

SECTION 435: HOT-MIX ASPHALT (SUPERPAVE)

435.1 DESCRIPTION

This work shall consist of constructing one or more courses of hot-mix asphalt (HMA) on a prepared base.

435.2 MATERIALS

435.2.1 General

HMA shall be composed of a mixture of asphalt binder, aggregate, blending sand, mineral filler, and hydrated lime or anhydrated based material and shall be provided in accordance with Section 405, “Hot-Mix Asphalt (HMA) Material” of these Standard Specifications and City Standard Details.

435.2.2 Asphalt Binder Type

The asphalt binder type shall be Performance Grade (PG) and shall meet the requirements of Table 435.2.2:1, “Asphalt Binder Type” for the roadway classification or location listed unless otherwise specified in the plans or by the City Engineer.

**Table 435.2.2:1
Asphalt Binder Type**

Roadway Classification/Location	Performance Grade (PG) Binder
Residential Streets	PG 64-22
Collector Streets	PG 64-22
Arterial Streets	PG 64-22
Pedestrian Trail or Parking Lot	PG 64-22

435.2.3 Pavement Design

The minimum pavement design and typical section for City roadway classifications and locations shall be in accordance with City Standard Detail PS-01 unless otherwise specified in the plans or Contract documents.

In lieu of using the minimum pavement design as provided on City Standard Detail PS-01, a project or site specific pavement design (including base course) prepared by a Registered Professional Engineer may be submitted for approval by the City Engineer. All pavement designs shall conform to the AASHTO Guide for Design of Pavement Structures Procedure, 1993, using a minimum of 10 ESAL’s and the NMDOT *Pavement Type Selection and Design Guideline*, IDD-2008-05 or latest revision. Nomographs shall not be used. Should conflicts in pavement design guidelines arise, the NMDOT *Pavement Type Selection and Design Guideline* shall take precedence,

The asphalt binder type used in the pavement design shall be in accordance with Table 435.2.2:1, “Asphalt Binder Type.” The asphalt binder may be adjusted based on the 20 yr design ESAL’s in accordance with Table A-7 of the NMDOT *Pavement Type Selection and Design Guideline*, Infrastructure Design Directive IDD-2008-05 or latest revision. The pavement design Engineer shall provide certification to the City Engineer of conformance with the NMDOT Pavement Type Selection and Design

Guideline, IDD-2008-05 or latest revision and shall obtain approval by the City Engineer for use of an asphalt binder type other than that specified in Table 435.2.2:1, "Asphalt Binder Type".

435.3 CONSTRUCTION REQUIREMENTS

435.3.1 General

Sufficient storage space shall be provided for each size of stockpiled aggregate. The different aggregate sizes shall be kept separate until they have been delivered to the cold feed system feeding the drier. Sufficient methods shall be used to prevent segregation, degradation or combining of materials of different gradings when placing aggregates in storage or moving aggregates from storage to the cold feed bins. Segregated or degraded material shall be re-screened or wasted. A separate storage and bin feeder shall be provided for mineral filler if the approved mix design requires mineral filler.

Aggregates containing gravitational water shall be stockpiled and allowed to drain prior to introduction into the mix.

After the required amounts of aggregate and asphalt binder have been introduced into the mixer, the materials shall be mixed until all aggregate particles are completely and uniformly coated with the asphalt binder. If the City Engineer or designee determines that excessive uncoated aggregate exists, the Contractor shall take corrective action. The moisture content of the HMA at discharge from the mixer shall not exceed 0.5%.

435.3.2 Mix Temperature Requirements

The target temperature of the HMA discharged from the mixer shall be as specified on the mix design and shall be maintained within a range of plus or minus twenty degrees (20°) F.

435.3.3 Addition of Hydrated Lime or Anhydrite Based Material

The addition of hydrated lime or anhydrite based material shall be in accordance with Section 423.3.3, "Addition of Hydrated Lime or Anhydrite Based Material," of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition. Any reference to "Project Manager" shall be substituted with the words, "City Engineer or designee."

The Contractor shall obtain City Engineer or designee approval of any other means than those specified of metering the addition of hydrated lime or anhydrite based material before use.

The City Engineer or designee may increase the moisture content of the coarse and fine aggregates to properly coat the aggregates with hydrated lime or anhydrite based material and to eliminate dust pollution.

435.3.4 Equipment

435.3.4.1 Mixing Plants

HMA mixing plants shall be provided in accordance with Section 423.3.4.1, "Mixing Plants," and all Subsections thereof of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition. Any reference to "Project Manager" shall be substituted with the words, "City Engineer or designee."

