0100 GENERAL

0101 General requirements

A. Maintenance Contractor shall be responsible for and shall carry out Maintenance Services for the Maintained Elements set forth in Exhibit 2, Attachment 2 throughout the Maintenance Term such that each Maintained Element set forth in Exhibit 2, Attachment 2 shall comply with the Performance Requirements set forth in Attachment 1 to this Maintenance Specification.

B. In carrying out the Maintenance Services, Maintenance Contractor shall take into account and comply with the requirements of this Maintenance Specification.

C. The limits for Maintenance Services are set forth in Attachment 3 to this Maintenance Specification.

0200 PROJECT MANAGEMENT

0201 General Requirements

A. Maintenance Contractor shall establish and maintain an organization that effectively manages all the Maintenance Services. This Project management effort will be defined and guided by the Maintenance Management Plan. The Maintenance Management Plan is an umbrella document that describes the Maintenance Contractor's managerial approach, strategy, and quality procedures to maintain the Project and achieve all requirements of the CMA Documents. Unless otherwise agreed by Texas Department of Transportation (TxDOT), the Maintenance Management Plan shall be consistent with the capital maintenance plan submitted with the Proposal.

B. TxDOT will audit and monitor the activities described in the Maintenance Management Plan to assess Maintenance Contractor performance. All statements contained in the Maintenance Management Plan shall be of an auditable nature, as described in Section 19.2 of the Technical Provisions.

0202 Project Schedule

A. The Parties recognize the importance of the Project Schedule for defining the time-frame for the maintenance of the Project and the achievement of the milestones. The Parties also recognize the importance of the Project Schedule in monitoring the progress of Maintenance Services of the Project and denoting changes that occur.

B. Every submitted schedule shall be in the form of a single hard copy in full-size color plot sheets, along with a backup disk of the schedule in electronic format.

C. The scheduling software employed by the Maintenance Contractor shall be compatible with the scheduling software employed by TxDOT. Maintenance Contractor shall implement any new operating practices or software required as a result of TxDOT's amendments to any such systems, standards and procedures. TxDOT's current software in use is Primavera 6.2 (P6). "compatible", as used in this Section 0202C, shall mean that the Maintenance Contractor-provided electronic file version of the Project Schedule may be loaded or imported by TxDOT using its scheduling software with no modifications, preparation or adjustments. Maintenance Contractor shall be responsible for updating scheduling software to maintain compatibility with current TxDOT supported scheduling software.

D. Maintenance Contractor shall prepare a Maintenance Services Deliverables Schedule and shall submit it to TxDOT for review and approval. Approval of the Maintenance Services Deliverables Schedule shall be a condition precedent to commencing Maintenance Services.

E. The Maintenance Services Deliverables Schedule shall refer to the activities within the Maintenance Management Plan which will provide a narrative describing, in general fashion, the Maintenance Contractor's proposed methods of operation for Maintenance Services. The Maintenance Management Plan shall address the general sequence of Maintenance Services and all Schedule deadlines.

F. The Maintenance Services Deliverables Schedule shall include all major activities of Maintenance Services required under the CMA Documents, in sufficient detail to monitor and evaluate progress, during the Maintenance Period(s).

G. The Maintenance Services Deliverables Schedule shall include activities for maintenance and interfaces with other projects, localities, municipalities and other Governmental Entities.

H. For each activity, Maintenance Contractor shall indicate the duration (in Days) required to perform the activity and the anticipated beginning and completion date of each activity. In addition, the Maintenance Services Deliverables Schedule shall indicate the sequence of performing each activity and the logical dependencies and inter-relationships among the activities.

I. The Maintenance Services Deliverables Schedule shall include a listing of all submittals as called out in the CMA Documents. Submittal activity durations shall include specific durations for TxDOT review and/or approval of the Maintenance Contractor's submittals as called out elsewhere in the CMA Documents.

J. With the exception of activities relating to Environmental Approvals by Governmental Entities, each activity depicting the Maintenance Contractor's operations shall have duration of not more than 20 Days, and not less than one Day, except as otherwise approved by TxDOT.

K. Maintenance Contractor shall update or provide a notification of no change to the current schedule, on at least an annual basis, the approved Maintenance Services Deliverables Schedule to reflect the current status of the Project, including approved Change Orders.

L. Each Maintenance Services Deliverables Schedule update shall accurately reflect all activities as of the Effective Date of the updated schedule.

M. The Maintenance Services Deliverables Schedule update shall include a schedule narrative report which describes the status of the Maintenance Services in detail.

N. On or before 60 days after the issuance of Maintenance NTP1, Maintenance Contractor shall submit the first Capital Asset Replacement Work Submittal (forming part of the Maintenance Management Plan) for TxDOT for review as further described in Section 1903.

0203 Maintenance Document Management Plan

A. Maintenance Contractor shall establish and maintain an electronic document control system ("Maintenance Document Management Plan") to store, catalog, and retrieve all Project-related documents in a format compatible with Texas Reference Marker System used by TxDOT. Unless otherwise directed by TxDOT, record retention shall comply with the requirements of the Texas State Records Retention Schedule.

B. All records and the then-current electronic document control system shall be provided to TxDOT at the time of the expiration or earlier termination of the CMA.

0204 Maintenance Services Quality Control Plan

A. Maintenance Contractor shall submit a comprehensive quality control plan ("Maintenance Services Quality Control Plan') to TxDOT for approval that is consistent with and expands upon the preliminary Maintenance Services Quality Control Plan submitted with the Proposal.

B. The Maintenance Services Quality Control Plan shall be consistent with current versions of ISO standards relating to quality and audit as updated by the International Standards Organization. Maintenance Contractor may elect to obtain formal ISO quality certification, but will not be required to do so.

C. The Maintenance Services Quality Control Plan shall describe the system, policies, and procedures that address the Maintenance Services and provide documented evidence that the Maintenance Services were performed in accordance with the CMA Documents.

D. The Maintenance Services Quality Control Plan shall incorporate the following features:

- Maintenance Contractor shall make all quality records immediately available to TxDOT for review. Maintenance Contractor shall provide TxDOT with a copy of any and/or all quality records when requested.

- The Maintenance Services Quality Control Plan shall capture all work performed by the Maintenance Contractor and all Subcontractors.
- Maintenance Contractor shall submit to TxDOT the results of all internal audits within seven Days of their completion,
- Maintenance Contractor shall submit to TxDOT non-conformance reports within seven Days their issuance and resolution. Maintenance Contractor shall notify TxDOT of a Nonconforming Work within two Days of discovering the Nonconforming Work.
- TxDOT will issue a non-conformance report if TxDOT discovers any Nonconforming Work.

E. The Maintenance Services Quality Control Plan shall contain detailed procedures for all activities performed by the Maintenance Contractor. Maintenance Contractor's quality process shall incorporate planned and systematic activities. Maintenance Contractor shall conduct all activities in accordance with the Maintenance Services Quality Control Plan and the requirements of the CMA Documents.

F. Inspections, reviews, and testing shall only be performed by personnel with appropriate training and qualifications, using appropriate equipment that is accurately calibrated and maintained in good operating condition at an AMRL (AASHTO R18, "Establishing and Implementing a Quality System for Construction Materials Testing Laboratories") accredited facility, or at a facility with comparable certification (e.g. ISO 17025, "General requirements for the competence of testing and Calibration laboratories".)

G. Quality terminology, unless defined or modified elsewhere in the CMA Documents, shall have the meaning defined in BS ISO 9001. Terms used in BS ISO 9001 shall have the meanings defined below:
   - Organization: the Maintenance Contractor's organization, including any Affiliates and Subcontractors.
   - Customers: the Users of the roadways, TxDOT, Customer Groups, and key stakeholders that have an adjacent property interest or connecting roadway.
   - Suppliers: Contractors.
   - Product: Maintenance Services.
   - Quality control: the part of quality management focused on fulfilling quality requirements.
   - Quality Management Plan: the Maintenance Services Quality Control Plan described in this Section 0204.

H. Maintenance Contractor shall maintain the Maintenance Services Quality Control Plan to contain current versions of the following information:
   - The organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships.
   - Description of the roles and responsibilities of all quality management personnel and those who have the authority to stop activities.

- Identification of testing agencies, including information on each agency's capability to provide the specific services required for the activities; certifications held; equipment; and location of laboratories.
- Resumes for all quality management personnel.

I. The Maintenance Services Quality Control Plan shall contain a complete description of the quality policies and objectives that the Maintenance Contractor will implement throughout its organization. The policies shall demonstrate the Maintenance Contractor senior management's commitment to implement and continually improve the maintenance quality management system.

J. The Maintenance Services Quality Control Plan shall contain detailed systems and procedures the Maintenance Contractor will implement, including the following:
   - Control of quality records;
   - Management reviews;
   - Resource allocation;
   - Measurement of customer satisfaction;
   - Control of nonconforming products and services;
   - Internal audits;
   - A process to seek continual improvement of the Maintenance Services Quality Control Plan.

K. The Maintenance Services Quality Control Plan shall contain detailed descriptions of the inspection and test plans, including the timing and frequency of testing, that the Maintenance Contractor will use to meet quality control requirements of the Maintenance Services.

L. Maintenance Contractor shall revise its Maintenance Services Quality Control Plan when its own quality management organization detects a repeating or fundamental non-conformance in the work performed or in the manner the Maintenance Services are inspected or tested, or when TxDOT advises the Maintenance Contractor of such a problem.

M. Maintenance Contractor's Maintenance QC Manager staff shall have no responsibilities in the provision of Maintenance Services. Quality control staff shall only have responsibilities on the provision of Maintenance Services.

N. Maintenance Contractor's Maintenance QC Manager shall report directly to the Maintenance Contractor's principals.

O. The Maintenance QC Manager shall prepare an annual report of the quality inspections and tests performed, results of such inspections and tests, and occurrences and resolution of nonconformance discoveries. Maintenance Contractor shall submit the annual reports to TxDOT for review.

