

## 600 INCIDENTALS

### ITEM 617 - RECONDITIONING SHOULDERS

**617.01 Description**

**617.02 Materials**

**617.03 Prosecution**

**617.04 Shoulder Preparation**

**617.05 Furnishing and Compacting Additional Aggregate**

**617.06 Method of Measurement**

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**617.01 Description.** This work shall consist of shoulder preparation, when specified, and the furnishing and compaction of additional aggregate on the existing or prepared shoulder. The work shall be in accordance with these specifications and in reasonably close conformity with the lines and typical sections shown on the plans or established by the Engineer.

**617.02 Materials.** Aggregate shall be crushed limestone, crushed slag, crushed gravel or other types of suitable materials meeting the requirements of this item and having the approval of the Director. In addition, open-hearth and basic-oxygen furnace slags shall conform to the stockpiling and aging requirements of 703.01. Shale shall not exceed 12 percent. Where the major portions of the material in a coarse aggregate, from a source on record at the Laboratory, has shown the characteristic of acquiring a mud-like condition when tested for soundness, it shall be tested for soundness and the maximum loss shall be 5 percent.

The fraction of these materials passing a No. 40 (425  $\mu$ m) sieve shall have a plasticity index of not more than six.

Where stability is critical adjacent to the pavement edge, a 90 percent crushed material shall be used (Type A); in less critical areas or where materials have performed satisfactorily, a 40 percent crushed material will be permitted (Type B).

All materials shall meet the following gradation.

<b>Sieve</b>	<b>Total Percent Passing</b>
1 inch (25 mm)	100
3/4 inch (19 mm)	60-100
3/8 inch (9.5 mm)	35-75
No. 4 (4.75 mm)	30-60
No. 30 (600 $\mu$ m)	9-33
No. 200 (75 $\mu$ m)	0-15

*The use of recycled asphalt concrete pavement (RACP) is not permitted.*

**617.03 Prosecution.** When this work is being performed in connection with a resurfacing project and where traffic is maintained, the placing of shoulder material shall be carried along with paving operation as rapidly as possible. All shoulder reconditioning shall be completed within four days following the placement of the surface course or any course which results in a drop-off of 2.0 inches (50 mm) or greater.

**617.04 Shoulder Preparation.** When shoulder preparation is specified, the existing surface shall be loosened to a depth of 1 to 2 inches (25 to 50 mm). If the surface is a bituminous mix or seal, this shall be cut along the edge of the pavement with a blade or disc to give a straight vertical edge. Pieces of loosened material which exceed approximately 1 1/2 inches (38 mm) inches in size shall be reduced to at least this maximum size or considered unsuitable material. Over size or other unsuitable material which would interfere with placing of aggregate shall be removed and disposed of in accordance with Item 203. The loosened material shall be reshaped as necessary to conform with the requirements for placing aggregate.

**617.05 Furnishing and Compacting Additional Aggregate.** Aggregate shall be spread with approved spreaders and shall not be dumped or stored on the pavement. Spilled aggregate shall be removed from the pavement as spreading progresses.

The initial compaction of the material shall be obtained by the use of crawler type tractors, tamping rollers, trench rollers, suitable pneumatic tire equipment or other suitable equipment approved by the Engineer. *Use compaction equipment weighing at least 6 tons (5.7 metric ton) and use a minimum of 4 total passes.* Final compaction of the surface of the shoulder shall be obtained by the use of approved pneumatic tire equipment. Compaction shall follow the spreading operation closely to prevent loss of contained moisture and displacement of the material.

When the surface stability of the aggregate cannot be obtained due to lack of fines, additional fines shall be added to the upper portion of the course in an amount sufficient to secure surface stability. In no case, however, shall the quantity of fines added be sufficient to increase the amount passing the No. 200 (75  $\mu$ m) sieve to more than 15 percent.

Water shall be applied as directed by the Engineer when required to aid compaction and to prevent segregation of the material.

**617.06 Method of Measurement.** The quantities measured shall be the number of square yards (square meters) of shoulder preparation including removal and disposal of unsuitable material; the number of cubic yards of aggregate compacted in place computed from plan lines; the number of M Gal. (1,000 gallons) (cubic meters) of water measured by means of meters or calibrated tanks.

Where the plans provide for the use of aggregate in a variable width or depth of course and the quantity cannot be readily calculated from plan lines, the volume shall be determined from by converting weight to cubic yards (cubic meters) in accordance with the following table:

	<b>lbs/yd<sup>3</sup></b>	<b>(kg/m<sup>3</sup>)</b>
Crushed Stone	3800	(2255)
Crushed Gravel	3900	(2315)
Crushed Slag, less than 90 lbs. per cu. ft. (1450 kg/m <sup>3</sup> )*	3600	(2140)
Crushed Slag, 90 to 100 lbs. per cu. ft. (1450 to 1600 kg/m <sup>3</sup> )*	4000	(2375)
Crushed Slag, more than 100 lbs. per cu. ft. (1600 kg/m <sup>3</sup> )*	4500	(2670)
Crushed Recycled Concrete	3400	(2020)

\* Based on average dry rodded weight of standard sizes of slag aggregates on record at the Laboratory.

Freight bills or certified weigh bills shall be furnished as provided in Section 109.

**617.07 Basis of Payment.** Payment for accepted quantities complete in place will be made at the contract price for:

<b>Item</b>	<b>Unit</b>	<b>Description</b>
617	Square Yard (Square Meter)	Shoulder Preparation
617	Cubic Yard (Cubic Meter)	Compacted Aggregate, Type ____
617	M Gallons (Cubic Meter)	Water