

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. This specification covers the furnishing of materials used in and the placement of the Asphaltic Concrete Surface Course (ACSC) or Hot Bituminous Pavement (HBP). Asphaltic concrete surface course materials shall be placed in accordance with these specifications and in conformity with typical cross-sections or as established by the Engineer in the field.
2. This item assumes that underlying courses have been inspected, tested, and approved by the Engineer, in accordance with these specifications and accompanying plans. Due diligence should be performed in establishing conformance of underlying courses prior to the on-set of ACSC paving operations.
3. This specification also covers the preparation and treatment of the aggregate base course with asphaltic material and blotter material, if required, prior to placement of the asphaltic concrete surface course. The preparation and treatment of the aggregate base course shall be done in accordance with these specifications and in conformity with the lines as shown on the plans or as established by the Engineer in the field.

B. Related Sections:

1. Section 09 90 00 - Painting and Coating: Pavement markings.
2. Section 31 22 13 - Rough Grading: Preparation of site for paving [and base].
3. Section 31 23 23 - Fill: Compacted subbase for paving.
4. Section 32 01 16 - Flexible Paving Rehabilitation.
5. Section 32 05 16 - Aggregates for Exterior Improvements: Product requirements for aggregate for placement by this section.
6. Section 32 11 23 - Aggregate Base Courses: Compacted subbase for paving.
7. Section 32 17 23 - Pavement Markings: Painted pavement markings, lines, and legends.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
2. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
3. AASHTO M140 - Standard Specification for Emulsified Asphalt.
4. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
5. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
6. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
7. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
8. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.

- B. Asphalt Institute:
 - 1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.
 - 2. AI MS-19 - Basic Asphalt Emulsion Manual.
 - 3. AI SP-2 - Superpave Mix Design.

- C. ASTM International:
 - 1. ASTM D242 - Standard Specification for Mineral Filler For Bituminous Paving Mixtures.
 - 2. ASTM D692 - Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
 - 3. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.
 - 4. ASTM D977 - Standard Specification for Emulsified Asphalt.
 - 5. ASTM D1073 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
 - 6. ASTM D1188 - Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
 - 7. ASTM D2027 - Standard Specification for Cutback Asphalt (Medium-Curing Type).
 - 8. ASTM D2397 - Standard Specification for Cationic Emulsified Asphalt.
 - 9. ASTM D2726 - Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
 - 10. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
 - 11. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.
 - 12. ASTM D3515 - Standard Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
 - 13. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
 - 14. ASTM D3910 - Standard Practices for Design, Testing, and Construction of Slurry Seal.
 - 15. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

1.3 PERFORMANCE REQUIREMENTS

- A. Paving: Designed for [parking,] and light duty commercial vehicles.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

- B. Product Data:
 - 1. Submit product information for asphalt and aggregate materials.
 - 2. Submit mix design with laboratory test results supporting design.

- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Obtain materials from same source throughout.

1.6 QUALIFICATIONS

- A. Installer: Company specializing in performing work of this section with minimum three years documented experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.
- B. Do not place asphalt mixture when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
- C. Place asphalt mixture when temperature is not more than 15 degrees F less than initial mixing temperature.

PART 2 PRODUCTS

2.1 ASPHALT MATERIALS

- A. ACSC: Asphalt concrete surface course materials shall be composed of a mixture of asphalt cement, aggregate and mineral filler. Asphalt cement shall conform to the requirements of AASHTO and shall be Performance Grade 58-28, 58-34, 64-22, 64-28, or 76-28.

Aggregate for the asphaltic concrete surface course shall be uniform quality, composed of clean, hard, durable particles of crushed stone, crushed gravel, natural gravel, or a combination of these materials. The aggregate shall have a percentage of wear of not more than 40 when tested in accordance with the AASHTO or ASTM Standard Test Method for Abrasion of Coarse Aggregate, Los Angeles Machine. The aggregate materials shall not contain clay balls, organic matter, or other deleterious substances and will be non-plastic with a liquid limit less than 25. The fine aggregate shall have a sand equivalent greater than 45. The weighted average loss shall not exceed 10 percent when tested for soundness in a sodium solution, 5 cycles, in accordance with the applicable AASHTO or ASTM Standard Test Method. Excessive fine material shall be wasted before crushing.

