

SECTION 455: HOT-MIX ASPHALT PAVEMENT OVERLAY

455.1 DESCRIPTION

This work shall consist of constructing a single course of hot-mix asphalt pavement on a prepared asphalt surface.

Preparation of the existing asphalt surface shall include patching, construction of leveling courses, crack sealing, and application of tack coat as required in these specifications, the Plans and Contract documents, or as specified by the City Engineer or designee.

455.2 MATERIALS

455.2.1 General

Hot-Mix Asphalt (HMA) shall be composed of a mixture of asphalt binder, aggregate, blending sand, mineral filler, and hydrated lime or anhydrous based material and shall be provided in accordance with Section 435, “Hot-Mix Asphalt (Superpave)” and Section 405, “Hot-Mix Asphalt (HMA) Material” of these Standard Specifications and City Standard Details.

The type of HMA overlay mixture shall meet the requirements of Table 455.2.1:1, “HMA Type for Overlays”, unless otherwise indicated in the Contract and shall meet the requirements of Table 405.2.2.1:1, “HMA Aggregate Gradation Requirements” for an SP-III or SP-IV mixture.

**Table 455.2.1:1
HMA Type for Overlays**

Overlay Thickness	HMA Type
1.5 inches or less	SP-IV
Greater than 1.5 inches	SP-III

455.2.2 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” of Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications.

455.2.3 Cold Milling Material

Cold milling material removed during the surface preparation process shall become the property of the City of Rio Rancho, unless otherwise specified in the Contract for CIP Projects or as directed by the City Engineer or designee for non-City funded projects. The hauling of Cold milling materials shall be in accordance with Section 450.3.3, “Hauling of Milled Materials” of these Standard Specifications.

455.2.4 Crack Sealant Material

Crack and joint sealant Material shall be provided in accordance with Section 475, “Hot Poured Crack Sealing” of these Standard Specifications. The crack and joint sealant material shall be provided in accordance with the general and physical requirements of ASTM D 6690. The Contractor or Developer shall have the Supplier sample and test the sealant in accordance with ASTM D 6690 and provide certified test results for each lot or batch of sealant supplied.

455.2.5 Tack Coat Material

Tack coat asphalt Material shall be provided in accordance with Section 425, “Tack Coat” of these Standard Specifications.

455.3 CONSTRUCTION REQUIREMENTS**455.3.1 General**

Construction requirements for HMA shall be in accordance with Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications. 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 at no cost to the City.

455.3.2 Equipment

Equipment shall be provided in accordance with Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications. The Contractor shall provide all equipment necessary to complete the work as specified.

All equipment proposed for use in performance of this Work shall be maintained in a satisfactory working condition at all times, shall be of sufficient size and in such mechanical condition to efficiently and satisfactorily complete the work, and shall be subject to the approval of the City Engineer or designee.

455.3.3 Temperature and Weather Limitations

Temperature and weather limitations shall be in accordance with Section 435.3.5.5 of these Standard Specifications.

455.3.4 Placement Operations**455.3.4.1 Preparation of Surface**

The existing pavement shall be cold milled if indicated in the Plans or as directed by the City Engineer or designee prior to placement of the HMA overlay. Cold milling shall be performed in accordance with Section 450, “Cold Milling” of these Standard Specifications.

Curb line cold milling shall be required adjacent to existing curb where existing asphalt is to be overlaid and shall be performed in accordance with Section 450, “Cold Milling” of these Standard Specifications except that the milling depth at the curb apron or edge of pavement shall match the depth of the HMA overlay. All cold milled surfaces shall be power broomed and cleaned free of all dirt, dust, vegetation, and debris prior to placement of the HMA overlay.

All existing pavement locally distressed areas as identified in the Contract or by the City Engineer or designee shall be marked by the Contractor. Pavement locally distressed areas include pot holes, rutted or uneven areas, raveled areas, severely cracked areas, or other surface irregularities detrimental to the performance of the HMA overlay. The Contractor shall schedule a field inspection with the City Engineer or designee to verify and determine the extent of repair needed for each locally distressed area.

Identified locally distressed areas shall be removed, patched, leveled, and brought to a uniform grade and cross section prior to placement of the HMA overlay.

The surface of the existing roadway shall be crack sealed after cold milling is complete, (if applicable), and after pavement locally distressed areas have been repaired. Crack sealing shall be performed as per Section 475, "Hot Poured Crack Sealing" of these Standard Specifications.

After the area to be overlaid has been cold milled (if applicable), patched, leveled, crack sealed, and cleaned, a tack coat shall be applied to the existing pavement surface prior to paving as per Section 325, "Tack Coat" of these Standard Specifications. All debris shall be removed from the gutters before the tack coat material is placed.

The underlying surface upon which the HMA overlay is to be placed shall be clean and free of all loose and Deleterious Materials. Cleaning shall be performed by blowing or sweeping with a power blower or power broom, supplemented by hand sweeping as needed or if determined necessary by the City Engineer or designee.

