

**STATE OF OHIO**  
**DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENTAL SPECIFICATION 894**

**HIGH PERFORMANCE CONCRETE FOR NEW BRIDGE DECKS WITH  
WARRANTY**

**April 15, 2005**

**894.01 General**

**894.02 Maintenance Bond**

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**894.01 General.** This item consists of furnishing and placing High Performance concrete for new bridge decks in conformance with Item 511 except as modified herein. This work also consists of warranting the structural bridge deck concrete for items listed in 894.03 and Appendix A for a period of Two (2) years.

**894.02 Maintenance Bond.** When the successful Bidder provides the Department with the performance and payment bonds specified in 103.05, the successful Bidder shall also furnish a maintenance bond for the period of years specified herein in the amount of 50 percent of the total price bid for the Item 894 High Performance Concrete For Bridge Deck With Warranty.

The Surety that underwrites the maintenance bond is required to have 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 bond and the payment bond.

The effective date of the maintenance bond is the date the Department's Form C-85 is issued for the structure. The Department will issue Form C-85 for the structure within 30 days of completion of all pavement items, including all markings, and the bridge deck is open to traffic in its permanent pattern. After Form C-85 is issued, the Department will notify the Surety, will establish all final quantities for the project and will finalize the project using standard procedures. The maintenance bond expires after the period of years specified in the pay item from 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. This

insurance shall be in effect throughout the warranty period. Send a copy of the Certificate of Insurance to the District each year.

**894.03 Warranty Items Coverage.** Warranty items are listed in Appendix A. The warranty applies to the entire bridge deck

Meeting the minimum requirements and guidelines of the applicable specification are not to be construed as a warranty, expressed or implied, as to the materials properties and workmanship efforts required to meet the performance criteria.

The intent of this contract is for the Contractor to provide a maintenance free bridge deck. The Contractor may perform routine maintenance during the warranty period.

**894.04 Traffic Control.** Provide traffic control for any corrective work. The Contractor's traffic control plan for performing any work required by this specification during the warranty period shall be in accordance with current Department policy, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways. Submit this traffic control plan to the District Construction Engineer (DCE) for approval before any work is performed. The Department will consider any major change in the Department's construction traffic control policy or the Manual of Uniform Traffic Control Devices for Streets and Highways, from that in affect at the time the project bid, as a changed condition.

**894.05 Annual Review Process.** At least two reviews performed by a District Review Team (DRT) are required under this warranty specification.

1. At 1 year, a review for alligator or map cracking.
2. Final review, one month before the end of the warranty period, a review for scaling and spalling only.

Provide the DRT with equipment as necessary. The Department will provide traffic control for the inspection. The Contractor or any other interested party may attend the review, for observation only. The DRT will determine if thresholds are exceeded as defined in Appendix A and define those areas. Within 15 calendar days after the completion of the review, the Department will issue the results in writing to the Contractor.

**894.06 Remedial Action.** Remedial Actions are listed in Appendix A.

Obtain the Engineer's approval for all materials used for Remedial Action work.

Replace any pavement markings or raised pavement markers (RPM) removed or damaged 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 on or before November 15 or the time limits within the remedial action requirements. Prior to performing any Remedial Action, submit a Remedial Action plan to the Engineer for approval. This plan shall state when and how the Remedial Action will be done and what material will be used. Warrant the Remedial Action work for the remainder of the warranty period.

If the Department performs emergency work to repair deck distresses hazardous to the traveling public, the Contractor is responsible for the cost of the remedial work required to correct the distress, including traffic control. The Contractor is not responsible for bridge deck damage beyond the Contractor's control (i.e., car fire, etc.).

**894.07 Appeal Process.** The Contractor may appeal the findings of the DRT. Submit any appeal to the DCE, in writing, within fifteen (15) calendar days after the Engineer has given the written results to the Contractor.

The DCE will evaluate the Contractor's appeal. Within forty-five (45) calendar days after receiving the Contractor's appeal, the DCE will inform the contractor, in writing, of his determination.

If the Contractor disagrees with the DCE's determination, the Contractor may appeal the determination beginning with Step 3 of the Proposal Note entitled Dispute Resolution and Administrative Claim Process.

**894.08 Method of Measurement.** The Department will measure deck concrete by the number of cubic yards (cubic meters) or by the number of square yards (square meters). The Department will determine the number of cubic yards (cubic meters) by calculations from plan dimensions, in place, completed and accepted. The Department will determine the area of concrete by calculations from plan dimensions, in place, completed and accepted.

The Department will not make deductions for the volume of the reinforcing steel, conduits or structural steel other than beam flanges embedded in deck slabs.

**894.09 Basis of Payment.** The Department will pay for accepted quantities at the contract price as follows:

<b>Item</b>	<b>Unit</b>	<b>Description</b>
894	Cubic yard (cubic meter), with Warranty square yard (square meter)	High Performance Concrete, for Bridge Deck

### Appendix A

<b>Distress Type</b>	<b>Threshold Level (per segment)</b>	<b>Remedial Action</b>
<b>Deck Scaling</b> (Minor)	Less than 1/4" but greater than 1/8" in first two years of warranty (1) (2) and no more than 20% of the individual bridge deck surface area	Grind defective area; saw cut transverse grooves; seal surface with a non-epoxy sealer as per Item 512.
<b>Deck Scaling</b> (Intermediate)	Greater than 1/4" in first two years of warranty (1) (2)	Diamond saw the perimeter 1 inch deep then use hydro demolition to 1" deep; remove scaled area greater than 1/4"; and patch with a nominal 1" inlay of either latex modified concrete or micro silica modified concrete as per SS 848. Seal the edge of the patches with High Molecular Weight Methacrylate Resin as per Item 512.
<b>Deck Scaling</b> (Major)	Total Scaling is more than 20% of the individual bridge deck surface area	Hydro demolition total deck 1" deep and place nominal 1" inlay with either latex modified concrete or micro silica modified concrete as per SS 848.
<b>Spalling</b> (Minor)	One area less than 32 square yards of deck surface area (1) (2)	Diamond saw the perimeter 1 inch deep; patch with either latex modified concrete or micro silica modified concrete as per SS 848. Seal the edge of the patches with High Molecular Weight Methacrylate Resin as per Item 512.
<b>Spalling</b> (Major)	More than one area or one area greater than 32 square yards of deck surface area (1) (2)	Hydro demolition total deck 1" deep; place a nominal 1" inlay with either latex modified concrete or micro silica modified concrete as per SS 848.
<b>Cracking</b> (Minor)(Alligator or Map cracking)	0% to 20% of deck surface 1 year from initiation of warranty period	Application of High Molecular Weight Methacrylate Resin as per Item 512 to the crack areas
<b>Cracking</b> (Major)(Alligator or Map cracking)	Greater than 20% of deck surface in 1 year from initiation of warranty period.	Hydro demolition total deck 1" deep and place nominal 1" inlay with either latex modified concrete or micro silica modified concrete as per SS 848.
<p>(1) If conditions are found earlier than two years the Department will require the Contractor to perform remedial actions.</p> <p>(2) Threshold level also applies for the total warranty period of 2 years.</p>		