P. Maintenance Contractor's QC Manager shall have the authority to stop work for quality-related issues.

Q. Not later than two Business Days after the Maintenance Contractor completes design of any particular Released for Construction Documents, and the Maintenance Contractor has reviewed and checked the design in accordance with the Maintenance Services Quality Control Plan, and the Maintenance Contractor's Registered Professional Engineer has signed and sealed the document, the Maintenance Contractor shall submit the signed and sealed document to TxDOT. Maintenance Contractor's Released for Construction Documents shall comply with the CMA Documents, and shall be detailed, complete, constructible, and shall allow verification of the design criteria and compliance with CMA Documents.

R. Maintenance Contractor shall perform Maintenance Services in accordance with the Released for Construction Documents, following a reasonable timeframe for TxDOT review and comment, together with the relevant requirements and specifications of the CMA Documents.

S. On or about the Effective Date of termination of Maintenance Services, the Maintenance Contractor shall submit to TxDOT a complete set of Record Drawings. The Record Drawings and Documentation shall be an organized, complete record of drawings and supporting calculations and details that accurately represent what the Maintenance Contractor constructed.

T. Maintenance Contractor shall ensure that the Record Drawings reflect the actual condition of the Maintenance Services construction.

U. The Maintenance Services Quality Control Plan shall contain detailed procedures for the Maintenance Contractor's quality control activities. Maintenance Contractor's construction or maintenance operations must incorporate quality processes as part of its Quality Management Plan, including planned and systematic activities undertaken by a party independent of the construction or maintenance process. Maintenance Contractor is to undertake all quality control in accordance with the Quality Management Plan and the requirements set out in the CMA Documents.

0205 Maintenance Safety Plan

A. Maintenance Contractor shall be responsible for the safety of its personnel and of the general public affected by the Project.

B. Maintenance Contractor shall submit to TxDOT for approval a comprehensive safety plan ("Maintenance Safety Plan") that is consistent with and expands upon the preliminary safety plan submitted with the Proposal. The Maintenance Safety Plan shall fully describe the Maintenance Contractor's policies, plans, training programs, work site controls, and Incident Management Plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Maintenance Term.

C. Maintenance Contractor's Maintenance Safety Plan shall address procedures for immediately notifying TxDOT of all Incidents arising out of or in connection with the performance of the Maintenance Services, whether on or adjacent to the Project.

0206 Management of Communications between Maintenance Contractor and TxDOT

A. Maintenance Contractor shall submit a comprehensive communications plan ("Maintenance Communications Plan") to TxDOT for approval that is consistent with and expands upon the preliminary communications plan submitted with the Proposal. Maintenance Contractor shall maintain and update the Maintenance Communications Plan as the Maintenance Term progresses.

B. The Maintenance Communications Plan shall describe the processes and procedures for communication of Project information between the Maintenance Contractor's organization and TxDOT.

C. The Maintenance Communications Plan shall describe how the Maintenance Contractor's organization will respond to unexpected requests for information, communicate changes or revisions to necessary Maintenance Contractor personnel, and notify TxDOT before and after changes are made to the CMA Documents.

0207 Design

A. In carrying out the Maintenance Services, where there is a requirement for design, the Maintenance Contractor shall ensure that the Project is restored either to the original design used for the construction of the Project, or to a different design that shall be in accordance with the requirements for design set forth in the Contract Documents.

B. TxDOT shall retain the approval of certain documents as described in Section 3.0 of the Design-Build Agreement

0208 Maintenance Transition

A. Maintenance Contractor shall submit the Maintenance Transition Plan within the time period specified in Section 3.6.1 of the CMA Document. As a minimum, the Maintenance Transition Plan shall address the following items.

- Prepare and submit to the TxDOT, for TxDOT approval, a right of entry permit for access to the Project for performance of corrective action regarding the condition of the Project immediately prior to transfer.
- Prepare and submit Maintenance Transition punch list, list and status of equipment Warranties, vendors' test reports, Maintenance Contractor's test reports, all as-built drawings for Capital Asset Replacement Work, Maintenance Records (including NBIS records), copies of Warranty and service contracts, and spare parts purchased as part of the Maintenance Services.

- Coordinate the identification of Maintenance Transition punch list items required to be completed by Maintenance 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.
- Prepare (in conjunction with TxDOT), administer and complete all items on the maintenance transfer punch list to the satisfaction of the TxDOT. Maintenance Contractor shall complete all items on the Maintenance Transition punch list to the satisfaction of the TxDOT prior to the transfer of maintenance responsibilities to TxDOT.
- Certify to TxDOT in writing that the Project can be safely used for its intended purpose and that the Maintenance Services have been performed in accordance with the terms of the CMA Documents, Governmental Approvals and applicable Law.
- Certify to TxDOT in writing that there are no Hazardous Materials located within, on, in or under the Project ROW due to the actions, omissions, negligence, willful Misconduct, or breach of applicable Law or contract by the Maintenance Contractor or any Major Subcontractors.
- Certify to TxDOT in writing that there is no litigation pending regarding the Maintenance Services or the Project by the Maintenance Contractor or any Major Subcontractors.

0300 PUBLIC INFORMATION AND COMMUNICATIONS

0301 General Requirements

A. It is vital to the success of the Project that TxDOT and the Maintenance Contractor gain and maintain public support. The public will better support TxDOT and the Maintenance Contractor if they are kept abreast of Project information in a timely manner, are notified in advance of potential impacts, have an opportunity to identify issues and recommend solutions, receive timely and appropriate feedback from the Maintenance Contractor, and perceive a high quality, well executed communications plan for keeping them informed, engaged, and educated.

B. Maintenance Contractor shall provide information within 24 hours of a request by TxDOT, such that TxDOT may communicate such information to interested parties.

0400 ENVIRONMENTAL

It is not envisioned that there will be any requirement for environmental permitting, mitigation, or Hazardous Material remediation caused by Maintenance Services. Environmental permitting, mitigation, and Hazardous Material remediation required due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

0500 THIRD PARTY AGREEMENTS

It is not envisioned that there will be any impact on third party agreements by Maintenance Services. If there is any such impact, for example due to extension or reconstruction works, these shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

0600 UTILITY ADJUSTMENTS

It is not envisioned that there will be any requirement for Utility Adjustments caused by Maintenance Services. Utility Adjustments required due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

0700 RIGHT OF WAY (ROW)

It is not envisioned that there will be any ROW requirements for Maintenance Services. ROW requirements due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

0800 GEOTECHNICAL

It is not envisioned that there will be any geotechnical requirements for Maintenance Services. Geotechnical requirements due to reconstruction etc shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

0900 LAND SURVEYING

It is not envisioned that there will be any land surveying requirements for Maintenance Services. Land surveying requirements due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1000 GRADING

Grading requirements shall be in accordance with Attachment 1 (Table 19-1) and Attachment 2 to CMA Exhibit 2. Grading requirements due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1100 ROADWAYS

Roadways shall be maintained in accordance with Attachment 1 (Table 19-1) and Attachment 2 to Exhibit 2. Roadway requirements required due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1200 DRAINAGE

Not Used.

1300 STRUCTURES

General: Maintenance of all structures shall be in accordance with Attachment 1 (Table 19-1) and Attachment 2 to Exhibit 2. Structures requirements required due to reconstruction etc., shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1400 RAIL

1401 Project work affecting railroad operations

A. Should the Project cross a railroad right of way owned by an operating railroad, Maintenance Contractor shall coordinate the Maintenance Services with the operating railroad.

B. Maintenance Contractor shall be responsible for obtaining the required approvals, permits, and agreements as required for the Maintenance Services, including any railroad related Maintenance Services.

C. Whenever an agreement for construction, maintenance and use of railroad right-of-way between the operating railroad and TxDOT is required, Maintenance 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. Maintenance Contractor shall submit the draft agreement to TxDOT for transmittal to the operating railroad. After all comments have been incorporated or satisfactorily resolved by Maintenance Contractor, railroad or TxDOT, Maintenance Contractor shall submit a complete and final agreement to TxDOT for execution.

D. Maintenance Contractor shall arrange with the operating railroad for railroad flagging as required. Maintenance 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.

E. Maintenance 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.

F. Maintenance 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 named insured. Maintenance Contractor shall obtain insurance per Exhibit 10 of the CMA Documents.

G. 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 the Maintenance Contractor upon operating railroad property.

1402 Construction Requirements

A. Maintenance Contractor shall comply with all construction requirements and specifications set forth by the operating railroad.

B. Maintenance 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. Maintenance Contractor shall be responsible for all costs associated with the railroad/transit force account work.

1500 AESTHETICS AND LANDSCAPING

1501 Project work affecting aesthetics and landscaping

A. Maintenance Contractor shall repair all structural or natural failures of the embankment and cut slopes of the Project throughout the term of this CMA. Such work shall include all work required to maintain the slopes in general conformance to the original graded cross-sections, the replacement of landscaping materials, reseeding and re-vegetation for erosion control purposes and removal and disposal of all eroded materials from the roadway and shoulders. TxDOT and Maintenance Contractor acknowledge that plant establishment requirements and obligations are not included within the Maintenance Services, but are part of the DB Contractor's obligations under the Design-Build Agreement for a period of 3 years after the date of Final Acceptance. However, if a structural or natural failure of the embankment or cut slope occurs in a landscaped area after the 3 year time period expires, the Maintenance Contractor shall be responsible to perform plant establishment activities for 90 calendar days in accordance with Item 192 (Landscape Planting) and Item 193 (Landscape Establishment) of the 2004 TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges.

1600 SIGNING, DELINEATION, PAVEMENT MARKING, SIGNALIZATION, AND LIGHTING

1601 Administrative Requirements

Not used.

1602 Third Party Signs

Not used.

1603 Construction requirements

A. Maintenance Contractor shall leave all applicable advance guide signs and/or exit direction signs in place at all times and shall not obstruct the view of the signs to the Users. Maintenance Contractor shall replace any other removed signs before the end of the work day.

