms of Contract and Bond authorized by the Arizona Department of Transportation and constituting essential parts of this proposal, have been carefully examined, and also that the site of the work has been personally inspected. The undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Specifications, Special Provisions, or conditions to be overcome, be plead. On the basis of Plans, Specifications, Special Provisions, and the forms of Contract and Bond proposed for use, the undersigned proposes to furnish all the necessary equipment, materials, machinery, tools, apparatus, and other means of construction, and labor to do all the work in the manner specified, and to accept, as full compensation therefor, the sum of the various products obtained by multiplying each unit price, herein bid for the work or materials, by the quantity thereof actually incorporated in the complete project, as determined by the State Engineer. The undersigned understands that the quantities mentioned herein are approximate only and are subject to increase or decrease and hereby proposes to perform all quantities of work as either increased or decreased, in accordance with the provisions of the Specifications, at the unit price bid in the Bidding Schedule.

The undersigned further proposes to perform all extra work that may be required on the basis provided in the Specifications and to give such work personal attention and to secure economical performance.

The undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bond within ten calendar days from the date of Notice of Award, time being of the essence. The undersigned further proposes to begin work as specified in the contract attached hereto, and to complete the work on or before expiration of the contract time as defined in the Specifications, and maintain at all times a Payment Bond and a Performance Bond, approved by the State Engineer, in an amount equal to one hundred (100) percent of the total bid. These bonds shall serve not only to guarantee the completion of the work on the part of the undersigned, but also to guarantee the excellence of both workmanship and material and the payment of all obligations incurred, until the work is finally accepted and the provisions of the Plans, Standard Specifications and Special Provisions fulfilled.

12-5901 R03/11

Proposal
Sheet 1 of 2

The undersigned hereby agrees to provide an electronic Proposal Guaranty in the amount and character named in the Advertisement for Bids. The Proposal Guaranty is submitted as a guaranty of the good faith of the bidder, and that the bidder will enter into written contract, as provided, to do the work, if successful in securing the award thereof, and it is hereby agreed that if at any time other than as provided in the Proposal there should be failure on the part of the undersigned to execute the Contract and furnish satisfactory Bond as herein provided, the State of Arizona, in either of such events, shall be entitled and is hereby given the right to retain the said Proposal Guaranty as liquidated damages.

If by a Corporation:

(Seal)

Corporate Name: _____

Corporate Mailing Address: _____ Zip Code: _____

Incorporated under the laws of the State of: _____

By (Signature): _____ Date: _____

President: _____

Secretary: _____

Treasurer: _____

If by a Firm or Partnership:

Firm or Partnership Mailing Name: _____

Firm or Partnership Address: _____

By (Signature): _____ Date: _____

Name and Address of Each Member: _____

If by an Individual:

Signature: _____ Date: _____

Mailing Address: _____



ARIZONA DEPARTMENT OF TRANSPORTATION

SURETY (BID) BOND

(Penalty of this bond must not be less than 10% of the bid amount)

KNOW ALL MEN BY THESE PRESENTS, THAT _____

as Principal, hereinafter called the Principal, and _____

a corporation duly organized under the laws of the state of _____
hereinafter called the Surety, holding a certificate of authority to transact surety business in this State issued by the Director of the Department of Insurance, are held and firmly bound unto the Arizona Department of Transportation, as Obligee, hereinafter called the Obligee, in the sum of Ten Percent (10%) of the amount of the bid of Principal, submitted by Principal to the Arizona Department of Transportation for the work described below, for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting its proposal for TRACS/Project No.

180 AP 402 F078401C 180-C-NFA
SPRINGVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

NOW THEREFORE, if the Obligee, acting by and through its Transportation board, shall accept the proposal of the Principal and the Principal shall enter into contract with the Obligee in accordance with the terms of such proposal, and give such bonds and certificates of insurance as may be specified in the contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such bonds and certificates of insurance, if the Principal shall pay to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect.

IN WITNESS WHEREOF, we hereunto set our hands and seals:

Principal

Surety

By

By Attorney-in-Fact

Title

Address Attorney-in-Fact

Subscribed and sworn before me
this _____ day of _____, 20 _____.

My Commission expires: _____

CERTIFICATION WITH REGARD TO THE
PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL
OPPORTUNITY CLAUSE
OF EXECUTIVE ORDER NO. 99-4 AND THE FILING OF REPORTS

AUGUST 1, 2000

The undersigned contractor or subcontractor, as appropriate, hereby certifies that he either has or has not, as indicated, participated in a previous contract or subcontract subject to the equal opportunity clause in Executive Order No. 99-4 of March 26, 1999, and furthermore that he either has or has not, as indicated, filed with the Highways Division, Arizona Department of Transportation, or the Arizona Civil Rights Division, all reports due under the filing requirements of the regulations of the Arizona Civil Rights Division.