The Contractor shall submit a copy of the plant scales certification to the City Engineer or designee at least three (3) days prior to the placement of HMA.

435.3.4.2 Haul Equipment

Trucks used for hauling asphalt mixtures shall have tight, clean, smooth metal beds and a thin coat (a minimal amount) of release agent to prevent the mixture from adhering to the bed. The release agent shall be of the type approved for use by the NMDOT or as directed by the City Engineer or designee. Diesel fuel shall not be used as a release agent.

Trucks shall be equipped with a tarping system suitable for covering material being transported.

435.3.4.3 Pavers

Pavers shall be self-contained, self-propelled, with activated screeds or strike-off assemblies, heated if necessary, and capable of spreading and finishing courses of HMA in accordance with the Plans or City Standard Details.

Pavers shall be equipped with a receiving hopper having sufficient capacity to effect a uniform spreading operation. The hopper shall be equipped with a distribution system capable of maintaining a uniform amount of mixture in front of the screed.

Pavers shall be equipped with control systems capable of automatic leveling and grade control. The control systems shall be capable of receiving input from external guides.

Pavers shall be capable of operating at forward speeds consistent with placement of the mixture in accordance with the Plans or City Standard Drawings.

The screed shall be adjustable for both height and crown, and shall be equipped with a controlled heating device. The screed or strike-off assembly shall produce a finished surface of an even and uniform texture for the full width being paved without tearing, shoving or gouging the mixture.

Pavers shall be capable of paving no less than eight (8) ft. in width. Pavers shall be designed so that no part of the truck weight will be supported by the paver when loading the hopper.

435.3.4.4 Compaction Equipment

The Contractor shall provide a sufficient number, weight, and type of rollers to obtain the required compaction and specified pavement density while the HMA is in a workable condition. Rollers shall be self propelled and capable of reversing without backlash.

Rollers shall be operated in the static mode. The use of vibratory rollers is prohibited unless prior approval is obtained from the City Engineer or designee.

Compaction equipment shall not cause excessive crushing or breakage of the aggregate.

435.3.4.5 Power Blowers and Power Brooms

Blowers and brooms shall be of the power type, shall be suitable for cleaning the surface to be paved, and shall be vacuum-equipped such that dust is not excessively produced.

Power brooms shall be equipped with adequate shielding of the broom head to control flying debris.

435.3.5 Placement Operations**435.3.5.1 Preparation of Surface**

The subgrade, base course, or underlying surface upon which the HMA is to be placed shall be clean and free of all loose or Deleterious Materials. Cleaning shall be performed by blowing or sweeping with

a power blower or power broom, supplemented by hand sweeping, if determined necessary by the City Engineer or designee. These surfaces shall be free of frozen material, shall be true to line and grade, and shall meet moisture and density requirements.

The Contractor shall notify the City Engineer or designee twenty-four (24) hours prior to paving, that the newly constructed, rotomill planed, or existing surface, has been prepared in conformance with the plans, specifications, and City Standard Details and are ready to be paved. The City Engineer or designee shall inspect the surface to be paved through the use of string line, straightedge, levels, or any other means necessary. Upon determining the surface to be paved is in conformance with the plans specifications, and City Standard Details, the City Engineer or designee will provide written authorization for the Contractor to proceed with paving. The Contractor shall not initiate paving prior to receiving written authorization to proceed.

Prime coat or tack coat shall be applied to surfaces in conformance with Section 420, "Prime Coat" or Section 425, "Tack Coat" of these Standard Specifications.

435.3.5.2 Transportation of HMA

HMA shall be transported in suitable haul vehicles in conformance with Section 435.3.4.2, "Haul Equipment." HMA transported to the project shall be covered. Sufficient haul Equipment shall be provided to maintain a continuous and balanced paving operation.

435.3.5.3 Placement of HMA

The HMA shall be placed on the approved surface, spread, and struck off to the specified grade and elevation. The HMA shall be spread and compacted in layers to the paving thickness as shown in the Plans, City Standard Details, or as directed by the City Engineer or designee. Pavers shall be used to distribute the HMA over the entire width of the surface to be paved or over such partial widths as may be practical.

The HMA may be dumped from the haul equipment directly into the paving machine or on the paving surface and then loaded into the paving machine.

When dumping directly into the paver from haul Equipment, the haul Equipment shall not be allowed to exert any vertical force on the paving machine and shall avoid jarring the machine or moving it out of alignment.