1604 Other requirements

A. Signing, delineation, pavement marking, signalization, and lighting requirements due to reconstruction etc. shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1700 INTELLIGENT TRANSPORTATION SYSTEMS

It is not envisioned that there will be any intelligent transportation system requirements for Maintenance Services. Intelligent transportation system requirements due to reconstruction etc.. shall be dealt with in accordance with appropriate sections of the Design-Build Agreement.

1800 TRAFFIC MANANGEMENT

1801 General Requirements

A. Throughout the Maintenance Term, Maintenance Contractor shall conform with the requirements set forth in this Series 1800, 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.

B. While planning and carrying out Maintenance Services, Maintenance Contractor shall take into account the restrictions (if any) set forth in Attachment 6 to this Maintenance Specification.

1802 Administrative Requirements

A. As a component of the Maintenance Management Plan, Maintenance Contractor shall develop, implement, and maintain a Traffic Management Plan (TMP) to be used during the Maintenance Term. At a minimum, the TMP shall include the following:
   (i) Descriptions of the qualifications and duties of the traffic engineering manager, traffic control coordinator, and other personnel with traffic control responsibilities
   (ii) Procedures to identify and incorporate the needs of transit operators, Utility Owners, Governmental Entities, local governmental agencies, Emergency

Service providers, school districts, business owners, and other related Users, Customer Groups or entities in the Project corridor and surrounding affected areas

(iii) Procedures for obtaining acceptance of detours, road and Lane Closures and other traffic pattern modifications from applicable Governmental Entities, stakeholders, and adjacent sections of roads and adjacent landowners, and implementing, maintaining and removing those modifications

(iv) Procedures for installation, maintenance and removal of interim signing and the corresponding handling of permanent signing during maintenance operations

(v) Procedures for installation, maintenance, replacement and removal of traffic control devices, including pavement markings and traffic barriers, if used

(vi) Procedures and process for the safe ingress and egress of construction vehicles in the work zone

(vii) Provisions to provide continuous access to established truck routes and Hazardous Material (HazMat) routes, and to provide suitable detour routes, including obtaining any approvals required by the appropriate Governmental Entities for these uses

(viii) Procedures to modify plans as needed to adapt to changing Project circumstances

(ix) Procedures to communicate TMP information to Maintenance Contractor's public information personnel and notify the public of maintenance of traffic issues

(x) Descriptions of contact methods, personnel available, and response times for any Emergency conditions requiring TxDOT attention during off-hours.

1803 Design Requirements

A. Maintenance Contractor shall use the procedures in the TMP and the standards of the TMUTCD to develop detailed traffic control plans that provide for all Maintenance Services, as well as all required switching procedures. The traffic control plans shall include details for all detours, traffic control devices, striping, and signage applicable to each Maintenance Activity event. Information included in the traffic control plans shall be of sufficient detail to allow verification of design criteria and safety requirements, including typical sections, alignment, striping layout, drop off conditions, and temporary drainage. The traffic control plans shall clearly designate all temporary reductions in speed limits. Changes to posted speed limits will not be allowed unless specific prior approval is granted by TxDOT.

B. Maintenance Contractor shall ensure that opposing traffic on a normally divided roadway shall be separated with appropriate traffic control devices.

C. Maintenance Contractor shall maintain signing continuity on all active roadways within or intersecting the Project at all times.

D. Maintenance Contractor shall ensure all streets and intersections remain open to traffic to the greatest extent possible. Maintenance Contractor shall maintain access to all adjacent streets and shall provide for ingress and egress to public and private properties at all times.

1804 Construction Requirements

A. Construction shall be in accordance with Maintenance Contractor's TMP, the manufacturer's directions or recommendations where applicable, and the applicable provisions of the TMUTCD

B. If at any time TxDOT determines Maintenance Contractor's traffic control operations do not meet the intent of the TMP or any specific traffic control plan, Maintenance Contractor shall immediately revise or discontinue such operations to correct the deficient conditions

C. Maintenance Contractor shall provide TxDOT the names of the traffic control coordinator and support personnel, and the phone number(s) where they can be reached 24 hours per day, seven days per week.

D. Maintenance Contractor shall maintain existing bicycle and pedestrian access and mobility with the frontage roads and across all cross streets. Maintenance Contractor shall maintain Access to existing transit stop locations during construction or reasonable alternative locations shall be provided.

E. Maintenance Contractor shall maintain all detours in a safe and traversable condition. Maintenance Contractor shall provide a pavement transition at all detour interfaces, suitable for the posted speed of the section.

1805 Deliverables

A. The TMP must be approved by TxDOT prior to the start of Maintenance Services. Maintenance Contractor shall provide TxDOT sufficient time for review of, and comment on, the TMP. TxDOT retains the right to require revision and re-submittal of the TMP within a reasonable amount of time.

B. Each traffic control plan shall be submitted to TxDOT for review a minimum of 10 Days prior to implementation.

1900 MAINTENANCE

1901 General Maintenance Requirements

A. Maintenance Contractor shall remedy and repair the Maintained Elements including renewal or rehabilitation work not scheduled in the Maintenance Contractor's annually recurring highway maintenance and repair program.

B. Maintenance Contractor shall perform Capital Asset Replacement Work:

(i) when required by Maintenance Contractor's approved Maintenance Management Plan and updates thereto; or

(ii) when a Performance Requirement is not met and the required level of performance cannot be achieved by means of routine or preventive maintenance.

C. TxDOT retains maintenance responsibilities for Non-maintained Elements and TxDOT will perform Maintenance Services and other work associated with the Project for Non-Maintained Elements. Third parties, such as Utilities and the Systems Integrator may require access to the Project to perform maintenance or other work. In addition to the requirements for traffic management set forth in Series 1800, Maintenance Contractor shall coordinate its Traffic Management Plan with the traffic management to be performed by others, to minimize disruption to Users of the Project

D. Whenever an activity by Maintenance Contractor disturbs, alters, removes or changes any Non-maintained Element, Maintenance 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.

E. Whenever Maintenance Contractor becomes aware of any Defect in any Maintained Element that Maintenance Contractor considers Maintenance Contractor is not required to repair, or any maintenance activity that Maintenance Contractor considers should be performed, but which Maintenance Contractor considers Maintenance Contractor is not required to perform as part of the Maintenance Services, Maintenance Contractor shall immediately notify TxDOT of the nature of the Defect or maintenance activity and relevant details that will facilitate repair or action by TxDOT.

1902 General Maintenance Obligations

A. Maintenance Contractor shall take all necessary actions to achieve the following:

(i) Maintain the Maintained Elements in a manner appropriate for a facility of the character of the Project.

(ii) Minimize delay and inconvenience to Users and, to the extent Maintenance Contractor is able to control, Users of adjacent and connecting roadways.

(iii) Minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Maintenance Services.

(iv) Coordinate with and enable TxDOT and others with statutory duties or functions in relation to the Project to perform such duties and functions.

(v) Perform systematic Project inspections, periodic maintenance, and routine maintenance in accordance with the provisions of Maintenance Contractor's Maintenance Management Plan and Maintenance Contractor's Maintenance Safety Plan and the CMA Documents.

B. Maintenance Contractor is responsible for providing all resources necessary for the performance of all Maintenance Services in the Maintenance Management Plan and as required by the CMA Documents.

C. Maintenance Contractor shall comply with the requirements of Series 1800 – Traffic Management

D. All Lanes shall be maintained in accordance with the same standard of maintenance.

E. For Category 1 Defects, the Maintenance Contractor shall take necessary action such that the hazard to Users is mitigated within the period given in the column entitled "Category 1 Hazard Mitigation" in Attachment 1 to this Maintenance Specification, and shall permanently remedy the Category 1 Defect within the period given in the column entitled "Category 1 Permanent Remedy" in Attachment 1 to this Maintenance Specification.

F. For Category 2 Defects, the Maintenance Contractor shall undertake the permanent repair within the period specified in the column entitled "Category 2 Permanent Repair" in Attachment 1 to this Maintenance Specification.

G. The Maintenance Contractor shall coordinate with TxDOT to achieve a smooth transition of Maintenance Services from and to TxDOT.

1903 Maintenance Management Plan (MMP)

A. Maintenance Contractor shall prepare a Maintenance Management Plan (MMP) that is consistent with the general maintenance obligations described in Section 1902 (General Maintenance Obligations) and defines the process and procedures for the maintenance of the Project throughout the Maintenance Term. The MMP shall include Performance Requirements, measurement procedures, threshold values at which maintenance is required, inspection procedures and frequencies, and subsequent maintenance to address noted deficiencies, for each Maintained Element of the Project in accordance with Attachment 1 to this Maintenance Specification, including impacts to adjacent and connecting roadways. The MMP shall identify response times to mitigate hazards, permanently remedy, and permanently repair Defects. Response times shall be in accordance with the Attachment 1 to this Maintenance Specification. Maintenance Contractor shall update this plan as required, or at least annually.

B. The MMP shall include procedures for managing records of inspection and Maintenance Services, including appropriate measures for providing protected duplication of the records. Inspection and Maintenance Records shall be kept for the Maintenance Term and shall be provided to TxDOT at the time the Project is delivered to TxDOT, at either the expiration of the Maintenance Term or earlier termination of the Agreement. All records obtained during the Warranty Periods shall be kept and provided to TxDOT at the end of the last Warranty Period.

C. Maintenance Contractor shall submit the MMP to TxDOT for review and approval no later than 60 Days following the issuance of NTP1. Approval by TxDOT of the MMP shall be a condition precedent to the performance of Maintenance Services.

