Texas Department of Transportation

CMA SPECIFICATION

Item 9

Item 9
CMA Specification

[*This CMA Specification Item 9 is used when TxDOT requires a Capital Maintenance Agreement (CMA) as provided in Section 2.1.3 of the DBA. The CMA is executed at the same time as the DBA and provides TxDOT the right to implement a five year Initial Maintenance Term and two subsequent five year Maintenance Terms to a maximum of 15 years. TxDOT has the right to terminate the CMA, without financial penalty, at the conclusion of the first year of the Initial Maintenance Term, by providing the DB Contractor with six months' notice of such termination. DBA Exhibit 4 describes associated changes to the DB General Conditions which are required when a CMA will be executed in connection with a Project. A CMA cannot be used with a five-year Performance Warranty. The DBA includes a one-year general warranty (materials and workmanship) concurrent with the CMA for all Elements of the Work.*

Certain optional provisions in this Specification Item 9 may be omitted depending upon the needs of the Project as provided in CMA Exhibit 1.]

Attachments

Attachment	Title
Attachment 9-1	Performance and Measurement Table
Attachment 9-2	Maintenance Management Plan Template
Attachment 9-3	Function Codes, Descriptions and Allocation of Responsibility

9.1 General Requirements

9.1.1 General Maintenance Obligation

Throughout the Maintenance Period, DB Contractor shall be responsible for and shall carry out Maintenance Services for the Maintained Elements within the Maintenance Limits. DB Contractor shall establish and maintain an organization that effectively manages all Maintenance Services in a manner set forth in the approved Maintenance Management Plan (MMP) and consistent with the requirements of the CMC Documents. DB Contractor shall:

- conduct inspections at the specified frequency within the Maintenance Limits, providing TxDOT the opportunity to attend;
- identify and record from inspections and all other available sources, conditions that are unsafe or have the potential to become unsafe or conditions that could adversely affect the Maintained Elements;
- develop, maintain and implement a Maintenance Management System (MMS) to record the category, status, intended action and repair for all Defects in Maintained Elements;
- facilitate access to such system by TxDOT to allow the notification and categorization by TxDOT of Defects that TxDOT identifies in the course of its maintenance inspections;
- mitigate hazards and permanently repair all Defects, including those identified by TxDOT, the DB Contractor and third parties within the specified periods;
- minimize delay and inconvenience to Users when performing the Maintenance Services;
- minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Maintenance Services;
- report to TxDOT the status of its Maintenance Services including Nonconforming Work; and
- perform all other obligations identified in this Item 9 and the CMC Documents.

9.1.2 Scope of Maintenance Services and Interfaces with TxDOT and Third Parties

The Maintenance Services shall apply to the Maintained Elements as identified in Exhibit 14 to the CMA (Maintained Elements). TxDOT or applicable Governmental Entity shall retain maintenance responsibilities for Non-Maintained Elements. A detailed breakdown of responsibility for individual maintenance activities between TxDOT, third parties and the DB Contractor is shown in Attachment 9-3 (Function Codes, Descriptions and Allocation of Responsibility). Notwithstanding the description of activities and allocation of responsibilities by Function Code identified in Attachment 9-3, DB Contractor is responsible for the performance of all activities necessary to comply with Performance Requirements in Attachment 9-1 (Performance and Measurement Table) for all the Maintained Elements as further described in Section 9.3.

Where TxDOT, other Governmental Entities or Utilities have maintenance jurisdiction within the Maintenance Limits or on adjacent facilities, DB Contractor shall coordinate its Traffic Management Plan with the traffic management to be performed by all such entities to minimize disruption to Users. DB Contractor shall coordinate directly with such entities. Additional coordination requirements with railroads are described in Section 9.7.9.

DB Contractor shall perform all necessary Maintenance Services to keep the Maintained Elements in compliance with the Performance Requirements.

Whenever an activity by DB Contractor disturbs, alters, removes or changes any Non-Maintained Element, DB Contractor shall restore the affected Non-Maintained Element to a condition no less favorable than its original condition before it was disturbed, altered, removed or changed. If the Maintenance Services associated with pavement repair requires removal of or causes damage to adjacent Non-Maintained Elements such as pavement markings, guardrail or signs, DB Contractor shall reinstate such Non-maintained Elements to as-new condition.

No later than 24 hours after DB Contractor becomes aware of any of the following circumstances, DB Contractor shall notify TxDOT and provide information that will facilitate repair or other action by TxDOT or third party:

- a Defect in a Maintained Element that DB Contractor considers it is not required to repair, with an explanation why DB Contractor considers such repair to be the responsibility of another party;
- any activity by TxDOT or a third party that DB Contractor considers may have adversely affected or has the potential to adversely affect a Maintained Element;
- any activity that DB Contractor considers should be performed by TxDOT or a third party, with an explanation of any adverse effect on a Maintained Element that may be avoided or mitigated by the maintenance activity; or
- any defect in a Non-Maintained Element that, in the opinion of DB Contractor, represents an immediate or imminent health or safety hazard to Users or road workers.

Additional defect identification, recording and categorization requirements are described in Section 9.4.

9.1.3 Maintenance Limits

DB Contractor shall prepare and submit updated Maintenance Limits drawings consistent with the DB Contractor's Final Design as part of the MMP. The Maintenance Limits drawings shall be consistent with the principles and extents shown in Exhibit 15 to the CMA (Maintenance Limits). DB Contractor shall periodically validate that the Maintenance Limits are correctly and clearly identified by physical delineation and shall liaise with TxDOT and Governmental Entities as necessary to review the Maintenance Limits, identify any jurisdictional gaps or inefficiencies and recommend solutions.

