# EXHIBIT 2

# MAINTENANCE SPECIFICATION

## 1 MAINTENANCE

### 1.1 General Maintenance Obligations

Throughout the Maintenance Term, Maintenance Contractor shall be responsible for and shall carry out Maintenance Services for the Maintenance Elements identified in Attachment 2 within the limits as shown in Attachment 3 or as modified by the Released for Construction Documents as defined in Exhibit 1 to the Design-Build Agreement and as set forth in this Exhibit 2 and the COMA Documents. Maintenance Contractor shall establish and maintain an organization that effectively manages all Maintenance Services in a manner set forth in the approved Maintenance Management Plan and the requirements of the COMA Documents. Maintenance Contractor shall take all necessary actions to achieve the following:

- Coordinate Maintenance Services with other entities with interests or activities within the Project limits, including but not limited to emergency services, public law enforcement, toll operator agencies, towing companies, and regional traffic management center.
- Provide Incident and Emergency response management and reporting.
- Conduct regular patrols of all lanes of the Project to identify conditions that are unsafe or have the potential to become unsafe, conditions that could threaten the infrastructure, and to attend to existing or changing conditions.
- Maintain the Maintenance Elements in a manner appropriate for a facility of the character of the Project and maintain all lanes in accordance with the same standard of maintenance.
- Minimize delay and inconvenience to Users and, to the extent Maintenance Contractor is able to control, users of adjacent and connecting roadways.
- Monitor and observe weather and weather forecasts to proactively deploy resources to minimize delays and safety hazards due to heavy rains, snow, ice, or other severe weather events.
- Minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Maintenance Services.
- Coordinate with and enable TxDOT and others with statutory duties or functions in relation to the Project to perform such duties and functions.
- Perform systematic Project inspections, patrolling, operational work, periodic maintenance, routine maintenance, and Renewal Work in accordance with the provisions of Maintenance Contractor's Maintenance Management Plan and Maintenance Contractor's Maintenance Safety Plan and the COMA Documents.
- Promptly investigate reports or complaints received from all sources.

Maintenance Contractor shall submit an annual report to TxDOT by each anniversary of the Maintenance Term Commencement Date. This annual report shall include the following elements:

- An assessment of the actual Maintenance Services achievements versus the planned goals established in the Maintenance Management Plan, as well as corrective actions and measures to be taken in the ensuing year to ensure that any shortcomings are corrected;
- An assessment of compliance with the various traffic control requirements and limitations contained in Section 3.4 of the COMA and the traffic control plans developed in accordance with Section 2.2 of this Exhibit 2, as well as any corrective measures taken to correct any breach or violation of such requirements and limitations and any corrective measures necessary to prevent such future breach or violation of such requirement and limitations;
- A report of the quality inspections and test performed as part of the Maintenance Management Plan and as required by Attachment 1, the results of such inspections and tests, and occurrences and resolution of nonconformance discoveries.

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

The Maintenance Manager shall be responsible to oversee and perform the Maintenance Services in accordance with the COMA including ensuring proper training of its maintenance personnel and resources available for conducting Maintenance Services. The Maintenance Safety Manager shall be responsible for the health and safety of personnel involved with Maintenance Services and the general public affected by the Project and shall serve as the point of contact for Maintenance Contractor in communication with TxDOT and in coordination activities with other entities during emergency events.

### 1.2 Performance Requirements

Maintenance Contractor is responsible for performing all activities necessary to satisfy the Performance Requirements set forth in Attachment 1 with respect to the Maintenance Elements. 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 herein.

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

The period for "Response To Defects" set forth in Attachment 1 to this Maintenance Specification shall be deemed to commence upon the time when the Maintenance Contractor would reasonably become aware of the Defect.

Where action is taken to remedy or repair any Defect in any Maintenance Element of the Project, 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 in accordance with the requirements set forth in the column entitled "Measurement Record" in the Attachment 1 to this Maintenance Specification.

Should Maintenance Contractor propose any changes to Attachment 1, 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.

### 1.3 Maintenance Management Plan

Within 60 days after issuance of Maintenance NTP, Maintenance Contractor shall prepare and submit, for TxDOT's review and written approval, a Maintenance Management Plan (MMP). Approval by TxDOT of the MMP shall be a condition precedent to Maintenance Contractor's right to commence Maintenance Services. Attachment 4 lists the main content of MMP and other Plans required.

TxDOT shall review the MMP and each update and shall meet with Maintenance Contractor within 30 Days after its submittal to discuss revisions and clarifications or to resolve any disagreements. Within 15 Days after such meeting, Maintenance Contractor shall resubmit the MMP to TxDOT. TxDOT will either approve or disapprove the MMP within 15 Days, with comments, objections, recommendations or disapprovals noted in writing. If TxDOT disapproves the MMP, within ten days after receiving written notice of comments, objections, recommendations or disapprovals from TxDOT, Maintenance Contractor shall submit to TxDOT a revised initial or updated MMP rectifying such matters and, for matters Maintenance Contractor disagrees with, a written notice setting forth those comments, objections, recommendations and disapprovals that Maintenance Contractor disputes, which notice shall give details of Maintenance Contractor's grounds for dispute. If Maintenance Contractor fails to give such notice within such time period, it shall be deemed to have accepted the comments, objections and recommendations and the initial or updated MMP, as applicable, shall thereupon be deemed revised to incorporate the comments and recommendations and to rectify the objections or disapprovals. After timely delivery of any such notice, Maintenance Contractor and TxDOT shall endeavor in good faith to reach agreement as to the matters listed in the notice. If no agreement is reached as to any such matter within 30 days after Maintenance Contractor delivers its notice, either Party may refer the Dispute to the disputes resolution procedures set forth in this Comprehensive Maintenance Agreement.

The MMP shall comply with the COMA Documents, applicable Government Approvals, and applicable Law. The MMP and each update shall show the timing, frequencies and methodology for performing the various Maintenance Services, including Maintenance Contractor's plan and schedule for performing routine maintenance. The duration and number of working days of any Maintenance Services set forth in the MMP that require Lane Closures shall be subject to the written approval of TxDOT.

The MMP shall include detailed processes that explain the Maintenance Contractor's plan for meeting Performance Requirements, measurement procedures, and identifying threshold values at which maintenance is required, inspection procedures and frequencies, and subsequent maintenance to address noted deficiencies for each Maintenance Element of the Project in accordance with Attachment 1. Maintenance Contractor shall update this plan as required, or at least annually and shall submit to TxDOT, for TxDOT's review and approval, by each anniversary of the Maintenance Term Commencement Date.

The MMP shall also include a detailed process by which Defects are handled and processed in conformance with the COMA Documents including:

- Notification - This includes Defect identification, notification triggers (periodic or inspection based), responsible individuals, and entities or individuals to be notified.

- Classification - This includes how Defects are classified (i.e. Maintenance Element component or its function, safety impacts, Governmental Entities/Public concern, etc.).
- Action Plan - This includes developing a detailed plan based on Defect classification type listing all actions necessary to address and close the event. This plan shall identify the Maintenance Contractor's response times to mitigate hazards, permanently remedy, and permanently repair Defects. Response times shall be in accordance with Attachment 1.
- Action - By Defect classification type, this includes a description of how the actions are carried out stating the responsible individuals and the duration it will take to complete such actions in accordance with the requirements of Section 19 of the Technical Provisions.
- Closure - This includes how the Defect is resolved, stating necessary notification and the individuals to be notified for such Defect closure.
- Documentation - This includes how Defects are entered, updated and closed in the MMS.

The MMP shall address impacts to adjacent and connecting roadways, in addition to the general sequence of Maintenance Services and schedule deadlines.

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.

The MMP shall include a schematic clearly illustrating the limits, using auditable sections per Section 1.4.

### 1.4 Auditable Sections

Maintenance Contractor shall implement the Texas Reference Marker (TRM) System used by TxDOT to establish performance sections for records in accordance with the MMP. Maintenance Contractor shall use the existing TRM System established on existing section of Project. Maintenance Contractor shall coordinate with TxDOT 60 days prior to Maintenance Term Commencement Date to establish the TRM System on newly constructed sections of roadway.

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 Maintenance Element of the Project contained within each Auditable Section.

### 1.5 Incident and Emergency Management Plan

As part of the MMP, Maintenance Contractor shall prepare and implement an Incident and Emergency Management Plan (IEMP) to address Incident and Emergency response, including:

- Descriptions of contact methods, personnel available, and response times for any Emergency condition requiring attention during off-hours.
- Procedures to identify Incidents and notify Emergency Services providers;

- Procedures for establishing traffic control for Incident management activities in a timely manner;
- Procedures for removal of stalled, broken down, wrecked or otherwise incapacitated vehicles from the travel lane, including coordination with Emergency Services and towing services to clear the Incident and return lane availability within one hour of notification, at the User's expense;
- Procedures to institute all measures for cleanup of objects foreign to the roadway surface where lane availability cannot be restored within one hour of notification; and
- Procedures to identify and contain all hazardous material spills and appropriate disposal of such materials.

Where an Incident or Emergency has an effect on the operation of the Project, Maintenance Contractor shall clear obstructions and repair damage to the Project under the supervision of the relevant Emergency Services if necessary, such that the Project is returned to normal operating standards and safe conditions as quickly as possible.

Where liquid or soluble material spills are involved, Maintenance Contractor shall take all necessary measures to minimize pollution of watercourses or groundwater in accordance with the Hazardous Materials Management Plan.

Where structural damage to structures is suspected, Maintenance Contractor shall cause that a suitably qualified bridge engineer or specialist inspector is available to evaluate the structure and to advise on temporary repairs and shoring needed to provide safe clearance of the Incident or Emergency.

Where such an Incident or Emergency involves a personal injury, Maintenance Contractor shall not remove any vehicle or other item that may assist a potential investigation by Emergency Services until authorized to do so by such agency or agencies.

### 1.6 Snow and Ice Control Plan

As part of the MMP, Maintenance Contractor shall prepare and implement a Snow and Ice Control Plan (SICP) that contains detailed operational procedures for performing snow and ice control work throughout the Maintenance Term. The SICP shall comply with all applicable Law, codes, and regulations governing the operation of equipment on public highways.

The SICP shall address the following:

- Weather Forecasting
- Advance preparation procedures
- Call-out procedures
- Response protocol
- Operational requirements
- Training
- Recordkeeping/Reporting
- Environmental management
- Anti-icing and de-icing chemical storage
- Anti-icing and de-icing materials, including salt and alternative substances

- Equipment.

Maintenance Contractor shall annually update and submit the SICP to TxDOT for its review and approval, and shall incorporate any changes in strategy, equipment levels, etc., designed to rectify faults identified by Maintenance Contractor, and TxDOT in Maintenance Contractor's snow and ice removal operations during the preceding winter season.

### 1.7 Renewal Work

The MMP shall include Maintenance Contractor's proposals for Renewal Work.

Within 60 days after the issuance of Maintenance NTP, as part of the MMP, the Maintenance Contractor shall submit the first Renewal Work Submittal to TxDOT for review and approval. The Renewal Work Submittal shall include the timing, scope, and nature of work that Maintenance Contractor proposes during each year. Maintenance Contractor shall set forth, by Maintenance Element:

- The estimated Useful Life;
- The description of the Renewal Work anticipated to be performed at the end of the Maintenance Element's Useful Life;
- A brief description of any Renewal Work anticipated to be performed before the end of the Maintenance Element's Useful Life including reasons why this work should be performed at the proposed time; and
- Renewal Work Schedule.

Maintenance Contractor shall develop a Renewal Work Schedule in accordance with the requirements set forth in Section 2 of the Technical Provisions for developing a Project Schedule.

Maintenance Contractor shall submit a hardcopy of the Renewal Work Schedule on full-size (11" x 17") color plot sheets, as well as an electronic version of the Renewal Work Schedule in its native format for each submittal of the Renewal Work Schedule along with a narrative.

Float shall not be considered as time for the exclusive use of or benefit of either TxDOT or the Maintenance Contractor but shall be considered as a jointly owned, expiring resource available to the Project and shall not be used to the financial detriment of either Party. Any method utilized to sequester Float calculations will be prohibited without prior approval of TxDOT. Any schedule, including the Renewal Work Schedule and all updates thereto, showing an early completion date shall show the time between the scheduled completion date and the applicable deadline as "Project Float."

Not later than 120 days before each anniversary of the Maintenance Term Commencement Date thereafter, Maintenance Contractor shall prepare and submit, for TxDOT's review and approval, either: (a) a revised Renewal Work Submittal for the upcoming year or (b) the then-existing Renewal Work Submittal, accompanied by a written statement that Maintenance Contractor intends to continue in effect the then-existing Renewal Work Submittal without revision for the upcoming year (in either case, referred to as the "updated Renewal Work Submittal"). Maintenance Contractor shall make revisions as reasonably indicated by experience and then-existing conditions respecting the Project, changes in technology, changes in Maintenance Contractor's planned means and methods of performing the Renewal Work, and other relevant factors. The updated Renewal Work Submittal shall show the revisions, if any, to the prior Renewal Work Submittal and include an explanation of reasons for revisions. If no

revisions are proposed, Maintenance Contractor shall include an explanation for the lack of revisions.

TxDOT shall review the updated Renewal Work Submittal and meet with Maintenance Contractor within 30 Days after its submittal to discuss revisions and clarifications or to resolve any disagreements. Within 15 Days after such meeting, Maintenance Contractor shall resubmit the updated Renewal Work Submittal to TxDOT. TxDOT will either approve or disapprove the Renewal Work Submittal within 15 Days, with comments, objections, recommendations or disapprovals noted in writing. If TxDOT disapproves the Renewal Work Submittal, within ten days after receiving written notice of comments, objections, recommendations or disapprovals from TxDOT, Maintenance Contractor shall submit to TxDOT a revised initial or updated Renewal Work Submittal rectifying such matters and, for matters with which the Maintenance Contractor disagrees, a written notice setting forth those comments, objections, recommendations and disapprovals that Maintenance Contractor disputes, which notice shall give details of Maintenance Contractor's grounds for dispute. If Maintenance Contractor fails to give such notice within such time period, it shall be deemed to have accepted the comments, objections and recommendations and the initial or updated Renewal Work Submittal, as applicable, shall thereupon be deemed revised to incorporate the comments and recommendations and to rectify the objections or disapprovals. After timely delivery of any dispute notice by Maintenance Contractor, Maintenance Contractor and TxDOT shall endeavor in good faith to reach agreement as to the matters listed in the notice. If no agreement is reached as to any such matter within 30 days after Maintenance Contractor delivers its notice, either Party may refer the Dispute to the dispute resolution procedures set forth in this Comprehensive Maintenance Agreement.

All portions of the initial or updated Renewal Work Submittal that have been agreed to by the Parties shall govern. Until resolution of any portion of the initial or updated Renewal Work Submittal that is in Dispute, the treatment of that portion in the immediately preceding approved Renewal Work Submittal shall remain in effect and govern.

As part of the annual report described in Section 1.1 of this Exhibit 2, Maintenance Contractor shall deliver to TxDOT a written report of the Renewal Work performed in the immediately preceding year. The report shall describe: (a) by location, the Maintenance Element, as listed in the Renewal Work Submittal, and any other Project component for which Renewal Work was performed; (b) the type of Renewal Work performed; (c) each specific item replaced; (d) any warranty information associated with any replacement item; (e) the dates of commencement and completion of such Renewal Work; and (f) such other information as is reasonably requested by TxDOT.

### 1.8 Maintenance Management System

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

The MMS shall include relevant Maintenance 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, Maintenance Element, reference marker, and unit of measurement, as the same described in the MMS User Manual, to categorize the Maintenance Services performed by the Maintenance Contractor.

The MMS system shall be able to record all complaints/service requests and Maintenance Contractor shall report weekly to 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:

- The date and time of the complaint;
- The location and nature of the problem;
- Injuries and police involvement, including agency, name and badge number;
- Who made the complaint; and
- Date and action taken to address the complaint.

The MMS system shall be able to record all accidents/Incidents. The Maintenance Contractor shall report in writing to 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:

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

When a Maintenance Element is constructed, installed, maintained, inspected, modified, replaced or removed, Maintenance Contractor shall update the MMS within three days of completion of such work. Defects shall be recorded on the MMS within 3 days of 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.

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 the Comprehensive Maintenance Agreement.

## 1.9 Maintenance Services Quality Management Plan

Within 60 days after issuance of Maintenance NTP, Maintenance Contractor shall prepare and submit a Maintenance Services Quality Management Plan ("MSQMP").

Maintenance Contractor shall 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.

TxDOT shall review the MSQMP and meet with Maintenance Contractor within 30 Days after its submittal to discuss revisions and clarifications or to attempt to resolve any disagreements. Within 15 days after such meeting, Maintenance Contractor shall resubmit the final MSQMP to TxDOT. TxDOT will either approve or disapprove the MSQMP within 15 days, with objections or corrections noted in writing. If TxDOT disapproves the MSQMP, Maintenance Contractor shall resubmit the MSQMP within ten days to the satisfaction of TxDOT in order to resolve TxDOT's issues and concerns. The foregoing process shall continue until TxDOT has approved the MSQMP.

The MSQMP shall capture all Maintenance Services performed by Maintenance Contractor and its Subcontractors and shall contain detailed procedures for the Maintenance Contractor's quality control activities, including a complete description of the quality policies and objectives that Maintenance Contractor shall implement throughout its organization. The policies shall demonstrate Maintenance Contractor senior management's commitment to implement and continually improve the maintenance quality system.

The MSQMP shall contain detailed descriptions of the inspection and test plans, including the timing and frequency of testing, as well as detailed systems and procedures for the following:

- Control of quality records
- Management reviews
- Resource allocation
- Measurement of customer satisfaction
- Control of nonconforming products and services
- Internal audits

Maintenance Contractor shall update the MSQMP as needed to ensure current versions of the following information are contained in said plan:

- The organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships;
- Descriptions 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; and
- Resumes for all quality management personnel.

Maintenance Contractor shall revise its MSQMP 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.

The MSQMP 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.

Quality terminology, unless defined or modified elsewhere in the COMA Documents, shall have the meaning defined in ISO 9001. Terms used in 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 MSQMP

Maintenance Contractor shall make all quality records available to TxDOT for review upon TxDOT's request and shall submit to TxDOT the results of all internal audits within seven Days of their completion.

Maintenance Quality Manager shall be responsible to see that the methods and procedures contained in approved MSQMP are implemented and followed by Maintenance Contractor and Subcontractors in the performance of the Maintenance Services. Maintenance Quality Manager shall be a Registered Professional Engineer.

### 1.10 Maintenance Safety Plan

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

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.

A Maintenance Safety Manager shall be assigned to the Project. The Maintenance Safety Manager shall be responsible for carrying out the Maintenance Safety Plan and all safety-related activities, including training and enforcement of safety operations. The Maintenance Safety Manager shall have the authority to stop all work on the Project. Upon TxDOT's approval, this position can be fulfilled by another employee of the Maintenance Contractor if the employee can meet all qualification requirements and can be available on site to the extent needed to perform the level of oversight deemed necessary for the work being performed. Requirements include:

- Roadway construction and safety enforcement experience;
- Ten (10) years of progressive safety management experience, five years of which must be safety management experience on similar operations and maintenance projects;

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

### 1.11 Management of Communications between Maintenance Contractor and TxDOT

As part of the MMP, Maintenance Contractor shall prepare and submit a comprehensive communications plan ("Maintenance Communications Plan") that is consistent with and expands upon the preliminary communications plan submitted with the Proposal.

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

Maintenance Contractor shall maintain and update the Maintenance Communications Plan as the Maintenance Term progresses.

