

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**PAVEMENT PERFORMANCE WARRANTY
ONE COURSE HOT MIX ASPHALT OVERLAY
(Capital Preventive Maintenance)**

C&T:KPK

1 of 10

C&T:APPR:CJB:JWB:03-29-05
FHWA:APPR:08-08-05

a. Description. The pavement performance warranty shall consist of satisfying the warranty requirements of the work contained in the appendices. This special provision establishes the common terms and definitions applied to the pavement requiring warranted work. The Pavement Performance Warranty assures and protects the Department from specific defects found in the pavement.

b. Definitions.

1. Acceptance Date of Warranted Work - The date when the warranted work is complete and has been determined by the Department to be in compliance with the contract specifications and is continuously open to traffic. This is the date of initial acceptance and constitutes the start date for the warranty period. There may be more than one acceptance date of warranted work for a project.
2. Warranty Bond - A bond issued by a surety which guarantees that the warranty requirements will be met.
3. Warranty Lane(s) - The portion of the pavement considered warranted work. Each of the following is considered a separate warranty lane.
 - Each individual mainline lane, adjacent shoulder and adjacent approach
 - The sum of all ramp lanes and the associated acceleration/deceleration lanes and adjacent shoulders
 - The sum of all auxiliary lanes, such as passing lanes and turn lanes

Driveways are not considered warranty lanes for the purpose of this provision.

4. Warranted Work- Work that is guaranteed to meet the warranty requirements throughout the warranty period.
5. Warranty Work - Corrective action taken by the Contractor to bring the warranted work into contract compliance. All costs will be borne by the Contractor including traffic control, mobilization, pavement marking and/or other work.

c. Initial Acceptance. The Department and the Contractor shall jointly review all completed warranted work, or a portion thereof, as determined by the Department. If the work does not meet contract requirements, the Contractor shall make all necessary corrections, at their expense, prior to initial acceptance. Initial acceptance will occur as soon as the Department determines that all contract requirements have been met for the warranted work. The date on which initial acceptance occurs is termed the Acceptance Date of Warranted Work.

Initial acceptance will be documented and executed jointly by the Department and the Contractor on a form furnished by the Department. A copy of the form will be sent to the Contractor's warranty bond surety agent by the Department. Neither the initial acceptance, nor any prior inspection, acceptance or approval by the Department diminishes the Contractor's responsibility under this warranty.

The Department may accept the work and begin the warranty period, excluding any area needing corrective work, to accommodate seasonal limitations or staged construction.

d. Warranty Bond. The Contractor shall furnish a single term warranty bond, in an amount stipulated in the appendix, prior to contract award. The effective starting date of the warranty bond shall be the Acceptance Date of Warranted Work. The warranty bond will be released at the end of the warranty period or after all warranty work has been satisfactorily completed, whichever is latest.

e. Rights and Responsibilities of the Department. The Department:

1. Reserves the right to approve the time, traffic control and methods for performing any warranty work by permit through the Region utilities and permit process.
2. Reserves the right to approve the schedule proposed by the Contractor to perform warranty work.
3. Reserves the right to approve all materials and specifications used in warranty work.
4. Reserves the right to determine if warranty work performed by the Contractor meets the contract specifications.
5. Reserves the right to perform, or have performed, routine maintenance during the warranty period, which routine maintenance will not diminish the Contractor's responsibility under the warranty.
6. Reserves the right, if the Contractor is unable, to make immediate emergency repairs to the pavement to prevent an unsafe road condition caused by defective warranted work as determined by the Department. The department will attempt to notify the contractor that action is required to address an unsafe condition. The Department will record the time and date of attempts for Contractor Notification. However, should the contractor be unable to comply with this requirement, to the Department's satisfaction and within the time frame required by the Department, the Department will perform, or have performed any emergency repairs deemed necessary. Any such emergency repairs undertaken will not relieve the contractor from meeting the warranty requirements of this Special Provision. Any costs associated with the emergency repairs will be paid by the Contractor.