9.2 Maintenance Management

9.2.1 Maintenance Management Plan

The Maintenance Management Plan (MMP) is an umbrella document that describes DB Contractor's managerial approach, strategy, and quality procedures for the Maintenance Services to achieve all requirements of the CMC Documents. The MMP shall be consistent with the general maintenance obligations described in Section 9.1.1. The requirements for the MMP are set forth in Attachment 9-2 (Maintenance Management Plan Template).

In accordance with Section 4.2 of the CMA General Conditions, no later than 120 days prior to the Initial Maintenance Term Commencement Date, DB Contractor shall submit the MMP for TxDOT's discretionary approval. DB Contractor shall update the MMP and submit for TxDOT approval no later than 60 days after the occurrence of any of the following:

- change in any of the maintenance personnel described in Section 9.2.3;
- change in any procedure required to prevent recurrence of a Noncompliance Event or Nonconforming Work;
- changes in TxDOT-published manuals, specifications and guidelines pertaining to the Maintenance Services affecting a procedure; or
- revision to the Performance and Measurement Table as described in Section 9.3.3.

9.2.2 Maintenance Quality Management Plan

As part of the MMP, DB Contractor shall develop, implement and maintain a quality management system describing the system, policies, and procedures for the Maintenance Services. DB Contractor's approach to quality management shall be described in a Maintenance Quality Management Plan (MQMP), which shall be in effect until conclusion of the Warranty Period or earlier termination of the Capital Maintenance Contract. For delivery of the Maintenance Services the MQMP shall comply with Section 4.3 of the DB General Conditions; provided however, that references to "Work" shall mean "Maintenance Services". Whenever Renewal Work is undertaken that requires design work or construction work the MQMP shall also include a Professional Services Quality Management Plan (PSQMP) complying with Section 4.3.3 of the DB General Conditions (Professional Services Quality Management Plan) and a Construction Quality Management Plan (CQMP) complying with Section 4.3.4 of the DB General Conditions (Construction Quality Management Plan).

9.2.3 Maintenance Personnel

9.2.3.1 Maintenance Manager

DB Contractor shall assign a Maintenance Manager as the sole point of contact with TxDOT throughout the Maintenance Period who shall be responsible for:

- implementing the maintenance obligations in this Item 9 and the MMP;
- causing the Maintenance Services to be performed in accordance with the CMC Documents;
- causing all maintenance personnel and resources performing Maintenance Services to be available and properly trained; and
- the health and safety of personnel delivering the Maintenance Services and the general public affected by the Project.

The Maintenance Manager shall meet or exceed the qualifications and experience established in the Proposal Commitments (Exhibit 2 to the CMA) and the following requirements:

- must have experience on maintenance projects; and
- must have managerial experience in design, construction, or maintenance on any road project of similar size, scope, and complexity.

The Maintenance Manager shall attend all General Inspections and quarterly meetings and shall be available whenever any Renewal Work is undertaken.

9.2.3.2 Maintenance Quality Manager

DB Contractor shall employ a Maintenance Quality Manager (MQM) throughout the Maintenance Period who shall be responsible for:

- independently overseeing and performing all quality responsibilities for the Maintenance Services in accordance with the MQMP;
- ensuring that the methods and procedures contained in approved MQMP are implemented and followed by DB Contractor and Subcontractors in the performance of the Maintenance Services; and
- the quality and accuracy of all Maintenance Records and Submittals.

The MQM shall be functionally independent from DB Contractor's staff responsible for implementation of the Maintenance Services, and shall report directly to DB Contractor's principals, rather than to the Maintenance Manager.

The MQM shall meet or exceed the qualifications and experience established in the Proposal Commitments (Exhibit 2 to the CMA) and the following requirements:

- must have experience in quality management including preparation and implementation of quality plans and procedures.

In addition to the MQM, TxDOT may require the employment by the DB Contractor of quality management personnel in connection with Renewal Work in accordance with Section 9.2.2 to be responsible for design, construction and materials quality.

9.2.3.3 Maintenance Safety Manager

DB Contractor shall employ a Maintenance Safety Manager who shall be responsible for carrying out the Maintenance Safety Plan and all safety-related activities, including training and enforcement of safety operations.

The Maintenance Safety Manager shall be in attendance at the work site or located within the Maintenance Limits whenever required by the Maintenance Safety Plan and as needed to ensure the safety of the public and personnel employed by the DB Contractor or TxDOT. The position may be fulfilled by another employee of the DB Contractor upon TxDOT's approval, provided the employee meets all qualification requirements. The Maintenance Safety Manager shall have the authority to stop the Maintenance Services. The minimum required qualifications and experience for the Maintenance Safety Manager are:

- roadway construction and safety enforcement experience;

- progressive construction or operations and maintenance safety management experience;
- designation, at or before the Effective Date, as a Construction Health and Safety Technician® (CHST) by the Board of Certified Safety Professionals (BCSP), or designation as a Certified Safety & Health Official (CSHO), either of which may be substituted for two years of safety management experience;
- completion of the OSHA #500 course – Trainer Course in OSHA Standards for Construction;
- completion of training and current certification for CPR and first aid; and
- completion of the following training sponsored by an accredited agency:
    - work zone traffic control; and
    - flaggers in work zones.

9.3 Performance Requirements

9.3.1 Performance Sections

As part of the MMP, DB Contractor shall prepare drawings identifying the Performance Sections and shall submit and update these plans with the applicable part of the MMP. The drawings shall identify the boundaries of each Performance Section and shall cross reference to an inventory describing each Maintained Element of the Project contained within each Performance Section.

