

**STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENTAL SPECIFICATION 880  
ASPHALT CONCRETE WITH WARRANTY**

**April 18, 2008**

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**880.01 General.** This work consists of constructing one or more courses of asphalt concrete mixed in a central plant and spread and compacted on a prepared surface in accordance with these specifications and in reasonably close conformity with the lines, grades and typical sections shown on the plans or established by the Engineer. Warrant the asphalt concrete for seven years.

**880.02 Maintenance Bond.** Furnish a maintenance bond for a seven year period in an amount equal to 30 percent of the total amount bid for Item 880 with the performance and payment bonds specified in 103.05.

Ensure the Surety that underwrites the maintenance bond has an A.M. Best rating of “A-” or better. Include the cost of the maintenance bond in the pay item for the premium for the contract performance and payment bonds.

The effective date of the maintenance bond is the date the Department’s Form C-85 is issued for the pavement. The Department will issue a final C-85 within 30 days after all of the pavement items, including all safety items, are completed and accepted and the pavement is open to traffic. The Department will issue a partial C-85 within 30 days after the pavement is completed, either with or without surface course, accepted, and all safety items are in place to allow the pavement to be safely open to traffic during the winter months from December 1 to April 30. The Department will issue no more than one C-85 each calendar year except with approval of the Director.

After the final or partial Form C-85 is issued, the Department will notify the Surety. After the final Form C-85 is issued, the Department will also establish all final quantities for the project and the project will be finalized using standard procedures. The maintenance bond expires seven years after the issuance of Form C-85.

Maintain the liability insurance specified in 107.12, insuring against Contractor or Contractor authorized operations negligently performed during the warranty period. Ensure the insurance is in effect throughout the warranty period. Send a copy of the Certificate of Insurance to the District each year.

**880.03 Warranty Item Coverage.** Warranty items and Remedial Actions are specified in Table A. The warranty applies to all Item 880 pavement including, but not limited to, the mainline pavement lanes, shoulders, accelerations/decelerations lanes, collector/distributors and ramps. Construct shoulders using the same asphalt concrete mixture and construction procedures as the mainline and ramps. The warranty does not apply to structural problems below the pavement placed as part of this project, provided the structural problem is not the fault of the Contractor. The Threshold Levels are based on the 0.1 mile (160 m) Segments described in 880.05.

Do not construe meeting the minimum requirements and guidelines of this specification as a warranty, expressed or implied, as to the material properties and workmanship efforts required to meet the performance criteria set forth in Table A.

The Design Designation in the plan is an indication of the level of traffic expected on this project. Design information, criteria, and calculations are on file with the Department. The Department will waive the warranty requirements of a Section if the cumulative number of Equivalent 18,000 pound Single Axle Loads (ESAL's), calculated using current information and established Department procedures, exceeds the design calculated ESAL's, prorated for the period of years specified in the pay item, by 20 percent or more.

**880.04 Mix Design and Materials.** Provide a mix design and materials conforming to the following minimum requirements:

A. Meet or exceed the quality requirements of 703.05 for virgin aggregate used in the top 3.0 inches (75 mm). Meet or exceed the quality requirements of 703.04 for virgin aggregate below the top 3.0 inches (75 mm).

B. If the Design Designation indicates the current year's trucks to be greater than or equal to 1500, the maximum recycled asphalt pavement that may be used in the surface course is 10 percent. Below the surface course to 3.0 inches (75 mm), a maximum of 30 percent recycled pavement may be used in the mix provided the virgin binder content is not less than 3.4 percent.

If the Design Designation indicates the current year trucks are less than 1500, the maximum recycled asphalt pavement that may be used in the top 3.0 inches (75 mm) is 30 percent provided the virgin binder content is not less than 3.4 percent.

Limit recycled asphalt pavement to reclaimed asphalt concrete pavement obtained from either a Department or Ohio Turnpike Commission project.

C. Meet or exceed the PG 70-22M requirements of 702.01 for asphalt binders used in the top 3 inches (75 mm) of the pavement if the Design Designation indicates the current year trucks are greater than or equal to 1500. Meet or exceed the PG 64-22 requirements of 702.01 if the Design Designation indicates the current year trucks are less than 1500. The Contractor is responsible for other considerations, such as high stress areas.