7. Is responsible for monitoring the pavement throughout the warranty period and will provide the Contractor all written reports of the surface treatment's condition and/or maintenance activities related to pavement performance when requested.
8. Is responsible for notifying the Contractor, in writing, of any corrective action required to meet the warranty requirements.

f. Rights and Responsibilities of the Contractor. The Contractor:

1. Shall warrant to the Department that the warranted work will be free of defects as measured by the performance parameters and specified threshold values for each. The warranty bond shall be described on a form furnished by the Department. The completed form shall be submitted to the Department prior to award of contract.
2. Is responsible for performing all warranty work including, but not limited to, maintaining traffic and restoring all associated pavement features, at the Contractor's expense.
3. Is responsible for performing all temporary or emergency repairs, resulting from being in non-compliance with the warranty requirements, using Department approved materials and methods.
4. Shall notify the Department and submit a written course of action for performing the needed warranty work a minimum of ten calendar days prior to commencement of warranty work, except in the case of emergency repairs as detailed in this special provision. The submittal must propose a schedule for performing the warranty work and the materials and methods to be used.
5. Shall follow a Department approved maintaining traffic plan when performing warranty work. All warranty work shall be performed under permit issued by the Region Utilities & Permits Engineer. The permit fee and an individual permit performance bond shall not be required. The permit insurance requirements, however, shall apply.
6. May be responsible for reimbursing the Department a portion of any incentive payments paid to the Contractor for early completion of the original work. Reimbursements will be required if the proposed maintaining traffic plan for corrective action requires lane closures during peak hour traffic. Peak hours will be determined by the Region Traffic and Safety Engineer. The daily reimbursement amount shall not exceed twenty five percent of the original daily earned incentive payment. The Department shall determine the actual percentage on a project by project basis.
7. Shall furnish to the Department, in addition to the regular performance and lien bond for the contract, supplemental performance and lien bonds covering any warranty work being performed. These supplemental bonds shall be furnished prior to beginning any warranty work, using Department approved forms. These supplemental bonds shall be in the amount required by the Department to cover the costs of warranty work.
8. Shall complete all warranty work prior to conclusion of the warranty period, or as otherwise agreed to by the Department.

9. Shall be liable during the warranty period in the same manner as Contractors currently are liable for their construction related activities with the Department pursuant to the Standard Specifications for Construction, including, but not limited to subsections 103.06, 107.10 and 107.11. This liability shall arise and continue only during the period when the Contractor is performing warranty work. This liability is in addition to the Contractor performing and/or paying for any required warranty work, and shall include liability for injuries and/ or damages and any expenses resulting therefrom which are not attributable to normal wear and tear of traffic and weather, but are due to non-compliant materials, faulty workmanship, and to the operations of the Contractor as set forth more fully in subsections 103.06, 107.10 and 107.11 of the Standard Specifications for Construction.

g. Evaluation Method. The Department will conduct pavement evaluations by dividing the project into segments. Each individual warranty lane will be divided into segments of 528 feet (1/10 mile) in length for measuring and quantifying the condition parameters. Evaluation will include use of both the Department's Pavement Management System and/or field pavement condition reviews. This evaluation may be waived in emergency situations.

The beginning point for laying out segments will be the Point of Beginning (POB) of the project. Segments will be laid out consecutively to the Point of Ending (POE) of the project. The original segmentation of the project will be used for all successive reviews throughout the warranty period.

h. Warranty Requirements. Warranty work will be required when the following two criteria are met as a result of a failure to meet the performance parameters.

Criterion 1 -The threshold limit for a performance parameter is exceeded, and

Criterion 2 - The maximum allowable number of defective segments is exceeded for one or more condition parameters for a warranty lane, unless otherwise noted in the appendices.

Specific threshold limits and segment limits are covered in the appendix.

During the warranty period, the Contractor will not be held responsible for pavement distresses that are caused by factors beyond his control. These include, but are not limited to: chemical and fuel spills, vehicle fires, snow plowing, and testing by the Department, such as coring. Other factors considered to be beyond the control of the Contractor which may contribute to pavement distress will be considered by the Engineer on a case by case basis upon receipt of a written request from the Contractor.

i. Conflict Resolution Team. The sole responsibility of the Conflict Resolution Team (CRT) is to provide a decision on disputes between the Department and the Contractor regarding application or fulfillment of the warranty requirements. The CRT will consist of five members:

- Two members selected, and compensated by the Department.
- Two members selected and compensated by the Contractor.
- One member mutually selected by the Department and the Contractor. Compensation for the third party member will be equally shared by the Department and the Contractor.

If a dispute arises on the application or fulfillment of the terms of this warranty, either party may serve written notice that appointment of a CRT is required.