DB Contractor shall implement the Texas Reference Marker (TRM) System used by TxDOT to establish Performance Sections. DB Contractor shall use the existing TRM System established on existing sections of the Project. DB Contractor shall coordinate with TxDOT prior to submittal of the MMP to establish the TRM System on newly constructed sections of roadway.

9.3.2 Performance and Measurement Table

DB Contractor's performance of the Maintenance Services shall be measured by Performance Section and governed by the Performance and Measurement Table as may be updated in accordance with Section 9.3.3. The Performance and Measurement Table shows for each Maintained Element:

- Performance Objectives that each Maintained Element is required to meet or exceed;
- the Defect Repair Periods for each Defect;
- Inspection and Measurement Methods that DB Contractor shall use to determine compliance; and
- Measurement Records that DB Contractor shall establish and maintain based upon inspections and measurements.

DB Contractor shall record a separate Defect upon failure to achieve any of the requirements set forth in the Performance Objective or Measurement Record. DB Contractor shall repair each Defect within the specified Defect Repair Period as further described in this Item 9.

The Defect Repair Period set forth in the Performance and Measurement Table shall commence upon the earlier of: (i) the date and time DB Contractor became aware of the Defect; or (ii) the date and time DB Contractor should have known of the Defect.

9.3.3 Performance and Measurement Table Updates

DB Contractor may propose changes to the Performance and Measurement Table for TxDOT approval. In its updates of the MMP described in Section 9.2.1, DB Contractor shall propose for TxDOT's approval such amendments to the Inspection and Measurement Method and Measurement Record as are necessary to cause these to comply with Good Industry Practice and this Item 9. TxDOT may, at any time, require DB Contractor to adopt amendments to the Inspection and Measurement Method and Measurement Record where such updates are required to comply with Good Industry Practice. In this case, the new Inspection and Measurement Method or Measurement Record shall be determined using the principle that it shall achieve no less than the standard of Maintenance Services that would have been achieved through DB Contractor's compliance with the original Inspection and Measurement Method and Measurement Record.

DB Contractor shall provide updates to the Performance and Measurement Table to take into consideration specific attributes of the Final Design (for example, where the Final Design incorporates a feature that is not included as a Maintained Element in the Performance and Measurement Table). Within this Item 9, reference

to the Performance and Measurement Table means the latest approved version of the Performance and Measurement Table as included within DB Contractor's MMP.

9.4 Defect Identification, Recording and Categorization

9.4.1 Definitions

- For Defects shown on the Performance and Measurement Table: hazard mitigation is an action taken by DB Contractor with respect to a Category 1 Defect to mitigate a hazard to Users or imminent risk of damage or deterioration to property or the environment such that the Category 1 Defect no longer exists; and
- permanent repair is an action taken by DB Contractor with respect to any Defect to restore the condition of a Maintained Element (a) to the standard required for new construction; or (b) to a condition such that no Defect exists.

9.4.2 Sources of Defects and Status

DB Contractor shall identify and record Defects through inspections described in Section 9.5, notifications by TxDOT and reports or complaints by third parties. DB Contractor shall accurately record the status and categorization of Defects from all sources in the Maintenance Management System (MMS). Where multiple instances of Defects exist in a Maintained Element (for example, simultaneous failure to achieve a ride quality requirement in multiple locations), a separate Defect shall be recorded for each instance where the requirement set forth in the Performance Objective or Measurement Record is not achieved. For example:

- if a ride quality Defect exists in in three 0.1-mile Performance Sections, this shall be recorded as three separate Defects; and
- if a Pavement Condition Score Defect exists in two separate 0.5-mile measurement segments, this shall be recorded as two separate Defects.

Where Defects are identified in the field during the course of any inspection that DB Contractor is required to attend, DB Contractor shall upload information related to such Defects from handheld devices to a storage system accessible by TxDOT. Information shall include description, date-time of identification and categorization. Any such upload of Defect information with Category 1 Defect status shall trigger immediate automatic e-mail notification of TxDOT and the Maintenance Manager.

9.4.3 Defects Identified by DB Contractor, TxDOT, or Third Party

Whenever DB Contractor identifies, becomes aware of, or is notified by TxDOT or a third party of a Defect, DB Contractor shall create within the MMS a Maintenance Record containing details of the associated Maintained Element, the nature and categorization of the Defect, and the proposed timing and details of hazard mitigation and permanent repair of the Defect. TxDOT may provide notification of a Defect verbally, in writing, or during the course of a joint inspection.

DB Contractor shall categorize each Defect, based upon its determination as to whether:

- it represents an immediate or imminent health or safety hazard to Users or road workers;
- there is a risk of immediate or imminent structural failure or deterioration;
- there is an immediate or imminent risk of damage to a third party's property; or
- there is an immediate or imminent risk of damage to the environment.

Should a Defect meet any of the above criteria, DB Contractor shall record it as a Category 1 Defect. DB Contractor shall provide training to all relevant personnel on the categorization of Defects. DB Contractor shall maintain a record of the circumstances of the Defect and how it was categorized. DB Contractor shall facilitate the review by TxDOT of Maintenance Records in the MMS associated with DB Contractor-categorized Defects and shall enable TxDOT to flag any Defect where TxDOT disagrees with any attribute or categorization assigned by DB Contractor.

9.4.4 Permanent Repair of Defects

Permanent repair of Defects shall comply with the requirements for Renewal Work as set forth in Section 9.7.7. DB Contractor's proposals for permanent repair of a Defect shall be submitted for TxDOT's approval no later than 14 days before the DB Contractor plans to perform the permanent repair. All permanent repair

shall address the root cause of the Defect and shall be sufficient in extent to avoid recurrence of the same Defect within the Performance Section or adjacent Performance Sections where the Defect occurred.