The Contractor shall notify the City Engineer or designee twenty-four (24) hours prior to paving that the surface to be overlaid has been prepared in accordance with the plans, specification, and City Standard Details. The City Engineer or designee will verify that the surface is ready to be overlaid and will provide written authorization for the Contractor to proceed with paving. The Contractor shall not initiate paving prior to receiving written authorization to proceed.

455.3.4.1.1 Patching of Existing Pavement Locally Distressed Areas

All existing pavement with locally distressed areas including deteriorated, unstable, and raveled areas shall be removed, patched, and brought to a uniform grade and cross section prior to placement of the HMA overlay. Patching shall consist of full depth or partial depth removal and replacement of existing base and surfacing materials in accordance with Section 470, "Patching Asphalt Pavements" of these Standard Specifications.

455.3.4.1.2 Leveling Course

Prior to placement of the HMA overlay, the Contractor shall place a leveling course of hot-mix asphalt over uneven areas of existing pavement as indicated in the Plans or identified by the City Engineer or designee. The HMA Material used for the leveling course shall be of the same material used for the HMA overlay. The HMA shall be placed with a paving machine and shall produce a uniform grade and cross section with the surrounding pavement. The HMA shall be placed and compacted in accordance with Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications except that acceptance of the leveling course will be based on density requirements only.

Tack Coat shall be placed on the existing pavement surface prior to placement of the leveling course in accordance with Section 425, "Tack Coat" of these Standard Specifications.

455.3.4.1.3 Crack Sealing

Crack and joint sealant Material shall be performed in accordance with Section 475, “Hot Poured Crack Sealing” of these Standard Specifications.

455.3.4.1.4 Tack Coat

Tack Coat shall be applied to surfaces in conformance with Section 425, “Tack Coat” of these Standard Specifications.

455.3.4.2 Transportation of HMA

HMA shall be transported in suitable haul vehicles in accordance with Section 435.3.4.2, “Haul Equipment” of Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications. HMA transported to the project shall be covered. Sufficient haul Equipment shall be provided to maintain a continuous and balanced paving operation.

455.3.4.3 Placement of HMA Overlay

The placement of HMA shall be in accordance with Section 435.3.5.3, “Placement of HMA” of Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications.

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. All roadways shall be paved in increments of width not to exceed twelve (12) feet unless otherwise approved in writing by the City Engineer or designee.

HMA placement thickness shall be monitored by the Contractor during placement operations to verify that the finished compacted thickness of the HMA overlay meets the thickness requirements as specified in the Contract.

455.3.4.4 Compaction of Mixture

The compaction of the HMA shall be in accordance with Section 435.3.5.4, “Compaction” of Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications.

The HMA shall be thoroughly and uniformly compacted to the specified density 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.

455.3.4.5 Joints

HMA overlay joint construction and treatment shall be in accordance with Section 435.3.5.7, “Joints” of Section 435, “Hot-Mix Asphalt (Superpave)” of these Standard Specifications.

455.3.4.6 Surface Tolerances

HMA overlay surface tolerances shall be in accordance with Section 435.3.5.8, "Surface Tolerances" of Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications.

455.3.4.7 Protection of Pavement

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

455.3.4.8 Cleaning

The Contractor shall immediately remove from all public and private property all temporary structures, rubbish, debris, or any waste materials resulting from the HMA paving operations. The Contractor shall leave the entire site in a neat and orderly condition as directed and approved by the City Engineer or designee. The Contractor shall not allow debris to be blown or swept onto private property. This work shall be considered incidental to the HMA Overlay item and no separate measurement or payment shall be made.

455.3.5 Sampling and Testing

455.3.5.1 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 perform quality control sampling, testing, and inspection in accordance with Section 435.3.6.1, "Contractor Quality Control" and all subsections thereof of Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications.

455.3.5.2 City Quality Assurance

The City of Rio Rancho may have a representative at the project site when asphalt material is delivered. The City's representative will be responsible for collecting the material haul tickets, recording the time of placement, location of placement, material temperature, and quantity of material delivered only. In the event the City does not have a representative present, the Contractor shall, at his expense, provide the above listed information for reference.

The City will evaluate Materials for acceptance in accordance with Section 435.3.6.2, "City Quality Assurance" of Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications.

455.4 METHOD OF MEASUREMENT

If Cold Milling is specified in the Plans or Contract, it shall be paid under Section 450, "Cold Milling" of these Standard Specifications.

Curb line cold milling shall be paid under Section 450, "Cold Milling" of these Standard Specifications.

Patching of existing asphalt pavement shall be paid under Section 470, "Patching Asphalt Pavements" of these Standard Specifications.

Tack Coat shall be paid under Section 425, "Tack Coat" of these Standard Specifications.

Crack Sealing shall be paid under Section 475, "Hot Poured Crack Sealing" of these Standard Specifications.

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 Overlay 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.

455.5 BASIS OF PAYMENT

Pay Item	Pay
Unit	
<i>HMA Overlay Complete-In-Place</i>	Ton or Square Yard
<i>HMA Overlay</i>	Ton or Square
Yard	
<i>HMA Leveling Course</i>	Ton or Square Yard