At least three members of the CRT must vote in favor of a motion to make a decision. The CRT may decide to conduct a forensic investigation, will determine the scope of work and select the party to conduct the investigation. All costs related to the forensic investigation will be shared proportionately between the Contractor and the Department based on the determined cause of the condition.

j. Emergency Repairs. If the Department determines that emergency repairs are necessary for public safety, the Department or its agent may take repair action. Emergency repairs must be authorized by the Region Engineer.

Prior to emergency repairs, the Department will document the basis for the emergency action. In addition, the Department will preserve evidence of the defective condition.

k. Non-extension of Contract. This Special Provision shall not be construed as extending or otherwise affecting the claim process and statute of limitation applicable to this Contract.

l. Measurement and Payment. All costs, including engineering and maintaining traffic costs, associated with meeting the requirements of this special provision are considered to be included in the Contract unit prices for the warranted work items regardless of when such costs are incurred throughout the warranty period. These costs include but are not limited to, all materials, labor and equipment necessary to complete required warranty work.

**PAVEMENT PERFORMANCE WARRANTY APPENDIX FOR
ONE COURSE HOT MIX ASPHALT OVERLAY**

- A1. Application.** This appendix applies to pavement warranties for 1 ½ inch preventive maintenance HMA overlays.
- A2. Limits of Warranted Work.** The warranted work includes all hot mix asphalt on warranty lanes within the project limits unless otherwise indicated on the plans.
- A3. Warranty Term.** The warranty term will be three years from the date of Initial Acceptance otherwise termed the Acceptance Date of Warranted Work.
- A4. Warranty Bond.** The bond will equal 100% of the contract cost for the warranted work.
- A5. Initial Ride Quality Acceptance Criteria.** The Department will measure the ride quality prior to placement of the HMA overlay. Subsequent to placement of the overlay, the Department will also measure the pavement ride quality. Both measurements will be expressed in terms of the Michigan Ride Quality Index (RQI). Ride quality measurements will be conducted and evaluated separately for each warranty lane. Shoulder work is exempt from the ride quality measures.

The pavement ride quality, for each warranty lane, must meet the following criteria subsequent to the HMA overlay,

- 1) If the pre-overlay RQI is less than 70, then the post-overlay RQI must be less than 53.
- 2) If the pre-overlay RQI exceeded 70, then the post-overlay RQI must not be greater than 80% of the pre-overlay RQI.
- 3) All individual tenth mile segments must have RQI values that are equal or lower than the corresponding value prior to the overlay.

- A6. Condition Parameters.** Condition parameters are used to measure the performance of the HMA pavement during the warranty term. Each condition parameter has a threshold level applied to each segment and a maximum number of defective segments allowed before corrective action (warranty work) is required.

Definitions

Longitudinal Crack/Open Joint - A crack or open joint, at least five feet in length that is oriented primarily in the longitudinal direction versus the transverse direction. That is, the angle between the overall crack line and the centerline is less than 45 degrees. It can exist anywhere in the driving lane; i.e., at the pavement centerline joint, wheel path, center of lane, lane/shoulder joint, or lane/approach joint. This does not include reflective cracking from underlying pavement.

De-bonding - A physical separation of two HMA layers. De-bonding will be visually identified as shoving, or the loss of the new surface course. Surface potholes, regardless of depth, will be classified as de-bonding.

Raveling - Surface disintegration, due to the loss of coarse or fine aggregate material, that occurs over an area or in a continuous longitudinal strip.

Flushing - The accumulation of excess asphalt binder on the pavement surface that creates a shiny, reflective condition and becomes tacky to the touch at high temperatures.

Rutting - A longitudinal surface depression in the wheel path. It may have associated transverse displacement or humping.

- A7. Warranty Requirements.** Table 1 lists the allowable threshold limit for each condition parameter within each segment and the maximum number of allowable segments within a warranty lane for each condition parameter. If the threshold is exceeded for a condition parameter, for more than the maximum number of allowable segments, corrective action (warranty work) is required.

The defective segments for surface distress may or may not be contiguous to necessitate corrective action. The maximum allowable number of defective segments for each condition parameter applies to each warranty lane in each travel direction. Each warranty lane shall be evaluated independent of adjacent warranty lanes. Any pavement surface requiring removal/replacement to correct deficiencies, for any condition parameter, shall be replaced full-width across the warranty lane.