Where action is proposed to repair any Defect, DB Contractor shall promptly create a Maintenance Record that identifies the nature of the proposed repair and shall update the Maintenance Record with as-built details of the actual repair no later than 7 days after completion. DB Contractor shall include with the updated Maintenance Record verification that the repair meets the Performance Requirements.

DB Contractor shall take necessary action to avoid any recorded Defect that is not currently a Category 1 Defect from becoming a Category 1 Defect. DB Contractor shall monitor all Defects to verify the condition of the affected Maintained Element prior to permanent repair and shall inform TxDOT immediately should any such Defect deteriorate to a Category 1 Defect.

For all Defects not recorded as Category 1 Defects, DB Contractor shall undertake the permanent repair within the Defect Repair Period in the Performance and Measurement Table unless an earlier permanent repair is required to prevent deterioration to a Category 1 Defect. Within 28 days after completion of the permanent repair, DB Contractor shall perform necessary tests and inspections to verify that each Defect has been satisfactorily repaired and that each applicable Performance Requirement is achieved throughout each Performance Section within which a Defect was recorded. DB Contractor shall submit evidence to TxDOT and conduct joint inspections as approved by TxDOT to verify that the permanent repair of each Defect meets the above requirements. The responsibility for performing Specialist Inspections for verification shall be in accordance with Section 9.5.2.

If DB Contractor proposes a permanent repair that includes diamond grinding of the pavement surface, DB Contractor shall submit a work plan that provides information regarding equipment and work methods equivalent in detail to that provided in TxDOT Specification Item 585 (Ride Quality for Pavement Surfaces). The maximum cumulative depth of grinding of any pavement surface shall be ¼" and DB Contractor shall, at TxDOT's discretion, provide evidence that this requirement has been achieved by coring of the pavement. Diamond grinding shall not be permitted as a repair method for defects in flexible pavement.

The existence of a Defect Repair Period is the maximum period permitted for repair and shall not excuse DB Contractor from completing the repair of all Defects within the Maintenance Period. DB Contractor shall perform the Maintenance Services so that every Defect, including any Defect first identified within the final six months of the Maintenance Period, has been permanently repaired before the end of the Maintenance Period.

9.4.5 Hazard Mitigation of Category 1 Defects

DB Contractor shall immediately implement hazard mitigation of any Category 1 Defect in a Maintained Element of which it is aware through its own inspections, from a third party or through notification by TxDOT to DB Contractor that TxDOT requires the DB Contractor to perform hazard mitigation for a Category 1 Defect.

For Category 1 Defects, DB Contractor shall take necessary action such that any hazard to Users is mitigated and a permanent repair is implemented within the Defect Repair Periods specified in the Performance and Measurement Table. DB Contractor shall continue hazard mitigation until a permanent repair has been completed.

TxDOT may at its discretion perform with its own forces the hazard mitigation of a Category 1 Defect affecting a Maintained Element and may notify DB Contractor that it intends to perform or that it has performed the hazard mitigation. If TxDOT provides such notification, DB Contractor will be relieved of its responsibility to perform hazard mitigation, but only for the Defect covered by the notification. In such cases, unless otherwise instructed by TxDOT, DB Contractor shall remain responsible for the permanent repair of the Category 1 Defect.

9.5 Inspections

9.5.1 General Inspections by DB Contractor

DB Contractor shall cause General Inspections of the Maintained Elements to be conducted by trained staff. The results of these inspections shall be used to:

- identify and categorize newly identified Defects;

- plan permanent repair of Defects;
- develop programs of Renewal Work;
- update Maintenance Records to show condition and status of Maintained Elements; and
- confirm the adequacy of permanent repair of previously identified Defects.

DB Contractor shall invite TxDOT to participate in all such inspections with a minimum of seven days' notice and shall provide transportation and safety equipment for up to two TxDOT personnel.

DB Contractor shall conduct General Inspections at least monthly. The type, frequency, and level of detail of General Inspections shall be contained in an inspection plan which shall be submitted to TxDOT no later than 7 days before the inspection date. At a minimum, DB Contractor shall conduct a road speed traverse of all mainlanes (separately in each travel direction), frontage roads, cross streets, direct connects and ramps as applicable within the Maintenance Limits in a manner that permits inspection of Maintained Elements visible from the inspection vehicle.

DB Contractor shall include more detailed visual or hands-on inspection of selected Maintained Elements when any of the following occur:

- deterioration trends such as an increase in pattern and frequency of previously identified Defects has been identified by either party;
- Defects have been identified in a Specialist Inspection or General Inspection that need to be monitored because there is a risk of their deterioration;
- extreme weather events or Incidents have occurred and TxDOT has notified the DB Contractor that these may have affected Maintained Elements; or
- reports or complaints have been received from a third party.

Where a more detailed visual or hands-on inspection is required, DB Contractor shall cause personnel performing or attending inspections of road pavements and structures to be certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed, capable of accurately identifying, categorizing and recording Defects in accordance with the requirements of Section 9.4.

The type, frequency, and level of detail of General Inspections shall be adjusted as necessary to take into consideration asset condition information from all sources. DB Contractor shall record details of the manner of inspection (e.g., center Lane Closure or shoulder), the weather conditions and any other unusual features of the inspection in Maintenance Records.

9.5.2 Specialist Inspections

9.5.2.1 Types and Responsibility for Specialist Inspections

Specialist Inspections and the responsibility for performing them are shown for Maintained Elements in Table 1.