D. Meet or exceed the aggregate and mineral filler requirements of 703.04 and 703.07 for all of the material placed below the top 4.0 inches (100 mm) if the specified thickness for Item 880

is equal to or greater than 8.0 inches (200 mm), and meet the gradation requirements of 301 or 302 and the remaining requirements of 302.02.

The Laboratory will verify that the mix design and materials meet the above minimum requirements. Before the start of production, submit a material quality control plan and job mix formula (JMF) to the District Engineer of Tests and the Laboratory. Submit any changes made to the JMF during production. Include in the JMF submittal, at a minimum, volumetric data of mix components. There are no minimum requirements for the material quality control plan, other than it must be submitted. These submittals are for establishing the conversion factor used in 880.09 and verification of the above minimum requirements.

**Job Mix Formula.** Do not co-mingle multiple JMFs in the asphalt paver.

**Tack Coat.** Determine the need and type of tack coat to use on the existing pavement or between pavement layers. Include the cost of any tack coat in the cost for this item.

**Surface Tolerances.** Ensure the completed surface course meets 401.19, unless the surface tolerance requirements for pavement are modified elsewhere in the contract documents for this project.

**Notification.** Notify the Engineer a minimum of 24 hours prior to paving. Notify the Engineer a minimum of 24 hours prior to resuming paving if there is no paving for one week.

**880.05 Annual Review Process.** The project will be divided into 1 mile (1600 m) Sections. The width of each Section will be the width of a single lane or shoulder. Each Section will be divided into 0.1 mile (160 m) Segments.

Each year, between March 1 and April 30, the project will be reviewed by a District Review Team (DRT). This date period may be revised by mutual agreement of the Department and Contractor. The DRT will notify the Contractor of the scheduled review. The Contractor or any other interested party may attend the annual review, for observation only. Any comments by the Contractor or other interested party will be recorded by the DRT. The DRT will select at least two Segments in each Section to review, but may review the entire Section. The Department will issue the results in writing to the Contractor within 15 days after completion of the review.

The District Deputy Director may waive this yearly review for all or part of the project based on the results of a preliminary review by a member of the DRT. Any such waiver will be in writing to the Contractor.

**880.06 Remedial Actions.** The intent of this contract is for the Contractor to provide a maintenance free pavement. If performing routine maintenance during the warranty period, limit this routine maintenance to routing and sealing the pavement with Type 1 crack seal in accordance with Item 423 or other repairs authorized by the Department.

Provide construction traffic control when performing any work required or allowed by this specification during the warranty period in accordance with current Department policy and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways. Obtain Department approval for the time the work will be performed. Any major change in Department construction

traffic control policy from the time of bid will be considered a changed condition.

Supply all materials, equipment, and labor to perform Remedial Actions at no additional cost to the Department. Obtain approval from the Engineer for asphalt concrete used for Remedial Action work or replacement of sampled areas (See Table A Note 5). The Engineer will take into account the Department's design criteria for the pavement type. The depth of a repair area may be increased by the Engineer to allow for the size of aggregate in the asphalt concrete. The Engineer may approve alternatives to the extent or type of specified Remedial Action.

Replace pavement markings or raised pavement markers (RPM) removed or obliterated while performing a Remedial Action with pavement markings or RPMs equal to or better than the original products at no cost to the Department.

Perform all Remedial Actions, except crack sealing, on or before September 30. Perform crack sealing between October 1 and November 15. If an appeal process goes to Step 3, the District may revise the date for completion of the Remedial Action for the appealed item. Prior to performing a Remedial Action, submit a Remedial Action plan to the Engineer for approval. State in the plan when and how the Remedial Action will be performed; what material will be used; and how traffic will be controlled. Warrant Remedial Action work for the remainder of the warranty period.

The Department will perform emergency work, repairing pavement distresses which are hazardous to the traveling public. If the emergency work is extensive, the Department may authorize the Contractor to perform the repairs. The District Construction Engineer (DCE) will determine if the distress is or is not the responsibility of the Contractor. If the DCE determines the distress is the responsibility of the Contractor, the cost, including construction traffic control, of emergency work performed by the Department will be charged to the Contractor. If the DCE determines the distress is not the responsibility of the Contractor, the Department will pay for Contractor performed repairs according to 109.05. The Contractor is not responsible for pavement damage beyond the Contractor's control (i.e., car fire, oil spill, etc.). The DCE's determination may be appealed in accordance with 880.07.