Coarse aggregate will have not less than 80 percent one sided fracture, by weight of the particles retained on the No. 8, and not less than 70 percent shall have at least two fractured faces. Flat and elongated particles with a ratio of greater than 3 to 1 shall not exceed 10 percent of the total aggregate retained on the No. 8 sieve.

- B. PRIME COAT: Asphaltic prime coat material shall conform to the requirements of AASHTO M-82 and shall be Grade MC-30.

Blotter material shall conform to the specifications for the material to be used in the aggregate base course (ABC).

2.2 ACCESSORIES

- A. Geotextile Fabric: AASHTO M288; non-woven, polypropylene.

- B. Sealant: ASTM D6690, Type I; hot applied type.

2.3 JOB MIX FORMULA:

- A. The Contractor shall submit to the Engineer a job-mix formula, tested by an AASHTO accredited materials testing laboratory for each mixture to be supplied for the project. Mixture designs may be 5 years old, providing recent test data from an accredited laboratory indicates continued compliance of the mixture to the original design. A mixture summary must be submitted yearly to maintain commercial mixture active status. The yearly mixture summary must be prepared by an accredited laboratory and reviewed by a Professional Engineer. Any changes in aggregate or any other material sources requires the development of a new Job-Mix Formula. Review and/or approval by the Engineer, does not relieve the Contractor of the responsibility for adhering to the specifications presented herein, should erroneous or incorrect data not be discovered by the reviewing agencies.
- B. The job-mix formula shall be prepared in accordance with the latest Asphalt Institute Design Manual, MS-2 for Marshall Mix Designs, and SP-2 for Superpave Mix Designs, and the design characteristics presented herein.
- C. The job-mix formula report from the accredited laboratory shall state the Marshall or Super-pave properties, optimum asphalt content, combined and individual aggregate grading, mixing and placing temperatures, aggregate characteristics, and mineral admixture or liquid anti-strip type and amount. The mixture properties, including air voids, bulk specific gravity, theoretical maximum specific gravity, voids in mineral aggregate, stability, flow, and other applicable properties shall be graphed in such a manner as the effects of variable asphalt content, between a minimum of four different asphalt contents, varying by 0.5 percent each, be plotted.
- D. The job-mix formula and related data must be accepted by the Engineer before the commencement of paving operations. Should a change in sources of materials be made, a new job-mix formula shall be required.
- E. Job-mix formulas must be prepared, and reviewed by a State of Colorado Registered Professional Engineer, within one year of paving operations. Should the job-mix formula be greater than one year old, the Contractor may present a mixture summary documenting continued adherence of the mixture to the original design. The mixture summary may consist of a one-point Trial Batch with supporting aggregate data, or a summary of test data accumulated from the previous years mixture testing. The Trial Batch will verify all previous data presented in the original job-mix formula. If the results of aggregate specific gravity tests are within 0.02 of the original job-mix formula, additional aggregate verification tests such as Los Angeles Abrasion and Soundness are not required. However, sand equivalent, gradation, specific gravity and absorption, plasticity, and fractured face tests shall be completed and presented in the Trial Batch report, reviewed by a State of Colorado Registered Professional Engineer.
- F. All job-mix formulas shall have a minimum of three individual aggregate materials, with no material constituting more than 50 percent of the aggregate blend.
- G. Recycled Asphalt Paving (RAP) may be used as a portion of the job-mix with the following stipulations:
 - 1. RAP will be used at a maximum of 20 percent of the aggregate portion.