### 1.12 Maintenance Transition Plan

At 60 days prior to the end of this COMA, or upon earlier termination, Maintenance Contractor shall submit a comprehensive transition plan ("Maintenance Transition Plan") to TxDOT which includes the following items:

- Maintenance Transition punch list
- List and status of equipment Warranties
- Vendors' test reports
- Maintenance Contractor's test reports
- As-built drawings for Renewal Work
- Maintenance Records (including NBIS records)
- Copies of Warranty and service contracts
- List of spare parts purchased as part of the Maintenance Services

Maintenance Contractor shall 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. Maintenance Contractor shall be responsible to prepare (in conjunction with TxDOT), administer and

complete all items on the Maintenance Transition punch list to the satisfaction of TxDOT prior to the transfer of maintenance responsibilities to TxDOT.

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

### 1.13 Maintenance Document Management Plan

As part of the MMP, 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.

### 1.14 Maintenance Services Deliverables Schedule

Maintenance Contractor recognizes the importance of the schedules for defining the time-frame for the maintenance of the Project and the achievement of the milestones, monitoring the progress of Maintenance Services and denoting changes that occur. As part of the MMP and periodically thereafter as required under the COMA Documents, Maintenance Contractor shall prepare a schedule for such tasks ("Maintenance Services Deliverables Schedule") and shall submit it to TxDOT for review and approval.

The Maintenance Services Deliverables Schedule shall include all Maintenance Services and major activities required under the COMA Documents, in sufficient detail to monitor and evaluate progress during the Maintenance Term including maintenance and interfaces with other projects, third parties and Governmental Entities.

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.

Maintenance Contractor shall assign the WBS structure consistently and uniformly among all similar activity types in the Maintenance Services Deliverables Schedule and shall develop the WBS with clearly identifiable linkage to the Schedule Activities.

The Maintenance Services Deliverables Schedule shall include a listing of all submittals as called out in the COMA 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 COMA Documents.

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

Maintenance Contractor shall update the approved Maintenance Services Deliverables Schedule to reflect the current status of the Project, including approved Change Orders or provide a notification of no change to the current schedule, on at least a monthly basis. Each Maintenance Services Deliverables Schedule update shall accurately reflect all activities as of the Effective Date of the updated schedule and shall include a schedule narrative report which describes the status of the Maintenance Services in detail.

Maintenance Contractor shall submit a hardcopy of the Maintenance Services Deliverables Schedule on full-size (11" x 17") color plot sheets, as well as an electronic version of the schedule in its native format for each submittal of the schedule along with a narrative.

## 1.15 Inspections

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

- verifies the continuing safety of the Project for Users;
- prioritizes Category 1 Defects;
- 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;
- 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;
- identifies Category 2 Defects to be included for repair either within Maintenance Contractor's annually recurring highway maintenance and repair program or as Renewal Work;
- 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;
- is responsive to reports or complaints received from Customer Groups;
- takes account of Incidents and Emergencies affecting the Project;
- monitors the effects of extreme weather conditions; and
- collates data to monitor performance of the Project and to establish priorities for future maintenance operations and Renewal Work.

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. Inspections, reviews, and testing performed in respect of Maintenance Services 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".)

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 earlier of: (i) the date and time Maintenance Contractor first obtained knowledge of the Defect; and (ii) the date and time Maintenance Contractor first reasonably should have known of the Defect. For this purpose Maintenance Contractor shall be deemed to first obtain knowledge of the Defect not later than the date and time 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.

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

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.

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 Maintenance Records in respect of General Inspections.

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

Table 1 – Specialist Inspections

| Maintenance Element | Specialist Inspection |
|---|---|
| All Maintenance 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 Maintenance Elements in Element Category 'Structures' in Attachment 1 to this Maintenance Specification | Inspections and load rating calculations at the frequency specified in the COMA Documents. In addition, NBIS inspections as per FHWA regulations and at the frequency specified in FHWA regulations. |

Maintenance Contractor shall submit to TxDOT non-conformance reports within seven Days of issuance and shall notify TxDOT of Nonconforming Work within two Days of discovering the Nonconforming Work. TxDOT will issue a non-conformance report if TxDOT discovers any Nonconforming Work.

## 1.16 Maintenance Contractor Audit Inspections

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 Maintenance Element using the inspection and measurement method set forth in the column entitled "Inspection and Measurement Method" in Attachment 1 to this Maintenance Specification.

Maintenance Contractor shall create a new Maintenance Record for each Maintenance 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.

## 1.17 Asset Condition Score by Maintenance Contractor

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 in Attachment 1 to this Maintenance Specification.

Maintenance Contractor shall report quarterly to TxDOT a mean Asset Condition Score for each Element Category, to include all of the Auditable Sections inspected in the most recent Audit Inspection. Maintenance Contractor shall also report quarterly to TxDOT an Asset Condition Score for each element in all of the Auditable Sections inspected in the most recent Audit Inspection. Maintenance Contractor shall assess mean Asset Condition Scores and Asset Condition Scores according to the measurement criteria set forth in Table 2.

Table 2 – Asset Condition Score Criteria for Maintenance Element Categories
(Reported quarterly for all inspected Auditable Sections)

| Score | Criteria |
|---|---|
| **5** | • Targets for individual Maintenance Elements are almost entirely met (90% to 100% compliance with the relevant Targets for each Maintenance Element within each Auditable Section), and<br>• Is fully functional and in nearly new condition, meeting or exceeding Performance Requirement. |
| **4** | • Targets for individual Maintenance Elements are substantially met (less than 90% compliance and 80% or greater compliance with the relevant Targets for each Maintenance Element within each Auditable Section), and<br>• Is functional and in good condition, meeting Performance Requirement. |
| **3** | • Targets for individual Maintenance Elements are mostly met (less than 80% compliance and 70% or greater compliance with the relevant Targets for each Maintenance Element within each Auditable Section), and<br>• Is in fair condition, but suggesting need for early replacement, renewal or repair of individual Maintenance Element and/or maintenance or operation improvement action to meet Performance Requirement. |
| **2** | • Targets for individual Maintenance Elements are barely met (less than 70% compliance and 60% or greater compliance with the relevant Targets for each Maintenance Element within each Auditable Section), or<br>• In poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintenance Element and/or immediate change to MMP. |
| **1** | • Targets for individual Maintenance Elements are not met (less than 60% compliance with the relevant Targets for each Maintenance Element within each Auditable Section), or<br>• In very poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintenance Element and/or immediate change to MMP. |

Notes to Table 2:

1. The calculation of Asset Condition Score for a Maintenance Element within a Maintenance Element Category is demonstrated by the following example:

Assume there are 520 Auditable Sections, of these 5%, or 26 are audited each quarter. There are five Targets to be assessed for Maintenance Element "pavement markings." There are therefore, 5 x 26 = 130 measurement records for pavement markings. If 125 of these measurement records meet the Target, there would be 96% compliance and an Asset Condition Score of five assigned for that Maintenance Element.

2. An Asset Condition Score of less than 3 for any Maintenance Element is deemed a Noncompliance Event.
3. A mean Asset Condition Score across Maintenance Elements in any Maintenance Element Category shall be calculated to 1 decimal point and also recorded. A mean Asset Condition Score across Maintenance Elements of less than 3.5 (for any Maintenance Element Category) is deemed a Noncompliance Event.
4. "Mean" in this context shall be the arithmetic mean.
5. Where a measurement record relates to a service measured over time or a Maintenance 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 Maintenance Element Categories: Structures, Traffic Signals, Snow and Ice Control, Incident Response, Customer Response or other Maintenance Element Categories meeting the above criteria identified following establishment of the Auditable Sections.
6. Maintenance 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 Maintenance Term, alter the Asset Condition Score criteria to reflect Good Industry Practice.
7. Where Defects are recorded for a Maintenance Element within an Auditable Section, these Defects shall be deemed to meet Performance Requirements for the purpose of the Asset Condition Score and will be removed from the sample and not scored, if both of the following conditions are met:
    a. Maintenance Contractor can document that the Defect was observed and recorded prior to the Maintenance Contractor's Audit Inspection, and
    b. all hazard mitigation has been performed and all permanent remedy and permanent repair activities are ongoing and within the allowable cure times for the specified Response to Defects in Attachment 1.

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 2.

## 1.18 Hazardous Materials Management Plan

As part of the MMP, Maintenance Contractor shall prepare and submit a Hazardous Materials Management Plan (HMMP) for the safe handling, storage, treatment and/or disposal of Hazardous Materials, whether encountered at or brought onto the Project by the Maintenance Contractor, encountered or brought onto the Project by a third party, or otherwise, during the Maintenance Term. The HMMP shall include:

a) the identification and contact information for designated responsible individuals in the management of Hazardous Materials, include procedures compliant with all applicable Environmental Laws and include, at a minimum:

b) procedures for updating Material Safety Data Sheets (MSDS), per OSHA requirements, for all chemicals used on the Project for the Maintenance Term;

c) designated individuals responsible for implementation of the HMMP;

d) procedures for identifying and documenting potential contaminated sites which might impact Project development;

e) procedures for mitigation of contamination during the operation and maintenance of the Project;

f) procedures for developing a detailed Spill Response Plan for the Maintenance Term including the prevention, control, and mitigation of fugitive noxious or toxic vapors or particulate matter (dust), contaminated soil, and contaminated groundwater during disturbance of noxious or hazardous materials and media;

g) processes for training personnel for responding to and mitigating Incidents involving contamination or waste;

h) provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project for the Maintenance Term;

i) provisions for a Hazardous Materials training module; and

j) procedures for preparing an Investigative Work Plan (IWP) and Site Investigative Report (SIR) in the event that Hazardous Materials are discovered during operations or maintenance activities.

The HMMP shall include provisions for making all on-Site workers aware of and able to recognize the potential Hazardous Materials to which they may be exposed, limiting Maintenance Contractor's workers' exposure to Hazardous Materials and providing all necessary personal protection equipment to protect workers from exposure. The HMMP shall require Maintenance Contractor to provide any non-Maintenance Contractor personnel who visit the Project with the appropriate personal protection equipment.

The HMMP shall require that all personnel of Maintenance Contractor-Related Entities handling Hazardous Materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 1910.120 (HAZWOPER Training).

The HMMP shall include procedures for ensuring that all applicable certifications, licenses, authorizations and Governmental Approvals for Maintenance Contractor personnel handling Hazardous Materials are current and valid through the duration of the Maintenance Term.

## 1.19 Environmental Compliance and Mitigation Plan

As part of the MMP, Maintenance Contractor shall prepare and submit an Environmental Compliance and Mitigation Plan (ECMP) to document and fully detail compliance strategies and procedures to be employed in accordance with the requirements of applicable Environmental Laws and Environmental Approvals. The ECMP shall provide, at a minimum:

a) Procedures for maintaining the environmental commitments required to verify that any discharge from the Project into a sanitary sewer system complies with appropriate codes and standards of the sanitary sewer owner;

b) Procedures for identifying and mitigating any potential traffic noise caused by conducting Maintenance Services;

c) Procedures for providing all other environmental monitoring within the Project area and submitting all necessary environmental documentation and monitoring reports to the

appropriate Governmental Entities and, when applicable, to TxDOT, to the extent necessary to maintain compliance with applicable Environmental Approvals; and

d) Procedures for training personnel to avoid or take appropriate action to minimize environmental impacts caused by conducting Maintenance Services.

Maintenance Contractor shall meet the environmental requirements of Section 4 of the Technical Provisions during the performance of Renewal Work activities.

# 2 TRAFFIC MANAGEMENT

## 2.1 General Requirements

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

While planning and carrying out Maintenance Services, Maintenance Contractor shall take into account the restrictions (if any) set forth in Attachment 6 to this Maintenance Specification and shall coordinate its Traffic Management Plan (TMP) with the traffic management to be performed by others to minimize disruption to Users of the Project.

## 2.2 Traffic Management and Control Plans

As part of the MMP, Maintenance Contractor shall prepare and submit a TMP that is consistent with and expands upon the preliminary Traffic Management Plan submitted with the Proposal. The TMP shall be implemented, maintained and used throughout the Maintenance Term. At a minimum, the TMP shall include the following:

- Descriptions of the qualifications and duties of the traffic engineering manager, traffic control coordinator, and other personnel with traffic control responsibilities
- 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
- 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
- Procedures for obtaining approval of Lane Closure and traffic control plan from TxDOT
- Procedures for installation, maintenance and removal of interim signing and the corresponding handling of permanent signing during maintenance operations
- Procedures for installation, maintenance, replacement and removal of traffic control devices, including pavement markings and traffic barriers, if used
- Procedures and process for the safe ingress and egress of construction vehicles in the work zone
- 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
- Procedures to modify plans as needed to adapt to changing Project circumstances

- Procedures to communicate TMP information to Maintenance Contractor's public information personnel and notify the public of maintenance of traffic issues
- Descriptions of contact methods, personnel available, and response times for any Emergency conditions requiring TxDOT attention during off-hours.

Maintenance Contractor shall prepare and submit, for TxDOT's review and approval, traffic control plans as described herein. Each traffic control plan shall be submitted to TxDOT for review a minimum of 10 Days prior to implementation.

Maintenance Contractor shall use the procedures set forth in the approved 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. 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.

## 2.3 Traffic Operation Restrictions

Maintenance Contractor shall keep the number of Lane Closures to an absolute minimum and shall keep each Lane Closure to the shortest time necessary for safe and efficient operations and in accordance with Attachment 6.

Maintenance Contractor shall ensure that opposing traffic on a normally divided roadway shall be separated with appropriate traffic control devices, shall maintain signing continuity within the Project and intersecting streets at all times, and 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.

## 2.4 Construction Requirements

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. 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 such operations to correct the deficient conditions or discontinue such operations.

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.

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.

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.

## 2.5 Public Information and Communications

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.

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

Maintenance Contractor shall comply with the public information and communications requirements set forth in Section 3 of the Technical Provisions during the performance of Renewal Work activities.

# 3 ADDITIONAL REQUIREMENTS

## 3.1 Rail

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

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. Maintenance Contractor shall comply with all construction requirements and specifications set forth in the agreement.

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.

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.

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 COMA Documents. 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. 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.

# 4 HANDBACK REQUIREMENTS

Maintenance Contractor shall prepare a handback plan that contains the methodologies and activities to be undertaken or employed to meet the Handback Requirements at the end of the Maintenance Term of the Comprehensive Maintenance Agreement. Maintenance Contractor shall submit the handback plan, including a Residual Life Methodology Plan, to TxDOT for review and approval at least 60 months before the anticipated termination of the Comprehensive Maintenance Agreement. Attachment 5 defines the Residual Life at handback for the specified Maintenance Elements.

Maintenance Contractor shall perform Residual Life inspections within the Project as noted below. Within thirty (30) Days following performance of each Residual Life inspection, Maintenance Contractor shall submit to TxDOT the findings of the inspection, Residual Life test results and Residual Life calculations.

The Residual Life Methodology Plan shall contain the evaluation and calculation criteria to be adopted for the calculation of the Residual Life at handback for the specified Maintenance Elements in Attachment 5. The scope of any Residual Life testing shall be included, together with a list of all independent Residual Life testing organizations, proposed by Maintenance Contractor. These organizations shall be on TxDOT's approved list at the time the testing is performed, as well as during the preparation of the handback plan, have third party quality certification, and be financially independent of the Maintenance Contractor and not be an Affiliate of the Maintenance Contractor.

TxDOT's approval of the Residual Life Methodology Plan, including the scope and schedule of inspections, shall be required before commencement of Residual Life inspections.

Maintenance Contractor shall perform all Maintenance Services necessary to meet or exceed the Residual Life requirements contained in Attachment 5 by the time of handback of the Project to TxDOT.

At the point of handback, Maintenance Contractor shall certify in writing to TxDOT that all of the specified Maintenance Elements in Attachment 5 meet or exceed their respective Residual Life requirements defined in the Comprehensive Maintenance Agreement.

## 4.1 Residual Life Inspections

Maintenance Contractor shall perform Residual Life inspections and testing with appropriate coverage such that the results are representative of the whole Project. TxDOT shall be given the opportunity to witness any of the inspections and/or tests. Maintenance Contractor shall deliver to TxDOT, within ten days after it is created, the output data arising from any testing and any interpretation thereof made by the testers.

Between sixty-three (63) and sixty (60) months prior to the end of the Maintenance Term, Maintenance Contractor shall perform the first Residual Life inspection (the initial inspection) for the Maintenance Elements set forth in Attachment 5.

Between twenty-one (21) and eighteen (18) months before the end of the Maintenance Term, Maintenance Contractor shall perform an intermediate Residual Life inspection (the intermediate inspection) for the Maintenance Elements set forth in Attachment 5, regardless of whether Maintenance Contractor has undertaken Renewal Work for a particular Maintenance Element in the period since the initial inspection.

Between ninety (90) and thirty (30) days before the end of the Maintenance Term, Maintenance Contractor shall perform a final Residual Life inspection (the final inspection) for the Maintenance Elements set forth in Attachment 5, regardless of whether Maintenance Contractor

has undertaken Renewal Work for a particular Maintenance Element in the period since the initial inspection.

For Specialist Inspections, Maintenance Contractor shall provide, at the submittal of the handback plan, all individuals who will be performing the inspections for handback, and shall demonstrate to TxDOT that these individuals have the skill, experience and certifications to perform the necessary inspections related to handback.

Maintenance Contractor shall cause all Residual Life inspections to be undertaken by independent engineers, testing facilities and specialists and shall, where applicable, select independent engineers, testing facilities and specialists from TxDOT's list of engineering firms qualified for such work. Maintenance Contractor shall cause inspections to follow the latest inspection guidelines (at the time of inspection) issued by TxDOT.

