

Item No. 315S
Milling Asphaltic Concrete Pavement and
Non-Portland Cement Concrete Bases

315S.1 Description

This item shall govern for the planing or the planing and texturing of existing asphaltic concrete pavement, asphalt stabilized and other non Portland cement Concrete base to depths indicated at the locations shown on the Drawings or as directed by the Engineer or designated representative. The item shall also include removal, and disposal or salvage/stockpiling the milled materials at the locations designated by the Engineer or designated representative.

When shown on the Drawings, the salvaged asphaltic concrete pavement and/or stabilized base, including any accompanying surface treatment, plant mix seal and micro-surfacing, may be allowed or required for use in other construction items of this project

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

315S.2 Submittals

The submittal requirements of this specification item include:

- A. Characteristics (i.e. manufacturer, power, stability, speed, etc.) and capabilities (depth of cut, dust control, etc.) of the proposed milling equipment.
- B. Proposed plan for grade reference, control point spacing and support system.
- C. Proposed dust control plans including proposed equipment (type street sweeper, loader, water trucks, sprayers, etc.).

315S.3 Equipment

The equipment for removing the pavement surface shall be a power operated planing machine or grinder with a minimum 2 feet (1.8 meter) cutting width. For detail work and cutting widths less than 2 feet (1.8 meter), equipment with less than 2 feet (1.8 meter) cutting width shall be allowed. The equipment shall be self-propelled with sufficient power, traction and stability to maintain accurate depth of cut and slope. The equipment shall be capable of removing in one pass, asphaltic concrete pavement of a thickness of 1 inch and any required thickness less than 1 inch (25 millimeters) in a minimum 3 foot (0.9 meters) width. Machines capable of removing, in one pass, a depth greater than 1 inch (25 millimeters) will be permitted.

The grade reference used by the Contractor may be of any type approved by the Engineer or designated representative. Control points, if required by the Drawings, shall be set at intervals not to exceed 50 feet (15 meters). The Contractor shall set the grade reference from the control points. The grade reference shall have sufficient support so that the maximum deflection shall not exceed two millimeters (1/16 inch) between supports.

The machine shall have a manual system providing for uniformly varying the depth of cut while the machine is in motion, thereby making it possible to cut flush to all inlets, manholes, or other obstructions within the paved area. The speed of the machine shall be variable in order to leave the desired grid pattern as specified in sections 315S.4 and 315S.5.

The machine shall be equipped with an integral loading and reclaiming means to immediately remove material being cut from the surface of the roadway and discharge the cuttings into a truck, all in one operation. The machine shall be equipped with means to control dust created by the cutting action. Adequate backup equipment (mechanical street sweepers, loaders, water truck, sprayers, brooms etc.) and personnel will also be provided to keep flying dust to a minimum and to insure that all cuttings are removed from the street surface daily. Stockpiling of planed material will not be permitted on the project site.

Various machines may be permitted to make trial runs to demonstrate the capabilities of that machine and to determine the acceptability of that machine to the Engineer or designated representative. Any machine that is incapable, in the opinion of the Engineer or designated representative, of meeting these requirements will not be permitted.

315S.4 Construction Methods

A. General.

The pavement surface shall be removed for the length, depth and width and to the typical section shown on the Drawings, and to the lines and grades established by the Engineer or designated representative. The planed surface shall provide a satisfactory riding surface free from gouges, continuous longitudinal grooves, ridges, oil film and other imperfections and shall have a uniform textured appearance.

When an existing asphaltic concrete pavement overlay is to be removed from an underlying Portland cement concrete pavement, all of the asphaltic concrete pavement shall be removed, leaving a uniform surface of Portland cement concrete, unless otherwise directed by the Engineer or designated representative.

B. Surface Milling.

Surface milling shall be taken to a minimum depth of 2 inches (50 mm) or deeper as may be dictated by delamination of asphalt layers during the milling operation, to a depth of 1 inch (25 millimeters) below the lip gutter transitioning to the existing surface in 3 feet (0.9 meter) or as indicated on the Drawings for resurfacing operations. The pavement surface shall be removed to the appropriate milling depths around all castings within the area to be milled. When milling is used for leveling without the addition of asphalt, the milled surface shall be free of ridges deeper than 3/16 inch (5 millimeters).

Pavement, which is adjacent to steep curbs, inlets, manholes or other obstructions and that is not removed by the planing machine, shall be removed by other methods, acceptable to the Engineer or designated representative.

The pavement and curb surfaces shall be swept with a street sweeper or other sweeping equipment approved by the Engineer or designated representative to remove all debris leaving a clean and presentable condition.

C. Edge Milling.

Edge milling at the gutter lip shall be taken to a minimum depth of 1/4 inch (6 mm) less than the overlay thickness and shall transition to the existing surface in a minimum of 6 feet (1.8 meters).

D. Spot Milling.

Milling for spot repairs shall be completed in successive passes to the depth specified. Ramping for spot repairs shall be minimized. "Transition milling required at the beginning and ending of the overlay shall be taken to a minimum depth of the overlay thickness and transition to the existing surface for the length specified in the plans.

