

506.1

**SECTION 506  
CONCRETE PAVEMENT REPAIR**

DELETE ENTIRE SECTION AND SUBSTITUTE THE FOLLOWING:

**506.1 - DESCRIPTION:**

This work shall consist of the removal and replacement of deteriorated concrete pavement and patches at locations as shown on plans or as specified by the Engineer.

**506.2 - MATERIALS:**

Materials shall meet the requirements of Division 501 or 601, and as follows:

**Joint sealer      708.3**

An accelerating admixture meeting the requirements of AASHTO M 194 may be used.

An approved epoxy grout shall be used to firmly anchor dowel bars in 30 minutes. Bond breaker material shall be supplied from approved sources.

**506.3 - PROPORTIONING:**

The concrete produced shall meet the requirements of 501, except that the design compressive strength for Special Concrete Pavement Repair shall be 2000 psi (13.8 Mpa) prior to opening traffic. When concrete is to be overlaid with asphalt the requirements of 601 may be substituted. The Contractor shall submit the mix proportions and recent test data for compressive strength at specified age for the concrete to be used.

**506.4 - TESTING:**

When the strength of concrete specimens representing the concrete placed indicate that the concrete has attained the design strength, that concrete represented by the specimens may be put into service.

**506.5 - CONDITIONING EXISTING SUBBASE:**

Prior to placing the concrete for the rigid replacement, any subbase material that is disturbed below the desired level of cleanout shall be removed and the patch area compacted to the satisfaction of the Engineer. The Contractor shall replace the removed subbase material with concrete integral to pavement replacement up to a maximum 1-inch (25 mm) depth. In event soft areas are encountered in the subbase or subgrade, the Engineer may require replacement of subbase and subgrade with 307001-\* subbase material and installation of underdrains. The cost of replacing the subbase and subgrade shall be paid for as item 506003-\*. The cost of installation and method of installation of underdrains shall be as per Section 606.

**506.6 - PLACING CONCRETE:**

The concrete shall be placed in the patch using a metal chute; the free fall shall not be more than 3 ft. (1 m.). If the concrete does not fall into its final position in the patch, it shall be moved by means of shovels; raking is prohibited. The concrete shall be worked with tampers, spades or other tools to completely fill the patch area. Maximum effort will be used to ensure that the area beneath the existing concrete pavement is completely filled, internal vibration will be used.

Following the placing of the concrete, the surface will be struck off to finished grade by means of an adjustable steel or wooden template and floated to a smooth finish.

**506.7 - CURING:**

In accordance with Section 501.14 where early opening to traffic is required, insulation mats may be used over the repairs during curing will be used to accelerate strength gain.

**506.8 - RIDE ACCEPTANCE:**

During finishing operations deviations in adjacent lanes which are also to be repaired shall not be transferred to the new construction. The Contractor shall furnish and use straightedges to check the surface tolerance. For patches 10 ft. (3 m) or more in length, a 10 ft. (3 m) straightedge shall be used. Shorter straightedges shall be used for patches less than 10 ft. (3 m) in length.

The minimum length straight edge shall be 6 ft. (1.8 m). Section 501.12.6 shall govern except the shorter straightedges shall be used for shorter patches. The concrete pavement should be finished to match existing texture.

Surface tests on patches shall be performed as follows:

As soon as the concrete has hardened sufficiently, the pavement surface shall be tested with a 10 ft. (3 m) straightedge. The straightedge shall be placed in successive positions parallel to the road centerline matching existing wheel paths. Areas showing high spots of more than  $\frac{1}{4}$  inch (6 mm), but not exceeding  $\frac{1}{2}$  inch (14 mm) in 10 ft. (3 m) shall be marked and ground down with an approved grinding tool to an elevation where the surface deviations will not be more than  $\frac{1}{4}$  inch (6 mm) in 10 ft. (3 m). Where the deviations exceeds  $\frac{1}{2}$  inch (14 mm), either high or low, the areas shall be removed and replaced at the discretion of the Engineer and at the Contractor's expense. All areas or sections so removed shall not be less than 6 ft. (1.8 m) in length nor less than full width of the traffic lane involved. Any remaining portion of the slab adjacent to the joints that is less than 6 ft. (1.8 m) in length shall also be removed and replaced. Where concrete repairs are made that are to be overlaid the smoothness criteria is waived for the concrete repair.

**506.9**

**506.9 - METHOD OF MEASUREMENT:**

The quantity of concrete pavement repair to be paid for will be the number of square yards (meters) complete in place and accepted.

**506.10 - BASIS OF PAYMENT:**

The quantity of special concrete pavement repair, determined as provided above, will be paid for at the contract unit price which shall constitute full compensation for the furnishing, hauling and placing of all materials, including admixtures, the removal and disposal of old concrete, all labor, tools, equipment, and incidentals necessary to complete the item.

**506.11 - PAY ITEM:**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>
506001-*	CONCRETE PAVEMENT REPAIR	SQUARE YARD (METER)
506003-*	REMOVE AND REPLACE EXISTING AGGREGATE BASE COURSE	CUBIC YARD (METER)

\* Sequence Number