**EXHIBIT 2, ATTACHMENT 1: PERFORMANCE AND MEASUREMENT TABLE BASELINE**

| **Performance and Measurement Table Baseline** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **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 0.1-mile sections as described in the *Pavement Management Information System Rater's Manual*.** | | |
| | 1.1 | Obstructions and debris | Roadway and clear zone free from obstructions and debris | 2 hrs | N/A | N/A | Visual Inspection | Number of obstructions and debris | Nil |
| | 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) Ruts – Mainlanes, shoulders & ramps**<br>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<br>• Mainlanes, shoulders and ramps - 3% | <br>Nil |
| | | | | | | | | • Frontage roads - 10% | Nil |
| | | | | | | | 10-ft straight edge used to measure rut depth for localized areas. | Depth of rut at any location greater than 0.5" | Nil |
| | | | | | | | **b) Ride quality**<br>Measurement of International Roughness Index (IRI) according to TxDOT standard Tex-1001-S, Operating Inertial Profilers and Evaluating Pavement Profiles | (i) For 80% of all Auditable Sections Measured, IRI throughout 98% of each Auditable Section is less than or equal to:<br>• Mainlanes, ramps - 95" per mile** | <br>100% |
| | | | | | | | ** To allow for measurement bias, an adjustment of -10 (minus ten) is made to IRI measurements for concrete pavements before assessing threshold compliance | • Frontage roads - 120" per mile** | 100% |
| | | | | | | | (Renewal Work and new construction subject to construction quality standards) | (ii) IRI measured throughout 98% of Auditable Section of less than or equal to:<br>• Mainlanes, ramps - 120" per mile** | <br>100% |
| | | | | | | | | • Frontage roads - 150" per mile** | 100% |
| | | | | | | | | • Mainlanes, ramps, 0.1 mile average - 150" per mile** | 100% |
| | | | | | | | | • Frontage roads, 0.1 mile average - 180" per mile** | 100% |
| | | | | | | | | (iii) IRI measured throughout 98% of each lane containing a bridge deck in any Auditable Section, 0.1 mile average - 200" per mile** | 100% |
| | | | | | | | 10-ft straightedge used to measure discontinuities | Individual discontinuities greater than 1/4" | Nil |

**Performance and Measurement Table Baseline**

| MAINTENANCE ELEMENT CATEGORY | REF | MAINTENANCE 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 | | | | | | **c) Failures**<br>Instances of failures exceeding the failure criteria set forth in the TxDOT PMIS Rater's Manual, including potholes, base failures, punchouts and jointed concrete pavement failures | Occurrence of any failure | Nil |
| | | | | | | | **d) Edge drop-offs**<br>Physical measurement of edge drop-off level compared to adjacent surface | Instances of edge drop-off greater than 2" (Number) | Nil |
| | | | | | | | **e) Skid resistance**<br>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 –Sections investigated as to potential risk of skidding accident where average Skid Number for 0.5-mile section of mainlanes, shoulders and ramps is below 30. | 100% |
| | | | | | | | | • Frontage roads – Sections investigated as to potential risk of skidding accident where average Skid Number for 0.5-mile section of frontage roads is below 30. | 100% |
| | | | | | | | | • The Maintenance Contractor shall perform a site investigation and perform required corrective action when the skid number is below 25 and/or when required by the Wet Weather Accident Reduction Program for areas categorized as high risk. | 100% |
| | | | Road Users warned of potential skidding hazards | 24 hrs | 7 days | 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** | Potholes of low severity or higher (Number) | Nil |
| | | | | | | | **b) Base failures** | Base failures of low severity or higher (Number) | Nil |
| | 1.4 | Joints in concrete | Joints in concrete paving are sealed and watertight | 24 hrs | 28 days | 6 months | Visual inspection of joints | Length unsealed joints greater than ¼" | Nil |
| | | | Longitudinal joint separation | | | | Measurement of joint width and level difference of two sides of joints | Joint width more than 1" or faulting more than ¼" | Nil |
| | 1.5 | Curbs | Curbs are free of Defects | 24 hrs | 28 days | 6 months | 10-ft straightedge will be used to measure each curb alignment | Deviation from original alignment greater than 1 inch | Nil |
| **2) DRAINAGE** | | | | | | | | | |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| | 2.1 | Pipes and channels | Each element of the drainage system is maintained in its proper function by cleaning, clearing and/or emptying as appropriate from the point at which water drains from the travel way to the outfall or drainage way. | 24 hrs | 28 days | 6 months | Visual inspection supplemented by CCTV where required to inspect buried pipe work | Length with less than 90% of cross-sectional area clear (feet) | Nil |
| | 2.2 | Drainage treatment devices | Drainage treatment and balancing systems, flow and spillage control devices function correctly and their location and means of operation is recorded adequately to permit their correct operation in Emergency. | 24 hrs | 28 days | 6 months | Visual inspection | Devices functioning correctly with means of operation displayed | 100% |
| | 2.3 | Travel way | The travel way is free from water to the extent that such water would represent a hazard by virtue of its position and depth. | 24 hrs | 28 days | 6 months | Visual inspection of water on surface | Instances of hazardous water build-up | Nil |
| | 2.4 | Discharge systems | Surface water discharge systems perform their proper function and discharge to groundwater and waterways complies with the relevant legislation and permits. | 24 hrs | 28 days | 6 months | Visual inspection and records | Non-compliances with legislation | Nil |
| | 2.5 | Protected species | Named species and habitats are protected. | 24 hrs | 28 days | 6 months | Visual inspection | Compliance with the requirement | 100% |
| **3) STRUCTURES** | | | | | | | | | |
| | 3.1 | Structure components (Structures having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes) | (i) Substructures and superstructures are free of:<br>• graffiti<br>• undesirable vegetation<br>• debris and bird droppings<br>• blocked drains, weep pipes manholes and chambers<br>• blocked drainage holes in structural components<br>• defects in joint sealants<br>• defects in pedestrian protection measure<br>• scour damage<br>• corrosion of rebar<br>• paint system failures<br>• impact damage<br><br>(ii) Expansion joints free of:<br>• dirt, debris and vegetation<br>• defects in drainage systems<br>• loose nuts and bolts<br>• defects in gaskets<br><br>(iii) The deck drainage system is free of all and operates as intended.<br><br>(iv) Parapets free of:<br>• loose nuts and bolts<br>• blockages of hollow section drain holes<br>• graffiti<br>• vegetation<br>• accident damage | 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 Highway Administration's Bridge Inspector's Reference Manual. | Records as required in the TxDOT Bridge Inspection Manual<br><br>Occurrences of condition rating below six (6) for any deck, superstructure or substructure<br><br>Auditable Sections with structure components with condition states of one | 100%<br><br>Nil<br><br>100% |

**Performance and Measurement Table Baseline**

| MAINTENANCE ELEMENT CATEGORY | REF | MAINTENANCE ELEMENT | PERFORMANCE REQUIREMENT | RESPONSE TO DEFECTS | | | INSPECTION AND MEASUREMENT METHOD* | MEASUREMENT RECORD* | TARGET |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat 1 | Cat 1 | Cat 2 | | | |
| | | | | Hazard Mitigation | Permanent Remedy | Permanent Repair | | | |
| | 3.1 Cont. | | (v) Bearings and bearing shelves are clean.<br>(vi) Sliding and roller surfaces are clean and greased to ensure satisfactory performance.<br>Additional advice contained in bearing manufacturers' instructions in the Structure Maintenance Manual is followed.<br>Special finishes are clean and perform to the appropriate standards.<br>(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. | | | | | | |
| | 3.2 | Non-bridge class culverts | Non-bridge-class culverts are free of:<br>• vegetation and debris and silt<br>• defects in sealant to movement joints<br>• scour damage | 24 hrs | 28 days | 6 months | Visual inspection | Number with vegetation, debris and silt<br>Number with defects in sealant and movement joints<br>Number with scour damage | Nil<br>Nil<br>Nil |
| | 3.3 | 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.<br>Load restriction requirements as per the TxDOT Bridge Inspection Manual | Number of load restrictions for Texas legal loads (including legally permitted vehicles) | Nil |
| | 3.4 | Gantries and high masts | Sign signal gantries, high masts are structurally sound and free of:<br>• loose nuts and bolts<br>• defects in surface protection systems<br>• graffiti | 24 hrs | 28 days | 6 months | Visual inspection | Number with loose assemblies<br>Number with defects in surface protection<br>Number with graffiti | Nil<br>Nil<br>Nil |
| | 3.5 | Access points | All hatches and points of access have fully operational and lockable entryways. | 24 hrs | 28 days | 6 months | Visual inspection | Number of Defects in locks or entryways | Nil |
| | 3.6 | Mechanically stabilized earth and retaining walls | Mechanically stabilized earth and retaining walls free of:<br>• blocked weep holes<br>• undesirable vegetation<br>• defects in joint sealants<br>• defects in pedestrian protection<br>• scour damage<br>• corrosion of reinforcing bars<br>• paint system failure<br>• concrete spalling<br>• impact damage<br>Parapets free of:<br>• loose nuts and bolts<br>• blockage of drain holes<br>• undesirable vegetation<br>• impact damage<br>• concrete spalling | 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 Highway Administration's Bridge Inspector's Reference Manual. | Records as required in the TxDOT Bridge Inspection Manual | 100% |

**Performance and Measurement Table Baseline**

| MAINTENANCE ELEMENT CATEGORY | REF | MAINTENANCE ELEMENT | PERFORMANCE REQUIREMENT | RESPONSE TO DEFECTS | | | INSPECTION AND MEASUREMENT METHOD* | MEASUREMENT RECORD* | TARGET |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat 1 | Cat 1 | Cat 2 | | | |
| | | | | Hazard Mitigation | Permanent Remedy | Permanent Repair | | | |
| **4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS** | | | | | | | | | |
| | 4.1 | Pavement markings | Pavement markings are:<br>• clean and visible during the day and at night<br>• whole and complete and of the correct color, type, width and length<br>• placed to meet the TMUTCD and TxDOT's Pavement Marking Standard Sheets | 24 hrs | 28 days | 6 months | a) Markings - General<br>General Portable retroreflectometer, which uses 30 meter geometry meeting the requirements described in ASTM E 1710 | Length meeting the minimum retroreflectivity 175 mcd/m$^2$/lx for white | 100% |
| | | | | | | | | Length meeting the minimum retroreflectivity 125 mcd/m$^2$/lx for yellow | 100% |
| | | | | | | | Physical measurement | Length with more than 5% loss of area of material at any point | Nil |
| | | | | | | | | Length with spread more than 10% of specified dimensions. | Nil |
| | | | | | | | b) Profile Markings<br>Visual inspection | Length performing its intended function and compliant with relevant regulations | 100% |
| | 4.2 | Raised reflective markers | Raised reflective pavement markers, object markers and delineators are:<br>• clean and clearly visible<br>• of the correct color and type<br>• reflective or retroreflective as TxDOT standard<br>• correctly located, aligned and at the correct level<br>• are firmly fixed<br>• are in a condition that will ensure that they remain at the correct level. | 24 hrs | 28 days | 6 months | Visual inspection | Number of markers associated with road markings that are ineffective in any 10 consecutive markers. (Ineffective includes missing, damaged, settled or sunk) | Nil |
| | | | | | | | | A minimum of four markers should be visible at 80' spacing when viewed under low beam headlights | 100% |
| | | | | | | | | Uniformity (replacement raised reflective pavement markers have equivalent physical and performance characteristics to adjacent markers). | 100% |
| | 4.3 | Delineators & markers | Object markers, mail box markers and delineators are:<br>• clean and visible<br>• of the correct color and type<br>• legible and reflective<br>• straight and vertical | 24 hrs | 28 days | 6 months | Visual inspection | Less than 5% of object markers or delineators defective or missing | 100% |
| **5) GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS** | | | | | | | | | |
| | 5.1 | Guard rails and safety barriers | All guardrails, safety barriers, and concrete barriers are maintained free of Defects. They are appropriately placed and correctly installed at the correct height and distance from roadway or obstacles. Installation and repairs shall be carried out in accordance with the requirements of NCHRP 350 standards. | 24 hrs | 28 days | 6 months | Visual inspection | Length of road restraint systems correctly installed | 100% |
| | | | | | | | | Length free from Defects | 100% |
| | | | | | | | | Length at correct height | 100% |
| | | | | | | | | Length at correct distance from roadway and obstacle | 100% |
| | 5.2 | Impact attenuators | All impact attenuators are appropriately placed and correctly installed | 24 hrs | 7 days | 6 months | Visual inspection | Number correctly placed and installed | 100% |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| **6) TRAFFIC SIGNS** | | | | | | | | | |
| | 6.1 | General – All signs | (i) Signs are clean, correctly located, clearly visible, legible, reflective, at the correct height and free from structural and electrical defects<br>(ii) Identification markers are provided, correctly located, visible, clean and legible<br>(iii) Sign mounting posts are vertical, structurally sound and rust free<br>(iv) All break-away sign mounts are clear of silt or other debris that could impede break-away features and shall have correct stub heights<br>(v) Obsolete and redundant signs are removed or replaced as appropriate<br>(vi) Visibility distances meet the stated requirements<br>(vii) Sign information is of the correct size, location, type and wording to meet its intended purpose and any statutory requirements<br>(viii) All structures and elements of the signing system are kept clean and free from debris and have clear access provided.<br>(ix) All replacement and repair materials and equipment are in accordance with the requirements of the TMUTCD<br>(x) Dynamic message signs are in an operational condition | 24 hrs | 28 days | 6 months | **a) Retroreflectivity**<br>Coefficient of retro -reflectivity<br>**b) Face damage**<br>Visual inspection<br>**c) Placement**<br>Visual inspection<br>**d) Sign Information**<br>Visual inspection<br>**e) Dynamic Message Signs**<br>Visual inspection | Number of signs with reflectivity below the requirements of TxDOT's TMUTCD<br>Number of signs with face damage greater than 5% of area<br>Signs are placed in accordance with TxDOT's Sign Crew Field Book including not twisted or leaning<br>Sign information is of the correct size, location, type and wording to meet its intended purpose<br>Dynamic message signs are fully functioning | Nil<br>Nil<br>100%<br>100%<br>100% |
| | 6.2 | General - Safety critical signs | Requirements as 6.1, Plus:<br>"Stop," "Yield," "Do Not Enter," "One Way" and "Wrong Way" signs are clean legible and undamaged. | 2hrs | 1 week | 6 months | Visual inspection | Number of damaged safety critical signs | Nil |
| **7) TRAFFIC SIGNALS** | | | | | | | | | |
| | 7.1 | General | (i) Traffic Signals and their associated equipment are:<br>• clean and visible<br>• correctly aligned and operational<br>• free from damage caused by accident or vandalism<br>(ii) Signal timing and operation is correct<br>(iii) Contingency plans are in place to rectify Category 1 defects not immediately repairable to assure alternative traffic control is provided during a period of failure | 2 hrs | 24 hrs | 6 months | **a) General condition**<br>Visual inspection<br>**b) Damage**<br>Visual inspection<br>**c) Signal timing**<br>Timed measurements | Signals are clean and visible<br>Signals are undamaged<br>Installations have correct signal timings | 100%<br>100%<br>100% |

**Performance and Measurement Table Baseline**

| MAINTENANCE ELEMENT CATEGORY | REF | MAINTENANCE ELEMENT | PERFORMANCE REQUIREMENT | RESPONSE TO DEFECTS | | | INSPECTION AND MEASUREMENT METHOD* | MEASUREMENT RECORD* | TARGET |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat 1 | Cat 1 | Cat 2 | | | |
| | | | | Hazard Mitigation | Permanent Remedy | Permanent Repair | | | |
| | 7.1 Cont. | | | | | | **d) Contingency plans**<br>Records review | Full contingency plans are in place | 100% |
| | 7.2 | Soundness | Traffic signals are structurally and electrically sound | 24 hrs | 28 days | 6 months | **a) Structural soundness**<br>Visual inspection<br>**b) Electrical soundness**<br>Testing to meet NEC regulations | Inspection records showing safe installation and maintenance | 100%<br>100% |
| | 7.3 | Identification marking | Signals have identification markers and the telephone number for reporting faults are correctly located, clearly visible, clean and legible | N/A | 28 days | 6 months | Visual inspection | Inspection records showing identification markers and other information are easily readable | 100% |
| | 7.4 | Pedestrian elements and vehicle detectors | All pedestrian elements and vehicle detectors are correctly positioned and fully functional at all times | 24 hrs | 28 days | 6 months | Visual Inspection | Inspection records showing compliance | 100% |
| **8) LIGHTING** | | | | | | | | | |
| | 8.1 | Roadway lighting – General | (i) All lighting is free from defects and provides acceptable uniform lighting quality<br>(ii) Lanterns are clean and correctly positioned<br>(iii) Lighting units are free from accidental damage or vandalism<br>(iv) Columns are upright, correctly founded, visually acceptable and structurally sound | 24 hrs | 28 days | 6 months | **a) Mainlane lights operable**<br>Night time inspection or automated logs<br>**b) Mainlane lights out of action**<br>Night time inspection or automated logs | Number of sections with less than 90% of lights functioning correctly at all times<br>Instances of more than two consecutive lights out of action | Nil<br>Nil |
| | 8.2 | Sign lighting | Sign lighting is fully operational | 24 hrs | 28 days | 6 months | Night time inspection or automated logs | Instances of more than one bulb per sign not working | Nil |
| | 8.3 | Electrical supply | Electricity supply, feeder pillars, cabinets, switches and fittings are electrically, mechanically and structurally sound and functioning | 24 hrs | 7 days | 1 month | Testing to meet NEC regulations, visual inspection | Inspection records showing safe installation and maintenance | 100% |
| | 8.4 | Access panels | All access panels in place at all times. | 24 hrs | 7 days | 1 month | Visual inspection | Instances of missing access panels | Nil |
| | 8.5 | High mast lighting | (i) All high mast luminaries functioning on each pole<br>(ii) All obstruction lights are present and working (if required)<br>(iii) Compartment door is secure with all bolts in place<br>(iv) All winch and safety equipment is correctly functioning and maintained without rusting or corrosion<br>(for structural requirements refer to Maintenance Element Category 3) | 24 hrs | 28 days | 6 months | Yearly inspection and night time inspections or automated logs | Instances of two or more lamps not working per high mast pole<br>Identification of other defects | Nil<br>Nil |
| **9) FENCES, WALLS AND SOUND ABATEMENT** | | | | | | | | | |
| | 9.1 | Design and location | Fences and walls act as designed and serve the purpose for which they were intended | 24 hrs | 28 days | 6 months | Visual inspection | Inspection records showing compliance | 100% |
| | 9.2 | Construction | Integrity and structural condition of the fence is maintained | 24 hrs | 28 days | 6 months | Structural assessment if visual inspection warrants | Inspection records showing compliance | 100% |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| **10) ROADSIDE MANAGEMENT** | | | | | | | | | |
| | 10.1 | Vegetated areas – Except landscaped areas – General | Vegetation is maintained so that:<br>(i) Height of grass and weeds is kept within the limits described for urban and rural areas. Mowing begins before vegetation reaches the maximum height.<br>(ii) Spot mowing at intersections, ramps or other areas maintains visibility of appurtenances and sight distance.<br>(iii) Grass or vegetation does not encroach into or on paved shoulders, mainlanes, sidewalks, islands, riprap, traffic barrier or curbs.<br>(iv) A herbicide program is undertaken in accordance with the TxDOT Herbicide Manual to control noxious weeds and to eliminate grass in pavement or concrete.<br>(v) A full width mowing cycle is completed after the first frost<br>(vi) Wildflowers are preserved utilizing the guidelines in the mowing specifications and TxDOT Roadside Vegetation Manual. | 24 hrs | 7 days | 28 days | **a) Urban areas**<br>Physical measurement of height of grass and weeds<br>**b) Rural areas**<br>Physical measurement of height of grass and weeds<br>**c) Encroachment**<br>Visual inspection of instances of encroachment of vegetation<br>**d) Wildflowers**<br>Visual inspection with audit of process.<br>**e) Sight lines**<br>Visual inspection | Individual measurement areas to have 95% of height of grass and weeds between 5 in. and 18 in<br>Individual measurement areas to have 95% of height of grass and weeds between 5 in. and 30 in<br>Occurrences of vegetation encroachment in each auditable section<br>Adherence to vegetation management manuals<br>Instances of impairment of sight lines or sight distance to signs | 100%<br>100%<br>Nil<br>100%<br>Nil |
| | 10.2 | Landscaped areas | (i) All landscaped areas are maintained to their originally constructed condition. Landscaped areas are as designated in the Plans.<br>(ii) Mowing, litter pickup, irrigation system maintenance and operation, plant maintenance, pruning, insect, disease and pest control, fertilization, mulching, bed maintenance, watering is undertaken as per MMP.<br>(iii) The height of grass and weeds is kept between 2“ and 8”. Mowing begins before vegetation reaches 8 in<br>(iv) Damaged or dead vegetation is replaced. | 24 hrs | 7 days | 28 days | Visual inspection | Inspection records showing compliance | 100% |
| | 10.3 | Fire hazards | Fire hazards are controlled | 24 hrs | 7 days | 28 days | Visual inspection | Instances of dry brush or vegetation forming fire hazard | Nil |
| | 10.4 | Trees, brush and ornamentals | (i) Trees, brush and ornamentals on the right of way, except in established no mow areas, are trimmed in accordance with TxDOT standards.<br>(ii) Trees, brush and ornamentals are trimmed to insure they do not interfere with vehicles or sight distance, or inhibit the visibility of signs.<br>(iii) Dead trees, brush, ornamentals and branches are removed. Potentially dangerous trees or limbs are removed.<br>(iv) All undesirable trees and vegetation are removed. Diseased trees or limbs are treated or removed by licensed contractors. | 24 hrs | 7 days | 28 days | Visual inspection | Inspection records showing compliance | 100% |
| | 10.5 | Wetlands | Wetlands are managed in accordance with the permit requirements | 24 hrs | 7 days | 28 days | Visual inspection, assessment of permit issuers | Instances of permit requirements not met | Nil |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| **11) REST AREAS AND PICNIC AREAS (Not Used)** | | | | | | | | | |
| **12) EARTHWORKS, EMBANKMENTS AND CUTTINGS** | | | | | | | | | |
| | 12.1 | Slope failure | All structural or natural failures of the embankment and cut slopes of the Project 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% |
| **13) ITS EQUIPMENT** | | | | | | | | | |
| | 13.1 | ITS Equipment | All ITS equipment is fully functional and housing is functioning and free of defects.<br>(i) All equipment and cabinet identification numbers are visible, sites are well drained and access is clear<br>(ii) Steps, handrails and accesses are kept in a good condition<br>(iii) Access to all communication hubs, ground boxes, cabinets and sites is clear<br>(iv) All drainage is operational and all external fixtures and fittings are in a satisfactory condition<br>(v) All communication cable markers, cable joint markers and duct markers are visible and missing markers are replaced<br>(vi) Backup power supply system is available at all times | 24 hrs | 14 days | 1 month | Visual inspection | Inspection records showing compliance with requirements for maintenance of ITS equipment in each auditable section. | 100% |
| | 13.2 | Dynamic message sign equipment | Dynamic message signs are free from faults such as:<br>(i) Any signal displaying a message which is deemed to be a safety hazard<br>(ii) Failure of system to clear sign settings when appropriate.<br>(iii) 2 or more contiguous sign failures that prevent control office setting strategic diversions<br>(iv) Signs displaying an incorrect message. | 2 hrs | 24 hrs | 14 days | Defect measurement dependent on equipment | Inspection records showing compliance | 100% |
| | 13.3 | CCTV equipment | CCTV Systems are free from faults that limit the availability of the operators to monitor the area network, such as:<br>(i) Failure of CCTV Systems to provide control offices with access and control of CCTV images<br>(ii) Failure of a CCTV camera or its video transmission system.<br>(iii) Failure of a pan / tilt unit or its control system.<br>(iv) Moisture ingress onto CCTV camera lens<br>(v) Faults that result in significant degradation of CCTV images | 2 hrs | 24 hrs | 14 days | Defect measurement dependent on equipment | Inspection records showing compliance | 100% |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| | 13.4 | Vehicle detection equipment | All equipment free of defects and operational problems such as;<br>(i) Inoperable loops.<br>(ii) Malfunctioning camera controllers. | 2 hrs | 24 hrs | 1 month | Defect measurement dependent on equipment<br>Traffic detector loops:<br>Loop circuit's inductance to be > 50 and < 1,000 micro henries.<br>Insulation resistance to be > 50 meg ohms. | Inspection records showing compliance<br>Instances of loops out of compliance | 100%<br>Nil |
| **14) TOLLING Facilities and Buildings (Not Used)** | | | | | | | | | |
| **15) AMENITY** | | | | | | | | | |
| | 15.1 | Graffiti | Graffiti is removed in a manner and using materials that restore the surface to a like appearance similar to adjoining surfaces | 24 hrs | 28 days | 6 months | All graffiti is considered a Category 1 defect | Inspection records showing compliance | 100% |
| | 15.2 | Animals | All dead or injured animals are removed | 2 hrs | N/A | N/A | Visual inspection | No dead or injured animals are present | 100% |
| | 15.3 | Abandoned vehicles and equipment | All abandoned vehicles and equipment are removed | 1 hr | 72 hrs | N/A | Visual inspection | No abandoned vehicles or equipment present | 100% |
| **16) SNOW AND ICE CONTROL** | | | | | | | | | |
| | 16.1 | Travel lanes | Maintain travel way free from snow and ice | 2 hrs | N/A | N/A | Maximum 1hr response time to complete manning and loading of spreading vehicles<br>Maximum 2 hrs from departure from loading point to complete treatment and return to loading point<br>Maximum 1 hr response time for snow and ice clearance vehicles to depart from base | Inspection records showing compliance | 100% |
| | 16.2 | Weather forecasting | Weather forecast information is obtained and assessed and appropriate precautionary treatment is carried out to prevent ice forming on the travel way | 2hrs | N/A | N/A | Operations plan details the process and procedures in place and followed | Inspection records showing compliance | 100% |
| | 16.3 | Operational plans | Operate snow and ice clearance plans to maintain traffic flows during and after precipitation resulting in snowfall or ice and restore the travel way to a clear condition as soon as possible. | 2hrs | N/A | N/A | Operations plan details the process and procedures in place and followed | Inspection records showing compliance | 100% |
| **17) INCIDENT RESPONSE** | | | | | | | | | |
| | 17.1 | General | Respond to Incidents in accordance with the MMP | 1 hr | N/A | N/A | Response times met for 98% of Incidents measured on a 1 year rolling basis.<br>No complaints from Emergency Services. | Inspection records showing compliance | 100% |
| | 17.2 | Hazardous Materials | For any Hazardous Materials spills, comply with the requirements of the MMP. | 1 hr | N/A | N/A | MMP details the process and procedures in place and followed. | Inspection records showing compliance | 100% |
| | 17.3 | Structural assessment | Evaluate structural damage to structures and liaise with Emergency Services to ensure safe working in clearing the Incident | 1 hr | N/A | N/A | Inspections and surveys as required by Incident | Incident reports showing compliance | 100% |