2. RAP will be from one source and consist of a stockpile generated from one asphalt paving demolition project, with consistent properties, as determined by an accredited laboratory. Consistent, for the purposes of this specification item purpose, is defined as characteristics of gradation, aggregate durability quality, absorption, and asphalt content, which the job-mix formula design laboratory reasonably determines as consistently definable, to an extent which produces a bituminous mixture which will not be effected, to the extent defined in the production mixture tolerances for gradation or voids characteristics, directly attributable to the RAP.
3. The tested characteristics of the RAP will be presented in the job-mix formula, and include a minimum of 5 extraction gradations, 5 fractured face counts, and other tests determined by the accredited laboratory to be necessary.
4. The following parameters will be utilized in the process of developing job-mix formulas:

Wide Band

Sieve	¾" Grading	½" Grading
1"	100	100
¾"	90-100	100
½"	*(6)	90-100
3/8"	*(6)	*(6)
#4	*(5)	*(5)
#8	23-49(5)	28-58(5)
#30	*(4)	*(4)
#200	2-8(2)	2-10(2)
Bitumen	5.0-7.0(.3)	5.0-7.0(.3)
Air Voids	3.0 – 5.0	3.0 – 5.0
VMA	13 min	14 min
Tensile Strength Ratio	70% min	70% min
Min Split Tensile Strength	100 psi dry	100 psi dry
Stability (Marshall)	2000 min	2000 min
Flow (Marshall)	8 – 16	8 – 16
Gyrations (N des)	86 (or approved)	86(or app.)
Marshall Blows	50	50

() = Plus or minus tolerance from targets established in job-mix formula for production control. When no parenthesis are provided indicates the production tolerances are the same as design parameters.

The production ranges will be based entirely upon the specific targets established in the job-mix formula. However, variation from the job-mix formula targets will be considered, providing the Contractor presents substantiating reason for target changes in a request to the Engineer. Changes in design targets must be reviewed by the accredited laboratory which developed the job-mix formula, and an opinion as to the effect in mixture quality provided by the laboratory, with respect to requested changes.

In addition to the job-mix formula laboratory data, a one-page design summary will be provided by the accredited laboratory, which presents all design targets indicated above, and all production tolerances based upon the ranges presented above. If production targets are requested to be

changed from the design job-mix formula, a revised one-page summary will follow all job-mix formula target change requests to the Engineer. **No target changes will be considered on materials, which have already been placed, unless the changes are relative to the initial test strip results.**

2.4 EQUIPMENT:

A. ACSC:

Equipment to be used for mixing, hauling, placing and rolling HBP, will be at the discretion of the Contractor, but will comply with applicable State, Federal, and OSHA guidelines, with respect to Safety and Environmental protection.

B. PRIME COAT:

The Contractor shall provide the necessary equipment to apply prime coat material and blotter material, when required, in an acceptable manner. The distributor and equipment for heating and applying prime coat material shall conform to the applicable requirements of Section 407.05 of the Colorado Department of Highways Standard Specifications for Road and Bridge Construction, Latest Edition. The distributor shall be capable of applying prime coat material without atomization.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.
- C. Verify compacted subgrade, subbase is dry and ready to support paving and imposed loads.
 - 1. Proof roll subbase in minimum two perpendicular passes to identify soft spots.
 - 2. Remove soft subbase and replace with compacted fill as specified in Section 31 23 23.
- D. Verify gradients and elevations of base are correct.
- E. Verify gutter drainage grilles and frames and/or manhole frames are installed in correct position and elevation.
- F. Apply tack coat on asphalt and concrete surfaces over subgrade surface at uniform rate.
 - 1. New Surfaces: 1/2 gal/sq yd.
 - 2. Existing Surfaces: 1/2 gal/sq yd.
- G. Apply tack coat to contact surfaces of curbs and gutters.
- H. Coat surfaces of manhole or catch basin frames with oil to prevent bond with asphalt paving. Do not tack coat these surfaces.