E. Miscellaneous.

Unless otherwise specified, the milling material shall remain the property of the Contractor. Temporary stockpiling shall not be permitted on site. Temporary pavement markings shall conform to Item No. 864S, "Abbreviated Pavement Markings".

315S.5 Surface Texture (Temporary Traffic Only)

In those areas where traffic will temporarily be permitted, the texture produced shall be a grid pattern or any other pattern with discontinuous longitudinal striations that will provide, in the opinion of the Engineer, a satisfactory riding surface.

When the planed pavement will not be overlaid, the minimum texture depth resulting from the number of measurements directed by the Engineer shall not be less than 3/64 inch (1.25 millimeters), unless specified otherwise on the Drawings. When these texture requirements are not met, the Contractor shall cease operations until the Engineer is satisfied that changes in the texturing procedures will produce an acceptable texture.

The Contractor shall take care to prevent damage to armor joints, sealed expansion joints and/or other appurtenances.

The surface of the pavement, after planing, shall have a smooth riding quality and shall be true to the established line, grade and cross section.

315S.6 Measurement

Work prescribed by this item will be measured by the square yard (square meter: 1 square meter equals 1.196 square yards) of surface area for actual quantities based on the neat dimensions indicated for surface and transition milling, spot repairs and edge milling to the specified width. Ramping for spot repairs shall not be measured for payment. Surface milling for spot repairs shall be included in the unit price bid for the spot milling area measured.

Measurement will be made only one time regardless of the number of passes required by the machine to secure the depth desired.

315S.7 Payment

The work performed in accordance with this item and measured as provided under "Measurement", will be paid for at the unit bid price per square yard for "Milling Asphaltic Concrete Paving and Non-Portland Cement Bases". The price shall include full compensation for removal of all materials to the depth shown; minimizing the dust escaping to the atmosphere; loading, hauling, unloading and satisfactorily storing or disposing of the material; and for all labor, tools, equipment, manipulation, temporary pavement markings and incidentals to complete the work, including mobilization of the milling machine.

No payment will be made for work done by any machine on a trial run to demonstrate its ability to meet this specification unless the work performed is acceptable under this specification.

Payment will be made under the following:

Pay Item No. 315S-A:	Surface Milling	Per Square Yard.
Pay Item No. 315S-B:	Profile Milling	Per Square Yard.
Pay Item No. 315S-C:	Transition Milling	Per Square Yard.
Pay Item No. 315S-D:	Edge Milling	Per Square Yard.
Pay Item No. 315S-E:	Spot Milling	Per Square Yard.

End

<u>SPECIFIC</u> CROSS REFERENCE MATERIALS
Specification Item 315S "Milling Asphaltic Concrete"

City of Austin Standard Specifications

<u>Designation</u>	<u>Description</u>
Item No. 642S	Silt Fence (SF)
Item No. 864S	Abbreviated Pavement Markings

<u>RELATED</u> CROSS REFERENCE MATERIALS

City of Austin Standard Specifications

<u>Designation</u>	<u>Description</u>
Item No. 206S	Asphalt Stabilized Base
Item No. 210S	Flexible Base
Item No. 301S	Asphalts, Oils and Emulsions
Item No. 306S	Prime Coat
Item No. 307S	Tack Coat
Item No. 310S	Emulsified Asphalt Treatment
Item No. 311S	Emulsified Asphalt Repaving
Item No. 312S	Seal Coat
Item No. 320S	Two Course Surface Treatment
Item No. 340S	Hot Mix Asphaltic Concrete Pavement
Item No. 341S	Paving Fabric
Item No. 350S	Heating, Scarifying and Repaving

Item No. 351S Recycling Agent

<u>RELATED</u> CROSS REFERENCE MATERIALS (Continued)
Specification Item 315S "Milling Asphaltic Concrete"

City of Austin Standard Details

<u>Designation</u>	<u>Description</u>
1000S-10	Local Street Sections
1000S-11(1)	Residential and Neighborhood collector Street Sections
1000S-11(2)	Industrial and Collector Street Sections
1000S-12(1)	Primary Collector Street Sections
1000S-12(2)	Primary Arterial Street Sections
1000S-13(1)	Minor Arterial Street Sections (4 Lanes)
1000S-13(2)	Minor Arterial Street Sections- (4 Lanes divided)
1000S-14	Major Arterial Street

Texas Department of Transportation: Standard Specifications for Construction
And Maintenance of Highways, Streets, and Bridges

<u>Designation</u>	<u>Description</u>
Item 300	Asphalts, Oils and Emulsions
Item 301	Asphalt Antistripping Agents
Item 310	Prime Coat (Cutback Asphaltic Materials)
Item 314	Emulsified Asphalt Treatment
Item 345	Asphalt Stabilized Base (Plant Mixed)
Item 354	Planing and/or Texturing Pavement