**880.07 Appeal Process.** Findings of the DRT may be appealed. Submit any appeal to the DCE, in writing, within 15 days after receipt of the written results of the DRT. If the results include Rutting beyond the Threshold Level, the submission time limit is changed to 15 days after removing the slabs (See Table A Note 5) for a dispute over Rutting only.

The DCE will evaluate appeals. This evaluation will include reviewing the disputed area in the field and consulting with the Office of Construction Administration. The evaluation may also include reviewing test data, obtaining samples, or interviewing Department (District or Central Office) or Contractor employees. The DCE's determination will be issued in writing to the Contractor within 45 days after the DCE receives the appeal.

If in disagreement with the DCE's determination, appeal the determination using Step 3 of Proposal Note 109 Dispute Resolution and Administrative Claim Process.

**880.08 Method of Measurement.** The Department will use 401.21 for measurement. The Laboratory will establish the conversion factor.

**880.09 Basis of Payment.** The requirements of 401.20 and 401.22 apply. The Department will not pay for materials, equipment, or labor required to perform Remedial Actions or routine maintenance. The Department will pay for accepted quantities, completed in place, at the contract prices as follows:

<b>Item</b>	<b>Unit</b>	<b>Description</b>
880	Cubic yard (cubic meter)	Asphalt concrete (7 year warranty)

**TABLE A – WARRANTY ITEMS AND REMEDIAL ACTIONS**

<b>Distress Type</b>	<b>Threshold Level (per Segment) (allowable distress levels)</b>	<b>Remedial Action</b>
<b>Cracking (1)</b>	500 feet (150 m) of cracks which average over 0.25 inch (6 mm) width	(6)
<b>Disintegrated Area (2)</b>	None	(7)
<b>Flushing</b>	125 square feet (12 square meters)	(8)
<b>Previous Patching (3)</b>	300 square feet (28 square meters)	(9)
<b>Rutting (4) (5)</b>	0.375 inch (9.5 mm)	(7)

- (1) This applies to all cracks, except longitudinal cracks above the interface of a rigid base pavement and a flexible pavement. The width of multiple cracks in a 1 foot (300 mm) wide area is totaled to determine the width of the crack.
- (2) This includes all types of disintegration, including, but not limited to, mix delamination, potholes, and raveling. This includes any type of disintegration that occurs at a joint or crack.
- (3) Previous Patches consist of Remedial Actions made by the Contractor or patches made by the Department in distressed areas that were determined to be the Contractor’s responsibility. An area of multiple patches is calculated as the width of the lane times the length of the patched area.
- (4) For ramps the Threshold Level is 0.375 inch (9.5 mm), unless the pavement depth tapers down to an exit ramp terminus, then the 200 feet (60 meters) before the exit ramp terminus is waived.
- (5) Measure the wheel path with a 4 foot (1.2 m) straight edge at 6 locations in a Segment. If one measurement exceeds the Threshold Level, the entire Segment will be measured at 50 foot (15 m) intervals for each wheel path. Remedial Action is required if six or more measurements exceed the Threshold Level.  
To determine the depth of the distressed area, cut 1 foot (0.3 m) longitudinal by 4 foot (1.2 m) transverse slabs to a depth necessary to determine the depth of the distress at a maximum of three locations determined by the DRT. The slabs will be retained for possible use in any appeal process. If it is determined the rutting is not the Contractor’s responsibility, the cost of slab removal and replacement, including construction traffic control, will be paid by the Department according to 109.05. Remove slabs within 30 days after receiving the results of the yearly review.
- (6) Rout out and seal all cracks in the Section with Type 1 crack seal in according to Item 423 for cracks less than or equal to 0.75 inches (19 mm). Follow Note 7 of Remedial Actions for cracks greater than 0.75 inches (19 mm) wide or multiple cracks in a 1 foot (300 mm) wide area. Follow Note 8 of Remedial Actions if there are more than 1000 feet (300 m) of cracks or routed and sealed cracks.
- (7) Remove and replace the distressed area to the depth needed to repair the distressed area.
- (8) Remove and replace the lane width of the distressed area to a depth of 1.5 inches (38 mm).
- (9) Remove and replace the lane width to a minimum depth of 1.5 inches (38 mm), from the end of the first down station Segment with no patches to the beginning of the first up station Segment with no patches.

**Designer Note:**

Use with the 2008 C&MS. Use this Warranty Supplemental Specification in accordance with the guidelines in the Innovative Contracting Manual.