3.2 PRIME COAT:

- A. Prior to the application of prime coat materials, the surface to be treated shall be smooth, dry, properly compacted and substantially true to line and grade. All loose, foreign and unstable material shall be removed. Prime coat material shall not be applied until the surface to be treated has been inspected and accepted by the Engineer. Prime coat material shall not be applied when the surface to be treated is wet, frozen or muddy or when weather conditions would prevent proper application.
- B. Prime coat shall be applied in such a manner as to offer the least inconvenience to traffic. Traffic shall not be permitted to travel on fresh oil for a minimum of 24 hours, and then not until such travel can be accomplished without pickup or tracking of the prime coat material. When applying prime coat material, care shall be taken that drips or spray do not discolor exposed surfaces of concrete.
- C. Prime coat material shall be applied to the width of the section to be treated by means of a pressure distributor in a uniform and continuous spread at a rate of 0.25 gallons per square yard of surface area. The application rate may be altered by the Engineer to meet field conditions. Care shall be exercised to prevent over priming especially at the junctions of spreads. Excess prime coat material shall be removed or distributed as directed. Skipped areas or deficiencies shall be immediately corrected.
- D. If the prime coat material fails to completely penetrate the aggregate base course within 24 hours after application, blotter material shall be spread in amounts required to absorb any excess prime coat material. Should the use of blotter material become necessary at the specified application rate, the Contractor may reduce the application rate upon written approval of the Engineer.

3.3 MIXING:

- A. Asphalt cement shall be heated at the mixing plant to the viscosity at which it can be uniformly distributed throughout the mixture, and as denoted in the latest AASHTO, ASTM, or Asphalt Institute temperature/viscosity requirements, or the temperatures recommended by the bitumen supplier. Care shall be exercised to avoid over-heating the asphalt cement materials. Storage tanks shall be equipped with circulating pumps. For liquid anti-stripping agents, adequate and calibrated equipment will be provided at the mixing plant to ensure even and accurate additions.
- B. Coarse and fine aggregate shall be handled and stored at the mixing plant in a manner that will prevent segregation of particle size, and intermingling of coarse and fine aggregate. When it is necessary to blend aggregate to achieve the gradation of the job-mix formula, blending shall be accomplished by feeding aggregates from each individual stockpile, through separate bins to the cold elevator feeders. Aggregates shall not be blended in the stockpiles.
- C. Aggregates shall be stored in sizes that may be easily recombined into a gradation meeting the requirements of the job-mix formula. Cold aggregates shall be fed carefully to the mixing plant so that surplus and shortages will not occur, and cause breaks in the continuous operation of the plant. The aggregate and asphalt mixture shall be heated to the temperature specified in the job-mix formula.

- D. Aggregate storage areas will be prepared in a manner which removes the possibility of retrieving soil or other deleterious materials during the retrieval process.
- E. Mixing times shall be established in order to achieve 100 percent coating on all particles. The moisture content of the bituminous mixture shall not exceed 0.3 percent.
- F. Commercial suppliers shall request a monthly inspection by The City of Alamosa utilizing the attached inspection form.