D. To the extent that Maintenance Contractor proposes any enhancements to the Performance Requirements set forth in Attachment 1 to this Maintenance Specification, Maintenance Contractor's MMP shall include Performance Requirements, measurement procedures, and threshold values at which maintenance is required for each Maintained Element of the Project in accordance with Section 1908 of this Maintenance Specification, including impacts to Adjacent Work or facilities. Inspection procedures and frequencies, and subsequent maintenance to address noted deficiencies of the Maintained Elements shall also be included, in accordance with the requirements of Section 1909 of this Maintenance Specification. The MMP shall identify response times to mitigate hazards, permanently remedy, and permanently repair Defects, which shall, at a minimum, be in accordance with Attachment 1 to this Maintenance Specification. Maintenance Contractor shall update this plan as required, or at least annually.

E. The MMP shall include Maintenance Contractor's proposals for Capital Asset Replacement Work, as set forth in Section 3.2 of the Agreement and as further described below. The Capital Asset Replacement Work Submittal (which is to be a component of the MMP) shall include the timing, scope and nature of work that Maintenance Contractor proposes during each year for which the Maintenance Services are to apply. Maintenance Contractor shall set forth, by Maintained Element:

    (i) the estimated Useful Life;

    (ii) a description of the type of Capital Asset Replacement Work anticipated to be performed at the end of the Maintained Element's Useful Life;

    (iii) a brief description of any Capital Asset Replacement Work anticipated to be performed before the end of the Maintained Element's Useful Life, including reasons why this work should be performed at the proposed time; and

    (iv) a Capital Asset Replacement Work Schedule as described in Section 0202 (Project Schedule) of this document.

F. Maintenance Contractor shall prepare updates to the Capital Asset Replacement Work requirements of the MMP as set forth in Section 3.2 of the Agreement.

1904 Maintenance During Work

See applicable area of Design-Build Agreement.

1905 Highway Location and Data Requirements

A. Maintenance Contractor shall implement the Texas Reference Marker System.

1906 Auditable Sections

A. Maintenance Contractor shall establish Auditable Sections referenced to the Texas Reference Marker System used by TxDOT. Maintenance Contractor shall prepare drawings identifying the Auditable Sections and shall submit to TxDOT for approval as a condition precedent to commencing Maintenance Services. The drawings shall identify the boundaries of each Auditable Section and shall cross reference to an inventory describing each Maintained Element of the Project contained within each Auditable Section.

1907 Maintenance Management System

A. Maintenance Contractor shall implement a computer based Maintenance Management System (MMS), compatible with TxDOT MMS, to record inventory, failures, repairs, maintenance activities and inspections performed.

B. The MMS shall include relevant Maintained Element information including but not limited to, location to the nearest tenth mile, using the posted reference marker number, Geographic Information System (GIS) data and control number for bridge class structures, asset description, date of installation, type of failure, date-time of failure, date-time of response to the site and date-time returned to service, preventive maintenance work, scheduled work, work repair code, time of failure, to time of repair. The MMS shall be configured to report work by TxDOT "function code" shown in Attachment 7, Maintained Element, reference marker, and unit of measurement, as the same described in the aforementioned MMS User Manual, to categorize the Maintenance Services performed by the Maintenance Contractor.

C. The MMS system shall be able to record all complaints/service requests. The Maintenance Contractor shall be able to report weekly to the TxDOT, on a format approved by TxDOT, information on any complaints or service requests received by the Maintenance Contractor. This information will include the following:

(i) The date and time of the complaint;

(ii) The location and nature of the problem;

(iii) Injuries and police involvement, including agency, name and badge number;

(iv) Who made the complaint; and

(v) Date and action taken to address the complaint

D. The MMS system shall be able to record all accidents/Incidents. The Maintenance Contractor shall be able to report in writing to the TxDOT, no later than the 15th of each calendar month on a format approved by the TxDOT, information from the previous month on any accident or Incident related to Maintenance Services being performed by Maintenance Contractor or within a work zone, including:

(i) accidents involving Maintenance Contractor or any Subcontractor personnel, equipment, barricades or tools;
(ii) traffic accidents within the limits or in the vicinity of any Maintenance Services being performed by Maintenance Contractor or any Subcontractors;
(iii) Releases of Hazardous Materials;
(iv) any accident involving Maintenance Contractor or the traveling public that causes damage to any Project appurtenance, structure, improvement or fixture.
(v) with respect to any accident/Incident, the information provided shall include as a minimum:
a. The date and time of the accident/Incident;
b. The location of the problem;
c. The nature of the problem;
d. All parties involved in the Incident, including names, addresses, telephone numbers and their involvement (including witnesses);
e. Responsible party and insurance information;
f. Action taken to address the Incident; and
g. Documentation of traffic control in place at location.

E. When a Maintained Element is constructed, installed, maintained, inspected, modified, replaced or removed, the MMS shall be updated within three days of completion of such work. Defects shall be recorded on the MMS within 3 days of them coming to the attention of Maintenance Contractor. All other recording requirements shall be recorded on the MMS within 15 days of completion or occurrence of the relevant activity.

F. The MMS shall be fully populated and operational prior to the commencement of Maintenance Services and kept updated and operational for the duration of the Maintenance Term. Maintenance Contractor shall provide equipment, facilities and training necessary to permit remote, real-time, dedicated high-speed access to the MMS, via one terminal each, for TxDOT. Maintenance Contractor shall handover the MMS and everything required for its operation to TxDOT, or other entity as directed by TxDOT, upon expiration or earlier termination of Maintenance Term.

G. In the event that TxDOT does not require Maintenance Contractor to provide a computer based Maintenance Management System, Maintenance Contractor shall provide TxDOT with all relevant Maintained Element information including but not limited to, location to the nearest tenth mile, using the posted reference marker number, GIS data and control number for bridge class structures, asset description, date of installation, type of failure, date-time of

failure, date-time of response to the site and date-time returned to service, preventive maintenance work, scheduled work, work repair code, time of failure, to time of repair. A report shall be available to summarize work by TxDOT "function code", Maintained Element, reference marker, and unit of measurement, as the same described in the aforementioned MMS User Manual, to categorize the Maintenance Services performed by the Maintenance Contractor. When a Maintained Element is constructed, installed, maintained, inspected, modified, replaced or removed, the Maintenance Contractor shall provide TxDOT with all relevant information within three days of completion of such work. Maintenance Contractor shall provide all relevant information concerning Defects within 3 days of them coming to the attention of Maintenance Contractor. All other information requirements shall be provided to TxDOT within 15 days of completion or occurrence of the relevant activity.

1908 Performance Requirements

A. In the Maintenance Management Plan (MMP), Maintenance Contractor shall set forth annually, for TxDOT approval, a revised version of Attachment 1 to this Maintenance Specification that shall, except where indicated below, be consistent with Attachment 1 to this Maintenance Specification

B. The first such submittal of the revised version of Attachment 1 to this Maintenance Specification shall be submitted for TxDOT approval as a condition precedent to the commencement of Maintenance Services The revised Attachment 1 to this Maintenance Specification shall set forth the following information:
Table 1908-1 – Attachment 1 Information Matrix

Heading in Attachment 1 to this Maintenance Specification	**Contents of Maintenance Contractor's submitted revised Attachment 1 to this Maintenance Specification**
Element	As Attachment 1 to this Maintenance Specification
Element Category	As Attachment 1 to this Maintenance Specification
Performance Requirements	As Attachment 1 to this Maintenance Specification
Response to Defects	As Attachment 1 to this Maintenance Specification
Inspection and measurement method	Subject to proposed amendment by Maintenance Contractor as part of annual submittal of MMP
Measurement record	Subject to proposed amendment by Maintenance Contractor as part of annual submittal of MMP
Target	As Attachment 1 to this Maintenance Specification

C. In its annual submittals of the revised Attachment 1 to this Maintenance Specification, Maintenance Contractor shall propose for TxDOT's approval such amendments to the inspection and measurement methods and measurement records as are necessary to cause these to comply with this Maintenance Specification.

D. Within this Maintenance Specification, reference to the revised Attachment 1 to this Maintenance Specification means the latest approved version of the revised Attachment 1 to this Maintenance Specification as included within Maintenance Contractor's MMP.

E. Failure to meet a Performance Requirement, whether through failure to meet the Target for any relevant measurement record, or for any other reason, shall be deemed to be a Defect. Whenever a Defect is identified, either by Maintenance Contractor's inspections, by TxDOT or any third party, Maintenance Contractor shall act to remedy, repair and record the Defect as described in paragraphs F, G and H of this Section 1908.

F. The remedy or repair of any Maintained Element shall meet or exceed the standard identified in the column entitled "Target" in Attachment 1 to this Maintenance Specification and a Maintenance Record shall be created by Maintenance Contractor to verify that this requirement has been met.

G. The period for 'Response To Defects' set forth in Attachment 1 to this Maintenance Specification shall be deemed to commence upon the Maintenance Contractor becoming aware of the Defect.

H. Where action is taken to remedy or repair any Defect in any Maintained Element of the Project in accordance with this Section 1908, Maintenance Contractor shall create a Maintenance Record that identifies the nature of the remedy or repair. Maintenance Contractor shall include within the relevant Maintenance Record a measurement record compliant with the requirements set forth in the column entitled "Measurement Record" in the Attachment 1 to this Maintenance Specification.

1909 Inspections

A. Maintenance Contractor shall establish inspection procedures and plan and implement a program of inspections of the Project to be included within the Project Schedule that:

(i) verifies the continuing safety of the Project for Users;

(ii) prioritizes Category 1 Defects;

(iii) ensures that all Category 1 Defects are identified and repaired such that the hazard to Users is mitigated within the period given in the column entitled "Category 1 Hazard Mitigation" in Attachment 1 to this Maintenance Specification;

(iv) ensures that all Category 1 Defects are identified and permanently remedied within the period given in the column entitled "Category 1 Permanent Remedy" in Attachment 1 to this Maintenance Specification;

(v) identifies Category 2 Defects to be included for repair either within Maintenance Contractor's annually recurring highway maintenance and repair program or as Capital Asset Replacement Work;

(vi) ensures that all Category 2 Defects are identified and permanently repaired within the period given in the column entitled "Category 2 Permanent Repair" in Attachment 1 to this Maintenance Specification;

(vii) is responsive to reports or complaints received from Customer Groups;

(viii) takes account of Incidents and Emergencies affecting the Project;

(ix) monitors the effects of extreme weather conditions; and

(x) collates data to monitor performance of the Project and to establish priorities for future maintenance operations and Capital Asset Replacement Work.