Table 1 – Specialist Inspections

Maintained Element	Specialist Inspection	Responsibility
Maintained Elements Ref. 1 (Pavement), 1a (Asphalt Pavement), 1b (CRCP Pavement) and 1c (JCP Pavement) in the Maintained Element Category 'Pavement' in the Performance and Measurement Table	Annual survey of pavement condition for every travel lane of the entire Project, including main lanes, ramps greater than 0.5 mile length, frontage roads, and cross streets for ride quality, rutting and pavement surface distresses according to the Inspection and Measurement Method set forth in the Performance and Measurement Table.	TxDOT

Maintained Element	Specialist Inspection	Responsibility
Maintained Elements Ref. 2.1, 2.2 and 2.3 in the Element Category 'Drainage' in the Performance and Measurement Table	Biennial inspections of drainage Elements, including headwalls, wingwalls, junctions, manholes, energy dissipaters pipes and non-bridge class culverts in accordance with Good Industry Practice, Section 13-3 of TxDOT's Hydraulic Design Manual (Inspection and Maintenance of Erosion Control Measures) and FHWA's Culvert Inspection Manual.	DB Contractor
Maintained Elements Ref. 3.1 and 3.2 in the Maintained Element Category 'Structures' in the Performance and Measurement Table	Routine biennial inspections, to the extent required, for all structures within the Maintenance Limits in compliance with the latest FHWA / NBIS and TxDOT requirements.	TxDOT

9.5.2.2 Pavement Condition Score

Following the annual survey of pavement condition and as part of the Specialist Inspection data provided to DB Contractor, TxDOT will provide the Pavement Condition Score calculated separately in every travel lane in each direction of travel. The Pavement Condition Score is reported in 0.5-mile segments generally corresponding to five continuous Performance Sections and combines pavement distress data (such as rutting, cracking, potholes, punchouts, and patches) into a single value. Failure to achieve the specified Pavement Condition Score shown in item reference 1.1 of the Performance and Measurement Table shall be a Defect. A separate Defect shall be recorded for every 0.5-mile segment within which the specified Pavement Condition Score is not achieved.

9.5.2.3 Use of Specialist Inspection Data

No later than 14 days after receipt of Specialist Inspection data, DB Contractor shall:

- submit for TxDOT's approval a Specialist Inspection analysis report showing the number and type of Defects within each Performance Section for each line item in the Performance and Measurement Table;
- establish a Maintenance Record of all Defects within each Performance Section established by the inspections and enter these Defects in the MMS with the appropriate Defect Repair Period and other information required by Section 9.4.3;
- use the Specialist Inspections to prioritize Maintenance Services; and
- use the routine biennial inspections provided by TxDOT and other available sources to determine the condition of all Maintained Elements of the Structures within the Maintenance Limits and identify structural and non-structural deficiencies that require repair.

9.5.2.4 Joint Review of Specialist Inspection Data

Where DB Contractor identifies Specialist Inspection data including TxDOT's reported Pavement Condition Score that, in DB Contractor's opinion requires further investigation, DB Contractor shall be entitled to flag these Specialist Inspection data for review within the Specialist Inspection analysis report. DB Contractor shall promptly schedule a detailed visual or hands on inspection with TxDOT to resolve any specialist inspection data that DB Contractor has flagged for review. This shall follow the procedure for General Inspections set forth in Section 9.5.1 (General Inspection). Failure by DB Contractor to follow the processes in this Section 9.5.2.4 shall be deemed acceptance by DB Contractor of the Specialist Inspection data.

9.5.3 Construction Inspections by DB Contractor

DB Contractor shall cause all construction work and materials in connection with Renewal Work to be inspected at the frequencies required in compliance with Section 5.10 of the DB General Conditions.

9.6 Maintenance Management System (MMS)

9.6.1 MMS Attributes

DB Contractor shall implement a MMS to store all the following Maintenance Records:

- description, location, date-time of identification and categorization of Defects;
- planned actions and date-time for permanent repair of all Defects;
- details including date-time of actual repairs performed;
- complaints and reports received from TxDOT and third parties; and
- accidents and incidents relating to the Maintenance Services.

9.6.2 MMS Interfaces with TxDOT

Maintenance Records shall be located by Performance Section. When a Maintained Element is constructed, installed, maintained, inspected, modified, replaced or removed, DB Contractor shall create and store a Maintenance Record no later than three days after completion of such work. Category 1 Defects shall be recorded in the MMS immediately upon the DB Contractor becoming aware of the Defect either by direct upload to the MMS by DB Contractor's inspection personnel in the field or by upload of the information to the MMS when Category 1 Defects are notified to DB Contractor by TxDOT or a third party. All other Defects shall be recorded in the MMS after coming to the attention of DB Contractor. All other recording requirements shall be recorded on the MMS within 15 days of completion or occurrence of the relevant activity. MMS Interfaces with TxDOT.

DB Contractor shall provide TxDOT real-time, remote access to the Maintenance Records for the duration of the Maintenance Period.

DB Contractor shall handover the Maintenance Records to TxDOT, or other entity as directed by TxDOT, upon expiration of the Maintenance Period or earlier termination of the Capital Maintenance Contract.

Requirements for the storage, retention and transfer to TxDOT of Maintenance Records are provided in Section 9.7.10.

9.7 Maintenance Obligations

9.7.1 Incident and Emergency Response

TxDOT will provide the response to Incidents and Emergencies. When instructed by TxDOT, DB Contractor shall repair any damage to Maintained Elements caused by an Incident or Emergency, subject to the Change Order provisions in Section 4.5.11.3 of the CMA General Conditions.