| Performance and Measurement Table Baseline | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MAINTENANCE ELEMENT CATEGORY** | **REF** | **MAINTENANCE ELEMENT** | **PERFORMANCE REQUIREMENT** | **RESPONSE TO DEFECTS** | | | **INSPECTION AND MEASUREMENT METHOD*** | **MEASUREMENT RECORD*** | **TARGET** |
| | | | | **Cat 1** | **Cat 1** | **Cat 2** | | | |
| | | | | **Hazard Mitigation** | **Permanent Remedy** | **Permanent Repair** | | | |
| | 17.4 | Temporary and permanent remedy | Propose and implement temporary measures or permanent repairs to Defects arising from the Incident.<br>Ensure the structural safety of any structures affected by the Incident | 24 hrs | 28 days | N/A | Review and inspection of the Incident site | Auditable inspection records showing compliance | 100% |
| **18) CUSTOMER RESPONSE** | | | | | | | | | |
| | 18.1 | Response to inquiries | Timely and effective response to customer inquiries and complaints. | 48 hrs | 28 days | N/A | Contact the customer within 48 hours following initial customer inquiry.<br>All work resulting from customer requests is scheduled within 48 hours of customer contact.<br>Follow-up contact with the customer within 72 hours of initial inquiry.<br>All customer concerns/requests are resolved to TxDOT's satisfaction within 2 weeks of the initial inquiry. | Number of responses within specified times | 100% |
| | 18.2 | Customer contact line | Telephone line manned during business hours and 24 hour availability of messaging system. Faults to telephone line or message system rectified | 24 hrs | 28 days | N/A | Instances of line out of action or unmanned | Operations records showing non availability including complaints from public. | nil |
| **19) SWEEPING AND CLEANING** | | | | | | | | | |
| | 19.1 | Sweeping | (i) Keep all channels, hard shoulders, gore areas, ramps, intersections, islands and frontage roads swept clean,<br>(ii) Clear and remove debris from traffic lanes, hard shoulders, verges and central reservations, footways and cycle ways<br>(iii) Remove all sweepings without stockpiling in the right of way and dispose of at approved tip. | 24 hrs | 28 days | 6 months | Buildup of dirt, ice rock, debris, etc. on roadways and bridges not to accumulate greater than 24" wide or 1/2" deep | Inspection records showing compliance | 100% |
| | 19.2 | Litter | (i) Keep the Project in a neat condition, remove litter regularly<br>(ii) Pick up large litter items before mowing operations.<br>(iii) Dispose of all litter and debris collected at an approved solid waste site. | 24 hrs | 28 days | 6 months | No more than 20 pieces of litter per roadside mile shall be visible when traveling at highway speed. | Inspection records showing compliance | 100% |

## ATTACHMENT 2: ELEMENTS FOR WHICH MAINTENANCE SERVICES ARE TO BE PROVIDED

| ELEMENT CATEGORY | | MAINTENANCE TYPES | | | | |
|---|---|---|---|---|---|---|
| | | Routine | Preven-tive | Major | Emergen-cy | Operation-al Items |
| **1) ROADWAY** | | | | | | |
| 1.1 | Obstructions and debris | x | | | | |
| 1.2 | Pavement | x | x | x | | |
| 1.3 | Crossovers and other paved areas | x | x | x | | |
| 1.4 | Joints in concrete | x | x | x | | |
| 1.5 | Curbs | x | x | x | | |
| **2) DRAINAGE** | | | | | | |
| 2.1 | Pipes and channels | x | x | x | | |
| 2.2 | Drainage treatment devices | x | x | x | | |
| 2.3 | Travel way | x | x | x | | |
| 2.4 | Discharge systems | x | x | x | | |
| 2.5 | Protected species | x | | | | |
| **3) STRUCTURES** | | | | | | |
| 3.1 | Structure components | x | x | x | | |
| 3.2 | Non-bridge class culverts | x | x | x | | |
| 3.3 | Load ratings | x | x | x | | |
| 3.4 | Gantries and high masts | x | x | x | | |
| 3.5 | Access points | x | x | x | | |
| 3.6 | Mechanically stabilized earth and retaining walls | x | x | x | | |
| **4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS** | | | | | | |
| 4.1 | Pavement markings | x | x | x | | |
| 4.2 | Raised reflective markers | x | x | x | | |
| 4.3 | Delineators & markers | x | x | x | | |
| **5) GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS** | | | | | | |
| 5.1 | Guard rails and safety barriers | x | x | x | | |
| 5.2 | Impact attenuators | x | x | x | | |
| **6) TRAFFIC SIGNS** | | | | | | |
| 6.1 | General – All signs | x | x | x | | |
| 6.2 | General – Safety critical signs | x | x | x | | |
| **7) TRAFFIC SIGNALS** | | | | | | |
| 7.1 | General | x | x | x | | |
| 7.2 | Soundness | x | x | x | | |
| 7.3 | Identification marking | x | x | x | | |
| 7.4 | Pedestrian elements and vehicle detectors | x | x | x | | |

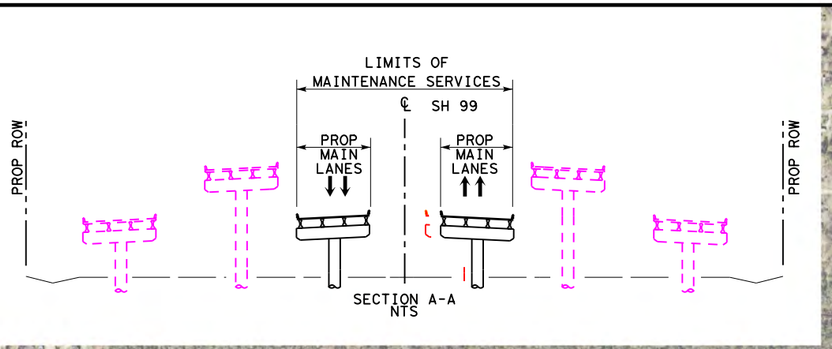
| ELEMENT CATEGORY | | MAINTENANCE TYPES | | | | |
|---|---|---|---|---|---|---|
| | | Routine | Preven-tive | Major | Emergen-cy | Operation-al Items |
| **8) LIGHTING** | | | | | | |
| 8.1 | Roadway lighting – General | x | x | x | | |
| 8.2 | Sign lighting | x | x | x | | |
| 8.3 | Electrical supply | x | x | x | | |
| 8.4 | Access panels | x | x | x | | |
| 8.5 | High mast lighting | x | x | x | | |
| **9) FENCES, SOUND WALLS AND ABATEMENT** | | | | | | |
| 9.1 | Design and location | x | x | x | | |
| 9.2 | Construction | x | x | x | | |
| **10) ROADSIDE MANAGEMENT** | | | | | | |
| 10.1 | Vegetated areas – Except landscaped areas – General | x | | | | |
| 10.2 | Landscaped areas | x | | | | |
| 10.3 | Fire hazards | x | | | | |
| 10.4 | Trees, brush and ornamentals | x | | | | |
| 10.5 | Wetlands | x | | | | |
| **11) REST AREAS AND PICNIC AREAS (Not Used)** | | | | | | |
| **12) EARTHWORKS, EMBANKMENTS AND CUTTINGS** | | | | | | |
| 12.1 | Slope failure | x | x | x | | |
| 12.2 | Slopes - General | x | x | x | | |
| **13) ITS EQUIPMENT** | | | | | | |
| 13.1 | ITS Equipment | x | x | x | | |
| 13.2 | Dynamic message sign equipment | x | x | x | | |
| 13.3 | CCTV equipment | x | x | x | | |
| 13.4 | Vehicle detection equipment | x | x | x | | |
| **14) TOLLING Facilities and Buildings (Not Used)** | | | | | | |
| **15) AMENITY** | | | | | | |
| 15.1 | Graffiti | x | | | | |
| 15.2 | Animals | x | | | | |
| 15.3 | Abandoned vehicles and equipment | x | | | | |
| **16) SNOW AND ICE CONTROL** | | | | | | |
| 16.1 | Travel lanes | | | | x | |
| 16.2 | Weather forecasting | | | | x | |
| 16.3 | Operational plans | | | | x | |
| **17) INCIDENT RESPONSE** | | | | | | |
| 17.1 | General | | | | x | |
| 17.2 | Hazardous Materials | | | | x | |
| 17.3 | Structural assessment | | | | x | |
| 17.4 | Temporary and permanent remedy | | | | x | |

| ELEMENT CATEGORY | | MAINTENANCE TYPES | | | | |
|---|---|---|---|---|---|---|
| | | Routine | Preven-tive | Major | Emergen-cy | Operation-al Items |
| **18) CUSTOMER RESPONSE** | | | | | | |
| 18.1 | Response to inquiries | | | | | x |
| 18.2 | Customer contact line | | | | | x |
| **19) SWEEPING AND CLEANING** | | | | | | |
| 19.1 | Sweeping | x | | | | |
| 19.2 | Litter | x | | | | |

## ATTACHMENT 3: MAINTENANCE LIMITS

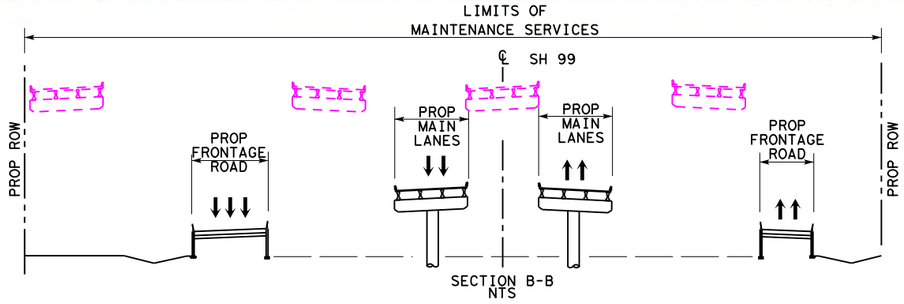
[SEE ATTACHED]

Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:34




SECTION A-A
NTS




SECTION B-B
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

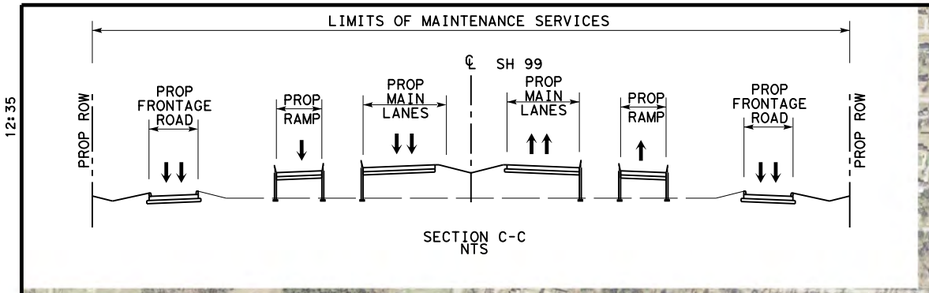
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

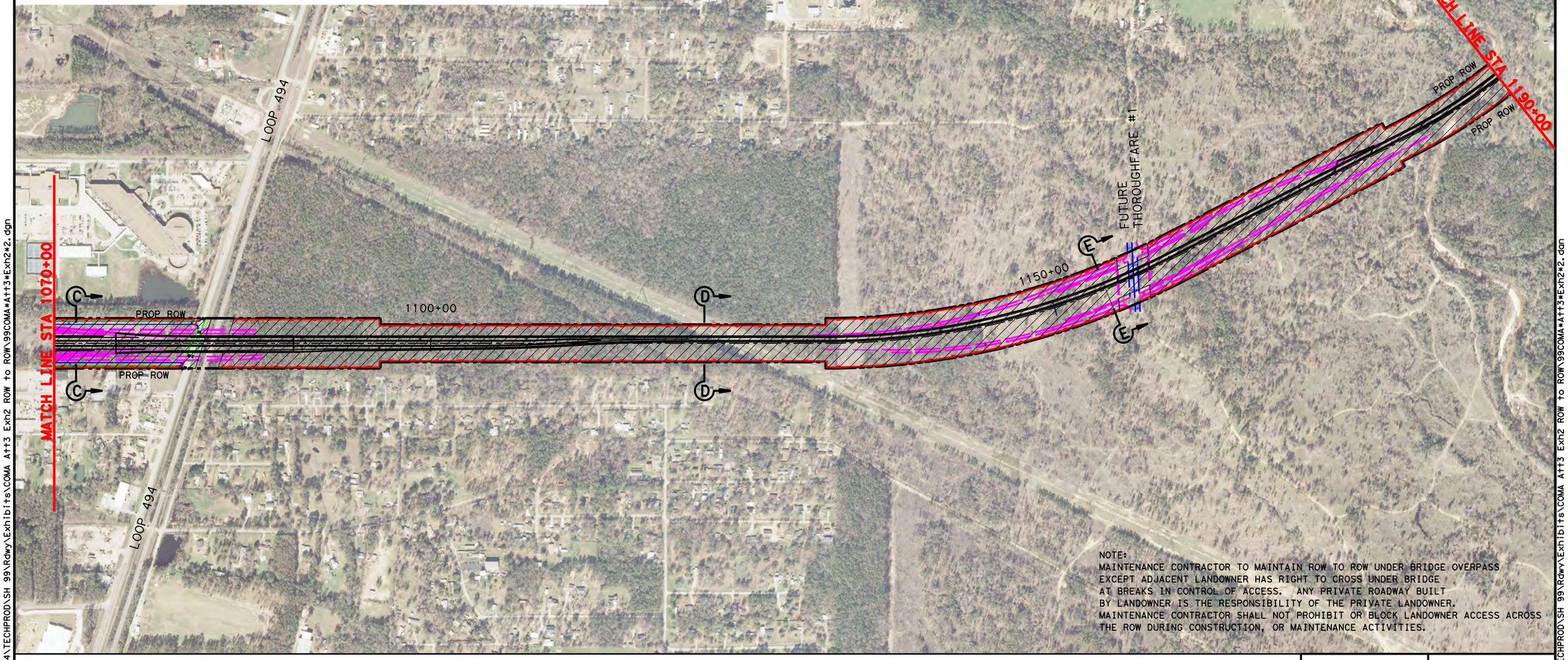
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 1 |

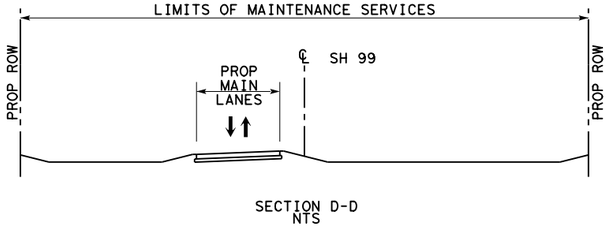
dnallon
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At*3*Exh2*1.dgn
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At*3*Exh2*1.dgn



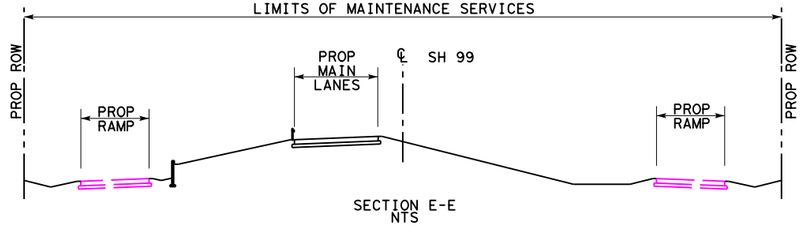

SECTION C-C
NTS




NOTE:
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.