B. Maintenance Contractor shall ensure that personnel performing inspections of road pavements and structures are certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed.

C. The periods stated in Attachment 1 to this Maintenance Specification under the headings of Category 1 Defects and Category 2 Defects shall be deemed to start upon the date Maintenance Contractor first obtained knowledge of, or first reasonably should have known of, the defect. For this purpose Maintenance Contractor shall be deemed to first obtain knowledge of the failure not later than the date of delivery of the initial notice to Maintenance Contractor. Maintenance Contractor shall investigate reports and complaints on the condition of the Project received from all sources. Maintenance Contractor shall record such reports and complaints as Maintenance Records together with details of all relevant inspections and actions taken in respect of Defects, including temporary protective measures and repairs.

D. In performing inspections to identify Category 1 and Category 2 Defects, Maintenance Contractor shall, for any Maintained Element, conform at a minimum to the inspection standards set forth for that Maintained Element in the column entitled "Inspection and Measurement Method" on Attachment 1 to this Maintenance Specification.

E. Maintenance Contractor shall perform General Inspections in accordance with the MMP so that: the repairs of all Defects are included in planned programs of work; and in any case in accordance with paragraph G of this Section 1909.

F. Maintenance 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, on O&M Records in respect of General Inspections.

G. Maintenance Contractor shall perform General Inspections such that Category 2 Defects are identified and repaired within the period shown in Attachment 1 to this Maintenance Specification or, if the Defect is not specified in Attachment 1 to this Maintenance

Specification, within six months of the Defect occurring; provided that Defects which require special equipment to identify or are listed under the heading of Specialist Inspections in Table 1909-1 may have different identification periods.

H. Maintenance Contractor shall undertake Specialist Inspections for Maintained Elements listed in Table 1909-1 and shall include the inspection results as Maintenance Records.

Table 1909-1 – Specialist Inspections

Maintained Element	Specialist Inspection
All Maintained Elements in Element Category 'Roadway' in Attachment 1 to this Maintenance Specification	Annual survey of pavement condition for the entire Project, including main lanes, ramps, and frontage roads, undertaken using automated condition survey equipment to measure all necessary criteria including: ruts, skid resistance and ride quality according to the inspection and measurement methods set forth in Attachment 1 to this Maintenance Specification
All Maintained Elements in Element Category 'Structures' in Attachment 1 to this Maintenance Specification	Inspections and load rating calculations at the frequency specified in the CMA Documents. In addition, NBIS inspections as per FHWA regulations and at the frequency specified in FHWA regulations.

1910 Maintenance Contractor Audit Inspections

A. Maintenance Contractor shall undertake Audit Inspections of TxDOT's randomly selected Auditable Sections for audit purposes at least once quarterly. The Audit Inspections shall be designed such that over a period of one year the sample sections are statistically valid for 100% of the assets. Maintenance Contractor shall assess the condition of each Maintained Element using the inspection and measurement method set forth in the column entitled "Inspection and Measurement Method" in Attachment 1 to this Maintenance Specification.

B. Maintenance Contractor shall create a new Maintenance Record for each Maintained Element physically inspected in accordance with the column entitled "Measurement Record" on Attachment 1 to this Maintenance Specification. Audit Inspections shall be undertaken to a schedule agreed with TxDOT on Auditable Sections randomly selected by TxDOT. TxDOT shall be given the opportunity by seven days notice, to accompany Maintenance Contractor when it undertakes the physical inspections associated with the Audit Inspections.

1911 Asset Condition Score by Maintenance Contractor

A. Within ten days of the quarterly Audit Inspections, Maintenance Contractor shall assess its achievement of the Performance Requirements by self scoring against the Targets set forth on Attachment 1 to this Maintenance Specification.

B. Maintenance Contractor shall report quarterly to TxDOT an Asset Condition Score to include, for each Element Category, all of the Auditable Sections inspected in the most recent Audit Inspection. Maintenance Contractor shall assess the Asset Condition Score according to the measurement criteria set forth in Table 1911-1.

Table 1911-1 – Asset Condition Score Criteria for Element Categories
(Reported quarterly for each Element Category for all inspected Auditable Sections)

Score	Criteria
5	• Targets for individual Elements are almost entirely met (95% to 100% compliance with the relevant Targets for each Element within each Auditable Section), and • Is fully functional and in nearly new condition, meeting or exceeding Performance Requirement.
4	• Targets for individual Elements are substantially met (less than 95% compliance and 90% or greater compliance with the relevant Targets for each Element within each Auditable Section), and • Is functional and in good condition, meeting Performance Requirement.
3	• Targets for individual Elements are mostly met (less than 90% compliance and 75% or greater compliance with the relevant Targets for each Element within each Auditable Section), and • Is in fair condition, but suggesting need for early replacement, renewal or repair of individual Element and/or maintenance or operation improvement action to meet Performance Requirement.
2	• Targets for individual Elements are barely met (less than 75% compliance and 50% or greater compliance with the relevant Targets for each Element within each Auditable Section), or • In poor condition demonstrating need for immediate replacement, renewal or repair of individual Element and/or immediate change to MMP.
1	• Targets for individual Elements are not met (less than 50% compliance with the relevant Targets for each Element within each Auditable Section), or • In very poor condition demonstrating need for immediate replacement, renewal or repair of individual Element and/or immediate change to MMP.

Notes to Table 1911-1:

1. The Asset Condition Score for any Element Category shall be determined by the lowest Asset Condition Score for any Element within the Element Category. The calculation of Asset Condition Score is demonstrated by the following example:
Assume there are 52 Auditable Sections, of these 25%, or 13 are audited each quarter. If there are five Targets to be assessed for Element "pavement markings", there are therefore 5 x 13 = 65 measurement records for pavement markings. If 62 of these measurement records meet the Target, there would be 95.38% compliance and an Asset Condition Score of five assigned for that Element. However, if one of the remaining Elements in the Element Category achieves an Asset Condition Score of four the Asset Condition Score for the Element Category shall be four.

2. The mean of the Asset Condition Scores across Elements in any Element Category is calculated to 1 decimal point and also recorded.

3. Where a measurement record relates to a service measured over time or an Element that is not represented in more than 25% of Auditable Sections then the Asset Condition Score will be based on the total service and not a 5% random sample. This applies to the performance measurement of Element Categories: structures, traffic signals, Incident response, customer service, snow and ice control, facility buildings and toll equipment or other Element Categories meeting the above criteria identified following establishment of the Auditable Sections.

4. Pavement Condition Score is a component of Asset Condition Score for Element Category "Pavement", but Pavement Condition Score shall also be reported annually for the entire Project.

5. DB Contractor acknowledges that Asset Condition Score is a mechanism to benchmark the performance of the Project against the performance of other similar facilities and that TxDOT may, during the Term, alter the Asset Condition Score criteria to reflect Good Industry Practice.
6. "Mean" in this context shall be the arithmetic mean.

C. Where specific Measurement criteria are not provided in Attachment 1 to this Maintenance Specification, Maintenance Contractor shall use Good Industry Practice to assess the Asset Condition Score against the general criteria stated in Table 1911-1.

2000 BICYCLE AND PEDESTRIAN FACILITIES

It is not envisioned that there will be any requirement for bicycle and pedestrian facilities caused by Maintenance Services. Bicycle and pedestrian facilities requirements due to reconstruction etc. shall be dealt with in accordance with appropriate sections of Design-Build Agreement.

ATTACHMENT 1 TO THE MAINTENANCE SPECIFICATION
Table 19-1: Performance and Measurement Table Baseline

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
1) ROADWAY									
							Unless stated otherwise, measurements shall be conducted using procedures, techniques, and measuring equipment consistent with TxDOT's *Pavement Management Information System Rater's Manual.* Unless otherwise stated, pavement performance measurement records relate to 0.5-mile sections as described in the *Pavement Management Information System Rater's Manual*.		
	1.1	Obstructions and debris	Not used						
	1.2	Pavement	All roadways have a smooth surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months	**a) Pavement Condition Score** Measurements and inspections necessary to derive Pavement Condition Score	Pavement Condition Score for 80% of Auditable Sections exceeding: • Mainlanes and ramps – 90 • Frontage roads – 80 Pavement Condition Score for each Auditable Section exceeding:	100% 100% 100%

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
								• Mainlanes and ramps – 80 • Frontage roads – 70	100%
	1.2 cont						**b) Ruts – Mainlanes, shoulders & ramps** Depth as measured using an automated device in compliance with TxDOT standards.	Percentage of wheel path length with ruts greater than ¼" in depth in each Auditable Section	
								• Mainlanes, shoulders and ramps – 3%	Nil
								• Frontage roads – 10%	Nil
							10ft straight edge used to measure rut depth for localized areas.	Depth of rut at any location greater than 0.5”	Nil
							c) Ride quality Measurement of International Roughness Index (IRI) according to TxDOT standard Tex-1001-S, Operating Inertial Profilers and Evaluating Pavement Profiles	For 80% of all Auditable Sections measured, IRI throughout 98% of each Auditable Section is less than or equal to:	100%
								• Mainlanes, ramps – 95" per mile**	100%
								• Frontage roads – 120" per	