9.7.2 Crash Investigation Response

DB Contractor shall assist TxDOT with forensic investigation where an elevated frequency or severity of crashes exists at any location within the Maintenance Limits compared to historical accident rates within the Maintenance Limits or compared to other local facilities having similar traffic characteristics. DB Contractor shall accompany TxDOT in site investigations and shall assist TxDOT to determine a corrective action. Assistance shall include visual inspections to identify the presence of rutting, wheel path channelization, bleeding, adverse geometrics (grade and curvature), drainage issues that result in water on the pavement, build up on shoulder edges that causes ponding on the road surface, or any other factors within DB Contractor's control that may be contributing to the elevated crash record. Where the results of TxDOT's investigation determine that a contributory factor to the elevated accident record is the condition or configuration of a Maintained Element, this shall be considered a Defect for which DB Contractor shall be required to provide a permanent repair within 6 months following TxDOT notification to DB Contractor of the finding.

9.7.3 Snow and Ice Control Activities and Clean-up

TxDOT will carry out preventive actions and the clearance of snow and ice accumulations within the Maintenance Limits generally in accordance with TxDOT's Snow and Ice Control Operations Manual as may be modified by local practice. DB Contractor shall perform the Maintenance Services in a manner that does not adversely impact TxDOT's snow and ice control operations.

Before a predicted snow and ice event, DB Contractor shall coordinate with TxDOT to understand the activities that TxDOT intends to perform and shall cooperate with TxDOT to facilitate TxDOT's snow and ice activities. This shall include at a minimum temporarily vacating active work zones, deferring planned maintenance activities, and providing TxDOT access to storage areas and material stockpiles. DB Contractor shall provide other assistance as TxDOT may instruct.

Following the weather event, DB Contractor shall inspect the facility to ensure Performance and Measurement Requirements in Attachment 9-1 (Performance and Measurement Table) are being met. DB Contractor shall at a minimum be responsible for the clearance of accumulations of winter maintenance materials such as abrasives applied by TxDOT to the roadway from ditches and other drainage Maintained Elements. DB Contractor shall perform activities such as flushing of de-icing materials from joints and other locations where the accumulation of these materials might cause adverse effects to the Maintained Elements.

9.7.4 Maintenance Safety

DB Contractor shall perform the Maintenance Services in compliance with the Maintenance Safety Plan to preserve the safety of Users, adjacent communities and transportation workers.

9.7.5 Public Communications

During the Maintenance Period, DB Contractor shall implement the requirements of the Public Information and Communications Plan (PICP).

9.7.6 Environmental Compliance

9.7.6.1 Hazardous Materials Management

DB Contractor shall handle Hazardous Materials encountered during the Maintenance Services in compliance with the requirements of Section 4.6 of the CMA General Conditions and the Hazardous Materials Management Plan (HMMP). DB Contractor shall follow the requirements of Section 4.2.4.4.1 of the DB General Conditions for the preparation of Investigative Work Plans and Site Investigation Reports. Where Hazardous Materials need to be handled as a result of an Incident (for example the clean-up of a spill that affects a Maintained Element), DB Contractor shall promptly perform Hazardous Materials Management upon instruction from TxDOT and shall cooperate with TxDOT in the agreement of a Change Order.

DB Contractor shall require: all personnel of DB Contractor-Related Entities handling Hazardous Materials to be trained and certified to a level equal to or greater than that established under OSHA 1910.120 (HAZWOPER Training); and all on-Site workers to have received awareness and recognition training on Hazardous Materials to which they may be exposed.

DB Contractor shall provide personal protective equipment to workers and all other personnel who may be exposed to Hazardous Materials within the Maintenance Limits.

9.7.6.2 SW3P Implementation

DB Contractor shall perform Maintenance Services in compliance with the TCEQ Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit, in accordance with the TxDOT Storm Water Management and Guidelines for Construction Activities Manual and in compliance with the Storm Water Pollution Prevention Plan (SW3P) requirements.

9.7.6.3 Pollution Prevention Implementation

DB Contractor shall perform Maintenance Services in compliance with the Texas Waste Reduction Policy Act and shall implement the Pollution Prevention (P2) Plan when applicable.

9.7.6.4 Environmental Compliance and Mitigation

DB Contractor shall implement the Environmental Compliance and Mitigation Plan (ECMP).

9.7.7 Renewal Work Requirements

9.7.7.1 Obligation to perform Renewal Work

DB Contractor shall promptly perform Renewal Work to renew, repair, or replace any Maintained Element when any of the following conditions occur:

- The condition of any Maintained Element is such that replacement, rehabilitation or renewal is needed to enable each Performance Requirement to be reliably achieved; or
- Defects have occurred or may be expected to occur on a frequent basis and there is a risk that DB Contractor will be unable to comply with its obligation to repair such Defects within the applicable Defect Repair Period.

9.7.7.2 Technical Requirements for Renewal Work

All Renewal Work shall follow the design and construction requirements within the Design-Buld Specifications applicable to the original design, installation or construction unless superseded by TxDOT-published changes to manuals, specifications and guidelines pertaining to the Maintenance Services. For any new pavement construction within the Maintenance Limits (including new pavement construction performed as a permanent repair of a Defect), Item 16.5.2 of the Design-Build Specifications (Smoothness Specification) shall apply and corrective action acceptable to TxDOT shall be performed, at DB Contractor's sole expense, for any 0.1-mile section that measures an average IRI in excess of 75 inches per mile for rigid pavements, in excess of 65 inches per mile for flexible pavements, or for correction of local roughness.