SECTION D-D
NTS




SECTION E-E
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

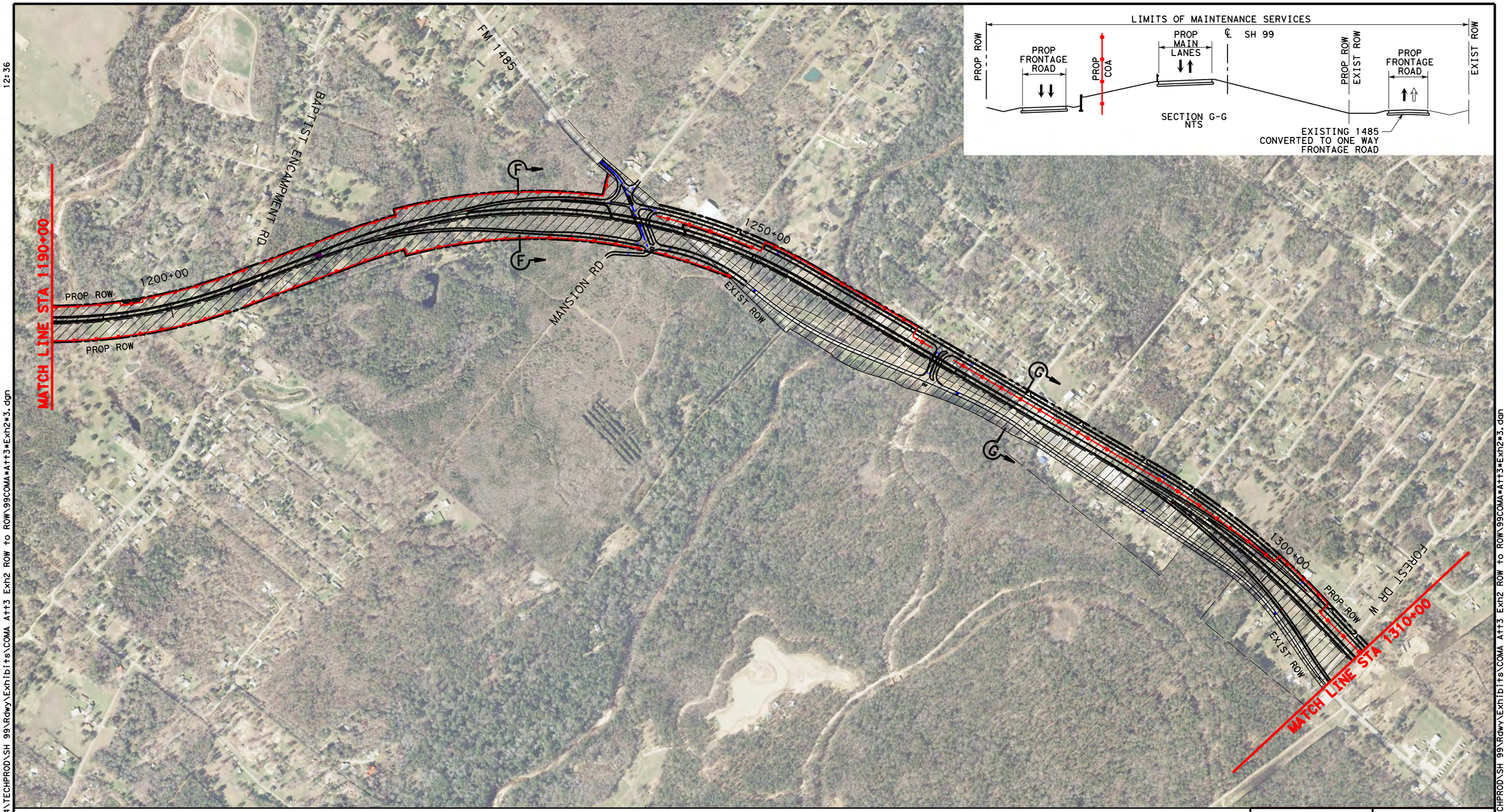
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 2 |

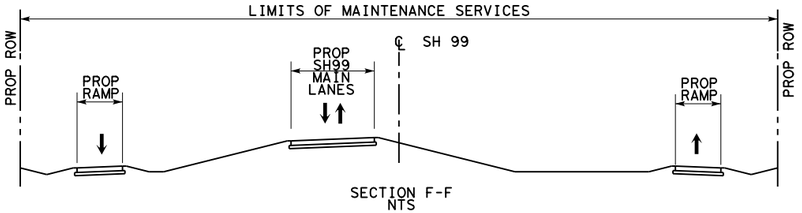

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I3 Exh2 ROW to ROW\99COMA*A+I3*Exh2*2.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:36










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

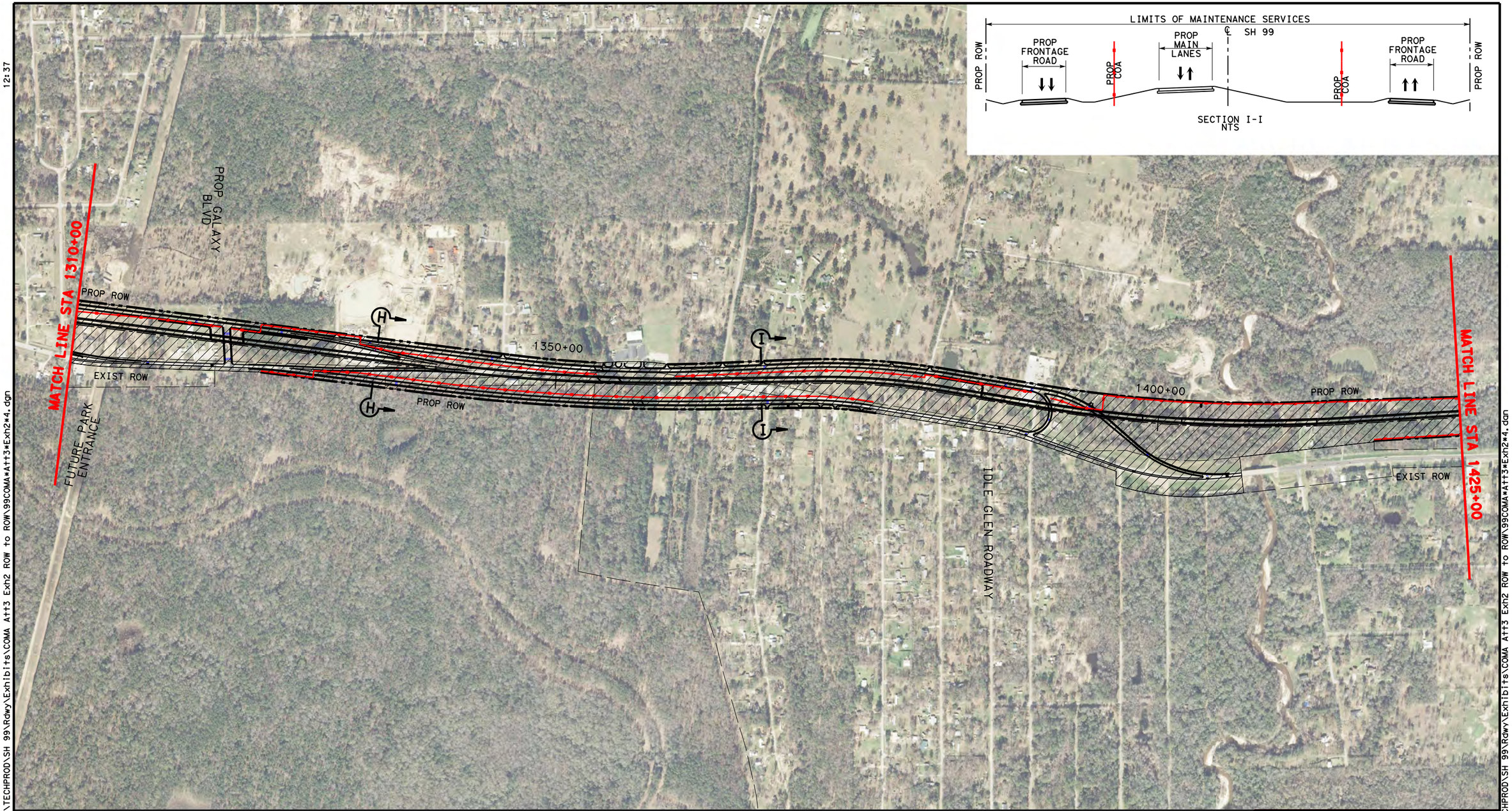
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 3 |

dnallon
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*3.dgn

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*3.dgn

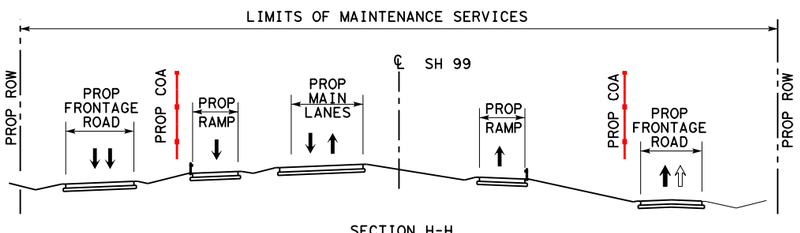
Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:37

Design Filename: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*4.dgn
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
dnallion










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

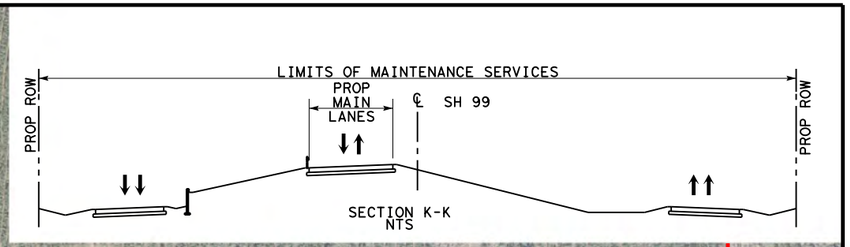
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 4 |

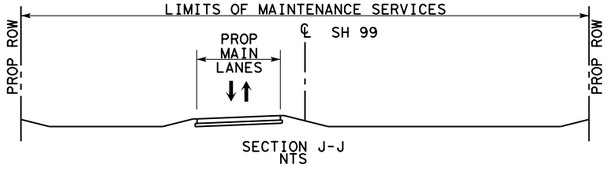
Design Filename: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*4.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:38










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

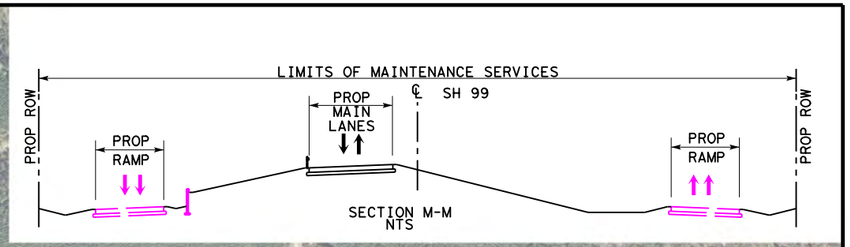
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | | HIGHWAY NO. |
| CK: | 6 | TEXAS | | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | | SHEET NO. |
| CK: | | | | | | | 5 |

dnaillon
Pen Tables:\\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*5.dgn
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*5.dgn




FUTURE MILLER-WILSON

1600+00

1550+00

PROP ROW

PROP ROW

MATCH LINE STA 1540+00

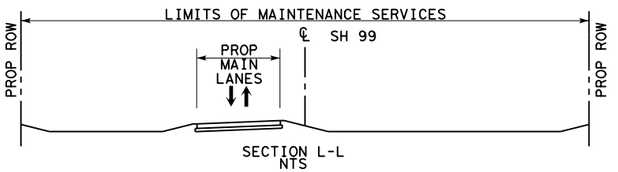
PROP ROW

1650+00

PROP ROW

MATCH LINE STA 1655+00

NOTE:
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.




## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

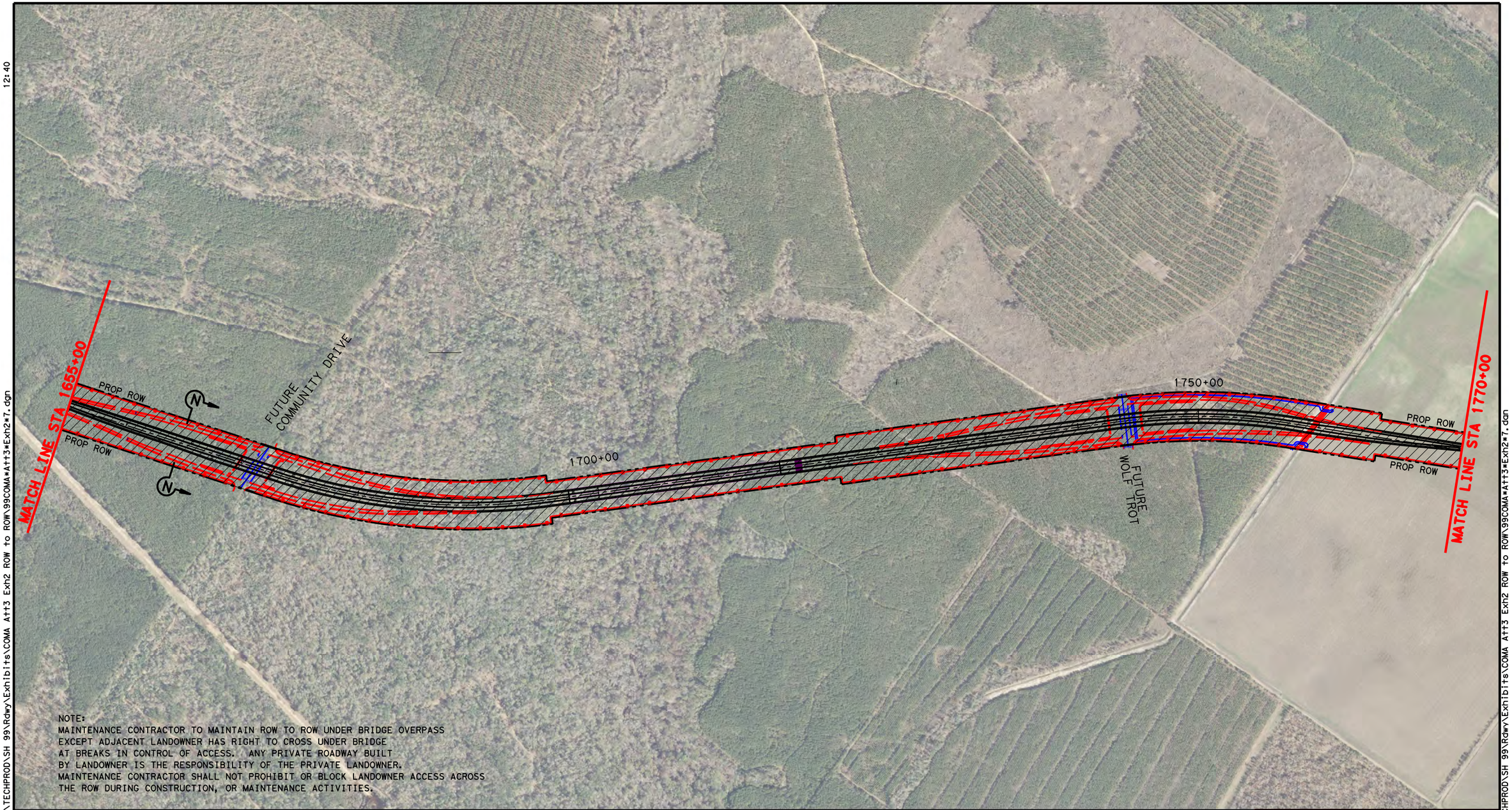
STATE HIGHWAY 99 GRAND PARKWAY H&I

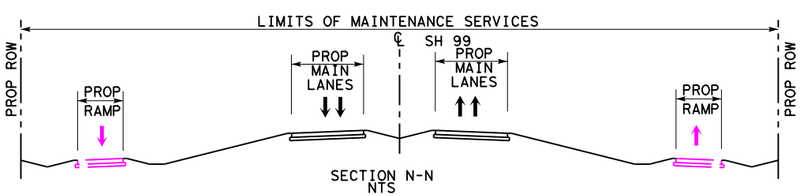
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 6 |


Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*6.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:40




## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

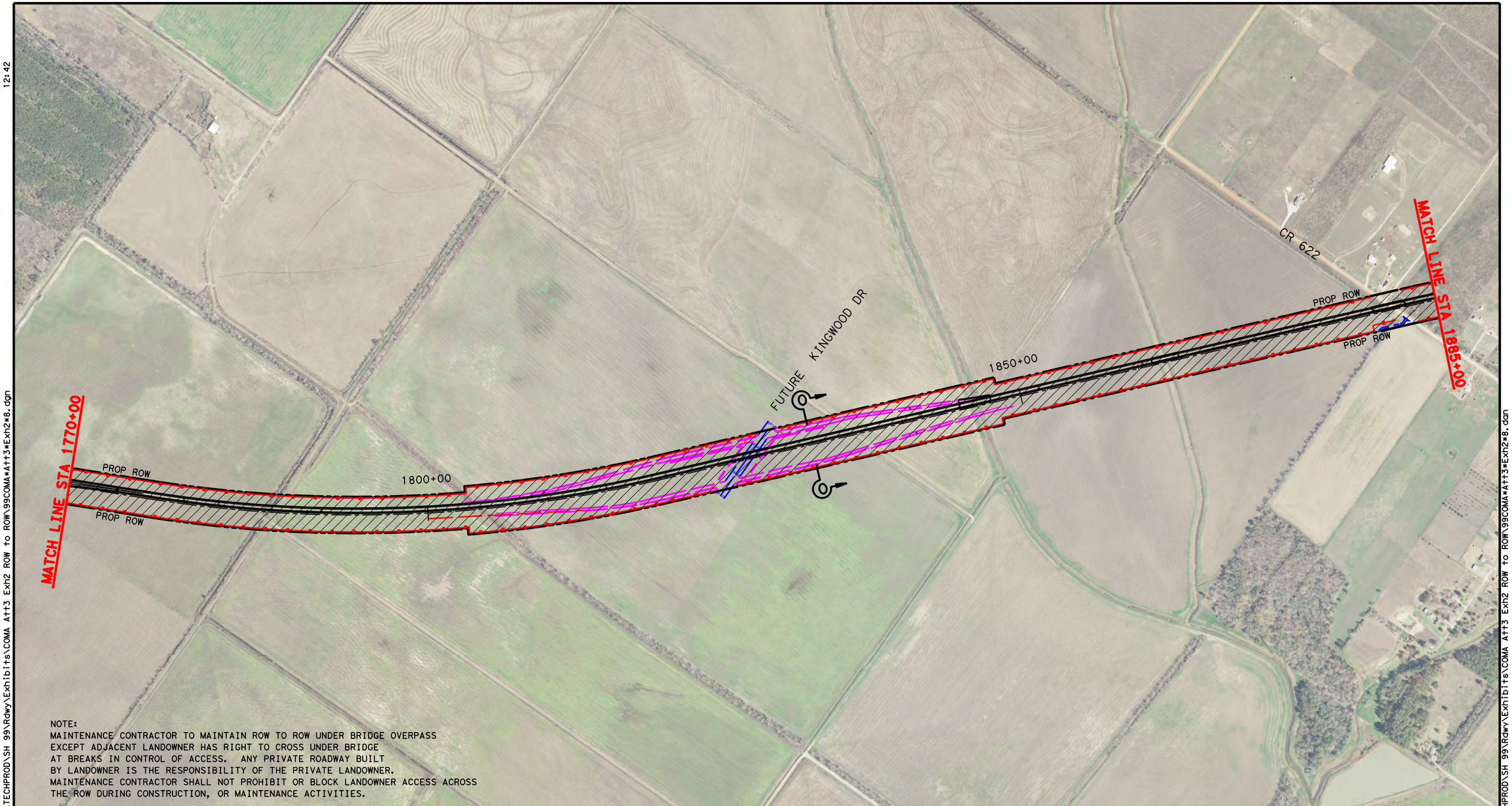
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

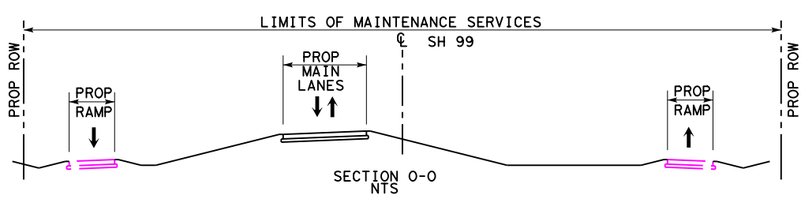
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 7 |

dnallion
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+t3 Exh2 ROW to ROW\99COMA*A+t3*Exh2*7.dgn




NOTE:
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.




## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

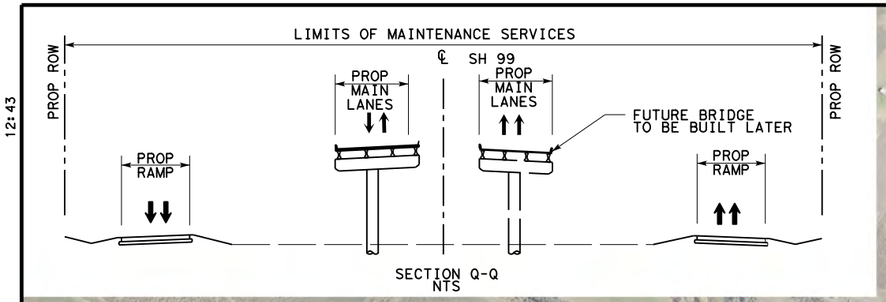
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

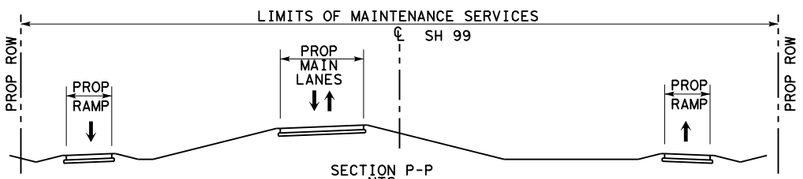
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | | HIGHWAY NO. |
| CK: | 6 | TEXAS | | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | | SHEET NO. |
| CK: | | | | | | | 8 |

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*8.dgn










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

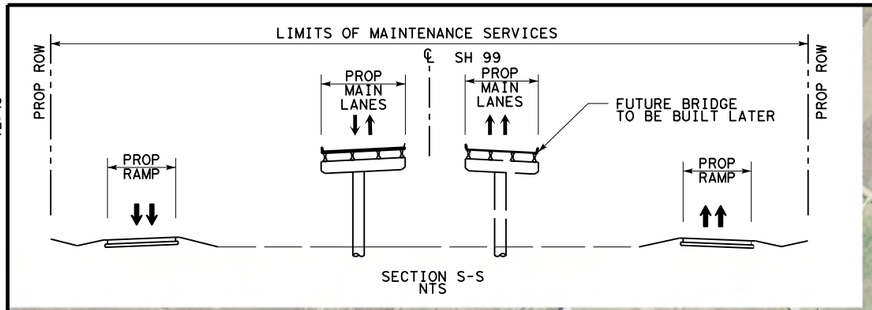
STATE HIGHWAY 99 GRAND PARKWAY H&I

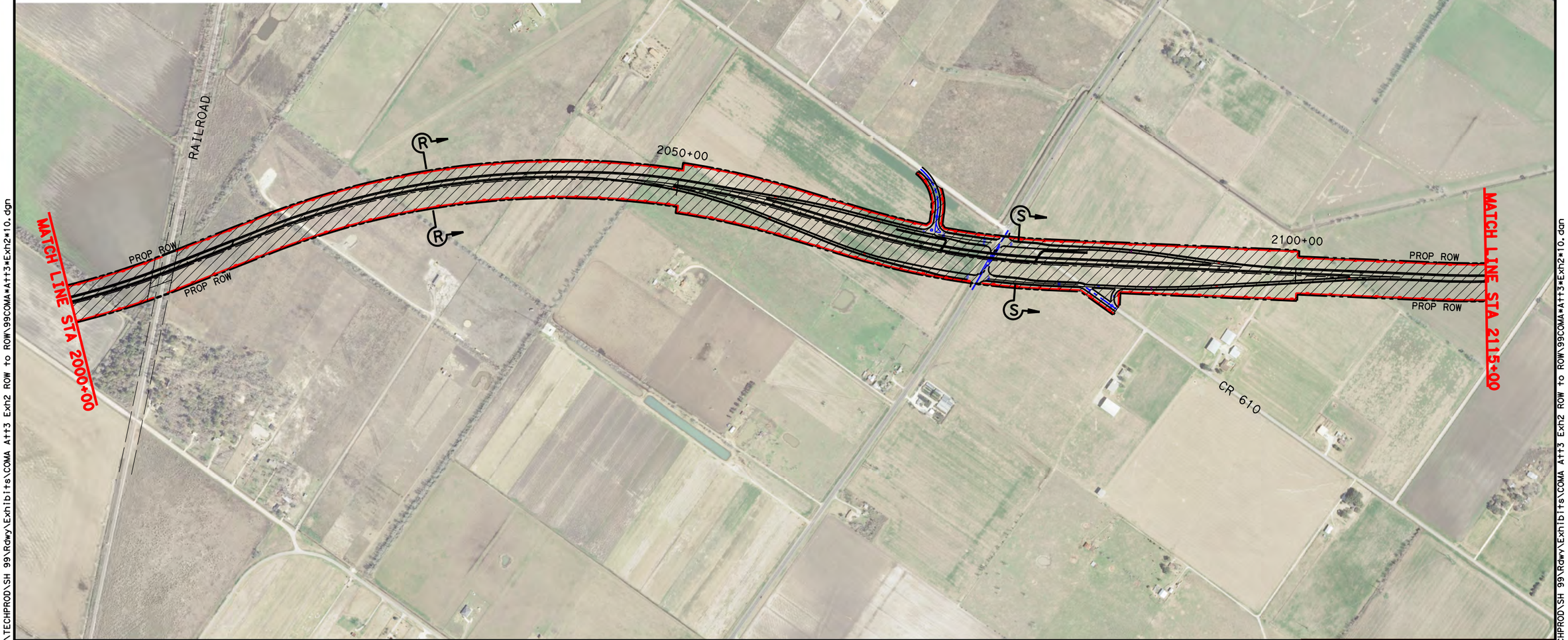
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

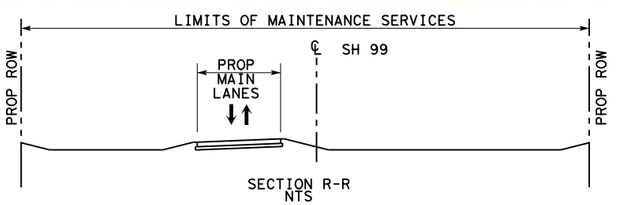
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 9 |

Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:43
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*9.dgn
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
dnallion

Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:45




## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

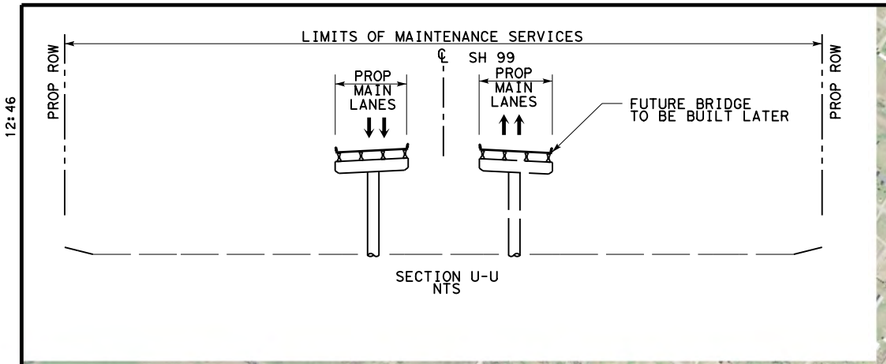
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 10 |

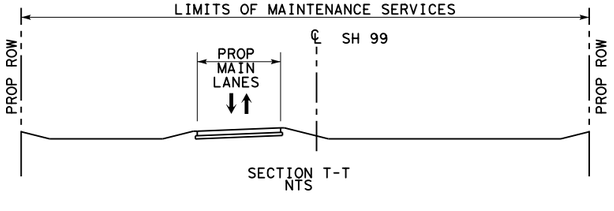
dmallion
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*10.dgn
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+I+3 Exh2 ROW to ROW\99COMA*A+I+3*Exh2*10.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:46










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 11 |

dmaillon
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+3 Exh2 ROW to ROW\99COMA*A+3*Exh2*11.dgn
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+3 Exh2 ROW to ROW\99COMA*A+3*Exh2*11.dgn

Scale: 800.000000:1.000000
Plotted on: 4/28/2015
12:47

US 90

UPRR

CR 491

2300+00

2250+00

MATCH LINE STA 2230+00

MATCH LINE STA 2345+00

PROP ROW

PROP ROW

PROP ROW

PROP ROW

81

LIMITS OF MAINTENANCE SERVICES

℄ SH 99

PROP ROW

PROP RAMP

PROP MAIN LANES

PROP MAIN LANES

PROP RAMP

PROP ROW

SECTION V-V
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

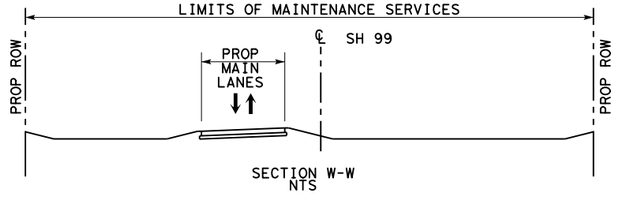
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 12 |

dnallion
Pen Table: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*12.dgn

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*12.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:48


## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

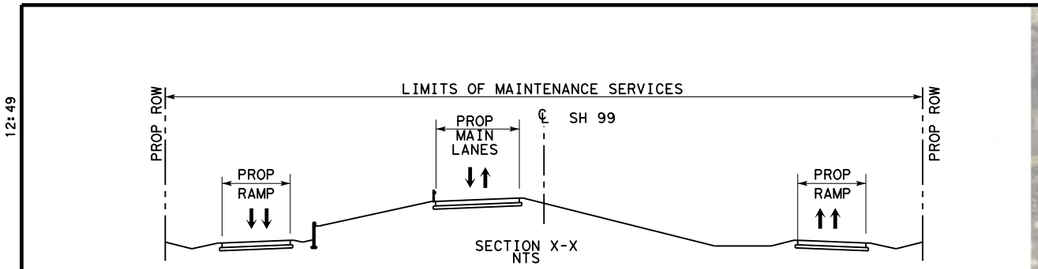
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 13 |

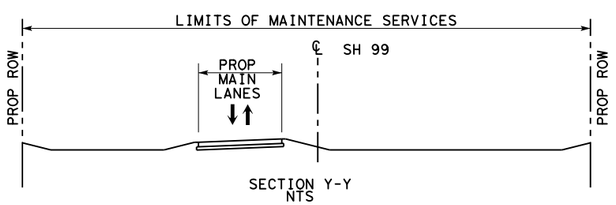
dnallion
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*13.dgn

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*13.dgn










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 14 |

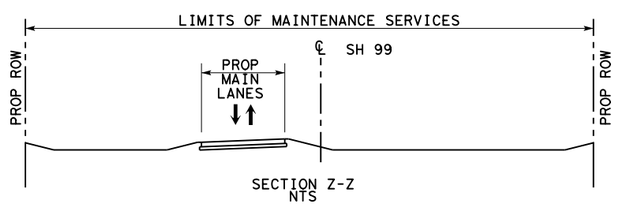
Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:49
Pen Table:\\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*14.dgn
dnallion
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*14.dgn

Scale: 800.000000:1.000000
Plotted on:4/28/2015
12:50

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*15.dgn

Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen

dnaillon


## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

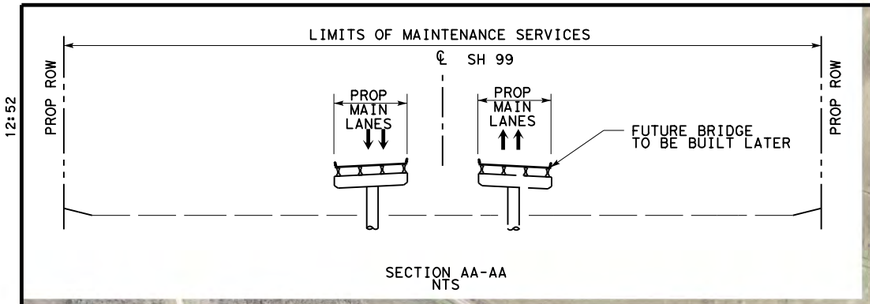
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

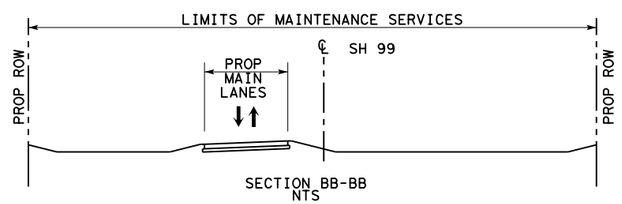
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | | HIGHWAY NO. |
| CK: | 6 | TEXAS | | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | | SHEET NO. |
| CK: | | | | | | | 15 |

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*15.dgn










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

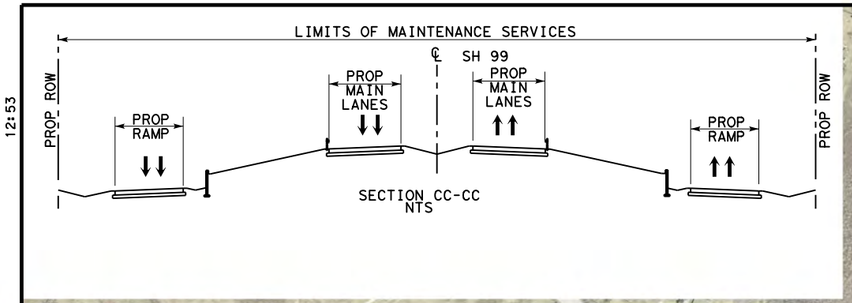
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

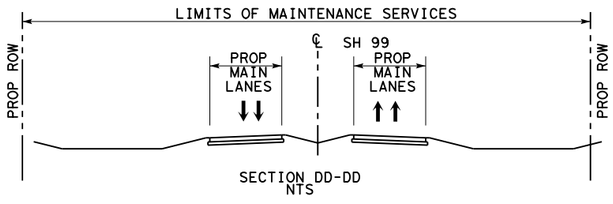
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 16 |

Scale: 800.000000:1.000000
Plotted on:4/28/2015 12:52
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*16.dgn
dnallion
Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*16.dgn










## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

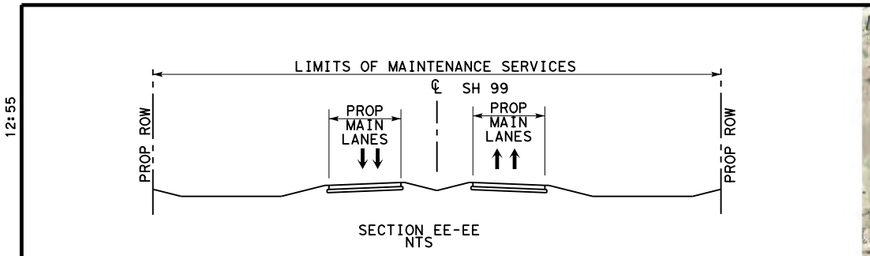
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 17 |

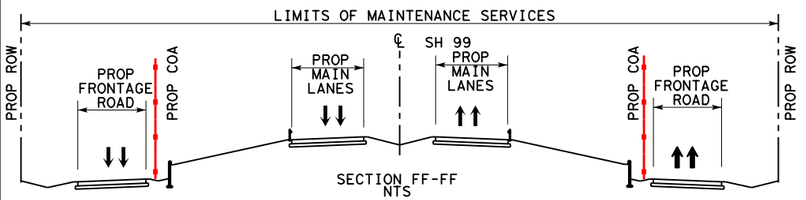

Design Filename:\\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At*3*Exh2*17.dgn




SECTION EE-EE
NTS




NOTE:
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.




