

STATE

(Rev. 1-1-15)
(Rev. 7-21-21)

OF**TENNESSEE**

January 1, 2021

SPECIAL PROVISION**REGARDING****RUBBLIZING CONCRETE PAVEMENT****Description**

This work consists of rubblizing and compacting portland cement concrete pavement in accordance with these specifications, the lines and grades shown on the plans or as directed by the Engineer.

Materials

Filler aggregate shall meet the requirements of **903.03** for Size No. 57 or Size No. 67.

Equipment

The rubblizing operation shall be performed with a self-contained, self-propelled resonant frequency breaking unit or multi-head breaker capable of rubblizing the pavement to the sizes specified. The unit shall be equipped with a water system to suppress dust generated by the rubblizing process. A screen shall be provided to protect vehicles in the adjacent lane from flying chips during the fracturing process if the deemed necessary.

The compaction shall be performed with a vibratory steel wheel roller having a nominal gross weight of not less than 10 tons when operated in the vibration mode and a pneumatic tire roller having a nominal gross weight of not less than 25 tons.

Construction Requirements

Prior to rubblization remove all existing asphalt pavement surfaces. Patch materials do not need to be removed. Remove any snowplowable or raised pavement markers.

At least 2 weeks prior to rubblization, the underdrain systems must be installed to allow the existing base to drain and dry out.

Full depth saw cut existing joints between the mainline pavement and ramp tapers, bridge approaches or other designated locations that are not to be disturbed to isolate the rubblized area.

The majority of the rubblized particles at the surface shall be 3 inches or less in greatest dimension. Any particles at the surface greater than 6 inches in greatest dimension shall be broken down further or removed and replaced with filler aggregate. The majority of rubblized particles shall be 9 inches or less in greatest dimension and all rubblized particles shall be 12 inches or less in greatest dimension. The Engineer may direct or allow larger maximum particle dimensions.

Before full production of rubblization, set up a test section to determine the proper speed and coverage required to rubblize the concrete pavement as specified and to demonstrate the equipment is capable of providing the specified particle size. The test section shall not exceed 500 feet in one travel lane. Excavate at least 2 full widths by 3 feet long, full depth sections at locations directed by the Engineer. At any time during rubblization, the Engineer may request verification sections be excavated to verify particle sizes are being met at no additional cost.

The test section shall also be used to determine the appropriate coverage of each roller in order to provide satisfactory seating and compaction of the rubblized materials. As a minimum, at least 2 passes with both the steel wheel and pneumatic tire roller shall be made. The roller speed shall not exceed 6 feet/sec (4 mph).

Once a sequence of operations has been established, this procedure shall be used for the remainder of the project unless field conditions reflect the need for modification.

The rubblizing pattern shall proceed in a longitudinal direction, beginning at a free edge (shoulder or previously rubblized edge) and progressing toward the opposite shoulder.

Any areas where the subgrade is found to be weak, or unsuitable, shall be repaired satisfactorily and all unsuitable materials shall be removed and replaced at no additional cost. Replace the rubblized concrete or place base materials meeting the requirements of **303**.

Any depressions, one inch or greater in depth from that of the immediate surrounding area, resulting from the rubblizing or compaction effort shall be filled with Size No. 57 or 67 aggregate and compacted as previously described.

Any reinforcement or dowels that are exposed as a result of the rubblization shall be cut off below the surface and removed.

Any damage to drainage structures, utilities, private property, or any existing structure due to rubblization methods and practices shall be repaired or replaced at no additional costs.

Except at restricted cross-over and ramp intersections, traffic will not be allowed on the rubblized pavement before the initial asphalt overlay course is in place. Crossover and ramp intersections shall be maintained in the same compacted state as other areas until the initial asphalt concrete is placed.

Placing of the first course of the bituminous pavement shall follow the rubblization operations as closely as is practicable and, in no case shall the broken pavement remain exposed more than 24 hours. In the event that this 24 hour requirement is exceeded, rubblization operations shall be suspended until all existing broken pavement is covered by at least one bituminous paving course. No more than 5,000 linear feet of pavement shall be broken ahead of this paving operation.

In the event of rain, the placement of the asphalt overlay will be prohibited until the rubblized surface has sufficiently dried as determined by the Engineer.

Remove all loose materials, assure the surface is smooth and uniform, and apply a heavy application of tack coat (0.15 gal/sy) prior to paving.

Method of Measurement

The Department will measure Rubblization of Concrete Pavement, as accepted complete in place by the square yard in accordance with **109**.

Basis of Payment

Item No.	Description	Unit
505-01	RUBBILIZATION OF CONCRETE PAVEMENT	SQUARE YARD

Such payment shall be full compensation for furnishing all labor, equipment, materials, and all incidentals necessary, including leveling materials, base materials, saw cutting, preparing and testing of test sections and verification sections, etc., to rubblize portland cement concrete pavement as specified.