When dumping on the paving surface, HMA shall not be dumped more than 250 ft. in front of the paving machine. The loading equipment shall not exert any vertical load on the paver and shall pick up and load all HMA into the paver.

The Contractor shall coordinate the speed of the paving machine with the production of the plant and shall keep enough haul Equipment available to achieve continuous operation.

The control system on the paving machine shall be used to control the elevation of the screed at each end by either controlling the elevation of one end directly and the other indirectly (through controlling the transverse slope) or by controlling the elevation of each end independently, including any screed attachments used for widening. Failure of the control system to achieve the typical section in accordance with the Plans or City Standard Details shall be cause for suspension of the paving operations and removal and replacement of non-conforming material at the Contractor's expense.

The courses of HMA shall be placed, spread, and finished; within the specified tolerances; without segregation or tearing; true to the line, grade, and crown in accordance with the Plans and City Standard Drawings; and with self-propelled pavers; except as otherwise directed by the City Engineer or designee.

The thickness of the compacted course(s) shall be in accordance with City Standard Details unless otherwise specified in the Plans or specifications. The Contractor shall monitor the placement and thickness of the HMA course and shall make operational adjustments necessary to provide a compacted HMA layer in accordance with the Plans and City Standards.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing Equipment impractical, HMA shall be dumped, spread, and leveled by other methods to achieve the required compacted thickness and density as approved by the City Engineer or designee.

The Contractor shall, at his own expense, and as directed by the City Engineer or designee, immediately remove from all public and private property all temporary structures, rubbish, debris, or any waste materials resulting from the Contractor's HMA operations.

435.3.5.4 Compaction

The HMA shall be thoroughly and uniformly compacted to the specified density in Table 435.3.6.2.1:2, "Acceptance Testing Tolerances" immediately after placement. The number, weight and type of rollers furnished shall be sufficient to obtain the required compaction while the HMA is in a workable condition. Rollers shall be operated at speeds slow enough to minimize displacement of the HMA, including the lines and grades of the asphalt edges.

The Contractor shall establish a rolling pattern at each placement location for the initial breakdown roller and each subsequent roller in its rolling and compaction operation sufficient to achieve the required density. Rolling patterns shall be established using a portable nuclear Densometer to determine pavement density after each pass of the roller. The Contractor shall reestablish a rolling pattern should changes in compaction conditions occur such as variances in mix characteristics, weather, change in compaction equipment, or change in location as determined by the City Engineer or designee. The Contractor shall use best practices in establishing the rolling pattern, rolling speed, use of breakdown, intermediate and finish rollers, monitoring of pavement temperature, and rolling of joints. The establishment of the rolling pattern by the Contractor shall be incidental to the HMA item and no direct measurement or payment shall be made thereof.

The use of compaction equipment that results in excessive crushing or breakage of aggregates will not be allowed by the City Engineer or designee. Marks from pneumatic rollers shall be removed and any displacement shall be immediately corrected using a static steel wheel roller or by other means as approved by the City Engineer or designee.

HMA shall be prevented from sticking to the roller wheels by keeping the wheels moistened with water or a releasing agent appearing on the NMDOT approved products list or as approved by the City Engineer or designee. Diesel fuel or other petroleum based products shall not be used.

At locations inaccessible to self-propelled compaction equipment, the HMA shall be compacted with hot hand tampers, smoothing irons, or mechanical tampers. The Contractor may use a trench roller or cleated compression strips under the roller to transmit compression to depressed areas.

HMA that becomes loose, broken, mixed with dirt, segregated, or defective, shall be removed and replaced with fresh HMA, and shall be compacted to match the surrounding area, at no additional cost

to the City. Areas showing excess or deficiency of asphalt binder shall be immediately corrected by the Contractor.

After final rolling, no vehicular traffic shall be permitted on the pavement until it has cooled and hardened.

435.3.5.5 Temperature and Weather Limitations

HMA shall not be placed on wet or frozen surfaces; when the ambient temperature is below fifty (50) °F; when the chill factor is below forty five (45) °F; or when weather conditions otherwise prevent the proper handling, finishing, or compaction of the HMA as determined by the City Engineer or designee.