3.4 SPREADING AND FINISHING:

- A. No asphalt concrete surface course materials shall be placed until the prime coat application, if required, has fully set and cured before the start of paving operations. The prime coat shall be allowed to cure for a minimum of 24 hours prior to the placement of asphalt concrete materials.
- B. HBP shall not be placed on loose or pumping substrate materials. The mixture shall not be placed when weather or surface conditions are such that the material cannot be properly handled, finished or compacted. The surface upon which the mixture is placed shall be reasonably free of moisture at the time such materials are spread. HBP mixtures shall not be placed when the temperature is less than 50 degrees Fahrenheit, in the shade, or when the surface upon which the mixture is to be placed is frozen. The air temperature may be below 50 degrees Fahrenheit when paving, only after the Contractor has demonstrated through the placement of test strips, that consistent compaction can be achieved at the lower temperatures. Such test strips will be placed at designated temperatures, and if successful, those designated temperatures shall be the new standard. If unsuccessful, the test strip shall be allowed to remain in place, providing the surface is acceptable to the Engineer, and the City of Alamosa, and no individual compaction test is less than 90 percent. The test strip will be paid for in accordance with the pay factors presented later in this specification.
- C. The temperature of the asphaltic concrete surface course mixture, at the time of placement, shall be no more than 20 degrees below the target mixing temperature specified in the job-mix formula. Acceptance of the plant mixed material will be from the windrow, or behind the laydown machine.
- D. At locations where the asphalt concrete surface course will abut existing asphalt pavement, the edge of the existing pavement shall be saw cut, to provide a smooth, tight edge. A tack coat of approved asphalt emulsion (SS-1, SS-1H, CSS-1, or CSS-1H) shall be applied evenly, and thoroughly, to all pavement cuts, existing asphalt requiring overlay, cold joints (over 24 hours old), and contact surfaces of concrete gutters and manholes, prior to placing asphalt concrete against them.
- E. Asphalt concrete with design finished depths no greater than three inches may be placed in a single lift to provide a nominal compacted thickness. Asphalt concrete with finished depths greater than three inches shall be placed in two lifts, or as approved by the City of Alamosa. Any asphalt layers placed over new asphalt layers within six hours of the previous lift may be done without the use of a complete tack coat, provided the materials have not, at any time, been subject to dust, debris, or water (sweeping is not allowed to subjugate the necessity for tack coating). Placing of asphalt concrete shall be as continuous as possible. Any irregularities which occur shall be corrected before compaction of the mixture.

- F. HBP shall be transported and placed in a manner to minimize segregation. Segregated areas behind the paving machine shall be removed immediately at the time of discovery and replaced with fresh material before the initial rolling takes place.
- G. Should transverse joints be necessary, such joints shall be formed by cutting back on the previously placed lane to expose the full depth of the course. A coating of tack coat material shall be placed on the contact surface of the joint prior to placement of additional asphalt concrete mixture against the previously placed material.
- H. In areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, asphalt concrete material shall be dumped, spread and raked with hand tools to provide the required compacted thickness.

3.5 COMPACTION:

- A. After the HBP has been spread, struck off, and surface irregularities have been adjusted, the mixture shall be thoroughly and uniformly compacted by rolling. The number, weight, and type of rollers furnished by the Contractor shall be sufficient to obtain the required compaction while the asphalt concrete mixture is in a workable condition. The Contractor may use any type of compaction equipment he deems necessary to obtain the specified density, provided a smooth surface free of irregularities, depressions, or roller marks is achieved at the completion of compaction operations. The type of compaction equipment to be used shall be that determined to be best suited to compact the material being placed, and shall be the sole responsibility of the Contractor. However, should even a small amount of surface cracking be evidenced behind the finish roll, the Engineer, reserves the right to require pneumatic compaction be installed somewhere in the roller pattern, to remove mat cracking. If pneumatic compaction is required, or used voluntarily by the Contractor, environmentally safe and non-destructive (to asphalt mat) release agents shall be used on the tires so as to remove tire asphalt fine build-up. Any build-up which does occur shall be removed from the mat surface.
- B. Any displacement occurring as a result of reversing the direction of a roller, or from any other causes, shall be corrected immediately by the use of rakes, and the addition of fresh asphalt concrete when required. Serious displacement, not reasonably correctable by hand work, will be removed and replaced. Rollers shall not be allowed to park at any time, on hot asphalt. Care shall be exercised in rolling not to displace the line or grade of the edges of the asphalt concrete mat. Rollers shall not pass over the unprotected edge of freshly placed asphalt.
- C. Any mixture that becomes loose, broken, or displaced, or in any way is defective, shall be removed and replaced with fresh asphalt concrete which shall be compacted to conform with the surrounding areas.
- D. Unless otherwise directed, rolling shall begin at the sides and proceed longitudinally, parallel to the street centerline. Each pass shall overlap a minimum of $\frac{1}{4}$ of the previous roller width. Rolling shall progress gradually to the crown of the street. When paving abuts a previously placed lane, the longitudinal joint shall be rolled first, followed by the regular procedure.
- E. Rolling shall be continued until all roller marks are eliminated and compacted such that the average of all tests is not less than 92%, nor greater than 96% of the maximum theoretical

density, as determined by the AASHTO T-209 test method, and no individual test result should indicate a compaction density less than 90% of the maximum density.