When a Maintained Element is renewed or replaced, and upon the first installation of the renewed or replaced Maintained Element into the Project, DB Contractor shall not have the benefit of any Defect Repair Period and the Renewal Work shall not be considered complete if a Defect exists. Prior to the end of the Maintenance Period or earlier termination of the Capital Maintenance Contract, DB Contractor shall submit to TxDOT a complete set of Record Documents and supporting calculations and details that accurately show all Renewal Work and any other changes to the Project during the performance of the Maintenance Services.

9.7.7.3 Quality Requirements for Renewal Work

Whenever Renewal Work is undertaken that requires Design Work or Construction Work as such terms are defined in the DBA, DB Contractor shall, unless otherwise approved by TxDOT, follow all the requirements of the DB General Conditions in connection with quality management unless superseded by TxDOT-published changes to manuals, specifications and guidelines pertaining to the Maintenance Services. Depending upon the nature of the Renewal Work, TxDOT may waive any or all of the following requirements at its discretion:

- Submittal of design in stages of development in accordance with Attachment 4-1 of the DB General Conditions;
- Employment of one or more independent organization(s) complying with the requirements for the IQF and PSQF in accordance with Section 4.3 of the DB General Conditions;
- Employment of professional services personnel and staffing including the assignment of a PSQCM, Engineer of Record and a PSQAM in accordance with Attachment 4-1 of the DB General Conditions; or
- Employment of construction services personnel and staffing including the assignment of a CQCM and IQFM in accordance with Attachment 4-1 of the DB General Conditions.

9.7.8 Traffic Management Requirements

9.7.8.1 General Requirements

Throughout the Maintenance Period, DB Contractor shall conform with the requirements set forth in this Section 9.7.8, and shall provide for the safe and efficient movement of people, goods, and services, through and around the Project, while minimizing negative impacts to Users, residents, and businesses.

While planning and carrying out Maintenance Services, DB Contractor shall take into account the requirements and restrictions set forth in Section 4.1.17.2 of the CMA General Conditions and shall coordinate its Traffic Management Plan (TMP) with the traffic management to be performed by others to minimize disruption to Users of the Project.

Refer to Exhibit 8 of the CMA for Lane Rental Charges and Lane Closure process that shall apply.

9.7.8.2 Traffic Control

During the Maintenance Period, DB Contractor shall follow the requirements in CMA General Conditions Section 4.1.17.

9.7.9 Coordination Related to Rail

Where the Project crosses a railroad right of way owned by an operating railroad, DB Contractor shall coordinate the Maintenance Services with the operating railroad and shall be responsible for obtaining the required approvals, permits, and agreements as required for the Maintenance Services, including any railroad related maintenance activities.

Whenever an agreement for construction, maintenance and use of railroad right-of-way between the operating railroad and TxDOT is required, DB Contractor shall prepare all the documentation required to obtain the agreement, including preparation of the agreement application on behalf of TxDOT, the drawings and specifications, making necessary modifications as required, and preparation of the agreement. DB Contractor shall submit the draft agreement to TxDOT for transmittal to the operating railroad. After all comments have been incorporated or satisfactorily resolved by DB Contractor, railroad or TxDOT, DB Contractor shall submit a complete and final agreement to TxDOT for execution. DB Contractor shall comply with all construction requirements and specifications set forth in the agreement.

DB Contractor shall arrange with the operating railroad for railroad flagging as required. DB Contractor shall comply with the operating railroad's requirements for contractor safety training prior to performing Maintenance Services or other activities on the operating railroad's property.

DB Contractor shall cooperate and coordinate with all operating railroads for access by the operating railroad and/or their agents to the rail right-of-way as necessary for rail maintenance and operations activities.

DB Contractor shall procure and maintain, prior to working adjacent to and entry upon operating railroad property, insurance policies naming TxDOT, TxDOT's consultants, and railroad as additional insured. DB Contractor shall obtain insurance per Section 3.3 and 3.3.29 of the CMA General Conditions. All insurance policies shall be in a form acceptable to the operating railroad. Copies of all insurance policies shall be submitted to TxDOT prior to any entry by DB Contractor upon operating railroad property. DB Contractor shall be responsible for scheduling the work to be completed by operating railroad as well as the work to be completed by its own forces. DB Contractor shall be responsible for all costs associated with the railroad/transit force account work.

9.7.10 Maintenance Records

For all Maintenance Records, DB Contractor shall establish an Electronic Content Management System (ECMS) and shall follow the document storage and retrieval requirements set forth in Section 4.2.1.2.1 of the DB General Conditions. DB Contractor's document management system shall be compatible with SharePoint ®.

DB Contractor shall cause all Maintenance Records and Project-related documents to be stored along with accurate information on the location consistent with reference markers in accordance with the TRM, so that all data and records can be retrieved by reference marker and Performance Section.

Maintenance Records shall be kept throughout the Maintenance Period and shall be provided to TxDOT in accordance with Section 5.10.4 of the CMA General Conditions.

9.7.11 Maintenance Transition

No later than 60 days before the end of the Maintenance Period, DB Contractor shall submit a comprehensive transition plan ("Maintenance Transition Plan") to TxDOT which includes the following items:

- Maintenance Transition punch list;
- List and status of Warranties;
- Vendors' test reports;
- DB Contractor's test reports;
- Record Documents for Renewal Work;
- Maintenance Records; and
- Copies of Warranty and service contracts.

DB Contractor shall submit to TxDOT a complete set of Record Documents. The Record Documents and documentation shall be an organized, complete record of drawings and supporting calculations and details that accurately represent what DB Contractor constructed. DB Contractor shall ensure that the Record Documents reflect the actual condition of the Maintenance Services construction.

DB Contractor shall coordinate the identification of Maintenance Transition punch list items required to be completed by DB Contractor prior to maintenance transfer. Maintenance Transition punch list shall include (a) estimated completion dates, (b) responsible Party(s), and (c) items that must be completed prior to maintenance transfer.