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
								mile**	
	1.2 cont			24 hrs	28 days	6 months	** To allow for measurement bias, an adjustment of -10 (minus ten) is made to IRI measurements for concrete pavements before assessing threshold compliance.	IRI measured throughout 98% of Auditable Section of less than or equal to: • Mainlanes, ramps 120" per mile** • Frontage roads – 150" per mile**	100% 100%
							(Capital Asset Replacement Work and new construction subject to construction quality standards)	Mainlanes, ramps, 0.1 mile average – 150" per mile** Frontage roads, 0.1 mile average – 180" per mile**	100% 100%
							10-ft straightedge used to measure discontinuities	IRI measured throughout 98% of each lane containing a bridge deck in any Auditable Section , 0.1 mile average – 200" per mile** Individual discontinuities greater than 0.75"	100% Nil
							d) Failures Instances of failures exceeding the failure criteria set forth in	Occurrence of any failure	Nil

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
							the TxDOT PMIS Rater's Manual, including potholes, base failures, punchouts and jointed concrete pavement failures		
	1.2 cont			24 hrs	28 days	6 months	**e) Edge drop-offs** Physical measurement of edge drop-off level compared to adjacent surface	Instances of edge drop-off greater than 2" (Number)	Nil
							f) Skid resistance ASTM E274/E274M-11 Standard Test Method for Skid Resistance Testing of Paved Surfaces at 50 MPH using a full scale smooth tire meeting the requirements of ASTM E524-08 .	• Mainlanes, shoulders and ramps – Number of sections investigated as to potential risk of skidding accident and appropriate remedial action taken where average Skid Number for 0.5-mile section of mainlanes, shoulders and ramps are below 25.	100%
								• Frontage roads –Number of sections investigated as to potential risk of skidding accident and appropriate remedial action taken where average Skid Number for 0.5-mile section of frontage roads is below 25.	100%

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	1.2 cont							• When the skid number is below 25 and/or when required by the Wet Weather Accident Reduction Program, areas categorized as high risk, the Maintenance Contractor shall perform a site investigation and perform required corrective action.	100%
			Road Users warned of potential skidding hazards	24hrs	7days	N/A	**Skid resistance** (as above)	Instances where road Users warned of potential skidding hazard where remedial action is identified.	100%
	1.3	Crossovers and other paved areas	Crossovers and other paved areas are free of Defects	24 hrs	28 days	6 months	**a) Potholes** **b) Base failures**	Potholes of low severity or higher (Number) Base failures of low severity or higher (Number)	Nil Nil
	1.4	Joints in concrete	Joints in concrete paving are sealed and watertight Longitudinal joint separation	24 hrs	28 days	6 months	Visual inspection of joints Measurement of joint width and level difference of two sides of joints	Length unsealed joints greater than ¼" Joint width more than 1" or faulting more than ¼”	Nil Nil

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	1.5	Curbs	Curbs are free of defects	24 hrs	28 days	6 months	Visual inspection	Length out of alignment	Nil
3) STRUCTURES									
	3.1	Structures having an opening measured along the centre of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes	Substructures and superstructures are free of: • blocked drains, weep pipes manholes and chambers • blocked drainage holes in structural components • defects in joint sealants • defects in pedestrian protection measure • scour damage • corrosion of rebar • paint system failures • impact damage by any Maintenance Contractor – Related Entity	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge inspection Manual, and the Federal Administration's Bridge Inspector's Reference Manual.	Records as required in the TxDOT Bridge Inspection Manual Occurrences of condition rating below seven for any deck, superstructure or substructure All condition states to be one for all structure components	Nil 100%
	3.2	Structure components	i) Expansion joints are free of: • • defects in drainage systems • loose nuts and bolts • defects in gaskets ii) The deck drainage system is free of all and operates as	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge inspection	Records as required in the TxDOT Bridge Inspection Manual Occurrences of condition rating below seven for any deck, superstructure or substructure	Nil 100%

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
			intended. iii) Parapets are free of: • loose nuts or bolts • blockages of hollow section drain holes				Manual, and the Federal Administration's Bridge Inspector's Reference Manual..	All condition states to be one for all structure components	
	3.2 cont.	•	• accident damage iv) Bearings and bearing shelves are clean. v) Sliding and roller surfaces are clean and greased to ensure satisfactory performance. Additional advice contained in bearing manufacturers' instructions in the Structure Maintenance Manual is followed. Special finishes are clean and perform to the appropriate standards. vii) All non-structural items such as hoists and electrical fixings, operate correctly, are clean and lubricated as appropriate, in accordance with the manufacturer's recommendations and certification of lifting devices is maintained.	24 hrs	28 days	6 months			

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	3.3	Non-bridge class culverts	Non-bridge-class culverts are free of: • • defects in sealant to movement joints • scour damage	24 hrs	28 days	6 months	Visual inspection	Number with vegetation, debris and silt Number with defects in sealant and movement joints Number with scour damage	Nil Nil Nil
	3.4	Gantries and high masts	Sign signal gantries, high masts are structurally sound and free of: • loose nuts and bolts • defects in surface protection systems	24 hrs	28 days	6 months	Visual inspection	Number with loose assemblies Number with defects in surface protection	Nil Nil
	3.5	Load ratings	All structures maintain the design load capacity.	24 hrs	28 days	6 months	Load rating calculations in accordance with the Manual for Bridge Evaluation and the TxDOT Bridge Inspection Manual. Load restriction requirements as per the TxDOT Bridge Inspection Manual	Number of load restrictions for Texas legal loads (including legally permitted vehicles)	Nil

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
	3.6	Access points	Not used						
	3.7	Mechanically Stabilized Earth and Retaining Walls	Mechanically Stabilized Earth and Retaining Walls free of: • blocked weep holes • • defects in joint sealants • defects in pedestrian protection • scour damage • corrosion of reinforcing bars • paint system failure • concrete spalling • impact damage by any Maintenance Contractor – Related Entity Parapets free of: • loose nuts and bolts • blockage of drain holes • • impact damage by any Maintenance Contractor – Related Entity • concrete spalling	24 hours	28 days	6 months	Inspection and assessment in accordance with the requirements of federal Nations Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways - Part 650, the TxDOT Bridge Inspection Manual and the Federal Highway Administration's Bridge Inspector's Reference Manual.	Records as required in the TxDOT Bridge Inspection Manual	100%

Performance and Measurement Table Baseline

ELEMENT CATEGORY	REF	ELEMENT	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
				Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS									
	12.1	Slope failure	All structural or natural failures of the embankment and cut slopes of the Facility are repaired	24 hrs	28 days	6 months	Visual inspection by geotechnical specialist and further tests as recommended by the specialist	Recorded instances of slope failure	Nil
	12.2	Slopes - General	Slopes are maintained in general conformance to the original graded cross-sections, the replacement of landscaping materials, reseeding and re-vegetation for erosion control purposes and removal and disposal of all eroded materials from the roadway and shoulders	24 hrs	28 days	6 months		Inspection records showing compliance	100%

ATTACHMENT 2 TO THE MAINTENANCE SPECIFICATION : ELEMENTS FOR WHICH MAINTENANCE SERVICES ARE TO BE PROVIDED.

Maintenance Contractor shall maintain the Elements marked 'R' in column A to achieve the Performance Requirements set forth in Attachment 1 to Series 1900 of the Maintenance Specification.

ELEMENT CATEGORY	REF	ELEMENT	REQUIRED		
			A	B	C
1) ROADWAY					
	1.1	Obstructions and debris			
	1.2	Pavement	R		
	1.3	Crossovers and other paved areas	R		
	1.4	Joints in concrete	R		
	1.5	Curbs	R		
3) STRUCTURES					
	3.1	Structures having an opening measured along the centre of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes	R		
	3.2	Structure components	R		
	3.3	Non-bridge class culverts	R		
	3.4	Gantries and high masts	R		
	3.5	Load ratings	R		
	3.6	Access points			
	3.7	Mechanically Stabilized Earth and Retaining Walls	R		
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS					
	12.1	Slope Failure	R		
	12.2	Slopes - General	R		

ATTACHMENT 3 TO THE MAINTENANCE SPECIFICATION : LIMITS FOR MAINTENANCE SERVICES

The limits for Maintenance Services are defined by the physical limits of all Work under the Design-Build Agreement as defined in the Design-Build Agreement.

Maintenance Contractor shall be responsible for the Maintenance Services within the above defined physical limits for all applicable Element Categories subject to the following limitations:

- Only new constructed elements are to be maintained by the Maintenance Contractor; and
- Overlay sections specified in Technical Provisions Section 1.2.1.2 are excluded.

ATTACHMENT 4 -

Not used.

ATTACHMENT 5 : PUBLIC INFORMATION OFFICE OPENING HOURS

Not used.

ATTACHMENT 6 : RESTRICTIONS ON TRAFFIC MANAGEMENT

Lane Closure restrictions for maintenance work will be as follows:

No Lane Closure that restricts or interferes with traffic shall be allowed from noon on the day preceding to 10:00 PM on the day after the following holiday schedule. For this Project, unless otherwise noted in the plans and/or as directed by TxDOT, daily Lane Closures shall be limited according to the following restrictions:

A. General restrictions for US 77 mainlanes, ramps, frontage roads and arterials:

I. New Year's Eve and New Year's Day (December 31 through January 1)
II. Easter Holiday Weekend (Friday through Sunday)
III. Memorial Day Weekend (Friday through Monday)
IV. Independence Day (July 3 through noon on July 5)
V. Labor Day Weekend (Friday through Monday)
VI. Thanksgiving Holiday (Wednesday through Sunday)
VII. Christmas Holiday (December 23 through December 26)
VIII. At least one through mainline in each direction shall remain open at all times, unless otherwise approved by TxDOT
IX. Complete closure of the mainlanes will not be allowed, unless approved by the TxDOT.

B. Frontage roads and arterial crossings:

I. At least one through mainline in each direction shall remain open at all times, unless otherwise approved by TxDOT.
II. Provide and maintain access to properties and businesses adjacent to the right-of-way at all times unless otherwise directed by the TxDOT.
III. No mainlane and frontage road closures may occur at the same time, unless approved by the TxDOT.