Participated in previous contracts: Yes ☐ No. ☐

Filed Required reports: Yes ☐ No. ☐

Print Contractor Name

Signature

Title

Date

180 AP 402 F078401C 180-C-NFA
SPRINGERVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

**CERTIFICATION WITH RESPECT TO THE
RECEIPT OF ADDENDA**

In the submission of a bid and by the signing of the Proposal, this will certify that the following numbered addenda issued on this project have been brought to my personal attention and furthermore that I understand and agree that those will be made a part of the Contract.

Addendum No. _____, _____, _____, _____, _____

PRINT NAME OF CONTRACTOR

SIGNATURE

TITLE

DATE

180 AP 402 F078401C 180-C-NFA
SPRINGERVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

**ARIZONA DEPARTMENT OF TRANSPORTATION
PARTICIPATION IN BOYCOTT OF ISRAEL CERTIFICATION FORM**

Unless and until the District Court's injunction in Jordahl is stayed or lifted, the Anti-Israel Boycott Provision (A.R.S. § 35-393.01(A)) is unenforceable and the State will take no action to enforce it. This attachment (Participation in Boycott of Israel) is no longer a mandatory part of the offer. Offers will not be evaluated based on whether this certification has been completed.

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SPRINGERVILLE-ALPINE-STATE LINE HIGHWAY (US 180)
(APACHE DRIVE TO MP 407.00)

This Certification is required in response to legislation enacted to prohibit the State from contracting with companies currently engaged in a boycott of Israel. To ensure compliance with A.R.S. §35-393.01, this form must be completed and returned with the bid. The bidder understands that this response will become public record and may be subject to public inspection.

As defined by A.R.S. §35-393.01:

1. "Boycott" means engaging in a refusal to deal, terminating business activities or performing other actions that are intended to limit commercial relations with Israel or with persons or entities doing business in Israel or in territories controlled by Israel, if those actions are taken either:
 - (a) In compliance with or adherence to calls for a boycott of Israel other than those boycotts to which 50 United States Code section 4607(c) applies.
 - (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.
2. "Company" means a sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, Limited Liability Company or other entity or business association, and includes a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate.
3. "Direct holdings" means all publicly traded securities of a company that are held directly by the state treasurer or a retirement system in an actively managed account or fund in which the retirement system owns all shares or interests.
4. "Indirect holdings" means all securities of a company that are held in an account or fund, including a mutual fund, that is managed by one or more persons who are not employed by the state treasurer or a retirement system, if the state treasurer or retirement system owns shares or interests either:
 - (a) Together with other investors that are not subject to this section.
 - (b) That are held in an index fund.
5. "Public entity" means this State, a political subdivision of this STATE or an agency, board, commission or department of this state or a political subdivision of this state.
6. "Public fund" means the state treasurer or a retirement system.
7. "Restricted companies" means companies that boycott Israel.
8. "Retirement system" means a retirement plan or system that is established by or pursuant to title 38.

All Bidders must select one of the following:

_____ **The bidder does not participate in, and agrees not to participate in during the term of the contract a boycott of Israel in accordance with A.R.S. §35-393.01.**

_____ **The bidder does participate in a boycott of Israel as defined by A.R.S. §35-393.01.**

By submitting this response, the bidder agrees to indemnify and hold the State, its agents and employees, harmless from any claims or causes of action relating to the State's action based upon reliance on the above representations, including the payment of all costs and attorney fees incurred by the State in defending such an action.

_____ Company Name	_____ Signature of Person Authorized to Sign
_____ Address	_____ Printed Name
_____ City State Zip	_____ Title

ARIZONA DEPARTMENT OF TRANSPORTATION
Forced Labor of Ethnic Uyghurs Ban Certification Form

Forced Labor of Ethnic Uyghurs Ban

Please note that if any of the following apply to the Contractor, then the bidder shall select the "Exempt Contractor" option below:

- Contractor is a sole proprietorship;
- Contractor has fewer than ten (10) employees; OR
- Contractor is a non-profit organization.

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Pursuant to A.R.S. § 35-394, written certification is required to show that the company entering into a contract with a public entity does not use the forced labor, or use any contractors, subcontractors or suppliers that use the forced labor or any goods or services produced by the forced labor, of ethnic Uyghurs in the People's Republic of China.

Under A.R.S. §35-394:

1. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.
2. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

In compliance with A.R.S. §§ 35-394 et seq., all bidders must select one of the following:

☐	The bidder <u>does not</u> use, and agrees not to use during the term of the contract, any of the following: • Forced labor of ethnic Uyghurs in the People's Republic of China; • Any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; or • Any Contractors, Subcontractors, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China.
☐	The bidder <u>does</u> participate in use of Forced Uyghurs Labor as described in A.R.S. § 35-394.
☐	Exempt Contractor. Select all statements that applies to this Contractor: ☐ Contractor is a sole proprietorship; ☐ Contractor has fewer than ten (10) employees; and/or ☐ Contractor is a non-profit organization.

Company Name

Signature of Person Authorized to Sign

Address

Printed Name

City

State

Zip

Title