DB Contractor shall be responsible to prepare (in conjunction with TxDOT), administer and complete all items on the Maintenance Transition punch list to the satisfaction of TxDOT prior to the transfer of maintenance responsibilities to TxDOT.

9.8 Report Requirements

9.8.1 Meetings

DB Contractor shall conduct regular status, progress and planning meetings with TxDOT at least once a quarter throughout the Maintenance Period. This frequency shall be increased to monthly during any periods where Renewal Work is being undertaken that requires a Lane Closure. In addition, TxDOT and DB Contractor, through their respective authorized representatives, shall meet from time to time at the other Party's request to discuss and resolve matters relating to the Maintenance Services or Project. DB Contractor shall schedule all meetings with TxDOT at a date, time and place reasonably convenient to both Parties and, except in the case of urgency, shall provide TxDOT with written notice and a meeting agenda at least three Business Days in advance of each meeting.

9.8.2 Nonconforming Work

DB Contractor shall notify TxDOT of Nonconforming Work within two days of discovering the Nonconforming Work. TxDOT will issue a non-conformance report if TxDOT discovers any Nonconforming Work. DB Contractor's responsibility to correct Nonconforming Work is set forth in Section 5.3 of the CMA General Conditions.

9.8.3 Maintenance Services Report

The Maintenance Services Report shall be submitted quarterly throughout the Maintenance Period. The Maintenance Services Report shall identify the Maintenance Services performed for the reporting period and confirmation that all Maintenance Services performed were in compliance with the MMP. DB Contractor shall organize the Maintenance Services Report using the report sections and section reporting requirements shown in Table 2.

Table 2 – Maintenance Services Report Sections

Report	Reporting Requirements/Description
Project Status	Report a high-level summary of Project condition and operational status, which shall include at a minimum: ✓ Tracking log of accidents and Incidents for Maintenance Services (Section 9.6.1), ✓ Tracking log of Lane Closures, ✓ Tracking log of public inquiries/complaints.
Operational Status	Report a summary of Project condition and operational status, which shall include at a minimum: ✓ Defects including the location, the nature and cause of the Defect and the steps that will be, or have been, taken to address the Defects per Section 9.4, ✓ Noncompliance Events Report submitted in accordance with Exhibit 9 of the CMA. ✓ Inspection results for General Inspections per Section 9.5, ✓ Any differences between DB Contractor and TxDOT in Defect status and categorization as referred to in Section 9.4.2, and ✓ Workforce injuries and OSHA related accidents.
Organizational Status	Report a summary of DB Contractor's organizational status (or reference to the appropriate sections/attachments in the latest MMP for the information) for the items below. ✓ List of personnel, ✓ Log of all training activities undertaken and planned, ✓ List of major equipment, and ✓ Subcontractors.

Report	Reporting Requirements/Description
Progress Report	Report a summary of DB Contractor's activity, which shall include at a minimum from the previous report: ✓ A tracking log of completed action items with start and end dates and documentation supporting resolution, ✓ A summary of the Maintenance Services performed including Renewal Work, ✓ A summary of quality control activities and results, ✓ List of any Nonconforming Work with explanation of non- conformance and associated risks, and ✓ Meetings/correspondence logs.
Planned Activities	Report a summary of DB Contractor's planned activity, which shall include at a minimum: ✓ A tracking log of action items in progress with start and projected end dates with a description of proposed solutions, ✓ Schedule of planned Maintenance Services including Renewal Work for the upcoming quarter, ✓ Details of the next General Inspection in accordance with Section 9.5.1, including any areas targeted for detailed visual or hands-on inspection, ✓ Future Lane Closures including location, duration and reason of each.

9.9 Submittals

All submittals described in this Item 9 shall be in accordance with the schedule and for the purpose (approval, review and comment, for information) set forth on Table 3. Acceptable electronic formats include Microsoft Word, Microsoft Excel, or Adobe Acrobat files, unless otherwise required.

Table 3: Submittals to TxDOT

Submittals	Submittal Schedule	TxDOT Action	Reference Section
Maintenance Limits Drawings	No later than 120 days prior to the Initial Maintenance Term Commencement Date	Approval	9.1.3
MMP	No later than 120 days prior to the Initial Maintenance Term Commencement Date	Approval	9.2.1
MMP Update	As required	Approval	9.2.1
Performance Sections Drawings	No later than 120 days prior to the Initial Maintenance Term Commencement Date	Approval	9.3.1
Proposals for permanent repair of a Defect	No later than 14 Days before conducting a permanent repair of any Defect.	Approval	9.4.4
General Inspection Plan	No later than 7 Days before inspection date	For Review and Comment	9.5.1
Specialist Inspection Analysis Report	No Later than 14 Days after receipt of Specialist Inspection data	Review and Comment	9.5.2.3
Renewal Work and Maintenance Services Record Documents, supporting calculations and details	At least 60 days prior to the end of the Maintenance Period, or upon termination of the Capital Maintenance Contract	For Information	9.7.7.2, 9.7.11
Draft Railroad Agreement	As needed	For Review and Comment	9.7.9
Final Railroad Agreement	As needed	Approval	9.7.9
Copies of all insurance policies	Prior to entry to operating railroad property	For Information	9.7.9
Maintenance Transition Plan	At least 60 Days prior to the end of the Maintenance Period	For Information	9.7.11
Notification of Nonconforming Work	Within two Days of discovering the Nonconforming Work	For Information	9.8.2
Maintenance Services Report	Quarterly following the Initial Maintenance Term Commencement Date	For Information	9.8.3