C. Ramps:

I. No two adjacent ramp closures may occur at the same time.

ATTACHMENT 7 : MAINTENANCE PLANNING ACTIVITIES & ASSOCIATED FUNC. CODES

DISTRICT CROSS REFERENCE CODE CHART 12 (FIMS SEGMENT 78, AND PORTIONS OF 70, 71 AND 72)

All segment 78 functions are trackable

Effective September, 2012 (Rev Date: July, 2011)

110	P03	CY	Removal and Replacement Removal of base and/or subgrade materials from distressed or failed areas and replacement with suitable materials. (Includes resurfacing.)	522	R0	MI	Street Sweeping Routine street sweeping. Units are the actual miles swept regardless of centerline miles.	593	T04	LF	Cable Median Barrier Installation and maintenance of high tension cable median barrier systems, including the cable, posts and end treatments.	733	T03	EA	Vandalized Signs Replacement or repair of signs damaged by vandalism.
120	P03	CY	In Place Repair In place repair base and/or subgrade material. (Includes resurfacing, and may or may not include additional stabilizing material.)	523	R1	MI	Debris Routine **patrolling** to remove and dispose of debris, including dead animals.	594	T04	LF	Concrete Barrier Installation, removal and maintenance of concrete barriers, including attached headlight barrier fence.	738	T11	EA	Installation and Maintenance of Flashing Beacons Installation and maintenance of overhead flashing beacons, pedestal or sign mounted flashing beacons, etc.
135	R05	EA ~~LF~~	Install and/or Maintain Underdrains Installation, repair and maintenance of all types of underdrains.	524	R0	AC	Spot Litter Spot removal and disposal of litter, including dead animals, from the right of way.	595	T04	LF	Guard Fence Installation and maintenance of guard fence, MBGF, turn down ends, headlights barrier fence, including posts, metal beams, etc. (End treatment other than turn down ends, see function 596.)	742	T07	EA	Illumination Installation, maintenance and operation of illumination systems, including continuous lighting, safety lighting and sign illumination.
145	S06	SY	Unpaved Road Maintenance Repair of gravel or dirt roads, including blading, addition of base, etc.	525	R0	HRS	Adopt-A-Highway Installation of posts and signs, materials furnished to groups, and the personnel and equipment used to assist in removal and disposal of collected litter.					743	T06	EA	Installation and Maintenance of Isolated Traffic Signals Maintenance and operation of isolated traffic signals, diamond interchange signals, etc.
				526			Deleted replaced by 522	596	T05	EA	Guardrail End Treatment Systems	~~744~~			Replaced by Function Code 743
211	P01	SY	Leveling or Overlay with Laydown Machine The application of asphaltic tack coat and placing of asphaltic concrete materials to improve the ride qualities or level up low spots.	527	R0	SY	Hand Sweeping Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc.				Installation and maintenance of guardrail end treatment systems. (For attenuators other than GETS, see function 725).	745	T08	CL M	Traffic Management System Maintenance and operation of traffic management systems on freeways or non-freeways, entrance/exit ramps, motorist information (e.g. changeable message signs, highway advisory radio, etc.) surveillance and related communications equipment.
212	P01	SY	Leveling or Overlay with a Maintainer The application of asphaltic tack coat and placing layers of asphaltic concrete material.	530	S10	SF	Removal of Graffiti Removal of graffiti from fixtures, wing walls, bridge structures, etc. Not to be used in lieu of function 733 (Vandalized Signs), 731 or 732 (Sign Installation).	597	T03	EA	Mailboxes, Installation and Maintenance				(ITS Control Center personnel should charge to segment 70, detail 0570.)
				531	S06	HRS	Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description.	598	S06	HRS	Boat Ramp Maintenance Work performed in maintaining boat ramps, including mowing, litter removal, emptying litter barrels, maintenance of paved and unpaved areas, etc.	750	T09	EA	Installation and Removal of Pavement Markers Installation and/or removal of traffic buttons or reflective pavement markers.
213	P01	SY	Leveling by Hand The application of asphaltic tack coat and placing layers of asphaltic concrete material by hand. This includes repair of pavement areas greater than one squard	532	S06	HRS	Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	610	S04	HRS	Bridge, Movable Span Operation, routine maintenance and inspection of movable span bridges (swing barge, lift or turn). Restricted use: Beaumont, Houston, Pharr and Yoakum Districts only.	790	S07	HR	Miscellaneous Traffic Services All traffic surveys (including all motor vehicle and pedestrian counts at intersections and directly related locations) and other traffic services not covered elsewhere.
214	P01	SY	Leveling or Overlay with Drag Box The application of asphaltic tack coat and placing layers of asphaltic concrete material.					611	S04	HRS	Bridge, Portable Installation, removal, maintenance and inspection of portable bridges.				**Note**: Traffic control performed during the pavement evaluation process should be charged to segment 71, detail 3214 and the appropriate function (600 thru 690).
225	P06	LM	Sealing Cracks Cleaning, filling and sealing cracks in the pavement using asphaltic rubber or other sealants.	533	S06	HRS	Rest Area Facility Maintenance through Regional Contracts (Maintenance Division Use Only)	620	S05	CY	Bridge Channel Maintenance Removal of silt and drift, filling eroded areas, channel maintenance (including easements) and maintenance and repair of jetties and dikes.	799	S07	HR	Traffic Control The placement, maintenance and removal of barricades, signs, cones, lights and other such devices needed to handle traffic during emergencies or special events.
				535	S0	HRS	Maintenance of Specialty Facilities All maintenance costs to specialty facilities including border safety inspection facilities (BSIFs), toll booths, service plazas, fencing and associated appurtenances. This includes both temp and perm facilities. The highway class code will determine the type of facility.	628	S02	LF	Bridge Rail Maintenance of bridge rail, posts & post connections to deck, including painting.	~~806~~			This includes flaggers. Replaced by Function Code 799
231	P05	SY	Seal Coat Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over the full width of the lane or a shoulder (greater than 6' in width) for a minimum of 1000 continuous feet.					645	S02	LF	Bridge Joint Maintenance Repair of bridge joints, including cleaning and sealing	~~807~~			Replaced by Function Code 799 Accident Flag selected
								646	S02	LF	Bridge Joint Replacement Replacement of bridge joints	~~809~~			Replaced by Function Code 799 Disaster Project;Task number
232	P04	SY	Strip or Spot Seal Coat Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over areas less than the full width of the lane or shoulder (6' or less in width), or the full width of the lane or shoulder but less than 1000 feet in length.	538	R0	AC	Pest Control Activities related to use of predatory animal and insect control whether in turf and ornamental sites or on the ROW.	650	S01	SF	Bridge Deck Repair to bridge decks.	~~810~~ 811	S07	HR	Replaced by Function Code 799 Disaster Project;Task number Snow and Ice Response Emergency response to clear roads during or after a snow/ice event. Includes sanding, deicing, clearing and removal, etc.
				540	R0	HRS	Hand Vegetation Control Hand cleaning vegetation out of islands, medians, riprap, drainage channels, etc. by chemical, manual or mechanical means.	660	S01	SF	Bridge Superstructure, Concrete Routine maintenance of the concrete components of the bridge superstructure, including bearings, concrete diaphragms, and beams.	~~813~~			Replaced by Function Code 799, 523 Disaster Project;Task number
233	P04	SY	Fog Seal Retain aggregate, enliven surface and/or seal hairline cracks by the application of a thin layer of asphaltic material.	541	R0	AC	Chemical Vegetation Control, Edges Complete control of vegetation encroaching in pavement edges, shoulders, medians, islands and curbs with herbicides.	665	S01	SF	Bridge Superstructure, Steel Routine maintenance of the steel components of the bridge superstructure, including stell diaphragms and beams.	~~814~~ ~~821~~ ~~822~~ ~~823~~			Replaced by Function Code 563 Disaster Project;Task number Replaced by Function Code 110, 120 Disaster Project;Task number Replaced by Function Code 360 Disaster Project;Task number Replaced by Function Code 360 Disaster Project;Task number
235	P04	SY	Microsurfacing The application of a polymer modified high performance emulsion coupled with fine graded aggregate, mineral fillers and special additives in a slurry, to full ruts or to a new wearing surface. (Caution: Should not be used to seal cracked pavements.)	542	R0	AC	Chemical Vegetation Control, Overspray Control of undesirable vegetation growth by overspraying wide areas of the right of including fixtures (i.e. signs, delineators, guardrails, culverts, etc.) with herbicides.	670	S03	SF	Bridge Substructure, Concrete Routine maintenance of the concrete components of the bridge substructure, including caps, columns, abutments, wingwalls, pilings, etc.	~~824~~ ~~825~~			Replaced by Function Code 211, 212, 213, 214 Replaced by Function Code 231, 232 Disaster Project;Task number Replaced by Function Code 560,561,562,563
241	P09	EA	Pothole Repair The repair of holes with an area of less than or equal to one square yard. Charge to Function 213 if greater than one square yard.	544	R0	AC	Chemical Vegetation Control, Rope-wick Control of tall vegetation (i.e. Johnsongrass) in the right of way with a wick applicator.	675	S03	SF	Bridge Substructure, Steel and Timber Routine maintenance of the steel or timber components of the bridge substructure, including caps, abutments, pile extensions, etc.	~~826~~ ~~827~~			Appropriate Bridge, Disaster Project;Task number Replaced by whatever Function Code; Disaster or Damage Claim Project;Task number Replaced by Function Code 743; Disaster or Damage Claim Project;Task number
242			Replaced by Function 241	545	R0	HRS	Chemical Vegetation Control, Basal Application Control of undesirable brush species in the right of way with a low volumne basal bark application.	680	S03	SF	Bridge Painting Cleaning and painting of superstructure or substructure.	~~828~~ ~~829~~			Replaced by Function Code 721,731,732; Disaster or Damage Claim Project;Task number Replaced by Function Code 742; Disaster or Damage Claim Project;Task number
245	P10	SY	Adding or Widening Pavement Widening travel lanes up to 2 feet, adding shoulders up to 4 feet **to correct a maintenance problem** (includes sub-grade, base & surfacing), or adding turn lanes to improve safety.	548	R0	SY	Seeding, Sodding, Hydromulching and Blanketing Seeding, sodding, hydromulching and/or placing soil retention blankets.	690	S04	HRS	Bridge, Mechanical and Electrical Maintenance and repair of the electrical & mechanical components of a bridge.	830	R1	HR	Hazardous Material Clean up, Spills or Leaking Storage Tanks Investigations, testing, clean up, removal, disposal and restoration work associated with a spill or leaking storage tanks.
								695	S04	HRS	Fender Systems				
252	P02	SY	Milling and Planing The removal of pavement surface by milling or planing.	551	R0	AC	Landscaping The installation or maintenance of landscape plantings and their facilities including planter walls, borders, sprinkler systems, etc. (excluding picnic and rest areas).				Installation and maintenance of fender systems.	831	R1	HR	Hazardous Material Clean up, Abandoned Materials Investigations, testing, clean up, removal, disposal and restoration work associated with abandoned hazardous materials of unknown ownership.
253	P02	SY	Spot Milling The removal of pavement surface by milling using a small milling machine (4 feet or less drum width).	552	R0	CL	Tree and Brush Control The trimming, pruning and disposal of shrubs, vines, and trees (excluding picnic and rest areas).	711	T01	LF	Paint and Bead Striping Striping or re-striping lane lines, centerlines and edge lines using paint and beads.	**Segment 70**			**Maintenance Section Overhead Costs** Detail 08XX (XX = Office No.); not reasonably identifiable to a roadway
265	P04	SY	Treat Bleeding Pavement Treatment of excess asphalt on the pavement surface.	558	R0	LF	Storm Water Pollution Protection Maintenance or installation of storm water pollution protection plan (SW3P) in accordance with EPA regulations on projects designated by area engineers.	712	T02	LF	High Performance Striping Striping or re-striping lane lines, centerlines and edge lines using thermoplastic or other high performance materials.	400 401 402 403			Training (informal or on-the-job training) Meetings (non-coded meetings; Safety Banquets) Yard Maintenance and Inspections (maintenance/inspections to facilities or yard) Office/Section Administration (pick up/purchase supplies, HR admin., office tech duties)
270	P07	LF	Edge Repair Repair of raveled, low or damaged pavement edges with asphaltic materials.												
315	P08	SY	Slab Stabilizaton / Jacking Leveling concrete pavement through the use of hydraulically placed material.	560	R06	SY	Riprap Installation and Maintenance Installation and maintenance of ditch liners, retards, down drains, riprap, flumes, concrete mowing strips, gabions, retaining walls and other erosion protection.	713	T02	EA	Specialty Markings Medians, islands and other pavement markings not covered under function 711 or 712. (Including make-ready operations for all stripe alignment, such spotting, tabs, temporary tape, etc.)	404 405 406 407			Installation and Removal of Pavement Markers (customer support, contractor support, damage claims) Section Management (checking on crews, supervisor admin, meeting with local govts.) Material Management (inventory mgmt, material deliveries from WH to yard, hauling) Standby Time (weekend and weekday)
325	P06	LF	Cleaning and Sealing Joints and Cracks Cleaning, filling and sealing joints and cracks in concrete pavement.	561	R04	CY	Ditch Maintenance Removal and hauling of silt, drift, and/or filling eroded areas. Not to be used for work at culverts or bridges (see functions 570 or 620).	715	T02	LF	Removal of Pavement Striping Use when striping is not going to be replaced.	408			General Overhead **District Contract Management - Roadway Maintenance (not reasonably identifiable to a roadway)**
330	P08	SY	Blowouts and Stress Relief Repair of blowouts and cutting pavement for stress relief.					716	S11	LM	Performance Based Contract Distribution (Contract Payments ONLY) These contracts are set up to pay the contractor a fixed price on a periodic basis of type of work performed and/or amount of work performed				Detail 0585 All district costs of roadway maintenance contract development and management not reasonably identifiable to a specific roadway or other accounts.
345	P08	SY	Repair Spalling Clean and repair spalled areas (not full depth of concrete slab).	562	R04	LF	Reshaping Ditches Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts or bridges (see functions 570 or 620).								
360	P08	SY	Full Depth Removal and Replacement The removal and replacement of failed areas for the full depth of the concrete slab.	563	R06	SY	Slope Repair/Stabilization Slope repair and/or stabilization. Not to be used for work at culverts or bridges (see functions 570 or 620).	721	T03	EA	Delineators Installation, maintenance and/or replacement of damaged or missing reflectors and/or posts. This function shall include straightening of posts. Measured by each post and each reflector replaced.	**Segment 71**			**Direct District Charges (No specified road location)** Detail 1305, function 020; field inspections not identifiable to a roadway, including damage assessments, night inspections, permit inspections, bridge inspections
455	P07	LF ~~SY~~	Reshaping Unpaved Shoulders Restore sod or flexible base shoulders to original sections. Includes reshaping front slope to eliminate low pavement edges along a paved shoulder.	570	R0	EA	Culvert and Storm Drain Maintenance The installation, repair and maintenance of culverts up to bridge classification (twenty feet measured along centerline of roadway). This work includes silt and debris removal from inlet, storm drains, retention ponds and culverts (except those costs associated with function 571).	724	T04	LF	Roadway Access Control Installation and maintenance of barriers (other than those covered by functions 594 or 595) designed to control access on highways, including post and cable fences, ROW fences and cattle guards.				Detail 1310, function 020; special services not identifiable to a roadway, including cleaning stockpile locations, collectiong ditch grade data, and counting loads of RAP for county assistance. Detail 1315, function 020; Courtesy Patrol
480	S08	SY	Side Road Approaches, Crossovers and Turnouts The installation or maintenance of side road approaches, crossovers, historical markers, mailbox and litter barrel turnouts, etc.												**Roadway Evaluation**
488	S08	SY	Concrete Appurtenance Installation and Maintenance The maintenance, installation, or removal of concrete appurtenances which include curbs and/or gutters, raised medians, sidewalks and sound barriers.	571	R0	EA	Storm Water Pump Station Maintenance Repair and maintenance of motors, pumps, generators, wet wells, dry wells, debris screening baskets, buildings, etc., including costs of utility services.	725	T05	EA	Vehicle Attenuators Installation and maintenance of vehicle attenuators, crash cushions, etc. (**Excludes** the end treatment devices on guard fence.)				Detail 3214, function codes 600 thru 690; functions related to Pavement Management, including traffic control while performing pavement evaluation
495	S06	SY	Parking Area Maintenance Repair of sub-grade, base or surface of areas including parking lots, park and ride lots and camping pads.	580	T03	EA	Removal of Illegal Signs on ROW, TEMP (Temporary, no special handling required.) Removal of illegal signs on right of way, including disposal and written notice to owners.	731	T03	EA	Installation/Maintenance of Small Signs The installation and maintenance of signs (less than 4 ft. X 4 ft.). Includes the	**Segment 72**			**Off-System Disaster Cleanup** Detail 000470001; off-system assistance that has been approved by the Disaster District Chairman
511	R02	AC	Mowing Mowing of the right of way.	581	T03	EA	Removal of Illegal Signs on ROW, PERM (Permanent, special handling required.) Removal of illegal signs on right of way, including disposal and to written notice to owners.				installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 732 (Installation of Large Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway). Measured by each post and each sign maintained.	500 501 505			Debris Removal Fire Control Evacuee Assistance
513	R02	HRS	Spot Mowing Spot mowing of the right of way.	582	S10	HRS	Removal of Encroachments, Other than Signs Removal of illegal encroachments (other than signs) on the ROW, including disposal and written notice to owners.	732	T10	EA	Installation/Maintenance of Large Signs The installation or maintenance of signs (equal to or greater than 4 ft. X 4 ft.) Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 731 (Installation of Small Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway)	510 515 520			Traffic Control for Disasters Sign and Signal Repair for Disasters Repairs to Roads for Disasters
520	R10	CY	Illegal Dumpsite Removal and Disposal Removal and disposal of debris discarded or deposited in an unauthorized area in the right of way such as under a bridge, overpass, culvert, etc.	585	S08	SY	Driveway Installation/Removal and Maintenance See access management policy.								
521	R03	AC	Litter Removal and disposal of litter from the entire right of way, excluding paved areas, picnic and rest areas.	591	S09	HRS	Utilities and Driveway Inspection								