Chill factor is defined as the ambient temperature in °F minus the wind velocity in MPH. The wind velocity shall be the velocity in MPH determined by the average of the maximum and minimum wind velocity observed in any three (3) minute period immediately before or concurrent with ongoing HMA placement operations taken at five (5) feet above the surface of the road. The Contractor shall perform the above measurements, record the results, and provide the results to the City Engineer or designee in writing before the paving operation may begin. The City Engineer or designee will determine whether paving operations may commence upon review of the test results provided. The Contractor shall monitor and retest for temperature and wind chill during the course of paving operations or at the direction of the City Engineer or designee should weather conditions be suspect in meeting the temperature and weather limitations. The testing, recording, and submittal of results for temperature and wind chill shall be considered incidental to the HMA item and no direct measurement or payment shall be made thereof.

Should HMA placement operation cease due to temperature and weather limitations, the Contractor shall not be relieved from meeting density requirements for all HMA placed.

435.3.5.6 Minor and Miscellaneous Paving

Minor and miscellaneous paving shall be provided in accordance with Section 416, "Minor Paving," and Section 417, "Miscellaneous Paving" of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition when specified in the Plans or Contract Documents or as directed by the City Engineer or designee.

435.3.5.7 Joints

435.3.5.7.1 General

Placing of the HMA shall be as continuous as possible. All joints shall present the same texture, density, and smoothness as other sections of the course. Care shall be exercised in connection with the construction of joints to ensure that the surface of the pavement is true to grade and cross section.

All joints shall be completely bonded. The joints between old and new pavements or between successive days' work shall be constructed to provide a continuous bond between old and new sections of the course.

Tack coat shall be applied to all contact surfaces of previously constructed pavements in conformance with Section 425, "Tack Coat."

All joints shall be prepared by hand with the back of an asphalt rake and shall be formed at a proper height and level to receive the maximum compression under rolling. Any excess aggregate remaining on or near the joint area after it has been prepared shall be removed from the pavement surface and shall not be broadcast across the new pavement mat. Joints shall be hand-prepared by competent workmen who are capable and experienced in forming clean and neat joints meeting surface tolerance and density requirements.

Joints shall not be placed within the wheel path.

All joints shall be constructed in accordance with Section 435.3.5.8, "Surface Tolerances." To avoid segregation, any excess aggregate remaining on or near the joint area, after it has set up, shall be removed from the pavement surface and must not be broadcast across the new pavement mat.

435.3.5.7.2 Transverse Joints

Rollers shall not pass over the unprotected end of the freshly laid mixture except when the laying of the course is to be discontinued or when delivery of the mixture is interrupted to the extent that the unrolled material may become cold. In all cases, the edge of the previously laid course shall be cut back to expose an even, vertical surface (neat line) for the full thickness of the course at the Contractor's expense.

Transverse joints shall have at least a 3-ft minimum taper, but in no case shall the taper slope be steeper than (24:1). All transverse tapers shall be cut and squared off prior to commencing new work.

435.3.5.7.3 Longitudinal Joints

When edges of longitudinal joints are irregular, honeycombed, or poorly compacted, all unsatisfactory sections of the longitudinal joint shall be cut back to expose an even, vertical surface (neat line) for the full thickness of the course before constructing the adjacent pavement.

Longitudinal joints should be kept to the smallest possible number and shall not be located in the wheel path. Longitudinal joints shall be staggered at least six (6) inches relative to longitudinal joints of the underlying course.

Longitudinal joints shall have at least a 1-ft minimum taper, but in no case shall the taper slope be steeper than (6:1). Tapered longitudinal joints from previous operations shall be cleaned and tack coated unless otherwise directed by the City Engineer or designee.

435.3.5.8 Surface Tolerances

The surface of each completed pavement course after compaction shall be true to the lines and grades shown in the City Standard Details or as indicated in the Plans. The surface shall be smooth and shall not vary by more than one eighth (1/8) of an inch when tested with a Contractor provided ten (10) foot straight edge placed in any direction.

Transverse and longitudinal joints shall be checked for smoothness. The surface of each completed course at all joints shall not vary by more than three-sixteenths (3/16) of an inch when tested with a Contractor provided ten (10) foot straightedge placed in any direction.

All deviations exceeding the specified surface and joint tolerances shall be corrected immediately by the Contractor. Corrective action shall be at the Contractor's expense and may include removal of the

deviation plus five (5) feet either side of the deviation curb to curb or other methods as approved by the City Engineer or designee.