TABLE 1 - WARRANTY REQUIREMENTS FOR ONE COURSE HMA OVERLAY

CONDITION PARAMETER	THRESHOLD LIMITS PER SEGMENT (Length = 528 feet)	MAX. DEFECTIVE SEGMENTS (1)
Longitudinal Cracking/ Open Joint	25% of segment length	4
De-bonding ⁽⁴⁾	25% of segment length	2
Raveling	20% of segment length	4
Flushing	5% of segment length	2
Rutting ⁽³⁾⁽⁴⁾	ave. rut depth = 1/4 inch ⁽²⁾	1
<p>1 The maximum allowable number of defective segments per warranty lane is determined by multiplying by the length of the specific warranty lane in miles.</p> <p>2 The rut depth threshold applies to each wheel path independently.</p> <p>3 The pavement surface will be evaluated for the presence of rutting on each warranty lane throughout the warranty period. The pavement surface will be measured beginning at the POB and every 132 feet thereafter to determine average rut depth to quantify rutting for a particular segment.</p> <p>Rut measurements will be done using a straight rigid device that is a minimum of 7 feet long and of sufficient stiffness that it will not deflect from its own weight, or a wire under sufficient tension to prevent sag when extended 7 feet. Measurements will be taken by placing this "straightedge" across the pavement surface perpendicular to the direction of travel. The straightedge shall contact the surface on at least two bearing points with one located on either side of the rut. The straightedge is properly located when sliding the straightedge along its axis does not change the location of the contact points. Rut depth is then measured at the point of greatest perpendicular distance from the bottom of the straightedge to the pavement surface.</p> <p>4 Does not apply to shoulder.</p>		

- A8. Corrective Actions.-** The Contractor will propose corrective action subject to Department approval. The Department will accept the proposed corrective action if the action will correctly restore both the original preventive maintenance treatment and the benefit that the treatment provides to the underlying pavement structure.

**MICHIGAN DEPARTMENT OF TRANSPORTATION
INITIAL ACCEPTANCE
FOR
PAVEMENT WARRANTY**

CONTRACT ID: _____

CONTROL SECTION: _____ JOB NUMBER: _____

SURETY NAME _____

SURETY ADDRESS: _____

CONTRACTOR NAME: _____

CONTRACTOR ADDRESS: _____

IDENTIFY EACH JOB NUMBER, LOCATION AND WORK SEPARATELY

JOB NUMBER	ROUTE NUMBER	CONTROL SECTION	WORK TYPE	DATE ACCEPTED	PROJECT ENGINEER

INITIAL ACCEPTANCE OF WARRANTY WORK APPROVAL

CONTRACTOR'S SIGNATURE: _____

ENGINEER'S SIGNATURE: _____

ACCEPTANCE DATE: _____

**MICHIGAN
DEPARTMENT OF TRANSPORTATION
PAVEMENT WARRANTY BOND**

Bond Number _____

KNOWN ALL MEN BY THESE PRESENTS:

That we, _____ (hereinafter called the "Principal"), and _____, a corporation duly organized under the laws of the State of _____ and duly licensed to transact business in the State of Michigan (hereinafter called "Surety"), are held and firmly bound unto the Michigan Department of Transportation (hereinafter called the "Obligee"), in the sum of _____ Dollars (\$), for the payment of which sum well and truly to be made, we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has heretofore entered into a contract with the Michigan Department of Transportation dated _____ under Contract ID _____ and;

WHEREAS, the said Principal is required to guarantee the _____ installed under said contract, against specific pavement defects which may develop during the period(s) of _____ years beginning the date(s) of the Acceptance Date of Construction by the Obligee.

In no event shall losses paid under this bond aggregate more than the amount of the bond.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall faithfully carry out and perform the said guarantee, and shall, on due notice, repair and make good at its own expense any and all specific pavement defects in the said work which may develop during the period specified above or shall pay over, make good and reimburse to the said Obligee all loss and damage which said Obligee may sustain by reason of failure or default of said Principal so to do, then this obligation shall be null and void; otherwise shall remain in full force and effect.

PROVIDED HOWEVER, that in the event of any default on the part of said Principal, a written statement of the particular facts showing such default and the date thereof shall be delivered to the Surety by registered mail, within thirty (30) days after the Obligee or his representative shall learn of such default and that no claim, suit or action by reason of any default of the Principal shall be brought hereunder after the expiration of thirty (30) days from the end of the warranty period as herein set forth.

Signed this _____ day of _____, _____.

Contractor
_____By
_____Surety
_____By
_____Attorney-In-Fact