	P01	Pavement Leveling		R01	Sweeping		S01	Bridge Superstructure Maintenance		T01	Paint and Bead Striping
	P02	Milling		R02	Mowing		S02	Bridge Rial and Joints		T02	High Performance Striping
	P03	Base Repair		R03	Litter Control		S03	Bridge Substructure Maintenance		T03	Sign Maintenance
	P04	Spot Seal Coat		R04	Drainage Maintenance		S04	Specialty Bridge Maintenance		T04	Safety Barrier Maintenance
	P05	Full Width Seal Coat		R05	Drainage Structures		S05	Bridge Channel Maintenance		T05	Crash Attenuators
	P06	Cracl Sea;		R06	Erosion Control		S06	Specialty Maintenance		T06	Traffic Signal Maintenance
	P07	Edge Maintenance		R07	Vegetation and Pest Control		S07	Traffic Control Services		T07	Illumination Maintenance
	P08	Concrete Pavement Maintenance		R08	Tree and Brush Control		S08	County Road Approaches, Crossovers, & Turnouts		T08	Traffic Management Systems
	~~P09~~	~~Pothole Repair~~		~~R09~~	~~Landscape Maintenance~~		S09	Utility & Driveway Inspection		T09	Raised Pavement Markings
	P10	Adding or Widening Pavement		R10	Debris and Cleanup		S10	Graffiti & Encroachment Removal		T10	large Sign Maintenance
										T11	Beacon Maintenanee