

## **ITEM 10502.4469 M - REPAIR OF SPALLED AREAS IN PORTLAND CEMENT CONCRETE PAVEMENT**

### **DESCRIPTION**

This work shall consist of removing cracked, spalled or delaminated concrete and/or existing asphalt patches and overlays at spalled areas. The excavated area is to be cleaned and tack coated, and filled with asphalt concrete. This work shall be done at the locations and to the dimensions indicated on the plans or where directed by the engineer.

### **MATERIALS**

Asphalt Emulsion Tack Coat: 702-90

Hot Mix Asphalt: Superpave 9.5 mm F1, for design ESAL <0.3 million, as defined by Table 401-7.

### **CONSTRUCTION DETAILS**

The contractor shall schedule his work to insure that the removal and replacement at each location will be completed within the time allotted for closing traffic lanes found under the requirements for maintenance of traffic. The contractor shall square off the sides of the repair area with saw cut 25 mm deep minimum. Material shall be removed by a chipping hammer weighing not more than 18 kg or other means approved by the Engineer. The cutting device shall be capable of producing a finished depth of 75 mm  $\pm$  6 mm. The removal operation shall be performed in such a manner that the excavated area is immediately cleaned of all loose material and dust by means of high pressure air blasting, without producing objectionable dust. The contractor shall submit the suggested method of performing the cleaning operation for the Engineer's approval prior to commencing the work.

The final patch areas shall be determined by the Contractor with the concurrence of the Engineer or the Engineer's designated representative. The patch limits shall be extended beyond the determined area by 75 mm or as approved by the Engineer, to assure removal of all unsound concrete. However in no instance shall the smallest dimension be less than 300 mm. Portland cement concrete and/ or asphalt concrete patches which are loose, cracked, and/or delaminated adjacent to or in the spalled areas, joints and/or cracks shall be removed to 75 mm below the existing concrete pavement surface. If the depth of deterioration in the concrete pavement is greater than 75 mm, as determined by the Engineer, the spall repair will be converted by the Engineer to a full depth concrete pavement repair, and will be paid for appropriately. Payment for the work done to prepare the spall repair area to this point will be made under this item.

The excavated sides shall be vertical. All reinforcing, joint supports, etc. encountered during removal of deteriorated concrete shall be cut flush, removed and disposed of by

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the contractor. Also the base of the excavated spall repair shall be flush, no mounds or protrusions of any kind are to be left in place. All excavated material shall become the property of the Contractor and shall be disposed of in a manner approved by the Engineer. The excavated surface shall be cleaned of dust, dirt and loose material by means of high pressure air blasting, and dried.

Tack coat shall be applied immediately after the cleaning of the excavated surface. Complete coverage and uniform coating shall be obtained. The excavated surface is to be tack coated on the bottom and all vertical sides, and then filled with hot asphalt concrete. Tack coat or asphalt concrete repair shall be placed only when ambient and surface temperatures are above 7°C and exposed surfaces are dry, and with the express approval of the Engineer.

The asphalt concrete shall be placed and compacted in the prepared excavated spall area. Spalls that cross existing transverse joints shall be filled across the joint. In this instance new joints must be formed to match the existing transverse joint, in accordance with the details shown on the plans. The asphalt concrete shall be kept hot until placed, using insulated units or equivalent means. No asphalt concrete shall be placed if its temperature is below 120°C. The asphalt concrete shall be thoroughly compacted with a small vibratory roller approved by the Engineer. The asphalt concrete shall be overfilled slightly for proper compaction and to prevent bridging the roller. The resulting patch shall be dense, smooth and a minimum of 6 mm but no more than 10 mm above the existing surface.

After rolling the patch, the contractor shall apply a band of tack coat no more than 25 mm in width, around the perimeter of the patch area to seal the patch edges.

All saw cut overbites that occur during the preparation phase shall be cleaned properly, then sealed with an approved sealant material, to the satisfaction of the Engineer, at no additional cost to the State. Sealant shall be applied in such a manner as to fill the voids completely and meet the surface of the existing slabs.

### **METHOD OF MEASUREMENT**

The quantity to be measured under this item shall be the actual number of square meters of existing pavement repaired as specified.

### **BASIS OF PAYMENT**

The unit price bid per square meter shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including saw cutting, tack coat and asphalt concrete.