* USE IN CONJUNCTION WITH STORED SPECIFICATION 1011JMAT *

(401PCCP, 07/01/14)

SECTION 401 PORTLAND CEMENT CONCRETE PAVEMENT:

401-1 Description: of the Standard Specifications is revised to read:

The work under this section shall consist of furnishing all materials and constructing a pavement surface using Portland cement concrete and shall include coring operations, furnishing and placing dowels and tie bars, furnishing and placing miscellaneous reinforcing steel and joint materials, and constructing joints in accordance with the details shown on the plans and the requirements of the specifications.

The contractor shall proportion, mix, place, finish, and cure concrete in accordance with the requirements of the specifications.

401-3.01 General: of the Standard Specifications is modified to add:

Use of 3-D Machine Control PCC Paving (wireless) shall require the contractor to submit the type of vertical and horizontal control (any combination of Global Positioning System (GPS), total stations, and/or laser), and the proposed equipment and daily calibration plan with the paving plan submittal. At least 10 days prior to paving, the contractor shall provide the Engineer with eight hours of formal training on the equipment proposed by the contractor to be utilized for 3-D Machine Control PCC paving.

401-3.03(A) General: of the Standard Specifications is modified to add:

If 3-D Machine Control PCC Paving (wireless) is utilized, the contractor shall stake for vertical and horizontal control on each side of the roadway at 50-foot intervals and at grade breaks, as specified elsewhere herein, for three days of production or a minimum distance of 2,500 feet, whichever is greater, for verification. Once verification of 3-D Machine Control PCC Paving (wireless) has been accepted by the Engineer, staking for horizontal and vertical control shall identify all points of curve (P.C.), points of tangent (P.T.), and other alignment changes, and shall be at intervals of not less than 100 feet on curves and 200 feet on tangents, unless otherwise specified by the Engineer. In no case shall intervals exceed 1000 feet.

401-3.03(B) Slip-Form Method: the first and second paragraphs of the Standard Specifications are revised to read:

The contractor shall set taut guide lines to control both line and grade, or develop a 3-D slope model if 3-D Machine Control PCC Paving (wireless) is utilized.

Slip-form equipment shall be equipped with automatic sensing and control devices and shall operate such that the machine automatically follows the guide line (wire) or the 3-D slope model if 3-D Machine Control PCC Paving (wireless) is utilized. The contractor shall provide electronic data from the 3-D slope model in a format acceptable to the Engineer for approval

10 days prior to paving. The contractor shall check and recalibrate the 3-D Machine Control system every day that paving will be performed.

401-3.05(C) Transverse Joints: the last paragraph of the Standard Specifications is revised to read:

The location of transverse weakened plane joints shall be as shown on the plans. The spacing of the last four transverse weakened plane joints for each day's production may be adjusted 1 foot plus or minus.

401-3.06(A) Sawed Joints: the seventh and eighth paragraphs of the Standard Specifications are revised to read:

After sawing, the joints shall be sealed in accordance with the following:

(1) Prior to applying the sealant, each joint face shall be thoroughly cleaned. The method of cleaning may be subject to regulation by state or local environmental quality enforcement agencies. When not otherwise mandated by law or regulation, the contractor shall clean the joints by sand blasting. The joints shall then be further cleaned by use of high pressure air jets so that each face is clean, dry, and dust free. The air used in cleaning shall be free of oil and water.

(2) Asphalt-rubber joint sealant conforming to Subsection 1011-3 shall be used when Portland cement concrete pavement is overlaid with an asphaltic concrete (asphalt-rubber) friction course. Silicone joint sealant conforming to the requirements of Subsection 1011-8 shall be used when Portland cement concrete pavement is not overlaid with an asphaltic concrete (asphalt-rubber) friction course. Both types of sealant shall be applied in accordance with the manufacturer's recommendations.

(3) All recommended manufacturer's field testing shall be done by the Engineer. Necessary repairs resulting from field testing shall be immediately repaired by the contractor at no additional cost to the Department. Any sealant spilled on the concrete pavement shall be removed.

(4) Immediately prior to applying silicone joint sealant, an expanded closed cell polyethylene foam backer rod, approved by the Engineer shall be inserted along the joint as shown on the plans. The backer rod shall be compatible with the joint sealant to be applied, and its diameter shall be at least 25 percent larger than the nominal width of the sawed joint.

Joints shall be sealed within 10 working days after the concrete has been placed and prior to opening the pavement to any traffic.

401-4.04 Pavement Thickness: of the Standard Specifications is revised to read:

Concrete pavement shall be constructed to the specified thickness. Tolerances allowed for base and subgrade construction and other provisions of the specifications which may affect thickness shall not be construed to modify such thickness requirements.

Pavement will be evaluated for thickness by the lot. A thickness lot shall not contain more than one thickness depth and will normally be one full shift's production. For partial shifts, more than one shift may be included in a thickness lot. In addition, when more than one thickness depth is placed in the same shift, each individual thickness depth placed in that shift may be combined with portions of other shifts that have the same thickness depth to form a thickness lot. When a thickness lot includes more than one shift's production, it shall not exceed 5,000 square yards unless otherwise approved by the Engineer. The contractor shall submit a thickness lot layout plan to the Engineer for approval prior to paving.

The contractor shall obtain ten cores per lot, in accordance with Arizona Test Method 317, under the observation of an ADOT representative, and at randomly selected locations designated by the Engineer. However, the Engineer may exclude certain locations from random sampling should the Engineer determine that the location of the work precludes normal construction operations. The ADOT representative shall take immediate custody of the cores. All cores will be measured by the Department in accordance with the provisions of AASHTO T 148, except that individual measurements on each core will be determined to the nearest thousandth of an inch, and the average of such measurements will be determined to the nearest hundredth of an inch. If any core indicates a deficiency of 0.60 inches or more from the specified thickness, that core shall not be used for determining the thickness property of the lot, and additional cores shall be drilled at intervals not exceeding 10 feet in each direction from the deficient core location, measured parallel to the center line, until one core is obtained in each direction which is not deficient by 0.60 inches or more. Pavement between these two cores shall be considered as rejected. The average of the measurements of the two cores will replace the measurement of the original deficient core in determining the thickness property of the lot.

At all locations where cores have been drilled, the resulting holes shall be filled with concrete as approved by the Engineer and at no additional cost to the Department.

401-6 **Basis of Payment:** the second sentence of the fourth paragraph of the Standard Specifications is revised to read:

Lot limits for thickness are described in Subsection 401-4.04. Lot limits for compressive strength are described in Subsection 1006-7.03(C).