3.6 TESTING:

- A. Commercial Suppliers/Contractors who regularly provide mixtures in the City of Alamosa will provide a test strip at the beginning of paving operations yearly. The test strip will be tested with a calibrated (calibrated with core specimens on the mixture/depth tested). The calibration will be performed by obtaining five cores (minimum 4-inch diameter) from the compacted mat, in the same specific test location as performed with the nuclear device. The five cores may be obtained from a combination of projects, if the tonnage on any single project is not sufficient. The density of the cores shall be compared to the nuclear densities and a correlation developed based upon the difference. The core tests shall govern.
- B. Test strips shall be performed on every variance of asphalt thickness and accompanying correlation's will be developed. When directed by the Engineer, the Contractor shall core drill or saw cut samples from the compacted pavement for thickness or compaction testing.
- C. The amount of control exercised by the Contractor's accredited laboratory in the process of monitoring compaction will be at the discretion of the Contractor. However, the Contractor/Supplier shall provide compaction test results a minimum of once per 500 tons of asphalt placed, on each mixture placed, regardless of the location of placement. The purpose of the testing will be to establish a continuous and consistent pattern of placement and compaction. Accordingly, a minimum of three nuclear density tests shall be performed on each mixture placed, daily. The nuclear density tests shall be performed at random, and may consist of a combination of small projects. Each compaction test shall represent no more than 500 tons of material placed. The Owner or Engineer may request additional compaction testing as necessary. Tests which indicate conformance to the specifications shall be compensated for by the Owner, failing tests shall be compensated for by the Contractor.
- D. All lay-down "take-offs" will be monitored by the Contractor, with a ten-foot straight edge. The maximum gap between any contact points of the straight edge will be ¼". The take-offs will be reworked until the gaps between contact points, measured transverse or laterally to centerline, are within the specified tolerance.
- E. The straight edge will be periodically placed on the compacted mat in a lateral direction to centerline. Should any typical crowns or dips in the mat be evident in excess of ¼", the lay-down screed or roller pattern will be adjusted such that the crown or dip is removed.

MINIMUM TESTING SCHEDULE FOR COMMERCIAL PLANTS AND RANDOM PLACEMENTS

Type of Test	Frequency	Specification
Asphalt Content (nuclear, burn-off, or quantitative)	1/500 tons	± .3% of Target
Gradation (Cold Feed)	1/500 tons	Allowable Deviations provided in Wide Band Table Section 3
Tensile Strength Ratio	1/month	Min 70%, Min 100 psi dry
Air Voids (Marshall or	1/week	3.0% to 5.0%

Superpave)		
Mat Density (Nuclear)	1/500 tons	93% to 97%

Quality Control shall be considered incidental to the cost of asphalt. It is the intent of the quality control portion of this specification to ensure quality on all projects.

3.7 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Flatness: Maximum variation of 1/4inch measured with 10 foot straight edge.
- C. Scheduled Compacted Thickness: Within 1/4 inch.
- D. Variation from Indicated Elevation: Within 1/2 inch.

3.8 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Take samples and perform tests in accordance with AI MS-2
- C. Asphalt Paving Mix Temperature: Measure temperature at time of placement.
- D. Asphalt Paving Thickness: ASTM D3549; test one core sample from every 1000 square yards compacted paving.
- E. Asphalt Paving Density: ASTM D2950 nuclear method; test one location for every 1000 square yards compacted paving.

3.9 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Immediately after placement, protect paving from mechanical injury for 48 hours or until surface temperature is less than 140 degrees F.

END OF SECTION