435.3.6 Sampling and Testing

435.3.6.1 Contractor Quality Control

The Contractor is responsible for the quality of materials and construction. The City reserves the right to obtain samples of any portion of any material at any point of the operation for the City's use. The Contractor shall administer a Quality Control Plan to provide and place HMA in accordance with the City's Standard Specifications, Standard Details, Plans, and Contract. The Quality Control Plan shall be provided in accordance with Section 423.3.6.1, "Contractor Quality Control" and Section 901.2, "Contractor Quality Control" of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition. Any reference to "Project Manager" or "District Laboratory Supervisor" shall be substituted with the words, "City Engineer or designee."

Quality Control sampling, testing, and inspection shall be performed in accordance with Table 901.7:3, "Minimum Process Control Guidelines for Aggregates and Base Course," and Table 901.7:4, "Minimum Process Control Guidelines for Hot Mix Asphalt and OGFC" of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition.

435.3.6.1.1 Contractor Quality Control of Aggregate

Aggregate samples shall be tested in accordance with Section 910, "Aggregate Index" of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition. Any reference to "Project Manager" shall be substituted with the words, "City Engineer or designee."

Aggregate may be obtained from an NMDOT approved Commercial Material Source. Documentation shall be provided to the City Engineer or designee of NMDOT approval as a Commercial Material Source.

Representative samples shall be taken after the aggregate Material is combined but before the addition of hydrated lime or anhydrite based material and mixing with asphalt binder. Samples shall be tested for the following;

1. Gradation;
2. Minus 200 wash;
3. Plasticity index;
4. Sand equivalent;
5. Fine aggregate angularity;
6. Flat and elongated particles count; and
7. Fractured Face count.

The City will base acceptance of aggregates on these test results. The City Engineer or designee may sample and test the aggregate at any time during production or stockpiling, or may request split samples with the Contractor.

435.3.6.1.2 Contractor Quality Control for Compaction

The Contractor, at its expense, shall monitor the compaction process by determining the density of the HMA with a portable nuclear densometer in accordance with ASTM D 2950.

Calibration of the portable nuclear densometer shall be established by the Contractor from six (6) inch cut pavement samples (cores). The density readings of the cut pavement samples shall be determined by the Contractor in accordance with AASHTO T 166 (weight, volume method) and the density readings of the pavement shall be determined by the portable nuclear densometer in accordance with ASTM D 2950 and shall be correlated by the Contractor to establish a correction factor for each nuclear densometer used. A minimum of three (3) cut pavement samples shall be used to determine the correction factor to be applied to the nuclear densometer density readings to match the unit weight of the cut pavement samples.

The Contractor shall conduct density testing at the minimum rate of one (1) per two hundred and fifty (250) tons or as needed to control operations and shall furnish results to the City Engineer or designee within one (1) business day.

It is intended that quality control density testing be performed by the Contractor while the HMA is hot enough to permit further compaction, if necessary. Rolling for any compactive effort will not be allowed beyond the point at which it becomes ineffective or damage begins to occur. Additionally, use of vibratory mode will not be permitted when the temperature of the mix is below 200 °F.

435.3.6.2 City Quality Assurance

435.3.6.2.1 Acceptance

The City will evaluate Materials for acceptance in accordance with this Section. Material shall be sampled and tested for acceptance by a Certified Private Testing Laboratory appearing on the NMDOT's most current listing of Approved Private Testing Laboratories. The Contractor may be required to obtain a certified Private Testing Laboratory independent of its quality control sampling and testing process to perform acceptance testing on behalf of the City if required by the Contract. Acceptance will be based on results obtained from tests performed on representative samples of HMA taken from behind the paver and prior to compacting.

Acceptance sampling and testing of the HMA mixture and pavement shall be performed on a statistically random basis and in accordance with Table 435.3.6.2.1:1, "Minimum Acceptance Guidelines." If Material appears defective, or if the City Engineer or designee determines that a change in the process or product has occurred, additional testing may be performed at the Contractor's expense.

When additional informational sampling and testing is performed, the results will be used only to determine if corrective actions needs to be taken by the Contractor and will not be used for acceptance purposes.