SECTION FF-FF
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

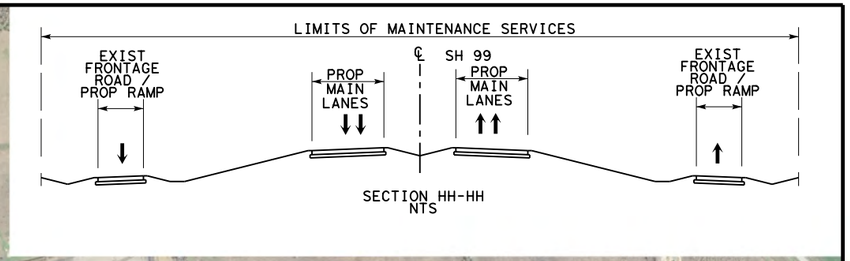
0 200 400 800 (H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 18 |




SECTION HH-HH
NTS

FUTURE THOROUGHFARE

GG

GG

EXIST ROW

3050+00

EXIST ROW

MATCH LINE STA 3035+00

3100+00

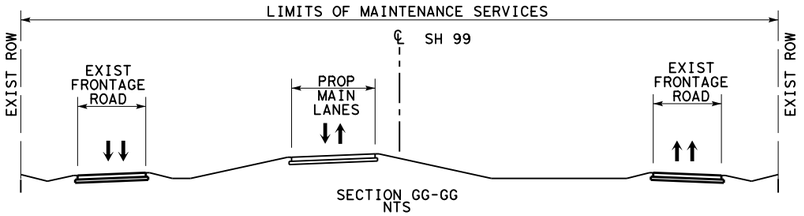
HH

HH

EXIST ROW

EXIST ROW

MATCH LINE SEE SHEET 25




SECTION GG-GG
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

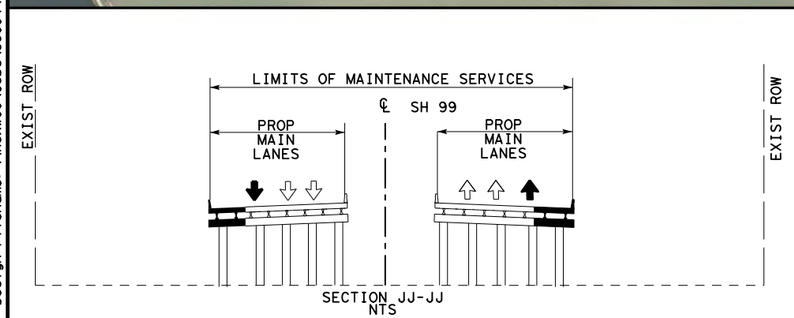
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

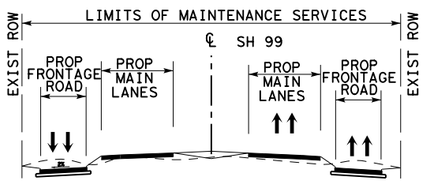
SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 19 |


Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*19.dgn


SECTION JJ-JJ
NTS




SECTION KK-KK
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800(H)

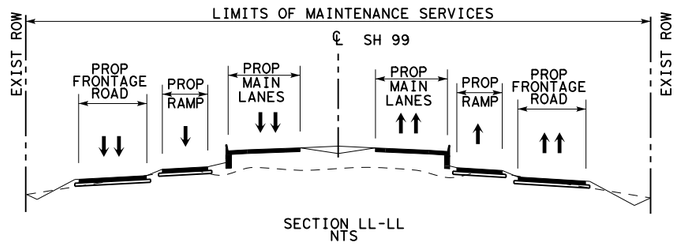
Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 20 |

Scale: 800.000000:1.000000
Plotted on:4/28/2015
13:00


## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

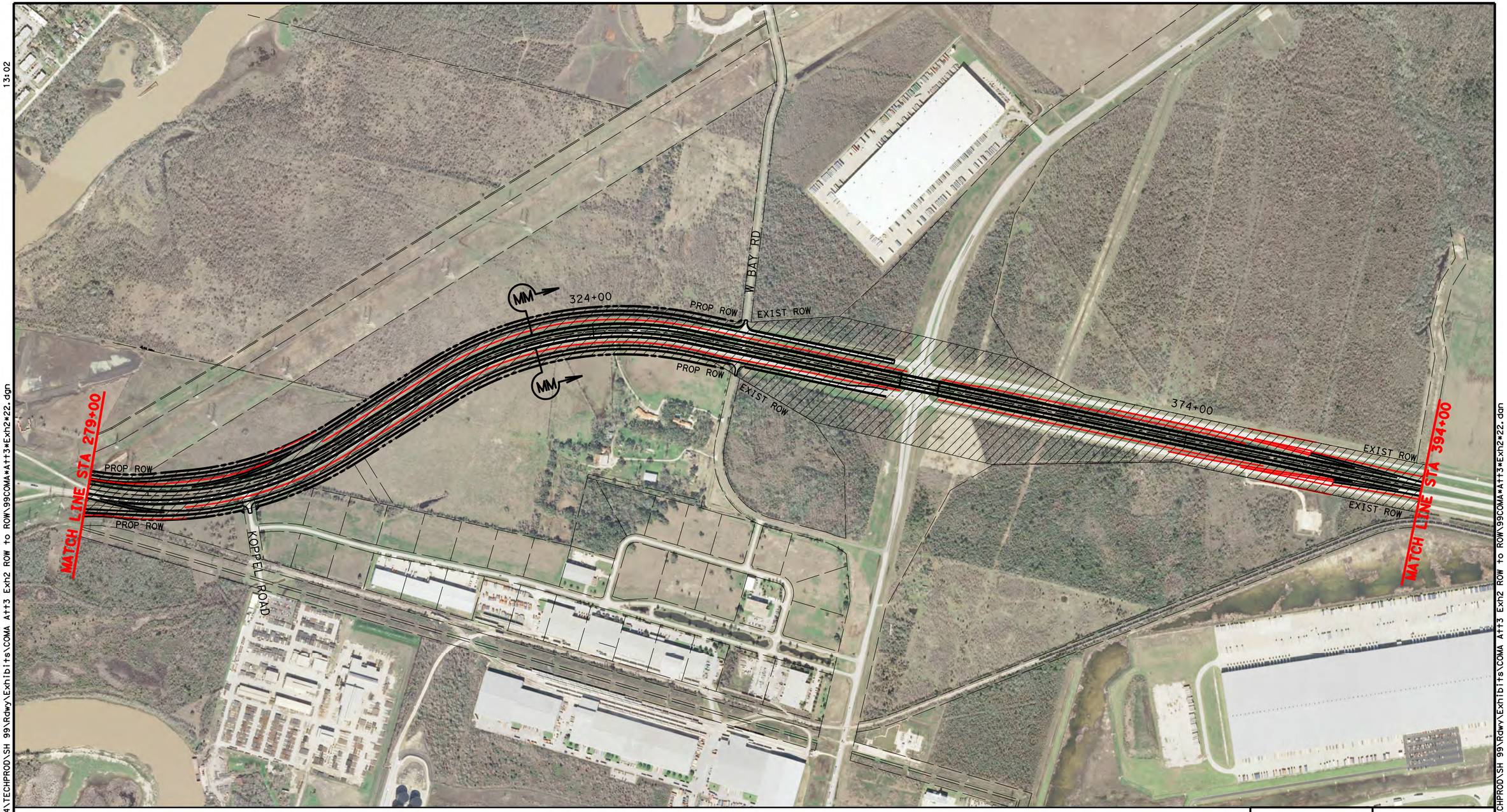
Texas Department of Transportation

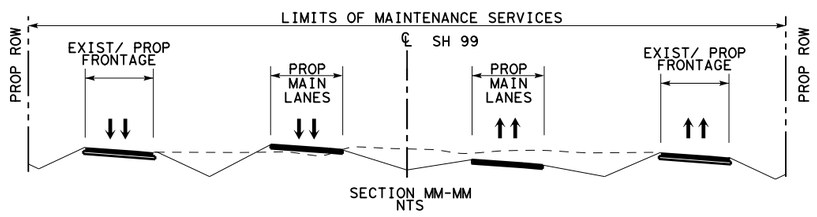
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| | | | | | | |
|---|---|---|---|---|---|---|
| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 21 |

dnallion
Pen Table:\\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
Design Filename:\\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*21.dgn
Design Filename:\\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*21.dgn




## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

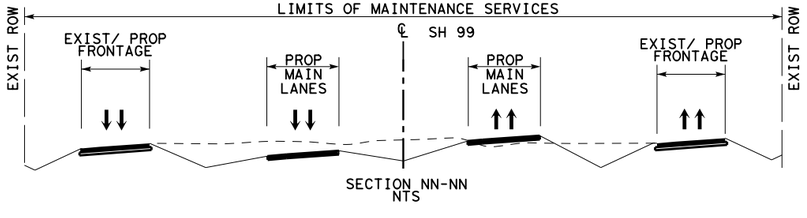
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 22 |

Scale: 800.000000:1.000000
Plotted on: 4/28/2015
13:04

Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA At3 Exh2 ROW to ROW\99COMA*At3*Exh2*23.dgn
Pen Table: \\hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\plots\59004*SH99*11x17.pen
dmaillon


## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

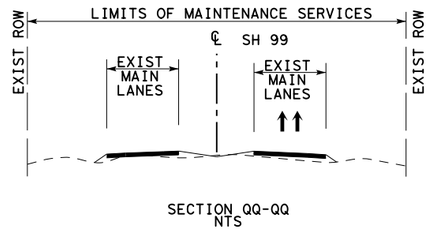
0 200 400 800 (H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

# SH99 GRAND PARKWAY
## SEGMENT H, I-1 AND I-2
## COMPREHENSIVE MAINTENANCE AGREEMENT
## ATTACHMENT 3 OF EXHIBIT 2
## LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 23 |


SECTION QQ-QQ
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

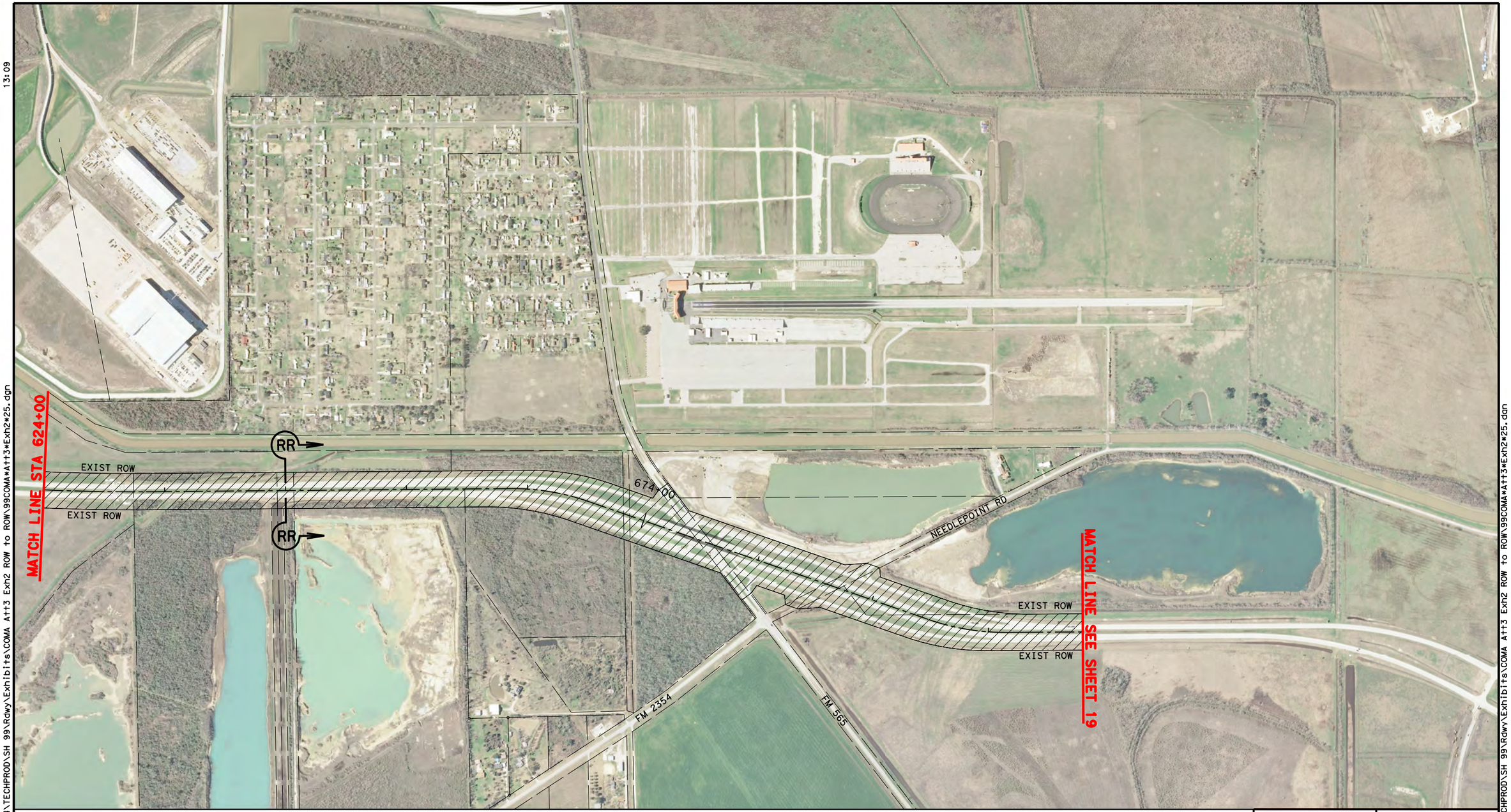
Texas Department of Transportation

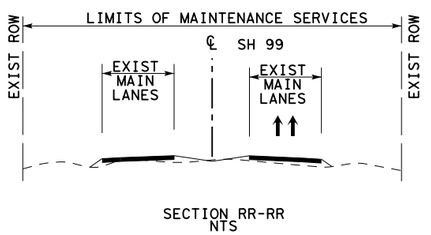
STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 24 |


Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA Att3 Exh2 ROW to ROW\99COMA*Att3*Exh2*24.dgn




SECTION RR-RR
NTS

## LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTOL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

Texas Department of Transportation

STATE HIGHWAY 99 GRAND PARKWAY H&I

SH99 GRAND PARKWAY
SEGMENT H, I-1 AND I-2
COMPREHENSIVE MAINTENANCE AGREEMENT
ATTACHMENT 3 OF EXHIBIT 2
LIMITS OF MAINTENANCE SERVICES

| DSN: | FED. RD. DIV. NO. | STATE | PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CK: | 6 | TEXAS | | | | SH 99 |
| DRN: | STATE DISTRICT | COUNTY | CONTROL NO. | SECTION NO. | JOB NO. | SHEET NO. |
| CK: | | | | | | 25 |


Design Filename: \\Hoxw00\Jobs\59004\TECHPROD\SH 99\Rdwy\Exhibits\COMA A+3 Exh2 ROW to ROW\99COMA*A+3*Exh2*25.dgn

# ATTACHMENT 4: CONTENT OF PLANS FOR COMA

| Part | Ref | Section | Contents |
|---|---|---|---|
| 1. Maintenance Management Plan | | | |
| 1.1. Project Administration | | | |
| | 1.1.1 | Organization | Maintenance Contractor's main contractual arrangements |
| | | | Organizational structure covering the activities to be performed in accordance with the COMA Documents |
| | 1.1.2 | Personnel | Maintenance Contractor's approach to provide experienced personnel for the maintenance of the Project including Subcontractors |
| | | | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel |
| | | | Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Maintenance Contractor will coordinate its activities |
| | | | Names and contact details, titles, job roles of Key Personnel |
| | | | Procedures for providing training for personnel involving with environmental mitigation activities and hazardous materials handling |
| | 1.1.3 | Procurement | Procedures for procurement of services, materials and products including methods to ensure best value |
| | 1.1.4 | Subcontractors | Overall control procedures for Subcontractors, including consultants and subconsultants |
| | | | Responsibility of Subcontractors and Affiliates |
| | | | Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Subcontracts |
| | | | Procedures for providing training for employees of Subcontractors involving with environmental mitigation activities and Hazardous Materials handling |
| | 1.1.5 | Offices and Equipment | Description of the necessary offices and office equipment to be provided by Maintenance Contractor during the Maintenance Term |
| 1.2. Maintenance Schedule | | | |
| | 1.2.1 | Schedule | Maintenance Service Deliverables Schedule |
| | | | Renewal Work Schedule |
| 1.3. Emergency Response | | | |
| | 1.3.1 | Incident and Emergency Management Plan | Procedures setting out how Maintenance Contractor will respond to accidents and Incidents on the Project |
| | | | Procedures to establish protocols with Emergency Services and others in Emergency |
| | 1.3.2 | Snow and Ice Control Plan | Procedures for performing snow and ice control |
| 1.4. Operation and Maintenance | | | |
| | 1.4.1 | Maintenance | Procedures for how the principal activities will be performed during the Maintenance Term: to include routine maintenance, Renewal Work, traffic management, and inspections regime |

| Part | Ref | Section | Contents |
|---|---|---|---|
| | | | Procedures to address Maintenance Contractor's performance requirements, measurement procedures, threshold values at which maintenance is required, inspection procedures and frequencies, and subsequent maintenance to address noted deficiencies, as well as thresholds for rehabilitation in accordance with Attachment 1 to Exhibit 2 of the COMA and Good Industry Practice |
| | 1.4.2 | Traffic Management and Control Plans | Procedures for setting out how contractor will coordinate lane closure, and traffic control for conducting maintenance services |
| | 1.4.3 | Complaints | Procedures to respond to comments and/or complaints received from Users and others |
| 1.5. Environmental | | | |
| | 1.5.1 | Hazardous Materials Management Plan | Procedures for handling Hazardous Materials |
| | 1.5.2 | Environmental Compliance and Mitigation Plan | Compliance strategies and procedures to be employed in accordance with in accordance with the requirements of applicable Environmental Laws and Environmental Approvals |
| 1.6. Safety | | | |
| | 1.6.1 | Maintenance Safety Plan | Policies, plans, training programs, and work site controls to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Maintenance Term. |
| | | | Procedures for notifying TxDOT of Incidents arising out of or in connection with the performance of the Maintenance Services |
| 1.7. Communication | | | |
| | 1.7.1 | Maintenance Communications Plan | Procedures for communication of Project information between the Maintenance Contractor's organization and TxDOT |
| 1.8. Document Management | | | |
| | 1.8.1 | Maintenance Document Management Plan | Procedures for maintaining maintenance records |
| 2. Maintenance Services Quality Management Plan | | | |
| | 2.1 | Procedure | Procedures for quality control activities including a complete description of the quality policies and objectives |
| | 2.2 | Document Management | Procedures for maintaining quality records |
| 3. Maintenance Transition Plan | | | |
| | 3.1 | Procedure | Procedures for preparing list of items to be transferred to TxDOT |
| 4. Handback Plan | | | |
| | 4.1 | Procedure | Procedures for Residual Life Methodology Plan including performing Residual Life inspections and Renewal Work needed to meet Residual Life requirement at handback. |

## ATTACHMENT 5: RESIDUAL LIFE AT HANDBACK (YEARS)

| Ref. | Maintained Element | Residual Life at handback (yrs) |
|---|---|---|
| **1** | **Structures** | |
| | Bridges (Structural Elements) | 25 |
| | Reinforced Concrete | 25 |
| | Pre-Stress Concrete | 25 |
| | Structural Steelwork | 25 |
| | Weathering Steel | 25 |
| | Corrugated Steel | 25 |
| | Corrosion protection for structural steelwork | 10 |
| | Deck surfacing | 10 |
| | Deck joints | 10 |
| | Bearings | 25 |
| | Railing | 25 |
| **2** | **Road Pavement** | |
| | Main lanes | 5 |
| | Ramps / direct connectors | 5 |
| | Frontage Roads | 5 |
| | Local Roads | 5 |

## ATTACHMENT 6: RESTRICTIONS ON TRAFFIC MANAGEMENT

6.1 Allowable Lane Closures

Lane Closures will only be permitted when Maintenance Contractor can demonstrate that the closure will provide clear benefit to the progress of the Maintenance Services. Lane Closures must be coordinated with adjacent projects and priority shall be given to the closure submitted first.

The safety of workers and the traveling public must be the first consideration when determining the appropriate time to implement a Lane Closure.

At a minimum, Maintenance Contractor shall inform the TxDOT public information officer by 3:15 p.m. on the previous day of all road closures or major lane closures that will affect mobility so they can inform the public, Emergency Services, schools, etc. as needed.

Prior to implementing any Lane Closure, Maintenance Contractor shall input Lane Closure information into the Highway Conditions and Reporting System.

The following TxDOT policy and procedure manuals and references apply for all lane closures:

- Texas Manual of Uniform Traffic Control Devices (TMUTCD)
- TxDOT Traffic Control Plan Standards
- TxDOT Barricade and Construction Standards
- TxDOT Standard Specifications "Item 502 (Barricades Signs and Traffic Handling)

The following Lane Closure requirements for the mainlane, frontage roads, and cross streets are intended to supplement the above list of manuals and references for the Project:

Table 6-1: Lane Closure Requirements

| **Roadway** | **Roadway Lanes** (one direction) | **Permitted Lane Closures** | | |
|---|---|---|---|---|
| | | Peak Times Monday-Friday (6:00 a.m. - 9:00 a.m.) (3:30 p.m. - 7:00 p.m.) and Major Events and Major Holidays | Off-Peak Times Monday-Friday (9:00 a.m. - 3:30 p.m.) (7:00 p.m. to 10:30 p.m.) and Saturday | Lowest Volume Times Monday-Friday (10:30 p.m. - 6:00 a.m.) and Sunday |
| Mainlanes and Ramps | 3 | None | 1 | 1 |
| | 2 | None | None | 1 |
| | 1 | None | None | 1* |
| Frontage Roads | 3 | None | 1 | 2 |
| | 2 | None | 1 | 1 |
| Cross Streets | 3 | None | 1 | 2 |
| | 2 | None | 1 | 1 |
| | 1 | None | None | 1 |

*Traffic shifted to shoulder

Additional requirements:
Any complete roadway closure will require a Traffic Control Plan with appropriate detour routing to be submitted and approved by TxDOT.

- Maintenance Contractor shall seek TxDOT's approval for all required Lane Closures at least 48 hours in advance for temporary Lane Closures and fourteen (14) days for complete closures.
- If reasonable mobility can be maintained, or exceptional circumstances exist, additional lanes may be closed during Off-Peak Times or Lowest Volume Times with written permission of TxDOT. In such event, with the express written permission of TxDOT, Maintenance Contractor will not be subject to Lane Rental Charges for failure to comply with the Lane Closure requirements. Off-Peak Times may be started earlier or be extended later, subject to obtaining such express written permission, if reasonable mobility can be maintained.
- If at any time backups become unreasonable, (>20 min.), Maintenance Contractor shall immediately undertake modifications to alleviate the congestion. Contingency plan of how this will occur should be in place and approved by TxDOT.
- Use off duty uniformed peace officers as directed by the Maintenance Contractor.
- Inclement weather should be considered when planning closures.

6.2 Driveway Closures
Maintenance Contractor shall maintain a minimum of one driveway per business at all times. For businesses with multiple driveways, when driveway closure is necessary to progress Maintenance Services, no driveway may be closed for more than three (3) consecutive days.

6.3 Ramp Closures
No two adjacent ramp closures may occur at the same time.

6.4 Detour Usage
Maintenance Contractor shall use State routes for detour routes, wherever applicable. If State routes are unavailable, Maintenance Contractor shall use local roadways, provided that Maintenance Contractor has obtained TxDOT approval and the necessary permits from the Governmental Entity having jurisdiction.

Maintenance Contractor shall provide motorists with guidance on the use of alternate routes to divert traffic around the construction, detouring around specific construction sites, and traveling through the construction areas. This shall include the installation and maintenance of temporary regional signs. Motorist guidance to and along detour routes shall be provided, together with regional guidance.

6.4 Restricted Hours

A. Holiday Restrictions
No Lane Closure that restricts or interferes with traffic shall be allowed from 12:00 PM (noon) on the day proceeding to 10:00 PM on the day after the following holiday schedule. No additional lane or ramp closure that restricts or interferes with traffic shall be allowed. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant.

- New Year's Eve and New Year's Day (December 31 through January 1)

- Easter Holiday Weekend (Friday through Sunday)
- Memorial Day Weekend (Friday through Monday)
- Independence Day (July 3 through noon on July 5)
- Labor Day Weekend (Friday through Monday)
- Thanksgiving Holiday (Wednesday through Sunday)
- Christmas Holiday (December 23 through December 26)

# 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<br>Removal of base and/or subgrade materials from distressed or failed areas and replacement with suitable materials. (Includes resurfacing.) | 522 | R0 | MI | Street Sweeping<br>Routine street sweeping. Units are the actual miles swept regardless of centerline miles. | 593 | T04 | LF | Cable Median Barrier<br>Installation and maintenance of high tension cable median barrier systems, including the cable, posts and end treatments. | 733 | T03 | EA | Vandalized Signs<br>Replacement or repair of signs damaged by vandalism. |
| 120 | P03 | CY | In Place Repair<br>In place repair base and/or subgrade material. (Includes resurfacing, and may or may not include additional stabilizing material.) | 523 | R1 | MI | Debris<br>Routine **patrolling** to remove and dispose of debris, including dead animals. | 594 | T04 | LF | Concrete Barrier<br>Installation, removal and maintenance of concrete barriers, including attached headlight barrier fence. | 738 | T11 | EA | Installation and Maintenance of Flashing Beacons<br>Installation and maintenance of overhead flashing beacons, pedestal or sign mounted flashing beacons, etc. |
| 135 | R05 | EA ~~LF~~ | Install and/or Maintain Underdrains<br>Installation, repair and maintenance of all types of underdrains. | 524 | R0 | AC | Spot Litter<br>Spot removal and disposal of litter, including dead animals, from the right of way. | 595 | T04 | LF | Guard Fence<br>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<br>Installation, maintenance and operation of illumination systems, including continuous lighting, safety lighting and sign illumination. |
| 145 | S06 | SY | Unpaved Road Maintenance<br>Repair of gravel or dirt roads, including blading, addition of base, etc. | 525 | R0 | HRS | Adopt-A-Highway<br>Installation of posts and signs, materials furnished to groups, and the personnel and equipment used to assist in removal and disposal of collected litter. | 596 | T05 | EA | Guardrail End Treatment Systems<br>~~Deleted replaced by 522~~ | 743 | T06 | EA | Installation and Maintenance of Isolated Traffic Signals<br>Maintenance and operation of isolated traffic signals, diamond interchange signals, etc. |
| 211 | P01 | SY | Leveling or Overlay with Laydown Machine<br>The application of asphaltic tack coat and placing of asphaltic concrete materials to improve the ride qualities or level up low spots. | 526 | | | | | | | | ~~744~~ | | | Replaced by Function Code 743 |
| 212 | P01 | SY | Leveling or Overlay with a Maintainer<br>The application of asphaltic tack coat and placing layers of asphaltic concrete material. | 527 | R0 | SY | Hand Sweeping<br>Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc. | | | | | 745 | T08 | CL M | Traffic Management System<br>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. (ITS Control Center personnel should charge to segment 70, detail 0570.) |
| 213 | P01 | SY | Leveling by Hand<br>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 | 530 | S10 | SF | Removal of Graffiti<br>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<br>Installation and maintenance of guardrail end treatment systems. (For attenuators other than GETS, see function 725). | | | | |
| 214 | P01 | SY | Leveling or Overlay with Drag Box<br>The application of asphaltic tack coat and placing layers of asphaltic concrete material. | 531 | S06 | HRS | Picnic Area Maintenance (Without Restrooms)<br>Refer to function 532 for description. | 598 | S06 | HRS | Boat Ramp Maintenance<br>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<br>Installation and/or removal of traffic buttons or reflective pavement markers. |
| 225 | P06 | LM | Sealing Cracks<br>Cleaning, filling and sealing cracks in the pavement using asphaltic rubber or other sealants. | 532 | S06 | HRS | Rest Area Maintenance (With Restrooms)<br>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<br>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<br>All traffic surveys (including all motor vehicle and pedestrian counts at intersections and directly related locations) and other traffic services not covered elsewhere. |
| 231 | P05 | SY | Seal Coat<br>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. | 533 | S06 | HRS | Rest Area Facility Maintenance through Regional Contracts<br>(Maintenance Division Use Only) | 611 | S04 | HRS | Bridge, Portable<br>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). |
| 232 | P04 | SY | Strip or Spot Seal Coat<br>A pplication 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. | 535 | S0 | HRS | Maintenance of Specialty Facilities<br>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. | 620 | S05 | CY | Bridge Channel Maintenance<br>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<br>The placement, maintenance and removal of barricades, signs, cones, lights and other such devices needed to handle traffic during emergencies or special events. This includes flaggers. |
| 233 | P04 | SY | Fog Seal<br>Retain aggregate, enliven surface and/or seal hairline cracks by the a pplication of a thin layer of asphaltic material. | 540 | R0 | HRS | Hand Vegetation Control<br>Hand cleaning vegetation out of islands, medians, riprap, drainage channels, etc. by chemical, manual or mechanical means. | 628 | S02 | LF | Bridge Rail<br>Maintenance of bridge rail, posts & post connections to deck, including painting. | ~~806~~ | | | Replaced by Function Code 799 |
| 235 | P04 | SY | Microsurfacing<br>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.) | 541 | R0 | AC | Chemical Vegetation Control, Edges<br>Complete control of vegetation encroaching in pavement edges, shoulders, medians, islands and curbs with herbicides. | 645 | S02 | LF | Bridge Joint Maintenance<br>Repair of bridge joints, including cleaning and sealing | ~~807~~ | | | Replaced by Function Code 799 Accident Flag selected |
| 241 | P09 | EA | Pothole Repair<br>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. | 542 | R0 | AC | Chemical Vegetation Control, Overspray<br>Control of undesirable vegetation growth by overspraying wide areas of the right of including fixtures (i.e. signs, delineators, guardrails, culverts, etc.) with herbicides. | 646 | S02 | LF | Bridge Joint Replacement<br>Replacement of bridge joints | ~~809~~ | | | Replaced by Function Code 799 Disaster Project;Task number |
| 242 | | | Replaced by Function 241 | 544 | R0 | AC | Chemical Vegetation Control, Rope-wick<br>Control of tall vegetation (i.e. Johnsongrass) in the right of way with a wick applicator. | 650 | S01 | SF | Bridge Deck<br>Repair to bridge decks. | ~~810~~ | | | Replaced by Function Code 523 Disaster Project;Task number |
| 245 | P10 | SY | Adding or Widening Pavement<br>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. | 545 | R0 | HRS | Chemical Vegetation Control, Basal Application<br>Control of undesirable brush species in the right of way with a low volumne basal bark application. | 660 | S01 | SF | Bridge Superstructure, Concrete<br>Routine maintenance of the concrete components of the bridge superstructure, including bearings, concrete diaphragms, and beams. | ~~811~~ | | | Replaced by Function Code 811, 812, 813, 814 |
| 252 | P02 | SY | Milling and Planing<br>The removal of pavement surface by milling or planing. | 548 | R0 | SY | Seeding, Sodding, Hydromulching and Blanketing<br>Seeding, sodding, hydromulching and/or placing soil retention blankets. | 665 | S01 | SF | Bridge Superstructure, Steel<br>Routine maintenance of the steel components of the bridge superstructure, including stell diaphragms and beams. | ~~812~~ | | | Replaced by Function Code 360 Disaster Project;Task number |
| 253 | P02 | SY | Spot Milling<br>The removal of pavement surface by milling using a small milling machine (4 feet or less drum width). | 551 | R0 | AC | Landscaping<br>The installation or maintenance of landscape plantings and their facilities including planter walls, borders, sprinkler systems, etc. (excluding picnic and rest areas). | 670 | S03 | SF | Bridge Substructure, Concrete<br>Routine maintenance of the concrete components of the bridge substructure, including caps, columns, abutments, wingwalls, pilings, etc. | ~~813~~ | | | Replaced by Function Code 360 Disaster Project;Task number |
| 265 | P04 | SY | Treat Bleeding Pavement<br>Treatment of excess asphalt on the pavement surface. | 552 | R0 | CL | Tree and Brush Control<br>The trimming, pruning and disposal of shrubs, vines, and trees (excluding picnic and rest areas). | 675 | S03 | SF | Bridge Substructure, Steel and Timber<br>Routine maintenance of the steel or timber components of the bridge substructure, including caps, abutments, pile extensions, etc. | ~~814~~ | | | Replaced by Function Code 211, 212, 213, 214 |
| 270 | P07 | LF | Edge Repair<br>Repair of raveled, low or damaged pavement edges with asphaltic materials. | 558 | R0 | LF | Storm Water Pollution Protection<br>Maintenance or installation of storm water pollution protection plan (SW3P) in accordance with EPA regulations on projects designated by area engineers. | 680 | S03 | SF | Bridge Painting<br>Cleaning and painting of superstructure or substructure. | ~~820~~ | | | Replaced by Function Code 231, 232 Disaster Project;Task number |
| 315 | P08 | SY | Slab Stabilization / Jacking<br>Leveling concrete pavement through the use of hydraulically placed material. | 560 | R06 | SY | Riprap Installation and Maintenance<br>Installation and maintenance of ditch liners, retards, down drains, riprap, flumes, concrete mowing strips, gabions, retaining walls and other erosion protection. | 690 | S04 | HRS | Bridge, Mechanical and Electrical<br>Maintenance and repair of the electrical & mechanical components of a bridge. | ~~821~~ | | | Replaced by Function Code 560,561,562,563 |
| 325 | P06 | LF | Cleaning and Sealing Joints and Cracks<br>C leaning, filling and sealing joints and cracks in concrete pavement. | 561 | R04 | CY | Ditch Maintenance<br>Control of undesirable vegetation (i.e. johnsongrass) in the right of way with a wick applicator. | 695 | S04 | HRS | Fender Systems<br>Installation and maintenance of fender systems. | ~~822~~ | | | Replaced by Function Code 743; Disaster or Damage Claim Project;Task number |
| 330 | P08 | SY | Blowouts and Stress Relief<br>Repair of blowouts and cutting pavement for stress relief. | 562 | R04 | LF | Reshaping Ditches<br>Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts or bridges (see functions 570 or 620). | 715 | T02 | LF | Removal of Pavement Striping<br>Use when striping is not going to be replaced. | ~~823~~ | | | Replaced by Function Code 360 Disaster Project;Task number |
| 345 | P08 | SY | Repair Spalling<br>Clean and repair spalled areas (not full depth of concrete slab). | 563 | R06 | SY | Slope Repair/Stabilization<br>Slope repair and/or stabilization. Not to be used for work at culverts or bridges (see functions 570 or 620). | 716 | S11 | LM | Performance Based Contract Distribution (Contract Payments ONLY)<br>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 | ~~824~~ | | | Replaced by Function Code 231, 232 Disaster Project;Task number |
| 360 | P08 | SY | Full Depth Removal and Replacement<br>The removal and replacement of failed areas for the full depth of the concrete slab. | 570 | R0 | EA | Culvert and Storm Drain Maintenance<br>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). | 721 | T03 | EA | Delineators<br>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. | ~~825~~ | | | Replaced by Function Code 560,561,562,563 |
| 455 | P07 | LF ~~SY~~ | Reshaping Unpaved Shoulders<br>Restore sod or flexible base shoulders to original sections. Includes reshaping front slope to eliminate low pavement edges along a paved shoulder. | 571 | R0 | EA | Storm Water Pump Station Maintenance<br>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<br>Installation and maintenance of vehicle attenuators, crash cushions, etc. (**Excludes** the end treatment devices on guard fence.) | ~~826~~ | | | Appropriate Bridge, Disaster Project;Task number |
| 480 | S08 | SY | Side Road Approaches, Crossovers and Turnouts<br>The installation or maintenance of side road approaches, crossovers, historical markers, mailbox and litter barrel turnouts, etc. | 580 | T03 | EA | Removal of Illegal Signs on ROW, TEMP<br>(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<br>The installation and maintenance of signs (less than 4 ft. X 4 ft.). Includes the | ~~827~~ | | | Replaced by Function Code 721,731,732; Disaster or Damage Claim Project;Task number |
| 488 | S08 | SY | Concrete Appurtenance Installation and Maintenance<br>The maintenance, installation, or removal of concrete appurtenances which include curbs and/or gutters, raised medians, sidewalks and sound barriers. | 581 | T03 | EA | Removal of Illegal Signs on ROW, PERM<br>(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. | ~~828~~ | | | Replaced by Function Code 742; Disaster or Damage Claim Project;Task number |
| 495 | S06 | SY | Parking Area Maintenance<br>Repair of sub-grade, base or surface of areas including parking lots, park and ride lots and camping pads. | 582 | S10 | HRS | Removal of Encroachments, Other than Signs<br>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<br>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) | ~~829~~ | | | Replaced by Function Code 742; Disaster or Damage Claim Project;Task number |
| 511 | R02 | AC | Mowing<br>Mowing of the right of way. | | | | | | | | | 830 | R1 | HR | Hazardous Material Clean up, Spills or Leaking Storage Tanks<br>Investigations, testing, clean up, removal, disposal and restoration work associated with a spill or leaking storage tanks. |
| 513 | R02 | HRS | Spot Mowing<br>S pot mowing of the right of way. | | | | | | | | | 831 | R1 | HR | Hazardous Material Clean up, Abandoned Materials<br>Investigations, testing, clean up, removal, disposal and restoration work associated with abandoned hazardous materials of unknown ownership. |
| 520 | R10 | CY | Illegal Dumpsite Removal and Disposal<br>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. | | | | | | | | | **Segment 70** | | | **Maintenance Section Overhead Costs**<br>**Detail 08XX (XX = Office No.)**; not reasonably identifiable to a roadway |
| 521 | R03 | AC | Litter<br>Removal and disposal of litter from the entire right of way, excluding paved areas, picnic and rest areas. | | | | | | | | | 400 | | | Training (informal or on-the-job training) |
| | | | | | | | | | | | | 401 | | | Meetings (non-coded meetings; Safety Banquets) |
| | | | | | | | | | | | | 402 | | | Yard Maintenance and Inspections (maintenance/inspections to facilities or yard) |
| | | | | | | | | | | | | 403 | | | Office/Section Administration (pick up/purchase supplies, HR admin., office tech duties) |
| | | | | | | | | | | | | 404 | | | Section Support (customer support, contractor support, damage claims) |
| | | | | | | | | | | | | 405 | | | Section Management (checking on crews, supervisor admin, meeting with local govts.) |
| | | | | | | | | | | | | 406 | | | Material Management (inventory mgmt, material deliveries from WH to yard, hauling) |
| | | | | | | | | | | | | 407 | | | Standby Time (weekend and weekday) |
| | | | | | | | | | | | | 408 | | | General Overhead |
| | | | | | | | | | | | | | | | **District Contract Management - Roadway Maintenance** |
| | | | | | | | | | | | | | | | **(not reasonably identifiable to a roadway)** |
| | | | | | | | | | | | | | | | **Detail 0585** |
| | | | | | | | | | | | | | | | All district costs of roadway maintenance contract development and management not reasonably identifiable to a specific roadway or other accounts. |
| | | | | | | | | | | | | **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 |
| | | | | | | | | | | | | | | | **Detail 1310, function 020**; special services not identifiable to a roadway, including cleaning stockpile locations, collecting ditch grade data, and counting loads of RAP for county assistance. |
| | | | | | | | | | | | | | | | **Detail 1315, function 020**; Courtesy Patrol |
| | | | | | | | | | | | | | | | **Roadway Evaluation** |
| | | | | | | | | | | | | | | | **Detail 3214, function codes 600 thru 690**; functions related to Pavement Management, including traffic control while performing pavement evaluation |
| | | | | | | | | | | | | **Segment 72** | | | **Off-System Disaster Cleanup** |
| | | | | | | | | | | | | | | | **Detail 000470001**; off-system assistance that has been approved by the Disaster District Chairman |
| | | | | | | | | | | | | 500 | | | Debris Removal |
| | | | | | | | | | | | | 501 | | | Fire Control |
| | | | | | | | | | | | | 505 | | | Evacuee Assistance |
| | | | | | | | | | | | | 510 | | | Traffic Control for Disasters |
| | | | | | | | | | | | | 515 | | | Sign and Signal Repair for Disasters |
| | | | | | | | | | | | | 520 | | | Repairs to Roads for Disasters |

| | | | | | |
|---|---|---|---|---|---|
| P01 | Pavement Leveling | R01 | Sweeping | S01 | Bridge Superstructure Maintenance |
| P02 | Milling | R02 | Mowing | S02 | Bridge Rial and Joints |
| P03 | Base Repair | R03 | Litter Control | S03 | Bridge Substructure Maintenance |
| P04 | Spot Seal Coat | R04 | Drainage Maintenance | S04 | Specialty Bridge Maintenance |
| P05 | Full Width Seal Coat | R05 | Drainage Structures | S05 | Bridge Channel Maintenance |
| P06 | Cracl Sea; | R06 | Erosion Control | S06 | Specialty Maintenance |
| P07 | Edge Maintenance | R07 | Vegetation and Pest Control | S07 | Traffic Control Services |
| P08 | Concrete Pavement Maintenance | R08 | Tree and Brush Control | S08 | County Road Approaches, Crossovers, & Turnouts |
| P09 | Pothole Repair | R09 | Landscape Maintennace | S09 | Utility & Driveway Inspection |
| P10 | Adding or Widening Pavement | R10 | Debris and Cleanup | S10 | Graffiti & Encroachment Removal |

| | | | |
|---|---|---|---|
| T01 | Paint and Bead Striping | T07 | Illumination Maintenance |
| T02 | High Performance Striping | T08 | Traffic Management Systems |
| T03 | Sign Maintenance | T09 | Raised Pavement Markings |
| T04 | Safety Barrier Maintenance | T10 | large Sign Maintenance |
| T05 | Crash Attenuators | T11 | Beacon Maintenanee |
| T06 | Traffic Signal Maintenance | | |