**Table 435.3.6.2.1:1
Minimum Acceptance Guidelines**

Item	Property	Point of Acceptance	Testing Frequency	Lot Size (smallest of the following)	Test Method
HMA	Sampling	As Specified			AASHTO T 168
	Asphalt Content	Behind Laydown	Minimum of 1 per 300 Ton	A Day's Work, Per Street,	AASHTO T 308
	Gyratory Tests				AASHTO T 312
	Gradation				AASHTO T 30, 164, or 308
	Air Voids	Machine Before	1 per Street or Site	Per Site, Per 3000 SY	AASHTO T 166, 209, 269
	Voids in Mineral Aggregate (VMA)	Compaction	2 per Day	of area paved, Per 300 Ton of HMA placed	AASHTO R 35
	Dust to Binder Ratio				AASHTO R 35
	Thickness	After Compaction	At Core Locations		AASHTO T 166, 209
Max Density Cores	3 Cores per Sublot				

The City's acceptance of HMA material shall be based on test results obtained on material properties of the HMA and in-place density results obtained from cut pavement samples (cores) as follows:

1. Percent (%) Hydrated Lime or Anhydrite Based Material
2. Air Voids
3. Gradation
4. Voids in Mineral Aggregate (VMA)
5. Pavement Density (cores)

If the mean of the test results for each material property per lot is within the Acceptance Tolerances as listed in Table 435.3.6.2.1:2, "Acceptance Testing Tolerances," the Material will be accepted. If the mean of the test results for any of the listed properties per lot is outside of the tolerances as listed in Table 435.3.6.2.1:2, "Acceptance Testing Tolerances," the entire lot shall be rejected and shall be removed and replaced by the Contractor at the Contractor's expense.

Target Values (TV) shall be established by the Contractor based on the approved Mix Design and Job Mix Formula.

**Table 435.3.6.2.1:2
Acceptance Testing Tolerances ***

Characteristic	Specification limit, % from Target Value (TV)	Notes
Air Voids, %	TV ± 1.60	
Hydrated Lime or Anhydrite Based Material, %	TV ± 0.20	Shall be based on daily tank straps. Obtain the TV from the approved JMF
Nominal Sieve, %	TV ± 5	Nominal Maximum Sieve for a SP-II HMA gradation shall be the 1-inch sieve, for a SP-III HMA gradation shall be the ¾ in sieve, and for a SP-IV HMA gradation shall be the ½ in sieve.
3/8 in Sieve, %	TV ± 8	
No. 4 Sieve, %	TV ± 7	
No. 200 Sieve, %	TV ± 1.4	
Voids in Mineral Aggregate (VMA), %	TV ± 1.6	If Gmm fluctuates more than ±0.03 on a consistent basis, it is recommended that the Specific Gravity of the Aggregates be checked in order to verify VMA.
Density (cores), %	95% min, 98% max	Mean Density of Two (2) core's per Lot

*All gradation, VMA, and VFA values shall be determined using the ASSHTO T 308 testing results.

The mean density of each lot as specified in Table 435.3.6.2.1:1, “Minimum Acceptance Guidelines” will be evaluated by a minimum of two (2) cut pavement samples (cores) taken in accordance with AASHTO T 166 at randomly selected locations within the lot. The cut pavement samples shall be taken, prepared, and tested by the certified Private Testing Laboratory. The theoretical maximum density shall be determined using an average of the maximum specific gravity values obtained the day the cores material was placed. The maximum specific gravity shall be determined for each core. Each lift of the HMA shall be cored full depth in accordance with applicable AASHTO and NMDOT procedures. Cut pavement samples shall be six (6) inches in diameter. All questions arising from the sampling operation, including diameter of core samples, will be decided by the City Engineer or designee. The Private Testing Laboratory shall identify each core sample with a location marking.

The mean density obtained from the cores in each lot shall be a minimum of 95% and maximum of 98% of the theoretical maximum density as determined in accordance with AASHTO T 209. In the event the mean density for all tests in each acceptance section or lot is less than 95% or greater than 98% of the theoretical maximum density as determined in accordance with AASHTO T 209, the material in the acceptance section or lot shall be removed and replaced at the Contractor’s expense. Material removed shall be disposed of in a suitable manner and in compliance with all environmental requirements.

The City Engineer may determine an alternate disposition of material not meeting acceptance criteria based on site specific circumstances, extent of failure to meet specifications, and best interest of the public.

435.4 METHOD OF MEASUREMENT

If the City measures HMA by the square yard, the City will use the average width of the HMA placed and the length along the centerline of the Roadway when calculating quantities. When *HMA Complete-In-Place* is specified in the Contract, Asphalt Material, Hydrated Lime or Anhydrite Based Material as

specified in Section 405, "Hot-Mix Asphalt (HMA) Material," shall be considered incidental to the *HMA Complete-In-Place* item and no direct measurement or payment will be made thereof.

435.5 BASIS OF PAYMENT

Pay Item

HMA Complete-In-Place

HMA

Pay Unit

Ton or Square Yard

Ton or Square Yard